UNIVERSAL
LIBRARY

OU_152944

UNIVERSAL
LIBRARY

This book is presented

by

The Government of the United States

as an expression of

Friendship and Goodwill

of the

People of the United States

towards

The People of India

OUP—43—30-1-71—5,000

OSMANIA UNIVERSITY LIBRARY

Call No. 330.9 A88O Accession No. P.G. 6157

Author Atwood, W. W.

Title Our Economic World.

This book should be returned on or before the date last marked below.

Our Economic World

NEW EDITION

By

WALLACE W. ATWOOD

and

RUTH E. PITT

Social Studies Department
East High School, Buffalo

GINN AND COMPANY

Boston · New York · Chicago · Atlanta · Dallas · Columbus
San Francisco · Toronto · London

COPYRIGHT, 1953, BY GINN AND COMPANY
COPYRIGHT, 1948, 1950, BY GINN AND COMPANY
ALL RIGHTS RESERVED

PRINTED IN THE UNITED STATES OF AMERICA

PREFACE

Our Economic World gives the student a background of geographic knowledge which will make his study of world civilizations, his own national history, and the problems of the present-day world more intelligible to him. It shows the many ways in which the lives of the peoples of the world are determined by the geography of the areas in which they live. Geographic features are largely responsible for population movements, past and present. New geographic factors must be emphasized if the student is to understand this air age. The text helps the student to appreciate the physical universe, to read intelligently the fascinating new map projections which make the universe more real, to understand the similarities as well as the differences between the peoples of the world.

The text helps the student to gain an understanding of the great natural resources of the world, of the dependence of modern industry on the conservation and utilization of these resources, and of the tremendous effects of world trade on national and international policies. It brings before the student current consumer problems and helps him to appreciate how dependent he is on the various economic groups with which he is associated.

Finally the authors desire to help the student to understand the "Work and Workers in Our Economic World." The text provides for a study of occupational opportunities, the importance of choosing the right vocation, the principles underlying such a choice, the characteristics of a good worker, and the problems of the worker in the laboring world.

WALLACE W. ATWOOD
RUTH E. PITT

CONTENTS

I. THE PHYSICAL WORLD

PAGE

CHAPTER ONE · THE EARTH AS A GLOBE 3

1. Our Knowledge of the Earth 3
2. The Earth's Neighbors 4
3. The Motions of the Earth 11

CHAPTER TWO · THE LOCATION OF PLACES ON THE EARTH 17

CHAPTER THREE · MAP REPRESENTATION AND MAP READING 23

1. Map Projections 23
2. Map Reading 27

CHAPTER FOUR · THE SURFACE OF THE LAND 32

1. Plains 34
2. Uplands and Plateaus 39
3. Mountains 42
4. Coastal Lands 47
5. Islands 51
6. The Ocean Bottom 54

CHAPTER FIVE · WEATHER AND CLIMATE 58

1. Elements of Weather 58
2. Controls Which Determine Climate 64
3. Classification of Climates 73
4. Low-Latitude Climates 76
5. Middle-Latitude Climates 84
6. High-Latitude Climates 97
7. Summary 100

II. PEOPLES OF THE EARTH

CHAPTER SIX · THE RACES OF PEOPLE 105

1. The White, or Caucasian, Race 107
2. The Mongoloid Race 109
3. The Negroid Race 111

PAGE

CHAPTER SEVEN · CULTURAL GROUPS 115
1. Oriental Civilization 115
2. Some Early Civilizations in the Americas 117
3. Occidental Civilization 121

CHAPTER EIGHT · ECONOMIC GROUPS 130

CHAPTER NINE · LANGUAGE GROUPS 142

CHAPTER TEN · RELIGIOUS GROUPINGS 147

CHAPTER ELEVEN · POLITICAL GROUPS 153

CHAPTER TWELVE · THE DISTRIBUTION OF POPULATION TODAY 166

CHAPTER THIRTEEN · UNDERSTANDINGS AND MISUNDERSTANDINGS AMONG PEOPLE 178
1. Causes of Misunderstanding 178
2. Unifying Influences among Peoples 181

III. ECONOMIC RESOURCES OF THE WORLD

CHAPTER FOURTEEN · THE WORLD'S NATURAL WEALTH AND ITS CONSERVATION 191

CHAPTER FIFTEEN · THE PRODUCTION OF THE WORLD'S GOODS 205
1. Raw Materials and Power 206
2. The Major Manufacturing Industries of the United States 213
3. Manufacturing in the British Isles 222
4. Manufacturing on the Continents of Europe and Asia 226

CHAPTER SIXTEEN · EFFECTS OF ECONOMIC RESOURCES ON LIVING 233

IV. TRADE WITH OUR WORLD NEIGHBORS

CHAPTER SEVENTEEN · THE NATURE AND EXTENT OF WORLD TRADE 243

CHAPTER EIGHTEEN · REASONS FOR WORLD TRADE 248
1. Industrial Nations Depend upon World Trade 248
2. Non-Industrial Nations Depend upon World Trade 254
3. Other Reasons for World Trade 257

PAGE

CHAPTER NINETEEN · TRADE ROUTES, TRADE CENTERS, AND TRANSPORTATION OF GOODS 259

1. Water Routes and Ports 259
2. Water Transportation 267
3. Land Routes and Transportation 274
4. Air Routes and Transportation 279

CHAPTER TWENTY · HOW GOODS ARE EXCHANGED 284

CHAPTER TWENTY-ONE · MODERN COMMUNICATIONS, AN ENCOURAGEMENT TO WORLD TRADE 289

CHAPTER TWENTY-TWO · POLICIES OF GOVERNMENTS AND THEIR EFFECTS ON WORLD TRADE 295

1. Tariffs 295
2. Barter Agreements 302
3. Quotas 302

CHAPTER TWENTY-THREE · THE RESULTS OF WORLD TRADE 304

V. ECONOMIC SERVICES AND RESPONSIBILITIES

CHAPTER TWENTY-FOUR · MAN'S WANTS 313

CHAPTER TWENTY-FIVE · INTERDEPENDENCE OF PRESENT-DAY LIFE 318

CHAPTER TWENTY-SIX · THE CONSUMER AND HIS PROBLEMS 326

1. His Influence on Trade 326
2. Modern Advertising 338
3. Consumer Co-operation 342
4. Budgeting 345
5. Demand and Supply 348
6. Standard of Living 353
7. Government Regulations and Policies 355

CHAPTER TWENTY-SEVEN · MAN'S PURCHASING POWER 360

1. Money 360
2. Banks and Credit 371
3. Other Credit Agencies 379
4. The Use of Money and Credit 383
5. Purchasing Power—Stable or Unstable 389

PAGE

CHAPTER TWENTY-EIGHT · SERVICES OF GOVERNMENT 399

1. Responsibilities of Government 399
2. Kinds of Services 404
3. Financing Government Services 411

VI. WORK AND WORKERS IN OUR ECONOMIC WORLD

CHAPTER TWENTY-NINE · OCCUPATIONAL AND EDUCATIONAL OPPORTUNITIES IN OUR ECONOMIC WORLD 421

1. Occupational Opportunities 421
2. Educational Opportunities 433

CHAPTER THIRTY · CHOOSING AN OCCUPATION 440

1. The Importance of Early Choice of a Vocation 440
2. Analyzing One's Self 441
3. Matching the Worker and His Job 447
4. Factors Determining Success in a Job 452

CHAPTER THIRTY-ONE · SECURING A JOB 455

CHAPTER THIRTY-TWO · WORKING CONDITIONS 459

1. The Worker and His Government 459
2. Organizations of Workers and Employers 471
3. Employer-Employee Relations 480
4. Shifts in the Labor Supply 484
5. The Worker's Responsibilities in a World of Work 486

APPENDIX 489

INDEX 509

BLACK AND WHITE MAPS

	PAGE
The earth, showing parallels of latitude	18
The earth, showing meridians of longitude east and west of Greenwich	19
Time zones and time meridians in the United States	20
The International Date Line	21
A map with many interruptions	24
A map with many fewer interruptions	24
A map on the Mercator projection	25
A map on the Van der Grinten projection	25
Globe maps of the Western and Eastern hemispheres	26
Polar projection maps of the Northern and Southern hemispheres	26
How the elevation of a landscape is shown by contour lines	28
A map showing the elevation of the land by means of hachures	29
A gray relief map	30
The World showing natural regions	32–33
A map showing the average annual rainfall of the world	59
The principal mountain ranges of the world, which act as barriers to winds and rainfall	67
A map of the world showing ocean currents	71
The earth divided into zones of sunshine	74
Climatic regions of the world	77
Where the people of the three races live	106
Principal Occupations	130–131
Language Families	142–143
Principal Religions of the World	148–149
Political Reference Map of the World	156–157
Distribution of People	168–169
Where the minerals of the world are found	196
The chief manufacturing districts in northeastern United States	214
The chief manufacturing districts in western Europe	227
The industrial districts of the Soviet Union	229
Trade binds the nations of the world together	249
Where the world's iron ore is found	252
Where the world's coal is mined	252
The principal shipping routes of the world	260
The route of the All-American Highway	276
A map showing some of the great circle routes between our country and the rest of the world	281
Overseas radio telephone connections	290
A map showing the Federal Reserve Districts of the United States	378

Our Economic World

I · THE PHYSICAL WORLD

CHAPTER ONE • THE EARTH AS A GLOBE

1. Our Knowledge of the Earth

The spinning globe on which we live is but one of many bodies floating and whirling in space. Let us imagine that we are at some observation station far off beyond the moon, and that with powerful telescopes we can see the whole solar system of which the earth, our home planet, is but a part. We can see the earth with its ocean of air, a great ocean of water, and many large and small bodies of land. The earth is believed to be the only body in the universe in which there is any life, either plant or animal.

A Sphere. Correct knowledge about the earth came very slowly. For a long, long time people thought that the earth was very small and flat, and that if anyone ventured too far on the sea which was believed to surround the land, he would fall off. It was the Greek scholars Pythagoras (born about 582 B.C.) and Aristotle (384–322 B.C.) who made observations which led them to decide that the earth was a sphere.

For hundreds of years the most learned people thought that the earth was at the center of the universe. To explain the days and nights and the rising and setting of the stars, they said that the sun and all the other great bodies in space were revolving about the earth. When it was discovered that the earth made a complete turn on its axis each day, the true explanation of day and night was known.

Experiments of Galileo and Copernicus. The Italian scientist Galileo (1564–1642) deserves the credit for proving that the earth turns on its axis, rotating from west to east. He did so by dropping weights from the top of the leaning tower at Pisa, in Italy. The tower is 179 feet in height. If the earth were standing still, the object dropped would fall perpendicularly—that is, to a point directly beneath the place from which it started. Galileo's experiments showed that the objects which he dropped struck the earth east of such a point, thus proving not only that the earth was rotating, but that it was rotating from west to east. The weight which he dropped could not have fallen east of the point where a perpendicular line from the top of the tower would have met the surface of the earth unless the top of the building had been moving to the east faster than its base; just as the end of a spoke at the outer end, or

rim, of a moving wheel moves faster than the inner end of the same spoke at the wheel's hub, or center. The top of the tower, being 179 feet above the pavement on which its base rested, was farther from the center of the earth than its base, and was therefore moving faster than its base as the earth rotated.

In 1543 a book by Copernicus, a Polish astronomer and mathematician, was published in which he taught that the earth is not the center of the universe but just one of several planets that move about the sun. He taught also that the journey of the earth about the sun takes a year.

Motion and Gravitation. As more and more came to be known about the solar system and the universe, in which it is just one of many similar systems, scientists learned that all the bodies of the universe are in motion. With the discovery of the law of gravitation, they came to understand the force which keeps the various bodies in their relative positions, the planets in their orbits and their satellites in theirs. If there were no motion in the universe, we should have no regularity in day and night, the seasons, the return of the planets in the skies, or the coming and going of comets.

The Earth's Elements. We live at the bottom of an *atmosphere*, or ocean of air, which forms the outer portion of the earth. The atmosphere is thought to be about 500 miles deep in its deepest part, and it serves as a blanket, holding some of the warmth that comes from the sun and making life on the earth possible. If we lost our atmosphere or the water on the earth and in the air, we could not live. The solid part of the earth is known as the *lithosphere* (rock sphere), and the water envelope of the earth is known as the *hydrosphere*. In addition to the oceans and other water bodies, the hydrosphere includes the water vapor in the atmosphere.

2. The Earth's Neighbors

The Planets. From our observation station far off in space let us imagine that we can see the solar system as a whole through powerful telescopes. The controlling body, the sun, near the center of the system, is really a huge ball of fire. It is rotating, for we can detect spots on its surface which change their location as the huge body turns on its axis. Revolving about the sun from west to east are the nine major planets, among which is the earth. *See Figure 1.*

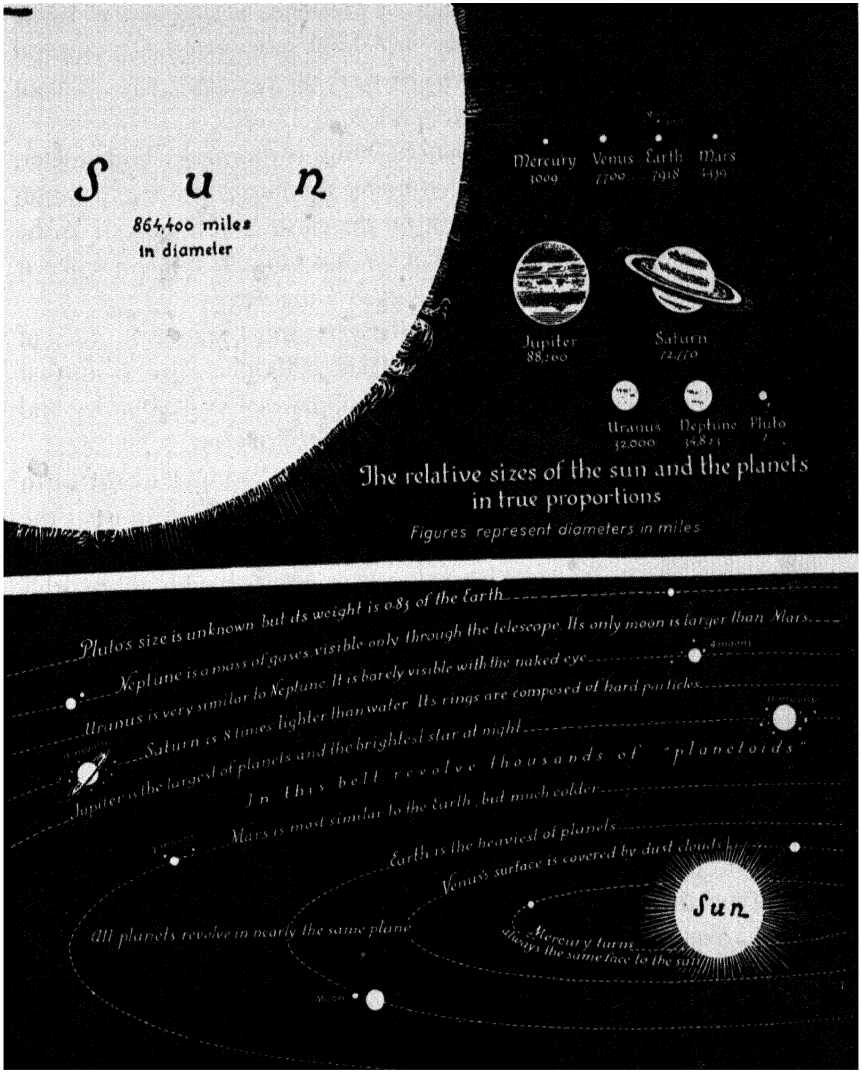


FIGURE 1 · *The nine planets and the sun, around which they revolve.* In the lower diagram the planets are shown in exaggerated size in relation to the size of the sun

Mercury. Nearest the sun is Mercury, a small planet, a little less than 3000 miles in diameter, that can scarcely be detected with the unaided eye. Mercury is about 36,000,000 miles from the sun and makes one journey around it in 88 days. It rises and sets at about the same time as the sun.

Venus. The next nearest planet, Venus, is 7629 miles in diameter. It is 67,000,000 miles from the sun, and it completes one revolution about the sun in 228 days. To us on the earth Venus appears as the brightest object in the skies except for the sun and moon. When it is visible it is always as a morning or evening star.

The Earth and Moon. The earth is the third planet in order of distance from the sun, being about 93,000,000 miles away from that controlling body. It has a diameter of approximately 8000 miles, and a circumference of about 25,000 miles at the equator.

The moon is the earth's satellite. That is, it accompanies the earth in its journey around the sun, revolving around the earth just as the earth revolves around the sun. The moon's journey around the earth takes only about 28 days, however, as compared with the earth's 365-day journey around the sun. As the moon revolves about the earth, it rotates on its axis. Since the time required for its rotation is exactly the same as that required for its revolution around the earth (that is, about 28 days), it keeps the same side turned toward us all the time. For this reason no one has ever seen much more than half of the moon's surface. However, that part of the surface that can be seen from the earth has some remarkable features. These include mountain ranges, sharp isolated peaks, huge craters, extensive plains, and some plateau-like places. There are no valleys, rivers, lakes, oceans, clouds, or vegetation. Since there is no atmosphere about the moon, there can be no life of any kind. Such changes as have occurred on the moon's surface must be due to volcanic outbursts, mountain-making movements, or the impact of meteorites flying through space. *See Figure 2.*

The moon is very cold. It receives a small amount of heat from the sun, but, because it has no atmosphere to serve as a blanket which would hold the sun's rays near the moon's surface, the heat leaves it very quickly. It is estimated that the temperature on the moon may be as low as 270° below zero Fahrenheit.

All the light that comes from the moon is reflected, either from the brilliant rays which it receives from the sun or from a very small

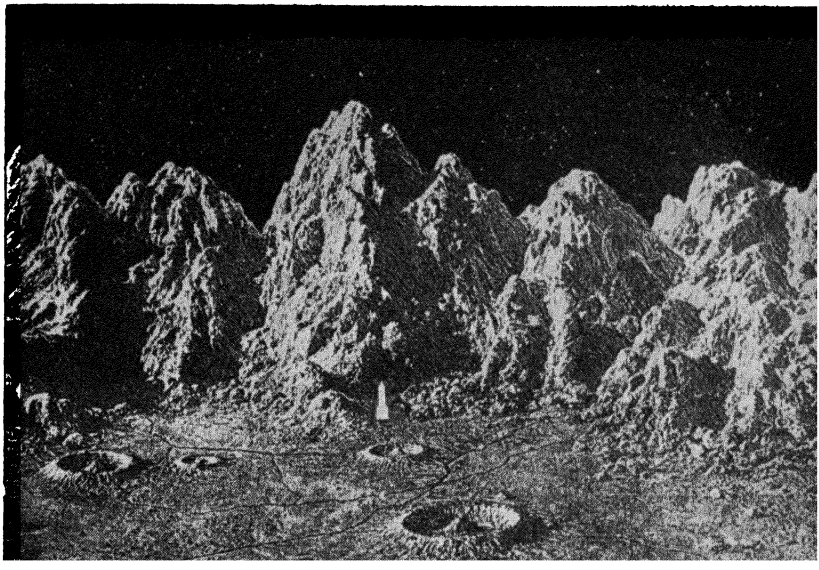


FIGURE 2[1] · *Some of the moon's high mountains.* They are higher and steeper than most mountains on the earth

amount of sunlight reflected to it from the earth. When the earth is between the sun and the moon and we see the entire lighted side of the moon, we say that the moon is "full." At "half moon" we see but half of the lighted portion, and at "new moon" or "crescent moon" we see only a small part of the lighted half. These changes in the amount of light from the moon are called its phases, and they occur once in each lunar month of $29\frac{1}{2}$ days.

Mars. Next beyond the earth, and the fourth planet in distance from the sun, is Mars, which has a diameter of about 4316 miles. It appears to us on the earth as a reddish star. With the aid of telescopes, white areas, possibly snow, have been seen in the polar regions of Mars. The areas grow larger during the winter season and almost disappear during the summer. Some scientists have thought they could detect canals of some sort on Mars. The idea that Mars is inhabited or has some kind of life has been suggested but never proved.

Jupiter. Next in order, and much farther away from the sun than the planets we have just been studying, is Jupiter, the largest of all

[1]From Nasmyth and Carpenter. *The Moon*, published by John Murray.

the planets. It has a diameter of 86,259 miles and is about 483,853,000 miles from the sun. Because of its size, it appears to us as one of the most brilliant objects in the heavens. Although Jupiter is several times as large as the earth, it makes a complete turn on its axis in about 9 hours and 55 minutes. What a difference it would make in our lives if the earth were spinning at that terrific speed! It takes Jupiter about 12 years to revolve around the sun.

Jupiter has probably eleven satellites, or moons, which revolve around it. Several of them are large enough so that they can be seen with a good telescope, but four are so small that they are seldom seen.

Saturn. Next beyond Jupiter from the sun is Saturn, with a diameter of 72,772 miles. It turns on its axis in about ten hours, and its journey around the sun takes about 30 years. Saturn is a remarkable planet in some respects. In addition to its nine known moon satellites, it has three rings around it that are made up of thousands of little satellites. Seen through a telescope, these rings appear as great circles or hoops around the planet.

Uranus, Neptune, and Pluto. So far away from the earth that we do not know much about them are Uranus, Neptune, and Pluto. Uranus (diameter 32,879 miles) can sometimes be seen with the unaided eye, and both that planet and Neptune (diameter 29,827 miles) can be seen very well with a powerful telescope. Pluto, like Mercury, is about 3000 miles in diameter. Because of its great distance from the earth and its small size, it is scarcely visible, even through a telescope. Its journey around the sun takes 250 years.

The Minor Planets. Besides the nine major planets about which you have been reading there are large numbers of minor planets, or asteroids. These revolve around the sun chiefly in the space between Mars and Jupiter.

The Fixed Stars. Planets never appear in exactly the same place in the heavens night after night. The word "planet," from the Greek, means "wandering." In contrast to the planets, the thousands of stars that we see on a clear night which do not appear to change their positions with respect to one another are called the fixed stars.

Among the constellations, or groups, of fixed stars most familiar to us is the Big Dipper. Its pointer stars always point to the North, or Pole, Star in the constellation of the Little Bear. The North Star indicates true north in the part of the earth in which we live.

The fixed stars are so far away from the earth that it takes years

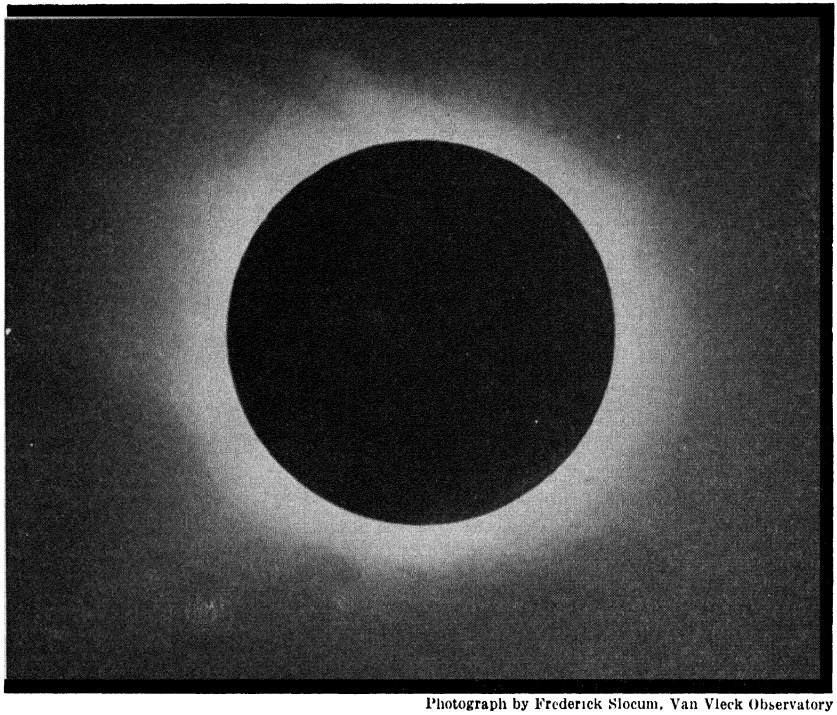
Yerkes Observatory

FIGURE 3 · *Brooks's comet, as seen through a telescope*

for the light from them to reach our eyes, even though light travels at the terrific speed of 186,000 miles per second. In one year light travels 5,865,696,000,000 miles. This distance is called a *light year.* To comprehend the distance traveled by light in one light year is difficult enough, but it becomes almost impossible when we know that it takes light from the North Star 40 years to reach the earth. Many of the fixed stars are much farther away from the earth than that star. The planets, however, are much nearer. The sun is only 93,000,000 miles from the earth, and its light reaches us in eight and one third minutes.

Comets. From our observation post we may from time to time catch sight of a comet flying through space at terrific speed. It resembles a star, except that it has a luminous tail. Comets vary greatly in brightness. Occasionally one appears which is so bright that it can be seen in the daytime. Comets remain visible for varying periods of time, ranging from a few weeks to several months. *See Figure 3.*

The path of a comet is elliptical. Known comets take anywhere from a few years to more than a hundred years to complete one journey around their orbits.



Photograph by Frederick Slocum, Van Vleck Observatory

FIGURE 4 · *A total eclipse of the sun.* The light that shows in the picture comes from the edge of the sun

Eclipses. Eclipses are due to the movement of heavenly bodies around one another. It sometimes happens that the moon comes between the earth and the sun. Then the figure of the moon, or a portion of it, appears against the sun, and a shadow is cast upon the earth. If we are in the part of the earth which is in this shadow, we can see only a portion of the sun and are witnessing a partial eclipse. If we cannot see the sun at all, the eclipse is said to be total. An eclipse of the moon takes place when the earth moves between the sun and the moon, and the shadow of the earth falls on the moon. *See Figure 4.*

Because the motions of the universe are so exact and unchanging, scientists have been able to figure out just when eclipses of the sun and moon will occur, just when the various planets will appear in the various parts of the heavens, and just when a certain comet will be visible from the earth and how long it will be visible.

3. *The Motions of the Earth*

A Universe of Motion. Remember that there is motion everywhere in the universe. Every object in the heavens is turning on an axis and moving in an orbit of some kind. Many bodies are moving about other suns as our earth and the other planets in the solar system move about our sun.

The perfection and regularity of the various movements in the universe are of the utmost importance to us who live on the earth. If the earth were drawn nearer the sun, the heat might be too terrible for us to bear. If it were driven farther from the sun, we might not have sufficient heat to support life. Because of the daily rotation of the earth on its axis we have a warming period which we call day and a cooling period which we call night. The changes in our seasons, which in our part of the world stimulate us in our work, are brought about as the earth revolves about the sun with the axis of the earth inclined a little toward the plane of its orbit.

Rotation. Most of the ancient peoples of the earth had myths or legends to explain the coming of day. It was to them, as it is to us, one of the wonders of the universe. The correct idea, as Galileo proved by dropping weights from the leaning tower of Pisa, is that the earth rotates on its axis and turns portions of its face toward the sun as it moves, while other portions are turned away from the sun. We may think of the sun "rising" in the east because our part of the earth is moving toward the sun from west to east. As we move toward it, the sun appears higher and higher in the heavens. Then, as we move onward away from it, it appears to drop lower and set in the west because we, moving still farther eastward, have left it behind. Our portion of the earth then travels in darkness until we again move around toward the sun and the next day begins.

Revolution. As you know, the earth revolves about the sun once each year; and the other planets revolve around it in periods varying from less than three months to 250 years. The length of the yearly journey of the earth is about 560,000,000 miles. Since we know that our spinning globe takes 365 days of 24 hours each to complete this journey, it is evident that it is moving through space at the rate of about 65,000 miles an hour. We know, however, that the path followed by the earth in this journey is not a perfect circle, but one that is somewhat flattened into an oval shape known as an ellipse. We

know also that the sun is not in the center of this ellipse, but about 1,500,000 miles from the center. *See Figure 5.*

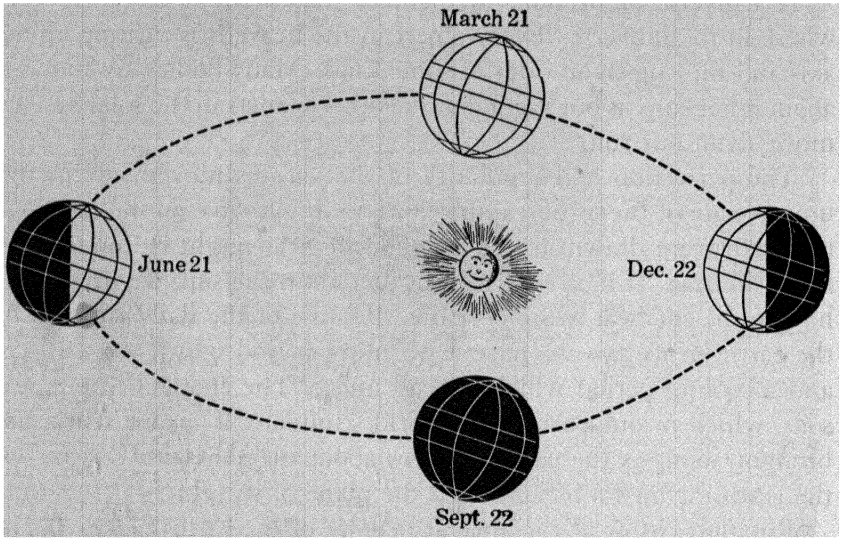


FIGURE 5 · *The earth's orbit in its journey round the sun.* The diagram shows the position of the earth in relation to the sun at the time of the June and December solstices and the March and September equinoxes

The Poles and the Inclined Axis. If the axis of the earth, or the shortest imaginary line from the north pole to the south pole, on which the earth rotates, stood in a position vertical to the plane along which the earth revolves, and if the sun's rays reached the earth as shown in Figure 6, all places on the earth would have twelve hours of darkness and twelve hours of light throughout the year. That is, the earth would pass around the sun in an upright position. But it was early noticed that the length of the days varied during the year—that they were longer and warmer in summer and shorter and cooler in winter. As this series of changes during the year affected the growth of vegetation, especially of crops, they were very important events in the lives of the people and were often celebrated by feasts, such as the feasts of the harvests in autumn. The return of longer, warmer days was greeted with joy, especially in the northern lands.

Why the Seasons Change. After years of observation and of study, the reason for change of season was discovered. The scholars found that the earth does not proceed on its annual journey in an upright

position, but is inclined, or tilted, toward the plane along which it revolves. This means that in winter the north pole is tilted away

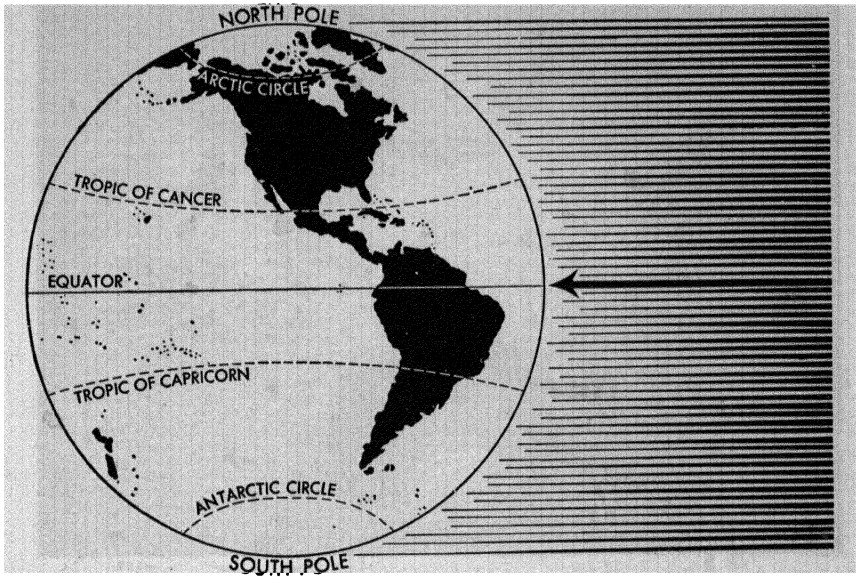


FIGURE 6 · *This is the way the rays of the sun would strike the earth if the earth's axis were not tipped*

from the sun, while in summer it is pointed toward the sun and as a consequence it is then flooded with light. Measurements carefully made showed further that the axis of the earth is $23\frac{1}{2}$ degrees from a vertical position; that is, it is inclined at an angle of $23\frac{1}{2}$ degrees toward the plane along which the earth revolves.

The amount of inclination, or tilting, of the axis is shown by the fact that on June 21, the longest day of the year in the Northern Hemisphere, the axis is in such a position that in the vicinity of the north pole the sun does not appear to set; that is, there is continuous day in a region extending $23\frac{1}{2}$ degrees around the north pole, while there is continuous night for a distance of about $23\frac{1}{2}$ degrees around the south pole. The conditions around the two poles are reversed on December 21, the shortest day of the year in the Northern Hemisphere. The positions of the *arctic circle* and the *antarctic circle* are thus fixed at $66\frac{1}{2}$ degrees north and south of the equator; that is, they are $23\frac{1}{2}$ degrees south and north of the poles respectively, since the distance from the equator to the poles is 90 degrees. *See Figure 7.*

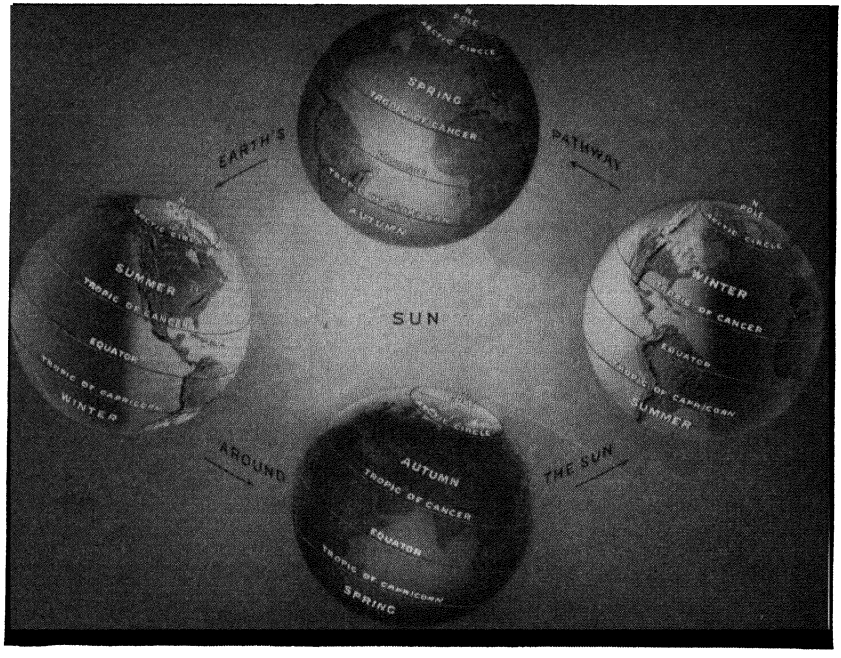


FIGURE 7 · *Seasonal changes in the position of the earth in relation to the sun*

Twice each year the sun is directly overhead at the equator—on March 21 and September 21—and so we say the rays are vertical. At these times the length of the day is equal to that of the night everywhere on the earth. The lighted portion reaches from pole to pole, and half of each of the earth's parallels of latitude is being lighted. Can you see why day and night are equal in length only twice each year except at the equator? March 21 and September 21 are therefore known as the *equinoxes* (equal nights). From March 21 to June 21 the "overhead sun" appears to travel northward from the equator. At noon on June 21 the sun is overhead $23\frac{1}{2}$ degrees north of the equator. This position of the sun, which occurs at the time known as the summer solstice, marks the imaginary line called the *tropic of Cancer*, because from this point the overhead sun turns again toward the equator. We may define the summer solstice, therefore, as the time when the sun's rays are vertical farthest north from the equator. At the winter solstice the rays of the sun are vertical at the same distance south of the equator. In other words, on June 21 the overhead sun begins to travel southward, crossing the equator

on September 21; and by December 21 it is vertical at noon $23\frac{1}{2}$ degrees south of the equator along an imaginary line known as the *tropic of Capricorn.*

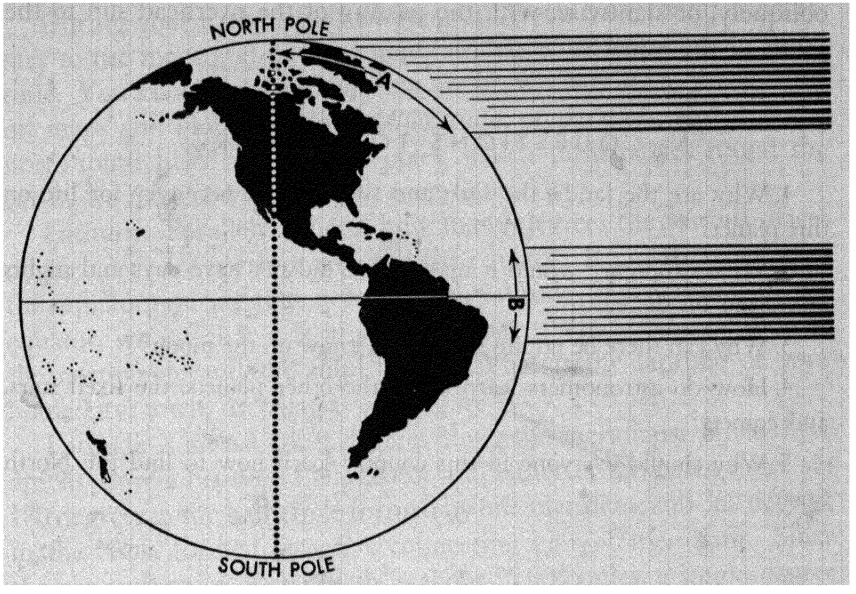


FIGURE 8 · *This diagram shows two bundles of the sun's rays striking different parts of the earth's surface.* Notice that the same number of rays strike over line B as over line A. Over which line will the temperature be higher, and why?

Angle of Sun's Rays. As the sun appears day by day higher and higher above the horizon at noontime, the days become warmer. The higher the sun is above the horizon, the more nearly vertically do the rays of heat and light strike the surface of the earth. In the tropical regions when the sun is directly overhead at noon, a person stands upon his own shadow, and the heat of the vertical rays is intense.

A bundle of the sun's rays falling vertically or nearly vertically upon the earth, as at "B" in Figure 8, cover much less surface than the same bundle of rays would cover if they fell upon the earth as at "A." The vertical rays, being centered over a smaller surface, therefore have more heating power than the slanting rays, the power of which is weakened because they are spread over a wider surface. In addition, the slanting rays pass through a greater distance of the atmosphere, which absorbs a considerable portion of their heat. This

is one of the reasons why the weather of the Northern Hemisphere grows warmer when the overhead sun is north of the equator, and why it becomes colder when the rays strike the earth's surface obliquely, or slantwise, with the passing of the overhead sun to the south of the equator.

QUESTIONS TO ANSWER

1. Why are the lands, the seas, and the air each necessary for life on this planet?

2. What difference would it make if we did not have days and nights or seasons on the earth?

3. Why can there be no life such as we know on the moon?

4. How do astronomers learn about the other planets, the fixed stars, and comets?

5. Why should everyone in this country learn how to find the North Star?

CHAPTER TWO · THE LOCATION OF PLACES ON THE EARTH

During your earlier study of geography you have found it necessary to use maps and have become familiar with latitude and longitude. You know that the lines that are drawn parallel to the equator on maps and globes are lines of latitude, or parallels, and that the north-south lines between the poles, which form circles round the earth, are lines of longitude, or meridians.

Latitude. Parallels indicate how many degrees the various places on the earth are north or south of the equator. If a place is north of the equator, we say that it is in north latitude; if it is south of the equator, we say that it is in south latitude. What is the latitude of the north pole and the south pole? What is the latitude of your home city, town, or village. *See Figure 9.*

Latitude is measured in degrees along the meridians. Since there are 90 degrees between the equator and either of the poles, there are 180 degrees in the half circle formed by one meridian, and 360 degrees in the circle formed by every connecting pair of meridians. Since the circumference of the earth is about 25,000 miles, a single degree of latitude is equal to one three hundred and sixtieth of this distance, or approximately 69 miles. Because the circles formed by the meridians are all of equal size, this distance is the same at any place on the earth except at points near the poles. There the earth is slightly flattened, and as a result the length of a degree of latitude is a little longer than elsewhere.

Longitude. Meridians indicate east and west distances on the earth. Longitude is commonly reckoned east and west of the meridian that passes through Greenwich, England. This meridian is called the *prime meridian* and is marked 0 degrees on maps. Just as many meridians can be drawn on a map as the map maker desires, and since all meridians pass through the poles, every connecting pair of meridians is a great circle. *See Figure 10.*

The length of a degree of longitude along a parallel varies according to the distance of the parallel from the equator, for, as you can see from a globe, the parallels near the poles form much smaller circles than those near the equator. At the equator the length of a degree of longitude is about 69 miles; at 40 degrees north or south latitude it is about 53 miles; and at the poles it may be said to be zero.

Longitude and Time. The earth turns through a distance of 360 degrees during the 24 hours in which it makes a complete rotation.

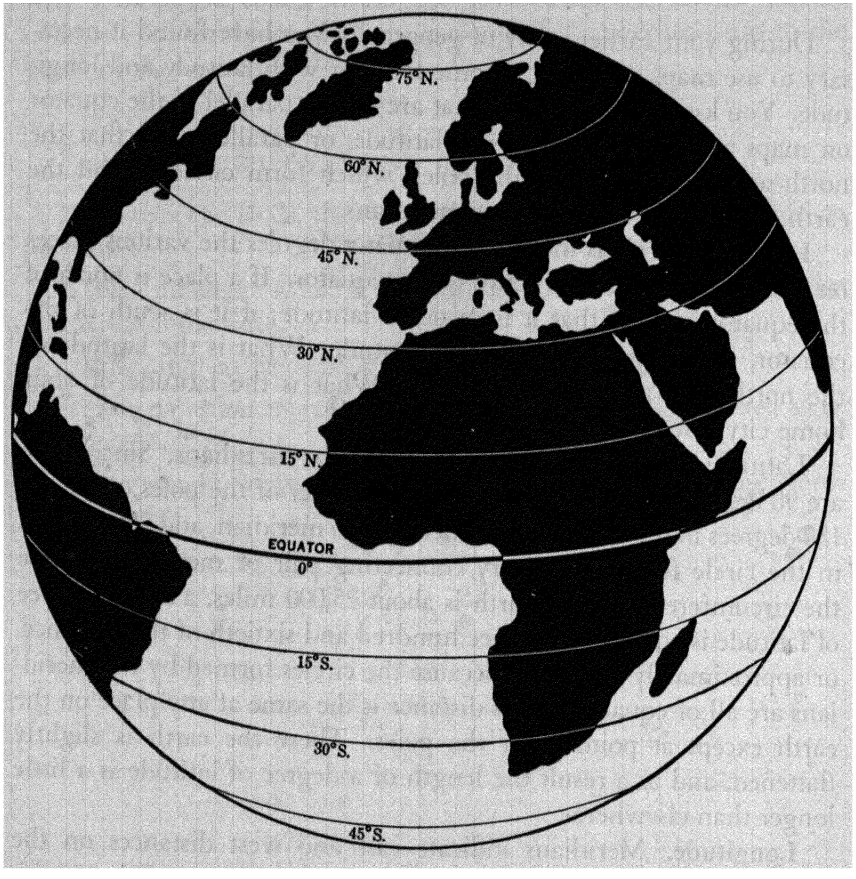


FIGURE 9 · *The earth, showing parallels of latitude*

This means that it turns through one degree in four minutes and through 15 degrees in an hour. When the meridian on which we live passes under the sun, it is noon by sun time for us, and for people living 15 degrees west of us it is 11 A.M. An hour later the meridian on which they live will pass under the sun, and it will then be noon for them and 1 P.M. for us. Thus each 15 degrees of longitude between places on the earth means an hour's difference in time. The people east of us see the sun before we do, and therefore their time is later than ours.

The sun regulates the exact hour of the day at any point on the

earth. All places on the same meridian have noon at exactly the same time, and at that second it is afternoon east of that meridian

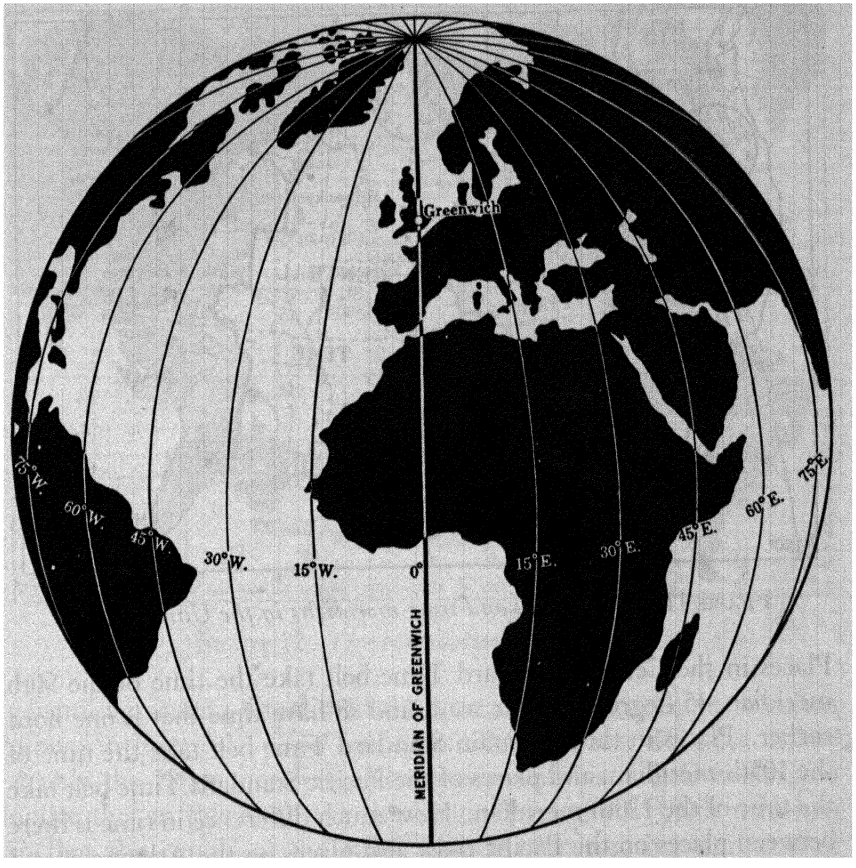


FIGURE 10 · *The earth, showing meridians of longitude east and west of Greenwich*

and forenoon west of it. There would be great confusion, however, if we tried to keep our watches exactly correct by sun time. We should have to set them back a few minutes every time we traveled a few miles west and set them ahead when we traveled a few miles east.

To avoid this confusion, the United States and other nations adopted what is known as *standard time*. According to the plan agreed upon, the earth was divided into time belts, each of which is about 15 degrees in width. The United States has four of these

time belts, and Europe has three. All places in the Eastern Standard Time belt of the United States take the time of the 75th meridian.

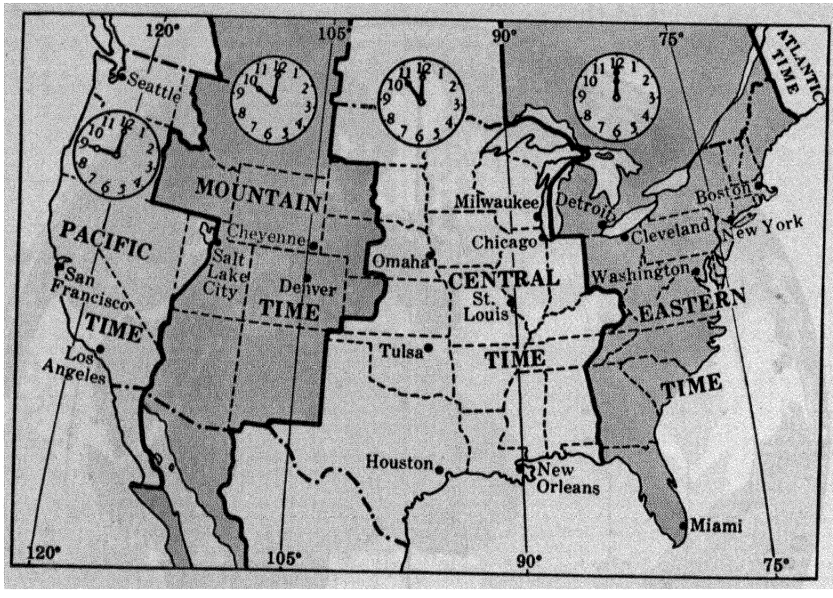


FIGURE 11 · *Time zones and time meridians in the United States*

Places in the Central Standard Time belt take the time of the 90th meridian, 15 degrees farther west, and so have time that is one hour earlier. Places in the Mountain Standard Time belt take the time of the 105th meridian, and places of the Pacific Standard Time belt take the time of the 120th meridian. How much difference in time is there between places on the Pacific coast and places on the Atlantic coast? What is meant by daylight-saving time? How do the time belts affect announcements from radio broadcasting stations? *See Figure 11.*

The International Date Line. In the Pacific Ocean, near the 180th meridian of longitude, is the International Date Line, where ships and airplanes crossing the Pacific Ocean "change their date." As you know, a person traveling westward must set his watch back one hour for every 15 degrees of longitude. If he went around the world, traveling in a westward direction, he would have added 24 hours to the various days while he was traveling and thus would have lost a day. Traveling around the earth in an eastward direction, he would have to set his watch ahead an hour for every 15 degrees of longitude, and so he would be a day ahead of the earth in his reckoning.

To meet the need for a place somewhere in the journey where an adjustment could be made in the date, the nations of the world by

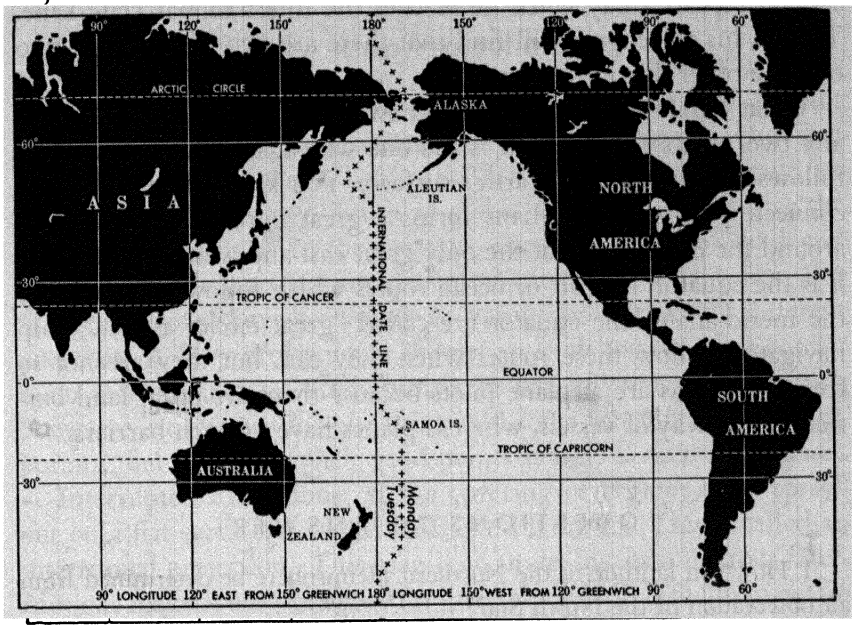


FIGURE 12 · *The International Date Line*

general agreement established the International Date Line, which is shown in Figure 12. You will notice that this line does not follow exactly the 180th meridian. The reason for this is clear when you notice that in the south the line swings east of the 180th meridian so that the people of the small islands near together and east of Australia and New Zealand may use the same date as the people in those larger lands, as well as the people in Asia. Farther north it swings westward to put the Aleutian Islands, which are a part of Alaska, in the same day that the rest of Alaska has; and near Alaska it swings eastward to put all of Siberia in the same day.

Figure 12 shows you that when it is Monday to the east of the International Date Line it is Tuesday to the west of it. What really happens in the case of a ship that is traveling westward across the Pacific is that the captain omits a day when he comes near the International Date Line. His passengers go to bed on Monday night, but when they wake up the next morning they find that the date on the ship's calendar, on the newspapers published on shipboard, and on

the dining-room menus is marked Wednesday. In other words, Tuesday has been omitted. In crossing the Pacific eastward, the captain repeats a day when he reaches the International Date Line. That is, his passengers will find that there are two Mondays or two of some other day in the week.

Great Circle Routes. As you know, the shortest route between any two points on the earth is the one which, in connecting them, follows the curve of the earth's surface. You know, too, that every connecting pair of meridians forms a great north-and-south circle around the earth, but that the only great east-and-west circle around it is the equator. All air or ocean routes which follow the curves of the meridians or the equator are called "great circle" routes. Ship navigators follow these routes when they can, but they are not so free to do so as are airplane pilots because there are often land barriers in the way of vessels, whereas planes have no such barriers.

QUESTIONS TO ANSWER

1. How can latitude in the Northern Hemisphere be determined from an observation of the North Star?

2. When it is noon in Chicago, is it morning or afternoon in New York City? in Seattle?

3. When it is noon at a certain city on the 100th meridian, what time is it in another city one hundred miles due north?

4. In sailing from New York to Europe, would you have to set your watch back or ahead during the course of the trip?

5. How would it be possible for your birthday to occur on two successive days?

CHAPTER THREE · MAP REPRESENTATION AND MAP READING

1. *Map Projections*

The curvature of the earth's surface makes it extremely difficult to represent that surface accurately on a sheet of paper. Our first idea of the shapes of the continents and of the oceans should be obtained from the study of a good globe. Although globes give the most correct ideas as to the location, size, and shape of land and water bodies, they are not convenient objects to use at all times. For that reason maps have been made on various projections for different purposes. A map projection is the network of lines on a globe cast upon a plane surface. Each projection has its own particular use. Some are satisfactory for one thing and some for another. It is important that you know their good points as well as their weaknesses.

Interrupted Projections. If the covering of a globe were spread out on a flat surface, it might look like Figure 13. This is called an interrupted projection. This map is accurate, but its numerous interruptions make it unsatisfactory for general use. It is difficult to obtain a good idea of the shape of North America or Eurasia from this projection.

Figure 14 has fewer interruptions than Figure 13. It is not so accurate, but the chief interruptions come in the water bodies, and the size and shape of the land and water bodies are nearly correct. This projection is valuable for showing certain information related especially to the land areas. If, however, it should be desirable to show ocean currents, trade routes, or air routes across the oceans, such a projection would not be satisfactory.

Mercator Projection. It is evident that an interrupted projection usually involves some sort of compromise in the accurate representation of land or water areas or both. For this and other reasons many people who are using maps do not want them interrupted at all. Figure 15 shows a plan which was first drawn by a man named Mercator in the sixteenth century. In the region near the equator this projection is not far from the truth, but as the poles are approached the exaggeration becomes greater and greater. We see at once that the land and water bodies in the high latitudes are much too large. Notice how large Greenland appears as compared with

South America and Australia. In spite of its drawbacks, this type of map is very useful. Navigators prefer it, and it is widely used to show the exact directions of trade and transportation routes.

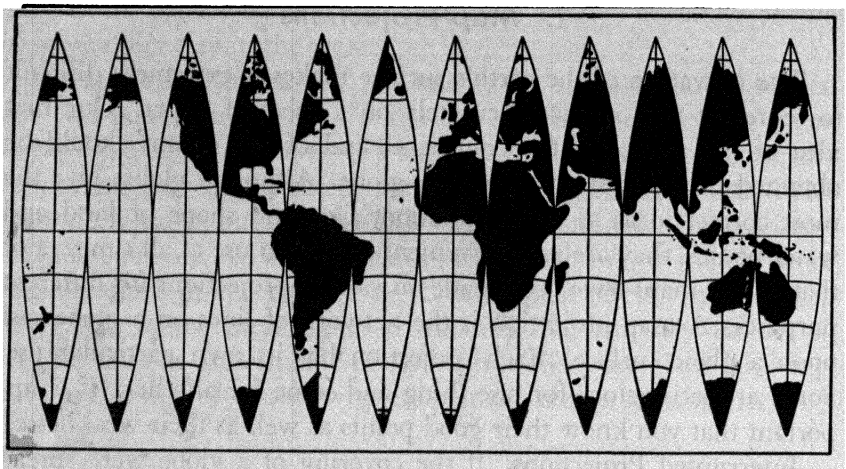


FIGURE 13 · *A map with many interruptions*

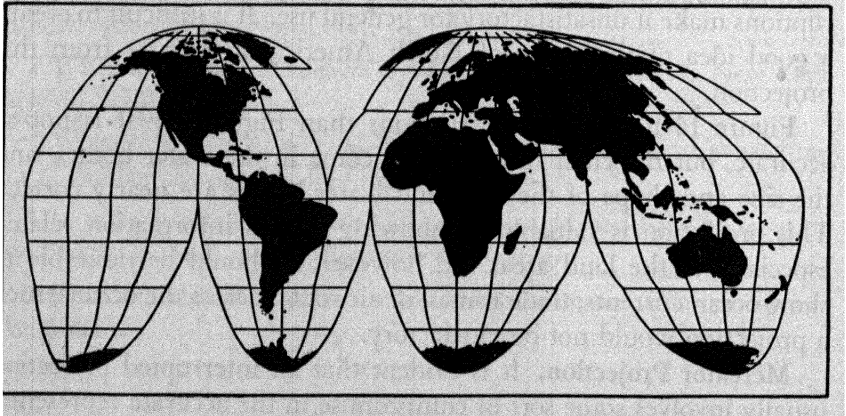


FIGURE 14 · *A map with fewer interruptions than Figure 13*

The Van der Grinten Projection. You will notice that on Figure 16 the parallels are straight but the meridians are somewhat curved. This map is on what is known as a modified Van der Grinten projection. It is not absolutely accurate, but it does correct in large part the errors of the Mercator projection, and it avoids the interruptions of such projections as those of Figures 13 and 14. Greenland is still

too large, and North America and Eurasia are still too wide at their northern margins; but in the equatorial regions the distortions are

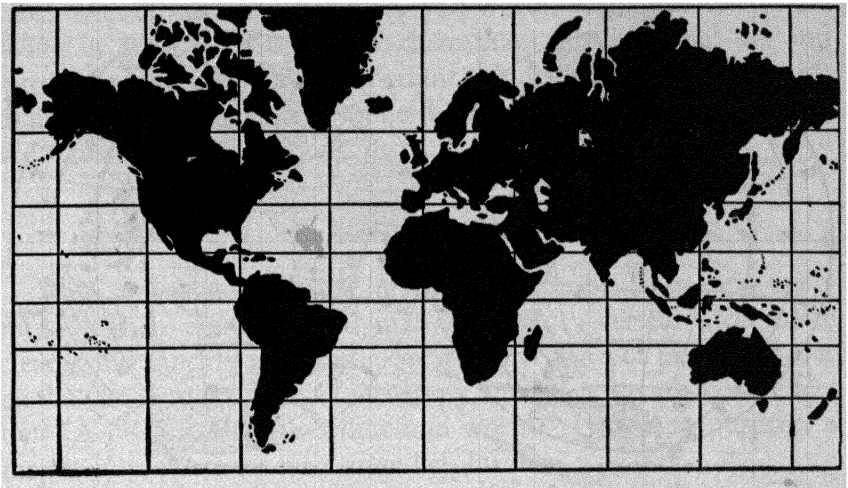


FIGURE 15 · *A map on the Mercator projection*

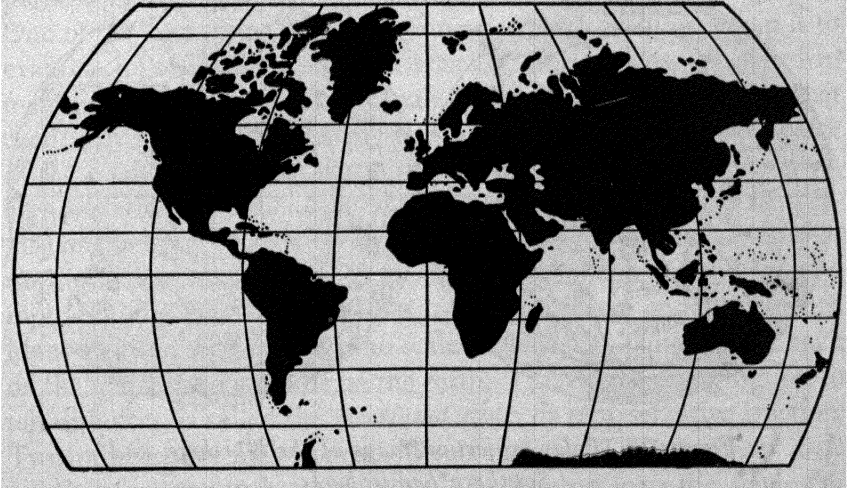


FIGURE 16 · *A map on the Van der Grinten projection*

not at all bad, and the shapes and sizes of the ocean bodies are nearly correct. The Van der Grinten projection is in many ways the most satisfactory projection that has ever been made for representing the world as a whole.

Globe Maps. Figure 17 consists of two globe maps showing the Western and Eastern hemispheres. Notice that the parallels and

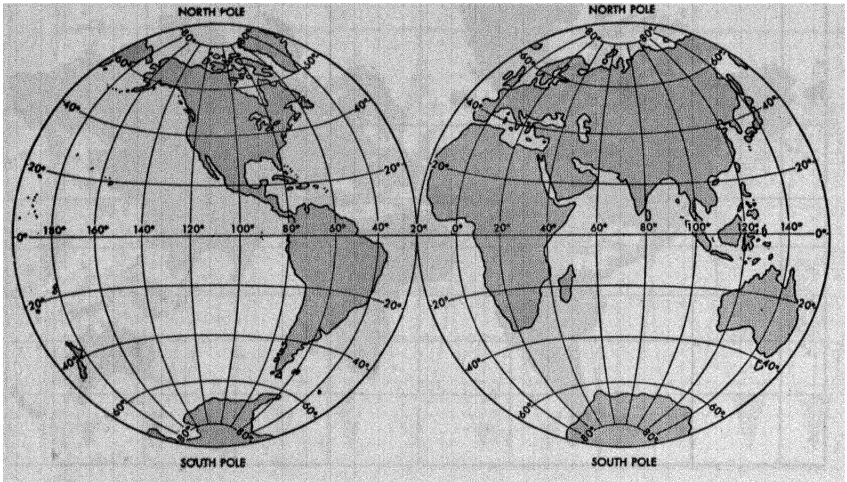


FIGURE 17 · *Globe maps of the Western and Eastern hemispheres*

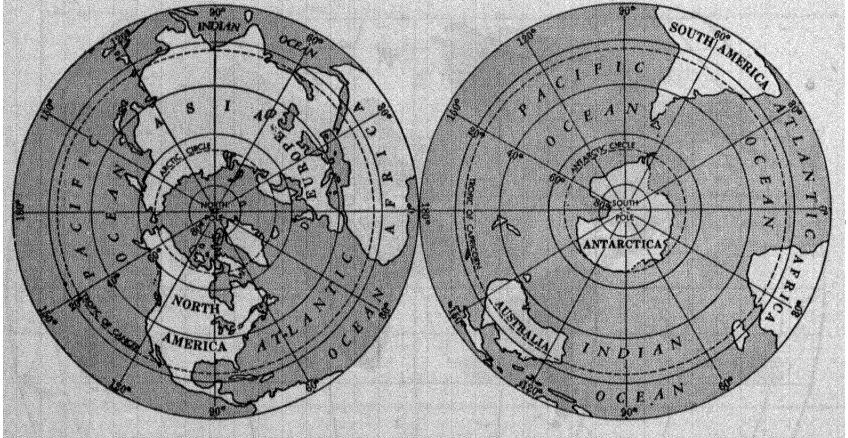


FIGURE 18 · *Polar projection maps of the Northern and Southern hemispheres*

meridians are curved as they would be on a globe. Such maps as these are very useful for some purposes. Why are they not satisfactory for a world study?

Polar Projections. The maps shown in Figure 18 are drawn with their centers at the north and south poles and are known as polar

projections. They show that the inhabited lands of the earth cluster round the Arctic Ocean, and that the four oceans are not four separate bodies of water, but form one vast world-ocean. Because we are living in an air-minded world, these maps are of special use and interest today. One of the important things that they can be made to demonstrate is that some of the shortest intercontinental air routes are across the Arctic regions.

2. Map Reading

Maps are exceedingly helpful, for many people learn most easily through their eyes. A good map can convey certain ideas more clearly and quickly than can a great many pages of printed matter on the same subject. The Chinese have an ancient saying to the effect that "A picture is worth a thousand words." For many purposes a map may prove to be even more helpful than a picture.

Scales of Maps. Since maps are made on many different projections and for many different purposes, map reading is a very important part of the training of persons who are studying geography. One of the first things to do in connection with reading a map is to examine its scale. One excellent series of world maps, published in many separate sheets, is on the scale of 1:1,000,000. This means that each inch on these maps represents a million inches on the surface of the earth. Large wall maps, such as are often seen in classrooms, are usually on the scale of 1:7,000,000, or about 110 miles on the surface of the earth to an inch on the map. Our government publishes some excellent maps on which are shown the relief features, or topography, of the land, water bodies, roads, railroads, and settlements. Many of these maps are on the scale of 1:62,500, which is one inch on the map to about a mile on the earth. This device, using figures to tell distances, is called the *fractional scale*, or representative fraction. Two other scales may appear on some maps. The *statement scale* simply says: one inch to 75 miles. On another map the statement reads: one inch to 250 miles. A third scale is the *graphic scale*. The line that is marked off into equal units, usually in multiples of tens or hundreds, is a measuring ruler. Both miles and kilometers are given as the unit of measuring distance. Although one may not think of lines of latitude and longitude as scales, it is possible to measure distances by knowing their equivalents in mileage.

Devices to Represent Relief Features. The next step in map reading is to look at the various symbols which are used to represent the different features shown on a map.

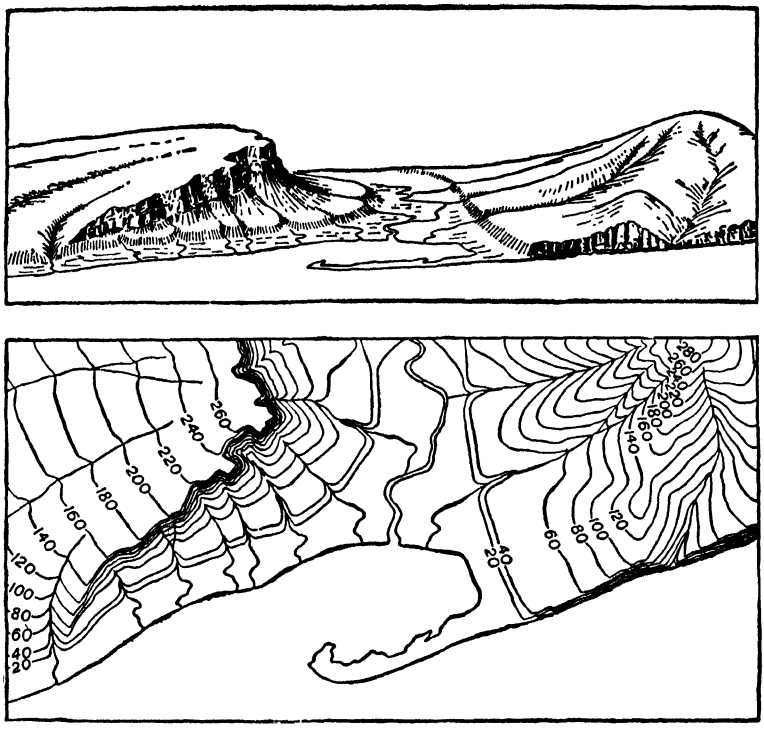


FIGURE 19 · *How the elevation of a landscape is shown by contour lines*

Contour Lines. Our government maps showing relief features by means of contour lines are called *contour maps.* Contour lines are lines connecting points having the same elevation. The landscape shown in the upper part of Figure 19 can be represented by lines as shown in the lower part of the figure. The 20-foot contour line in the diagram indicates where the land is just 20 feet above sea level. Where the contour lines are close together, the land slopes steeply, and perhaps there is a cliff like the one in the landscape. Where the contour lines are widely separated, the land slopes gently. If we were to climb to the top of the highest hill at the left of the landscape, we might ascend over a long, gentle slope, or we might climb the hill at the right, passing over the steep slope indicated by the close spacing of the contour lines. Thus the spacing of the contour lines helps us

to visualize the slope of the land and to reproduce its topography in our imagination. How would a cone-shaped hill 200 feet high look if represented by 20-foot contours? Try to make such a map.

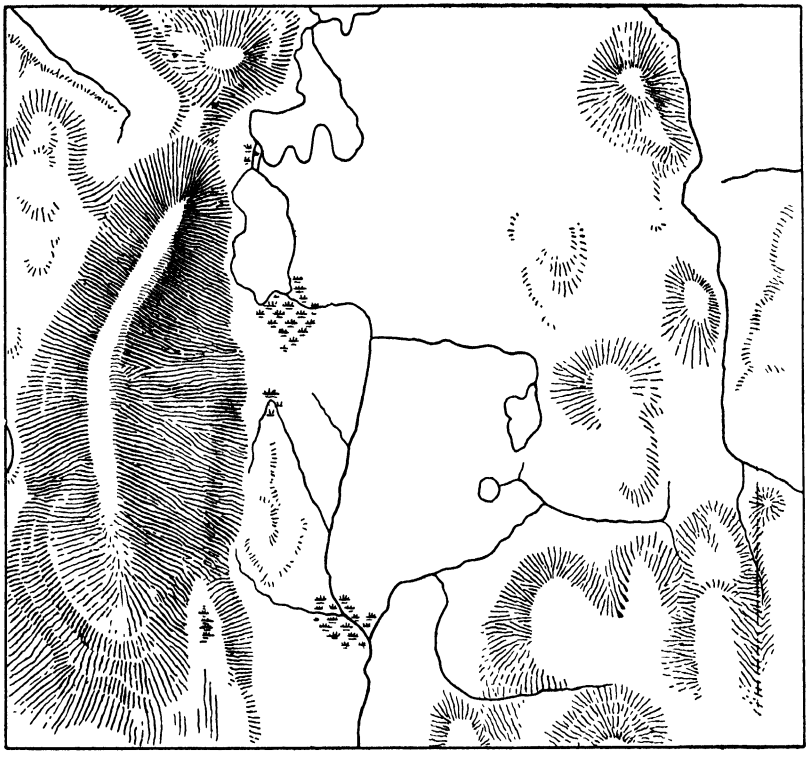


FIGURE 20 · *A map showing the elevation of the land by means of hachures*

You will notice that in crossing a river valley a contour line turns upstream. That is just what we should do if we were walking and wanted to continue at the same elevation. When we came to a valley, we should have to go upstream in order to cross; then we should go downstream on the far side of the valley.

After you have become acquainted with the contour lines on one of our government maps, check over each of the symbols and find a place where that symbol is used. Contour lines are usually brown, water bodies are blue, and features made by man, such as roads, railroads, bridges, and boundary lines, are black.

Hachures and Shading. There are two other commonly used devices to represent relief features of the land. By the use of lines called

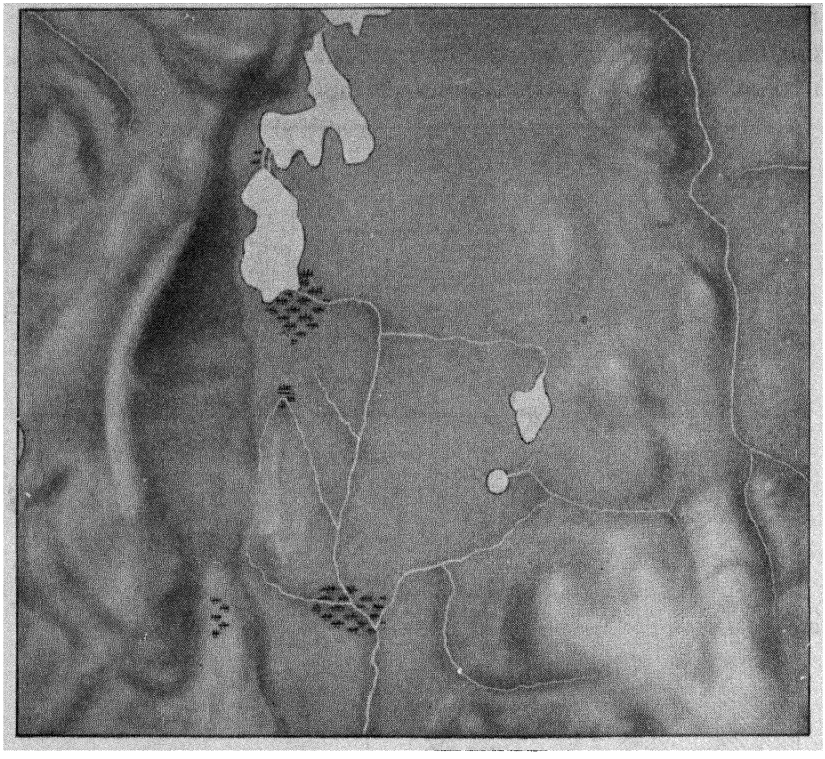


FIGURE 21 · *A gray relief map.* Find a mountain, a plain, and some hills on this map

hachures, slope and its direction can be shown. Short vertical lines represent steep abrupt slopes, and longer horizontal lines represent gentle slopes. Variations in the angle and the length of lines indicate different gradations of relief of a land form. Another device is the use of shading. By the use of various shades of gray and shadow effects, the variations in relief stand out rather prominently. *See Figures 20 and 21.*

Use of Colors. Many relief maps in common use show lands of differing elevation by the use of colors. Green may be used for land surfaces lying between sea level and elevations of 500 feet; yellow for those from 500 to 1000 feet; brown for those from 1000 to 5000 feet; and red for those above 5000 feet. Different map makers choose different elevations as dividing lines for their color zones, and some use many more colors or shades than others. Varying shades of blue

are commonly used to show the depth of the ocean, the darker shades being used for the deeper places.

Some kinds of relief maps use two or even three of the devices discussed. Examine the maps in your classroom to discover the ways contour lines, color layers, hachures, or shadings represent different land forms.

Regional Maps. On some maps the natural regions, or nature's divisions, of the land are shown by different colors. Greens are used to show lowlands and interior plains. Light brown is used to indicate uplands and plateaus, and two shades of darker brown are used for old, worn-down mountains and young, rugged mountains. There are other kinds of regional maps, several of which may be found in this book. Such maps may show location or distribution of racial and language groups and political areas; the nature of economic resources; and other data. Often a combination of different kinds of information is mapped together to help one to understand better the interrelation of the factors involved. In reading these and any other kinds of maps, it is first of all necessary to become familiar with the symbols as explained in the key.

QUESTIONS TO ANSWER AND THINGS TO DO

1. What objections are there to maps that are made on interrupted projections? What advantages do such maps have?

2. Why cannot ocean ships always follow "great circle" routes?

3. Study the different ways of showing relief with respect to the kind of exact information one map gives, and compare that information with the others.

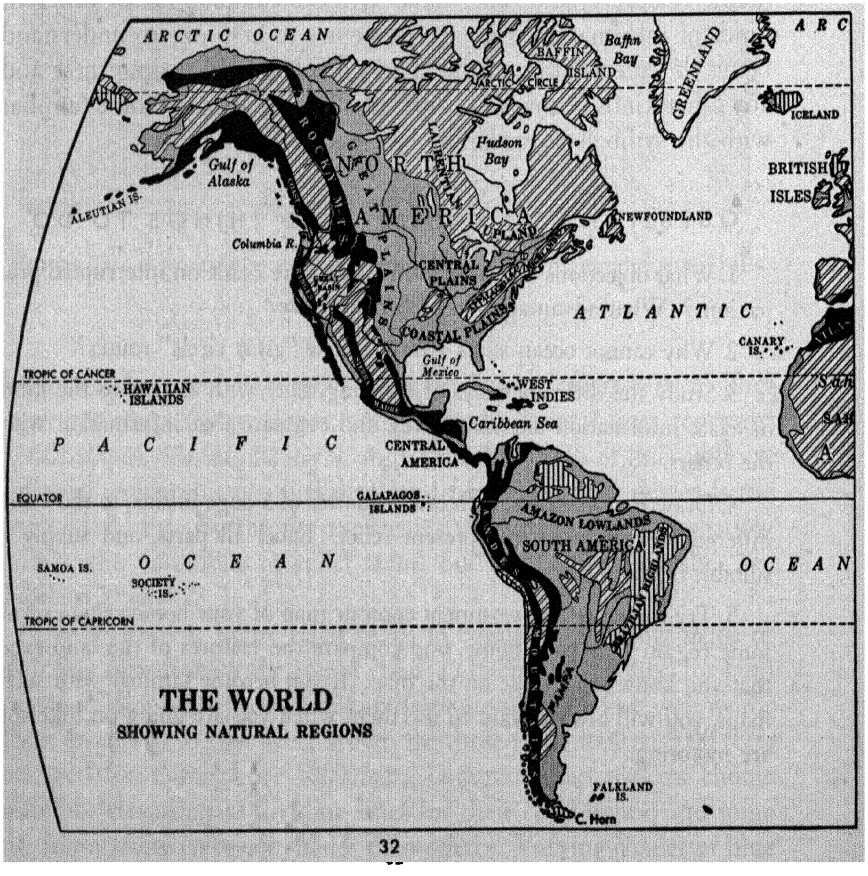
4. Draw four sketches, each one a quarter of a page in size, to show the different devices used to represent relief. Label all parts, and supply a suitable title and a key.

5. Try to secure a government contour map of your home region or of some region near your home, and compare the features of the landscape that you know with those on the map. If you become familiar with such maps, you will always want to use them when you are
are motoring.

CHAPTER FOUR · THE SURFACE OF THE LAND

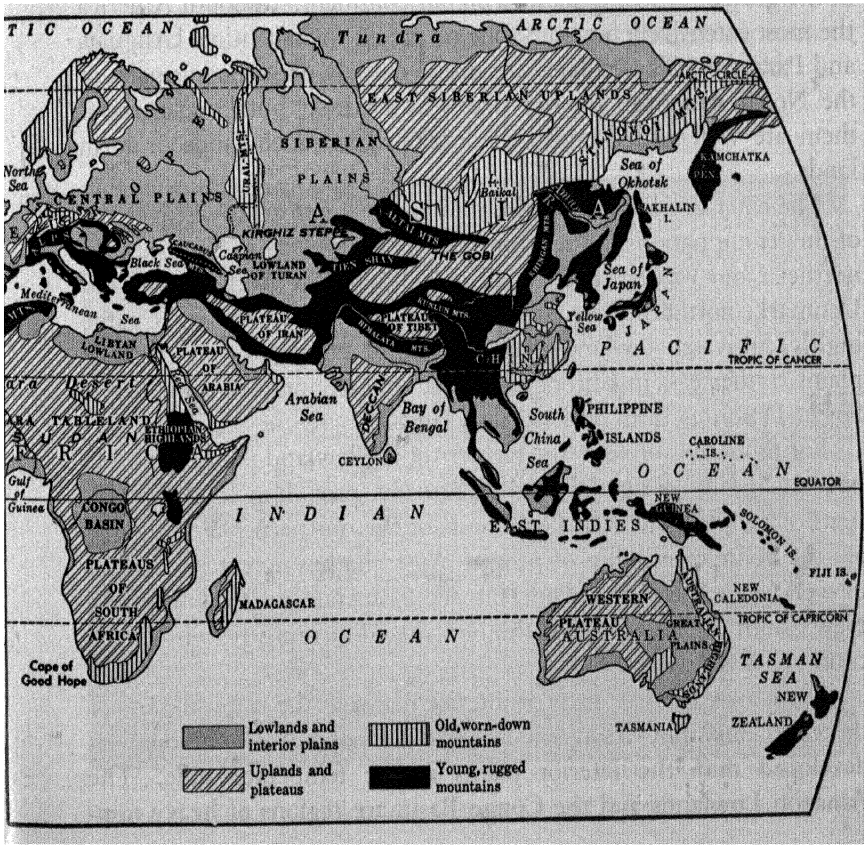
You know that the earth is a sphere, but because it is so large its curvature is not noticeable even to a person standing on a high mountain peak from which he can see far in all directions. At sea, however, it is easy to discover proof of this curvature. If you are on the deck of a ship and watch another ship as it comes into view in the distance, you will notice that it seems to rise as it comes toward you. First you see the top of its tallest mast, then its funnels, and finally its hull. This effect of rising from the sea is due to the fact that the ship is coming over a curved surface. If the ship were going away from you instead of approaching you, the top of its tallest mast would be the last thing to disappear.

The land areas of the earth cover only about three tenths of its surface; the remaining seven tenths of its surface is covered by the



oceans. Not only are the oceans much greater in area than the lands, but on the average they are much deeper than the lands are high. The average depth of ocean is about 13,000 feet, whereas the average height of land is only about 2300 feet. The maximum amount of relief in the land surfaces of the earth, however, is about 63,000 feet, or twelve miles, whereas the deepest spot in the ocean (at a point just east of the Philippines) is about 34,000 feet, and Mount Everest, the highest mountain in the world, rises to about 29,000 feet above sea level. But even this distance is only a tiny fraction of the 8000-mile diameter of the earth.

In spite of the relative unimportance of these differences in the relief of the land when compared with the enormous mass of the lithosphere, they are of tremendous importance to the people. In general, the land surfaces of the earth may be classified as plains, uplands and plateaus, and mountains. *See map below.*



1. Plains

The Importance of Plains. Plains are areas of level or nearly level land. The most densely settled parts of the world, where strong nations have developed, are those which have large areas of lowland plains with soils suitable for farming. Since it is possible for many people to make a living in such regions, cities and towns grow up rapidly; and since there are no land barriers to be overcome, engineers have little difficulty in building railroads and highways.

Interior and Coastal Plains. In North America the extensive interior plains in the central part of the United States and Canada and the coastal plains bordering the Atlantic Ocean and the Gulf of Mexico are largely in the temperate zone. They are primarily farming lands, although the drier parts are used for grazing, and the development and use of their resources have been important factors in the growth of strong nations on our continent. In South America the most extensive temperate-zone plains are in Argentina, Uruguay, and Paraguay. These plains are not so densely populated as parts of the North American interior plains as a whole, but large parts of them are well settled and well developed as ranch lands or farm lands.

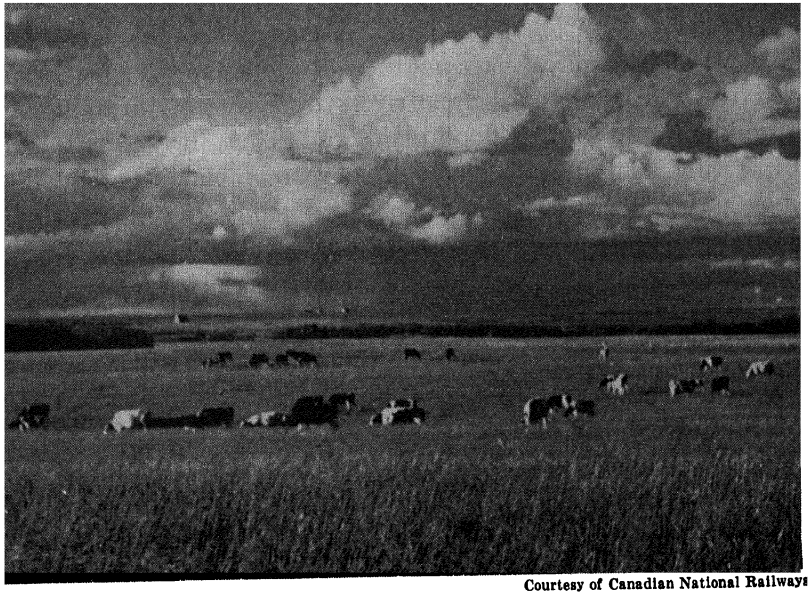
The extensive lowland plains of Europe are areas in which many of the strong nations of that continent have developed. For example, northern and western France, all of Belgium, the Netherlands, and Denmark, northern Germany, and most of Poland share the same highly cultivated lowland plain. The vast temperate-zone interior plains farther east in Europe and Asia are extremely valuable to the Soviet Union as farm and grazing lands.

For thousands of years the farmers of the lowland plains of China have been cultivating the land intensively, providing food for millions of people. The rich farm lands of the northern plain of India are the home of millions of people. Australia has no extensive areas of well-watered interior plains, but the temperate coastal lowland of New South Wales is one of the best mixed-farming regions in the country. *See Figure 24.*

There are extensive areas of interior plains in the tropical parts of the earth, but they are much less densely populated and less well developed than the interior plains in the temperate zone. The Amazon Lowlands and the Congo Basin are regions of heavy rain-

Official photo, U. S. Army Air Corps

FIGURE 22 · *Farm lands in the well-watered Central Plains of the United States.* Corn and wheat are the chief crops grown in these fields



Courtesy of Canadian National Railways

FIGURE 23 · *Grazing lands in the drier part of the interior plains of Canada*

By Burton Holmes from Ewing Galloway

FIGURE 24 · *On the lowland plains of southern China rice fields stretch as far as the eye can see*

fall and great heat. The dense tropical forests there have their value, but as yet their resources have not been developed to any great extent.

River-Made Plains. All great rivers are constantly bringing tons of mud and sand to their flood plains and deltas. If the rainfall and temperature conditions in such regions are favorable, these flood plains and deltas become excellent farm lands, for their soils are certain to be fertile.

Many of the flood plains and deltas are densely populated. The river-made plains of China and India are cradles of ancient civilizations. Thousands of years ago communities of people settled there and began to practice agriculture. Mesopotamia is a river-made land —the product of the Tigris and Euphrates rivers. As early as 4000 B.C. the Egyptians were making use of the flood waters of the Nile in producing their crops. In Europe some of the best farm lands have been made in part by rivers. The Plain of the Po is a good example of a fertile European river-made plain. In the United States the great flood plain and delta of the Mississippi provide the best example of our river-made plains.

James Sawders

FIGURE 25 · *Haying on the river-made Plain of the Po.* There are many dairy farms in this region. Can you explain why?

Lake Plains and Lowland Basins. There are many comparatively small plains where lakes or marshes formerly existed or where great rivers have been at work. Such plains usually have rich soils and become excellent farm lands. The ancient lake plain in the valley of the Red River of the North, which includes parts of the Dakotas and Minnesota and extends northward into Canada, has become one of the greatest wheat-producing regions in the world. Chicago and many of its suburbs are located on a lake plain; and there were once lake waters where Detroit, Toledo, and a part of Cleveland now stand.

Between mountain ranges there are many basin-like areas where streams from the higher surrounding lands have built level lands good for farming or grazing. The Valley of California is a good example of such a lowland plain. Streams from both sides have brought large quantities of sand, gravel, and clay into this lowland area, thus supplying deep, fertile soils on which large crops of grain and various kinds of fruit are raised under irrigation. The Central Valley of Chile is somewhat similar to the California lowland. Turn

Caterpillar Tractor Company

FIGURE 26 · *Preparing a vineyard for irrigation in the Valley of California*

to the population map on pages 168–169 and find out whether these lowland plains are well settled.

QUESTIONS TO ANSWER AND THINGS TO DO

1. Which continents have the largest areas of plains?

2. In which continents are there extensive areas of plains in the temperate zones?

3. What use is made of these temperate-zone plains?

4. Which two continents have large areas of plains in the torrid zone?

5. Are the torrid-zone plains good farming lands? Explain.

6. What examples of river-made plains can you name?

7. Are there any river-made plains near your home? If so, how are they used?

8. Why are the soils of the lake plains and lowland basins usually fertile?

9. List some of the factors that have made some of the plains the most densely settled parts of the earth.

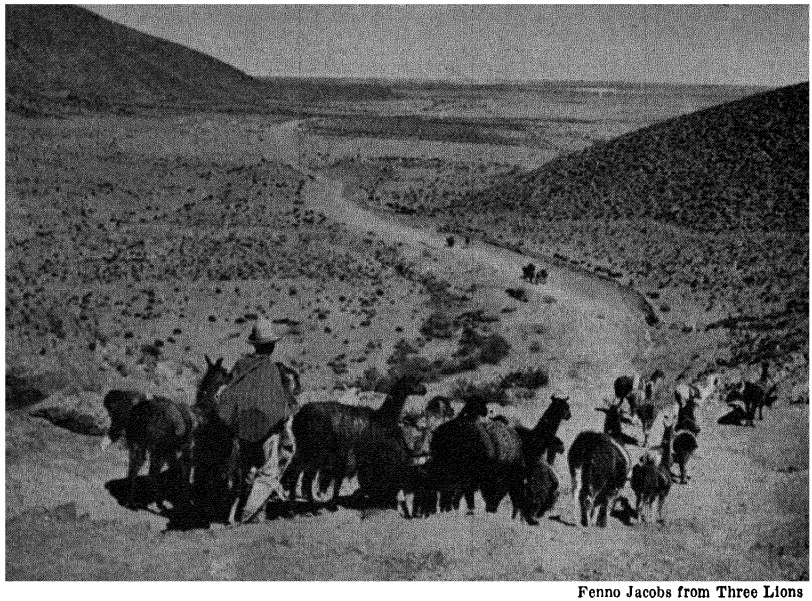
Library of Congress

FIGURE 27 · *Farms and cultivated fields are typical of the hilly lands in the Piedmont Belt*

2. Uplands and Plateaus

Uplands. Uplands are lands not rugged enough to be called mountains or level enough to be called plains. Their surfaces have been eroded by streams for so long that the relief has been reduced. Many uplands have large areas of forests. Because of the variety in their surfaces, upland areas have been, in general, attractive to settlers. For the most part they are not so densely populated as lowland plains, but are usually regions of small villages and towns rather than of large cities. Mixed farming is carried on wherever the land is not too steep or too rough, if the climate and soils are favorable; but as a rule upland regions cannot compete with lowland plains in the production of food crops. Therefore their inhabitants have often turned to manufacturing, exchanging their manufactured goods for the crops of the better farm lands. Many of the streams in the hilly lands can be harnessed to provide water power, and this has been an important factor in the development of manufacturing there.

In North America, the Laurentian Upland, the New England–Acadian region, and much of the Piedmont Belt east of the Blue



Fenno Jacobs from Three Lions

FIGURE 28 · *An Indian driving his flock of llamas down on to the altiplano of Bolivia from the slopes of the bordering mountains*

Ridge are hilly uplands. Parts of England, Scotland, and Ireland and much of southern Germany are hilly upland areas, and there is a similar area which extends from southern Belgium into northeastern France. In the far eastern part of the Soviet Union is the great stretch of uplands and plateaus known as the East Siberian Uplands. These uplands are mostly a forested wilderness and are thinly populated.

Plateaus. Most of the high plains, or plateaus, of the earth are not so attractive to people as the lowland plains or the uplands. Those that are very high, such as the Plateau of Tibet and the high plain (altiplano) of Bolivia, have cool or cold climates.

Many plateaus are surrounded by still higher mountains, which shut off rain-bearing winds so that the plateau areas become semiarid or even desert regions. In western United States the plateaus between the Rocky Mountains and the Sierra Nevada are dry regions. The Mexican Plateau is very dry also, and the high plateaus in South America between the ranges of the Andes do not receive sufficient rainfall for much agriculture. Much of Africa is a tableland, or plateau, country. The plateaus of South Africa range from 3000 to

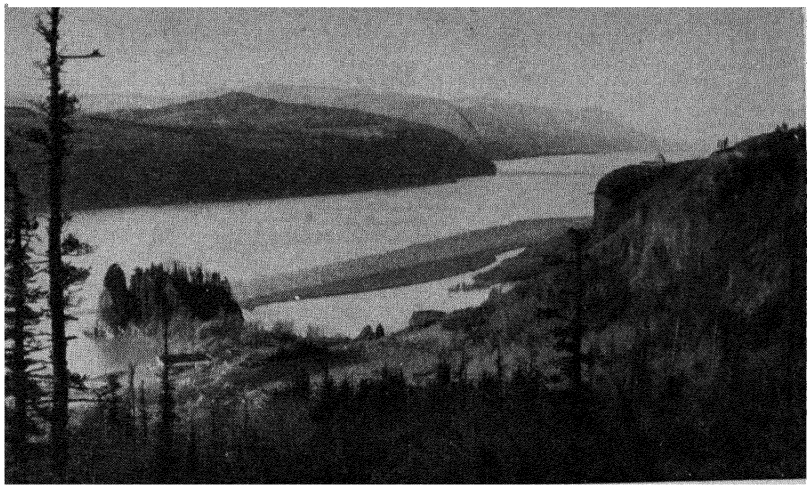


FIGURE 29 · *The gorge of the Columbia River is an excellent illustration of the cutting power of a stream in a plateau region*

4000 feet above sea level, and much of the region is very dry. The prevailing winds come from the southeast and leave most of their moisture on the eastern slopes of the mountains along the coast. The greatest desert regions in the world extend across northern Africa through Arabia and into Iran. The high plain of western Australia is another dry region.

Where rivers cross plateaus, they cut deep canyons. The most famous of these is the Grand Canyon of the Colorado River in Arizona. The canyon of the Snake River in Idaho and the gorge of the Columbia River in Washington have been cut by streams that flowed across plateau regions. Some plateaus have been broken into great blocks which have been lifted so that there are escarpments, or steep cliffs, three or four thousand feet high where the breaks occurred. Canyons and escarpments usually interfere with land travel.

It is evident that a cold climate, insufficient rainfall, and difficulties in travel may be so combined as to make plateau lands unattractive to settlers. Therefore many of these lands are sparsely populated, and there are thousands of square miles in the high plateaus where there are no people living.

QUESTIONS TO ANSWER AND THINGS TO DO

1. Which continent is made up largely of uplands and plateaus?

2. Why are the uplands and plateaus not so densely populated as the plains regions?

3. Why are some of the plateau areas among the dry lands of the earth?

4. What famous canyons in the United States have been cut in plateaus by rivers?

5. List the factors that have made some of the plateaus unattractive to settlers.

3. *Mountains*

Young, Rugged Mountains. The high mountain regions of the world have bold, rugged features. They are the young mountains which have not yet been worn down by rain, frost, ice, streams, and other agents of weathering. Their snow-clad summits, which attract daring mountain climbers, rise at times above the clouds. Such regions are rich in magnificent scenery. Here are found steep, rocky walls, great basins shaped like amphitheaters, glaciers, waterfalls, and beautiful wild flowers in the alpine zone.

The vegetation in the mountain regions varies with the zones of climate, and those zones vary with altitude. In climbing a high mountain near the equator we should pass through about the same changes in climate and vegetation that we should find in traveling from the equator to the arctic circle. At the base of the mountain we might be in an equatorial rain forest or a tropical jungle; higher up, we should pass through a zone of savanna land and, still higher, through zones of temperate hardwoods and evergreens. As we approached the upper limit of tree growth, we should find that the trees become stunted and somewhat scattered, like the trees at the northern margin of the forested zones in Canada or Siberia. Finally, near the summit, we should come into a treeless tundra like the lands in the arctic zone.

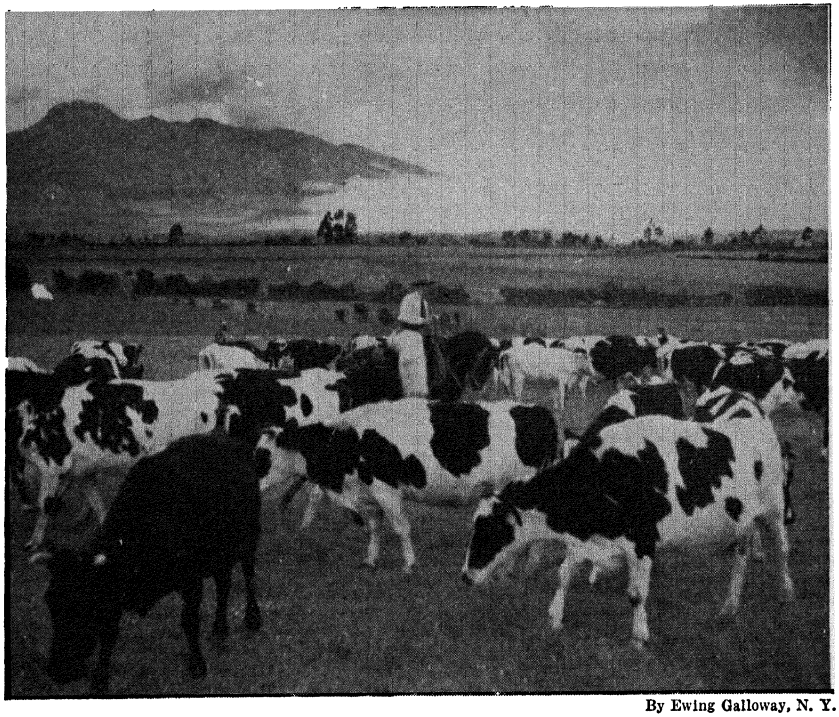
High, rugged mountains such as the Rockies and the Sierra Nevada of our Western States and the Coast Ranges of British Columbia and Alaska are not places where many people make their homes. Mining settlements, lumbering camps, and recreation cen-

H Armstrong Roberts

FIGURE 30 · *The Austrian Tyrol is noted for the grandeur of its scenery*

ters may be found in some parts of these mountain areas, but as a rule there are no large cities or manufacturing centers. In regions of high mountains near the equator, however, there are high valleys among the mountains which have a temperate-zone climate. Bogotá, in Colombia, Quito, in Ecuador, and a score of other cities are located in such valleys in the Andes. In Africa, Addis Ababa, the capital of Ethiopia, is another example of a city located in a high mountain area in the tropics. *See Figures 30 and 31.*

High mountain ranges influence the local climates. On the windward sides of many such ranges the rainfall is heavy. When mountain barriers force winds to rise, the air becomes colder, clouds form, and rain or snow falls. Deserts or semideserts are commonly found on the leeward sides of the ranges. There is such a dry region in Nevada and Arizona, east of the Sierra Nevada. The part of the Great Plains just east of the Rocky Mountains is another dry region



By Ewing Galloway, N. Y.

FIGURE 31 · *Many cattle are raised in the high Andean valleys of Ecuador, which, although near the equator, have a temperate-zone climate*

of the same sort. The part of Argentina called Patagonia is dry for the most part because it is on the leeward side of the Andes. The Kalahari Desert of South Africa is shut off from the rain-bearing winds by mountain ranges on the southeastern coast of the continent.

The heavy rainfall and snowfall in high mountain areas provide an abundance of water for streams and thus make water available for irrigation purposes at the margins of the mountain ranges. Towns and villages often develop at such places, a good example of which is the Salt Lake oasis in Utah, on the western side of the Wasatch Mountains. The Hood River and Yakima Valley settlements in our Northwest have been made possible by the streams which provide an abundance of water for irrigating the lands close by. In Argentina, Tucumán, Córdoba, and Mendoza are centers of oases near the east base of the Andes, where the waters of mountain streams make life and prosperity possible.

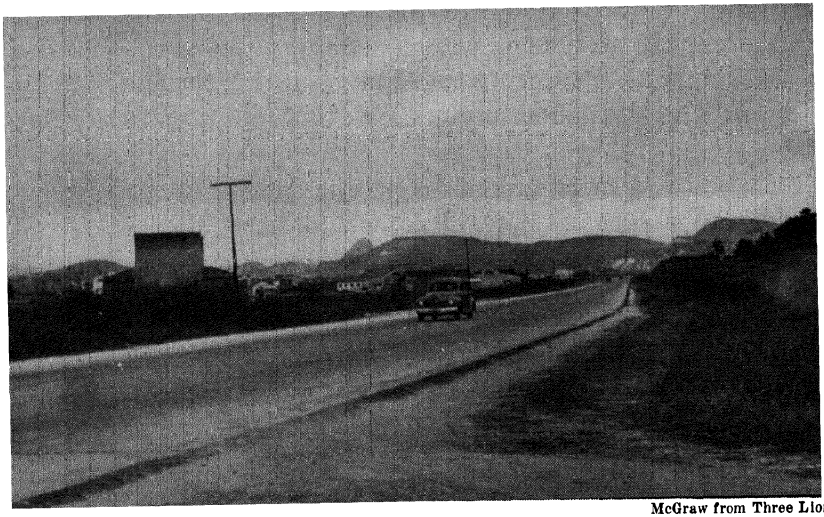
For a long time high mountains were barriers which held many

of the peoples of the world apart. They sometimes served as effective barriers to hostile armies and were often used as political boundaries between countries. Between what countries of Europe and of South America do high mountain ranges serve as political boundary lines today?

Travel on foot or on animals is necessarily slow through mountain regions. It was not until railroads and, later, motor highways, came into being that the handicaps of mountain regions began to be overcome. Railroad-building in rugged mountain country presented many difficult problems in construction and maintenance, but engineers built lines that wound back and forth over steep slopes and crossed rivers and canyons on steel bridges. At many places they built tunnels through mountains to avoid having to use high passes. With the coming of the automobile, good motor highways have become more and more common in mountain regions. Airplanes have helped still further to overcome the transportation handicaps of these regions. To skilled pilots in modern planes even the highest mountains offer few difficulties.

Old, Worn-Down Mountains. Old, worn-down mountains are literally very much older than young, rugged mountains. The outstanding example of this type of mountains in our own country is the Appalachian Highlands, which are one of the very old parts of North America. Long, long ago the mountain peaks of these highlands were much higher than they are now, and their slopes were much steeper. Rain, frost, and ice have lowered and broken up the rocks on the tops and slopes of the mountains, and the streams have washed the loosened material down the mountainsides. Thus the peaks have been lowered and the slopes have become less steep.

In South America the Brazilian Highlands in eastern Brazil are old, worn-down mountains of about the same height as the Appalachians. Other examples of old, worn-down mountains are the Ural Mountains, which form part of the natural boundary between Europe and Asia; and the mountains which make up a large part of the Scandinavian Peninsula. The Urals are about the same height as the Appalachians, but the mountains of Scandinavia are somewhat higher. The Southern Highlands of South Africa and the East Australian Highlands and the Victorian Highlands of eastern and southeastern Australia are for the most part higher than the Appalachians. *See Figure 32.*



McGraw from Three Lions

FIGURE 32 · *A stretch of highway in the Brazilian Highlands near Rio de Janeiro*

In general, many more people make their homes in regions of old, worn-down mountains than in young, rugged mountain regions. Because the slopes of old, worn-down mountains are gentler and the valleys are broader, more of the land can be used for farms; and roads and railroads can be built more easily. In the Appalachian Highlands region the water power furnished by many of the streams and the valuable mineral resources found in many parts of the region led the people to take up manufacturing. The Ural Mountains are a storehouse of mineral resources such as coal, iron, and manganese, and the southern half of the region has become a great metal-manufacturing district.

QUESTIONS TO ANSWER AND THINGS TO DO

1. Why do the young, rugged mountains of the earth differ so much in appearance from the old, worn-down mountains?

2. Which of the continents has the largest areas of young, rugged mountains?

3. What names have been given to the regions of young, rugged mountains in the United States? to the old, worn-down mountains?

4. Describe the vegetation that you might see if you were to climb a high mountain near the equator.

5. How do high mountain ranges influence local climate?

6. Why do more people live in the regions of old, worn-down mountains than in the young, rugged mountains?

4. Coastal Lands

The Coast Lines. The outlines of the coastal margins of the lands of the earth are very important to the inhabitants. Some coastal lands are bold and rocky, and are deeply indented by bays and estuaries. They are coasts where hilly or mountainous lands near the ocean have sunk and the ocean waters have advanced into the land at the river mouths, so that a very irregular outline has resulted. Such coasts are usually fringed with islands which are the tops of partly submerged hills or mountains, and which add to the picturesqueness of the coastal lands.

In North America, Maine, British Columbia, and southeastern Alaska have picturesque coasts of this sort, which are visited by many tourists each summer. In Europe, the western coast of Norway, with its fringe of thousands of islands, is an excellent example of this type of coast. Here the mountains rise steeply from the sea, and deep, winding fiords, or inlets, extend far into the land. Scotland has a similar, though less bold, coast. In South America, the Andes come down to the sea in southern Chile, so that the coast is broken by many deep bays and inlets. The many mountainous islands offshore are the tops of mountains which once rose high above the land. Still another example of a coast of this character is the western coast of South Island, New Zealand. *See Figure 33.*

Where low coastal plains reach the margins of the land, the coastal features are very different from those of the rocky, indented coasts. Coastal plains are commonly made of sands, gravels, and clays, which are loose, relatively soft materials. Waves, currents, and winds, working upon the loose particles, build sand bars and sand reefs offshore. The waters bordering the land are shallow, and so provide excellent bathing beaches, but they are not deep enough for large ships.

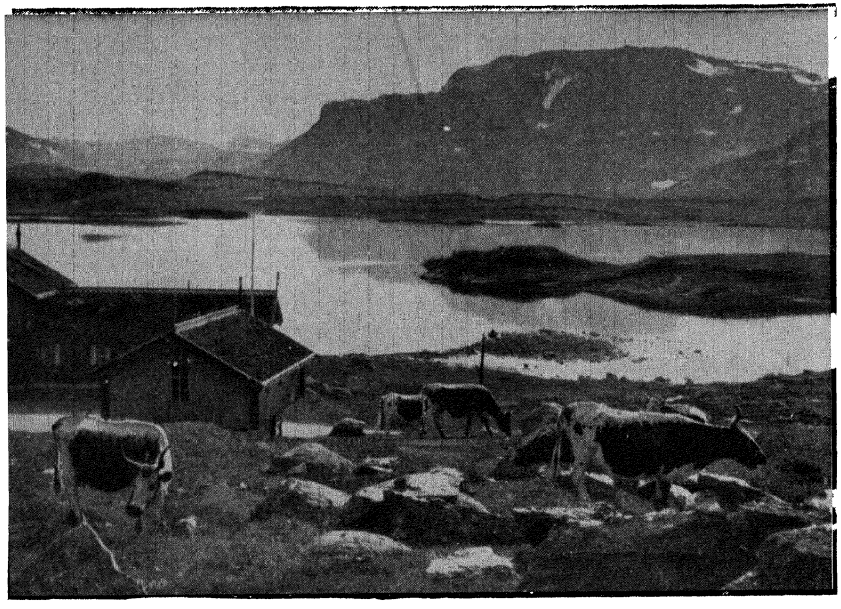


FIGURE 33 · *A farmstead on the rugged, fiorded coast of Norway*

The Continental Shelf. Offshore from the low coastal lands in many parts of the world, especially in North America and Europe, there are zones of shallow water which extend seaward for varying distances. The ocean bottom under these waters is really the submerged border of the continental lands, and it is called the continental shelf. It extends out from the shore, sloping gently, to the place where the slope to the ocean depth becomes much steeper. On maps the outer edge of the continental shelf is marked by the 100-fathom line. What is the depth of the water there in feet? Beyond that line the water becomes much deeper. The outer edges of the continental shelf are considered to be the true edges of the continents.

Along the Atlantic coast of North America the continental shelf varies in width from a few miles to more than 100 miles; but along the Pacific coast it is at most places much narrower. As you know, the continental shelf near Newfoundland is one of the best fishing grounds in the world. The entire floor of the North Sea is part of the continental shelf of Europe and is also a rich fishing ground.

Estuaries. Since the coastal plains were made, certain parts have sunk gradually so that the ocean waters have advanced up the rivers.

Aerofilms, Ltd.

FIGURE 34 · *A view of Liverpool's water front, showing some of the deep-water docks*

The advance of the ocean into the lower course of a river creates what is known as an estuary, or a drowned river mouth. Delaware Bay and Chesapeake Bay are estuaries of the Delaware and Susquehanna rivers respectively. Albemarle Bay and Pamlico Bay are also estuaries. On the Gulf coast there are bays at Tampa, Mobile, and Houston, where river mouths have been drowned as the sea entered. One of the largest estuaries of North America is that of the St. Lawrence River. In South America the Plata River estuary is really a large bay and provides harbor facilities for Montevideo and Buenos Aires.

London is at the head of the Thames estuary, and Liverpool is on the estuary of the Mersey River. Because the tides at both ports are troublesome, docks that can be closed by gates have been built. At high tide the ships move in and out of the docks. Then the gates are closed, thus keeping the water from flowing out when the tide falls. Among the important estuaries of continental Europe are those of the Elbe, Weser, and Oder rivers, at the heads of which are the German ports of Hamburg and Bremen, and the Polish port of

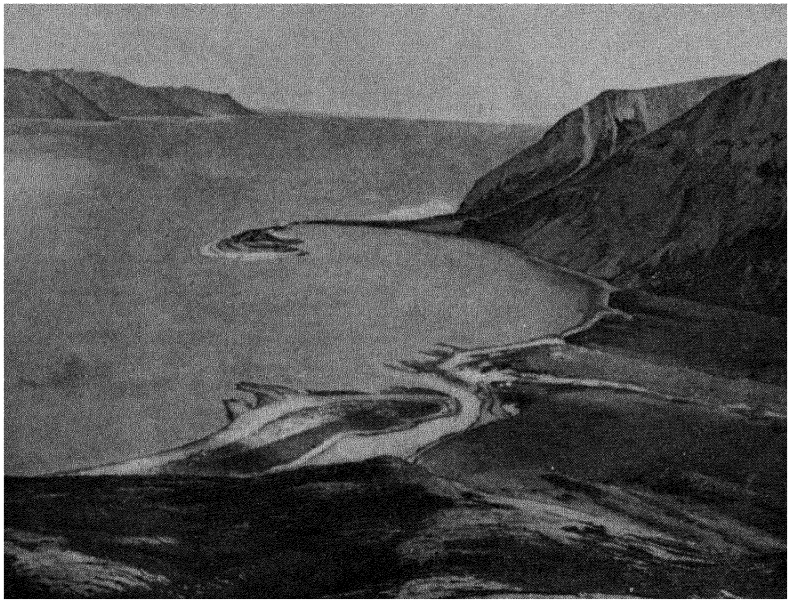
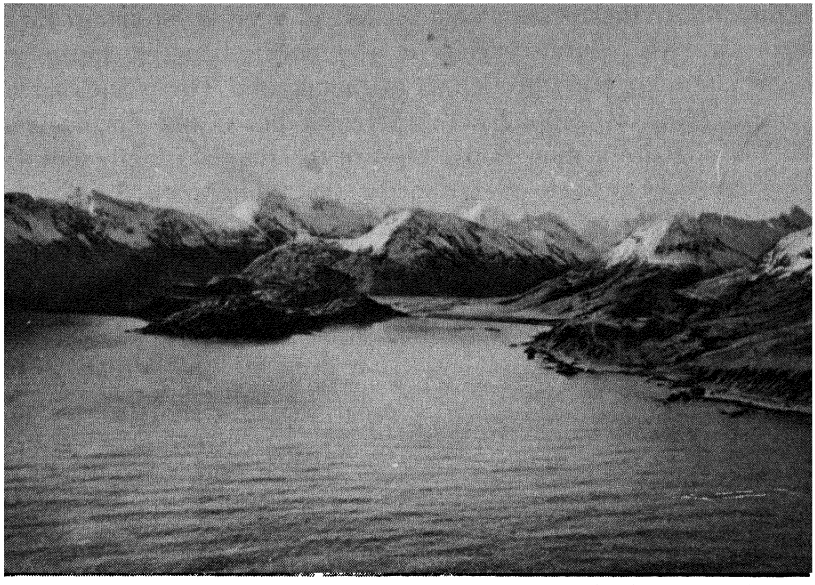


FIGURE 35 · *The bay formed by this sand and gravel hook, off the south coast of the Alaska Peninsula, forms a safe harbor for small boats*

Stettin; and the Gironde estuary, at the head of which stands the French port of Bordeaux.

Shore-Line Features. Wherever the oceans and the land masses come into contact with each other, the waves are constantly modifying the shore-line features. In time they wear away even the hardest of rocks. By undercutting at the base of land bordering the coast, the waves cause slumping and the formation of sea cliffs. As wearing continues, the cliffs retreat inland and may become hundreds of feet high. Rock pillars are isolated by the action of the waves, caves are excavated, shore-line grooves are cut at the water line, and at places the sea advances so far into the land mass as to cut a terrace or bench a little below sea level.

Along low, sandy coasts the waves, undertow, and shore-line currents build sand bars or reefs offshore. At places these project from the land as sand and gravel spits. Where such forms rise above the surface of the sea and become curved they are called hooks. Examples of curved spits, or hooks, are the famous Sandy Hook, on the New



Official photograph, United States Army Air Forces

FIGURE 36 · *The Aleutian Islands are excellent examples of a drowned highland*

Jersey coast near New York harbor, and the hook at the northern end of Cape Cod, in Massachusetts, which protects the harbor of Provincetown.

5. Islands

Peaks of Mountain Ranges. We have referred to islands created along sunken or drowned coast lines where mountaintops or hilltops have been isolated by the advance of the sea waters. Such islands are well illustrated off the coasts of Maine, Norway, British Columbia, Alaska, and southern Chile. There are small islands of sand along certain of the low coastal belts that have already been described. These have been built up by the work of waves and shore currents.

There are, however, many other types of islands. At several places there are mountain ranges that have risen in the ocean until their peaks appear above its level. The Aleutian Islands, extending westward from the mainland of Alaska, are the tops of a great mountain range. The West Indies, forming a huge arc from Cuba to

Trinidad, are the remains of a section of a great mountain range. Japan and the Kurile Islands to the north, between Japan and Kamchatka, are parts of a chain of mountains. The islands farther south, serving as steppingstones between Japan and Formosa, are parts of a chain of mountains. Most of the rugged islands southeast of Asia, such as those of Indonesia, the Philippines, the Celebes, New Guinea, New Britain, and the Solomon Islands, are the tops of mountain ranges.

The Hawaiian Islands are the tops of volcanic mountains which have been built up from the bottom of the ocean, over a long period of time, by outpourings of lava from deep within the earth. The highest summits on the islands rise to nearly 14,000 feet above the sea. Some of the Hawaiian volcanoes are still active, pouring forth hot lava at intervals. Other groups of islands of volcanic origin are the Azores, the Madeiras, and the Canary Islands, off the northwestern coast of Africa.

Coral Reefs. In shallow waters in many of the tropical parts of the oceans there are reefs of limestone which have been gradually built up by the activities of small marine animals called corals. The most remarkable structure of this kind is the Great Barrier Reef, off the northeastern coast of Australia, which is a thousand miles long. Between this great wall and the coast lies a quiet inland sea which makes a safe channel for ships in coastwise trade. Many coral reefs are more or less circular and enclose lagoons which furnish sheltered harbors. At such places as the Truk Islands, in the South Pacific, a circular coral reef surrounds a group of tiny islands. The reef serves as a protection, and helps to make a fortress of the group. At Wake Island the harbor is protected by coral reefs.

In the Warm Regions. Many of the island groups in the warmer parts of the oceans are attractive home regions. The climate is for the most part warm and moist without great variation throughout the year, and so the problems of food and shelter are relatively easy to solve. The chief ports of many of these islands serve as fueling stations for ships and have cable and radio stations.

In the High Latitudes. In contrast, the islands in the high-latitude waters of the oceans are too cold to be attractive as homes. In the Arctic Archipelago north of Canada the only inhabitants are a few Eskimos. The large island of Greenland is almost entirely covered by a huge ice cap. It has about 23,000 inhabitants, most of whom

Hydrographic Office

FIGURE 37 · *A shallow lagoon in a small coral reef*

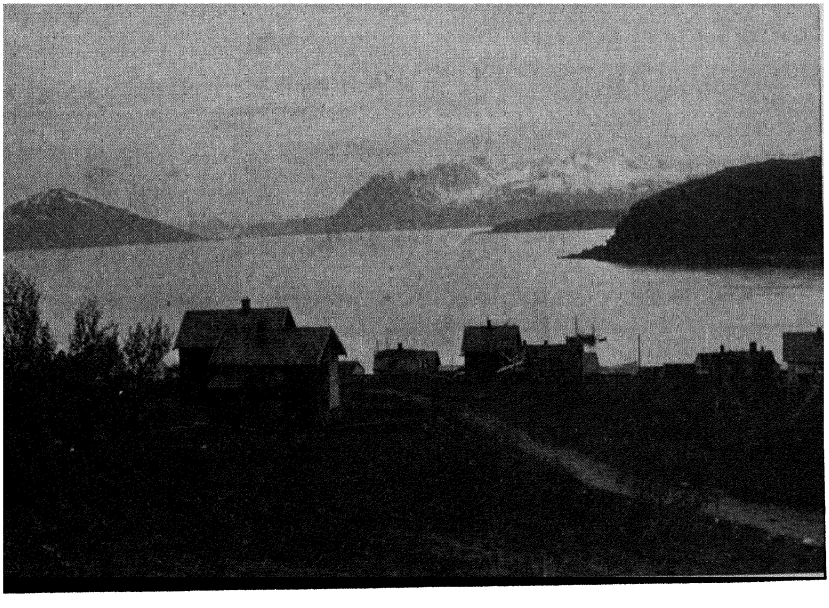


FIGURE 38 · *A small settlement on one of the bleak, cold islands of Svalbard*

are Eskimos who live along the west coast. The archipelago of Svalbard far to the north of Norway has more than two thousand inhabitants, most of whom have gone there to work in connection with the valuable coal resources. *See Figure 38.*

Far to the south, off the southernmost part of South America, are the bleak Falkland Islands. They are too cold for farming, and there is so much fog and stormy weather that they have only a few inhabitants, most of whom get their living by raising sheep. The islands are chiefly important as a British naval base. Farther south and east is the island of South Georgia, which is chiefly interesting to scientists because of the strange animal life to be found there.

QUESTIONS TO ANSWER AND THINGS TO DO

1. Of what importance are the coastal margins of the continents to people?

2. What picturesque coasts can you name?

3. What is the continental shelf?

4. Which coast of North America, the eastern or western, has the wider continental shelf?

5. Name two rich fishing grounds located on the continental shelf.

6. What is an estuary?

7. Name at least three ways in which islands have been formed and give examples of each.

6. *The Ocean Bottom*

Studying the Ocean Floor. Although the relief features of the ocean bottom are not known in nearly such great detail as are those of the land surface, a great deal has been learned about them. In 1872 the British outfitted a vessel called the "Challenger" with every known instrument for a scientific study of the depths of the oceans. The staff included a group of scientists. For years they cruised back and forth across the oceans, recording their observations as to the temperature of the sea water, the amount of salt in it, and its depth, and obtaining specimens of ocean life. Using dredges or dragnets, they obtained samples of the materials on the ocean bottom in many

places. The reports of the "Challenger's" expeditions have been the source of a vast amount of information about the ocean and its floor.

The process of finding the depth of the ocean at various places is called sounding. In comparatively shallow places soundings are taken by dropping overboard a rope or steel cable to which a heavy weight is attached. In places where the water is deep, a sonic depth finder is used. With such an instrument attached to the hull of a ship, the time required for a sound to travel from the ship's hull to the bottom of the ocean at that point and be echoed back can be measured. Since the rate of speed at which sound travels is known, the depth of the water can be calculated. A line of soundings can be taken along any route of ocean travel by setting off explosions from a ship at stated intervals.

Relief Features. Although a complete topographic map of the ocean bottom is not yet available, many areas have already been mapped in considerable detail. Among these are several along our Atlantic and Pacific coasts, the Gulf of Mexico and the Caribbean Sea areas, a large part of the Baltic, North, and Mediterranean sea areas, and some areas bordering the coast of Asia and among the islands in the Pacific.

From the information available about the relief features of the ocean floor, it is known that below the surface there are mountain ranges, plateaus or upland ridges, and volcanic mountains that are more or less isolated conical forms. At a few places there are great escarpments which have undoubtedly been developed through a slipping, or faulting, in the crustal portion of the earth, just as many escarpments have been formed on the continents.

In certain parts of the ocean there are areas of unusual depth which are called "deeps." There are several of these in the West Indies area. Just east of Japan is the Tuscarora Deep, which has a depth of between three and four miles. The deepest known place in the ocean, just east of the Philippine Islands, has a depth of considerably over six miles. Deeps appear to resemble rift valleys, such as the one along the eastern margin of Israel and the famous rift valley of East Africa.

The fact that there are valleys or canyons in the continental shelves in a number of places is one of the reasons for thinking that these shelves were once above sea level. A submarine canyon has been discovered seaward from the mouth of the Hudson River, and

there are other such canyons seaward from the Gulf of St. Lawrence and from Delaware and Chesapeake bays. Off the coast of California there are many deep valleys in the continental shelf.

There are no active streams at work on the bottom of the ocean, and therefore the most conspicuous difference between the topography of the continents and of the ocean bottom, except on the continental shelf, is the absence of valleys and of rugged or fantastic mountain features.

Sources of Ocean Sediments. On the ocean bottom, as on land, the relief becomes reduced as the water works on the rock surface, wearing away the rough places, and as sediments that come from the lands accumulate. Sands, gravels, and silts are washed into the ocean by the rivers. Fine dust is blown from the lands by the winds. When volcanoes in or near the ocean erupt, they contribute volcanic material to the sea. In time, the volcanic dust which has settled on the ocean sinks to the bottom, forming a red sand.

In general, the coarser materials brought from the land by the streams are deposited near the shores of the continents and islands. When the velocity of the streams is checked as they reach the ocean, their carrying power is reduced and they drop first the larger and heavier materials such as gravel. These form conglomerates, or masses of rock fragments of varying sizes. Sandy materials are carried a little farther out by the undertow, and there, in time, sandstone is formed. Still farther out, as the stream currents are more and more slowed down, they give up the fine silts or clays that they are carrying. This material forms shale rock.

Far out from the land the chief source of ocean sediments is the limy material formed from the shells of animals. Billions of little animals, so small that they cannot be seen by the unaided eye, live in the ocean. When they die, their shells fall like a constant shower or miniature hailstorm to the ocean floor, where they accumulate, forming limy muds and cozes. Ocean-exploring expeditions have dredged portions of the ocean bottom in many parts of the world and have obtained many specimens of these materials.

To some portions of the ocean, glaciers have brought huge quantities of boulders, gravels, sands, and clays from the lands over which they have moved. During the last ice age the glaciers of North America and northwestern Europe moved beyond the edges of the continents into the ocean. There they deposited bouldery material

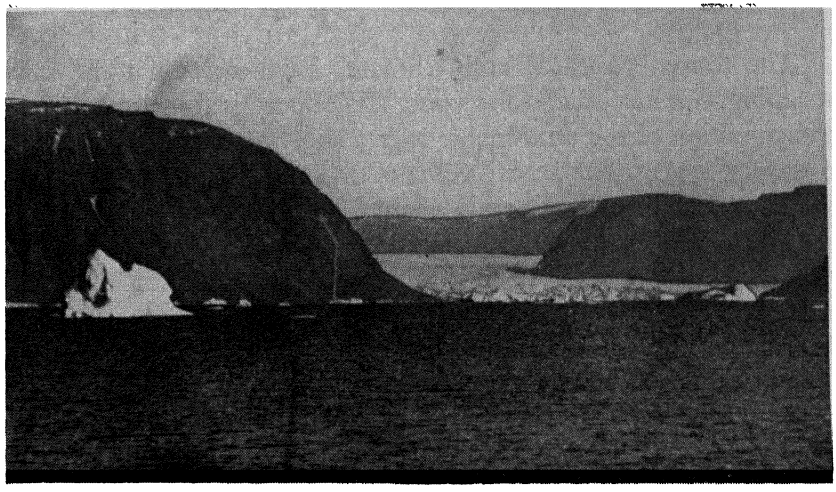


FIGURE 39 · *The end of a glacier's journey.* Here, at the edge of the sea, the sediment carried by the glacier is dropped and icebergs break off

similar to that which may be seen in the northern and northeastern portions of the United States and in the eastern and southern portions of Canada, as well as in northern Europe. On the bottom of the Gulf of Bothnia, the Gulf of Finland, the Baltic, North, and Irish seas, and the English Channel there are large quantities of glacier-borne material. From time to time icebergs break off from glaciers and float off into the ocean. As they melt, the stony material which they have scraped up in their travels sinks to the ocean floor.

Many parts of the ocean floor are still a challenge to scientists, but this challenge will be met as scientific studies continue and new inventions come into being.

QUESTIONS TO ANSWER AND THINGS TO DO

1. How have men found out about the ocean floor?

2. How does the floor of the ocean resemble the surface of the land?

3. Where do the ocean sediments originate?

4. What do animals contribute to ocean sediments? glaciers?

5. Give a good example of each of the following kinds of land forms: coastal plains; lake plains; interior plains; river-made plains; plateaus; young, rugged mountains; old, worn-down mountains; a bold, rugged coast; a lowland coastal area; a volcanic island.

CHAPTER FIVE · WEATHER AND CLIMATE

The terms "weather" and "climate" have somewhat the same meaning, but not exactly the same. "Weather" is the term given to the condition of the atmosphere over a short period of time, say for a day or week. The term "climate" means average conditions of weather through a long period of time such as a year or more.

The weather report and forecast are heard almost hourly on the radio. You have probably been most interested in weather news on those days when your plans were helped or hindered by weather. But the rain that ruins a picnic or a ball game often benefits gardens and fields.

1. *Elements of Weather*

There are several elements which together make up the daily weather. The most important elements are temperature, pressure conditions, precipitation, conditions in the sky, humidity, and winds. The detailed weather report in a daily newspaper usually includes data about each of the elements. The daily weather map issued by the Weather Bureau gives quantities and numerical values to each of these elements. It is the day-by-day variations in the elements of weather that are responsible for the changeableness in the weather we experience.

Temperature. The temperature of a place depends upon the number of hours of sunshine and the heat of the sun. The greater the number of hours of sunshine at a given place, the more hours that place receives heat, and the fewer hours there are for cooling. In addition, the more nearly vertical the sun's rays are, the more effective the heating will be. It is this combination of conditions that gives us long warm to hot summer days. In winter the opposite is true. We have short days for heating and long nights for cooling, with the sun's rays reaching our part of the earth more obliquely than in summer.

It is the seasonal march of temperature that is of most importance to plant and animal life, for the length of the growing season largely determines the growth of different foods in different places. A number of other factors, among which are relief, wind direction, and the presence of water bodies. further affect the temperature of a place.

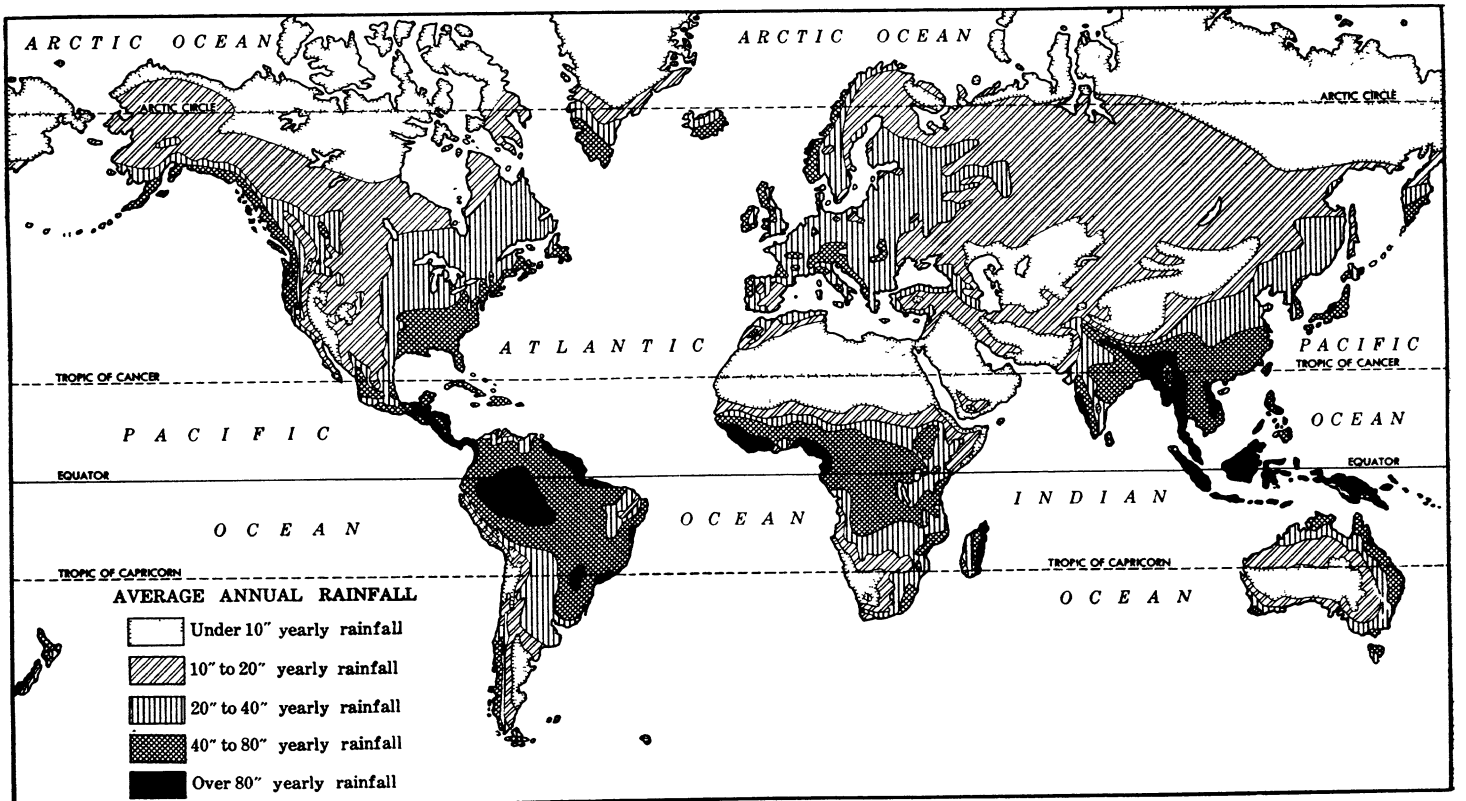


FIGURE 40 · *A map showing the average annual rainfall of the world*

Precipitation. At low elevations, summer precipitation is usually in the form of rain. On higher mountains, regardless of the season, the precipitation is in the form of snow. Most of the countries in the so-called temperate zone have a snow cover in some portion of their area for a part of the winter season.

The total number of inches of precipitation which a place receives in a year is important, but the seasonal distribution of that precipitation is far more significant. A total of 18 inches coming throughout the spring and early summer can mean a bumper wheat crop in the Dakotas. If that 18 inches were to come in late summer and early fall, it would come too late to be of any use to the grain crop for that year. Farmers usually hope to get 30 to 40 inches of rain each year, and in regions where evaporation is rapid they need 50 to 60 inches of rainfall. Heavy winter snowfall in the Sierra Nevada provides moisture for the next summer's irrigation streams in the Valley of California. In some dry regions precipitation in the form of dew condensing on vegetation helps the plants to survive. Fog, sleet, and hail are other forms of precipitation which are sometimes helpful, but often harmful.

Humidity. The relation of the evaporation of body moisture to the amount of moisture in the air is important to the comfort of most people. If the air is dry and body moisture is evaporated, that is a cooling process. If the air is very warm and contains a large amount of moisture, we say that the humidity is high, or that it is a muggy and unpleasant day, and we do not feel like working hard. Cool, dry air makes most people feel vigorous, and they are ready to work or play harder in such air than in warm, moist air.

Pressure. The pressure of the atmosphere is simply a measure of its weight. On the average, a column of our atmosphere resting on a square inch of a surface at sea level weighs about 15 pounds. The weight of the air varies chiefly with changes in temperature. A column of warm air is much lighter than an equal column of cold air. The weight varies slightly with the moisture content of the air also.

We measure the weight or pressure of the air with a barometer, and under normal conditions the air will support a column of mercury in a barometer about 30 inches in height. When the barometer shows more than 30 inches, we call that high pressure. When the reading is less than 30 inches, it means a low pressure condition. The variations are usually fractions of an inch and seldom as much as

2 inches over or below the normal 30 inches. A slight change in air pressure may produce a very notable change in weather.

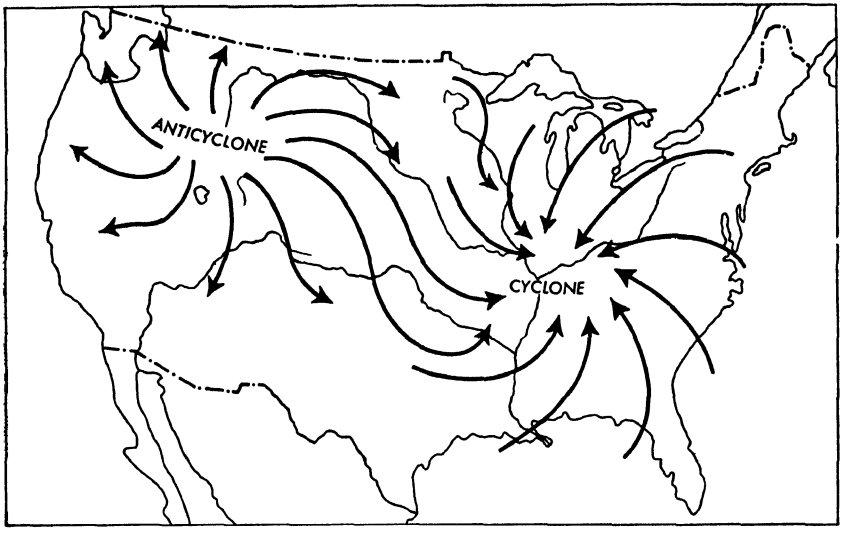
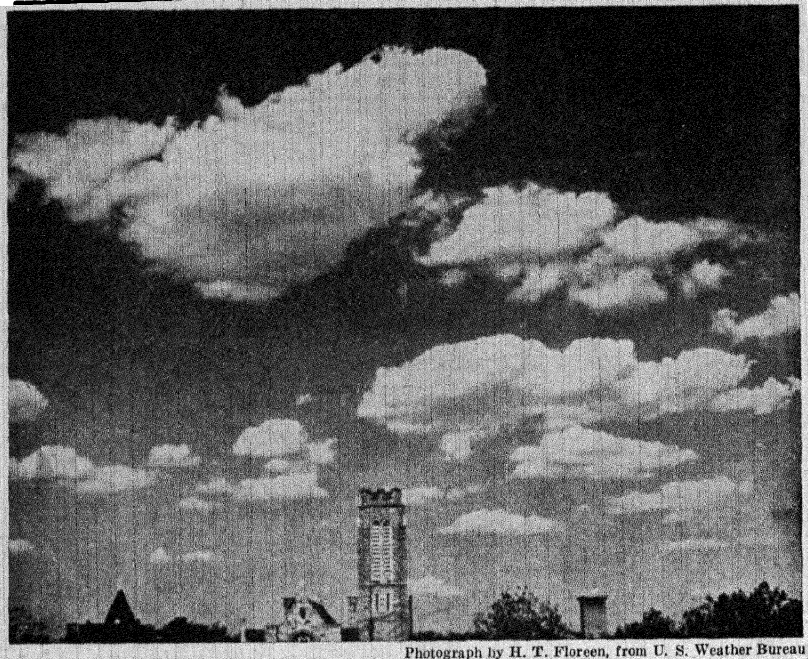


FIGURE 41 · *A diagram showing how winds move about a low, or cyclone, and about a high, or anticyclone*

Since the temperature of the air differs from place to place and in the same place from day to day, the atmospheric pressure changes, and we shall soon learn that differences in pressure cause the winds and the differences in pressure over large areas cause great cyclonic and anticyclonic storms which move over our country and bring with them the daily changes in weather.

Winds. Since cold air is heavier than warm air, an area of heavy cold air will press downward and outward, moving in under the adjoining warm air. That is the true and simple explanation of a wind. When we apply that fundamental effect of differences in air pressure over the world, we can explain the prevailing winds such as the trades and the westerlies. These we shall take up a little later. Just now we are interested in the daily weather changes, especially in our own country. These are due to large areas of high pressure called anticyclones and large areas of low pressure air called cyclones moving in general eastward across the United States. The cold high pressure areas commonly come in from western Canada. They are then referred to as polar air or polar fronts. As they come into our



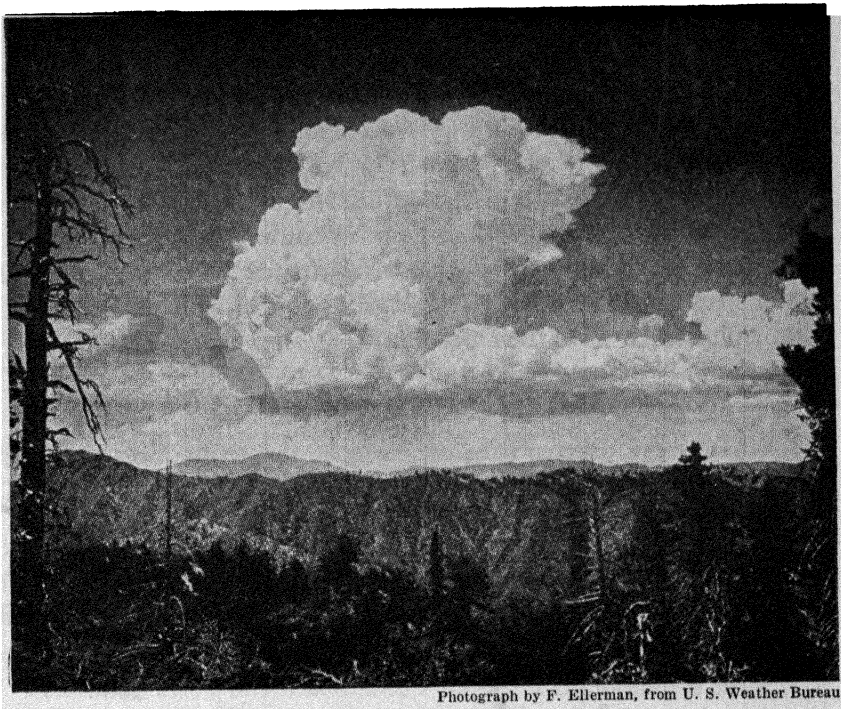
Photograph by H. T. Floreen, from U. S. Weather Bureau

FIGURE 42 · *Cumulus clouds, which are an indication of fair weather*

northwestern states, they soon turn eastward and in time move over the New England area and drift across the North Atlantic. The low pressure areas, or cyclones, commonly alternate with the high pressure areas. Many of them come in from the Gulf of Mexico and move northward and then eastward across the United States. Some move northward along the Atlantic coast. After a time most of them drift across New England and start off for western Europe.

The winds in a low pressure or cyclonic storm move counterclockwise. They form a great but not a dangerous whirlwind, 200 to 300 miles in diameter. In the center the air is rising because it is warm, light air. These storms commonly bring moisture and therefore cloudy skies with rain or snow. The high pressure areas, which may be 300 to 400 miles in diameter, have winds moving outward and clockwise. They commonly bring clear, cold weather. When these great whirlwind storms, hundreds of miles in diameter, pass over a place, the directions of winds will vary at that place as the storm progresses eastward.

The mixing of the cold air with warm air may cause clouds to



Photograph by F. Ellerman, from U. S. Weather Bureau

FIGURE 43 · *Cumulo-nimbus clouds.* Most of the earth's thunderstorms originate in such clouds

form and in time bring snow or rain. We should always remember that it is the mixing of the air masses that commonly produces clouds and then the falling of rain or snow.

Thus we must first understand why there is air pressure and why that pressure changes from place to place and from time to time in the same place. Then we must remember that the differences in pressure over large areas give rise to great whirlwinds in the atmosphere. In a cyclone the whirling is inward and counterclockwise. In the anticyclone it is outward and clockwise. With that knowledge we can follow the predictions made by the weatherman as he tells of the storms which are approaching and the changes in the weather which we can expect. He can do this because telegraphic reports are sent to him from all parts of the country. He is particularly interested in the reports of the weather to the west, northwest, and southwest. That weather will move eastward slowly so that the

weatherman can make a prediction. He is correct about 85 times in 100 predictions. He cannot be certain just how fast the storms will travel or just which way they may turn in the eastward movement.

Sky Condition. Different kinds of clouds at various elevations are often good indicators of approaching weather. To the pilot of a plane, the sky condition is of the utmost importance. He maneuvers the plane in accordance with his understanding of the movement, form, and characteristics of clouds. Farmers, too, are aware of weather signs in the skies. Rain clouds, dust clouds, and hail and wind clouds each have their peculiarities. *See Figures 42 and 43.*

QUESTIONS TO ANSWER AND THINGS TO DO

1. What is the difference in meaning of the terms "weather" and "climate"?

2. What is responsible for the changeableness in the weather?

3. Name at least four factors which affect the temperature of a place.

4. Which is the more important: the total amount of annual rainfall or the seasonal distribution? Why?

5. What is humidity?

6. From what direction do the prevailing winds in the United States blow?

7. How is pressure concerned with a weather forecast?

8. Plan a chart on which you can keep a record of the elements of weather for your home area for the period of a month. Carry on this plan for one month in each of the four seasons. After each record is complete, write up a summary of the month's weather and its effect on living as you have experienced it. Add to your report news items concerning unusual weather conditions at home and elsewhere in the world that occurred during the month of your report.

2. *Controls Which Determine Climate*

In order to account for the wide differences in climate that occur on the earth, we must consider several controls which help to determine climate. These climatic controls affect the elements of weather which have just been discussed.

Latitudes. The control exercised by latitude is the easiest to understand. In the low latitudes near the equator the sun is so high above

the horizon and the days and nights are so nearly equal at all times that the temperature over the lowlands is always warm. In these areas the frost-free period each year is 365 days long. That means there are no frosts and so the farmers can use the soil continuously for producing crops. They have a growing season that is 12 months long. On mountains and plateaus near the equator the temperatures are much cooler than at sea level.

Farther to the north or south in higher latitudes the climate becomes more variable. There are distinct seasons in all areas of the middle latitudes. In the very far north or very far south the temperatures are so low that crops cannot be produced. There are no people living on the Antarctic continent. In the north polar region, where there is an ocean that is frozen over most of the time, there are no homes, but on some of the far northern lands, in Siberia and North America, a few people can live. They are people like the Eskimos. In general, a reference to low latitudes at low elevations suggests constant warmth, and a reference to high latitudes suggests coolness and cold. Thus latitude is associated with a feeling of temperature.

Altitude. The control exercised by altitude is illustrated by ascending a high mountain in low or middle latitudes, or by a plane flight. The mountain trip is a better example because the different zones of vegetation on the slopes are excellent indications of temperature and rainfall conditions. If the ascent were made on each of four different facing slopes, different reports would result. The elevation of the timber line and the snow line, and the sizes and varieties of vegetation would differ. These contrasts occur because of exposure of the different slopes to the sun's rays and to winds. The higher altitudes, regardless of latitude, are colder than the valleys or lowlands near by. In low latitudes the permanent snow line is encountered at elevations of about 15,000 feet, whereas in the highest latitudes the snow line is at sea level. *See Figure 44.*

Mountain Barriers. Some of the effects of mountain barriers upon the different elements of weather and climate have already been stated. The terms windward and leeward side of a mountain should inform a person of some of the conditions to expect. The windward slopes receive the moisture dropped from the rising air, while the leeward slopes are dried by the descending air, which lost its moisture in ascending the mountains.

The effects of mountain barriers on temperature are equally noticeable. The shutting off of cold winds increases the warmth on the

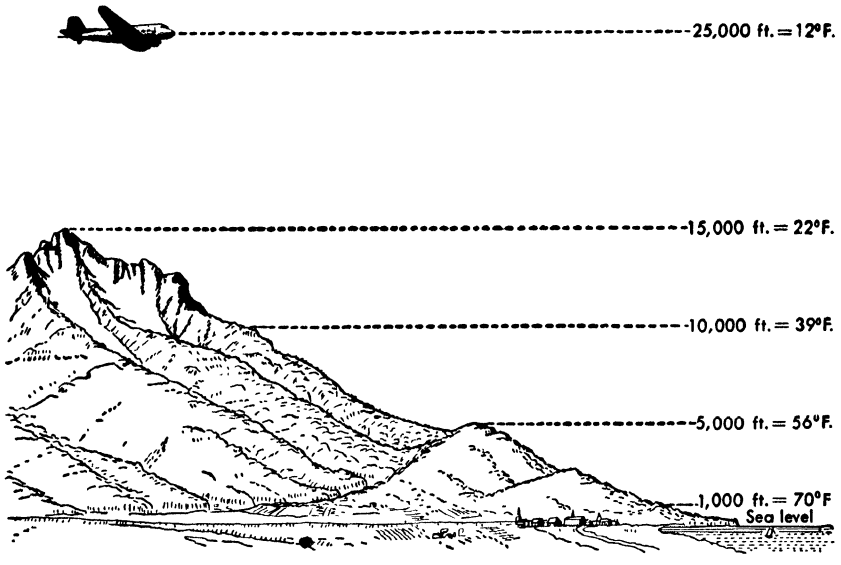


FIGURE 44 · *A diagram showing the effect of elevation on temperature*

lowlands adjoining the leeward side at the same time that the cold may be intensified on the lands adjoining the windward slope. In the Northern Hemisphere, mountain ranges extending in an east-west direction would separate north-south winds moving at lower levels. However, ranges extending in a north-south direction would allow north-south winds to move parallel to and between the ranges.

Land and Water Influence. The ocean becomes warm less rapidly and cools off less rapidly than the great bodies of land. These differences have a distinct influence upon the climate of the coastal areas. First the differences in the temperature of the air over the land in comparison with the temperature of the air over the water in a near-by ocean will cause difference in air pressure. These changes in pressure will set up winds. Therefore near the margins of the continents we commonly have land and sea breezes.

When moisture-bearing winds from the ocean are forced to rise as they approach mountain ranges, as they do in northwestern Europe and North America, heavy rains follow. Thus the British Isles, Norway, British Columbia, and southeast Alaska have an abun-

dance of rain. As these winds move farther and farther inland, they become drier and drier. Thus by the time the European winds have

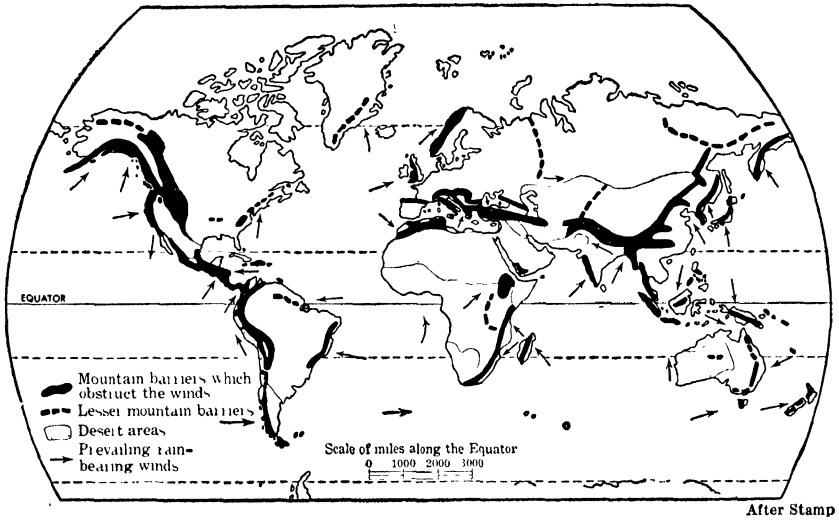


FIGURE 45 · *The principal mountain ranges of the world, which act as barriers to winds and rainfall.* How does the direction of the ranges in the Western Hemisphere differ from that of the ranges in the Eastern Hemisphere?

reached the central part of Russia they have very little moisture to give up as rain and the climate is semiarid. The leeward sides of most mountain ranges are dry areas.

When winds blow toward the equator and are becoming warmer and warmer, they take up moisture. They do not give up moisture under those conditions. Therefore in Iran, Arabia, and North Africa where the winds are moving toward the equator we have a series of great deserts. On the east coast of Africa near Somaliland the winds blow parallel to the coast and therefore those lands have little rainfall. In contrast the winds over the Gulf of Guinea in West Africa blow toward the land and bring moisture to the country of Liberia. There the people live in a dense tropical rain forest.

In general, since the temperature of the ocean water does not change as rapidly as temperatures of the land, the winds coming over the ocean to the land in the fall will keep the air warmer a few days longer than it otherwise would be. In that way the growing season is lengthened for the farmers who live near the ocean or near some large

body of water like one of our Great Lakes. Winds off water bodies are cooler in summer and warmer in winter than the land breezes.

Winds. Another definite climatic control is due to winds. You are, of course, familiar with the facts about wind belts. In the equatorial region are the *doldrums*, or *equatorial calms*. The warming air with its increased capacity to hold moisture is unpleasantly humid. In rising air currents, masses of cumulo-nimbus clouds form to drop their moisture in daily downpours. As the cooled air releases its moisture, it drifts poleward at higher altitudes. Then, in the general location of 30 degrees latitude, this air descends to the earth. The term *horse latitudes* or *tropical calms* is given to this belt. Clear skies and fair weather are characteristic. Sunny Italy and Southern California are typical examples of the effects during the summer season of the horse latitudes.

This cool dry air now moves over the surface of the earth. Some drifts toward the poles and some drifts toward the equator. This latter mass grows warmer and warmer as it now blows equatorward. It dries the lowlands over which it flows, and precipitates generous rains on the windward slopes of mountains. It blows strongly and steadily and is called the *trade wind*. The names *northeast trades* and *southeast trades* tell the direction from which each blows. By the time the doldrums are reached, the trades are well filled with moisture. They merge into the doldrums, helping to push the warm rising air upward and to contribute their moisture to the cloud masses. The trade winds are the climatic controls of the parched Sahara as well as of the rainy eastern lowlands of Central America.

During the winter season when the continent of Asia is very cold and the air over that continent is very heavy the air movement is outward toward the margin of the continent. These winds are called the winter monsoons. They are not only cold winds but they are dry because they have come from areas where they could not secure moisture. Such winds bring clear weather and a dry season. During the summer when the winds are blowing inland and bringing moisture, the climate in all the monsoon lands is warm and moist. Thus in India and in most of southeast Asia, as far north as Korea, there is a seasonal shift of the winds. The coastal areas of southeastern Asia are often called the monsoon lands.

The doldrum belt, where the air is very warm and always rising, moves north of the equator during the late summer in certain areas,

like India, where there are large land masses in low latitudes. This shift of the very warm belt causes an important change in the direc-

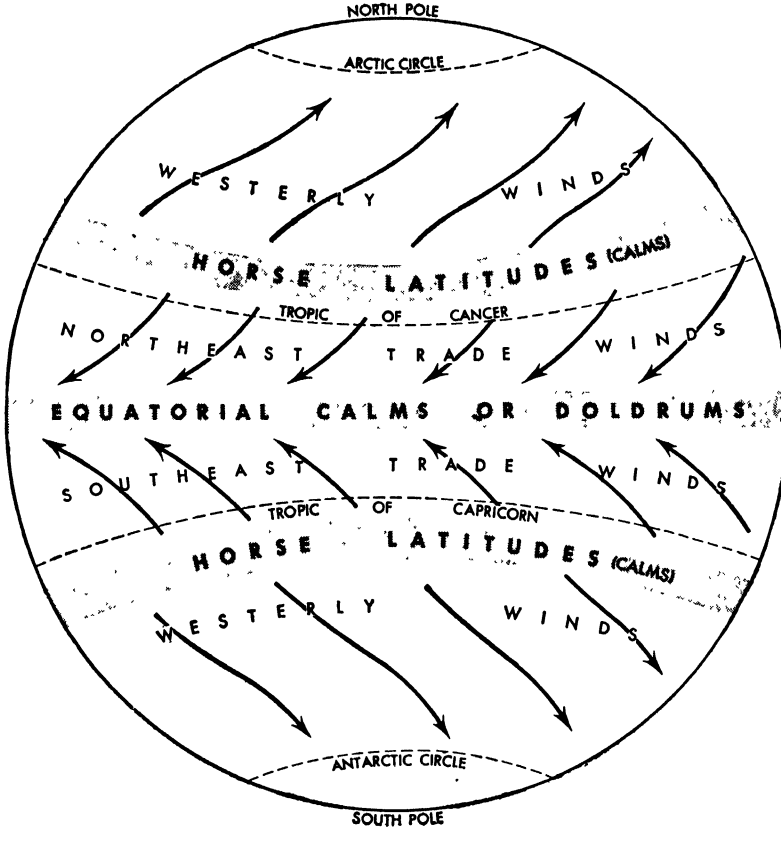


FIGURE 46 · *A diagram showing the great wind belts of the earth.* Which winds blow from cool to warmer regions? from warm to cooler regions?

tion of winds in the region around India. The southeast trade winds that are blowing toward the doldrum belt must cross the equator and move into the Northern Hemisphere. In the Southern Hemisphere they are deflected to the left by the rotation of the earth on its axis. When those winds cross the equator and are in the Northern Hemisphere they are deflected to the right. That means they will blow toward India from the southwest. That is a very special condition which means that the summer monsoon, during that part of the year, comes from the southwest to India and brings very heavy rainfall to the western coast of the peninsula.

Some of the cool, dry air in the horse latitudes, you will recall, drifts toward the poles over the surface of the earth. Just as the earth's rotation deflects the trade winds from a true north or south direction so that they flow from a northeast or southeast direction, so these poleward-moving winds are deflected. They are commonly called the *westerlies*. These winds are in the middle latitudes of both the Northern and Southern hemispheres. They are the winds that commonly come to the west coast of the United States and British Columbia. When the great cyclones and anticyclones form, they drift eastward and northeastward with the westerlies. In fact, the westerlies help these storms along on their journey.

Associated with the westerlies and the great storm centers which we have referred to as cyclones and anticyclones, we have cold waves and blizzards, tornadoes, cloudbursts, heat waves, and dust storms. Hurricanes are violent whirling storms in which the winds may blow at 100 miles per hour. The cold waves and blizzards are associated with our winter seasons. The great heat waves, the tornadoes, and the dust storms commonly come during the summer when all the air over the continent is becoming very warm.

The tornadoes are violent whirlwinds, of small diameter, with terrific winds that do a great deal of damage. The cloudbursts are just very heavy rainfalls that come suddenly. The dust storms are due to violent winds that sweep over a dry area where the soil is unprotected by any vegetation. These winds will sometimes sweep the soil high into the air and take it far away. All the soil that has been formed during thousands of years on a farmer's land may be lost in a few hours.

The heat waves refer to periods when large volumes of very warm air from the tropics move in over our country, and the cold waves occur when large masses of cold air come in from the polar regions and sweep southward from Canada into our country. The blizzards come during the winter season and have associated with them snows and violent winds. They become blinding storms in which people cannot see their way even from their houses to their barns. Many lives have been lost in the blizzards of the Great Plains region. People get lost on their own farms during such storms. One man is known to have tied a string to a kitchen door and unwound it as he went to his barn to feed the livestock during a blizzard. With the help of the string he found his way back to his house.

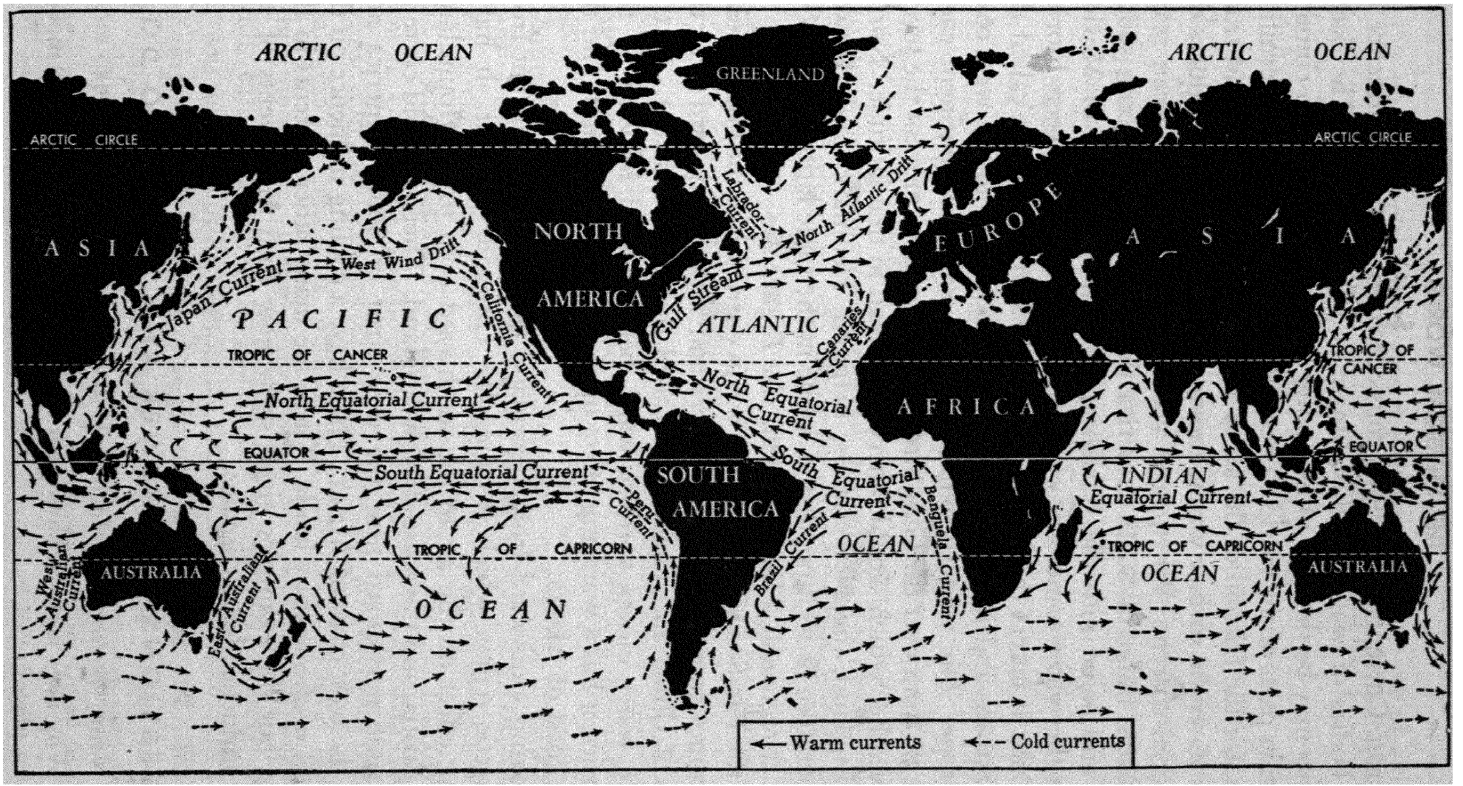


FIGURE 47 · *A map of the world showing ocean currents*

Ocean Currents. We have considered the general influence of large bodies of water on the climate of near-by lands. The ocean currents may be thought of as having a special influence on climates in certain parts of the world. These currents are due to the prevailing winds, for the friction of the air in the northeast and southeast trade winds starts the surface waters moving westward. This produces the equatorial current. When these waters in the Atlantic Ocean reach the eastern bulge of South America they divide, some going southward and some into the Caribbean Sea and the Gulf of Mexico. When the water comes out of the Gulf of Mexico between Florida and Cuba it enters the North Atlantic Ocean. It is then called the Gulf Stream and it moves slowly to the northeast to the west coast of Europe. The westerly winds blowing over that continent carry warm air from over the Gulf Stream and therefore prevent the severe cold weather which would otherwise prevail in that latitude. Northwest England, the Netherlands, Belgium, Denmark, and Norway can therefore be well populated, while in the same latitude Labrador is not attractive as a home region. *See Figure 47.*

In the Pacific Ocean there is a warm current like the Gulf Stream that comes from the tropical waters and flows northward near the coasts of China and Japan. It is called the Japan Current. As this surface water moves northeastward, being helped forward by the westerlies, it has a warming effect upon the Aleutian Islands and the entire coast of Alaska.

Moving southward from Greenland there is a cold current from the Arctic region which is called the Labrador Current. It has a cooling effect on the air to the southward even to Newfoundland, Nova Scotia, and the coast of New England. There are cold currents that come northward near the west coast of South America and along the west coast of Africa. These have a cooling influence on the climates of the near-by lands. There are many other currents in the oceans, but the examples given show how such movements of sea water influence local climates.

QUESTIONS TO ANSWER AND THINGS TO DO

1. Name six controls which help to determine climate.

2. Why does latitude have such a pronounced effect on the temperature of a place?

3. If temperature decreases one degree for every 300 feet of altitude, how much colder would it be on the summit of a mountain 15,000 feet high than at its base?

4. Explain the terms "windward" and "leeward."

5. How do mountain barriers affect rainfall and temperature?

6. Why do the lands along the coast of northwestern North America receive a heavier rainfall than those along the northeastern coast in the same latitude? Why are they warmer in winter than are the lands in a similar latitude on the opposite side of the continent?

7. Why do you think that sailing vessels in the early days followed trade wind routes whenever possible?

8. Which trade winds, northeast or southeast, aided Columbus in his voyage to the New World?

9. What are monsoon winds?

10. Poleward-moving ocean currents are usually warm, and equatorward-moving currents are cold. Study a map and explain why this is true.

3. *Classification of Climates*

From the days of the early Greek geographers to the present time, schemes for the division of the earth into climatic regions have been suggested. Some are reasonable and accurate.

Zones of Sunshine. Dividing the earth into zones of climate by means of the tropics of Cancer and Capricorn and the arctic and antarctic circles has long been customary. In this scheme, the torrid zone extends through 47 degrees of latitude, that is, between the tropic of Cancer and the tropic of Capricorn. It is true that the lowland areas in low latitudes are torrid, but there is nothing in the term to suggest the nature of plateau and mountain climates that are within the tropics. The so-called temperate zones, each 43 degrees in width, extend from the tropics to the arctic and antarctic circles. For you who live in the temperate zone, the memories of experiences of living through seasonal changes remind you that the climate of this zone is not always temperate. In fact, people in the temperate zones experience both torrid and frigid weather. The so-called frigid zones, each $23\frac{1}{2}$ degrees in width, reach from the arctic and antarctic circles to the poles. *See Figure 48.*

Within the torrid zone the rays of the sun are vertical at each place twice during the year, and day and night are more nearly the same

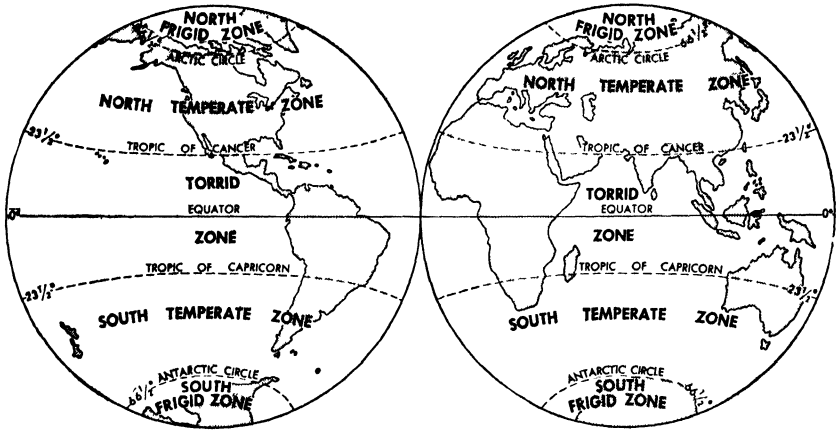


FIGURE 48 · *The earth divided into zones of sunshine*

length throughout the year than they are elsewhere. Within the temperate zones the rays of the sun are never vertical at any time of year. Along the equatorward margins of this zone, the summer noon sun is higher in the sky than it ever is on the more poleward margins of the temperate zone. The summer days are long and the summer nights are short. The periods of dawn and twilight are also long in middle latitudes.

In the frigid zones day and night are of varying lengths. At the poles there is a six-month period (the summer season) when the sun, though casting long, slanting rays, does not set; and another six-month period (the winter season) when the sun does not rise. When the sun is below the horizon, it is not absolutely dark, but is similar to twilight in the part of the earth where we live. The periods of continuous daylight and continuous darkness grow shorter and shorter away from the poles, until at the arctic and antarctic circles they are only twenty-four hours in length. Thus you should understand that the arctic and antarctic circles and the tropics of Cancer and Capricorn really mark off zones of sunshine and not zones of climate.

Climatic Regions. In recent years, climatic data on more places in the world have become available. This information has made it possible to set up rather accurate climatic regions based on rainfall

and temperature. The study of vegetation regions has been a helpful guide, too, since vegetation is a good key to the climate of a region.

In this book the treatment of the climates of the world is by regions: regions of low-latitude climates; regions of middle-latitude climates; and regions of high-latitude climates. Each climatic region, however, includes areas far too large to have identical conditions throughout the region, and so several subdivisions are necessary. These subdivisions are based on the amount and seasonal distribution of rainfall, and on the length of the growing season. Calicut, in the southwestern coast lands of India, has an average of over 118 inches of rain in a year, but 90 per cent of it falls in the six months of May through October. You will agree that the amount of rain is large, but the distribution is not good. Irrigation is needed for crops planted during the dry warm season. By contrast, Singapore has a smaller annual rainfall, 95 inches, but the distribution is well spaced, with six to ten inches per month throughout the year.

An illustration of the two extremes of climate found in New York State is shown by a comparison of data for Setauket, Suffolk County, Long Island, with that for Indian Lake, Hamilton County, Adirondack State Forest.

	MONTHLY AVERAGES		RECORDS		AVERAGE GROWING SEASON	TOTAL PRECIPITATION		Altitude
	January	July	Maximum	Minimum		Rainfall	Snowfall	
Setauket	31 8°	72.3°	98°	−11°	211 days	44 17″	28.7″	40 ft.
Indian Lake	15 1°	64.7°	105°	−42°	85 days	40 06″	87.9″	1660 ft

The coastal plain, or Setauket, site is one of the leading vegetable-growing areas in the state; and the mountain, or Indian Lake, site is a popular resort area. Analyze the data and interpret the ways in which the six climatic controls help to make the contrast.

QUESTIONS TO ANSWER AND THINGS TO DO

1. What imaginary lines separate the temperate zones from the torrid zone? What lines separate the temperate zones from the frigid zones?

2. How do zones of sunshine differ from the climatic regions as treated in this chapter?

3. Explain why the distribution of rainfall is of even more importance than the amount of rainfall of a certain area.

4. Low-Latitude Climates

The low-latitude climates are often referred to as the *tropics*. They reach across the lands and seas in an irregular belt 20 to 30 degrees on each side of the equator. On the lowlands are the jungles and rain forests, with their luxuriant green vegetation of different sizes and heights. There are no actual forests of natural rubber, mahogany, or balsa trees, for the many varieties of trees are scattered far and wide. Each plant struggles to get ahead of those near by. The conditions exist because of the climate. Here the sun is always high in the sky, and day and night are practically the same length. The average monthly temperatures range from 64 degrees to over 80 degrees with every month frost free. It is these characteristics of temperature that account for the variety in types of vegetation.

Low-Latitude Climates with Rainfall throughout the Year. It is the rainfall of the doldrums that is largely responsible for the luxuriant growth of the vegetation. The abundant rainfall is usually well over 80 inches per year and generally distributed so that not more than two or three months are less rainy than the others. Usually the ground is well enough saturated, or the water table is sufficiently high, to enable plants to survive the less rainy season. Thunderstorms occur daily in the rainy season or every two or three days in the less rainy season. These conditions are most favorable for a rank growth of vegetation and a dependable water supply, but a serious drawback to most inhabitants and settlers.

The problem of food supply is not so easily solved as one might think. The life of the natives in the small scattered clearings depends largely upon the gathering of wild fruits, nuts, and roots. A more dependable food supply is provided by the crops in cultivated garden patches and the larger "plantations" in the forest clearings near by. The crude tools, the lack of draft animals, the absence of a dry season to clear and burn off the growth, and the shade of large trees are some of the factors that limit the production of the planted crops. Sometimes wild animals uproot crops or frighten the natives so that they abandon the "plantations." Fish, rather than larger animals, provide a little variety in the diet. Transportation is largely by means of the ready-made waterways.

In spite of the drawbacks due to insect pests and the enervating

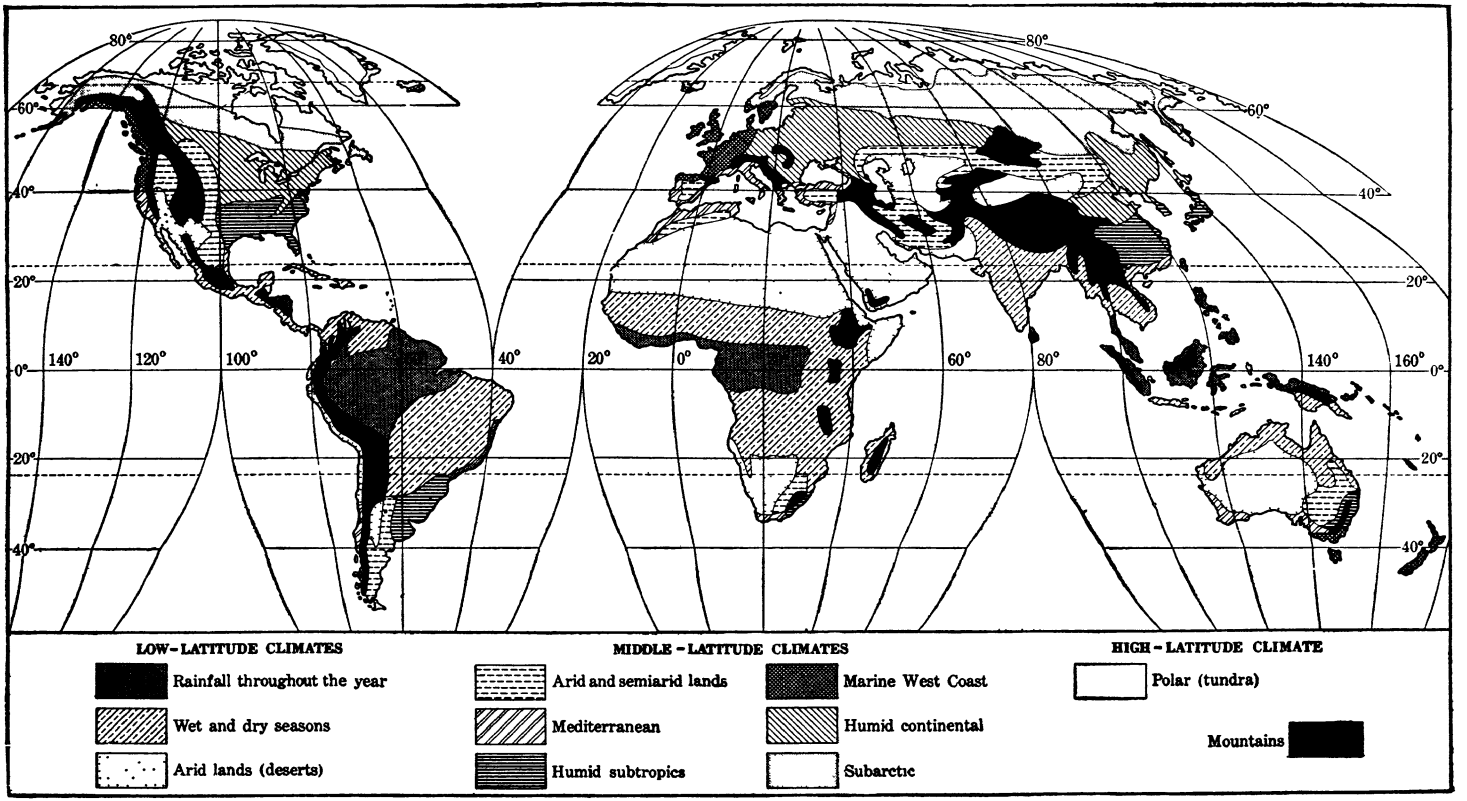


FIGURE 49 · *Climatic regions of the world*

By Ewing Galloway, N. Y.

FIGURE 50 · *Flooded rice fields in the densely populated island of Java*

effects of the sultry monotonous climate on human energy, commercial plantations produce commodities important in world trade. The more favored sites for these developments are on the islands and peninsulas of southeastern Asia. Products from these plantations find their way readily into the world trade routes from this area. The islands and peninsulas are more accessible than are the lands inland. A climate with sea breezes is more refreshing than the stifling heat in the enclosed forested areas.

The colonial governments provided stable conditions in these tropical lands of Asia, and so investors felt safe in financing plantation enterprises there. The dense population and available coolie labor supplied dependable workers. Rice, tropical fruits, and vegetables are produced for local use; rubber, sugar, tea, and coffee are the chief plantation crops. The enormous amounts of food crops needed to feed a population of 60 to 70 million, and the raw mate-

rials needed to supply certain industries in manufacturing countries are by far the most important classes of products.

The forest resources of the low latitudes supply a variety of woods, including balsa, teak, ebony, and mahogany, and some tree products such as nuts and gums. Logging is difficult owing to the dense undergrowth, the isolated location of similar trees and mixed varieties everywhere, and the non-floating heavy hardwoods.

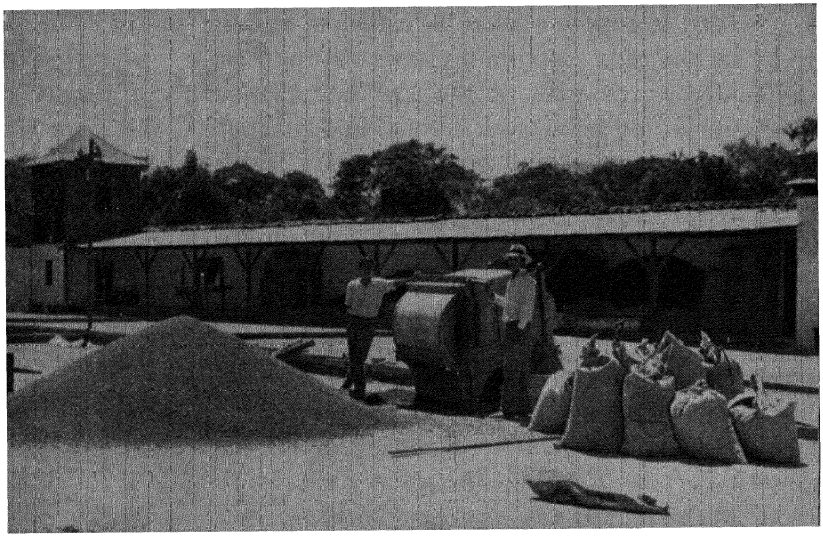
Low-Latitude Climates with Wet and Dry Seasons. The second type of climate in the low latitudes has a definite wet and dry season. This type occurs on the poleward margins of the rain forest and jungle where the vegetation changes to scrubby growths and then to the tropical grasses of the savannas. Trees grow along the banks of streams, and some patches of forest grow in low places where water collects. Perhaps you know the savannas by such names as the Sudan of Africa, the Llanos of Venezuela, or the Campos of Brazil.

The savannas are rainier on their equatorward margins nearer the forests, and drier on their poleward margins where they merge into deserts. On lowlands it is warm to hot all year, and the rains come at the season of highest sun, with 80 per cent falling in four or five months. The total rain is as much as 60 to 80 inches on the rainier margin and as little as 20 inches on the desert margin. Usually the lands nearer the forest area have more dependable rains. However, an area may have torrential floods one rainy season and insufficient or delayed rains the following year. The high rate of evaporation, together with the seasonal type of rainfall, limits the natural vegetation to scattered clumps of tall grass.

In the season of lower sun, temperatures may reach the freezing point on hill lands and in the plateaus. Even on lowlands chilly trade winds of the dry season sweep over the savannas that lie farthest from the equator.

The monsoon and trade wind coastal lands are parts of this same type of climate. The heaviest rains come when winds blow inland from water bodies.

The fact that there are wet and dry seasons in these lands makes possible the successful cultivation of annual crops that require a wet growing season and a dry harvest season. Perhaps the best crop examples are rice, coffee, and sugar cane. These crops all require 60 or more inches of rainfall annually. When the rainfall is not sufficient the crops must be irrigated. They all require much hand



Pan American Airways System

FIGURE 51 · *Cleaning coffee beans by machine on a Brazilian plantation.* Dry, sunny weather is needed for picking the coffee berries and preparing the beans for market

labor, too, and so it is only in regions where a dense population provides a labor supply that such crops can be produced. The food crops of rice and sugar are largely consumed in the region where they are produced, though there is some surplus of sugar for export. Most of the coffee, of course, is for export. As you know, both rice and sugar cane need irrigation in some regions where they are grown. Tea flourishes best in the rainy season because the heat and moisture cause leaf buds to sprout more young leaves.

In the inland and drier areas of the savannas, grazing is a natural occupation. Because of the heat, cattle are more common than sheep in some areas. In Africa, camels and goats are also grazed. Any future success of the livestock industry is concerned with a number of serious problems. The tick, tsetse fly, dingo, peccary, and rabbit—each in its own way and in different regions—are a menace to livestock. Droughts and floods are seasonal and often cause losses of thousands of head of livestock. The lack of transportation makes it difficult to move livestock to meat-packing centers.

Highlands in Low Latitudes. In the tropical highlands, the heat and humidity of the lowlands are lacking. Because of the altitude,

the climate has often been called one of "perpetual spring." The mornings and evenings are cool, midday is pleasantly warm, and nights are chilly. The plateaus of Central America, the central and northern Andes, and Ethiopia are classed as tropical highlands.

These "islands" of pleasant climate are also "islands" of population. Except for the lowland seaports or trade centers, the capitals and large market towns are in the plateau areas where the population density is the greatest. Caracas, Quito, Bogotá, and Guatemala City are good examples of such communities. Besides enjoying the advantage of a more livable climate than that of the lowlands, the farmers of the plateau are able to produce the grains and vegetables common in middle latitudes. Because of the location of the highlands these plateau settlements have the foods of the lowland tropics as well as the temperate zone food crops.

The problem of building highways to link together these plateau settlements may soon be solved. For hundreds of years, transportation construction in Latin America, for example, was discouraged by climate and vegetation and relief. Today planes of local lines hop into many Latin American plateau trade centers and to isolated mining camps and plantations. The Pan American Highway is the best land route linking the highland with lowland areas.

Arid Lands of Low Latitudes. The dry climates of the low latitudes are the trade wind deserts bordered by the sparse stunted growth of the grasslands. In general, these arid and semiarid lands are the largest, driest, and hottest areas on earth. For centuries they have been serious barriers to communication. In the last few years, they have been crossed by motor transports and airplanes. These vast deserts include the Sahara, the Arabian and Persian, the Kalahari in southern Africa, the Thar in northwestern India, the Atacama in Chile, the Sonoran in Mexico and southern United States, and the Australian Desert.

Heat and drought are always present in these dry climates. The hottest daily temperatures at the time of high sun are well over 100 degrees F. The nights are somewhat less oppressive. At the time of lower sun, day temperatures may drop to freezing. It is the change from hot to cool that helps to explain the typical dress of the desert dweller of the Old World and his use of woolen robe-like clothing. The constant trades move equatorward, warming and evaporating as they blow. Clear skies and sunshine are common. The rainfall

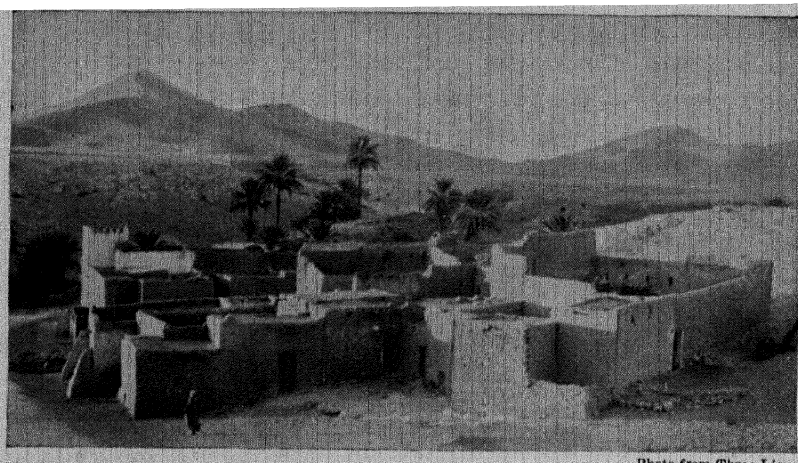


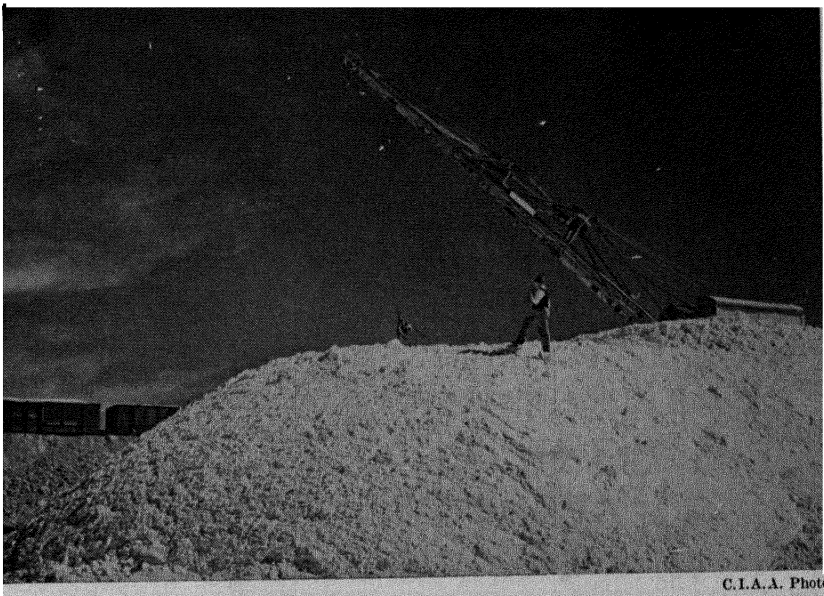
Photo from Three Lions

FIGURE 52 · *A village in the Sahara.* Such villages are possible only where water can be obtained from beneath the ground

is so uncertain that averages mean almost nothing. Some years a few inches may fall, and then drought may occur for the next two or three or more years.

The landscape of the desert is a response to the climate. Both vegetation and animals are adapted to survive with limited moisture and food. The scrubby plants may have long roots to reach the low water table or have wide-spreading root systems to allow them to gather moisture from a wide surface area. Thorns on some plants and odors of others keep animals from nibbling. Plants usually flourish on an oasis where there are springs or near stream channels. The native animal life is often tawny colored for protection. Some animals are fleet of foot, some are the creepy, crawling type, and others burrow underground to avoid the heat. The drifting sands leave wide expanses of bare rock so that true sandy deserts occur in only limited areas. Salty deposits are found in some areas. They are a result of excessive surface evaporation. The mining of salt, nitrate, borax, and gypsum is carried on in some of the desert areas.

Population is for the most part sparsely distributed in the desert areas, except in the oases, which are densely populated. Some tribes have oasis sites on which they raise grain and dates. The dwellers on the densely populated oases carry on intensive farming, raising several crops a year by means of irrigation. Often a form of "story"



C.I.A.A. Photo

FIGURE 53 · *The Atacama Desert of Chile, one of the driest regions in the world, is the source of most of the world's supply of natural nitrate*

farming is practiced: tree crops are the tallest, and grains and vegetables are grown underneath. This plan allows the precious water to nourish several different crops on the scarce valuable land. The tall sun-loving crops provide shade for the other crops.

Boom towns and ghost towns of mining camps are found on some of these dry lands. The precious metals and gems of South Africa and Australia come from dry land areas, as do the petroleum of the Middle East and the nitrate of Chile.

QUESTIONS TO ANSWER AND THINGS TO DO

1. Name some of the characteristics of low-latitude climates.

2. Why are they sometimes called the "tropics"?

3. How does the climate of the lowlands in the low latitudes differ from that of the highlands? Explain.

4. What climatic factor is responsible for the aridity of some of the lands in low latitudes? Where are some of these arid lands located?

5. Where are some of the wetter lands of the low latitudes?

5. *Middle-Latitude Climates*

The middle latitudes include the regions which lie roughly between 30 degrees and 60 degrees latitude in both hemispheres. Except for Australia and South America, most of the middle-latitude area in the Southern Hemisphere is water.

There is a variety of climates in the widespread land areas in the middle latitudes of Eurasia and North America. Changeable weather, four distinct seasons, and rainfall sufficient for crops in most places are the features of this climatic region. The longest growing season in these lands of the Northern Hemisphere naturally occurs on the southern margins, and the shortest along the northern margins.

Arid and Semiarid Lands of Middle Latitudes. The deserts and bordering grasslands of the middle latitudes are hot and dry, but they have cooler and colder seasons than do the dry climates of low latitudes. The largest areas of such lands are those in central Asia and the Great Plains and plateaus of western United States. Smaller areas are the high veld of South Africa, and other areas in southern Australia and Argentina.

The precipitation is typical of dry climates. The desert areas may receive 10 inches or less of precipitation in a year, and the grasslands may receive from 10 to 20 inches. A succession of rainier years may be followed by years of drought. The very uncertainty of the rainfall is a serious threat to livestock and pasture lands. A poor covering of bunch grass, occasional thunderstorm downpours, and sweeping winds all help to move soil about and encourage erosion.

The natural vegetation and animal life in each of the middle-latitude arid and semiarid areas are more or less peculiar to the region. In all these areas grazing is the leading occupation. In fact, those areas in North and South America are the largest commercial producers of livestock in the whole world.

The most extensively irrigated lands in the United States are located in this dry climate area. Curiously enough, the leading crop in acreage is alfalfa grown on the lowlands to supply winter feed for the livestock industry. But other crops are of more interest to most consumers. For it is from these irrigated dry lands that out-of-season vegetables, fruits, potatoes, and beet sugar are supplied to the populous Eastern states. The sheep and cattle ranches of Argentina

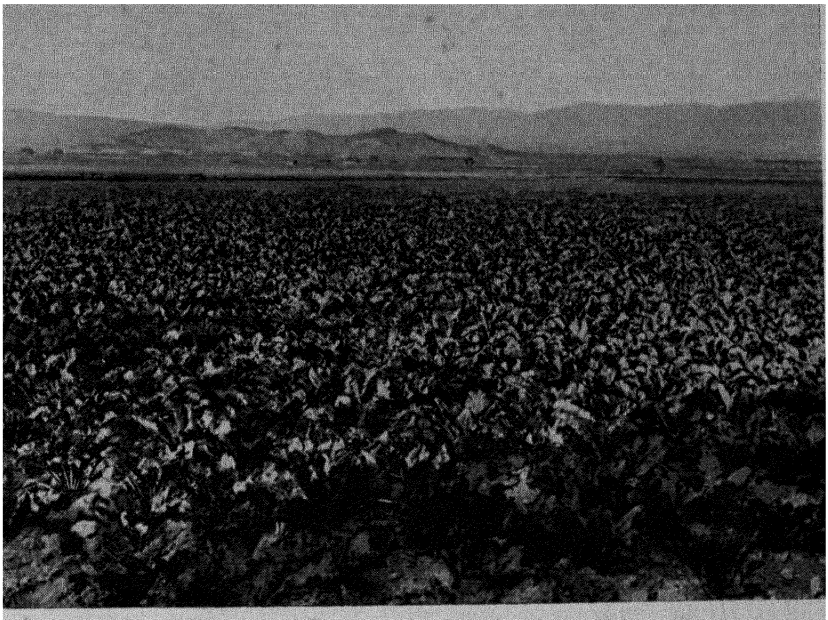
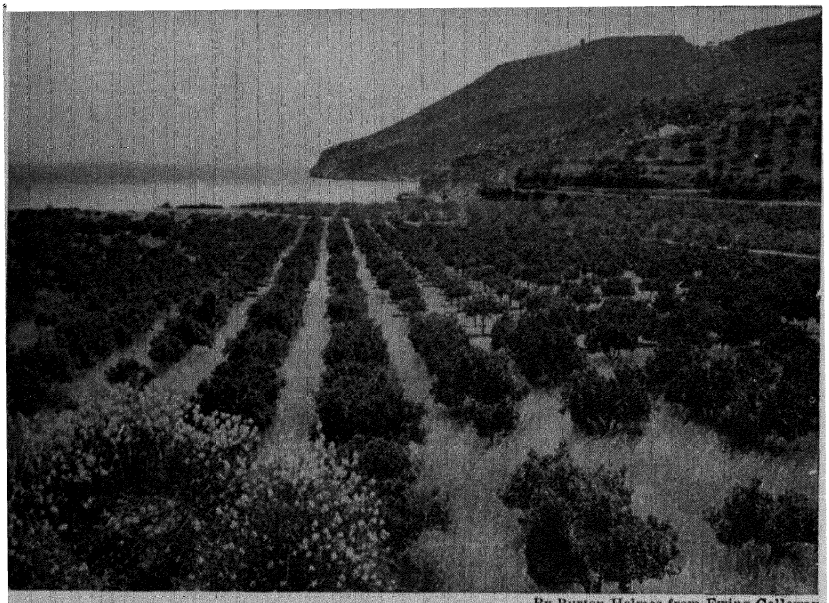


FIGURE 54 · *A field of sugar beets grown under irrigation in Colorado*

add their products to world trade. Little, if any, of central Asia's grasslands and desert margin supply meat to world trade. Wool and camel's hair, however, are nonperishable and worth sending over hazardous inland routes to distant trade centers.

Middle-Latitude Lands with Mediterranean Climate. The most extensive areas under the influence of the Mediterranean climate are in the lands bordering that sea. Small regions with this type of climate occur also in southwestern California, Central Chile, Southwest Africa, and southwestern Australia. All the regions are located on the west or southwest coasts of continents, in latitudes of 30 degrees to 40 degrees, and are affected by the westerlies in winter and the horse latitudes and trade winds in the other seasons. Consequently, the rainy season is in winter and the dry season in summer. Because these areas are near the tropics and have summer drought and winter rainfall, they are sometimes called the ***dry subtropics.*** The average total rainfall of 25 to 50 inches is not sufficient for many crops. The long frost-free season permits the growth of the sensitive citrus fruit and palm trees. Snow seldom falls, but sharp frosts do sometimes



By Burton Holmes from Ewing Galloway

FIGURE 55 · *Orchards on the Mediterranean coast of Spain.* Fruits are the principal summer crops in lands having Mediterranean climate

occur in winter and cause damage to orchards. The natural vegetation is a scrubby growth of herbs, bushes, and some live oak and conifers.

Farmers can meet the problem of unseasonal distribution of rainfall by three different practices. They can irrigate their crops with water from mountain streams or wells or from reservoirs created by the building of dams; they can plant tree crops and depend on the long roots of the trees to reach moisture; or they can plant winter grain crops which are sown in the fall and grow steadily during the mild, rainy winter. After the winter rains are over, the grain ripens quickly in the hot sun.

The clear skies and hot summer sunshine of the Mediterranean climate make growing conditions favorable. Rain is not expected; so irrigation water is applied and can be regulated. The dry harvest season is also favorable for raisin, prune, currant, and dried fruit industries. Citrus fruits, cotton, olives, figs, and grapes grow in the warmer areas, and vegetables and hardy fruits in the cooler areas. Wheat and barley are the principal winter grain crops.

FIGURE 56 · *Rows of young cotton plants on a plantation in Mississippi.* What other states are in the humid subtropical lands of the United States?

Humid Subtropics. On the east coast of continents and at latitudes of 25 degrees to 35 degrees are the humid subtropical regions. These areas, you will note, occupy the margins of the continents opposite to the dry subtropics or Mediterranean lands, but in somewhat the same latitudes. The largest areas are found in the part of the United States usually called the Cotton Belt and in much of China proper and Japan. Part of the Argentine Pampa, Uruguay, and southeastern Brazil are in the humid subtropics, as are also smaller parts of southeast Africa and Australia.

The climate of a humid subtropical region is affected by the size of the continent in which the region is located. The sultry heat of long summers and a growing season of more than seven months are in contrast to frequent winter freezes and possible near zero temperatures in some winters. Snow may occur in some winters, but it does not remain long on the ground. Rainfall is heaviest in the

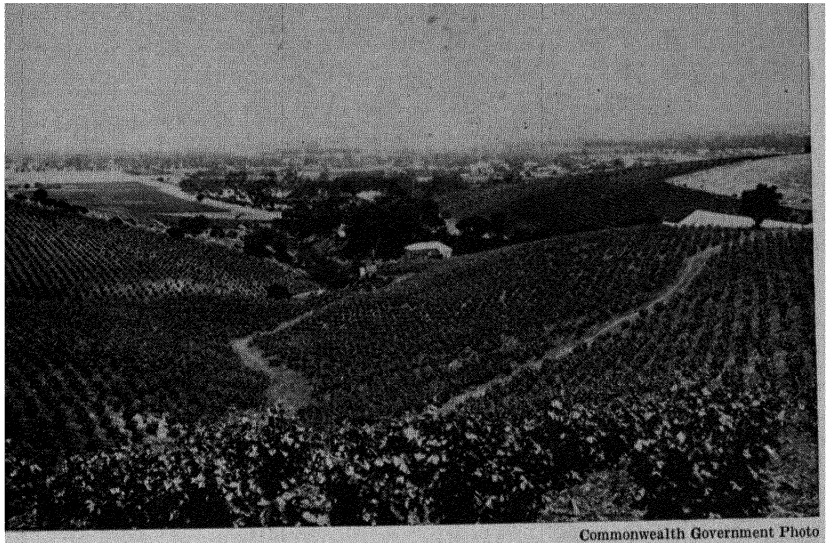
warm season, although some places have a rather evenly distributed rainfall throughout the year. The total annual rainfall is usually more than 40 inches except in the areas in the Southern Hemisphere, where it is somewhat less.

The soils of humid subtropical regions are subject to leaching and erosion. Leaching means the washing away of some of the soluble mineral content of the soil. The long open growing season, the frequent rains, and cultivated fields are responsible for the loss of more of the mineral content of the soil than is used by the growing crops. The summer downpours and the winter rains on generally loose unfrozen soil of fields tend to wash the slopes and gully the land, especially in the United States and China. Thousands of acres of what was once good farm land are now waste land because of the erosion that has taken place. However, work is being done to reclaim the waste land and to use soil conservation practices on present farms.

Agriculture is the most important occupation in these regions. The soils are moderately fertile, and the use of fertilizers is a part of the farming method. The long growing season is suitable for crops that are subtropical in nature. The relief, especially in the United States and China, provides wide expanses of level or gently rolling land and richer river bottom lands. All the areas have ready access to the sea, to navigable waterways, or to railways for moving crops or products into world trade as well as into local trade.

Interestingly enough, each region tends to specialize in a variety of crops not especially common to the other regions. For example, cotton, fruits, vegetables, peanuts, tobacco, and sugar are major crops in some parts of our South. Rice, tea, silk, and cotton are produced in eastern China and Japan. The products of the grain lands and ranches of the South American humid subtropical regions supply exports for world trade. Sugar and fruits are produced in the African and Australian regions. Most of these crops require hand labor. This labor is provided by the dense native populations of the regions or by imported workers.

In some of the humid subtropics forests add to the natural wealth. In our South, the different species of yellow pine are the source of naval stores, lumber, and paper pulp. Along the river bottoms are stands of cypress, tupelo, and red gum. On the northern margins oak and pine and hickory are common. Regrowth here is more rapid than in the northern forests, and so in recent years the paper



Commonwealth Government Photo

FIGURE 57 · *Vineyards in the humid subtropical region of Australia*

industry has expanded to take advantage of the wood supplies of the South. In China proper, the inland areas and mountainous areas may have more than 20 per cent of the area forested in mixed growths of conifers and other trees, while in many of the other parts of the country less than 10 per cent of the area is forested. In southern Brazil, the little-known Paraná pine grows on extensive areas and is a highly desirable commercial timber. Grass, not trees, are native to Uruguay and the northern Pampa, although there is some tree growth along streams. Mixed pines and hardwoods of Queensland, Australia, provide lumber and fuel wood, but not enough forest products to supply the country's needs. Natal in southeast Africa has mixed hardwood and coniferous trees growing in two narrow belts—one along the coast and the other inland on the mountains.

Marine West Coast Climates. The marine west coast climates are among the rainiest in the middle latitudes. The frequently overcast skies, fog, and drizzle are a common topic of conversation. Parks with flower gardens and shrubbery are unusually attractive, and the flowers blossom until late in the fall. The marine west coast climates are found between latitude 40 degrees and 60 degrees, which places them poleward from the Mediterranean areas. It is again the North-

ern Hemisphere that has the largest areas with this type of climate. In the Southern Hemisphere, this climatic type occurs in southern Chile, Tasmania, and New Zealand.

The winters of the marine west coast regions are mild, having an average January temperature of a few degrees above freezing to a few degrees below freezing. By contrast, many places in the interior of the continents of the Northern Hemisphere have zero and below zero temperatures in January. Likewise the summers of the marine west coast regions are cooler than are those of the interior of the continents. This moderating effect is due to the westerly winds which blow across the oceans onto the land. In winter the water is warmer than the near-by land, and so the winds are warmed as they pass over the ocean and the warmth is carried onto the land. In summer, the land mass is warmer than the water, and so the winds moving off the ocean are cooling in their effects. Summer temperatures are warm, with an occasional spell of a few hot days.

The heaviest rainfall comes in the cooler season and is greatly increased by the mountainous relief in some places. For example, an average of 128 inches of rain falls at Quinault, Washington, which lies on the windward side of the Coast Range. An annual average of more than 60 inches of rain occurs in many places in these marine west coast regions. When there are no mountains running parallel to the coast to cause the winds to lose their moisture, as on the western mainland of Europe, an average of 20 to 40 inches of rain is common. This rather small amount of moisture is sufficient for most crops, since the rate of evaporation is usually low, and summers are generally warm rather than hot.

In general, the natural resources which are commercially developed in the west coast regions are the forests and the fish. This is true of the mountainous fiorded coast lands of the American Northwest, Norway, and, to a lesser extent, southern Chile. The conditions favoring the growth of forests are best in the areas of the Western Hemisphere, where the Douglas fir, spruce, and other conifers grow abundantly in the north, and Chilean pine and mixed hardwoods in the south. Much of the virgin forest of northwestern Europe has been cleared to make room for field crops. In some three fourths of Norway, the thin, rocky soils, steep slopes, and high mountains do not favor rapid or extensive forest growth.

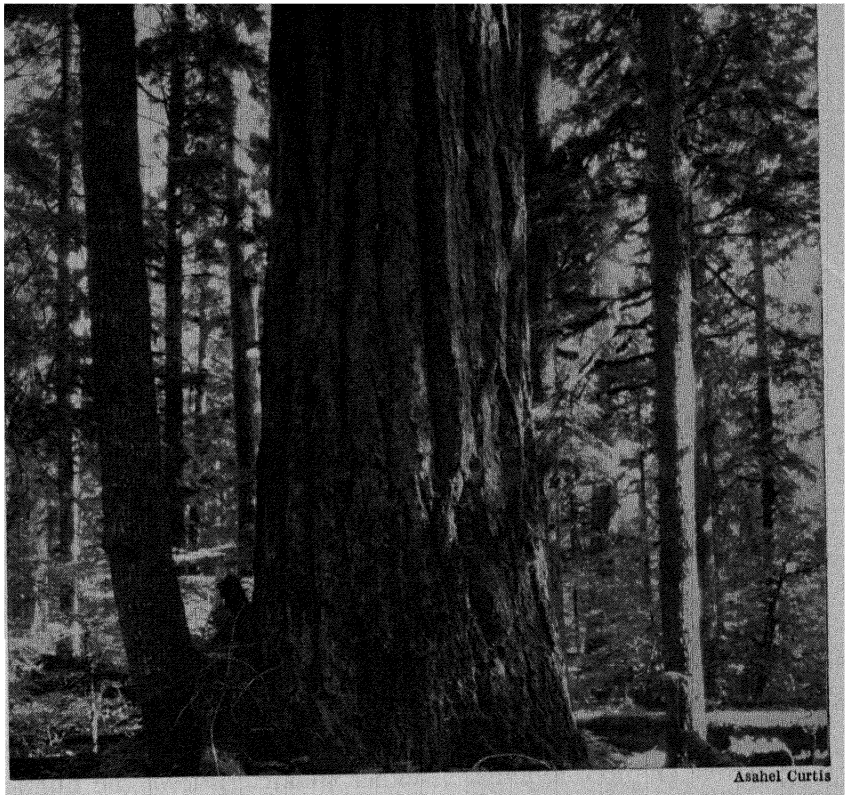


FIGURE 58 · *Heavy rainfall gives the American Northwest forests of fine, tall trees such as this Douglas fir*

Cleared lands not returned to forest in the areas of marine west coast climates are used for farming, and dairying is more important than any other kind of farming. In the lowland countries of Europe there are rich pastures where cattle can graze nearly the whole year round. The mild seasons make the care of dairy cows and dairy products easy. Some grain crops do not ripen well in the cool summer season, but root crops and berries are grown with success. In northwest Europe and the British Isles the intensive farming methods make possible the production of some of the crops and livestock needed for food by the large population. Barley and rye do better than wheat except in central France; potatoes, sugar beets, and other root crops do well everywhere in this part of the marine west coast climatic region. The growing season is too cool for corn or maize.

The lack of fuel resources, other than wood, is more than offset by the water-power resources of those regions having mountainous areas. The moisture which the reliable westerlies bring to these regions is precipitated in the form of rain or snow, and is the source of the glaciers, snow fields, streams, and water for the reservoirs. These dependable sources of water are the basis for hydroelectric developments. In our American Northwest many new industries are locating near newly-built power sites, bringing work and workers in large numbers to the region. So rich are Norway and Sweden in water power that both have large numbers of hydroelectric plants that supply power for manufacturing, for mining, and for light and heat for cities and homes.

Humid Continental Climate. Extensive areas in North America, Europe, and Asia have the humid continental type of climate, with summers that are either warm and short or hot and long, but both having winters with temperatures below freezing for weeks at a time. The upper Mississippi Valley states and the Great Lakes region are in this area. In Europe the belt extends from central Germany through Poland and far into Russia. In this climatic type, the four seasons are distinct, each with its special characteristics. The precipitation comes as rain in the growing season. Freezing weather and snows come early in the northern areas and last for as long as five or more months. Another characteristic of the humid continental climate is the changeableness of the weather with the passing of cyclonic storms across the continent. Curiously enough, the east coasts of continents are a part of this climatic type, inasmuch as the westerlies moving over the interior land mass bring the continental type of climate to the east coasts.

The annual rainfall varies from 15 to 20 inches in the more inland locations to 30 and 40 inches in locations nearer the oceans. In the drier areas the averages are unreliable, for years of sufficient precipitation are often followed by years of drought. This condition is especially true of the western part of the wheat belt in our country and in Russia. The areas in the rainier locations seldom suffer repeated or extensive periods of drought.

In spite of the extreme temperatures in the humid continental areas, the population for the most part is dense and the industrial activity is great. Summer day temperatures over the entire area of all three continents often exceed 90 degrees F., although the length

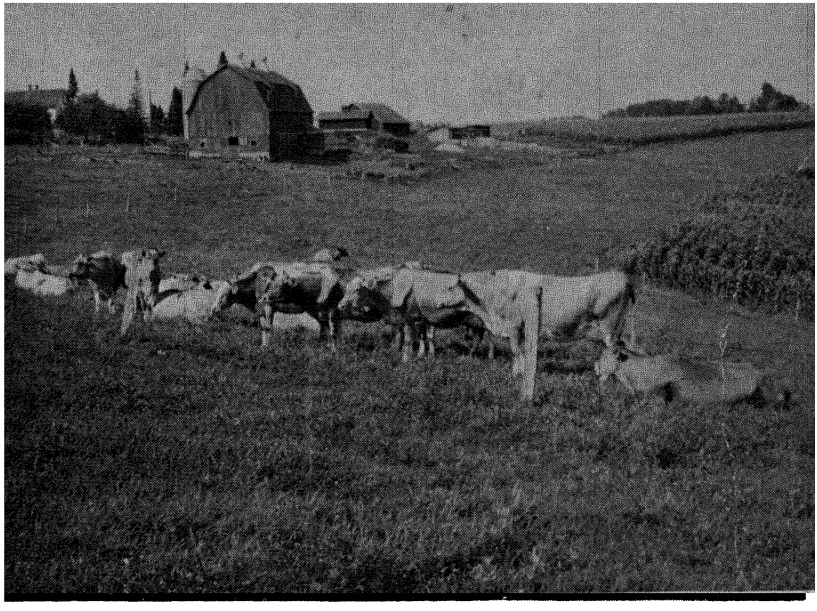
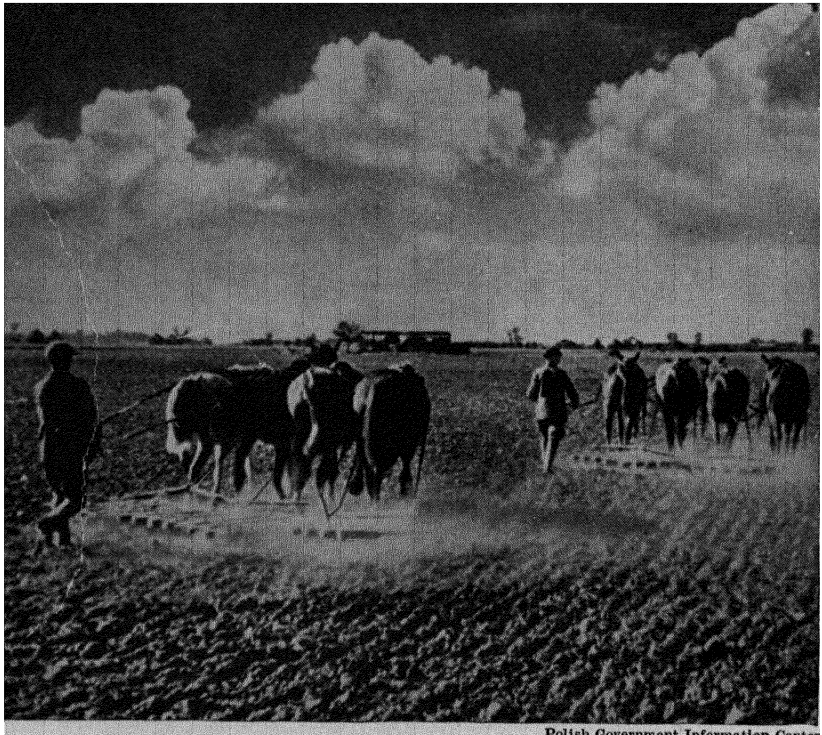


FIGURE 59 · *Cattle on a Wisconsin dairy farm.* The cool, humid climate of the upper Mississippi Valley is excellent for hay and pasturage crops

of the warm season is considerably shorter along the poleward margins. The average growing season along the southern margin in the United States is 180 days in length, decreasing to about 110 days in central Canada. Midsummer frosts occur frequently in the northlands. The winter temperatures fall below freezing throughout the continental region, but the length of the season and the degree of cold depend upon the latitude and other climatic factors.

Notwithstanding the extremes of temperature and the variability in precipitation, the bread basket of the Northern Hemisphere is in this region. In North America, the Winter Wheat Belt, the Corn Belt, and the Spring Wheat Belt follow a south to north spread of the region with the Hay and Dairying Belt in the cooler short summer region of the Great Lakes and Northeastern states. In Eurasia, the Danubian Plains of grains and grazing and the Russian grain areas of rye and wheat are included in this continental type of climate. These interior continental regions are quite generally areas of surplus products. *See Figures 59 and 60.*



Polish Government Information Center

FIGURE 60 · *The farm lands of eastern Poland are among the European areas having the continental type of climate*

The type and distribution of natural vegetation in these areas depends upon rainfall—native grasses grow in the drier parts, broad-leaved hardwoods where the summers are longer, and conifers in the areas of shorter summers.

In addition to the wealth of fertile soil necessary for the production of crops and livestock, there are vast resources of coal, petroleum, and iron and lesser metals in the continental areas. The climate may affect the working of the mines, often limiting production of iron ore to the warm season, as well as creating a greater demand for coal in the cold season.

Subarctic. As the name of this climatic region implies, it is located on the poleward margins of the continental climates. If the subarctic were named the taiga, it would readily be identified as the northern coniferous region. Since there is no land in the Southern

Hemisphere in the higher middle latitudes, the subarctic is limited to the forest belt encircling the land mass south of the arctic circle.

Along the southern margin the growing season is at least 90 days in length, but along the northern margin the temperature of only the warmest month averages as high as 50 degrees F. The coldest winter temperatures may reach −75 degrees F. or lower in some locations. The average January temperatures are usually well below zero. By contrast, the temperature on a balmy summer day may reach into the middle nineties, although evenings are cool and frosty.

The precipitation is surprisingly small—averaging less than 15 inches per year—and although evaporation is slow, and swamp, muskeg, and lakes are plentiful, the season during which plants can actually use moisture is short because the land is frozen much of the year. The snow comes early in the fall and lasts until late spring. Rivers thaw first in the upper courses, and, since their direction of flow is north, ice jams cause the water from the melting snows to flood the lowlands.

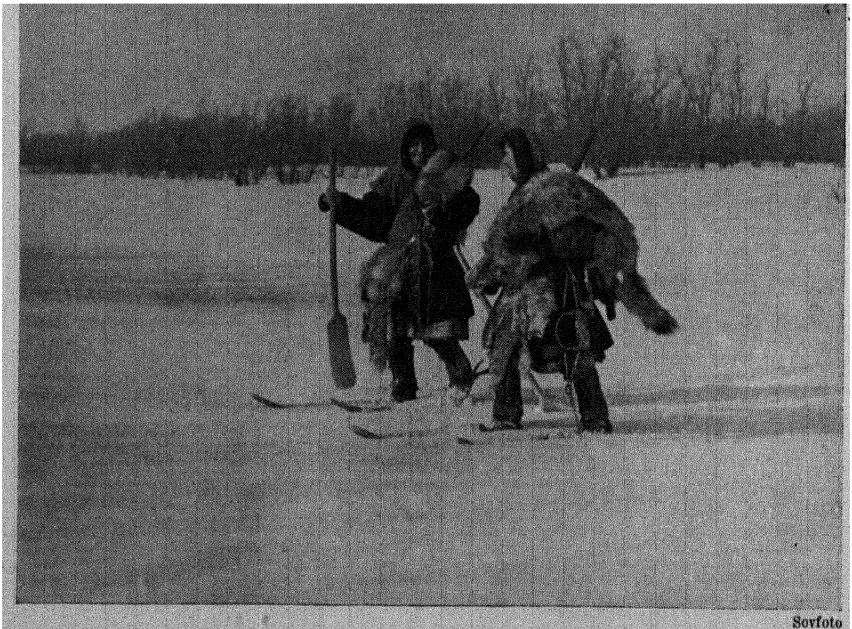
The taiga forest is made up of pine, spruce, and fir. However, in cut-over and burnt-out stretches birch and aspen are often the first to reclaim the land. Because of the cold and dryness, the trees grow slowly. They are largest in the southern areas of longer growing season and decrease in size to the northward, becoming scattered and scrubby where the taiga merges into the tundra. These vast resources of timber supply large quantities of pulpwood and local supplies of fuel wood. Since transportation on waterways is limited by a short season and by the direction of flow toward northern ice-bound seas, the taiga is still largely a timber reserve. The railways reach only a few marginal developments, and so a considerable part of the lumber, logs, and pulp moves over water routes.

Another natural resource closely related to climate is fur. Animals of the cold subarctic region grow heavy fur, and so their pelts are of choice quality. The numerous lakes and streams and the wild character of the forest provide protected breeding grounds for beaver, muskrat, and many other animals which are trapped for their fur.

Mining developments throughout the taiga belt are affected by climate in a number of ways. The cover of forest, swamp, and lake conceal mineral deposits and make expensive the opening up of mines. The long cold, dark winter and depth of frost in the ground make it necessary to construct power plants and to place equipment

Royal Canadian Air Force Photo

FIGURE 61 · *A settlement in the midst of the vast forests of the Canadian taiga*



Sovfoto

FIGURE 62 · *Trappers of the Russian taiga returning from their traps with their catch of furs*

at some depth underground, as is done in the Kiruna mines in northern Sweden. The problem of food is solved in some experimental stations in Siberia by the use of hothouses where vegetables are grown. The problem of transportation is partially solved by the use of planes, as in Canadian gold and radium workings. The planes use pontoons in summer and skis in winter, and thus have year-round airfields on lakes and other waterways.

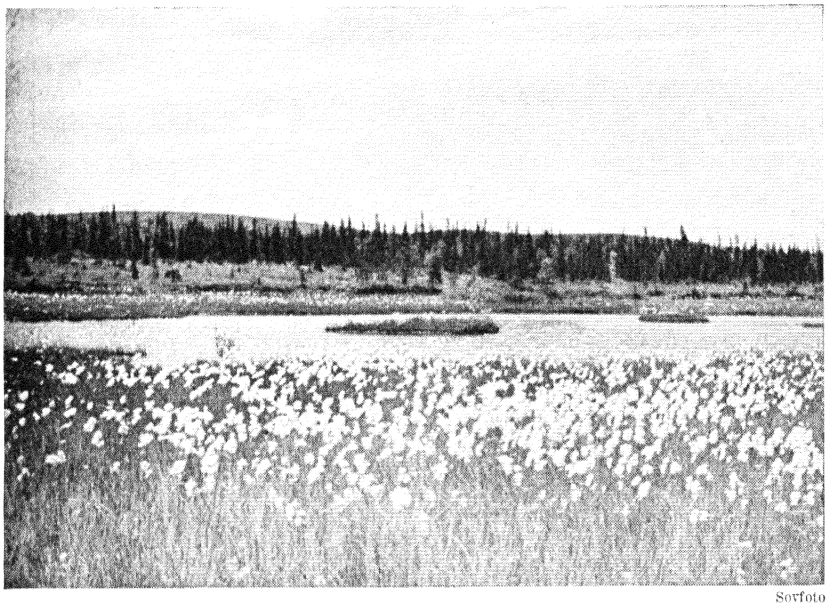
Throughout the taiga, the population density is sparse except in Sweden and Finland. The trading post and a collection of log cabins make up the community life of a settlement. Luxuries are mostly canned goods which come over land and by water routes or by plane. In parts of the taiga, native tribes outnumber the settlers of more recent years.

QUESTIONS TO ANSWER AND THINGS TO DO

1. What three features distinguish middle-latitude climates?
2. What important farming regions are in the belt of these climates?
3. Where are the regions of Mediterranean climate?
4. How do farmers meet the problem of unseasonal distribution of rainfall?
5. What and where are the humid subtropics? What important section of the United States is in this region?
6. What parts of the Western Hemisphere are in the region of marine west coast climate? What can you say about the rainfall of these areas?
7. Are the areas with a humid continental type of climate among the important farming regions of the world? Name some of these regions.
8. What are the principal resources of the subarctic climatic region?

6. *High-Latitude Climates*

Polar Climates. The regions which lie poleward from a latitude of 60 degrees or 70 degrees are classed as high latitudes with polar climate. The two divisions of the polar climatic type are the tundra and ice caps. It happens that the tundra type of climate and vegetation occur at high altitudes in other latitudes, too, as on high plateaus and mountains. Two examples of this type are the altiplano of the



Sovfoto

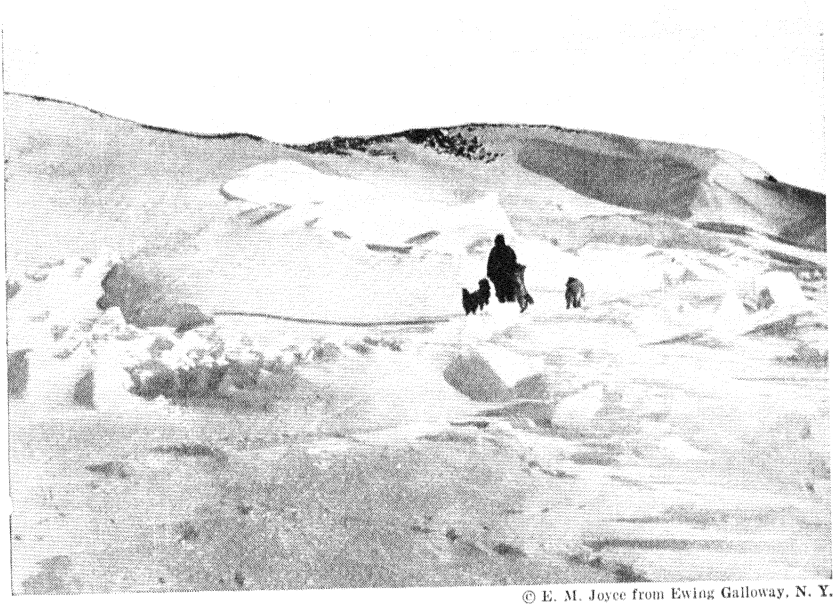
FIGURE 63 · *Summer wild flowers blossom on the Russian tundra during the few short weeks of the summer season*

Andes and the Plateau of Tibet, both of which have year-round glaciers or ice fields on the summits of the mountains surrounding them.

Tundra. Between the taiga and the permanently frozen polar areas is the tundra—the low flat treeless plains of the Arctic coast lands of North America and Eurasia, together with a small fringe of Greenland. Along the southern margins the warmest month averages below 50 degrees F., but grasses, berries, mosses, and hundreds of flowering plants grow in the summertime when the ground thaws to a depth of several inches. The subsoil is permanently frozen below a depth of 12 to 18 inches. During the long winter night the temperatures remain below zero week after week. The coasts are often foggy and have somewhat milder temperatures than do the more inland locations.

As in all colder regions, precipitation is light, totaling around 10 inches a year. The strong winds blow the light, dry snow into drifts on the open plains, leaving extensive barren spaces.

The limited resources, the dreary landscape, and the somewhat depressing climate fail to attract settlers. The native tribes exist by



© E. M. Joyce from Ewing Galloway, N. Y.

FIGURE 64 · *Although most of Antarctica is buried under a thick ice cap, there are bare, rocky stretches in some places near the coast*

herding reindeer, hunting, fishing, and collecting. These primitive people must possess ingenuity and resourcefulness to be able to use the limited materials that provide food, clothing, and shelter.

Polar caps. The polar caps are the areas of permanent snow fields and the source of icebergs. The ice caps in both the hemispheres have annual average temperatures of below zero regardless of the season and amount of sunshine. The large continental mass of Antarctica is colder than the island of Greenland, and the interior of Greenland is colder than the continuously frozen ocean in the area about the north pole. No records are available regarding precipitation, but it is reasonable to think that snow must accumulate year after year to renew the loss due to evaporation and to replace the ice masses that break off and float away as icebergs.

Up to the present, no people have inhabited these ice caps for any length of time. Explorers and scientists have been stationed on the margins of the ice caps for limited periods to secure and record information.

Even though the paths of certain air routes following arcs of great circles cross polar regions, it is doubtful that air lines will utilize the polar regions so much as some people have predicted. While it is true that the shortest route from North America to Eurasia is over the polar seas, it is equally true that air lines are in business to serve communities where people and products are found. Therefore many air routes will turn aside from the most direct routes between intercontinental airports.

QUESTIONS TO ANSWER

1. Why are the regions of high-latitude climates not among the well-populated regions of the world?

2. What pursuits are carried on in high-latitude climates?

7. Summary

There are, fortunately, many parts of the earth where the climatic regions are favorable for people to live and work. Some regions are better for some ways of living than are other regions. In all regions, man needs to plan ways of adapting himself to the natural conditions or to make changes in these conditions in order to get along. People accustomed to one type of climate often choose a similar type when they emigrate to another country and settle there. For example, when Scandinavians emigrated to the United States, many of them settled in the forested states of the upper Great Lakes. However, some people want to make a change of climate, and so they choose a type that will be different. Many a Middle Westerner, when he retires, moves his family to California or Florida.

As long as weather and climate depend upon the forces of nature, man will probably continue to plan ways and means of making himself more comfortable. Air conditioning, heating, and insulating are some of the ways by which man attempts to provide for changes in weather and climate inside a building. Wearing raincoats, sombreros, galoshes, and parkas are some of the ways by which man attempts to meet changes of weather and seasons out of doors.

QUESTIONS TO ANSWER AND THINGS TO DO

1. Vegetation types are a response to soil, climate, and relief. Prove by giving examples.

2. What reasons are there for the vast majority of the two billion people living on this earth having their homes in the middle latitudes?

3. What climatic conditions help to explain the absence of any permanent homes in vast areas of the world?

4. Java has a dense population, and the Amazon Valley has a sparse population. Why should two hot, wet regions differ so in density of population?

5. What advantages are there for the people in the United States in the fact that in the middle latitudes of the Southern Hemisphere the people there have summer while we are having winter?

6. When the young people of Canada are skiing and skating on ice, what do you suppose the young people of Argentina are doing?

7. What advantages are there for the people of the United States in the continuous warm growing season in the lowlands between the tropics of Cancer and Capricorn?

8. Why should air pilots become experts in making weather observations and understanding the conditions in the sky?

9. Why should farmers, gardeners and fruit growers be experts in understanding the weather, or engage an expert to keep them posted?

10. Divide the class into committees, each of which will be responsible for the collection of materials for some one of the climatic regions. The collections should include pictures of fields and crops at the different seasons, views of vegetation, relief, homes, students, workers, farms, cities, industries, and other features. After the collections have been made, each group should make a list of the new things learned and a list of known things that were proved to be true by studying the material collected.

NOTE. Additional problems and activities and a list of reference readings for Unit I are given on pages 489–491 of the Appendix.

II · PEOPLES OF THE EARTH

CHAPTER SIX · THE RACES OF PEOPLE

What Are the Races? Before you start the study of the races of people, you should be certain you understand the meaning of the word "race." Race is a term indicating major groups of people who share a common descent and therefore have similar characteristics. A nation, which means the inhabitants of a country united under a single independent government, may be made up of people of more than one race, as we shall see.

The two billion or more people scattered over the surface of the earth differ from one another in many ways. Physically they may differ in the color of their skins, in the type and color of their hair, in the shape of their heads, in stature, and in the color of their eyes. They speak different languages or dialects, believe in different religions, and have different social customs and practices.

So how are we to arrive at a workable classification of the peoples of the earth? Language, contrary to a common belief, does not constitute a distinct race. For example, French is the language not only of the inhabitants of France but also of many of the Negroes of the West Indies. We cannot say religion is a proper classification, for Buddhists and Mohammedans are not a single race of people, nor are Catholics, Methodists, Baptists, or people of any other single religious belief.

The general similarities which link together various peoples as one racial type are difficult to classify because the mixture of races has always made exceptions to any classification rule. A long time ago there were many fewer people on earth than there are now, and they lived mostly in isolated groups. But as centuries passed and the population of the earth increased, people began to migrate from one part of the earth to another. Then marriages between the people of one race and those of another became common and there were born many people of mixed races.

It is natural to think of the people of the United States as a distinct race, for we all live in the same country and enjoy the same privileges and opportunities. In reality, however, the people of our country are by no means one homogenous race. They are a mixture made up of people from almost every country and race on earth. You can understand why it is impossible to say that all the people living in a certain country are of the same race, except perhaps in the case of a few small and isolated countries.

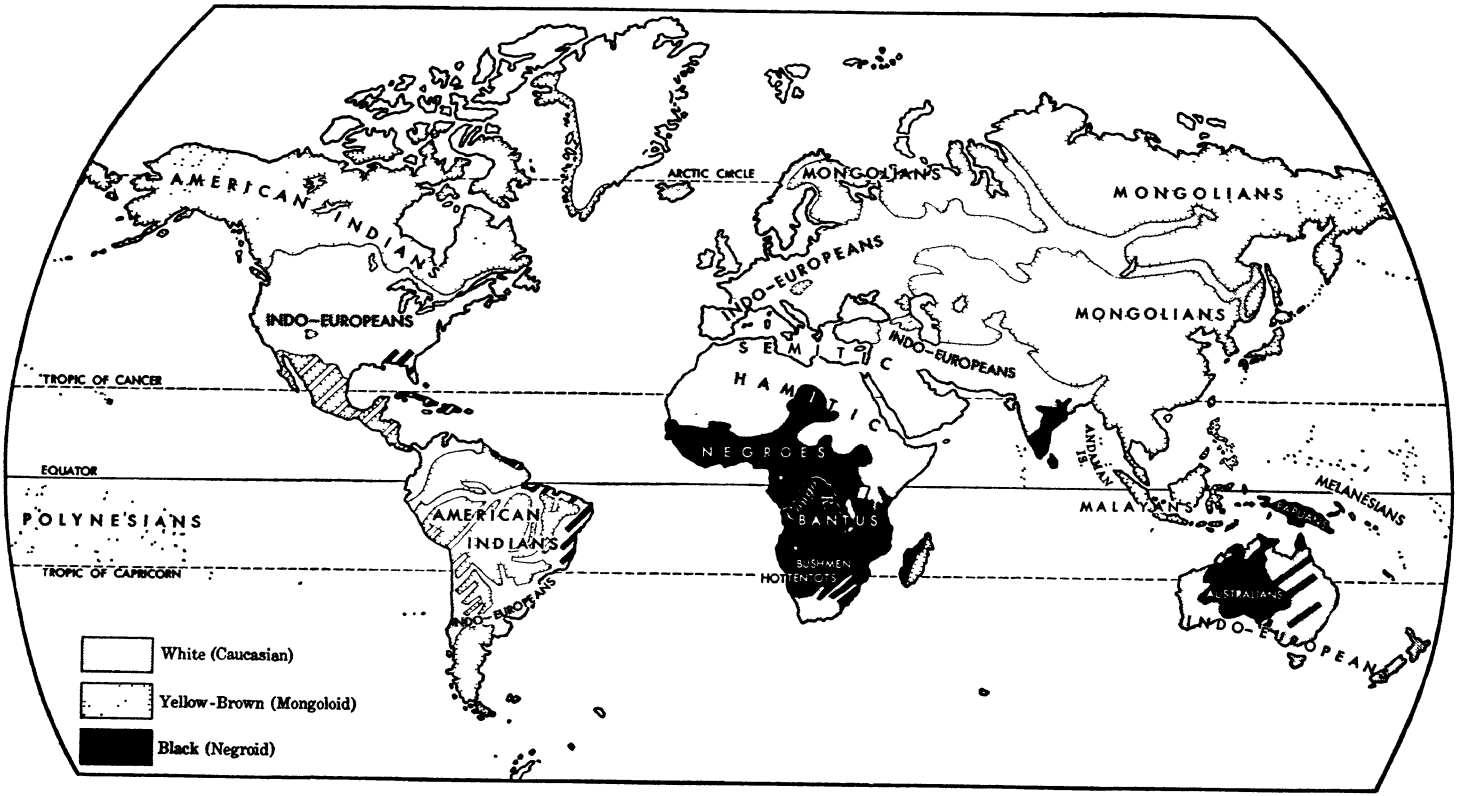


FIGURE 65 · *Where the people of the three races live*

FIGURE 66 · *Fair-haired Norwegian children*

Racial Classification by Color. The oldest and the simplest classification of the peoples of the earth is according to the color of their skin. Using this classification, we find that there are three races: the white, or Caucasian, race; the yellow-brown, or Mongoloid, race; and the black, or Negroid race. *See Figure 65.*

1. The White, or Caucasian, Race

The people of this race are characterized by light complexions, wavy to curly hair, and prominent, narrow noses. In general it may be said that the Caucasian race consists of the Indo-European branch, the Semitic branch, and the Hamitic branch.

Indo-European Branch. The European peoples constitute one of the more important groups of the Caucasian race. Because of the intermingling of the various European types, it is often difficult to distinguish one from another. However, they may be divided into Nordics, Alpines, and Mediterraneans. The Nordics inhabit the northern part of Europe: the countries of Scandinavia, Denmark, Scotland, the Low Countries, and Germany. They have fair com-

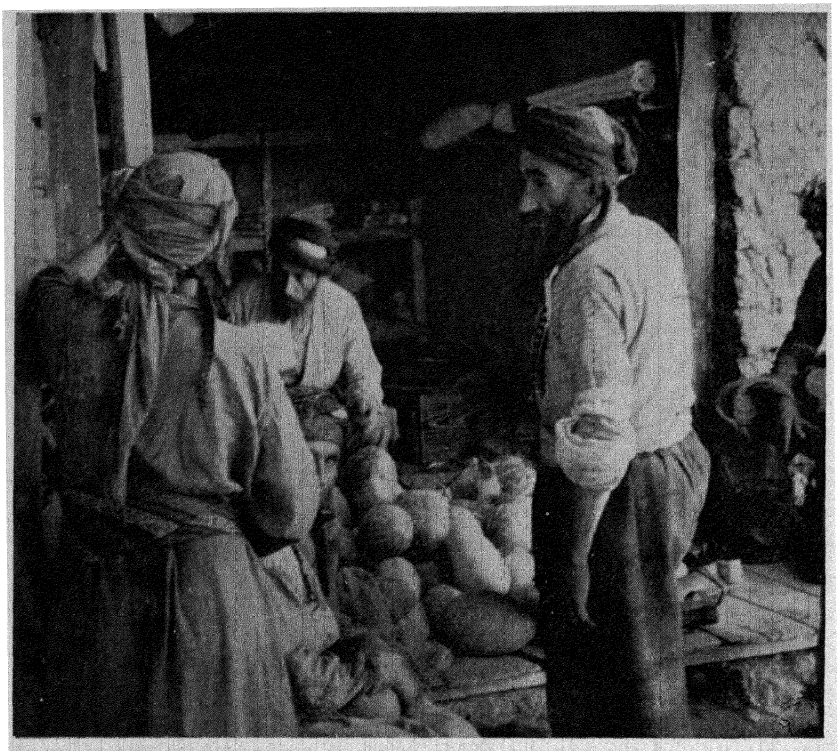


FIGURE 67 · *Shopkeepers of the Semitic race in a village in northern Iraq*

plexions, light hair, and blue or gray eyes. They are the tallest of the groups. The Alpines occupy the mountainous and hilly portions of central Europe. They have whitish skin of a parchment-like texture, eyes ranging from gray to brown, and hair ranging from brown to chestnut. They are of medium stature, tending toward a heavy build. The Mediterraneans occupy southern Britain and France, Spain, Portugal, most of Italy, Greece, Crete, Iran, and parts of North Africa and the Near East. They have dark hair and eyes, and are of medium stature. Their skin is normally white, but it tans very easily, and thus, under the influence of the hot Mediterranean sun, rapidly becomes tawny or brown.

The Semitic Branch. In ancient times the Semites included such peoples as the Babylonians, Assyrians, and Phoenicians. Today the chief groups are the Hebrews and the Arabs. Physically the Semitic type has probably been maintained at its purest in Arabia. The un-

mistakable physical characteristics of the Semites are fullness of lip, an aquiline nose, and curly and abundant hair.

The Hamitic Branch. The Hamites are the chief racial group of northern Africa and include the Berbers, the Egyptians, and the Ethiopians. They are of tall stature, have dark olive to black skins, wavy hair, and oval faces with well-formed features. Blondness, however, is found especially among the Berbers.

2. *The Mongoloid Race*

The people of the Mongoloid race have a characteristic yellowish color, ranging from a pale, off-white to a deep, coppery tan. They are short in stature. Their hair is usually coarse, straight, and black; their faces are flattened and broad; and often their eyes are slanting.

The Mongoloid is the most numerous race and it consists of many sub-groups which can be classified into three main divisions: the Mongolian, the American Indian, and the Malayan.

The Mongolian Branch. This branch of the Mongoloid race is confined chiefly to Asia. One group of the Mongolian branch is made up of the Chinese, Tibetans, and Siamese. The other group comprises the Japanese, the Finns, and such Asiatics as the pure Mongols, Manchus, and Yakuts. The Chinese and Japanese sub-groups are the largest in numbers, and their racial characteristics are already well known to you. *See Figure 68.*

The Finns comprise several groups of people, the main ones being the people of southern Finland, the Estonians, the Magyars, and the Lapps. The racial characteristics of the Finns are round heads, broad faces, and usually a fair complexion, with blue or gray eyes. The Lapps, who inhabit northern Norway, Sweden, and Finland and northwestern Russia, are short in stature and very round-headed.

The American Indians. These people are supposedly of Asiatic origin. Their facial characteristics and some elements of their culture resemble those of the Mongoloids in Asia. They are closer to the Mongoloid race as a whole than to any particular group of Mongoloids. It is believed that at one time scattered migrations of Mongol people to North America took place across the Bering Sea, or from one island to another in the Aleutian chain. Gradually these forerunners of the American Indians spread southward and into Middle and South America.

Courtesy of Congregational Christian Press Bureau

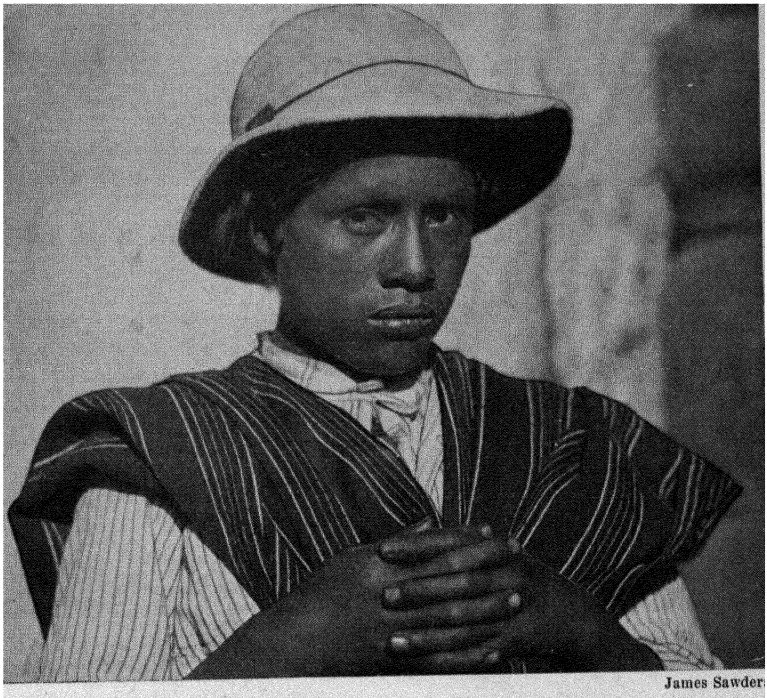
FIGURE 68 · *A Chinese mother and her baby*

The American Indians are characterized by brown skin, straight black hair, broad faces, and high cheek bones. *See Figure 69.*

The Eskimos, a well-marked sub-race of the American Indian, are believed to represent in a degree the original culture of the people who migrated from the Old World. The Eskimos are short, thick-set, and unusually long-headed and broad-faced. The Eskimos live under many environments, both natural and social, but when unchanged by civilization, they seem to have been everywhere the healthiest and happiest people in the world.

Malayans and Polynesians. The Malayan peoples present all varieties of savagery, barbarism, and civilization from the rude tribes of the interior of some of the islands to the more or less cultivated Malays of the coast, the Javanese, and the civilized peoples of the Philippines.

The Malayans are short and of slight build with high, prominent cheek bones and large eyes.



James Sawder

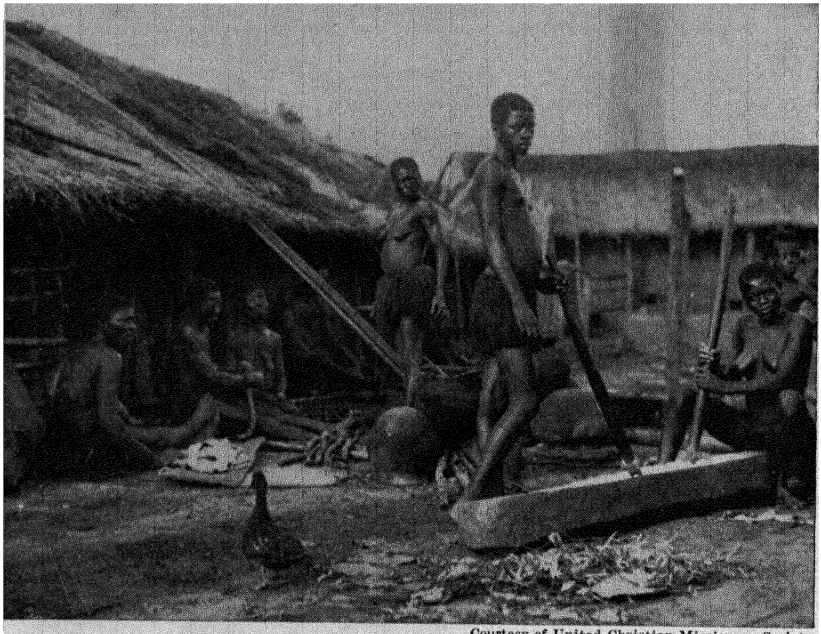
FIGURE 69 · *A South American Indian boy*

The Polynesians are members of the brown race of Polynesia, which includes the islands from New Zealand to Hawaii, and from Samoa to Easter Island. They are tall, and have a brown or olive complexion and wavy black or brown hair.

3. The Negroid Race

The people of the Negroid race are characterized by skin of a deep brown to black color. They generally have very frizzy or wooly hair. The Negroid race is native to the Southern Hemisphere, especially to Africa south of the Sahara. There are many sub-groups of this black-skinned race, the principal ones being the Negroes, the Bantus, the Bushmen and Hottentots, the Negritos, and the Papuans and Melanesians.

Negro is the term usually reserved for those tribes which exhibit the most typical characteristics of this variety of man. The "true"



Courtesy of United Christian Missionary Society

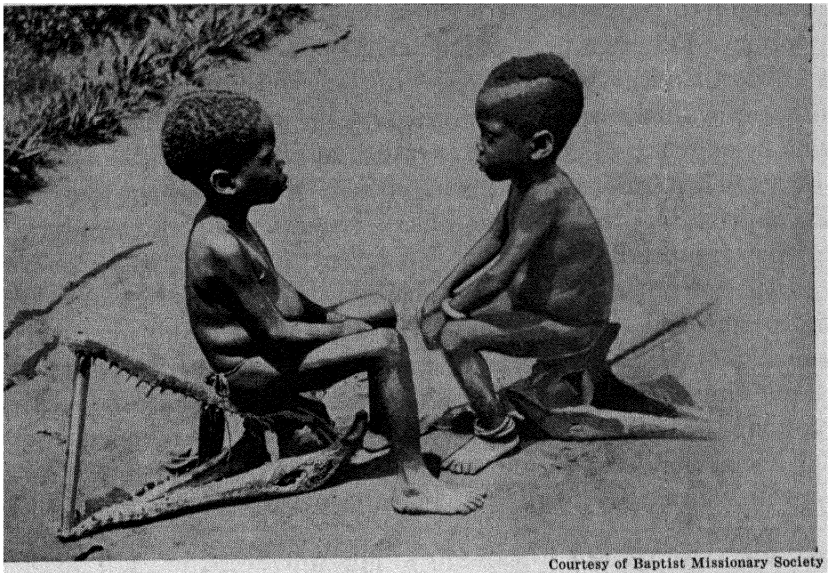
FIGURE 70 · *A group of Negroes in their Belgian Congo village*

Negroes are found in Africa, occupying part of the territory south of the Sahara and north of the Bantu groups, their nearest relatives. The Negroes are tall and powerfully built. It is from slaves brought to the United States from these tribes, especially the Sudanese, that most of the present-day Negroes of our country are descended.

The *Bantus* occupy central Africa as far north as the Sudan. Bantu is the linguistic family of the tribes in this district. The Bantu peoples may differ materially in physical features, showing relationships with the Pygmy neighbors of the central forests, with the Hottentots, or with the Negroes of West Africa.

The *Bushmen* and *Hottentots* live in the southwestern part of Africa and are a nomadic people of hunters and food-gatherers. The Hottentots are somewhat taller than the short Bushmen, but they are closely allied in racial characteristics and language.

The *Negritos* are almost always under five feet in height. Their skin is dark brown or black, and their hair is wooly. They have the flat nose and thick lips of the Negro. The Negritos are found largely



Courtesy of Baptist Missionary Society

FIGURE 71 · *These little Negrito boys are using crocodile skulls as seats*

in the Andaman Islands, the Malay Peninsula, certain of the Philippine Islands, and the interior of New Guinea. Their culture is very primitive.

Papuans and Melanesians. The typical Papuans are wooly-haired, long-headed, dark-skinned, and broad-nosed. They inhabit New Guinea and Melanesia, and their culture is varied. The Papuans are taller and have longer heads than the Melanesians, who are generally considered a mixture of Papuan and Malayan.

The *Australians* are aborigines of middle size. Their features suggest now the Negroid and now the Caucasian type.

A Summary. Race has long been a convenient method of grouping or classifying man. As the various races have intermingled and population groups have migrated from one part of the world to another, however, racial differences have tended to decrease in importance. As time goes on, it may be increasingly difficult to classify the peoples of the world according to distinct races. Students of racial groups have found that many racial characteristics are overlapping. For example, a broad nose is considered a characteristic of the Negroid race; and yet some Caucasians have been found to have broader noses than some Negroids. Racial differences have been

thought to be important because they can be seen, but their importance has often been exaggerated.

Most students of racial problems believe that the past history of the individual, his environment, and the cultural group to which he belongs are of greater importance than are his racial characteristics. Thus one may find greater differences between the individuals of a given race than between the individuals of different cultural or racial groups. Because cultural differences are less easily seen than racial differences, they are sometimes considered as being of less importance.

A knowledge of races, their predominant characteristics, and their similarities and differences will help to foster better relations among the nations of the world by bringing about an understanding of racial problems, by developing tolerance, and by helping to do away with racial prejudice. Each race has its own contribution to make.

QUESTIONS TO ANSWER

1. Why is it incorrect to say that all people who speak the same language are a distinct race?

2. Why is it incorrect to speak of people having the same religious beliefs as a distinct race?

3. What are the three principal races into which the peoples of the world may be divided? What are some of the characteristics of each race?

4. Do all the people of any one race have exactly the same characteristics? Explain your answer.

CHAPTER SEVEN · CULTURAL GROUPS

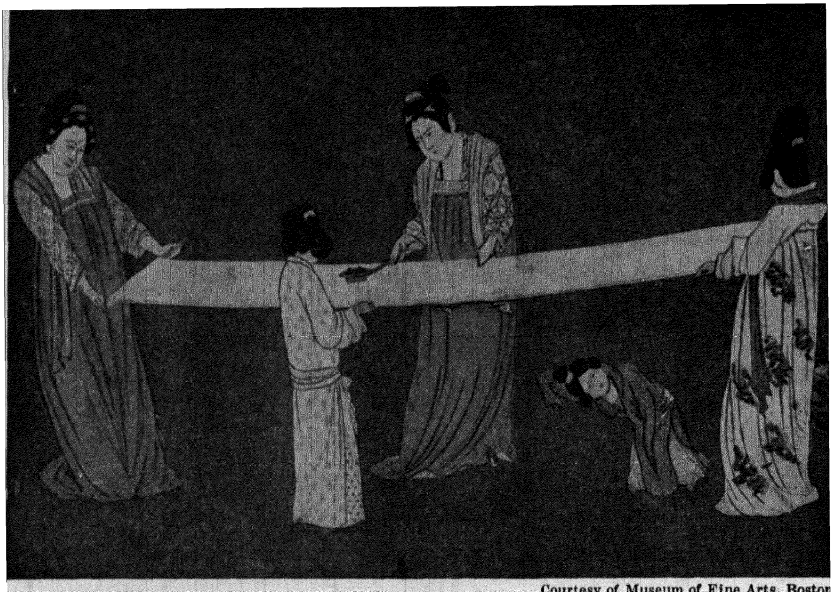
The story of civilization tells us what men have done to make a living, how they have governed themselves, what men have thought in religion, in philosophy, and in science from the earliest times. This process of civilization still continues. Ideas and customs differ according to people and place and time, but much of the old is always carried over into the new. Therefore, it will be worth our while to learn something of the development of the great civilizations, particularly the Oriental and the Occidental. To understand better what we are and to approach our future more intelligently we must know our own cultural heritage and the history of other cultures.

1. Oriental Civilization

The story of the civilization of the East is just as important and as interesting as that of the West, but we give it less emphasis because it is not the predominant influence in our culture.

Chinese Civilization. Many scholars believe that the ancestors of the Chinese came from central Asia and that they migrated into what we call China proper several thousand years ago. Evidences of a very early agricultural people have been found in the fertile valley of the Wei River, a tributary of the Hwang, and it seems likely that this valley was the cradle of Chinese civilization. As far as we know the early inhabitants of the Wei Valley knew little or nothing of other agricultural peoples in other parts of the world. They lived an isolated existence and made independent progress in the art of cultivating the soil. Their isolation provided the security which was needed for progress in civilization. The Chinese were excellent farmers and many of them were skilled artisans, Chinese weavers being the first in the world to make silk goods. The early Chinese scholars developed a distinct system of writing, and among them there were poets and historians of high rank. *See Figure 72.*

As the population expanded, Chinese civilization gradually spread eastward and southward and finally to Korea and Japan. Although the Japanese inherited much of their culture from China, they developed it along lines of their own. The Japanese made remarkable progress in other arts of civilization and succeeded in establishing a strong national government.



Courtesy of Museum of Fine Arts, Boston

FIGURE 72 · *A copy of an old Chinese painting showing women silk-workers*

The "Westernization" of the Orient. For many centuries both the Japanese and the Chinese lived in almost complete isolation from other parts of the world. They were content with their own civilization, and they felt that the rest of the world had nothing better, or even as good, to offer them. While the Western nations were making rapid headway in science and invention, these Oriental peoples continued to live and work in the ways of their forefathers.

But during the century before World War II great changes took place in the Orient. Modern means of transportation and communication brought the people of eastern Asia into close contact with the Western World. Western ideas, especially in the fields of business, industry, science, and education, rapidly modernized the old Oriental civilizations. The Japanese took the lead in this process of "Westernization," and between the beginning of the present century and the start of World War II developed into a powerful nation. They copied Western military ideas and began to use Western manufacturing methods. In order to provide work for the people of their

crowded country, the Japanese produced many goods for sale in Western markets. The Chinese were slower to adopt Western ideas, although they started some manufacturing in their eastern cities.

QUESTIONS TO ANSWER AND THINGS TO DO

1. What geographical reasons can you give for the fact that Oriental civilization spread eastward from China, rather than westward?

2. What are some of the arts developed by the Chinese?

3. Explain what is meant by the phrase "Westernization of the Orient." Give examples of this process.

2. *Some Early Civilizations in the Americas*

The Indians found by Christopher Columbus in the West Indies in 1492 were very primitive people. This was the cultural stage of nearly all the groups of Indians who were scattered over the two continents of America at that time. Their chief occupations were hunting, fishing, and the simple kind of farming which we call "hoe culture."

But in southern North America and in the Andean region of South America the Spanish conquerors found two remarkable Indian civilizations. One was the Aztec civilization in what is now Mexico. The other was the Inca civilization in Peru. Recent investigations carried on in Central America and Mexico have brought to light the remains of a much earlier Indian civilization, known as the Mayan civilization because the people who developed it were the Mayans.

The Ancient Mayans. The ancient Mayans lived in Guatemala and neighboring lands. The Mayans were an agricultural people, depending chiefly on corn, vegetables, and fruits which they produced. The volcanic soils were fertile and the climate was favorable for agriculture. Peace and security in their land gave them an opportunity to make remarkable advances in civilization. In time they built large cities and erected wonderful palaces, temples, and monuments. Their scholars developed the art of writing. Among these ancient Mayans there were mathematicians and astronomers of great ability. Their calendar was the most exact that any early civilization produced.

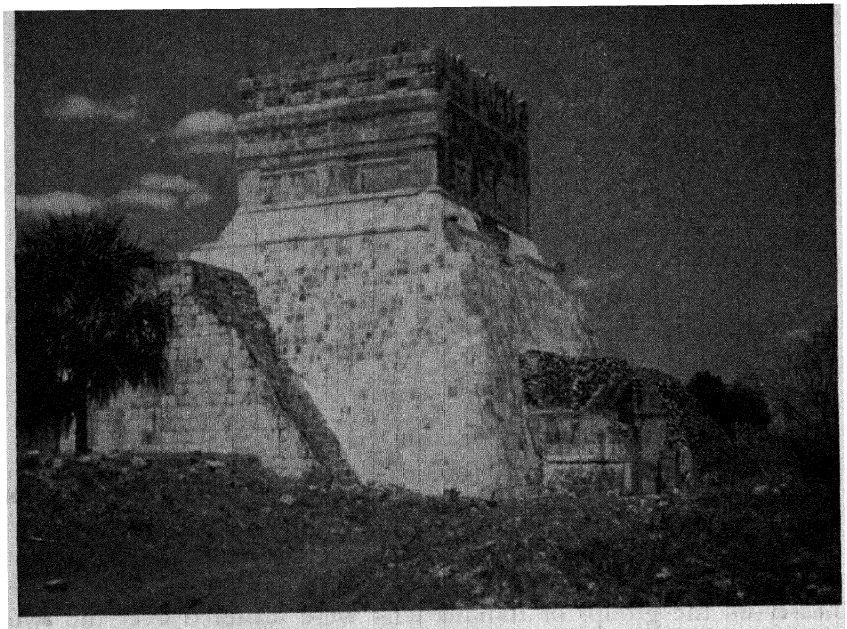


FIGURE 73 · *Ruins of a Mayan temple in the Yucatan Peninsula of Mexico*

The Mayan nation did not survive, but enough is known about it to prove that Central America was one of the early cradles of civilization.

Aztec Civilization. The agricultural nation of the Aztecs in the Valley of Mexico was one of the Indian tribes which owed much of their civilization to their inheritance from the ancient Mayans. Mayan ideas of art and astronomy had come down to them through the centuries, but neither in the arts nor the sciences did the Aztecs stand as high as the ancient Mayans. On the other hand, the Aztecs made much greater advances in government than the Mayans had ever made. Their system of government was carefully organized and strong. So, too, were their courts of justice and their army.

The Aztecs mined gold and silver in the Mexican Plateau and used those metals for making ornaments. It was the report of this wealth that led the Spaniards to enter Mexico and to conquer the Aztecs.

Pre-Incas and Incas. The civilization of the great Indian empire of the Incas in Peru was based largely on that of an earlier people

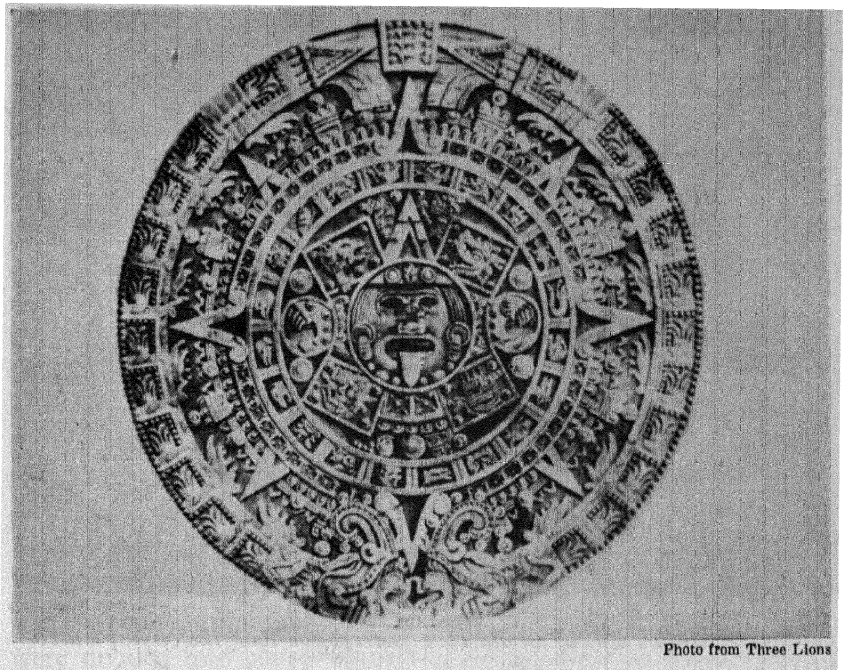


Photo from Three Lions

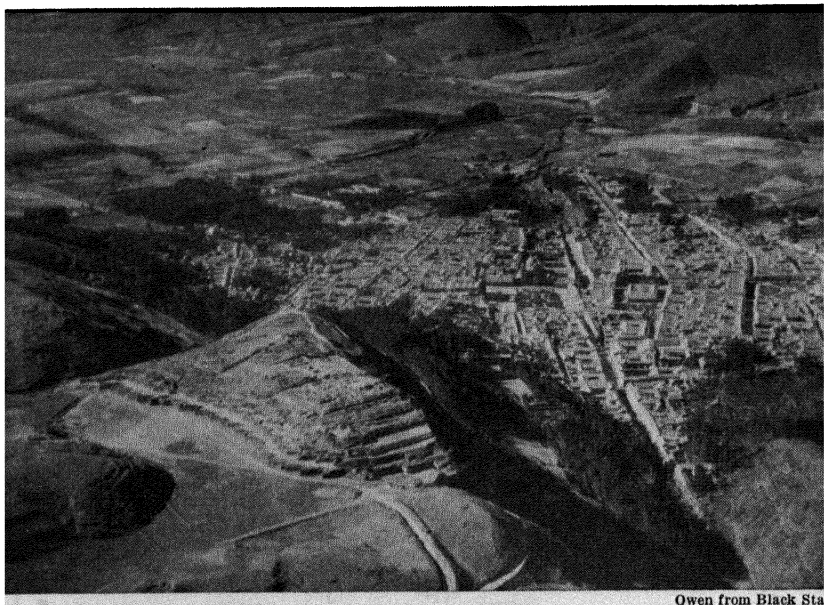
FIGURE 74 · *A calendar stone used by the Aztecs to keep a record of days, months, and years.* The stone was in front of their Temple of the Sun

whom we call the pre-Incas. The pre-Incas were scattered widely over what is now Peru, from the narrow coastal plain to the high valleys between the towering ranges of the Andes in the interior. The pre-Incas were an agricultural people, but they were also good builders and skilled artisans in metals, in pottery, and in weaving wool.

In some ways the Incas far surpassed these ancestors from whom they inherited much of their culture. One of the greatest achievements of the Incas was the building of roads which ran the entire length of the empire, about 1500 miles from north to south, with bridges, causeways, and stone paving in many places.

At Cusco, which was the Inca capital city, may be seen the remains of temples and palaces which reveal that the Incas were great builders. The walls are constructed of blocks of stone without the use of mortar of any kind. *See Figure 75.*

As with the Aztecs, Spanish conquest brought the Inca empire and its civilization to an end.



Owen from Black Sta

FIGURE 75 · *The ruins of an old Inca fortress overlook the city of Cusco*

What Remains of These Civilizations. With the coming of the Spanish conquerors, the great Indian empires were overthrown and never regained their former power or prestige.

In Mexico and Central America and Peru today there are groups of Indians who follow the example of their ancestors only in the simple agricultural pattern of their life or in the skill of some of the small crafts such as weaving and the making of silverware and jewelry. Some of them know little or nothing of the civilizations which their ancestors developed centuries ago.

QUESTIONS TO ANSWER AND THINGS TO DO

1. Before the year 1492 the Indians of the Americas had no idea that there were any other people in the world besides themselves. What reasons can you suggest for this fact?

2. In what kind of regions do the most primitive peoples of today live: in mountainous or forested areas? in the best farming or grazing lands?

3. Have you ever seen any representatives of primitive cultural groups? If so, describe them.

3. *Occidental Civilization*

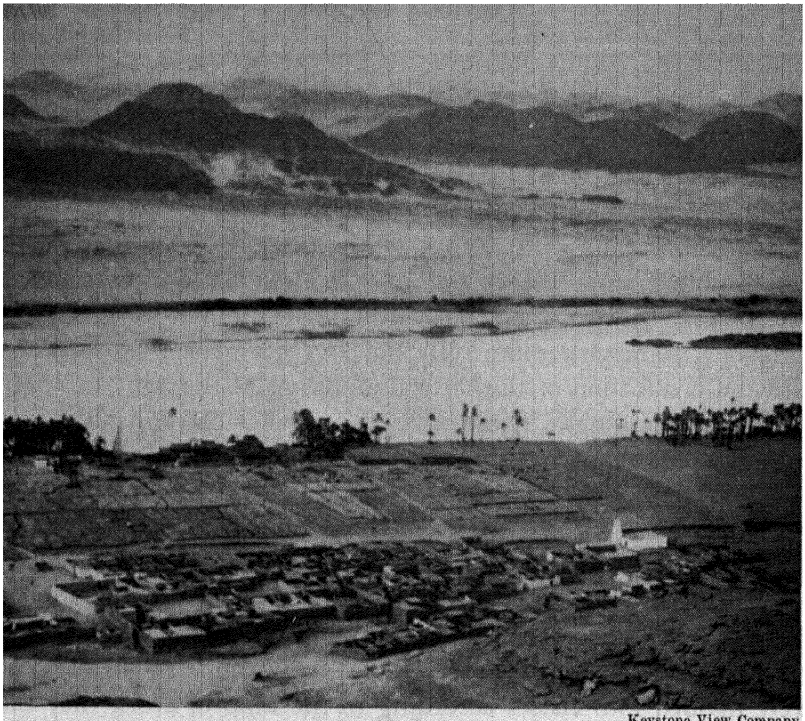
Occidental, or Western, civilization developed in the eastern part of the Mediterranean and spread northward and westward throughout Europe and in time to the New World. The modern civilizations in the Americas, in South Africa, and in Australia and New Zealand have resulted from the spread of European customs, ideas, and institutions. Because this is our cultural background, we shall want to trace it somewhat more fully than we have traced the story of Oriental civilization or the early civilizations of the Americas.

Early Beginnings. There were two cradles of civilization—the oasis of the Nile Valley in Egypt and the Fertile Crescent of the Tigris-Euphrates Valley in what was once Mesopotamia. From both centers ideas spread to the eastern shores of the Mediterranean and to the islands in the eastern part of that sea.

Civilization in the Nile Valley. The rich river valley which is the gift of the waters of the Nile gave to Egypt the agriculture which was the foundation of its prosperity and civilization. People of Egypt were divided into classes according to the kind of work they did, and farmers ranked high, as you would expect in an agricultural country. With an agriculture dependent upon the Nile, it was natural that Osiris, the god of the Nile, and Re, the sun god, should be the favorites among the many gods of the Egyptians. The Egyptians also were firm believers in immortality. *See Figure 76.*

In the protection of the valley of the Nile the Egyptians accomplished many remarkable things. They built beautiful palaces and temples which were richly decorated with painting and sculpture. The great pyramids which were the tombs of their Pharaohs, or kings, are proof of the mathematical and mechanical knowledge the Egyptians must have had, as well as their belief in immortality. The Egyptians also invented the art of writing, using papyrus for their paper. The calendar which their astronomers devised we still use with slight changes made by the Romans. The use of bronze was begun by the Egyptians, and this harder and more durable metal meant better tools and weapons. The Egyptians knew something about arithmetic and geometry and practiced medicine. Our debt to this early civilization is a great one.

Civilization of the Fertile Crescent. During this same period the Fertile Crescent of the Tigris-Euphrates Valley also provided a pro-



Keystone View Company

FIGURE 76 · *A stretch of the Nile Valley, where farming has been carried on for centuries*

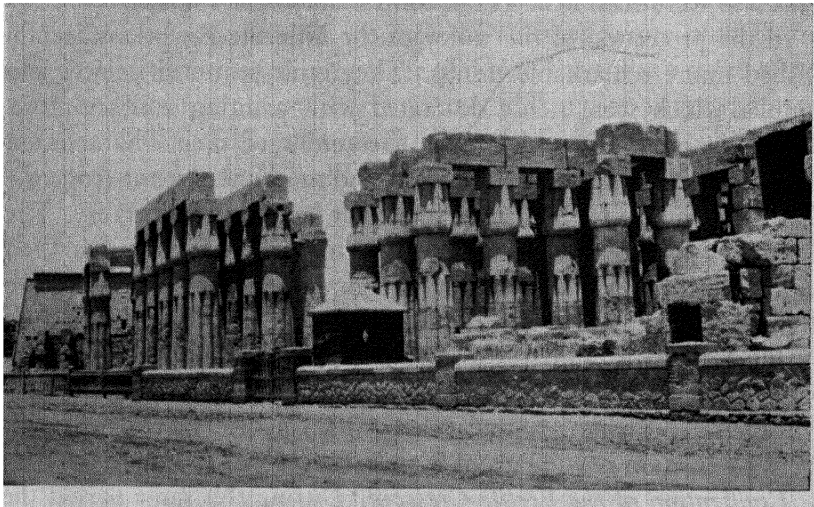


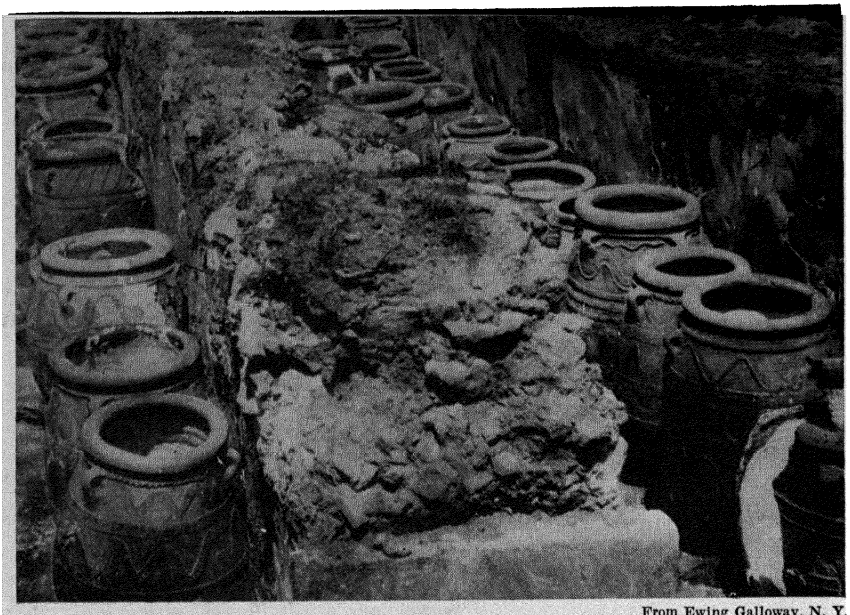
FIGURE 77 · *The ruins of a temple built by an ancient Egyptian king*

Metropolitan Museum of Art

FIGURE 78 · *The characters on these tablets of baked clay represent words of the language of the Babylonians*

tected land, favorable to agriculture, which permitted the development of an advanced civilization playing almost as important a part in laying the foundations of Occidental civilization as did the Egyptian civilization. First there were the Sumerians and then the Babylonians, and their achievements in practical affairs were many. The construction of large irrigation projects and great buildings of brick by both these peoples proved that they were well organized and had strong governments. They were the inventors of the wheel. From the Egyptians they obtained copper, and they also became skilled workers in other metals. Their scholars developed a system of writing made up of wedge-shaped signs called cuneiform, and their records were written on flat tablets of soft clay which were baked to harden and preserve them. The Babylonians also compiled a code of laws (called Hammurabi's Code after one of their greatest kings), which is the oldest known to man.

Other Mediterranean Civilizations. From 1500 B.C. on, other peoples in this region became civilized. The Phoenicians in their trading carried ideas to other peoples, but their greatest contribution was the alphabet. From the Hebrews came a new religion based on one god, while the Chaldeans and Egyptians laid the



From Ewing Galloway, N. Y.

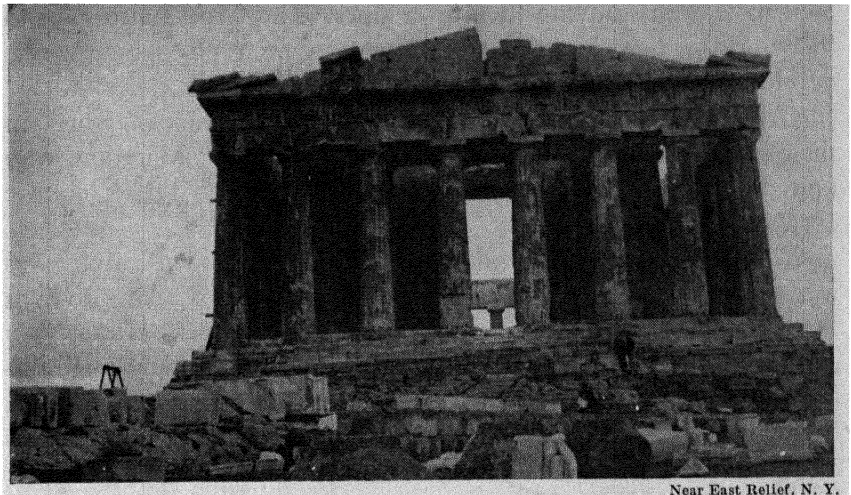
FIGURE 79 · *Ornamented clay jars for wine which were found in the ruins of an ancient Cretan palace*

foundations for the science of astronomy. From the Hittites the Assyrians learned to use iron, and their armies were the first large groups to use iron weapons.

Crete was also a center of civilization, advanced in engineering and architecture, in agriculture and industry, in transportation, and in the arts. In many ways Cretan craftsmen and artists outranked all others of their day. In painting they excelled all peoples of the ancient world. Their principal gift to us, however, was as a link to later civilizations. From the seafaring and trading nation of Crete the advanced ways of living spread to the whole Aegean region.

The Greek and Roman Cultures. The civilizations of the Greeks and the Romans flourished for a total of approximately 1500 years, beginning about 1000 B.C. with the Greeks, and greatly influenced the history of civilization in modern times. All later European peoples were to benefit from the joint effect of these two civilizations.

Greek Culture. The Greeks had a rich inheritance from all the Mediterranean civilizations—Egyptian, Babylonian, Phoenician, Cretan, and the others. During the thousand years preceding the



Near East Relief, N. Y.

FIGURE 80 · *The temple of the Parthenon, in Athens, has probably served as the model for more buildings than has any other public building in the world*

birth of Christ, they developed the highest civilization that was known in ancient times.

If you will look at a map of Greece, you will see that Greece is divided by mountains and sea into many small units. The Greeks were the first people to build a great civilization where a river valley was not the dominant factor. In spite of the separation caused by the geography, the Greeks were united by a common language and common religious beliefs and customs into thinking of themselves as one people. The alphabet was invented by the Phoenicians, you will remember, but it was modified and improved by the Greeks. The Greeks had a vast system of gods and goddesses who, they believed, lived on top of Mount Olympus and controlled their lives in many ways. Many of their beautiful temples were built to these deities.

The brilliant Greek civilization with its intellectual and artistic achievements contributed much to the world in literature, art, science, and philosophy. Socrates, Plato, and Aristotle started the people to think along new lines. There were outstanding writers in drama, history, and poetry. The modern theater is derived from the Greek. The architecture of the Greeks is still copied in many of our public buildings today. Their sculptors became the finest in the world and

men have been studying them ever since. The Greeks also gave to the world a new idea in government in their city-states, which developed a kind of democracy of free men.

Greek culture was spread around the Mediterranean world in their busy merchant ships. Alexander the Great, of Macedon, who united Greece and conquered western Asia, spread Greek culture even further.

Roman Culture. The civilization of the great Roman Empire was in reality a blend of both Greek and Roman genius. The Romans kept the intellectual and artistic culture of the Greeks whom they conquered. However, Roman temperament and character were different from the Greek, and we can expect the Roman contribution to civilization to be different. Roman achievements were in the arts of war and conquest, of government and diplomacy, and in the development and use of law. You will want to remember that many of the principles of law which they worked out so long ago hold today in the courts of the modern world.

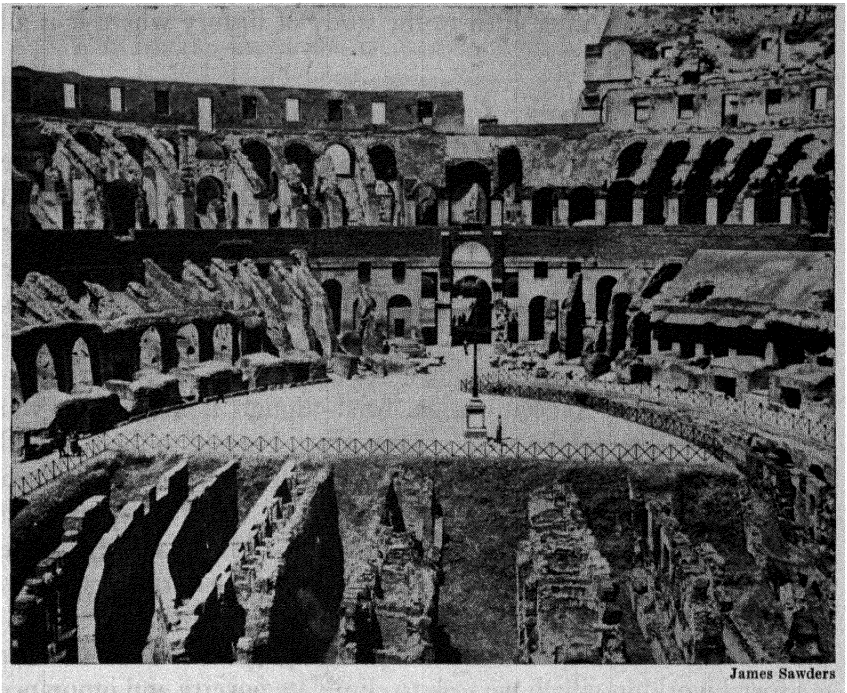
Rome gave us a heritage of a kind of democratic government in its early republic. The empire which followed the republic was also well-organized and showed the Roman talent for government and administration.

Roman builders developed the use of the arch and the dome, which are parts of our modern architecture. From the ancient Latin language have come our Romance languages of today, about which you will learn in Chapter Nine.

After Rome had conquered the world there followed a long period of peace which gave people time to learn better ways of living. And over the remarkable system of roads which engineers built to connect Rome with the outlying parts of the empire, the Roman legions carried the seeds of Mediterranean culture into every section of Europe which they occupied.

To the Romans Christianity owes a great debt, for with the tolerance and peace and communications of the later Roman Empire, it was possible for Christianity to spread to the corners of the empire.

The Middle Ages. The Roman Empire began to crack as wealth and power corrupted the people, and its lands were overrun by tribes of barbarians from northern Europe and Asia. There followed a time of semibarbarism when political confusion, poverty, and ignorance existed. It was largely through the work of the Christian



James Sawders

FIGURE 81 · *The ruins of the Colosseum in Rome.* This amphitheater was built by a Roman emperor as a place for holding public games and contests

church in preserving learning and some unity that western Europe did not break up into separate regions, each developing a distinct culture. Then in the fourteenth and fifteenth centuries there began a revival of economic prosperity, of political organization, and even more of learning, literature, science, and philosophy. Universities grew, and not only were the old knowledge and ideas rediscovered but there were new discoveries and inventions. The art of printing was invented and knowledge was given the means of spreading rapidly. In art and building we often copy the artists, sculptors, and architects of this period which is sometimes called the Renaissance, which means "rebirth."

The Modern World. The modern world begins with Columbus and the Age of Discovery. Unknown parts of the world were opened up and European civilization was brought to the Americas as the explorers and later the settlers came with their ideas, their customs, and their institutions. For the detailed story of civilization in our

modern world you must turn to the study of history where it is all recorded.

Summary. In addition to the civilizations of the Occident and the Orient about which you have just studied, there are other cultural groups in existence today which do not represent civilization as we think of it but which include millions of people. The ways and customs of these groups are much more primitive than any we have studied. The Indians, Eskimos, and the people of the Negroid race in Africa all live much as their ancestors have done for centuries. On the various islands of the Pacific are thousands of primitive people.

With this study of civilization, brief though it had to be, you should have some appreciation of how much is owed to the past and also how cultures may differ. Ours is not the only culture. Each culture has its merits and its defects. It is our opportunity to learn by comparison and to achieve tolerance by this knowledge. We have inherited much from the past, a gift without effort on our part. The foundation has been completed for us by the past. Our civilization today is being made by all lands and all peoples, and our frontier is a social world in which we seek to eliminate poverty and ignorance and injustice.

QUESTIONS TO ANSWER AND THINGS TO DO

1. There is a saying that "Egypt is the Nile and the Nile is Egypt." What does this mean?

2. What natural barriers gave protection to the early Egyptians in the Nile Valley?

3. In what ways are the Nile Valley and the Tigris-Euphrates Valley alike? How did they offer opportunities for the development of early civilizations?

4. Why was the invention of an alphabet a great step forward in civilization?

5. What arts which we enjoy today can be traced back to the ancient Greeks?

6. What did the Romans gain by their conquest of the Greeks?

7. What do you think are our greatest debts to Roman civilization? Why do you consider these important?

8. Why has the Occidental civilization spread so much more widely over the earth than the Oriental civilization?

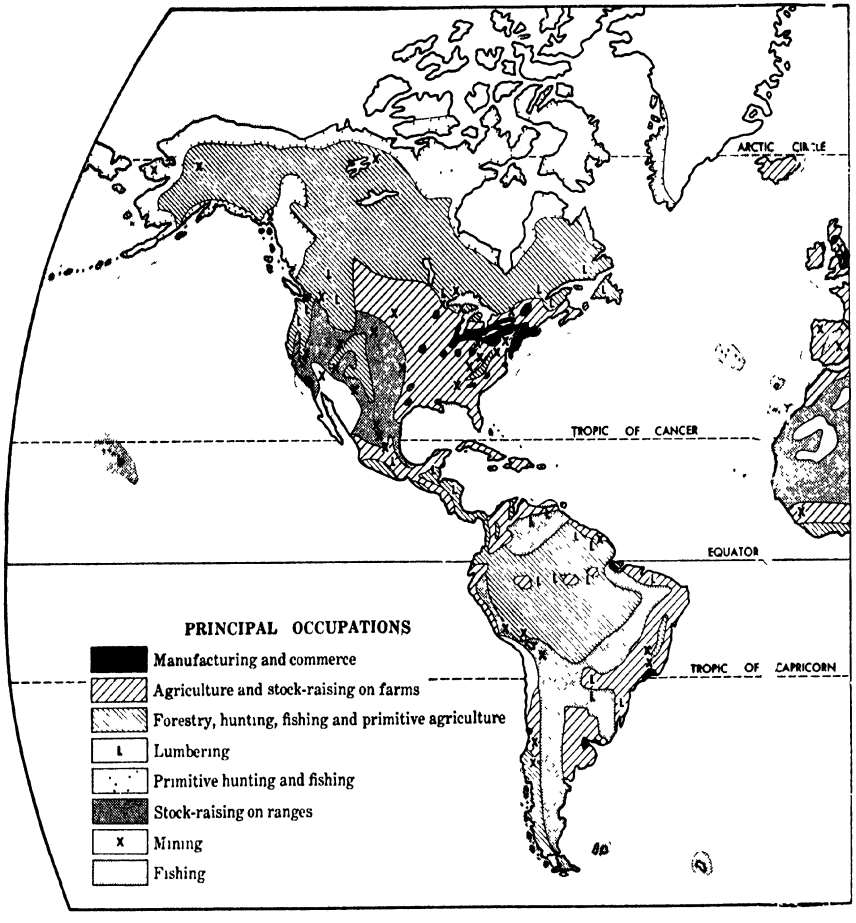
9. Have the stronger civilizations of the world developed in regions having extremes in climate or in regions having a favorable climate?

10. Why should climate have any influence on the development of the stronger, more dominant civilizations?

11. Does the mixing of people having different cultural standards cause any difficulties in the social or political life of a people or nation?

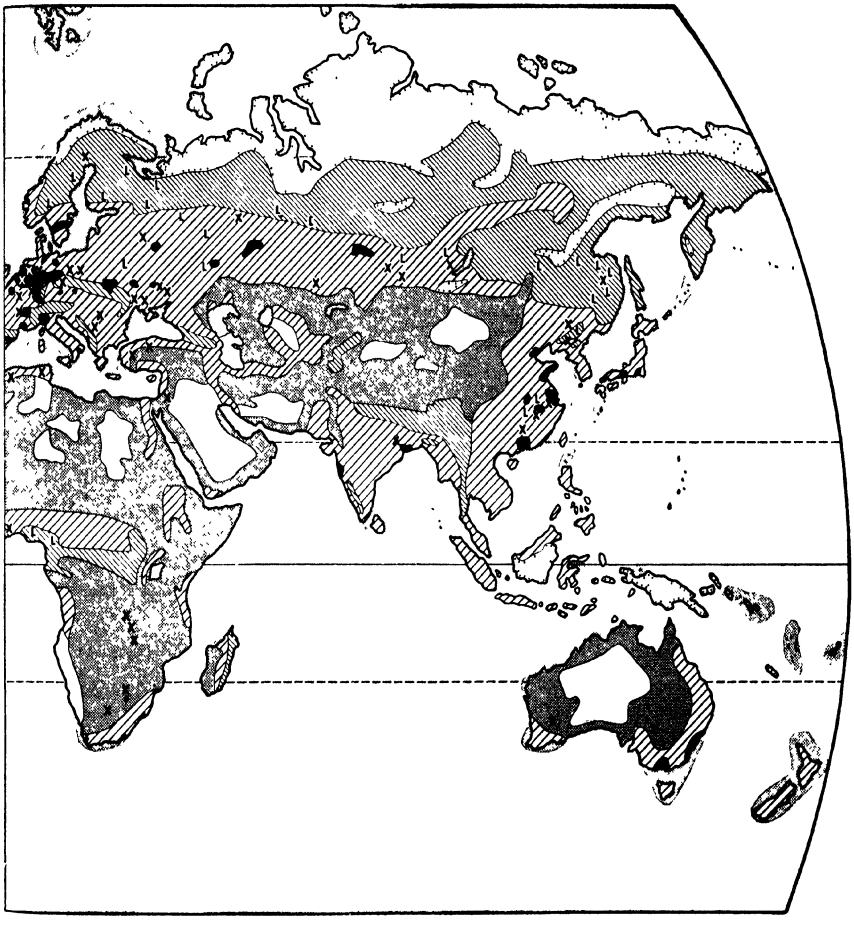
CHAPTER EIGHT · ECONOMIC GROUPS

In looking over the world of today we find that it is possible to classify the people not only by races or language groups but also by

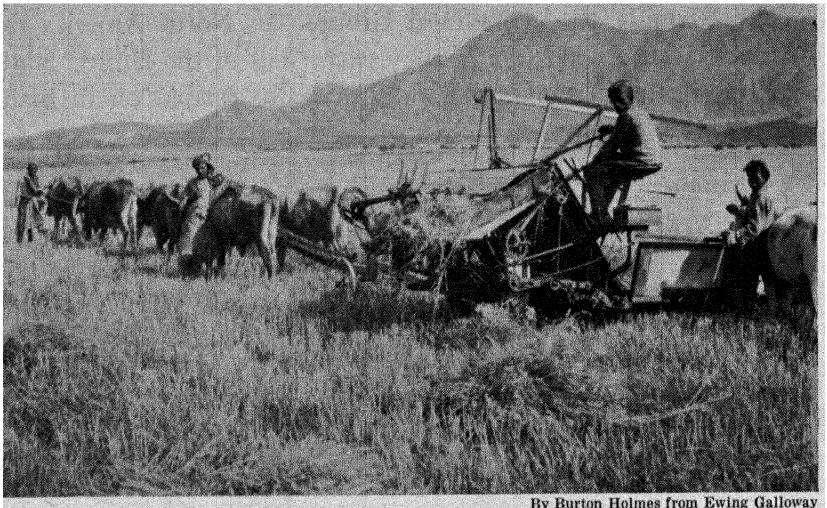


their activities or occupations. The map on this and the opposite page will be very helpful to you in connection with this study. Throughout this section try to gain an understanding of the reasons why there is such a variety of occupations in the different regions of the world. Why are some areas on the map left blank? It is well to remember in studying such a map that the shading of a certain area on the map indicates the predominant or most important occupation in that area. It is the occupation in which most of the people are engaged but not necessarily the only occupation.

The Farming or Agricultural Groups. In North America the chief agricultural lands are in the eastern half of the United States and in southern Canada. Agriculture is also carried on in many

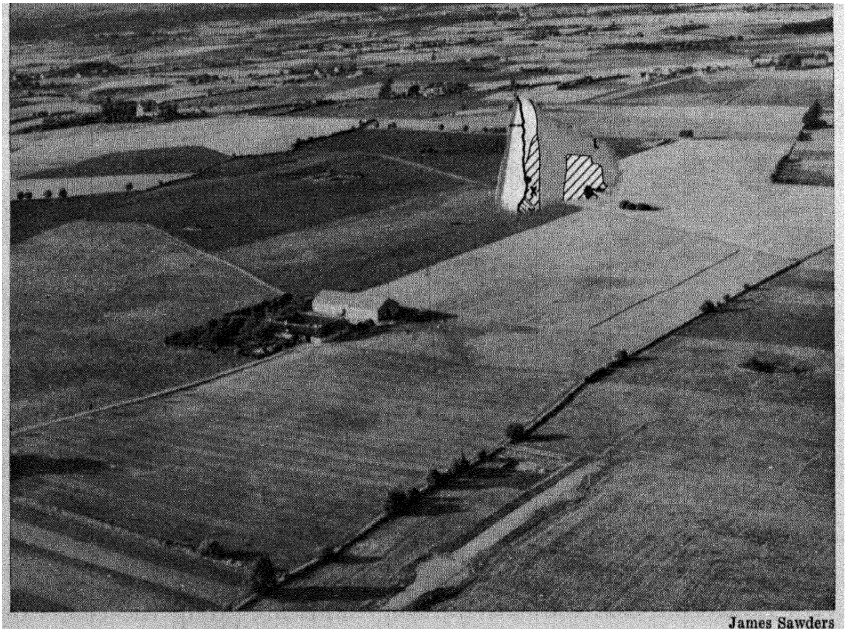


parts of the West. With the rich soils of that region, irrigation has extended the agricultural areas. In Middle America, which includes Mexico, Central America, and the islands of the West Indies, there is a great deal of good farming land, particularly along the coasts and on the lower slopes of the mountains. In South America it is very noticeable that the best farming lands are along the coasts of the continent, extending a few hundred miles inland. These agricultural lands are not so extensive as those of North America, Europe, or Asia. In Australia the best farm lands are along the eastern and



By Burton Holmes from Ewing Galloway

FIGURE 82 · *Harvesting wheat on a narrow, fertile strip of lowland along the coast of northern Africa*



James Sawders

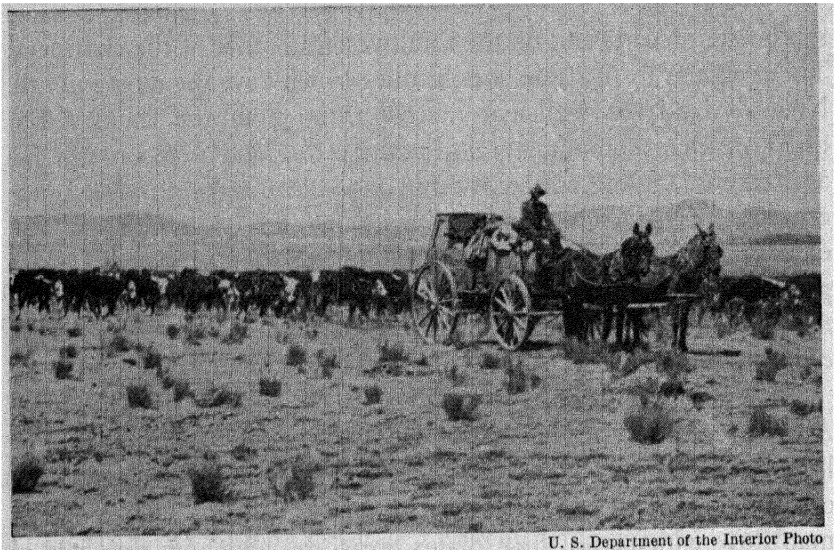
FIGURE 83 · *Cultivated fields stretch in all directions in the small lowland country of Denmark*

southeastern coasts and on the southwestern corner of the continent. These regions in Australia are the ones which have the most rainfall. New Zealand has sufficient rainfall throughout the country, but there are many mountain ranges where the land is too rough for agriculture. In Africa there is some good farming land in the southern part of the continent and in another area just north of the equator. There are a few small coastal areas in Africa which are good farm lands, and the Nile Valley is a very important farming region, where irrigation and the yearly floods of the river have made crop production possible.

In Eurasia the farm lands are even more extensive than in North America. There are great expanses of lowland plains in this huge land mass which have the good soils, dependable rainfall, and many other conditions needed for carrying on agriculture. Notice on the map how widespread these plains areas are, and how this belt of farm land extends eastward across Asia into the land known as Siberia. Then there are important areas of land in southeastern Asia. These are often referred to as the monsoon lands, where there are heavy rains during the summer season when the winds blow inland from the sea. Since summer is the growing season, crops can be produced there which help to support the millions of people who live in the countries of southeastern Asia. However, floods and droughts with resulting famine do occur. More than half the people in the world live in these monsoon lands.

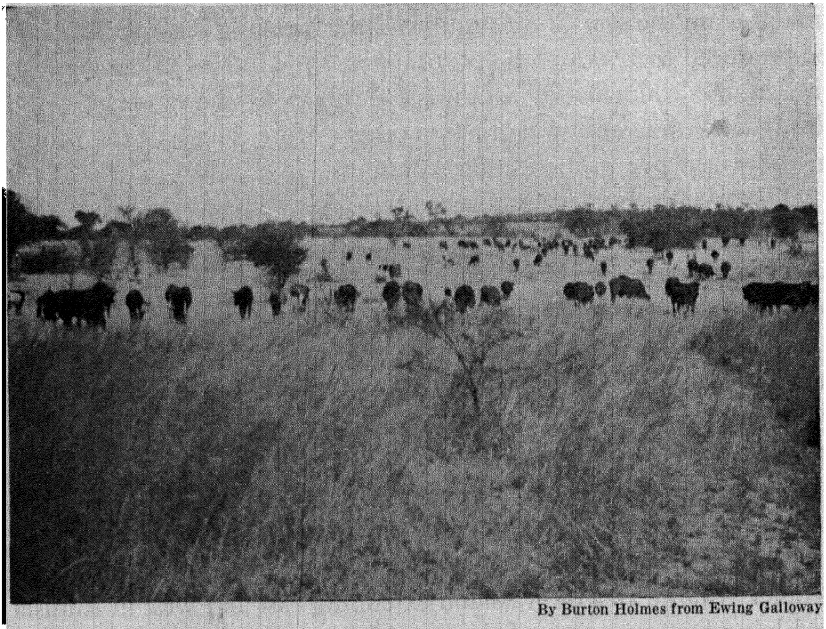
The islands bordering southeastern Asia, including Japan, the Philippines, Indonesia, and the neighboring islands, are well populated and some are even densely populated. Vast quantities of food can be raised on these islands, for the soils are productive and the climate is warm and rainy. On the whole, the most extensive good farm lands, and therefore the largest groups of people who make their living by agriculture, are in the Northern Hemisphere.

Pastoral People. Stock raising has long been one of the chief occupations of people on this earth. Throughout a large part of the lands in North America stock raising is the chief occupation of the people. A large area of grassland extending east and west in Eurasia and lying between some of the great farming land areas is used for the grazing of livestock. The grasslands in Australia, South America, and Africa provide extensive pasture lands for cattle, sheep, goats,



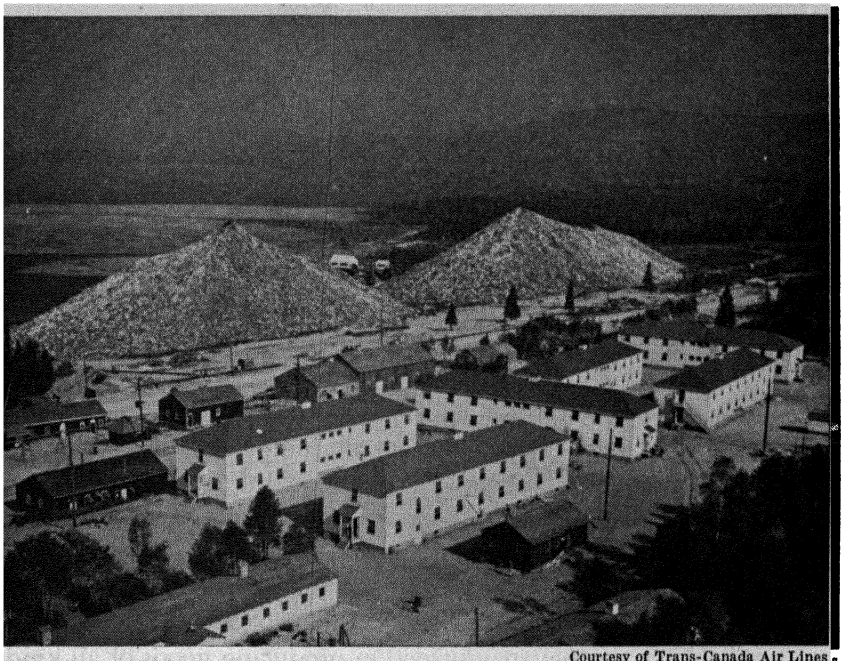
U. S. Department of the Interior Photo

FIGURE 84 · *A cattle drive in the Great Plains of the United States.* The cattle are returning from their summer pasture to the home ranch



By Burton Holmes from Ewing Galloway

FIGURE 85 · *A herd of cattle grazing on the high grasslands of Southern Rhodesia, in Africa*



Courtesy of Trans-Canada Air Lines

FIGURE 86 · *The raw material for this pulp plant in Ontario is furnished by the forests of that province*

or camels. In some of those regions, especially South Africa, there are large herds of wild animals grazing on the natural grasslands.

Our map does not show the pasture lands of the Far North in North America and Eurasia, but it is well to remember that in those Far Northern lands the Eskimos, the native tribes of Siberia, and the people of Lapland have large herds of reindeer and hunt animals called caribou, which are very much like reindeer.

Forestry Groups. In many parts of the world there are groups of people who make their living in the forests. Some are primitive peoples who hunt and fish. Others collect furs. In some forested regions the people have cleared away small areas of land where they can carry on a little farming.

Think of the many uses for wood in our modern world. Wood is needed for construction purposes, for pulp to make paper, for furniture and many other things. Lumbering is a well-organized business from logging camps to paper mills, lumber mills, and wood-working industries.

There are extensive forests in Canada, in the Russian part of Eurasia, and in Finland, Sweden, Norway, and in western and southeastern United States, where lumbering and other forest industries are carried on. North America and Europe together furnish 80 per cent of all the timber cut in the world.

In the Southern Hemisphere the most extensive forests are in the Amazon Valley lowland and in the basin of the Congo River. In these two regions the native inhabitants live chiefly in primitive ways. Lumbering is not important in tropical forests because it is difficult to get the trees out and the hardness of tropical wood makes it unsuitable for general purposes.

Manufacturing Groups. The areas occupied by the great industrial centers of the world are small in comparison with the areas used for farms, forests, or pastures. One of the two largest regions where people are engaged in manufacturing is in eastern United States and the adjoining part of Canada. The other region includes western Europe and a large part of the British Isles. In those industrial districts almost every city, town, or village has factories and mills where people are engaged in producing goods of all kinds. There are even factories in rural areas between the large cities. The smaller manufacturing areas shown on the map are usually in or near important cities. You will find several such areas in Japan, others in China, and a few in India. There are a great many cities scattered throughout the United States where modern manufacturing is done. The two large cities of Sydney and Melbourne, in Australia, are also important for manufacturing. There are no large manufacturing centers in Africa, but there are four or five in South America. In Rio de Janeiro, São Paulo, Montevideo, Buenos Aires, and Valparaiso many people are engaged in manufacturing industries of various kinds. Lands in the Southern Hemisphere have for a long time been great producers of raw materials for manufacture. They have sent wool and hides to countries in the north where manufacturing is more developed. It is only within recent years that manufacturing industries have been established in Australia, South America, and South Africa.

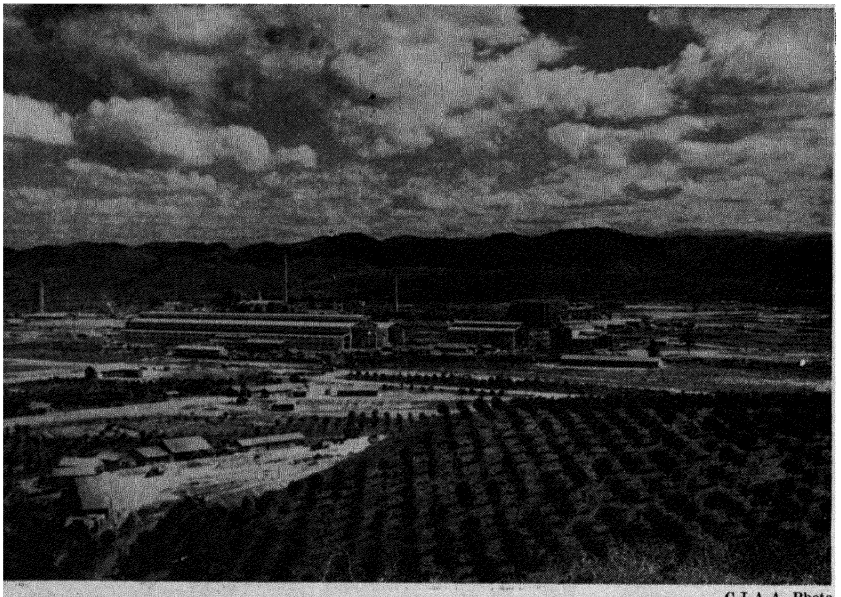
Fishery Groups. The greatest commercial fishing regions in the world are in the oceans of the Northern Hemisphere. The map brings this fact out very clearly. These fishing regions are along the shores of the North Pacific and the North Atlantic oceans. They are

British Columbia Government Travel Bureau, Victoria, B. C.

FIGURE 87 · *Sorting salmon in a Pacific coast cannery.* The greatest salmon fisheries of the world are between San Francisco and the mouth of the Yukon River

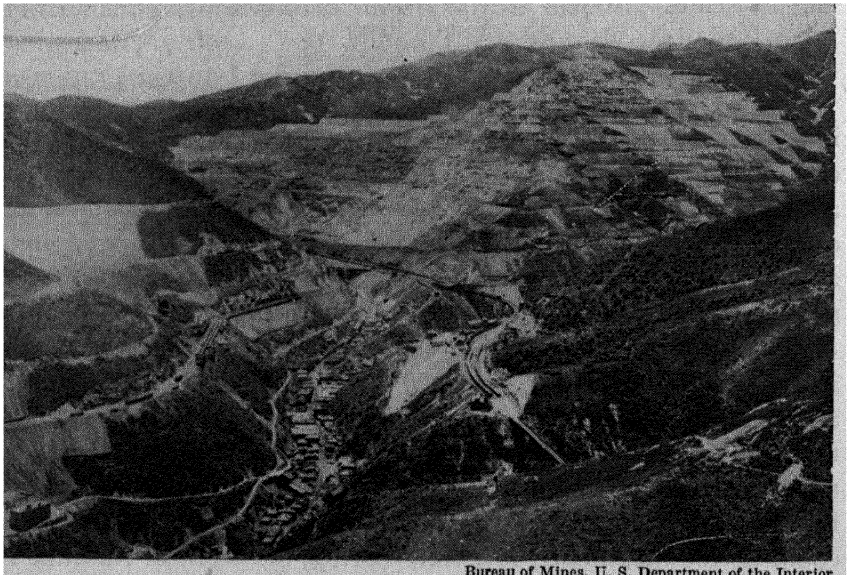
in regions of cold sea waters which are not very deep. The next best ocean fishing grounds are far south of the equator, where the waters are rather cold. The flesh of cold-water fish is more suitable for eating than that of warm-water fish. However, many fish are caught and are used as food in the warmer waters near the equator by the natives of the neighboring countries and islands.

Mining and Quarrying Groups. There are thousands of people all over the world who are grouped together in mining communities and in places where the quarrying of minerals is the chief occupation. These occupations cannot all be shown well on a map, but in thinking of the various economic groups we must remember the important work which these people do. The great industrial plants could not be maintained if it were not for the work of the miners, and a great deal of construction work depends in large part upon the work of the quarriers. *See Figures 88 and 89.*



C.I.A.A. Photo

FIGURE 88 · *This huge steel plant in Brazil has been built near large iron-ore deposits*



Bureau of Mines, U. S. Department of the Interior

FIGURE 89 · *The mining community of Bingham, Utah, is the center of an important copper-producing region*

Storekeepers and Transportation Workers. As you can imagine, it would be impossible to show the location of these economic groups on a map, for they are widespread throughout the world. Almost every little community has a storekeeper, and as the size of the community increases, the number and variety of stores increase. Before there were stores in such large numbers, there were traders who traveled with their wares in packs on their backs, or in horse-drawn carts. You will remember how the traders of ancient times had camel caravans which went to and from India, trading in silk and spices. There were also ships which sailed to many ports in the Mediterranean Sea exchanging products of various kinds. Much of the exploration in the world was started and given an impetus by trade and the desire of people for goods which they themselves could not produce, but which were produced in other parts of the world.

Today, instead of having traders go forth in ships and carts to bring back goods to sell at home, there are large companies which specialize in certain types of goods. They may have fleets of ships and many motor trucks in which goods are transported. Freight trains carry many products from one part of a country to another, from the producer to the storekeeper, who, in turn, sells the goods to the consumer. To carry on this kind of modern enterprise, many people are needed: the men who drive the trucks, the sailors who man the ships, the stevedores who load and unload the ships, the engineers and other workers aboard the freight trains, and a great many others. The storekeepers themselves, with their clerks and helpers, are the final linking in the long chain of workers who bring goods to the markets. Naturally, in the more highly civilized regions of the world we find the larger cities, with a greater variety of shops and stores. In these more densely populated areas you would, of course, expect to find larger numbers of these economic groups than in the smaller communities.

Professional Groups. A great many people make a living or provide for their economic needs by giving professional services. Under this classification come doctors, lawyers, clergymen of all religious orders, teachers, scientists, and others. Especially where civilization is more advanced do we find large numbers of these groups, as their services are much in demand among people who have a high culture and high educational standards.

Public Officers. There are other groups of people who meet their economic needs by providing services for the local community or for a nation. There is no progressive community in the civilized countries of the world which does not have some public officers such as policemen, firemen, judges, and various court officers. In such communities there are usually some institutions which are maintained by the public, such as hospitals, homes for the blind, the mentally ill, or the aged. There are many state officers in charge of conservation of forests and wild life, and of sanitation and public health. Hundreds of thousands of people are employed in public services.

Summary. By studying the map and this text you can readily decide which are the largest economic groups. Farming, stock raising or grazing, and forestry activities cover the largest areas. But are they the most important economies? Agriculture is extremely important, for without it our food supply would be cut drastically. However, manufacturing, even though concentrated in small areas, is extremely important to our modern world, in which we depend largely on goods produced by others. Many of these economies are dependent in some way on other economies, as, for example, manufacturing depends upon mining, grazing, and agriculture. See how many of these occupations you can tie up with one another in this way.

QUESTIONS TO ANSWER AND THINGS TO DO

1. What are the predominant economic groups in your home region? Try to find out in which occupations most of the people are engaged in your own community. If you are in a large city, that will be difficult, but you can at least list some of the different groups that are represented in your city. You may be surprised to find that there are so many ways in which people provide for their economic needs.

2. Can you think of any portion of the world where there would be no positions for professional people to hold? Explain your answer.

3. Are there any portions of the world where there would be no need of builders such as carpenters or plumbers?

4. Where in this world would lawyers, ministers, and doctors find it difficult to make a living?

5. Are there any regions where there would be no positions for teachers or scientists?

6. In what sections of the world are there no agricultural lands?

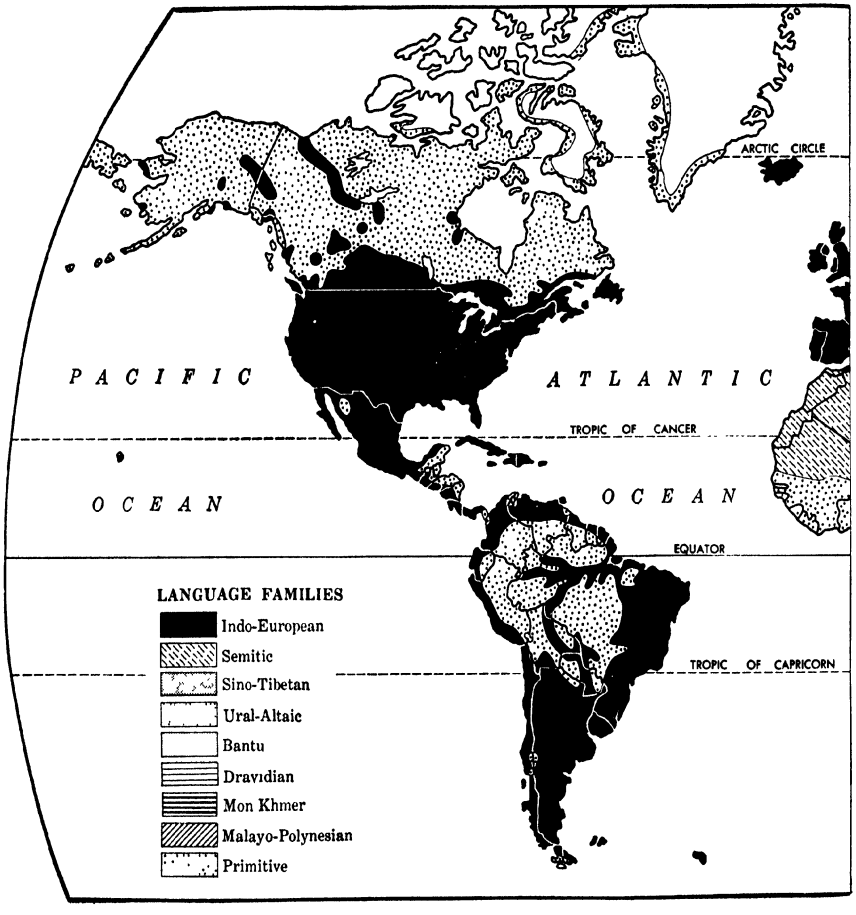
7. What is meant by a pastoral people? What areas of the world are extensively used as pastoral areas?

8. Where do people live in the most primitive ways?

9. Where are some of the great industrial centers of the world?

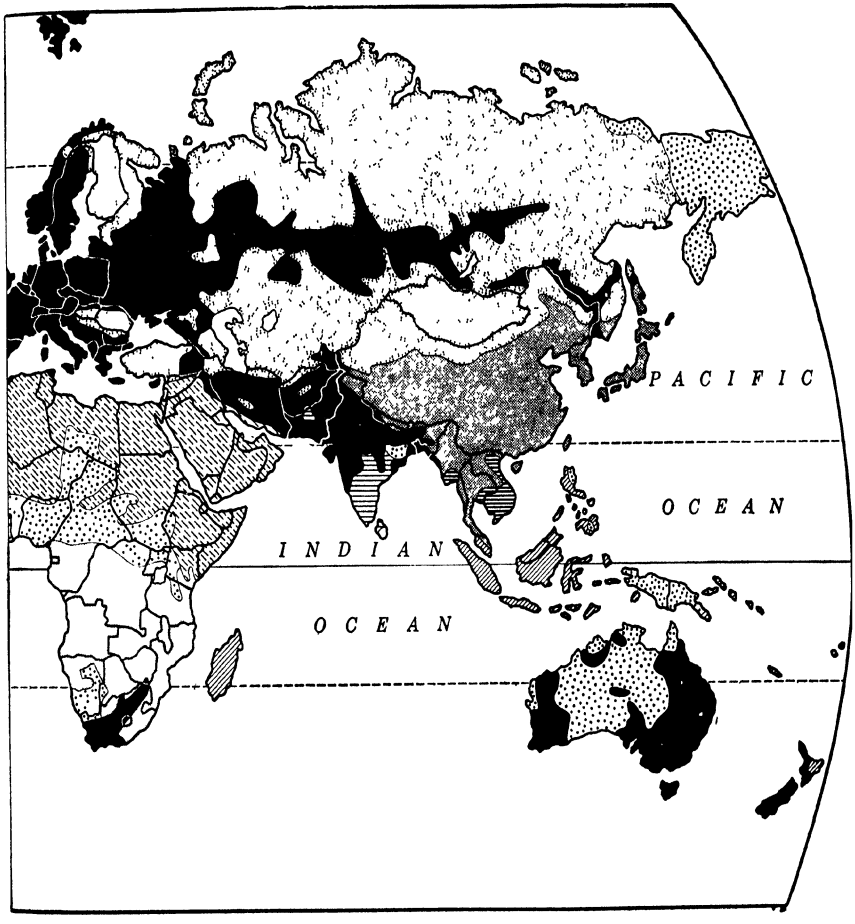
10. Where are the best fishing waters found?

A World of Many Languages. Differences in language have long been a barrier to understanding among peoples. There are at least



thirty separate and distinct languages in use in the world, as well as hundreds of dialects. Dialects, which are local forms of a language, tend to develop among groups of people as the result of years of isolation from other groups or as the result of migration to a different part of the world. In China there are at least a hundred dialects in use, each one of which is difficult, if not impossible, for anyone speaking one of the others to understand. In India more than one hundred and fifty different dialects are spoken. Each Negro tribe in Africa and each Indian tribe in the Americas speaks a lan-

guage which is somewhat different from that spoken by any other tribe. The island people of the Pacific, long isolated from the rest



of the world, developed a language peculiar to their islands, which differs greatly from any other language.

It is clear that we cannot take up the study of all the dialects or even all the languages of the world. But we can consider briefly the large family groups of the languages which seem to be the most commonly used throughout the world today.

Indo-European Languages. Perhaps the most important of the language family groups is the Indo-European, which covers a great, almost solid territory extending from India to Iceland and much of

the Americas. The principal divisions of the Indo-European languages are: English, Romance, German, Slavic, and the Scandinavian.

The English Language. English is most important to us because it is the language we speak. As you know, its home is England, and it became the common language of the United States because such a large percentage of the people who first settled our country were of English descent. It is also the language of much of the populated part of Canada and of many other parts of the British Commonwealth. Because the British and the Americans have long been seafaring and trading peoples, English is spoken in almost every seaport in the world, or at least is known as a "second" language. Its use became even more widespread during World War II and will undoubtedly become more extensive. English is becoming increasingly favored as a diplomatic language and it shares equally with French as the working language of the United Nations.

The Romance Languages. In your study of cultural groups in Chapter Seven, you learned that all the so-called Romance languages developed from Latin as it was spoken by the common people throughout the far-flung Roman Empire. These languages include French, Italian, Spanish, and Portuguese. They are not only the languages spoken by the people of these nations along the northern shores of the Mediterranean, but they are also spoken in many other parts of the world.

Because of Spanish colonization in the New World several centuries ago, today Spanish is the language of the people of a considerable part of Central and South America as well as of many islands in the West Indies.

Portuguese, besides being the language of Portugal, is also the language of some of the present-day Portuguese possessions in Africa and Asia. The only Portuguese-speaking country in the Americas is Brazil, which was settled by the Portuguese in the fifteenth century.

French has long been considered a cultured language and is used extensively by statesmen and diplomats. It came into fashion as the correct language for carrying on international affairs because it was highly standardized at an early date. The real home of the French language is France, but in many of the French colonies the language is spoken by the greater part of the people. In the province of Quebec in Canada a large part of the population whose ancestors were French still speak that language.

The German Language. Millions of people in Germany and other parts of Central Europe speak the German language. German has become important as a scientific language. Students who must be well acquainted in certain special fields of learning often acquire a reading knowledge of the language in order to be able to read important scientific books and articles written in German.

The Slavic Languages. Of this group the Russian language has gained increasing attention because of the attempts of the Soviet Union to dominate world affairs. Other Slavic languages include Polish, Czech, Slovene, and Bulgarian.

The Scandinavian Languages. Swedish, Norwegian, Danish, and Icelandic are the mother tongues of millions of people in northwestern Europe and Iceland. Because of the great similarity among these languages, mutual understanding is easy.

Semitic Languages. Three thousand or four thousand years ago Semitic languages were spoken over a vast stretch of territory from Mesopotamia on the east and westward across North Africa. Today, however, Arabic and Hebrew are the chief Semitic languages. Arabic is the principal language spoken in Ethiopia, Arabia, and other places near the east end of the Mediterranean. In Israel and neighboring lands, Hebrew, the language of the Jews, is spoken.

Sino-Tibetan Languages. These languages, including Chinese, Burmese, Tibetan, and Siamese, are often called the one-syllable languages. Although these languages have vocabularies which differ a great deal among themselves, they all are built of words of only one syllable.

The Ural-Altaic Languages. The languages of the Ural-Altaic family are spoken in much of northern Europe and over a vast sparsely-populated expanse of northern and central Asia, as you can see from the map. This family includes such languages as Magyar, which is spoken in Hungary, Estonian, Finnish, Lappish, Turkish, and Mongol as well as many languages of the minority groups in northern Siberia.

The Bantu Languages. You will remember that it was possible to classify as Bantu one of the main subdivisions of the Negroid race. The greater part of Africa south of the equator has but one linguistic family which has been designated as Bantu.

Other Language Families. Other language families are Dravidian, which includes the most important non-Indo-European languages of

India; Mon Khmer, which is spoken in Indochina and southern Burma; Malayo-Polynesian; and the primitive languages which exist for the most part in the sparsely settled areas of the earth in the Far North or in the very hot regions where there has been little outside influence on the people and their culture.

Language and Culture. There is a close connection between the various languages and the various types of culture, or civilization, in the world. The people of each nation are naturally proud of their language and their achievements in literature. We therefore find that the chief language groups of the world correspond fairly closely to the cultural groups which we studied in an earlier chapter.

QUESTIONS TO ANSWER

1. Why are many different languages and even more dialects in use throughout the world?

2. Why do people favor one particular language?

3. Why is English commonly spoken in the great seaports of the world?

4. A knowledge of which two languages would be most helpful to travelers in Middle and South America?

5. A knowledge of which two languages would be most helpful to travelers in Central Europe?

6. What are the Romance languages? Where are they spoken?

7. Why do some students choose to study the German language?

8. Many linguists want an international language developed. Do you think such a language would be desirable? Why?

CHAPTER TEN · RELIGIOUS GROUPINGS

When we try to take a world point of view on the various religions that are represented in the different countries, we face a difficult problem. On the map of religions on pages 148–149, the major religious groupings are Roman Catholicism, Eastern Orthodox, Protestantism, Confucianism, Buddhism and Shinto, Hinduism, Islam, and tribal religions. There are numerous subdivisions which could not be shown. If small differences had been recognized, more than 100 religions would have been placed on the map. In this chapter the subdivisions, as well as the major religions, will be discussed in an attempt to give a comprehensive picture of the faiths of the world.

In a general way religious beliefs may be classified as either Christian or non-Christian. The Christian religions are made up of people who believe in the teachings of Jesus Christ. The non-Christians believe in the teachings of some other spiritual leader. During our study of the various religions we should try to find out to what extent having the same religion binds people together, or how differences in religion keep people in their own particular cultural groups, rather than mingling with the people of other religions.

The Christian Religions. The Roman Catholic religion is one of the important Christian religions. Its headquarters are in Rome in Vatican City, where the Pope resides. This church is widely represented in the Western World, as well as in central and southwestern Europe. The Eastern Orthodox Catholic Church is predominant in Russia, Greece, Albania, Bulgaria, and Armenia, and extends in a wide zone through southern Siberia, as you can see from the map. This church differs from the Roman Catholic Church in that it does not acknowledge the supremacy of the Pope at Rome, and that its services and beliefs differ.

Protestantism, another form of Christianity, has spread widely in northwestern Europe and in Canada, Great Britain, and the United States. Other groups of Protestants live in South Africa, Australia, New Zealand, and Alaska. The religions under this group include Lutheran, Episcopal, Methodist, Baptist, Presbyterian, Congregational, Mormon, and many others. You can see that to represent all the Protestant religions a larger map than the one in this book would be needed.

The Non-Christian Religions. One of the most widespread of the non-Christian religions is Confucianism, which is a leading faith in

China. Confucius was an ancient Chinese philosopher who held very high ideals as to personal conduct and way of life. His thoughts and ideas have become as laws in this religion. Although Confucius did not pretend to be a prophet, he was a great teacher and a great influence toward good among the Chinese people. Today millions of Chinese worship him and follow his teachings. Another religion in China is Taoism. Its spiritual leader is Lao-Tse, who lived in the time of Confucius. Still another religion which is of great importance in China is Buddhism, which is also one of the dominant religions of Japan, Burma, and Thailand. Believers of this faith

worship Buddha, the great leader and teacher whose image is found in many forms all over the lands where Buddhism is the religion.

Owing to the efforts of missionaries, many people in China have adopted Christian faiths, either Protestant or Catholic.

The ancient religion of the Japanese was Shintoism. This religion is based on reverence for, or worship of, ancestors and historical personages such as emperors. It was abolished as a national religion by the Allied authorities who occupied Japan for several years after World War II. The constitution of 1947 provided that the government should not give support to Shintoism or to any other religion.

In Tibet, the mountainous isolated country north of India, Lamaism is the principal religion. It is rather like Buddhism, and the

FIGURE 90 · *Within Vatican City, in Rome, are St. Peter's Church and the Vatican (at the left).* The latter is the home of the Pope

Philip Gendreau, N. Y.

FIGURE 91 · *A temple in India in which some of the peninsula's millions worship*

lamas, or priests, are the high Churchmen and also the political rulers of the people.

Hinduism is the religion of about three fourths of the approximately 433 million people of the peninsula of India. Also, many of the Indians are Mohammedans, followers of the prophet Mohammed.

From the map you can see that Islam, or Mohammedanism, spreads throughout the Near East, including Turkey, Iran, Iraq, Arabia, Syria, and other neighboring countries. It also extends as far east as northwestern India and north of the Aral and Caspian seas into Russia. A very large part of northern Africa also has Islam for its principal religion. As you know, all these areas are not densely settled, but Mohammedanism, in one form or another, has become widespread among the peoples east and south of the Mediterranean Sea.

Judaism is the religion of the Jewish peoples no matter where they live. Palestine, however, is its ancient homeland.

Throughout central Africa, where millions of dark-skinned people live, on the island of Madagascar, and on many Pacific islands there are numerous tribal religions. Each little group of people has religious services and customs which are unlike those of neighboring tribes. There are other groups of tribal religions in Canada, Alaska, South America, Siberia, and Australia. None of these forms of religion is widespread enough to be shown on the map.

Summary. In this chapter you have studied only the more important religions of the world, but from this you should arrive at some conclusion as to the effect of religion on people and national unity. Does a common religion bind people together? What examples can you give to prove your answer? Is a common nationality more important in holding people together than a common religion?

Just as there is racial prejudice in many countries, there is also religious prejudice or intolerance where the people of one religion believe themselves superior to people of other religions. You can see that ideas such as these easily lead to dissension and cause a great deal of trouble among the citizens of any one nation. Thus our aim must be to understand religions other than our own.

QUESTIONS TO ANSWER AND THINGS TO DO

1. What reasons can you suggest for so many different religions in the world?

2. Find out about Lamaism, Buddhism, Hinduism, and Shintoism, including their effect on the people who believe in them and on the countries in which these people live. How many people belong to these religious groups? What are the main beliefs of these religions?

3. What are some of the practices of various tribal religions? What differences do you find between the pagan religions of the northern countries and those of the Pacific Islands and Africa?

4. What different religious groups are there in your home community?

5. Make a list of the different Christian religions. In what countries did they start and in which countries are they most important today?

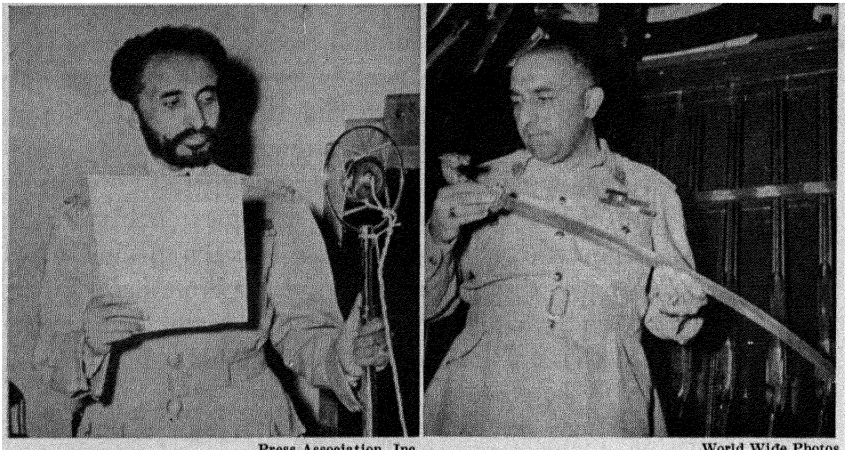
CHAPTER ELEVEN · POLITICAL GROUPS

We have already considered cultural, economic, language, and religious groups. There remains a grouping which is very commonly used in the study of world geography. That is the political grouping of the peoples of the world. Before we complete this study, try to get some idea as to how widespread the various types of government are in the world. Perhaps you will come to some conclusion as to which forms of government are increasing in strength and which ones are decreasing or losing their positions of prominence in the world. The reference map on pages 156–157 shows the principal political divisions of the world; that is, the principal divisions that have been made by the people.

Monarchies. There are two types of monarchies in the world today: absolute and limited. An absolute monarchy is a government in which one person is sovereign, with no constitutional limitations on his powers. A limited monarchy is a government which is ruled by a single person whose powers are limited by a constitution or by special laws, or perhaps by a legislative body elected by the people. The rulers in a monarchial government are kings and queens, princes and princesses, lords and dukes. The royal family usually commands a great deal of respect whether or not the ruler is absolute.

Absolute Monarchy. For a long time in history, most of the monarchs had a great deal of power, since they controlled practically all the affairs of their nations. These rulers were thought to receive their power directly from God, and so had "divine right" to do what they pleased with their nations and peoples. Examples of absolute rulers would include the former emperor of China, Louis XIV of France, the Sultan of Turkey, and Queen Elizabeth I of England. Very often noblemen at the court would support the idea of divine right of their rulers in order to further their own political positions.

Modern Absolute Monarchies. In only a few nations today are there rulers who are "absolute," and who have inherited their thrones. The largest of these is Saudi Arabia, the most important of the states that make up the Arabian peninsula. The others are small countries, and not very well known. Bhutan is on the south slopes of the Himalaya Mountains, and Oman and Yemen are at the southeastern and southwestern corners of the Arabian peninsula. In 1951 the Himalayan kingdom of Nepal, which had long been an absolute monarchy, became a limited monarchy.



Press Association, Inc. World Wide Photos

FIGURE 92 · *Haile Selassie, King of Ethiopia; and a prince who rules one of the Indian states*

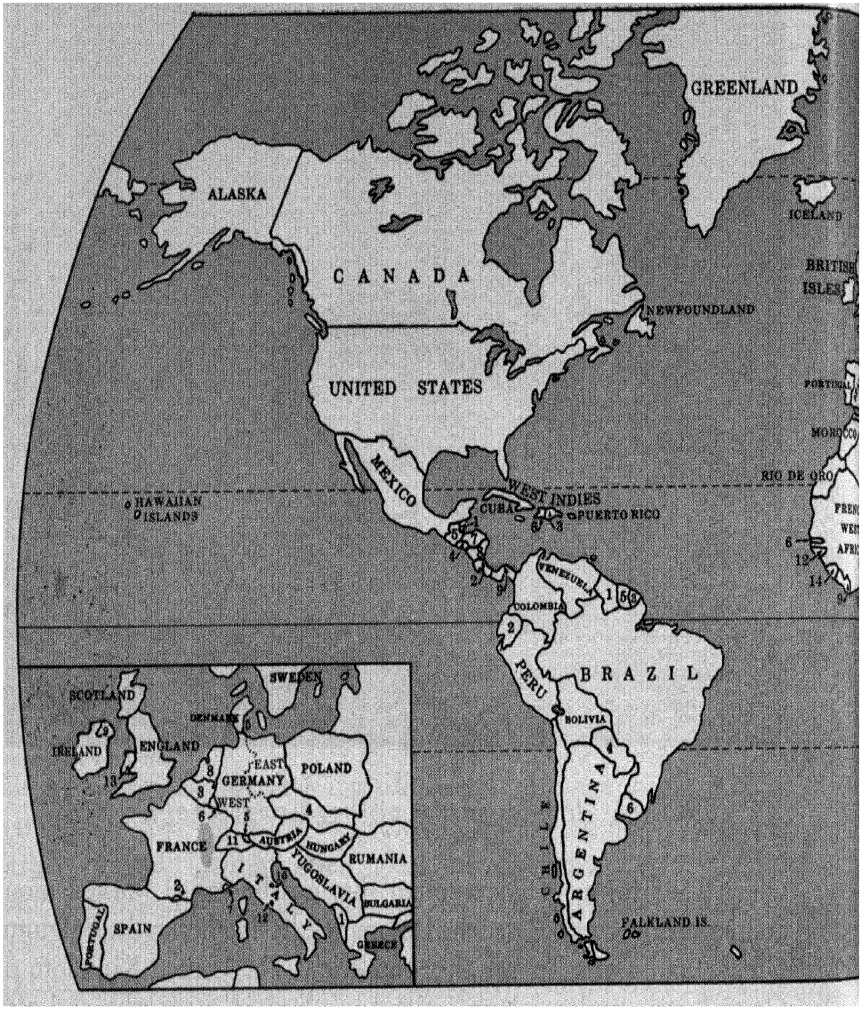
The Principalities of India. When British India was divided into two countries, in 1947, there were between 500 and 600 distinct states which were not strictly a part of British India. They varied in size from one as large as Kansas to some not much larger than a county or township. Each was ruled by an Indian prince who inherited his position and, often, great wealth. The power of these princes was much like that of an absolute monarch, except that in matters concerning all of India, as well as foreign policies, the government of British India took full charge. With the establishment of India and Pakistan, each principality was left free to join one country or the other, and most of them did so.

Limited Monarchies. There are many monarchies in which royalty rules, but in which the monarchs have only limited power. In such countries the people have their kings or queens, but they have limited the ruler's power by adopting a constitution or establishing a legislative body, or both. The royal families are maintained at public expense, and the kings, queens, and other members of their families help in the management of public affairs, and may have a very good influence upon the maintenance of loyalty and unity in the various associated lands. In the limited monarchies, however, the administration of public affairs is usually delegated to people who have been elected. Among the countries in the world

FIGURE 93 · *At the coronation of King George VI of England*

which have forms of government that can be called limited monarchies are Norway, Sweden, Denmark, the Netherlands, Belgium, Greece, and a number of other countries. The United Kingdom of Great Britain and northern Ireland is a limited monarchy and also the mother country of the British Commonwealth.

Another limited monarchy is the Grand Duchy of Luxembourg, which is bounded by France, Belgium, and Western Germany. This little country has a constitution which limits the power of the reigning duke or duchess by means of a chamber of deputies elected by universal suffrage. Liechtenstein, the tiny country between Austria and Switzerland, with an area of but 65 square miles and with about 14,000 people, is a limited monarchy. Monaco, near the Mediterranean coast of France, is a country with an area of just 370 acres and a population of about 21,000. For a long time it was a principality, governed entirely by the Prince of Monaco, but now it has a limited form of monarchy.



WORLD REFERENCE MAP

NORTH AMERICA

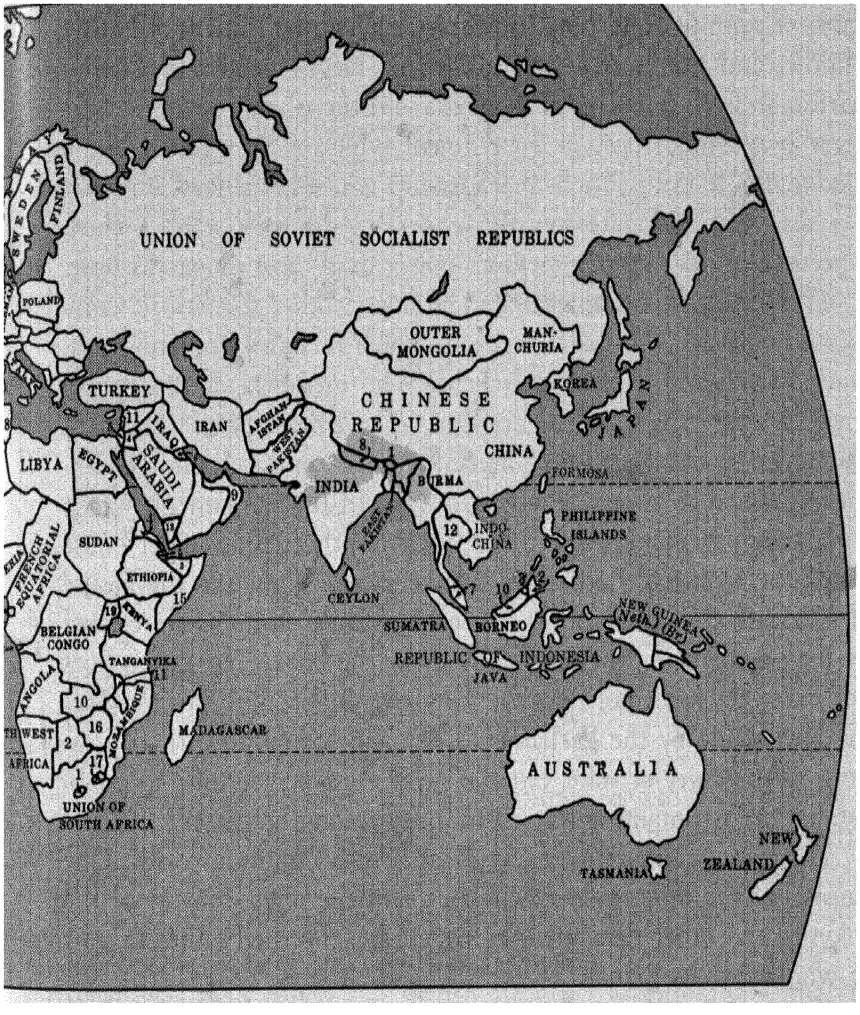
1. British Honduras
2. Costa Rica
3. Dominican Republic
4. El Salvador
5. Guatemala
6. Haiti
7. Honduras
8. Nicaragua
9. Panama

SOUTH AMERICA

1. British Guiana
2. Ecuador
3. French Guiana
4. Paraguay
5. Surinam
6. Uruguay

EUROPE

1. Albania
2. Andorra
3. Belgium
4. Czechoslovakia
5. Liechtenstein
6. Luxembourg
7. Monaco
8. Netherlands
9. Northern Ireland
10. San Marino
11. Switzerland
12. Vatican City
13. Wales



AFRICA

1. Basutoland
2. Bechuanaland
3. British Somaliland
4. Eritrea
5. French Somaliland
6. Gambia
7. Gold Coast
8. Kabinda
9. Liberia
10. Northern Rhodesia
11. Nyasaland
12. Portuguese Guinea
13. Rio Muni
14. Sierra Leone
15. Somalia (Italian Somaliland)
16. Southern Rhodesia
17. Swaziland
18. Tunisia
19. Uganda

ASIA

1. Bhutan
2. British North Borneo
3. Brunei
4. Hashemite Jordan
5. Israel
6. Kuwait
7. Malaya
8. Nepal
9. Oman
10. Sarawak
11. Syria and Lebanon
12. Thailand
13. Yemen

Tribal Forms of Government Like Monarchies. Among many tribes of primitive and isolated peoples, such as the Indians of North, Middle, and South America, groups of Negro people in Central Africa, and other natives of Australia and the islands of the Pacific, there is a simple form of government which is very much like a monarchy. If the position of leadership is not hereditary and does not pass from father to son, the leaders in the tribe select a chief, who usually has as much or more power than most monarchs have.

The British Commonwealth. The homeland of the British Commonwealth is the United Kingdom, which includes England, Scotland, Wales, and Northern Ireland. The members of the British royal family usually live in England. The British people maintain this form of monarchy, but in reality they conduct their governmental affairs in a very democratic way. In the Parliament, which corresponds in many ways to our Congress, there is an upper house called the House of Lords, and a lower house known as the House of Commons. The members of the House of Commons are elected by the people, and they practically make the laws. The queen does not make the laws, nor does she rule over the people. She approves the laws made by the Parliament. She appears on all formal occasions as the chief of state, but she gives most of her time to establishing and maintaining a spirit of unity among her people.

There are two main divisions of the British Commonwealth. One consists of the independent countries, and the other consists of the colonies and other dependencies which are governed either in part or wholly by the British.

The Independent Countries. The seven countries which, with the United Kingdom, make up the self-governing divisions of the Commonwealth are Canada, Australia, New Zealand, South Africa, India, Pakistan, and Ceylon. The United Kingdom has no control over any of these countries. Each of them has a constitutional form of government and is completely independent. They are members of the British Commonwealth by their own choice, and they are free to withdraw from it at any time if they wish to do so.

Let us take Canada as an example. The queen sends to Canada her representative, who is the governor-general of the country. The Canadian Parliament consists of a senate, the members of which are appointed for life by the governor-general, and a House of Commons, the members of which are elected by the people for a term of

Philip Gendreau, N. Y.

FIGURE 94 · *The Legislative Building in New Delhi, the capital of India*

five years. The Canadian provinces correspond to our states, and in each province the citizens elect officers who attend to local affairs, just as is done in our states.

The part of southern Asia long known as India is more than half as large as the United States. Because of its great size, it has come to be known as the subcontinent of India. The subcontinent is one of the most densely populated parts of the world, having a population of about 433 million. For many years it was a part of what was then called the British Empire. During that time the British did much for the people of the subcontinent. They introduced many improvements in sanitary conditions and education, and assisted India toward industrialization. However, for a long time there was a consistent and determined movement for freedom among the people of the subcontinent. In 1947, after World War II, the subcontinent was divided into two self-governing members of the British Commonwealth: India, or the parts of British India in which the people were mostly Hindus; and Pakistan, in which the people were mostly Moslems. India became an independent republic in 1950, but it continues to be associated with the British Commonwealth.

The Colonies and Other Dependencies. The colonies and other dependencies of the British Commonwealth are lands which were

acquired long ago by the British through settlement and trade. Many of these lands are in Africa, and others are islands scattered around the world. Their people have not yet reached full self-government, but the British are giving them more and more freedom as they learn to use it wisely. A few of the dependencies are trust territories. These are former colonies of nations that were defeated in World Wars I and II, and the administration of which has been entrusted to the British by the United Nations.

Unity within the Commonwealth. In some ways the British Commonwealth seems like a very complex organization, but the interest which most of the people in its lands have in its unity, and the close sympathy which they have in common ideals, have led them to work together very effectively. There is no better demonstration of this unity than the way in which the independent members of the Commonwealth chose to help the mother country and the Allied Nations during World War II.

Dictatorships. In a dictatorship an individual leader seizes absolute control of a country. He may overthrow a king, or the president and other members of a republican form of government. A dictator may make himself commander-in-chief of the Army and head of the police force. Thus he is in a position to use force whenever necessary. A dictator usually determines what work the people must do, the amount of food they may have, and what they may be taught. He controls education and everything that is printed in the newspapers or broadcast over the radio. A dictator may seize control of all railroads, telephones, telegraph lines, and of some or all the industries and banks in his country in an emergency, or even in ordinary times. During World War II, when certain countries in Europe were under the control of dictators, the people were suppressed by brutal methods. They had no freedom or liberty of action or of fair trials in court.

Either a war or an uprising among the people themselves may result in a situation by which a dictator may be overthrown. The life of a dictator is at all times in great danger because of certain groups of people in the country who refuse to live under his complete control. For example, Mussolini, who ruled Italy for many years and who was trusted and admired by large numbers of the younger citizens, was killed by the Italian people when World War II was over in Italy. Dictators believe that "might makes right," but a rule of this sort cannot last forever.

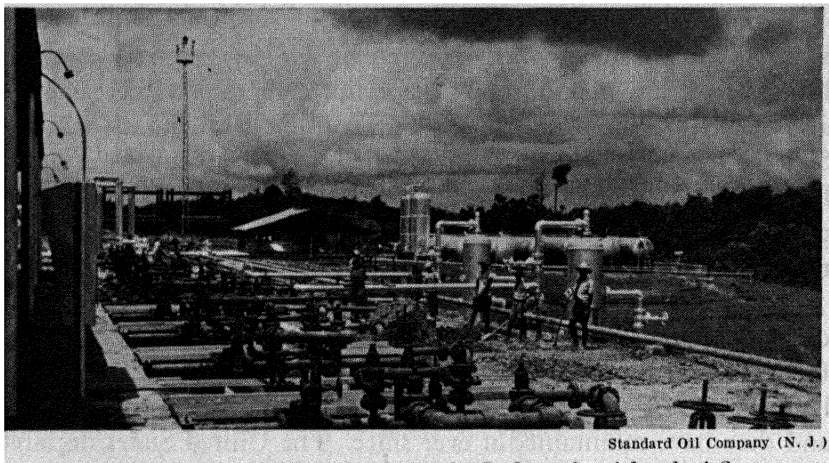
Republics. A republic is a form of government the head of which is usually a president who is elected by the people. His power is limited by a law-making body made up of representatives who are also elected by the people and are responsible to them. In Europe, Switzerland and France have had republican forms of government for many years. Before World War II there were thirty-five republics among the countries of the world. At the present time, how many countries have a republican form of government?

The United States of America is one of the most conspicuous examples of a republic, but it was not the first country to adopt this form of government. More than 650 years ago the people of Switzerland organized a democratic form of government called a republic, and they have maintained it ever since. The United States declared itself independent in 1776, and in the years that followed it organized a republican form of government. The United States is a Federal republic. That is, it is made up of a federation, or union, of states. According to our constitution, each one of these states must have a republican form of government also. The people of each state elect representatives to make the state laws. They also elect representatives to the two houses of Congress, which meets in Washington and makes the national laws.

Our form of federation, in which states are united to make a central government, has been imitated in a number of places. For example, Brazil's states are federated into a central republic. All the countries in South America, except the Guianas, are republics. French Guiana is an overseas territory of the French republic. Surinam, or Dutch Guiana, is a part of the Netherlands, which is a monarchy. British Guiana is a part of the British Commonwealth. The countries of Mexico and Central America and most of the islands of the West Indies have a republican form of government. Altogether there are twenty-one independent republics in the Western World.

Among the other European republics besides France and Switzerland are Finland and Western Germany. Turkey, which is mostly in Asia, is also a republic, as is Ireland (Eire), which comprises about five sixths of the island of the same name. The two smallest republics in the world are Andorra, in the Pyrenees Mountains between France and Spain, and San Marino, on the east side of the Italian peninsula.

Changing Governments. In Asia, China is a country which has tried to establish a republican form of government. In 1912 its mil-



Standard Oil Company (N. J.)

FIGURE 95 · *An oil pumping station in the Indonesian island of Sumatra.* Petroleum products rank first among Indonesia's exports

lions of people overthrew an ancient monarchy, and China became a republic. The vastness of the country and the lack of unity among its 463 million people made the establishment of a united government difficult, however. The end of World War II, instead of bringing peace to China, brought civil war. During this period of unrest the country was taken over by the Chinese communists.

The Union of Soviet Socialist Republics is a recent example of a large country turning, in 1917, from an absolute monarchy to an absolute dictatorship. Although its name would seem to imply that the Soviet Union is a republic, this is not the case. Each of the sixteen Soviet republics which make up the federation is governed by a local soviet, or council, and the central government, in Moscow, includes representatives from all of them. In the Soviet Union, however, only one party, the Communist party, is allowed to exist. Under the dictatorship of its leaders, it has complete control over all the policies and activities of the nation. The Soviet Union has a larger area than any other country in the world and is well equipped with natural resources; but all these natural resources, as well as all manufacturing industries and public means of transportation and communication, are owned and controlled by the state.

New Republics. A Far Eastern republic was formed in 1949 when the Netherlands surrendered the rich islands of the East Indies, which had been for 300 years under Dutch control, and thus

made possible the establishment of the independent United States of Indonesia. This new nation has a population of 77 million and includes most of the former Netherlands Indies.

A new, but smaller, Asiatic republic is Burma, the mountainous land east of India. Burma was for many years governed as a part of India; but in 1937 it was separated from that country and became a self-governing unit of the British Commonwealth. In 1948 it became an independent republic known as the Union of Burma.

Different Political Beliefs. Within the various forms of government there have developed various types of political belief. These political beliefs have a tremendous effect upon the peoples who hold them and upon the attitude of these peoples toward their governments. It may be well to examine some of these political ideas, if one is to understand some of the problems faced by the statesmen of the world.

Democracy. Large groups of people over the face of the globe believe firmly in the principles of democracy. As citizens of the United States we are proud of the democratic principles which we have developed in our Federal Republic. What is democracy? What are some of these democratic ideals? The basis of democracy is a fundamental belief in the people. Among the principles of democracy are: the belief that all people should have equality of opportunity: that all people should make their laws directly or choose representatives to make them; that any people should have the right to take part in government functions, if qualified; that all people should enjoy the rights of free public enterprise (i.e. that you should choose your life work without interference, have the right to own property, and receive the rewards of your own labor). Democratic principles have developed in many parts of the world. In the monarchial government of England, one finds democratic procedures which have been admired by students of government throughout the world. The people not only elect their most important law-making body, the House of Commons, but when that law-making body does not carry out the wishes of the people, they dissolve the House of Commons and elect new members who will carry out their wishes. Peoples of the world who have become interested in democratic ideals look to the United States as a model. Many countries have copied our democratic principles, as they have changed their governments, and have drawn up more democratic constitutions. Some

have copied our republican form of government and have failed to adopt many of our democratic ideas. This is true of many of the South American republics. Their failure to adopt many of our democratic ideas is partially a result of the fact that they lack a large middle class, which is the bulwark of democracy.

Socialism and Communism. There are large groups of people who believe in the ideas of the socialists. Among these ideas are: the belief that the instruments of production should be owned by the government (any property which you use to make money should not be privately owned—your factory, the house which you rent to someone else, the farm which you own and whose produce you sell); that the wealth of the world should be more equally distributed; that all people should do productive labor. The socialists and the communists would use different methods in trying to gain acceptance of their ideas. The socialists believe in peaceful change, while the communists would be willing to use revolutionary means to attain their aims. The country which holds most typically to these ideas and beliefs is Russia. In form, Russia is a federation composed of the sixteen Socialist states belonging to the Union of Soviet Socialist Republics. In fact, it is a communist dictatorship.

Fascism. The fascists believe in the absolute power of political and military groups to put down opposition to their programs and ideas. In the old Roman state the Roman official (called the lictor) carried a bundle of sticks fastened around an axe (called fasces). These were a symbol of authority. Thus modern statesmen who seek to seize power through military action and to maintain that power by absolute authority have been called fascists. Fascist leaders have been able to rise to power in times of great disorder, unrest, famine, or dissatisfaction on the part of the people. Fascist ideas were evident in Germany, Italy, and Spain before World War II.

Summary. The republican form of government has grown rapidly as more and more nations, including many monarchies, have adopted republican constitutions. Unfortunately, in the case of some of these nations, the adoption of republican constitutions has not also included the adoption of democratic ideas of government by the rulers. But it is evident that democratic principles have spread over a considerable area of the world. The extent of their spread represents the results of centuries of strife for freedom and justice on the part of millions of people.

The people on this earth have passed through stages of slavery: they have been at times subject to the will of a king, queen, prince, duke or duchess, chief, or feudal lord. Principalities were much more common once than they are now. As absolute monarchies came to an end, the common people gained more freedom to conduct their public affairs in accordance with laws rather than in accordance with the wishes of an individual ruler. Some limited monarchies have adopted democratic principles of government.

Democracy, in one form or another, seems to be the most widespread and popular idea of government today. But from time to time dictators and absolute rulers come forward to question the processes of democracy. The types of government which will continue to flourish are dependent upon you who will be the mature citizens of tomorrow. As you continue your studies of political systems in this and later courses, you will discover some of the advantages and disadvantages of different forms of government and different political beliefs. We are all responsible for the type of government and the political ideas which will continue to exist in the world of the future.

QUESTIONS TO ANSWER AND THINGS TO DO

1. Give an example of an absolute monarchy; a dictatorship; a duchy; a limited monarchy; an empire; a republic.

2. Why do some people prefer to have a king or queen instead of a president as the head of the government?

3. Why are there any absolute monarchies today?

4. How did the monarchy form of government arise?

5. What is meant by a limited monarchy?

6. Explain the meaning of the term "British Commonwealth." Name the independent countries of the Commonwealth.

7. What problems in government were presented by the division of India? Name the two independent countries established in India in 1947.

8. Explain the plan of the government of the Union of Soviet Socialist Republics.

9. Make a list of democratic practices in the United States' government.

10. What are the chief advantages for the people in a democratic form of government?

CHAPTER TWELVE · THE DISTRIBUTION OF POPULATION TODAY

When you refer to the map on pages 168–169, you will see how unevenly the population is distributed over the world. Many countries are very densely populated, while some are only sparsely settled, having on the average only two persons per square mile. Still other countries have vast stretches of land which are entirely uninhabited, having no permanent homes or settlements.

How can these differences in density of population be explained? There are certain factors that determine where people shall live in largest numbers. Important among these factors are surface of land, climate, nearness to the sea, and presence of mineral resources.

How the Surface of the Land Influences the Distribution of People. Since food is the greatest single need of all mankind, it is natural to suppose that many people would choose to live in those regions where there is sufficient level or gently rolling land for successful agriculture. All over the world these regions, both large and small, are well populated, provided other conditions, especially those of climate, are favorable.

Distribution of People in China and Japan. Japan and eastern China make up one of the most densely settled portions of the earth's surface. In these two countries alone there are about 544 millions of people, or more than one fourth of all the people in the world. On the average there are about 141 people to each square mile of land. Many have their permanent homes on boats in the rivers. On the good, level farm lands of these countries the population is about 2000 people per square mile. In the large cities the population is 4000–5000 people per square mile of land.

On the map (pages 168–169) all the land in the Japanese islands appears to be densely populated. However, a traveler in these mountainous islands soon discovers that the higher and rougher lands are very sparsely populated. The people are crowded together in the valleys and on the narrow coastal lowlands. A large-scale map showing the distribution of people in Japan would bring out this fact very clearly.

So great is the crowding in Japan that the people keep all the level land possible for cultivation. The farmers now build their little houses on the edges of the lowlands or at the foot of the hills and

Ewing Galloway

FIGURE 96 · *Because of crowded conditions, thousands of Chinese live in boats on the rivers all the year round.* This is a picture of Canton, China, showing some of the boats

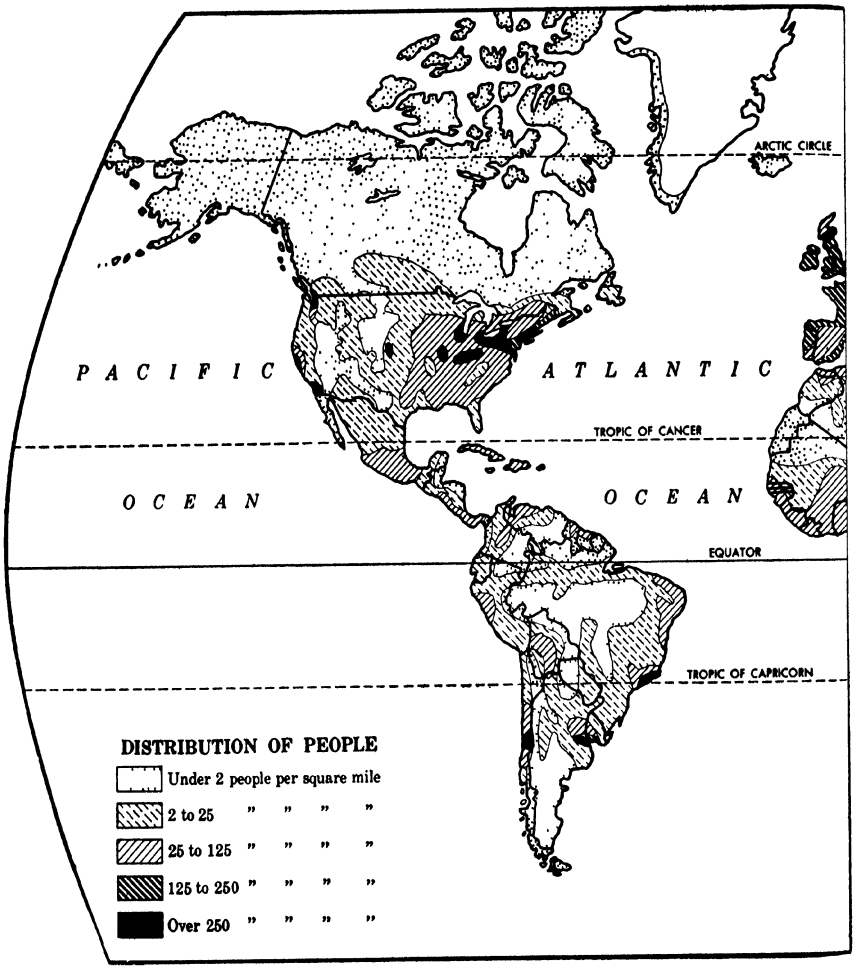
mountains. Many of the roadways are crowded to the side of the lowlands, where they interfere least with the amount of land available for raising crops.

The map shows that the millions who live in China are for the most part crowded together in the eastern part of that great country. They live in what we call China proper. The mountains and semi-desert lands of the vast interior of China are but sparsely populated.

For their homes and farms the great masses of the Chinese people have chosen the fertile flood plains of the Hwang, Yangtze, and Si rivers. In southern China, where the mountains are old and worn-down, the gentler slopes are laboriously terraced to provide more level land where food crops can be produced.

The Chinese have occupied their country for forty centuries, and during that long period of time the population has increased steadily.

Because agriculture is the main occupation of the Chinese, most of them have clung to the fertile lands in the eastern part of the country



instead of moving to the drier and rougher lands in the interior, where farming is more difficult. Thus the lowlands and valleys of the east have become more and more crowded.

The overcrowding in both Japan and China has limited the amount of livestock that the people can raise, and very few cattle or horses are found in either country. The lack of nutritious natural grasses is a handicap.

In Java. The island of Java is another densely populated area. There are nearly one third as many people living on that small island

as in the entire United States. Most of them are dark-skinned natives who carry on simple agriculture or who work on plantations owned

by Europeans. They live chiefly on the lowlands of the island. On the average there are about 825 people per square mile in Java.

In India. The subcontinent of India, with about 433 million people, is another densely populated land. The map shows that the most crowded areas are the fertile river-laid plains of the Ganges and Indus rivers. In these regions are found the best surface conditions for farming. On the lowland plain of the Ganges River there are on the average between 900 and 1000 people living on each square mile of land.

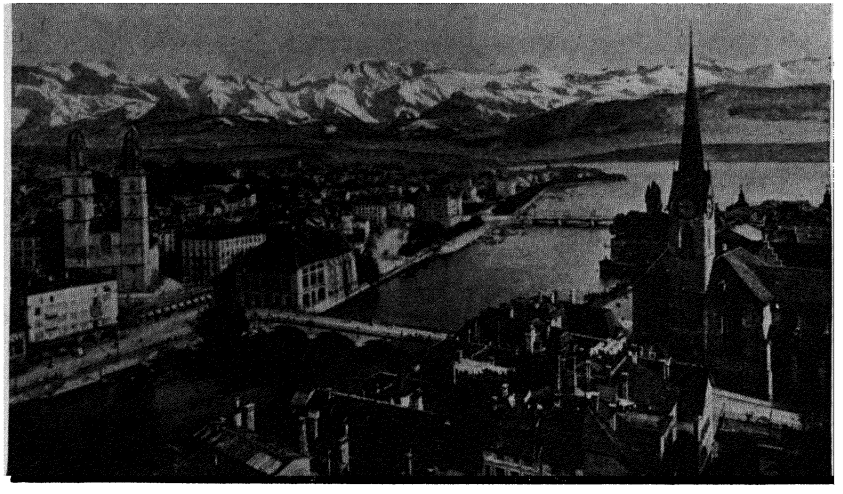


FIGURE 97 · *Zürich, like the other large cities of Switzerland, has grown up on the plateau with the mountains in the background*

The part of India which extends southward between the Arabian Sea and the Bay of Bengal is an upland region known as the Deccan Plateau (see map, pages 32–33). Here the surface is gently rolling, and while the population is dense, the crowding is not so great as on the lowland plains.

In Western Europe. The western half of Europe, between the Baltic and North seas on the north and the Mediterranean Sea on the south, also supports a dense population. There are wide stretches of plains in this part of Europe, together with regions of hilly lands and mountains. The most densely populated regions are the plains and the gently rolling uplands or hill countries where surface conditions are favorable for farming. In the more rugged regions the people have chosen the river valleys for their homes.

Let us take the small and progressive country of Switzerland, for example. The map on pages 32–33 shows that most of Switzerland lies in the region of the Alps, the highest mountains of Western Europe; but in the northern part of the country there is a curving strip of rolling upland. In this upland are all the larger cities and at least two thirds of the Swiss people. Those in the mountainous part of Switzerland live in the valleys or on the lower slopes of the mountains just above the valleys.

The fact that Western Europe has large areas of plains and hilly lands which are suitable for farming explains partly, but not wholly, why it supports such large numbers of people.

In North America. Another large area in the world which supports a dense population is in North America. This area includes most of the eastern half of the United States and an adjoining narrow strip in southeastern Canada. Within that part of the continent there are large stretches of fertile plains and rolling uplands which make excellent farming lands. The mountains in this region are the old, worn-down Appalachians, among which are fertile valleys.

This part of North America was settled by people from northwestern Europe, and its dense population today is due partly to the nature of the surface of land, which favors agriculture, and partly to other geographical conditions which we shall consider later.

The map on pages 168–169 shows that the western half of the United States is much less densely populated than the eastern half. The regional map (pages 32–33) suggests one reason for that fact. Notice that much of the western half of the country is covered with young, rugged mountains.

Although the population density of our Western states as a whole is not great, there are scattered areas which are thickly settled. These are mostly beautiful valleys in or near the mountains, where farming can easily be carried on. In the far west the dense populations are found in the lowlands of southern California, in the great valley of central California, and in the valleys of western Oregon and Washington.

In the Southern Continents. The map on pages 168–169 shows a few more areas of dense population, but they are not nearly so large as those to which we have given special attention. One of these smaller areas is in Egypt. Nearly all the people of that country are crowded together on the flood plain and delta of the Nile River. Most of them make their living by cultivating the rich river-laid soils. *See Figure 98.*

In South America the areas of densest population are on level lands or where the surface is gently rolling. All are in good agricultural districts. Two are in Brazil: one in the north along the northeastern bulge of the continent; and the other farther south, also along the coast. Another area is in northeastern Argentina, and still another is in Chile. In northern Brazil the land is gently rolling, with

FIGURE 98 · *Farmers of the rich Nile Valley have brought their melons to market in Cairo*

a fairly narrow coastal plain. This is a good farming region for many tropical fruits and other products. This region is also of strategic importance for air bases, since it is the point closest to the continent of Europe. To the south, on the lower slopes of the mountains, is the leading coffee-growing region. Northern Argentina is comparatively level and is an excellent farming region.

How Climate Influences the Distribution of People. Climate is an important factor in the distribution of people. Even though the surface of the land is suitable for the carrying on of farming in some areas, the climate may not be favorable for the growing of crops. It may be too cold or too hot, too wet or too dry, to attract large populations.

Climate and Agriculture. It is not by chance that the parts of the earth which support the densest populations are largely those where the rainfall is ample for agriculture, and where the growing season is long enough for the growth of a large variety of food crops. We should remember that no matter how favorable the surface and soils of a region may be for farming, the land will not be used for that purpose if it suffers from prolonged cold, or from extreme drought

which cannot be remedied by irrigation. Farming is carried on most successfully where the yearly rainfall is 20 inches or more and the frost-free period is from four to six months.

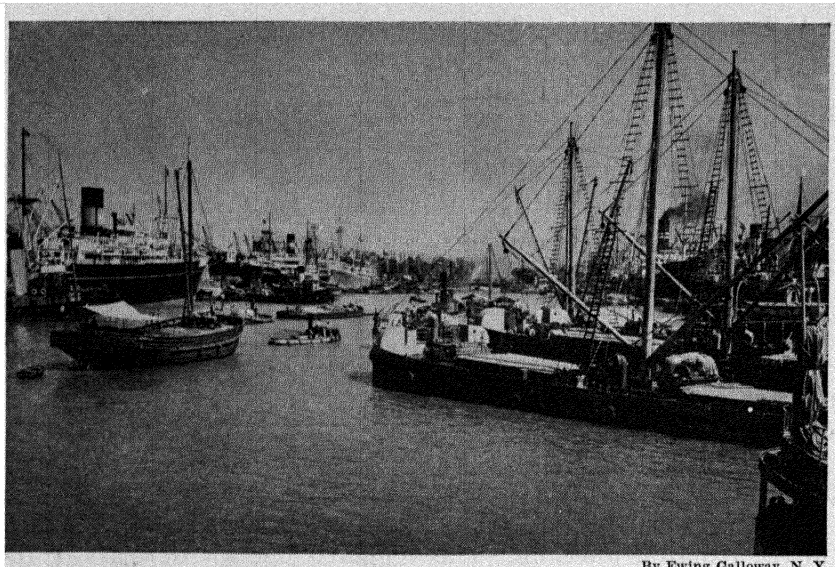
In a newly-settled region agriculture is often a matter of experimentation. If the people find that droughts or killing frosts cause frequent crop failures, they are apt to abandon the region and move to other places where climatic conditions are more favorable.

Climate and Health. Climate, as we all know, influences our health, and it is thought to be one of the most important factors in the amount of energy that we have. Cool, bright, and sunny days are invigorating; periods of warm, dull, cloudy weather are enervating. In the warm, rainy parts of the world the combined heat and moisture are depressing to white people, and even the natives do not feel like working very hard. Turn to the rainfall map of the world on page 59 and find what the average yearly rainfall is in the Amazon lowlands. This region is one of the parts of the world most unattractive to white men because of its excessive year-round heat and its heavy rainfall. Are most of the other areas of very heavy rainfall which are shown on the map located in low latitudes or high latitudes?

The most energetic people today live in the middle latitudes, where there are changes in temperature from season to season, where the heat is not prolonged, and where the precipitation is advantageously distributed. As we continue our studies, we shall find that the nations of progressive people have developed under these favorable conditions of climate.

Nearness to the Sea as a Factor in the Location of Dense Populations. Most of the areas of crowded populations are located near the sea. Turn again to the map on pages 168–169 and consider the question of the distribution of people from this point of view.

In the Orient, in India, in Western Europe, and in North America the areas of densest population are near the sea, or in a section of the country where access to the sea is not difficult. Being near to transportation facilities, such as those offered by a river, was an outstanding factor in the early settlement of our country. For example, many of the first settlers who moved westward in the United States followed the Hudson and Mohawk river valleys, while others followed the Delaware and Susquehanna rivers through the Appalachians. Gradually, as time went on, people moved to more inaccessible places



By Ewing Galloway, N. Y.

FIGURE 99 · *The harbor of Buenos Aires, Argentina.* On the map on pages 168–169 find the densely settled area in which Buenos Aires is located

where they had to depend on railroad or highway facilities to get supplies and to send their goods to market. But interior settlements away from water transportation facilities did not grow very fast, and you can see that not one of the densest areas of population grew up in an area inaccessible to the sea.

In Australia, the continent most recently settled by white people, all the large cities are on the coast, and only a very small part of the population is found more than 300 miles from the sea.

In South America by far the largest number of people live near the coasts, and those farther inland are found mostly along the chief navigable rivers.

In Central Africa there is a fairly dense population living far from the sea, shut in by deserts, jungles, and falls on rivers. The people of this region are native Negroes who have occupied the land for centuries, carrying on farming in very primitive ways. Most of them know very little about the outside world and are quite content to have little or nothing to do with it.

How Mineral Resources Influence Distribution of Population. We have now discovered three important geographic factors which have

influenced the distribution of people. One is the surface of the land, another is climate, and the third is location with reference to the sea. We have found that the most densely populated areas (1) have much level or gently rolling land suitable for farming; (2) have temperate and variable climates; and (3) are either near the sea or have easy access to it. The fourth factor which is important is the presence of mineral wealth.

The Location of Mining Centers. The mineral fuels, especially coal and petroleum, are so important to modern transportation and manufacturing that no progressive nation can get along without them. Equally important are the metals: iron, copper, lead, zinc, aluminum, and many others.

These mineral resources are not found in every country on the earth, nor are they evenly distributed in the countries in which they are found. They are scattered here and there, in the mountains, in level lands, in river valleys, and even under lakes and seas. They are found in cold lands near the arctic circle, in tropical areas, and in the temperate regions. Some mineral deposits are near the coasts, while others are far inland.

The search for minerals has taken people into many of the more remote and sparsely populated mountainous and desert regions of the world. In some of these regions where rich deposits of the minerals have been discovered, mining centers have developed. On a small-scale map of the world these mining centers would appear as tiny dots, but in reality each one is a densely-settled area.

The need for petroleum, for which there are so many uses, has led men to search all over the world for this valuable mineral. Where it has been found in sufficient quantities, the population has increased considerably, with workers coming in to do the various kinds of labor needed in the oil fields.

Most of the important coal fields, some of the oil fields, and some of the centers in which metal ores are mined are in areas which were already well populated before the presence of minerals was known. There are many such mining districts in Europe, eastern Asia, and the United States. Their influence has been to bring still more people into areas where other geographic factors had already led large numbers to make their homes. These places become permanent industrial centers. By contrast, isolated mining camps may grow into boom towns and later lapse into ghost towns.

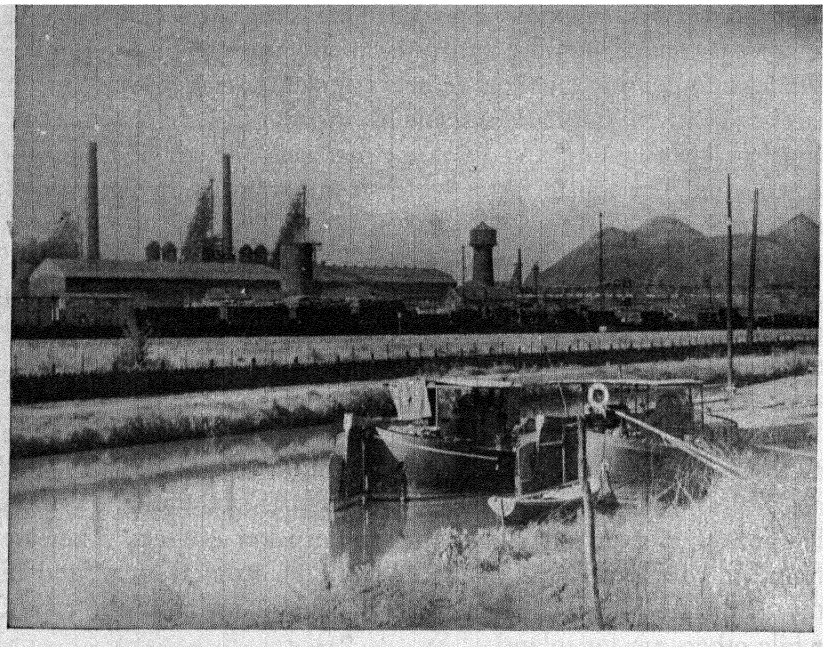


FIGURE 100 · *A steel plant in Belgium.* Iron ore is easily imported from neighboring countries, and coal is mined near by. It is because of this fact that Belgium has become a highly industrialized and a densely populated country

Mineral Resources and Manufacturing Districts. A detailed map of the distribution of people in the progressive countries of the world would show us that the densest populations are in the great manufacturing districts. Many of these districts are located where coal or iron ore, or both, are mined. The reason for this is that coal for power and iron and steel for the making of machinery have been the two most important factors in the modern development of manufacturing.

QUESTIONS TO ANSWER AND THINGS TO DO

1. What are some of the most densely populated areas of the earth? How do you account for the dense population in these areas?

2. What do you consider the principal reason for the sparse population of the lands that are in high latitudes? of the lands that are deserts?

3. Would it be correct to say that there are no areas of dense population in any of the deserts of the world? Give facts to support your answer.

4. What do you consider the principal reasons for the fact that the hot, rainy parts of the earth are not very densely populated?

5. What part do you think the building of railroads has played in the settlement of lands far from the sea?

6. What effect will the greater use of airplanes have on the peoples who live far from the sea?

7. What places in Europe or the United States can you name to prove that great manufacturing districts have grown up where (a) coal is mined; (b) iron ore is mined; (c) both coal and iron ore are mined?

8. Would it be correct to say that great manufacturing districts grow up only in places where coal or iron ore, or both, are mined? Give reasons for your answers.

9. What other sources of power besides coal are used in modern manufacturing?

10. How have the surface conditions of the land affected the industries developed by the Chinese and the Japanese?

11. What factors have caused some sections of the peninsula of India to have a more dense population than others? What are the most densely populated areas?

12. On each continent there is a tendency for the people to settle near the seacoast. Prove this by giving illustrations of densely populated areas which are near the seacoast in each continent. Why have people settled there?

CHAPTER THIRTEEN · UNDERSTANDINGS AND MISUNDERSTANDINGS AMONG PEOPLE

Nothing is more important in any nation than a common interest among its citizens in maintaining freedom, and there is nothing more important in the world today than strengthening the friendships and understandings among the different nations. Friendship has grown up among people who have traded with one another, who have traveled in foreign countries, and who have met together to exchange ideas; and all these ways of establishing better understanding among entire nations help to develop in the people's minds a world point of view on many problems. Isolation, as you have learned, is impossible, for no nation can cut itself off from communication with the rest of the world. There must be co-operation and understanding among all nations.

1. *Causes of Misunderstandings*

It is no wonder that some misunderstandings arise among the people in the world today, for they differ in many ways: in the languages they speak, in their religions and political beliefs, and in the whole background of their culture, including social customs, education, and occupations. Economic rivalry also leads to differences. When there were fewer people on the earth than there are now, and the various groups did not have easy means of communication such as we have today, their differences presented no serious problems. However, with the increase in population and the development of modern means of communication and travel, the world has become smaller and smaller. Today, events taking place anywhere in the world affect people living in other places. Our horizon has been widened, and we have become more interested in these far-off countries and people. Learning about other peoples and co-operating with them will help to bring about better understanding among the peoples and nations of the world.

Language Barriers. If people cannot understand one another's language, it is difficult for them to carry on trade or to establish friendships. There is a natural tendency to be suspicious of what someone else is saying if you cannot understand him. This difference

in language has long been a barrier to communication and better understanding among the peoples of the world.

Religious Differences. Certain groups of people have religious beliefs which prevent them from having associations with those of another belief, and sometimes there are great differences in classes or castes in a single religion. For example, in the Hindu faith of India the untouchables are the lowest caste. They cannot eat with members of another caste, nor can they intermarry with them. They are left absolutely alone by all other groups of society in the country. The main differences in religions and the troubles to which they give rise have already been discussed in the chapter on religions.

Economic Rivalry. Competition in trade often causes ill-feeling among peoples. If two countries have surplus supplies of wheat, sugar, or copra which they wish to sell in the markets of the world, neither wants the other to cut the price so low that profits almost vanish. In each country the people make a living by producing these articles of trade, and their success in this enterprise, as well as their standard of living, depends upon the prices at which they can sell their goods. The cost of producing certain manufactured goods may be greater in one country than in another for many reasons, and therefore these goods may be offered for sale at widely differing prices when they compete in the same market. Naturally people prefer to buy the cheaper articles, and the person selling the more expensive goods will have a more difficult time selling his stock. This might easily lead to unfriendly feelings among competitors.

Nationalism. Nationalism is an intense loyalty to a national group having common interests. It is a form of patriotism. Various factors may be responsible for such a feeling of nationalism. It may result from a common language or heritage, from similar customs and religious beliefs, from identical geographic boundaries, from the same economic interests, or from common ideals and purposes. Among some groups a large number of these common factors will be present. Among others a smaller number of different factors will be evident, but the bonds uniting the peoples may be very strong. Such a spirit of nationalism often reveals itself in a very strong patriotic feeling which resents any interference with its interests. It may be revealed in the desire of an Italian nation to bring all Italians under the rule of an Italian state. It may show itself in the desire of the Slavs to free all Slavic peoples from the rule of non-Slavs. The

Indian Hindus desired to make all India a Hindu state, and the Moslems desired to make it a Moslem state.

This kind of a powerful national spirit has been a distinct unifying factor among many peoples of the world. It has also caused disunity among peoples which has resulted in wars. The spirit of national loyalty and patriotism unites peoples of common interests, and helps them to co-operate and place the desires and welfare of the group above the personal selfish desires of the individual. Many instances can be cited where loyalty to a cause has made people forget their own petty grievances, and helped them to work together for the common good. On the other hand, some national groups find that their common interests conflict with the interests of other national groups, and they may go to war over territory that they desire which some other nation holds. In other cases they may go to war because some other national group has interfered with a colonial possession which they wish to call a part of their empire or national state.

This spirit of nationalism has been a powerful force in the world, and there are still evidences of it today. It is largely responsible for many of the wars which have had their beginning in Central Europe. The Czechs, the Poles, the Germanic peoples, the Italians, and many others, all have had national desires and interests which have come into conflict with the desires of their neighbors. Do you think there are ways in which this feeling of nationalism can be made to benefit this global world of ours rather than to turn it into a world of strife? As you study the later units of this book, you may be able to discover some possible ways.

QUESTIONS TO ANSWER AND THINGS TO DO

1. What evidences have you noticed that there are misunderstandings among people living in different countries?

2. Why should there be such misunderstandings?

3. Make a list of different ways to help bring about a better understanding among the peoples of the earth.

4. What is nationalism? How does it unify people within a country? How does it cause misunderstandings between peoples of different countries?

Photo from Three Lions

FIGURE 101 · *It is because of the differences in climate that the United States and other countries of the middle latitudes must look to the countries of the low latitudes for their supply of bananas and other tropical products.* The picture was taken at a Nicaraguan port

2. *Unifying Influences among Peoples*

In opposition to the causes which lead to misunderstanding among people, there are many ways in which we are coming to learn more about the different peoples of the world, and to have sympathetic understanding for them and their way of life.

World Trade. One of the most important influences toward this goal is trade and the consequent recognition of the interdependence of peoples. The difference in climate, soil, and the distribution of mineral and other resources makes it necessary for people in the modern world to trade with one another so that they may have a

Santa Fe Railway Photograph

FIGURE 102 · *One of the most modern of streamlined trains*

variety of goods in their homes. Only a few people are completely independent and self-sufficient today, and most countries carry on extensive trading.

Closer Communications. Some of the most effective unifying influences have come with the modern rapid means of travel and communication. These include ocean liners, streamlined trains, automobiles, airplanes, and the telegraph, telephone, and radio. Now we can cross the oceans in a few hours by plane and listen at almost any time to radio programs from other lands. We can speak with people thousands of miles away by transoceanic telephones. Thus closer association with the people of different lands is giving us a better understanding of them and a more friendly feeling toward them.

Cultural Exchanges. An exchange of works in the fine arts helps people to understand each other, too. Many books and magazines are printed in more than one language, and are sent to other countries to be read by the people there, who, in turn, may contribute and exchange some of their writings in prose and poetry. The musical compositions of the various countries speak a common language for music lovers, and students all over the world play or listen to

the finest works of music composed by men of all nations. Even the primitive music of the African Negroes is expressed in modern compositions. Works of art from the earliest to the present day are studied and described by writers. The different types of architecture are studied and copied in many countries; entire homes or buildings may be exactly like the originals, or perhaps only certain elements of the style may be adapted.

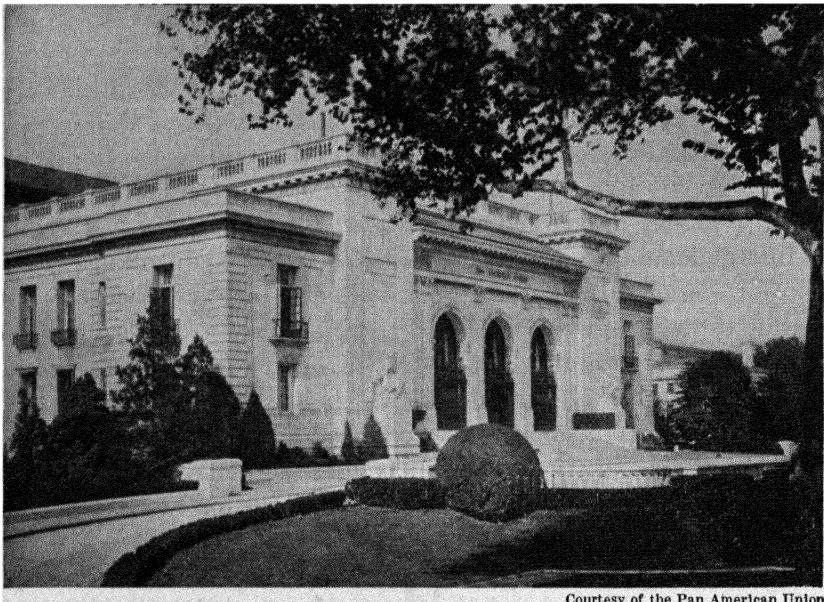
International Co-operation. There are many organizations which help to promote international good will, and they have been organized by different groups of people.

Business Associations. Among the organized groups is the International Chamber of Commerce, which was set up to encourage trade between peoples of different countries. Businessmen have associations such as Rotary and Kiwanis clubs, which are international. They hold conventions to which delegates from foreign lands come and get acquainted with one another and exchange ideas.

Religious Groups. Religious organizations are worldwide in their influence, and, as you already know, people who belong to the same church naturally come to have a friendly feeling toward one another, for they have their religion in common even though they may be of a different race and nation. There are some international organizations among church groups. Their aims are a better understanding among peoples and a permanent peace on the earth.

The Organization of American States. The Pan American Union was founded in 1890 for the development of closer friendship, cooperation, and commerce among the twenty-one republics of this hemisphere. In 1948 the Organization of American States was established in Bogotá, Colombia, for the purpose of serving still better the interests of the Western nations. The Pan American Union, with its headquarters in Washington, D. C., became the secretariat, or general office force, of the Organization. The Council of the Organization is a permanent body which meets in Washington. The aim of the Organization is to encourage peace, bring about better understanding among the member nations, and promote human welfare by improving health, economic, and social conditions in the twenty-one republics.

Conferences. The Organization of American States provides that Inter-American conferences shall be held every five years. Pan American scientific conferences are held at which men and women



Courtesy of the Pan American Union

FIGURE 103 · *This beautiful building in Washington houses the various departments of the Pan American Union*

from the countries of the Western World meet and consider common scientific problems. Physicists, chemists, geologists, geographers, astronomers, biologists, and health officers meet and exchange ideas. Thus the people of the different nations become better acquainted.

Pan-Pacific scientific conferences have been held in several countries bordering the Pacific Ocean. Representatives from the United States always attend these meetings, and our government commonly sends official delegates to represent this nation.

International educational conferences are held every few years. There is an organization in existence today which is known as the International Federation of Educational Associations. The first president of the association was a citizen of the United States.

At all these international conferences a great many people from different countries and different ways of life meet and become acquainted with one another. As a result, they return to their own land with a new conception and understanding of their world neighbors.

The Olympic Games. The Olympic Games, which are international sports contests, bring together thousands of young people

from different countries. This friendly competition is helping to establish international good will.

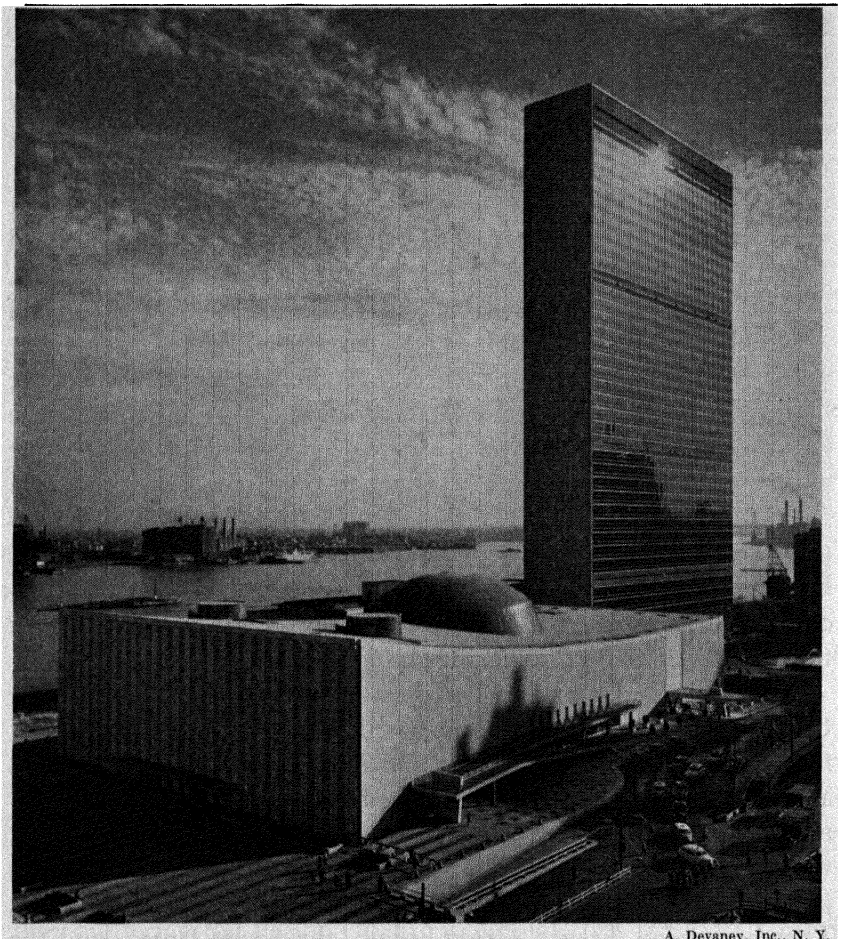
The United Nations. The most outstanding of the present-day organizations which have been formed for the purpose of preserving peace among the nations of the world and bringing about better understanding among them is the United Nations. It is a permanent organization which was started in 1945, just before the end of World War II. The headquarters of the organization is New York City.

The work of the United Nations is carried on by the General Assembly, the Security Council, the Secretariat, and various other agencies and commissions. Each year all the member nations of the United Nations send their delegates to the annual meeting of the General Assembly. Each nation may send five delegates and five alternates to a session, but is entitled to only one vote. A session may last for several weeks or months. The Assembly discusses any problems of world importance that come within the scope of the United Nations charter, and brings to public attention any difficulties which threaten to disturb the peace of the world. Thus it tries to prevent serious difficulties between countries.

The Security Council is the most important committee of the United Nations, for it is charged with the direct responsibility of maintaining international peace and security. It may recommend action to solve a dispute among the nations; and in case its recommendations fail, it may take military action against the country which is at fault. Five nations, through their representatives, are permanent members of this Council, which is in continuous session. They are China, France, Great Britain, the Soviet Union, and the United States. Six other nations, through their representatives, serve on the Council for two-year terms. These six non-permanent members are chosen by the General Assembly.

The Secretariat is the office force of the United Nations. It consists of some 4000 workers from member nations all over the world. They work as clerks, secretaries, research workers, and interpreters, and are supervised by a Secretary General. They make plans for all United Nations meetings, and gather information for all the committees and agencies.

The activities of the United Nations agencies and commissions are many and varied. Among their aims is the bettering of living conditions for the people throughout the world. A large amount of



A. Devaney, Inc., N. Y.

FIGURE 104 · *A view of the permanent headquarters of the United Nations in New York City, with the East River in the background.* At the left is the General Assembly Building, and at the right is the Secretariat Building

work has been done by the World Health Organization to secure better housing and better health conditions. Scientific medical knowledge has been made available to fight disease and check the spread of epidemics. The Food and Agriculture Organization has done much to increase the production of food by extending the knowledge of improved agricultural methods. It is also doing much to raise the food standards of different peoples. The Commission on

Human Rights has tried to bring to the attention of all countries the basic human rights that should be enjoyed by all peoples. These have been submitted to the individual member countries for adoption.

The United Nations has accomplished much during the short period of its existence, even though it has at times suffered setbacks. Its goal is a world in which all peoples will live together as good neighbors, work together for their common welfare, and settle their disputes around a conference table instead of on a field of battle.

The present membership in the United Nations represents more than three fourths of the world's total population. If, as is so earnestly hoped by all people of good will, the organization succeeds in its purpose, the time will come when every nation on earth will be a member, and the world will truly be a better place in which to live.

QUESTIONS TO ANSWER AND THINGS TO DO

1. What books, magazines, or newspapers do you know that have been translated into another language for use in a foreign land? How are they a help in promoting better feelings and deeper understanding among the nations?

2. Select delegates from the members of your class and any other class in your school to represent different nations, and have them come together and hold an international conference. The topic or topics for discussion should be chosen carefully.

NOTE. Additional problems and activities and a list of reference readings for Unit II are given on pages 491–493 of the Appendix.

III · ECONOMIC RESOURCES OF THE WORLD

CHAPTER FOURTEEN · THE WORLD'S NATURAL WEALTH AND ITS CONSERVATION

In this chapter we shall study the natural resources, or wealth, of the earth. Among these resources which nature has given to us are soil, forest, and grassland; minerals, which include the metal ores, fuels, building stone, and such materials as salt and fertilizers; the water resources; and resources of the fisheries. Many natural resources enter into manufacturing industries as raw materials from which various products are made, thus giving employment to many people. A nation which has an abundance of natural resources and which uses and protects them intelligently is truly rich. The conservation of these resources is of vital concern to the people of every nation of the world.

The Farm Lands. The natural resource upon which we are most directly and obviously dependent is the soil in which our crops are grown. More people are engaged in the raising of food and fiber crops than in any other kind of agriculture. On the map on pages 130–131 the chief farming lands of the world are shown. These are the lands where the soils are suitable and the climate is favorable for carrying on agriculture. For the most part they are lands where the surface is not too rough for easy cultivation. Compare this map with the one on pages 168–169, which shows the distribution of people on the earth. Are the better farm lands well populated? Do all the more powerful nations of the earth have good farm lands? Try to give reasons for large areas of land being excluded from the farm regions.

In the United States much has been and is being done to conserve our soils. Conservation, as you know, is the best use of natural resources for the permanent welfare of man. It calls for long-range planning in the use of our natural resources. Among the methods used to prevent soil erosion are contour plowing, disk plowing, terracing, strip cropping, and the planting of cover crops. In the dry lands of the Great Plains and plateau regions of the United States irrigation projects have been developed in order to make more land available for crops. The practice of crop rotation helps to increase the fertility of the soils and therefore of crop yields. The practice of dry farming conserves moisture and thus increases the productivity of the land in regions of little rainfall.

Photo by Jim Mitchell, Soil Conservation Service

FIGURE 105 · *Contour plowing by curving round the slopes in horizontal lines.* When the field is planted, the rows and furrows act as dams to check the eroding flow of rain water

The Pasture Lands. The grass-covered areas used as pasture lands may be next in importance to the farm lands. The animals which graze in these areas provide quantities of meat, wool, hides, and skins. On the tundra areas of the Far North are pastured reindeer which provide products for the Eskimos, Lapps, and peoples of the far northern part of Siberia. In the semiarid pasture lands of the world, nomadic shepherds and herdsmen wander from one pasture to another, searching for life-giving grass for their animals. Their homes are tents made of cloth or felt. They own little furniture, for they can carry only the most necessary belongings in their wanderings. Their wealth is in their livestock, and they depend entirely upon their animals for their living.

The commercial livestock ranching areas of the world occupy wide expanses of land for the cattle and sheep. Each head of livestock requires acres on which to graze. In the western and southwestern parts of the United States and on the plains of

By Ewing Galloway, N. Y.

FIGURE 106 · *Horses on a huge estancia, or ranch, on the flat plains of Argentina*

Argentina there are ranches which cover hundreds and even thousands of acres.

Ranchmen have learned that if grasslands are overgrazed, the grass dies and winds or cloudbursts carry away the soils. With no grass there is no grazing and trouble results. In our country the use of certain areas in our national forests for grazing purposes, upon the payment of a small fee per animal to the government, is a conservation measure that aids in the maintenance of pasture lands.

The map on pages 130–131 shows where the chief pasture lands of the world are located. Compare this map with the population map (pages 168–169) to find out the population density of the pastoral areas. Are there more than ten people per square mile in any of them? Compare the map with the rainfall map (page 59). By doing this you should discover that the best pastures are not in the driest or the rainiest parts of the world. Many of them are in semi-arid areas, where the annual rainfall averages from 10 to 20 inches. Which nations do you think have large pasture lands from which meat, wool, hides, and skins are sent into the markets of the world?

The Forests. Wood from the forests is a natural resource which is exceeded in value only by the products from the farm lands and

the pasture lands. Never before in the history of the world has so much wood been used for so many purposes as is being used today. There are some parts of the world where the primeval, or early, forests are still standing. There are other parts where, though the forests have been cut extensively, reforestation has taken place either naturally or with the help of man. There are still other parts, however, where the forests have been destroyed and not replaced. The people living in the countries where this has happened are most unfortunate, for the lack of wood causes many hardships.

China is an example of a country which has long suffered from a scarcity of wood because of the lack of conservation of its forest resources. Long ago the eastern plains of the country were well forested, but the people gradually destroyed most of the forests because they needed wood for fuel and building material. In many places the soils on the hillsides formerly covered by forests have been washed away by the rains. By thus destroying their forests, the Chinese have lost much of their soils and thus the means of producing more trees. Today wood is scarce in China and therefore expensive.

We in the United States have misused our forests shamefully. One person interested in forest conservation says that at the time of the first settlements on the eastern coast of the United States a squirrel could have traveled from one treetop to another all the way from Virginia to the Mississippi Valley. As more and more people migrated westward in search of more lands to cultivate, however, they cut down the forests of the eastern half of the country and burned millions of dollars' worth of timber as they cleared the land to make fields for crops. After many years of such thoughtless destruction people began to realize that it was of the utmost importance that we should use the forests more carefully in order to try to maintain in our country a permanent supply of timber to meet our needs.

With the knowledge of the danger facing the country, groups organized a movement for the conservation of our forests. In 1891 the President of the United States was given power to set aside about 13,000,000 acres of national lands as forest reservations. We now have more than 181,000,000 acres in national forests. These are managed by the Forest Service of the United States Department of Agriculture in such a way as to protect them and make them of the greatest possible use. Today the public-spirited lumbering companies

Photo by T. H. Sherrard, Courtesy of U. S. Forest Service

FIGURE 107 · *This stand of pine poles and seedlings in a national forest illustrates our government's policy of building up our supply of trees for lumber*

are co-operating with the government in working toward a permanent supply of timber. The lumbermen are instructed to cut only the full-grown trees, leaving the young trees to grow, and thus making the forests produce regular "crops" of timber. The loggers work in such a way as to prevent injury to the young trees, and they clean up all the slash to avoid leaving fire hazards. As this good work continues, we may look forward to the time when yearly crops of timber will provide for the greater part of our needs for wood, and in doing so will make the best use of the land.

The Mineral Fuels. In the early days people used whatever fuels they could get most easily to give heat and light. Even today more

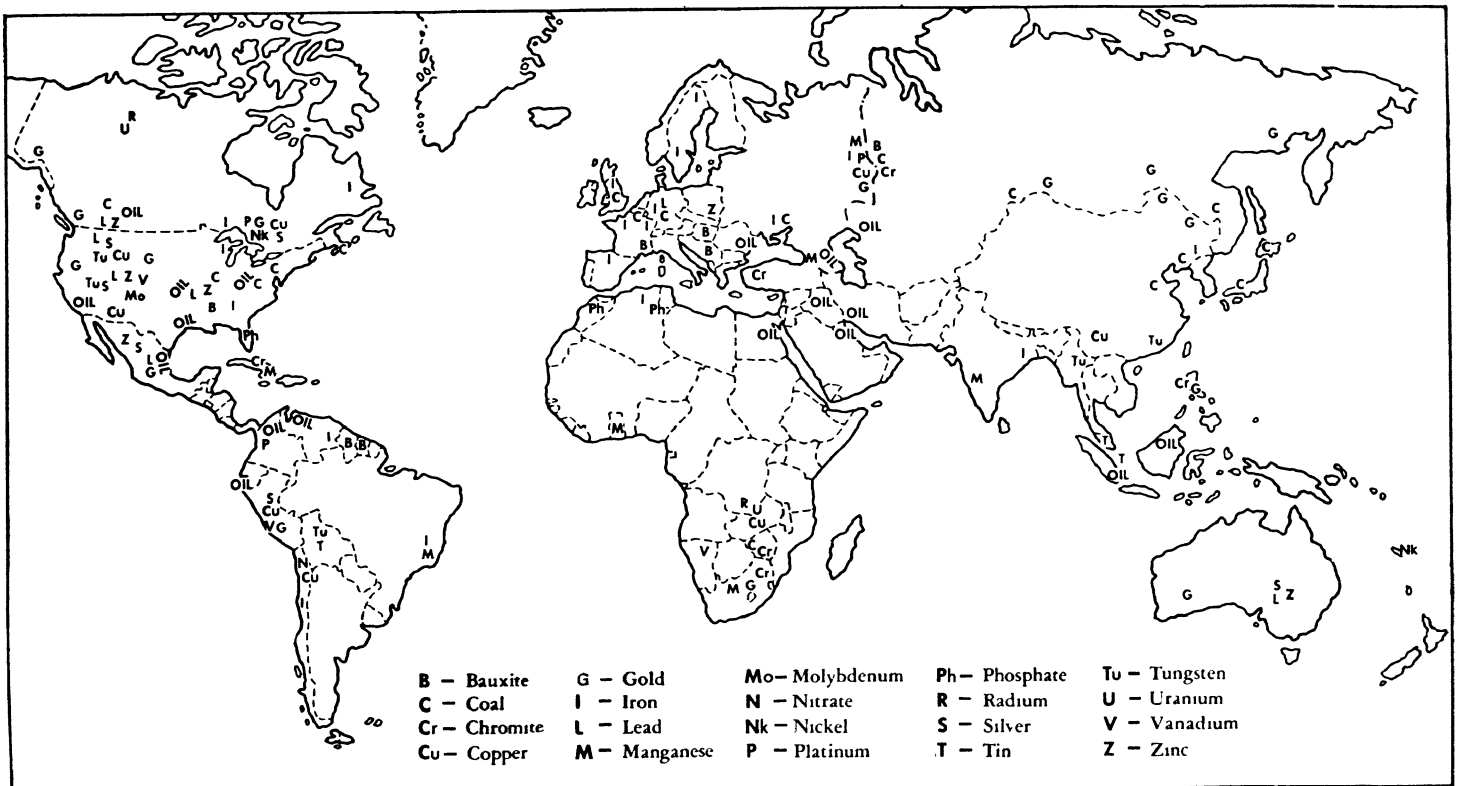


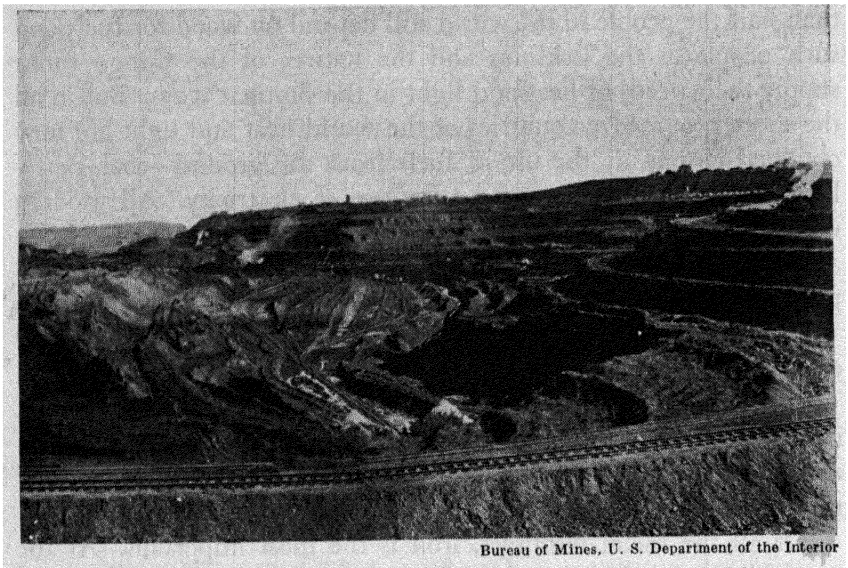
FIGURE 108 · *Where the minerals of the world are found*

than half the people in the world still depend on wood for fuel; and such people as the Eskimos and the natives of the Congo forest supply their needs of heat and light in the simplest ways. But in all the more progressive countries of the world heat and light are now obtained largely by the use of fuels from the ground—coal, petroleum, and natural gas—and by the use of electricity. All modern industrial development is based on the use of these resources. Look at the map on page 196 and find out which nations are well supplied with mineral fuels. Have they become great industrial nations?

The Metal Ores. In certain places in the earth valuable metal ores, such as iron, copper, lead, zinc, silver, and gold, are found. There are some parts of the world where metals are little used, but in the industrial nations they are of tremendous importance. Look about you and name the articles that you can see which are made of metal, either wholly or in part.

Of all the metal resources, iron is the most important. As the map shows you, deposits of iron ore are widely distributed through the world. What countries lead in the production of iron ore? Are those countries densely populated? Are they industrialized?

More iron is used in industry than any other metal. Much of it is used in the form of steel because steel is stronger and more useful than iron for many purposes. In the manufacture of steel a large number of other metals are used. You probably know that a base metal is mixed with another metal to increase durability. A combination of two or more metals is also known as an alloy. Steel alloys are metals mixed with iron ore to make it harder and tougher. Those most commonly used are manganese, nickel, chromite, tungsten, vanadium, and molybdenum. Molybdenum is the only one of these of which the United States has a large supply. Over 90 per cent of the world's yearly output comes from our mines. The leading producers of manganese, the most important of the steel alloys, are the Soviet Union, the Union of South Africa, the Gold Coast, and India. Brazil and Cuba are the chief sources of this metal in the Western Hemisphere. Recently rich deposits of manganese have been discovered in eastern Canada. Canada produces about 80 per cent of all the nickel mined in the world. The largest producers of chromite are the Soviet Union, Turkey, Southern Rhodesia, and South Africa. China and the United States lead in the production of tungsten, and Peru is an important producer of vanadium.



Bureau of Mines, U. S. Department of the Interior

FIGURE 109 · *An open-pit iron mine in the Mesabi Range of Minnesota, one of the chief iron-producing regions of the world*

Turn to the minerals map (page 196) and find the chief deposits of copper, lead, zinc, and tin. You will see that they are widely, but not evenly, distributed throughout the world. The United States is fortunate in having large supplies of copper, lead, and zinc. Only in the case of tin do we find it necessary to import large quantities to meet our needs. Most of our imports of tin come from Malaya, Indonesia, and Bolivia.

Aluminum is a very useful metal which has come into increasingly common use because of its lightness and strength. During World War II the output of aluminum increased tremendously because that metal was used so extensively in making air, land, and water transport equipment, weapons, and other supplies needed by our military forces. Aluminum is obtained from bauxite ore, chiefly from British Guiana and Surinam. Most of the bauxite mined in the United States comes from Arkansas.

The problem of conserving our mineral resources is different from that of conserving our forests. Forests can be renewed by replanting, but when metal ores or mineral fuels are completely used they cannot be replaced. For this reason the mineral resources of the United

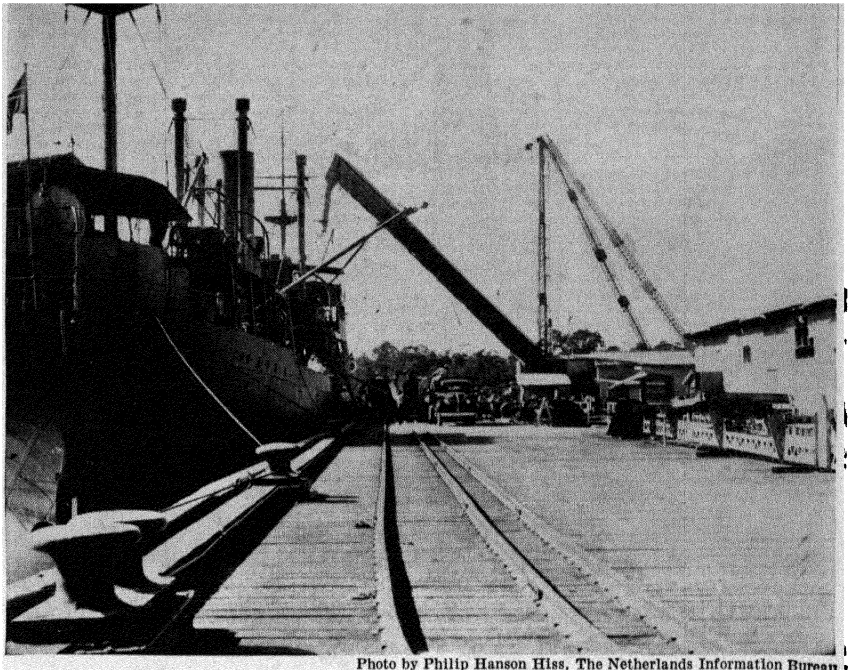


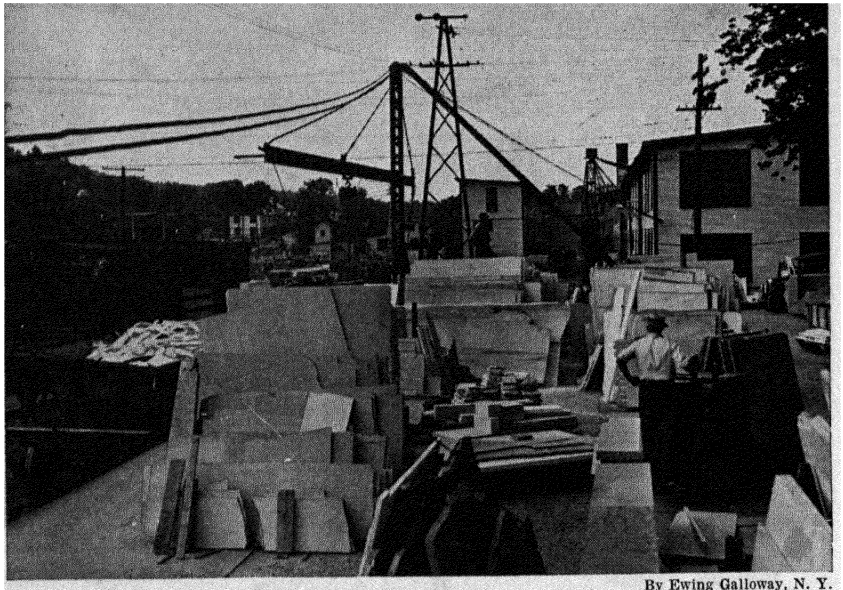
Photo by Philip Hanson Hiss, The Netherlands Information Bureau

FIGURE 110 · *A ship being loaded with bauxite at a port in Surinam*

States, even though they are very great, should be used with care, and not wasted. The value of old pieces of discarded metal which could be melted and used over was impressively evident during the war. The use of zinc in the galvanizing of iron is an excellent conservation measure, for in this case a less valuable metal is used to preserve a more valuable one. The waste of large quantities of our mineral fuels in the course of production can with care be avoided.

Other Mineral Resources. Among the other elements of natural wealth which come from the earth are building materials, salt, and fertilizers.

If you make a list of all the building materials that you can think of which come from the earth, you will surely include granite, limestone, sandstone, and marble, the four chief rocks which are quarried for building purposes. Granites, though expensive to quarry, are widely used for public buildings in the United States and Europe because the stone is attractive and durable. Limestone occurs over

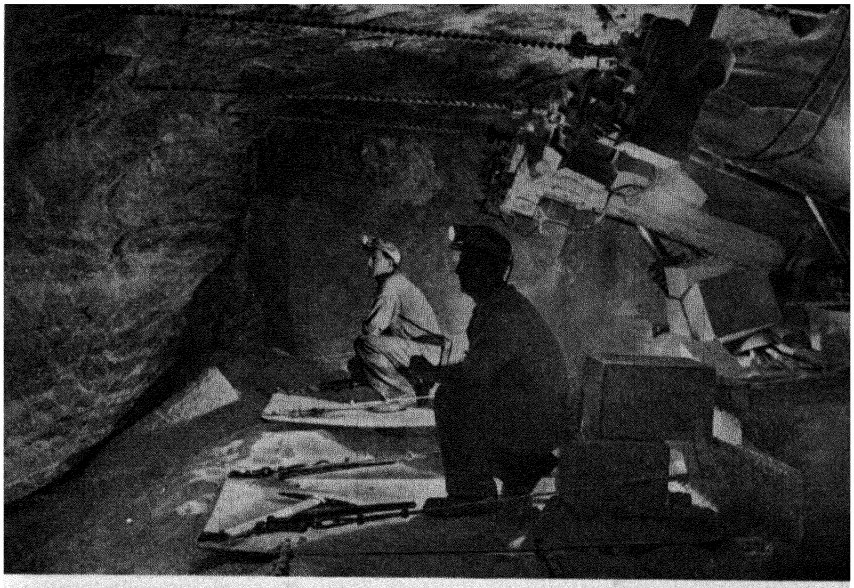


By Ewing Galloway, N. Y.

FIGURE 111 · *Slabs of polished marble ready for shipment at the finishing plant of a Vermont marble concern*

wide areas in many places in Europe and the Americas, and is the material used for many churches, and office, government, and university buildings. Sandstone is found at or near the surface of the earth in almost every country of the world, and so it is one of the common building stones. Often it is softer than building limestone and does not wear so well. The various kinds of marble take a higher polish than limestone and sandstone, and therefore are used for ornamental purposes in many fine buildings everywhere. Italy is famous for its marble quarries, and Vermont, Tennessee, and Georgia furnish most of the marble quarried in the United States.

Another valuable product which is found at varying depths beneath the surface of the earth is salt. All people and all animals must have a certain amount of salt in their diet. Common salt is used in every home in our country, and therefore the amount needed is very great. In some parts of the world the salt mines are hundreds of feet underground. Some of these mines have shafts and tunnels, and miners break off the rock salt as they would coal and send it to the surface. In other places hot water is forced down into



Courtesy of *Buffalo Evening News*

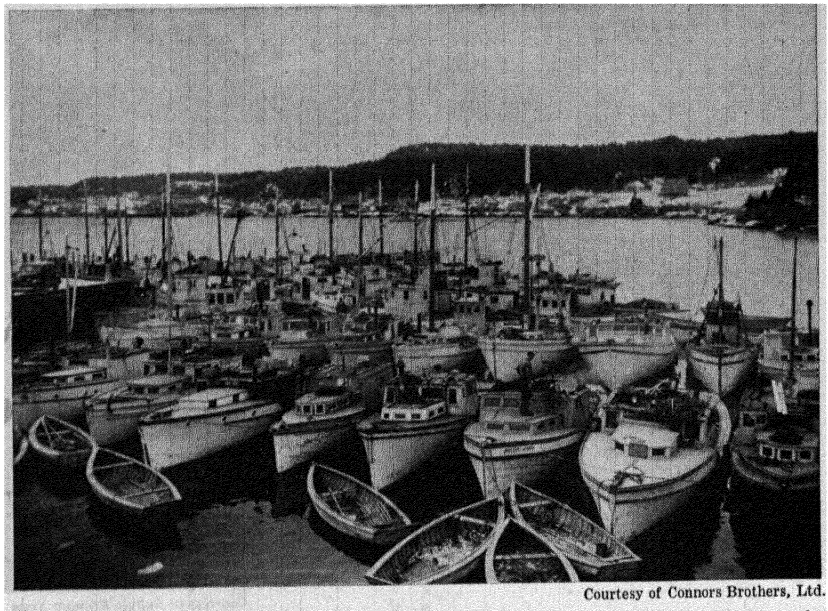
FIGURE 112 · *Drilling for the blasting of blocks of rock salt in the salt mine at Retsof, New York.* This is the largest salt mine in the Western World

salt water, is then pumped to the surface and evaporated. Some of our salt is obtained as a result of the evaporation of sea waters and salt-lake waters, but by far the greater part comes from beneath the ground. Salt is produced in nineteen states in the United States. Michigan ranks first and New York second in salt production.

Other kinds of salts which occur in rocks are suitable for fertilizers. The nitrate salts found in the Atacama Desert in northern Chile provide nearly all the world's supply of natural nitrate. Another salt which is used in large quantities as a fertilizer is potash. It comes chiefly from Germany and France. In our country we are fortunate in having large quantities of phosphate rock in Florida and Tennessee, as well as smaller amounts in various other states.

In Texas and Louisiana large amounts of sulphur are produced. This is a yellowish rock with many different uses. These two states furnish a large part of the world's supply of sulphur.

The Wealth of the Sea. Thus far in this chapter we have emphasized the importance of the wealth in the land to the people



Courtesy of Connors Brothers, Ltd.

FIGURE 113 · *The seining fleet in a New Brunswick harbor.* The fish caught are herring, most of which are canned as "sardines"

living on the earth. The sea and the other water bodies of the earth also play an important part in human affairs. From the earliest days of history man has turned to the sea for part of his food. Early methods of catching fish were very primitive as compared with the methods used for catching fish in large quantities for present-day needs. Surface-swimming fish such as herring and mackerel are caught in nets in the open sea. Such fish as cod and haddock live near the bottom in the comparatively shallow waters of the colder parts of the sea and are taken by means of trawls and nets. Salmon are hatched in fresh-water streams, live most of their lives in the sea, and then return to the original streams, where they are caught in great numbers by means of nets in the rivers and at the mouths of the rivers.

Turn to the map showing fishing grounds on pages 130–131 and find out where the great commercial fisheries are located. Are they for the most part in the warmer parts of the ocean or in the cooler parts? What is the character of the near-by lands? Which nations would you name as particularly interested in the fishing industry?

All the so-called shellfish, such as oysters, clams, and lobsters, live in the shallow water near the shores of the continents. They are not true fish, being small sea animals which grow shells to protect their soft bodies, but they are always included under the subject of fisheries, as are the sponge and pearl fisheries, which are found in the warmer ocean waters in some parts of the earth.

It is as important to see that life in the sea and other water bodies is protected as it is to protect the other natural resources of which we have been reading. There are strict laws against catching all the salmon that swim up any stream to lay their eggs. If there were not such laws and if they were not enforced, the world would soon be without salmon, which is one of the best food fishes. In lobster-fishery areas there is a limit to the period during which lobsters can be caught, so that the supply of lobsters will be maintained. Probably all the fur-bearing seals of the Pribilof Islands in Bering Sea, the center of the fur-seal fishery, would have been destroyed by now if there had not been as early as 1911 an international agreement between the United States, the British Empire, Russia, and Japan limiting the killing of seals.

Recreational Wealth. There is another kind of wealth of the land and sea in addition to the wealth of tangible resources about which we have just been studying, and that is the beauty of the landscape. We who live in the United States are fortunate indeed in having an abundance of this kind of wealth, which is measured in terms of the pleasure and inspiration derived rather than in terms of material value. Our mountains, lakes, streams, and beaches provide opportunities for all kinds of recreation. The conservation of their charm and beauty is just as important as the conservation of our soils, forests, and minerals. What are some of the things that our government has done to preserve the beauties of the natural landscape of our country?

International Co-operation. The subject of conservation has been referred to from time to time in this chapter. It is not only a national problem, but it is also international in scope. When the population of the world was far smaller than it is today, there was little need to worry about conserving the natural resources. At that time the presence of many of these resources in the then little-known or unknown parts of the world was not even suspected, and ways to use some of the resources had not been devised. But as the population of the

world increased and people spread over more and more of the earth, the drain on the natural resources increased so greatly that people were finally forced to realize the necessity of conserving them.

You know many of the measures which our own government has taken to conserve our farm lands, grasslands, forests, minerals, and fisheries. Some of these measures would be of little use if our country worked alone on the plan. Just as there must be agreement between two neighboring farmers as to the best methods of protecting their crops from pests in order to prevent the destruction of the crops of both, there must be international agreement among countries along the same lines. It is of little use for one nation to make laws regulating such things as deep-sea fishing or the killing of seals and whales unless the other nations which are engaged in such practices make similar regulations.

International co-operation is of vital importance in the prevention of the spread of contagious disease among plants, animals, and people. The recognition of the danger of the spread of diseases has led to the establishment of health services in various countries.

Another important area in which international co-operation is helpful is in connection with waterways. For example, the Great Lakes and the St. Lawrence River form part of the boundary between the United States and Canada. As the result of international agreements, both countries receive the benefit of these bodies of water for transportation, power, and fishing purposes. In Europe the many navigable rivers are connected with one another by canals, and together they form a network of waterways the use of which is subject to agreements among the various countries concerned.

QUESTIONS TO ANSWER AND THINGS TO DO

1. Why is soil such an important natural resource?
2. Why are some large areas of land not used for producing crops?
3. Why are some pastoral people nomadic?
4. What are the chief products of the pasture lands?
5. How can we all help in forest conservation?
6. What natural resources are most necessary to an industrial nation?
7. Give examples of problems in conservation in the solution of which international co-operation is necessary.

CHAPTER FIFTEEN · THE PRODUCTION OF THE WORLD'S GOODS

Modern manufacturing is carried on in a large way in only a few countries. It is an interesting problem to work out the causes which led the people in some parts of the world to build great factories and mills, and thus become manufacturing people, while those in other parts have not developed manufacturing industries. There are good geographic reasons for these differences. There are also good reasons for the location of the mills, factories, and large manufacturing cities at certain points. Such things do not happen by chance. A study of the conditions which account for the location of industries should help us to understand why the people of certain countries have undertaken manufacturing, and why certain cities have become manufacturing centers.

The Most Important Manufacturing Areas in the World. In the eastern third of the United States, in the southeastern part of Canada, and in the countries of central and western Europe, manufacturing has for many years been one of the chief occupations of the people. In these regions we find, close together, the largest industrial cities, with their huge factories equipped with every possible type of machinery. Each city usually has a smoky sky line, a badge which characterizes manufacturing on a large scale. These chief manufacturing regions of the world are shown on the map on pages 130–131. In what parts of the world are the other manufacturing districts located?

It is important to notice that the greatest manufacturing areas of the world are in the Northern Hemisphere; they are in regions where the weather changes from day to day and from season to season; they are near good farming lands; they are near large deposits of coal and iron; they have considerable water power resources; they are densely settled areas; and they have well-developed means of transportation by water and by rail. From these manufacturing districts vast quantities of factory-made goods go all over our country and to all parts of the world. To them come raw materials for their mills from places near at hand and from many distant lands.

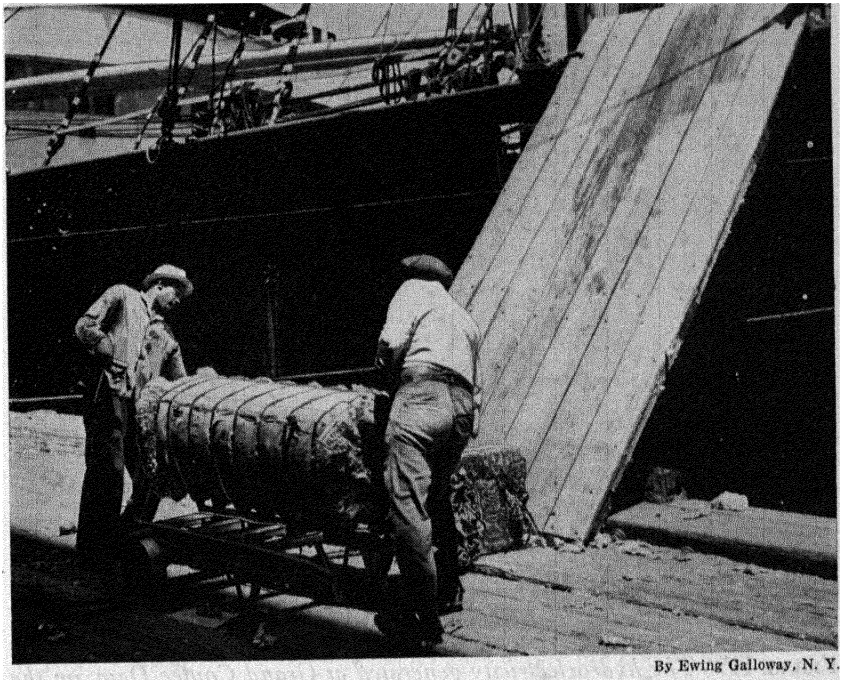
Manufacturing Provides a Living for Millions of People. Today thousands of men are employed in iron-and-steel works, in the

manufacture of electrical and radio equipment, tools, locomotives, railroad cars, ships, automobiles, and airplanes. The making of paper, the printing of newspapers, magazines, and books, and the making of motion pictures are important present-day industries. Thousands of men and women in all the leading nations are engaged in weaving cloth or in making clothing, dishes, and household utensils. Many people work in mills where foods are prepared for market. It would take a large amount of space to list all the useful articles that are now being manufactured in the various countries of the world.

1. *Raw Materials and Power*

Raw Materials and the Location of Factories. In the early days, when there were few means of transportation, manufacturing could not be carried on very far from the place where the raw materials needed in the factory were produced. Today, however, with modern means of transportation, raw materials can be obtained from distant parts of the world. The first woolen mills of England, for example, obtained the wool used in making cloth from the sheep which grazed on the neighboring hills. Today the great English woolen mills at Leeds, Bradford, and other places import large quantities of wool from Australia, New Zealand, and Argentina. Pittsburgh, in Pennsylvania, noted for its iron-and-steel mills, first depended on iron ore mined near the city, but today most of the iron ore used in Pittsburgh comes from the Lake Superior region.

New England and old England depend on raw cotton from southern United States and Egypt for their great cotton mills. In normal times most of the crude rubber used in the world is produced in the Indonesian islands and neighboring lands, but the manufacture of most of it into useful articles is done in the United States. During World War II, when it was impossible to obtain crude rubber from the Far East, steps were taken to produce more rubber in tropical America and to manufacture synthetic rubber in the United States. Before the war most of the raw silk used in the silk mills of the United States came from Japan and China. In peacetime, raw materials from almost every part of the world are shipped to factories which need them, wherever those factories may be located.



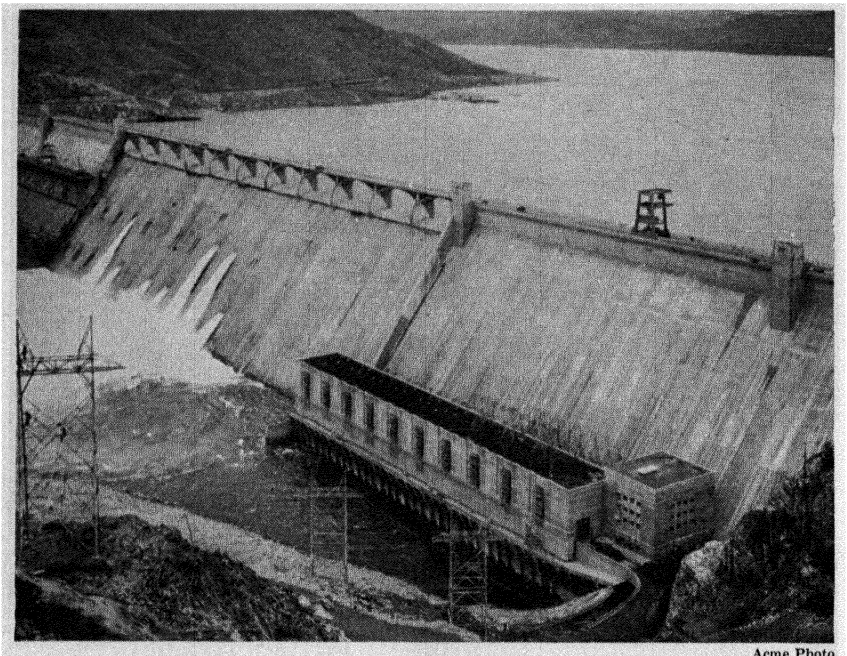
By Ewing Galloway, N. Y.

FIGURE 114 · *Loading cotton at Galveston for export to European mills*

The Importance of Power in Manufacturing. As you already know, most of the manufacturing carried on in the world today is done by machinery. With modern machinery one man can do as much work as ten, twenty, or even more men did in the days of working by hand. But machines cannot run without power.

Use of Water Power. When men learned how to use the power in falling water, mills were built near falls in streams, and the water power was used to turn the mill wheels. In England and Scotland, in New England, and in the Middle Atlantic States many towns and cities grew up at such points. At first, engineers did not know how to control the larger streams, and so the mills were placed on the banks of the smaller streams. Later, as engineers became more skillful, the power of the larger streams was harnessed, thus making it possible for more factories and mills and for larger cities to develop.

In the United States the water power of nearly every stream in New England has been used at one time or another, and falls gave

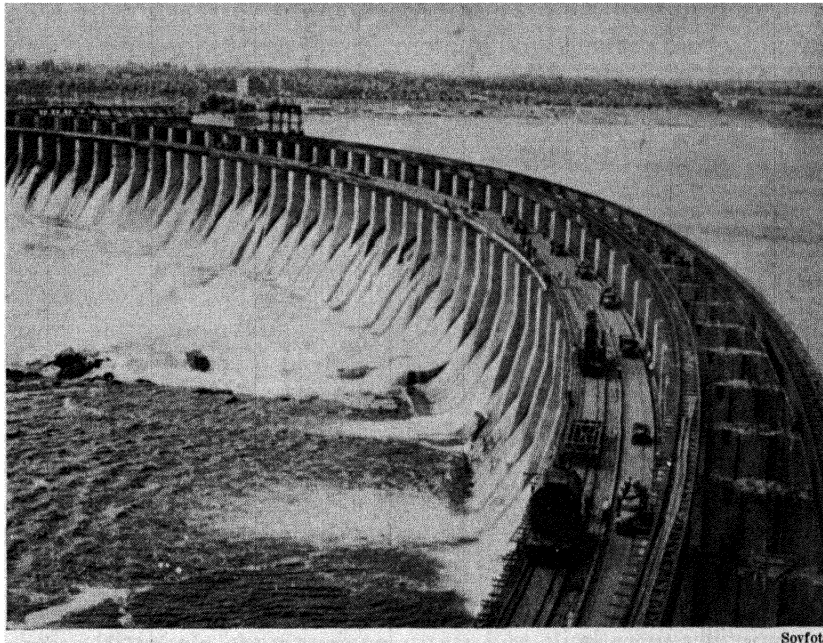


Acme Photo

FIGURE 115 · *The hydroelectricity generated at Grand Coulee Dam, on the Columbia River, is of great importance to our Northwest*

the towns along the fall line an early start in manufacturing. At some places the small mills have been abandoned, as larger mills have been built on the larger streams. There is now a chain of several manufacturing cities on the banks of the Merrimack River in New England, and each one of these cities grew up at falls. In the same way many of the streams of New York State have been used. The power of the upper Mississippi River has led to the growth of Minneapolis as a milling center.

Hydroelectric Power. At Niagara Falls electricity is generated for the use of people in both the United States and Canada. Many of the rivers of New England and New York State and those throughout the Appalachian Highland region now furnish power to the cities and to mills near them. Throughout the Southeast, the Tennessee Valley Authority distributes the hydroelectric power developed at the series of dams and reservoirs on the Tennessee River and its major tributaries. Large rivers such as the Mississippi are also used to generate electricity. Some of the electricity generated by using the falls



Sovfoto

FIGURE 116 · *The huge Soviet dam across the Dnepr River*

in the Missouri River at Great Falls, Montana, is used for smelting ores, for lighting mines, and for moving trains across the mountains.

In Washington, Oregon, and California an abundance of electricity is generated by harnessing the water which flows over falls in many of the streams which drain the slopes of the Cascade Range and the Sierra Nevada. Many towns and cities in western United States and Canada use electricity that is generated by the power in streams which have their sources in the Rocky Mountains. The Colorado, Snake, and Columbia rivers have been harnessed to generate hydroelectric power as a part of irrigation projects.

In Switzerland, in northwestern Italy, and at many places in the mountains of southeastern France the force of falling water, which the French call "white coal," is turned into hydroelectric power. Sweden generates more electricity than it needs at present, so it exports some by undersea cable to Denmark. In Norway, falls in the streams cascading into the fiords supply electricity for many fishing villages and cities along the mountainous coast. In fact, in most countries with high mountains in which are lakes, snow fields,

or glaciers to feed the streams throughout the year, electricity is developed and distributed to the more densely settled lowland regions.

Japan has excellent water-power resources. It is a mountainous country with an abundance of rainfall, and therefore it has many swift streams. The power of a large number of these has been harnessed to make hydroelectric power.

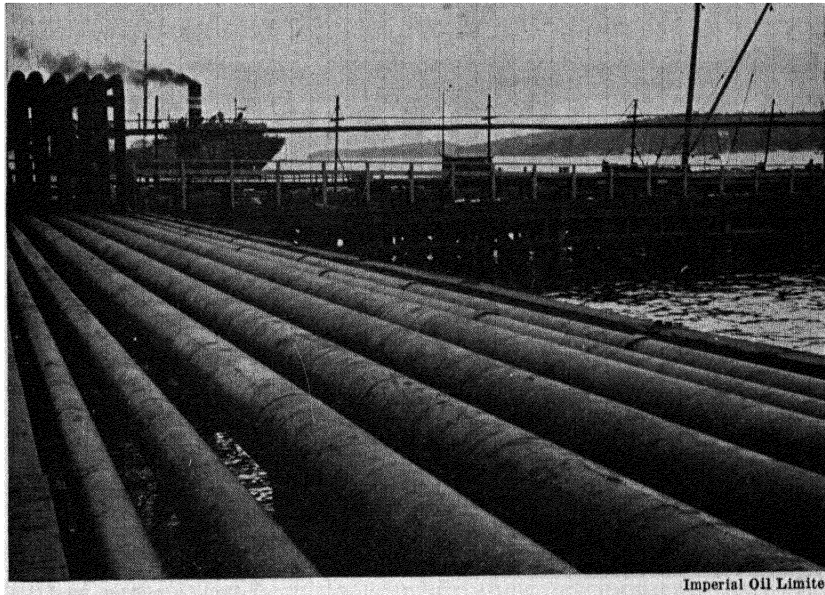
In the Soviet Union power plants have been built on many of the rivers. The largest of these is on the Dnepr River at Zaporozhe about 60 miles downstream from Dnepropetrovsk. *See Figure 116.*

Steam Power. With the discovery of steam as a source of power, and the invention of the steam engine, steam power soon began to be used in place of water power in many localities. Steam engines in factories and mills furnished power when there was not enough water to turn the mill wheels. The location of new factories and mills was no longer limited to banks of streams, for with an abundance of coal and other kinds of fuel, steam power can be developed almost anywhere.

The use of steam to provide power was applied to transportation. Locomotives were built and steam engines were placed in vessels. Thus by means of the railroads and steamships, raw materials were brought to the manufacturing centers, and in the course of time the finished products were taken to distant markets. From that time on, seaports, lake ports, river ports, and cities with good railroad connections became favored sites for manufacturing centers. Today about two thirds of all the electricity used in the United States is generated by steam power, and about a third is generated by water power.

How Coal Helps Manufacturing Industries. For some time wood was used as fuel in the steam engines. Later when the use of coal became more general the mill owners found that it was much more satisfactory than wood.

Mills and factories that are near supplies of coal have a distinct advantage. All the leading manufacturing centers in Europe and in the United States are either near coal fields or at places to which coal can be transported with little difficulty. In fact, no nation without a good supply of coal has as yet become a leading manufacturing nation. Compare the map on pages 130–131 with the one on page 196 and notice that each large manufacturing region is either near a coal supply or is so located that it can obtain its coal with little difficulty.



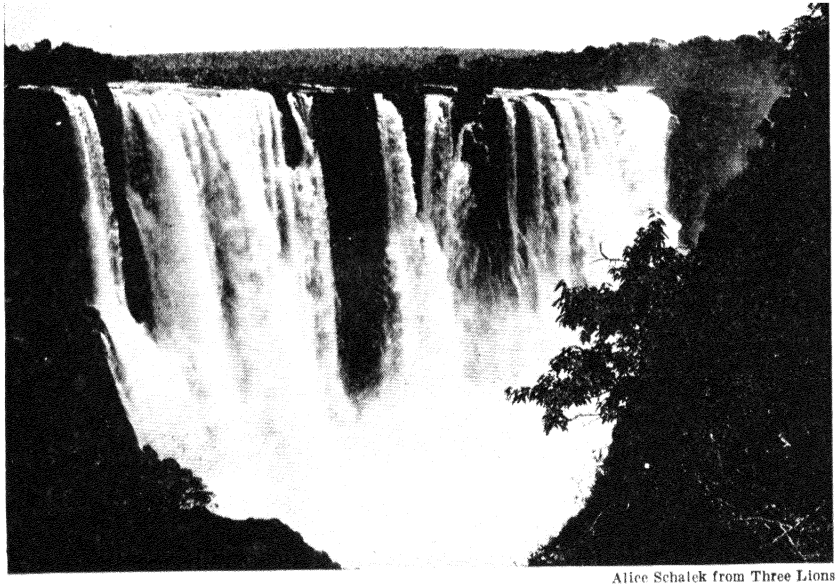
Imperial Oil Limited

FIGURE 117 · *Pipes for crude oil and oil products at an Atlantic coast refinery*

In New England, where coal as well as the raw materials used in manufacturing must be obtained from outside sources, most of the manufactured products require more hand labor than they do in other areas. Manufactured goods of the best quality command higher prices, and this makes up for the cost of importing the raw materials and fuel which the manufacturer has to buy.

Oil and Gas. Petroleum and natural gas are excellent fuels; and although they are not used so commonly as coal, they have become important as sources of steam power for use in many manufacturing industries. In order to use these two fuels, factories and mills do not need to be near the sources of supply, because both oil and gas can be sent long distances through pipe lines or can be delivered by tank steamers or tank freight cars.

How Coal Is Used to Make Electricity. You probably know that electricity can also be made from steam power as well as from water power. There are today great electric power plants in or near large cities far from waterfalls. At such places coal is burned to make steam, and the power of the steam is used to run the turbines which



Alice Schalek from Three Lions

FIGURE 118 · *Victoria Falls in the Zambezi River, in Africa, may someday be one of the world's chief sources of hydroelectricity*

turn the generators that produce electricity. The electricity is then sent over wires from the power plants to the factories, mills, office buildings, and homes, just as is hydroelectric power.

Networks of Electric Power Lines. In all the more densely populated sections of the manufacturing districts of Western Europe, Japan, and the United States, there is a network of power lines over which electricity is transmitted from place to place. These lines are so connected that they link up both steam-electric plants and hydroelectric plants. Thus if one power plant suddenly breaks down and is unable to supply electricity, the interconnecting networks are used to supply power on a given circuit.

The general use of electricity has affected the lives of millions of people. It has provided a source of power for mills and factories, railroads, and streetcar lines. It has increased the ease and safety of travel, and has brought comforts and conveniences into the homes of many people. The uses of electric power are constantly increasing.

Water Power and Conservation. The important point to remember in connection with the use of falling water for power is that the

water so used is not destroyed. Coal and petroleum, our two chief sources of power, once used are gone forever. Therefore, wherever hydroelectric power is being used in place of steam power or steam-electric power, an inexhaustible resource is being used in place of an exhaustible one. This is the best kind of conservation.

The Countries That Lead in the Development of Water Power. The United States leads all other countries in the development of its water-power resources. Canada ranks second. Both of these countries have even larger potential water-power resources which are as yet undeveloped. In Europe, Italy and France lead in the development of water-power resources, and are followed by Norway, Switzerland, Germany, and Sweden. In Asia, Japan leads. Areas affected by the continental glaciers of the past and local glaciers of the present often have conditions favorable for power developments. Explain in what way glaciers helped to furnish power for today.

Of all the continents, Africa, in its central plateau region, possesses one of the greatest potential water-power resources. However, little or nothing has been done toward their development. Asia also has large potential resources in the Soviet Union, China, India, and Japan; but except for Japan, only a small part of these have been developed. The potential resources of South America, the largest part of which are in Brazil, are approximately the same as those of North America, but as yet a considerably smaller proportion has been put to use.

QUESTIONS TO ANSWER

1. Why is hydroelectric power especially valuable in countries which have no coal?

2. Why would it be difficult for manufacturers to get along without coal?

3. What are some ways to conserve fuel resources?

2. *The Major Manufacturing Industries of the United States*

Manufacturing began in the United States much later than it did in Europe, but it has become a mammoth industry. As the map on page 214 shows you, the principal area in which manufacturing is carried on is in the northeastern part of the country. It includes

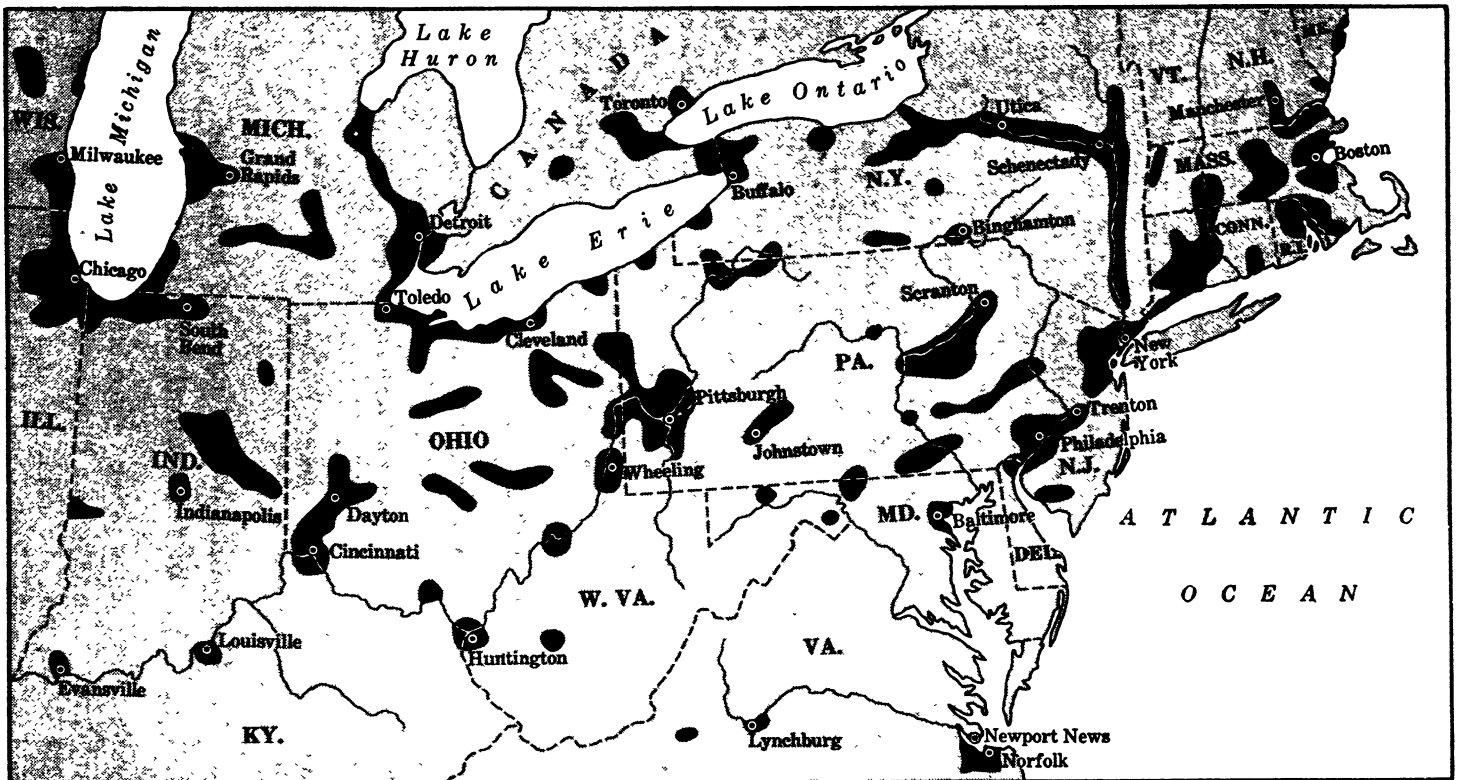


FIGURE 119 · *The chief manufacturing districts in northeastern United States*

the districts centering around Boston, New York, Philadelphia, Baltimore, Pittsburgh, Cincinnati, Cleveland, Buffalo, Detroit, and Chicago. The manufacturing areas in other parts of the country are much smaller. There are so many different things manufactured in the United States that we can study only a few of the most important.

The Manufacture of Foods. Food-processing, or the changing of the products of farms and ranches into food, is the most important of all manufacturing industries. It includes meat packing, flour milling, the preparation of breakfast cereals, and the making of bakery products. Almost every town, no matter how small, has a local bakery. The food-processing industry also includes the canning, preserving, and quick-freezing of fruit, vegetables, and fish; the refining of sugar; and the making of butter, cheese, and many other products. Each of these industries is located in rather specific parts of the United States—usually near the source of production. The perishable raw materials are prepared and packaged in various forms ready to sell at a future time and in distant places.

Textile Manufacturing. This group of manufactures includes not only cotton, woolen, silk, rayon, and nylon cloth, but also the making of these different kinds of cloth into clothing.

Textile Manufacturing in New England. In the southern half of New England thousands of people are employed in woolen and cotton mills, and also in mills which make rayon goods, and goods of cotton or wool mixed with rayon. The early textile mills were built at the falls in rivers, where water power was easily available. The later and larger mills were built at these power sites or at points on the seacoast which were convenient for receiving raw cotton and wool, and coal for steam power. The most important of the textile districts are the Merrimack Valley and southeastern New England, including the Blackstone Valley. Lowell, Lawrence, Manchester, Fall River, and New Bedford are leading textile-manufacturing cities in these districts. In what states are they?

Textile Manufacturing in the South. A large part of the cotton grown in the cotton belt is used in cotton mills in the South. These are located for the most part in the Piedmont Belt in North Carolina, South Carolina, and Georgia. Charlotte, North Carolina, is one of the most important cotton-manufacturing cities of this region. Almost every good-sized town or city in the Piedmont has a cotton mill or two. These mills are well located as far as power is concerned,

James Sawders

FIGURE 120 · *Operating a finishing machine in a mill in which cotton knitted goods are made*

for there is a great abundance of water power and hydroelectric power as well as coal in the southern Appalachians.

The Great Clothing Centers. New York City is the greatest manufacturing city in the United States, and of all its manufactures that of clothing ranks highest. A large part of women's and nearly half of the men's clothing manufactured in the United States is made in New York City and neighboring cities.

Because New York leads in the manufacture of clothing, it is an important market for all kinds of textiles. It is also a distributing center for textiles. Through its port are exported many of the textile products of the Eastern and Southern States. Textile imports into the United States from England, France, and other countries come largely to New York City for distribution. Among the other important clothing-manufacturing cities are Chicago, Philadelphia, Boston, Baltimore, St. Louis, Cincinnati, Cleveland, and Rochester.

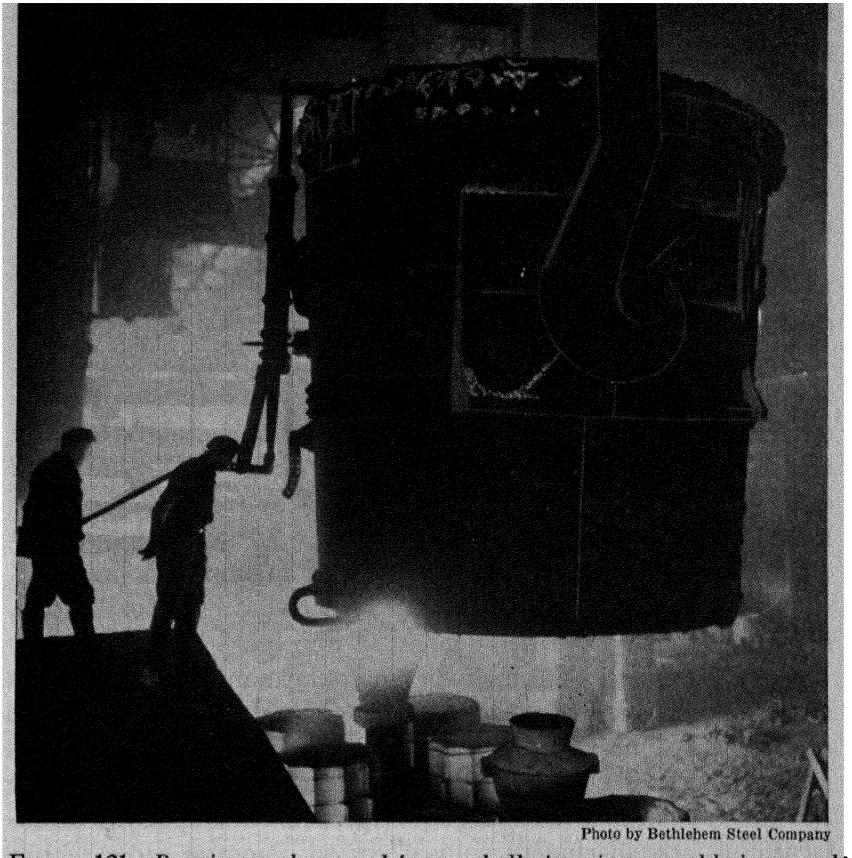


Photo by Bethlehem Steel Company

FIGURE 121 · *Pouring molten steel from a ladle into ingot molds in a steel plant in eastern Pennsylvania*

Industries Dependent on Iron and Steel. Men have been making use of iron for many centuries, but it was less than one hundred years ago that they learned how to change it into steel, which is much stronger than iron. Iron and steel are now the basis for many industries, among the most important of which are the manufacture of farm machinery, automobiles, aircraft, electrical machinery and equipment, railway materials, and ship construction.

The Important Iron-and-Steel Districts. Western Pennsylvania, with Pittsburgh as a center, manufactures more iron and steel than does any other district in the world. Pittsburgh had an early start in the smelting of iron ore and in the manufacture of iron because of

its nearness to Pennsylvania iron deposits and to limestone quarries and large coal fields. When the Lake Superior iron mines were opened, many of the Pennsylvania mines closed because large quantities of rich iron ore could be brought cheaply by water from the Lake Superior district. There are hundreds of plants in Pittsburgh and the surrounding district in which iron and steel and all kinds of iron and steel products are made.

Eastern Pennsylvania has an important iron-and-steel district. Much of the iron that is used in the mills of this district comes from Chile, Sweden, Liberia, and Venezuela.

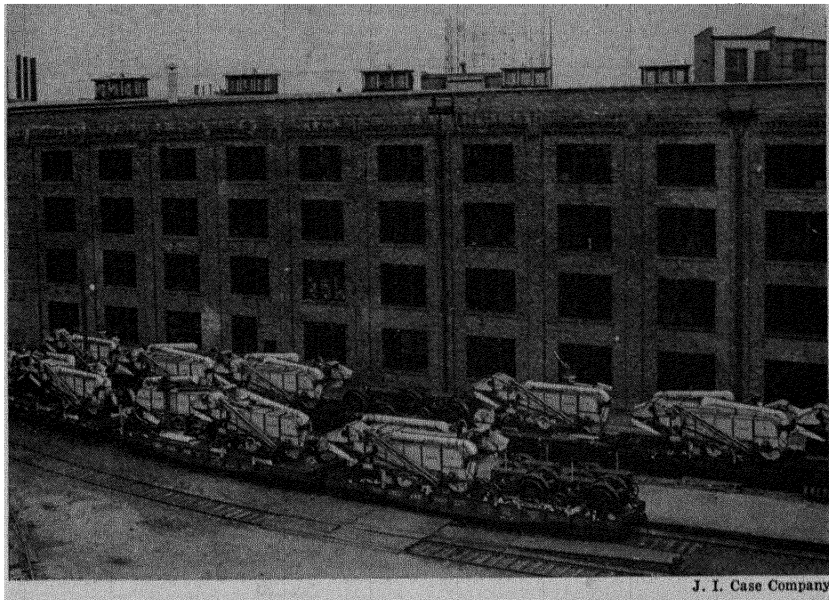
Youngstown and other cities in eastern Ohio, Buffalo, Cleveland, and other Lake Erie cities, and Chicago, Gary, and Indiana Harbor, on Lake Michigan, are all large manufacturers of iron and steel. The coking coal comes largely from Pennsylvania, West Virginia, and eastern Kentucky. The iron ore is brought by freighters from the Lake Superior district.

Birmingham, Alabama, is the center of an important iron-and-steel district in the South. It is near beds of excellent coking coal, limestone quarries, and rich deposits of iron ore.

Farm Machinery. The manufacturer of farm machinery and tools is carried on in many of the cities of the Central States to supply the needs of the farmers and dairymen in the farming regions. Chicago, Moline, and Peoria, in Illinois; South Bend, in Indiana; and Racine and Milwaukee, in Wisconsin, are important centers for the manufacture of farm machinery.

The Automobile Industry. Automobiles are manufactured in great numbers in Michigan, Ohio, and Indiana, with Detroit and a group of cities in southeastern Michigan as the centers of the industry. The making of automobile bodies is a special industry, and is carried on in many places far away from those where the motor engines and chassis are made. Scores of cities in the Central Plains and in the East have factories for making numerous automobile accessories, or small parts. During World War II the automobile plants made tanks, planes, gun carriages, and many kinds of trucks for war use. When the war was over, the plants went back to making their usual products.

The Aircraft Industry. The first successful flight in a machine that was heavier than air was made in 1903 by Orville Wright at Kitty Hawk, North Carolina. Although for some years after 1903 most people refused to believe that flying would ever be practical, steady



J. I. Case Company

FIGURE 122 · *Farm machinery manufactured in the Central States is shipped to farming regions all over the world*

progress in aviation was made in the United States as well as in European countries. The use of airplanes in World War I brought about the rapid growth of the aircraft industry. From then on, the use of airplanes for carrying passengers and mail, as well as for various other purposes, became commonplace. Larger and larger planes were built so that more passengers and freight could be accommodated. Pilots were trained more and more carefully, and engines were improved so that air travel became progressively safer and faster all the time.

During World War II the aircraft industry expanded more rapidly than at any other time in its history. Airplanes of various kinds proved to be extremely important. There were fighters, bombers, scouting planes, and planes for carrying troops and war supplies. Airplane plants all over the country expanded, and many factories that had been making automobiles and automobile parts turned to making aircraft and aircraft parts and other war equipment. Thousands of planes were built—sometimes more than 8000 or 9000 in a single month.

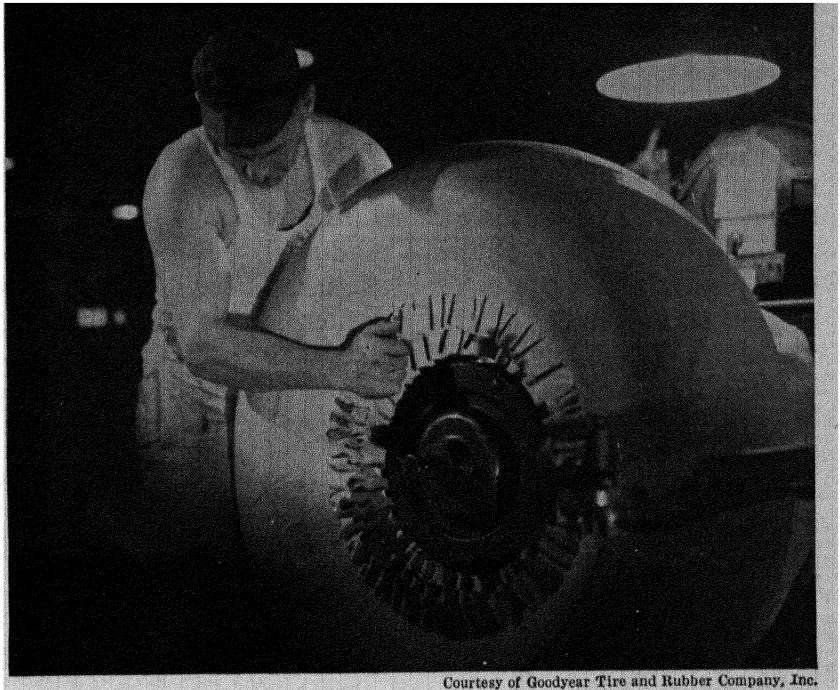
Philip Gendreau, N. Y.

FIGURE 123 · *A plant in which passenger airplanes are manufactured*

When the war was over, the aircraft industry converted to meet the needs of the air-minded world. Larger and faster planes were built for transportation and trade. Today great interest is being shown in jet propulsion. The helicopter is being further adapted for private transportation, for certain types of public transportation, and for delivery of mail, as well as for other purposes. This type of plane has the advantage of being able to hover in the air over a given spot, and to land on and take off from a small space.

The Electrical Industries. Within the last fifty years the expansion and development of electrical industries has been remarkable, not only in the United States but in the countries of Western Europe and in a few other parts of the world. In the United States the development of electrical machines and equipment increased so rapidly that in 1950 we were producing four and a half times as much of these goods as in 1925. The centers of the electrical industries are along the margins of the lower Great Lakes and in the area extending eastward through the Middle Atlantic States and southern New England.

The uses of electricity cover such a wide field that it is not strange



Courtesy of Goodyear Tire and Rubber Company, Inc.

FIGURE 124 · *Making a tire for a truck.* After the tread rubber and sidewall rubber have been put on, the iron core of the tire is removed

that the manufacture of electrical machinery ranks high among our industries. The use of electricity for power and light requires such things as turbines, generators, power lines, electric lamps, and a great number and variety of machines and parts. The use of electricity in communication requires such things as cable lines, telephone and telegraph apparatus, and radio sets and tubes. Electric locomotives are used for transportation. The commercial and domestic electrical appliances in use are too numerous to mention here, but you should be able to name an extensive list of items that function by electricity.

The Rubber and Leather Industries. Although natural crude rubber is produced in the tropical zone, a large part of it is used in factories in the United States. The leading center of the rubber industry in this country is Akron, Ohio. Automobile tires and inner tubes are by far the most important of rubber manufactures. For

years the United States has manufactured about two thirds of all these products used in the world.

The rubber shortage during World War II was a particularly hard blow to the rubber industry. The chief help in meeting this shortage was the synthetic rubber manufactured from petroleum, coal, and grain alcohol. This type of rubber proved so successful that its manufacture has been continued.

New England has more than a third of all the shoe factories in the United States, and Massachusetts makes more shoes than any other state. Boston is one of the greatest leather markets in the world. New York and St. Louis are also important shoe-manufacturing cities, and Philadelphia is an important leather market.

QUESTIONS TO ANSWER

1. What part of the United States is the most important manufacturing district? What states are included in this district?

2. Why are meat packing and grain milling the most important of the food-processing industries? Why are these two industries centered largely in the Central Plains?

3. Why does the manufacture of clothing center in our largest cities?

4. In what ways are modern means of transportation largely dependent on iron and steel?

5. What conditions have been responsible for the growth of the aircraft industry since 1914?

6. Why was it necessary for the United States to turn to the making of synthetic rubber?

7. What newly-developed industries do you think are likely to become of great importance in the next ten years?

3. *Manufacturing in the British Isles*

The British people have carried on manufacturing for many centuries, and today they are one of the greatest manufacturing and exporting peoples in the world. Among their many exports, textiles and manufactures of iron and steel are most important. See the map on page 227.

The Woolen Industry. One of the oldest of the British manufacturing industries is the spinning and weaving of wool. By the sixteenth century England had become an important manufacturer of woolen cloth and was exporting this product. Skilled workers from Flanders had been brought into England from time to time by the English kings to improve the manufacture of wool in that country.

Leeds is the center of the Yorkshire woolen-manufacturing district—one of the greatest in the world. Woolen manufacturing began here in the early days when the sheep raised in Great Britain furnished all the raw material and all the work was done by hand. Now the work is done by machinery, and the mills use such huge quantities of wool that Great Britain ranks first in the world as an importer of wool. From what countries does it import wool? Much of the imported wool is consigned to warehouses in the port of London, from which it is shipped to districts making woolen textiles.

Cotton Manufacturing. Cotton manufacturing was carried on in the Moorish towns of Spain in the ninth century, but it was not until about 1300 that cotton was imported into England for manufacture. Cotton manufacturing developed slowly, but after the invention of the spinning jenny, the water frame, and other machines the industry grew by leaps and bounds. For many years Great Britain led all the countries of the world in the manufacture of cotton goods.

The city of Manchester is the greatest marketing center for the manufacture of cotton in the world. Lancashire, as this part of England is called, lies west of the Pennine Range. Small streams which have their sources in these mountains furnished water power for the early manufacture of cotton. When water power was replaced by steam power, the abundant supplies of British coal were used, as they were in the Yorkshire woolen-manufacturing district.

Most of the cotton for the Lancashire mills comes from the United States, India, and Egypt through the port of Liverpool. The exports of cotton goods go for the most part to British colonies and to tropical lands in all parts of the world.

Linen Manufacturing. In Northern Ireland, especially around Belfast, is an important linen-manufacturing district. Years ago much flax was grown there, and the fiber was manufactured into linen cloth on hand looms. Now the work is done in mills, and Belfast imports large quantities of flax fiber, chiefly from Belgium.

Aeroflims from Ewing Galloway

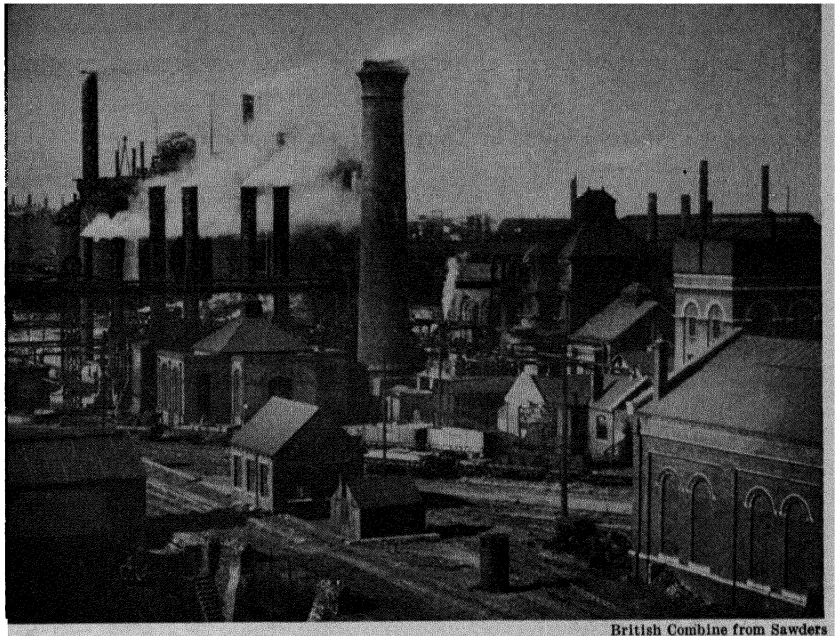
FIGURE 125 · *Cotton mills and workers' tenements in a city in the Lancashire district of England*

Linen cloth and other linen manufactures from its mills are exported all over the world. The United States is one of the best customers for these goods.

Iron-and-Steel Manufacturing. Great Britain normally ranks third among the countries of the world in the production of iron and steel. There are great blast furnaces and steel mills in many places where the coal and iron can be brought together for manufacturing purposes.

Birmingham, England, is the center of the manufacturing district known as the "Black Country." Iron manufacturing has been carried on there since the sixteenth century. In those early days iron was smelted with charcoal made from wood obtained from neighboring forests. When coal was discovered near Birmingham, the city soon became noted for all kinds of metal manufactures.

There are great blast furnaces and factories for the manufacture of iron and steel products near the coal fields of southern Wales. Cardiff is the largest city of this district, but Swansea is the leading metallurgical center.



British Combine from Sawders

FIGURE 126 · *Some of the steel mills in the iron-and-steel center of Middlesbrough*

Middlesbrough, in northeastern England, is another iron-and-steel center. Iron is mined close by, and there are large coal fields at Newcastle, a short distance to the north. Both Middlesbrough and Newcastle are centers for shipbuilding and the manufacture of machinery. Farther south the city of Sheffield specializes in the manufacture of cutlery, hardware, and marine equipment.

At Glasgow and Belfast there are immense shipbuilding yards where any kind of ship from a fishing schooner to the largest ocean liner is built. As you already know, the British people need many ships to carry on trade with the various parts of the Commonwealth and with other countries in the world.

The Potteries. Another important manufacturing industry in the British Isles is the making of pottery. Years ago large deposits of good clay were found between Birmingham and Manchester, and many pottery-manufacturing towns grew up in this district. Most of the high-grade clay has been used, but the potteries use clay from other parts of England.

QUESTIONS TO ANSWER

1. For what manufactured products is Northern Ireland especially famous?

2. What industry centers in Yorkshire? in Lancashire?

3. What British cities are centers of the iron-and-steel industries? Compare the advantages of each.

4. What important industry is carried on at both Glasgow and Belfast?

5. For what manufactures is Sheffield especially noted?

6. Why were factories built later in the United States than they were in England?

4. Manufacturing on the Continents of Europe and Asia

Iron-and-Steel Manufacturing. Blast furnaces and steel mills are a common sight in many places in Belgium, Germany, and France. Essen, in Germany, is the largest city and chief steel-manufacturing center of the Ruhr Valley district, the most important iron-and-steel manufacturing region in these countries. Here are some of the richest fields of good coking coal in all Europe. Another district extends through Liége, in Belgium, to Lille, in northern France. A third district is in Lorraine in northeastern France, of which Nancy is the center. The iron mines in Lorraine and in Luxembourg furnish much of the iron ore used in the furnaces and steel mills of Belgium, Germany, and France. Near Lorraine are the coal fields of the Saar Basin. These three districts include scores of cities and towns which not only manufacture pig iron and steel but fabricate all kinds of metal products.

Textile Manufacturing. The cities of Lyon and St. Étienne, in France, are the centers of the silk-manufacturing district. Lyon specializes in dyeing and finishing silk goods, and St. Étienne is the center of the ribbon industry. Other towns in this district make silk thread and cloth and other silk products. The silk industry developed in this part of France many years ago. France produces little raw silk today, and its silk factories depend largely on imports from Italy and Japan.

In the valley of the Rhine in Germany, the Netherlands, and Switzerland are scores of cotton-manufacturing towns. In northern

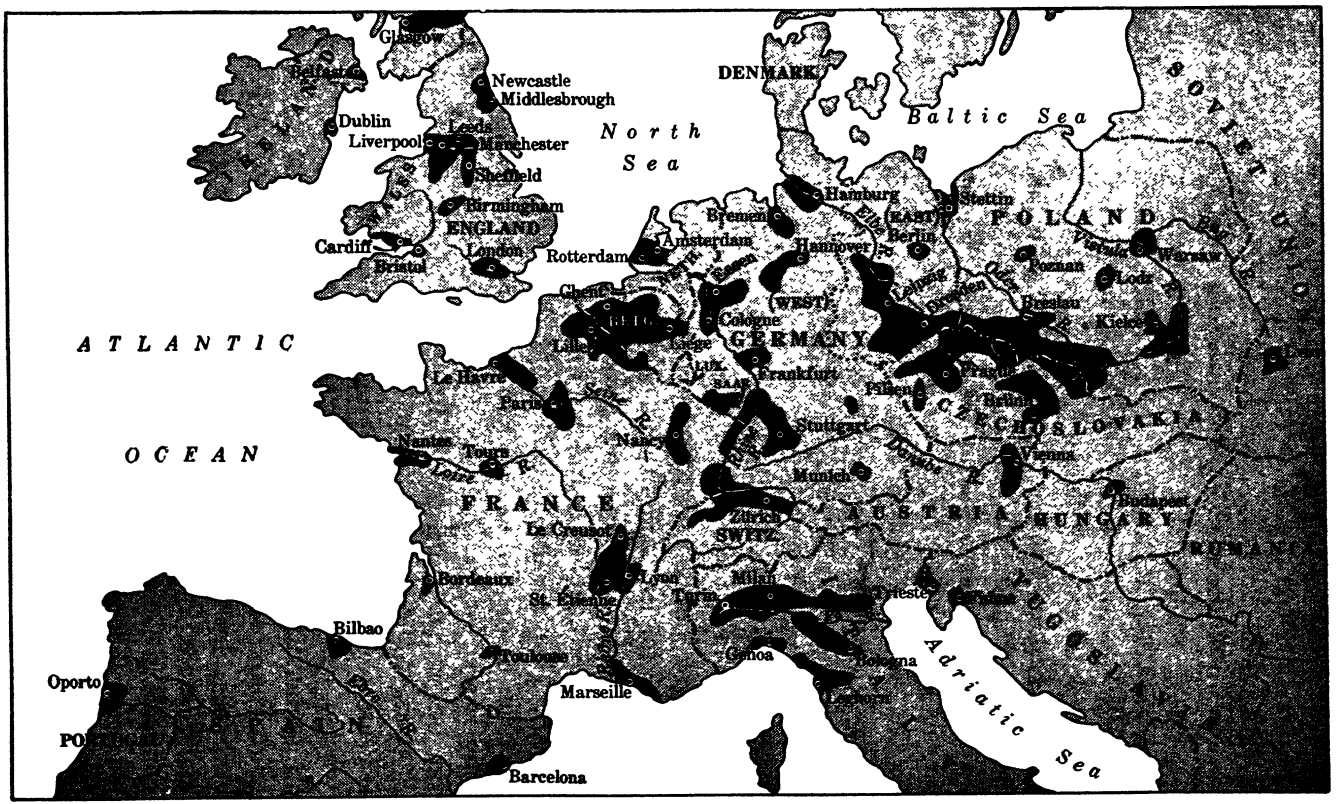


FIGURE 127 · *The chief manufacturing districts in western Europe*

France, Lille and neighboring cities have cotton, woolen, and linen mills. Lodz, in Poland, specializes in the manufacture of cotton and woolen goods.

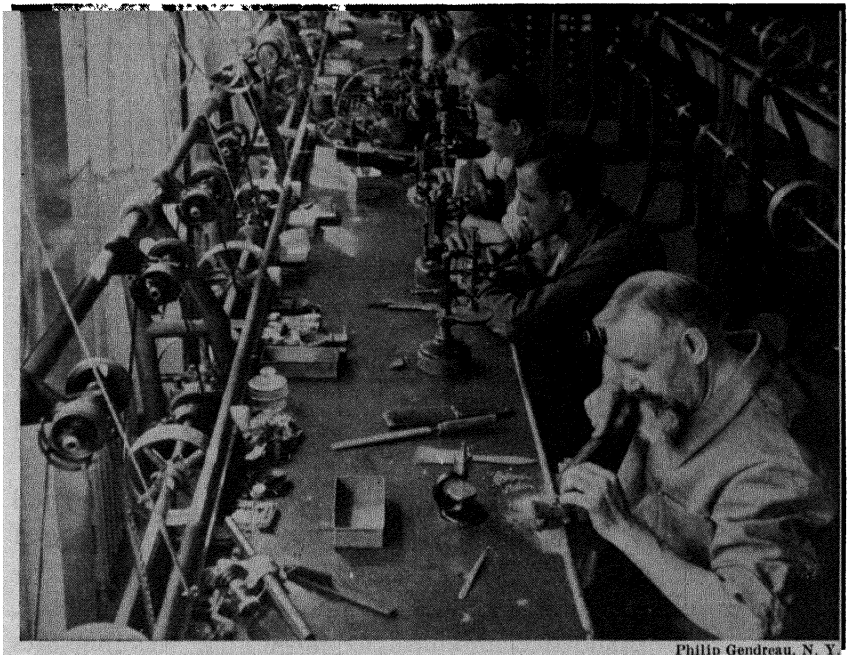
You already know that Flanders was one of the early woolen-manufacturing regions. It also has many linen and cotton mills. Belgium raises some of the flax for its linen manufactures, but it imports large quantities of flax fiber, wool, and cotton. Ghent is the important textile center of Belgium.

Paris, the Fashion Center. The making of women's clothing and millinery is an important business in Paris. This city has long been known as the fashion center of the world. The manufacture of clothing is carried on by large dressmaking establishments and not in factories. The silk mills of Lyon and the cotton district around Lille furnish quantities of materials that are made into clothing in Paris. In addition to the attractive clothing, Parisian craftsmen make all kinds of beautiful leather goods, jewelry, laces, and embroideries.

Manufacturing in Switzerland and Italy. The Swiss people, unlike the people of the other countries of northwestern Europe, have no coal and iron, but they use their mountain streams to make hydroelectric power for use as light and power. They specialize in the making of watches, clocks, jewelry, fine tools and precision instruments of all kinds, and laces and embroideries, for all of which they are famous. They are also famous for the manufacture of chocolate.

The Plain of the Po, in northern Italy, is an important manufacturing region for textiles. Like Switzerland, Italy has little coal or iron, but it has numerous hydroelectric plants which furnish electricity for light and power. Milan and Turin are the leading textile centers of the country. In these and neighboring cities are silk, woolen, and cotton mills. Italy produces more raw silk than it uses in its manufacture of silk goods and has a surplus for export. It imports cotton from the United States and wool from Argentina and Australia. Iron and steel goods, chemicals, and glassware are also manufactured in the Plain of the Po.

Chemicals in Germany. Germany has long been noted for the manufacture of chemicals. One of its leading chemical industries is the manufacture of coal-tar dyes. Other closely connected industries are the making of nitrate from nitrogen extracted from the air by electricity, and the manufacture of fertilizers. Germany has rich deposits of potash, which is a valuable fertilizer material.



Philip Gendreau, N. Y.

FIGURE 128 · *Skilled workers in a Swiss watch factory*

FIGURE 129 · *The industrial districts of the Soviet Union*

Industrial Development in the Soviet Union. The Soviet Union has long been an agricultural country, but it is only in recent years that it has become important as a manufacturing country. In 1928 the Soviet government began a series of plans and experiments intended to develop the vast resources of the country on a large scale. Since that time many manufacturing plants have been erected and thousands of Russian people have been trained to work in factories. The vast wealth of the Soviet Union in coal, iron ore, and other minerals has made possible the development of a large iron-and-steel industry as well as other metal-manufacturing industries. The Soviet Union is taking an increasingly important place among the industrial nations of the world.

The oldest industrial districts are those around Moscow and Leningrad. Their growth has been due largely to the supply of skilled workers and to the fact that Moscow is the chief transportation center of the Soviet Union, and Leningrad is the chief seaport. Textiles and iron and steel products are the leading manufactures of Moscow. *See Figure 129.*

Another important district is in the valley of the Donets River in Ukraine. This district specializes in iron and steel and heavy iron products, for good coking coal is obtained from the local coal fields, and iron ore and manganese are found close by. Both steam power and hydroelectric power are abundant. Kharkov and Dnepropetrovsk are the leading cities of the district.

Near the mining district in the Ural Mountains, where not only coal and iron ore but copper, lead, zinc, and platinum are mined, a comparatively new industrial district has developed which has already become famous for its metal industries. Its chief center is Magnitogorsk. One of the reasons for the rapid growth of this district was the advance of the German armies into the Soviet Union during World War II and the seizure by the Germans of the industrial plants and resources of the western part of European Russia. The Russians transported a large part of the machinery and tools of these plants, and as much of the raw material as was possible, eastward to the Ural district. This area was not reached by the Germans.

In south-central Siberia an industrial district has developed with Novosibirsk as the chief center. Iron and coal deposits close by and transportation afforded by the Trans-Siberian Railroad have been important factors in its growth.

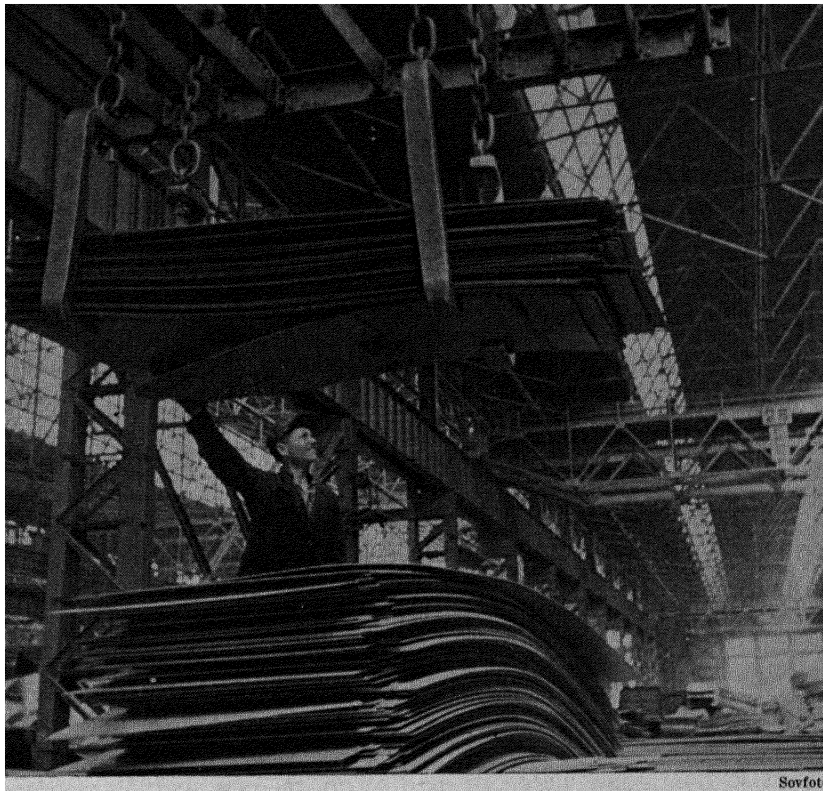


FIGURE 130 · *A scene in the sheet-rolling department of a Ukrainian steel plant*

Manufacturing in Japan. In the fifty years before the start of World War II, the Japanese made great progress in the development of manufacturing on a large scale. They had a good supply of coal for use as fuel, and were developing their abundant water-power resources to produce hydroelectric power.

Much of Japan's interest in large-scale manufacturing has been to produce a surplus of manufactured articles for trade in exchange for surplus foodstuffs in other countries. The greatest number of Japanese engaged in manufacturing work in the textile mills, in which cotton, silk, and woolen goods are made. The iron-and-steel industry and the manufacture of paper and chemicals are other leading industries.

QUESTIONS TO ANSWER

1. In which countries are the most important manufacturing centers of Europe located?

2. How do deposits of iron ore, coal, and limestone close by help the growth of a manufacturing city?

3. How do transportation facilities play a part in the development of manufacturing industries?

4. Why has manufacturing not been developed on a large scale in the tropics?

5. Why have the Russians turned to manufacturing on a large scale?

6. Are any of the chief manufacturing centers of the world in regions of excessive rainfall? in regions of very light rainfall? in very cold regions?

7. Why may the people of China and India be expected to enlarge their manufacturing industries in the future?

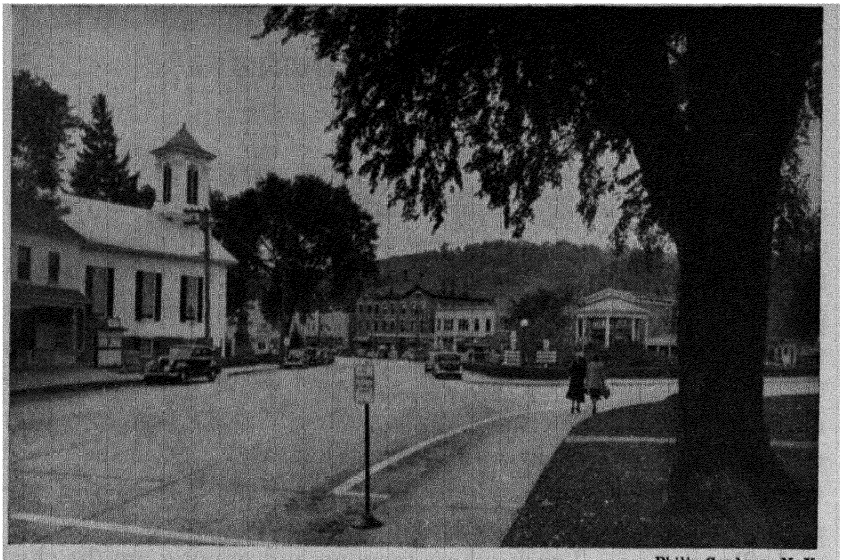
8. What are Japan's chief advantages for manufacturing?

CHAPTER SIXTEEN · EFFECTS OF ECONOMIC RESOURCES ON LIVING

Again and again we find that the occupations of people depend in large measure on the natural resources and the climate of the land upon which they live. Where natural conditions are favorable for farming, the inhabitants are engaged in cultivating the soils and producing various crops. The life of the inhabitants of coastal lands near which fish are abundant is likely to be closely connected with the fishing industry. Lumbering is carried on in forested regions, mining and related occupations are carried on in regions where mineral wealth is present, and so on. Wherever we go in the world we see the life of the people influenced in some way by the geographic conditions of the region which is their home.

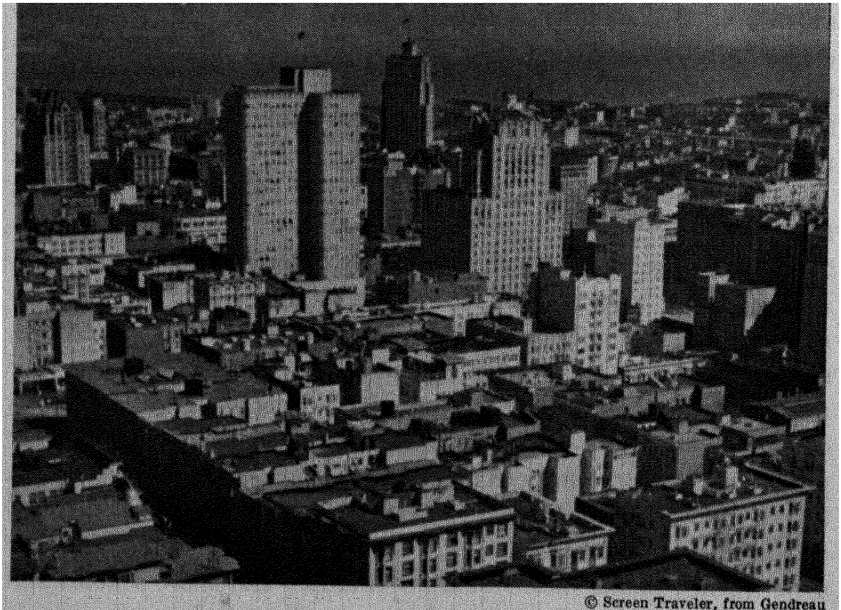
In Rural Areas. Lands where farming and grazing are the chief occupations are usually rather sparsely settled. In such areas the homes are far apart, and the family groups are much more self-sufficient than those in more densely populated areas. In making their living the people use the natural resources at their disposal much more directly than do city dwellers. They are likely to visit the nearest trade center only occasionally to buy the things they cannot produce or make themselves. They are dependent on the members of their own group to help in repair work, and often in building. Their co-operation with other people of the same area is usually in connection with their social, educational, and church life.

In Towns and Small Cities. In the smaller urban communities the people live much closer together than they do in the rural districts. They produce little or none of their food or clothing, depending almost entirely on neighborhood stores or, in the larger communities, on a number of different stores. When repairs are needed, the urban dweller calls in a plumber, a carpenter, an electrician, or a workman skilled in some other special kind of work. The interests of an individual are so closely interwoven with those of the other people of the community that co-operation is absolutely essential in a great many ways if each is to benefit from all the necessities and conveniences of urban life. There must be organized fire and police departments, public means of transportation, and more schools and churches than in rural communities, as well as such public institutions as hospitals and libraries.



Philip Gendreau, N. Y.

FIGURE 131 · *A street in a small urban community.* Here each family lives in a separate house



© Screen Traveler, from Gendreau

FIGURE 132 · *Apartment houses in a crowded city.* Here many families live in the same building

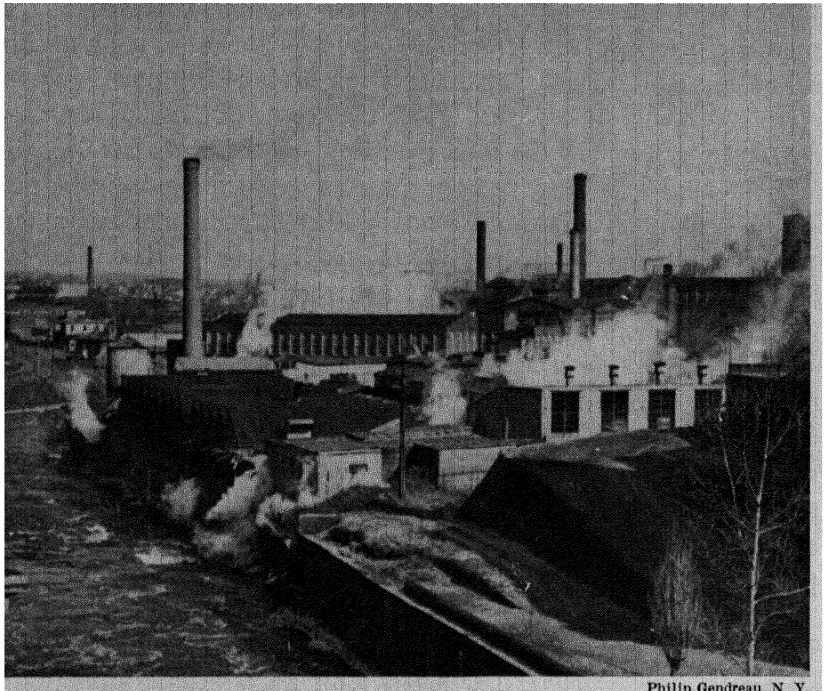
In Large Cities. The large cities have the same problems as the smaller cities, only on a larger scale. Most of them are manufacturing centers, and many are also seaports or lake or river ports. Life in them is exceedingly complex. Since the people of these centers produce little or none of the food that they eat, the work involved in receiving and delivering the large quantities needed requires all kinds of transportation facilities and many workers. The work of receiving and of delivering raw materials to the factories and mills on the one hand, and of distributing the finished products on the other, also gives employment to thousands of people in every large city.

Skilled Workers in Manufacturing Centers. In all the manufacturing nations of the world there are certain cities which have become famous for special lines of manufactures. Most of these industries started in a small way in the homes when the cities were only small towns or villages. Later the industries found their way into small shops and then into larger factories as the workers skilled in each particular kind of work increased in numbers.

In the United States the history of many of the manufacturing industries goes back to the time when the first skilled workers—shoemakers, glovemakers, weavers, and others—came among the earliest settlers to the eastern states of the United States from England and other European countries. For example, many years ago Scotch glovers came to New York State from Scotland and settled in Gloversville and Johnstown. They began the manufacture of gloves because this was the kind of work they knew best how to do. Today these cities are noted for their glove manufactures. Other places in our country are famous for special manufactured products.

In France, Lyon is the great silk-manufacturing center. Many of the workers in the silk mills today are descendants of several generations of silk weavers. In the same way Sheffield, England, long ago became famous for manufactures of cutlery. Towns in the Jura Mountains not far from Geneva, Switzerland, have been famous for many years for watchmaking.

In Canton, China, embroidering on silk is an old art. Many of the most beautiful shawls come from that part of China. In both China and Japan there are many people who are skilled in making china dishes and in decorating wood. In most of the cities and villages of Japan and China beautifully designed articles are still made largely by hand, and many are exported.



Philip Gendreau, N. Y.

FIGURE 133 · *Part of the factory district of a large city*

Markets and the Location of Factories. A manufacturer must necessarily sell the things which he makes in order to stay in business. Therefore he may choose to locate the factory or mill near a large city which will provide workers and a market for the finished products. If the mill is not actually near a good market, there should be good means of transportation from the factory to the markets. If the mill is located near the source of the raw materials which are used, workers will be brought to the site. The finished products may then need to be sent considerable distances to markets. Modern means of transportation help solve these problems. It is a fortunate manufacturer, however, who finds most of his needs supplied in one place, for each added expense in production adds to the price at which the product sells. Price increases may reduce the volume of sales of the item.

Manufacturing Regions Are Densely Populated. You have observed that the chief manufacturing regions are located in only a

few countries. Furthermore, if you locate the chief manufacturing regions on the population map of the world (pages 168–169), you will find that they are centers of dense population. Manufacturing cities, if they are conveniently located with regard to sources of power and have adequate means of distributing their products, gradually grow larger. The reason for this growth is that as the business of such factories and mills increases, more workers are required to run the machines and attend to the other details of production. As the workers in the mills and factories increase in numbers, so do the people who must help to provide them with food, clothing, shelter, transportation, education, and amusement. In this way the population of a manufacturing community grows by the addition of people needed to perform this variety of services.

Although all the important manufacturing regions have dense populations, not all densely populated areas are manufacturing regions. For example, China, India, Java, and the Nile Valley of Egypt have dense populations, but in each of those countries most of the people have little or no experience in the use of machinery. As factories are established, these peoples will become acquainted with other ways of living and working.

The Growth of Cities. As the number of people in the agricultural areas has increased, the amount of land available for each person has become less. Many people have therefore chosen to go to work in the factories and mills in the cities instead of taking up farming. Many who once lived on farms decided to move to cities, too. Thus cities in general have grown increasingly larger. The rapid growth of the cities has been hastened also by the development of manufacturing and commerce.

Every city offers opportunities to people engaged in a great variety of professions and other occupations. Thousands of people the country over are teachers, doctors, lawyers, or clerks. Other persons administer the duties of the different branches of local and national governments. Work in hospitals, in welfare institutions, and in many other kinds of activities is needed in the modern city.

Housing Problems. With the coming of large numbers of people to the manufacturing cities, many mistakes were made in housing the workers. In some cities the houses were built in long rows near the factories. In other places large apartment blocks were erected in which a number of families lived. Too little open space was left

Wide World Photos

FIGURE 134 · *Modern housing areas such as this one are a means of relieving crowded conditions in some of our large cities*

for playgrounds, lawns, flower gardens, and vegetable gardens. Many of the homes were without running water or modern sanitary plumbing, and many of the apartment blocks were not built of fireproof material. Whenever there was sickness among the people who were crowded together, the results were almost certain to be serious. We can understand now why the development of the factory system of manufacturing, involving the rapid growth of cities, brought on many social and health problems.

Improved Conditions. During the years between World War I and World War II, housing conditions in most of the cities of the United States and Europe were improved in many ways. Better types of homes were built for mill and factory workers. Playgrounds were maintained for children, and garden space was set aside. Many other improvements were well under way when World War II interrupted the plans. With the return of peacetime conditions, these

improvements and many others needed to bring about happier living conditions again moved forward.

QUESTIONS TO ANSWER AND THINGS TO DO

1. How have modern manufacturing methods influenced the growth of cities?

2. In countries of dense population where the people are not engaged in manufacturing to a large extent, what occupations do they follow? If you cannot remember, look again at the various occupational maps.

3. It is said that no country has ever become a great manufacturing nation that did not have rich stores of both iron and coal within its own borders or near at hand. Prove that this statement is true by comparative map studies. Do you find coal and iron deposits in all the important manufacturing countries?

NOTE. Additional problems and activities and a list of reference readings for Unit III are given on pages 493–495 of the Appendix.

IV · TRADE WITH OUR WORLD NEIGHBORS

CHAPTER SEVENTEEN · THE NATURE AND EXTENT OF WORLD TRADE

Modern methods of transportation are constantly bringing us closer to our world neighbors. The news broadcast from Australia, from England, from Brazil gives us a firsthand picture of the events which take place in these far distant countries. The nations of the world are coming to know more about one another. Each nation wants the products and conveniences which the others have. New water routes and air lanes have shortened the distance between world neighbors. These neighbors need some of the food and manufactured products which we have. We need some of the raw materials and finished products which they have.

World War II interrupted the regular flow of goods from one country to another. It made countries look for substitutes for the products which they had been accustomed to import from other lands. Some countries attempted to start new industries and to produce the materials which they had previously imported.

Some governments encouraged their peoples to become self-sufficient or to depend almost entirely upon themselves for the products which they needed. Others encouraged their people to produce the goods which they could produce best and to sell their surplus to foreign countries. In exchange for these surplus goods countries could buy the goods they desired from the countries which produced them.

The future relationships of nations in this global world of ours depend largely upon world trade. Thus an understanding of the reasons for world trade and the importance of it is necessary for an understanding of many of the problems which face us today. Will better communication and transportation increase world trade or will the fear of war make nations produce their own goods or make substitutes for the goods they need?

Trade in the Early Days. Our forefathers were not forced to think of world trade as a problem which concerned them to any great extent. They grew their own vegetables and stored them, raised pigs and salted down pork for use during the winter months. The women folk spun the thread and wove the cloth for their household linens and clothing. Thus during the first years of New England colonization, the people had a hard time providing themselves with

the mere essentials of food and clothing and had little time for thought of luxuries used in other nations. Since ships made very few ocean voyages during the year, there was little opportunity for the colonists to receive anything but the most important products from the Old World or the Far East. It was not until some years later that our nation took a prominent part in world trade.

Trade in Modern Times. Often we do not realize just how many of the things we commonly use come to us from other countries. The woolen dress or suit which you may be wearing was probably made in the United States. But the wool that went into the dress or suit may have come from Argentina or Australia. Undoubtedly you have eaten the products from a number of countries in your morning breakfast. Perhaps you had coffee which was grown in Brazil or Colombia. Some members of your family may have preferred cocoa which came from West Africa, Brazil, or Ecuador. The sugar to sweeten either of these beverages was probably brought from Cuba. Perhaps you enjoyed bananas from the Caribbean countries to the south of us. In many ways our lives have become so dependent upon the peoples and products of other countries that we do not stop to think how many factors are contributing to our happiness. Then suddenly for some reason world trade is interrupted and the question is asked why, for example, we do not have all the sugar we want. A war may make the sea lanes unsafe, or decrease the number of ships or railroad cars that in normal times bring sugar and many other products to us. Then, too, an enemy country may be in control of some of the products upon which we have depended during times of peace. Thus it may be necessary to look to new countries to supply some of our needs and to open new trade routes.

What Is World Trade? Sometimes people speak of world trade as international trade and of world communication as international communication. World trade may be carried on between the governments of different countries during wars, but during times of peace most of the trade between countries is carried on by some of the peoples of those countries. The governments of the world play only a small part in this peacetime trade. People of one country desire the products manufactured by the people of another country, just as a resident of New York State desires the oranges produced by a Florida orange grower. During periods of war, governments too take part in world trade. When war is being waged in many parts of the

world, governments send supplies to their armies and navies on the battle fronts. Countries which are fighting together as allies supply

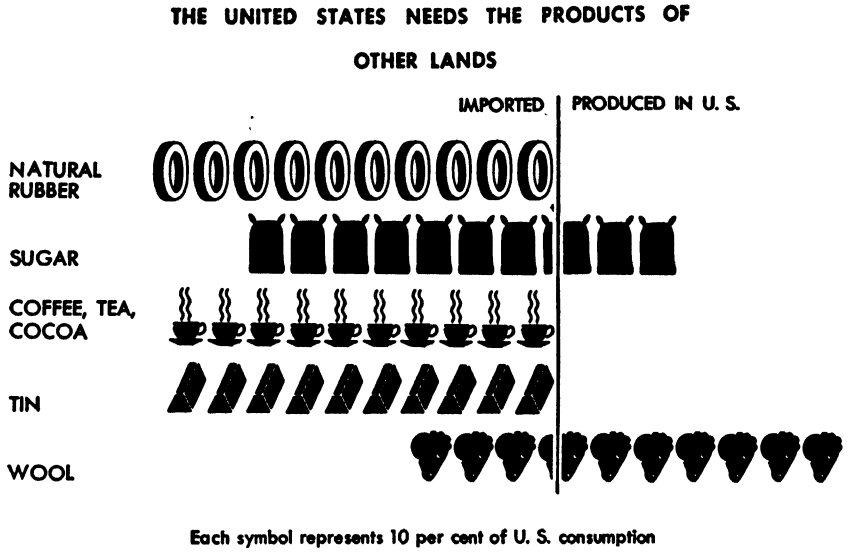


FIGURE 135 · *The United States is dependent on other countries for many important products*

one another with the materials of war. During World War II, under the provisions of the Lend-Lease Act, the United States government sent huge quantities of munitions, machinery, metals, oil, food, and other products to its Allies. Thus during periods of war governments do carry on extensive world trade.

The Extent of World Trade. It is true that the United States exports only a small percentage of all the manufactured goods and raw materials produced in the country. In years of peace our exports have amounted to only about 10 per cent of all the goods produced in this country. While this holds true for all our industries taken as a whole, there are some industries in the United States which export large percentages of their products. Under normal conditions, over 50 per cent of the cotton grown in the United States is exported and nearly 40 per cent of the tobacco grown in this country is sold abroad. Forty per cent of the oil produced for lubrication purposes is sold to the people of other countries. Nearly 40 per cent of the lard produced is exported. The people of other countries buy 20

per cent of the agricultural machinery manufactured in the United States. The prosperity or failure of these industries is dependent

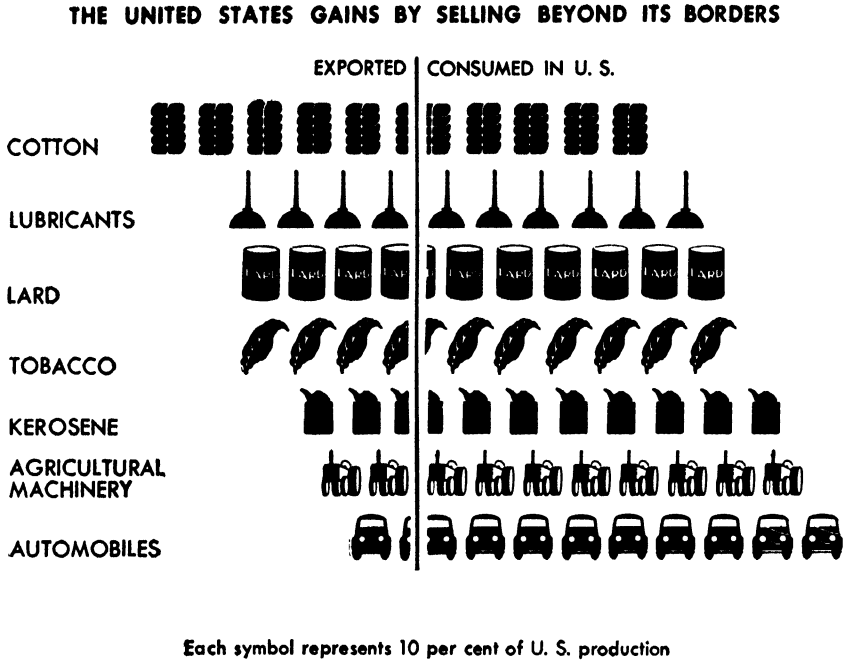


FIGURE 136 · *What becomes of the products of some of our industries*

upon foreign markets. The cotton farmers, tobacco growers, manufacturers of agricultural machinery, and manufacturers of steam locomotives and automobiles all depend upon foreign markets. Canada, our neighbor to the north, exports about 30 per cent of all the goods it produces. In fact, its wheat farmers, the owners of its nickel mines, and the owners of its asbestos mines depend more upon foreign markets for their prosperity than upon home markets.

QUESTIONS TO ANSWER AND THINGS TO DO

1. Why is world trade more important today than it was one hundred years ago?

2. Make a list of goods imported from foreign countries which you use during a normal day.

3. Who carries on world trade?

4. Make a list of articles, formerly imported from distant lands, which were scarce in the United States during World War II.

5. During times of peace, about what percentage of the goods produced in the United States is sold to foreign countries? Does this mean that world trade is unimportant? Why?

6. List some of the industries in the United States which depend upon world trade.

CHAPTER EIGHTEEN · REASONS FOR WORLD TRADE

There are a number of reasons for world trade. Industrial nations depend upon world trade for many of their raw materials and for markets for their manufactured products. Countries rich in agricultural and mineral resources depend upon world trade to bring them finished products in exchange for the raw materials they export. World trade makes cheaper goods available to the peoples of the world. Some people engage in world trade for the personal profit which they are able to make.

1. *Industrial Nations Depend upon World Trade*

Manufacturers Need Raw Materials. Manufacturing countries must import some of the raw materials upon which their industries depend. Manufacturers in the United States import tin from Bolivia and Malaya, nickel from Canada, chromite and cobalt from Southern Rhodesia and Belgian Congo in Africa. From Argentina and Paraguay, the tanning industry imports quebracho extract for the tanning of leather. The manufacturers of furniture import valuable woods such as mahogany and rosewood from the Caribbean and South American countries. English mills receive some of their finest cotton from Egypt, which ranks sixth among the countries of the world in the production of cotton. So we see that many manufacturers in industrial countries depend upon world trade for the materials needed in their industries.

Individual industries in the United States depend upon materials brought from many parts of the world. Normally, one thinks of the automobile as a typical product of the United States. The United States and Canada together produce between sixty and seventy per cent of the automobiles of the world. However, an automobile manufacturer in the United States depends on many countries for some of the raw materials that go into the manufacture of his product. He uses nickel from Canada, rubber from Malaya and the East Indies, leather made from the hides of South American or Australian cattle, chromium from South Africa or the Pacific Islands, wool (for upholstery) from New Zealand, Australia, or Argentina,

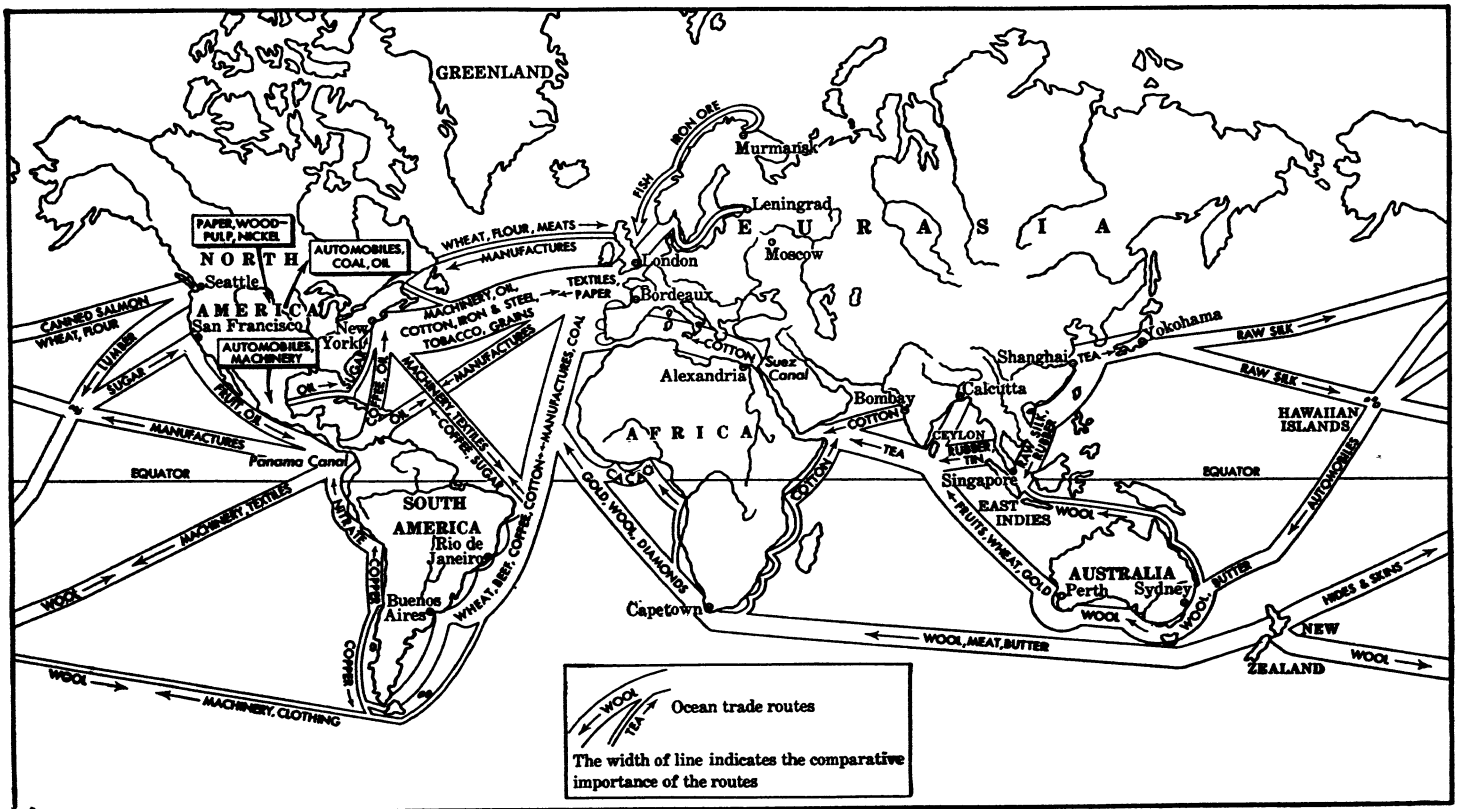


FIGURE 137 · *Trade binds the nations of the world together*

kapok (for cushion filling) from Sumatra, tungsten (added to steel to harden it) from Bolivia, cryolite (used in headlight reflectors) from Greenland. These are only a few of the many raw materials used in the manufacture of an automobile. According to one authority one hundred and eighty-four different raw materials are used in the manufacture of an automobile in the United States. These raw materials are brought to our shores through the medium of world trade.

Scientific advances cause manufacturers to search constantly for new materials. The manufacture of steel shows how many different materials one industry may need. Both private and industrial consumers demand steel for many different uses. Scientists try to meet the demands of modern industry through experimentation. Some manufacturers have their own technical staff who work in an attempt to discover how to produce just the type of steel needed by their customers. The different grades of steel are made by adding various minerals, as alloys, to iron. Some of the alloys may be obtained in the United States but others must be imported. As a result, the iron and steel industries in Europe and the United States import from all over the world the minerals used as alloys. The automobile manufacturer wants steel which will stand high speeds, so steel with tungsten was developed. The producer of telephone equipment wants steel which has a magnetic quality to use in the telephone receiver. To make this type of steel, the manufacturer adds cobalt. The housewife wants stainless steel knives. To produce this stain-resistant quality the manufacturer adds nickel. Steel for armor plate must be very strong, that for airplanes very light. Some industries demand very hard steel, some tough steel, some durable steel. Thus we see that the producers of steel for various purposes depend upon many different alloys, some of which must be imported from distant countries.

The manufacturers of many products other than iron and steel are very dependent upon foreign trade. Will scientific advancements make them more or less dependent upon the products of other countries? Scientists may discover new processes and produce within the United States some of the materials we have formerly imported. However at the same time new industries may be developed which will depend upon natural resources found only in distant countries.

British Press Service

FIGURE 138 · *Bacon being unloaded from an American ship at the harbor of Liverpool*

Consumers in Industrial Nations—Buyers of Foreign Goods. People in the industrial nations of the world buy large quantities of goods produced in foreign countries. In many cases they must import food products and raw materials from agricultural countries. This is especially true of industrial countries which have small amounts of agricultural land. For example, England must import large amounts of meat and wheat. Japan must import large amounts of soybeans and raw cotton. The United States is more fortunate in having vast lands for agriculture as well as many of the raw materials needed in manufacturing. However, this country imports large quantities of sugar, coffee, and tropical fruits.

It is usually true that industrial nations develop the highest standards of living. A high degree of skill among both workers and managers is needed to develop the industries. The factory owners now pay workers better wages, and they find it to their advantage to do so. With higher wages the workers buy more of the products which are made. Thus the people in countries with a high standard of living become buyers of large amounts of goods offered in world trade. The industrial countries with their high standard of living

become markets for a great variety of goods which are produced in other parts of the world.

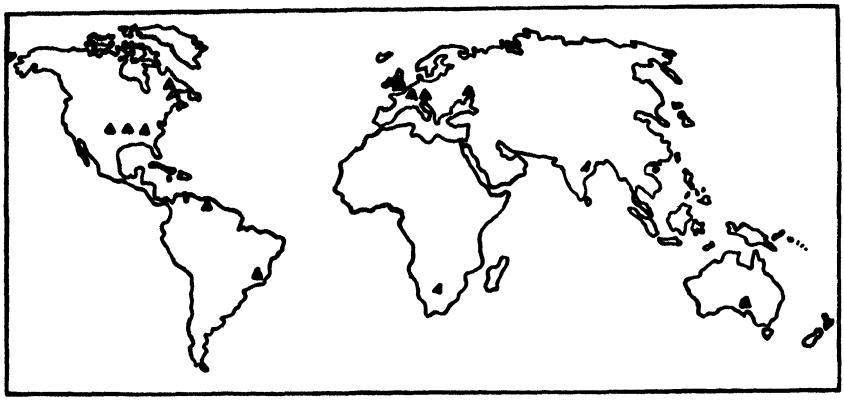


FIGURE 139 · *Where the world's iron ore is found.* One triangle equals ten per cent of the world's production

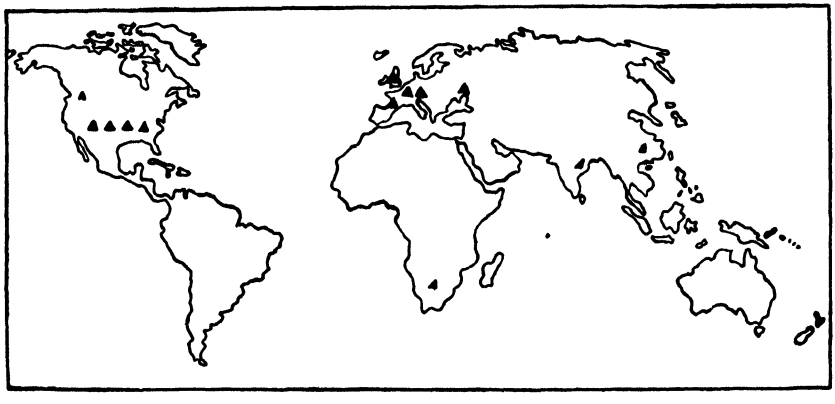


FIGURE 140 · *Where the world's coal is mined.* One triangle equals ten per cent of the world's production

Where Are the Industrial Nations? A look at a globe or a global map reveals some surprising facts with regard to the nations which have developed as industrial nations. Where are some of the manufacturing centers of the world? Did manufacturing just happen to develop in these areas of the world? Are there real reasons for the location of the industrial nations? If so, what are some of them?

West Central Europe with Great Britain, eastern North America, and parts of southeastern Asia are the most highly industrialized

Wide World Photos

FIGURE 141 · *Inside one of Argentina's large meat refrigeration plants*

areas of the world. At once one is impressed with the fact that these industrialized areas are in the Northern Hemisphere. Just why have large manufacturing establishments started in these northern countries? The answer is probably to be found in the fact that in Europe and the United States are about eighty-five per cent of the coal and iron mines which have been developed. Iron ore is essential for the production of steel. Steel is necessary for the manufacture of machinery to be used in factories. Coal is used to smelt the ore. Both the coal and iron ore are bulky and difficult to transport. Thus the great steel producing centers have developed in parts of the world in which iron ore and coal are found near each other, or where shipping costs of either raw material are not excessive in comparison with the value of the finished product.

Here and there in South America or Africa there have been attempts to develop manufacturing. However, the main purpose of such attempts is to prepare raw materials which the country produces and to start partly processed goods on their way to market. This is evident in Argentina, where large meat-packing industries have been developed. Argentina has found that export beef arrives at its destination in better condition when it is chilled or frozen.

Thus one of the largest meat-refrigeration plants in the world was built in Buenos Aires. Argentina has developed a large flour-milling industry to process a part of the wheat which is produced. However, Argentina sends hides to the United States to be tanned. Thus we see that while Argentina does attempt to prepare some of its own products for export purposes, this kind of manufacturing requires little power, fuel or foreign products.

Though these industrial nations of the North may have the iron and coal necessary to produce steel for machinery, they must import many raw materials to use in the manufacture of their finished products. They must also buy some foodstuffs from agricultural peoples.

QUESTIONS TO ANSWER AND THINGS TO DO

1. Why do manufacturing nations need to carry on world trade?

2. Why do nations with a higher standard of living buy more goods than those with a lower standard?

3. In what ways is the automobile industry of the United States dependent upon foreign trade?

4. Why do the people in some other countries prefer to buy automobiles made in the United States?

5. How have scientific discoveries increased world trade?

6. Where are most of the industrial nations of the world located? What are some of these nations?

7. Why have these nations developed as industrial nations?

8. Does the fact that Argentina has refrigeration plants lead you to expect that the country will develop important manufacturing industries? Why?

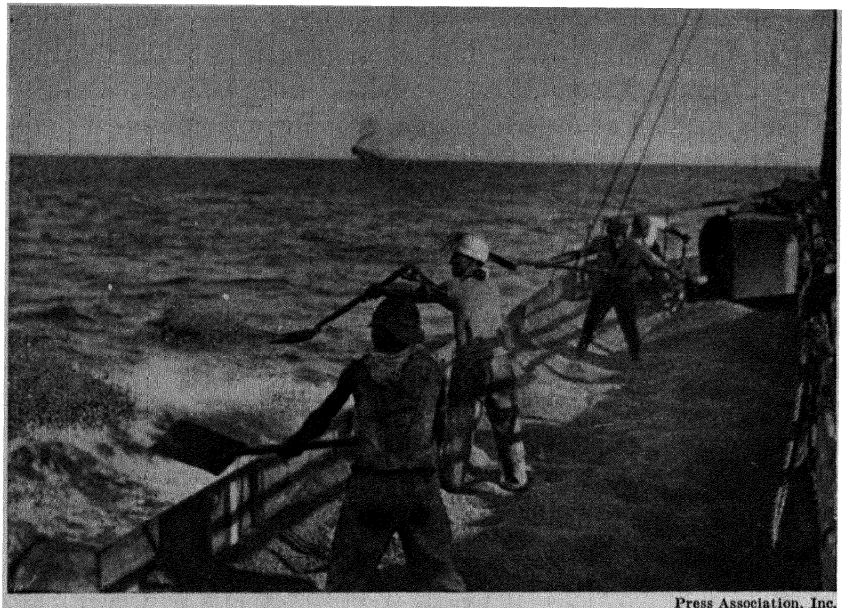
2. *Non-Industrial Nations Depend upon World Trade*

Need for Manufactured Goods. Some agricultural nations must import the manufactured products of industrial nations. The Argentine farmer needs agricultural machinery. Many agricultural countries of South America need locomotives and motor vehicles so the agricultural produce can be delivered to the seaports. Some countries, which have unexplored or undeveloped mineral resources, need

machinery in order to develop these resources. These countries, rich in agricultural and mineral resources, must import the needed manufactured goods. As they come into closer trade relations with the industrial nations of the world their desire for manufactured products increases. They want the luxuries which are made in industrial countries. Thus manufacturing countries find enlarged markets for their products.

The Need for Markets. Many countries depend for their living upon a very few products. Some countries have only a few raw materials or natural resources. Others produce only a few agricultural or mineral products. These one-crop or two-crop countries can prosper only so long as they are able to find a market for their products. The standard of living of the people depends entirely upon the prosperity of their particular industry and the demand for their product in the world market. For example, Venezuela needs a market for her petroleum to obtain the money with which to buy the goods she needs. Though Brazil is beginning to increase the variety of industries, for many years prosperity has depended upon the sale and export of the coffee crop. About fifty per cent of the world's supply of coffee is produced in Brazil. After several attempts to regulate coffee prices, the Brazilian government in 1940 ordered the destruction of a part of the crop in the hope of controlling the supply and thereby the prices. The government paid the growers for the coffee which they either burned or dumped into the ocean. More recently the Brazilians have started to make plastics and other products from their surplus coffee in order to make use of it and to stabilize their income at the same time. For many years the prosperity of the Union of South Africa has depended upon the mining of gold and diamonds. The coal resources of South Africa have been an important factor in the development of mining and transportation. Although Cuba has been called the sugar bowl of the world, the Cubans suffer economically when the amount of sugar which they may export is limited by trade treaties. These nations and other primarily agricultural nations have found that their prosperity depends upon the exportation of certain minerals, raw materials, or foodstuffs.

Some countries have minerals but lack the fuel for smelting the ore. Thus, for instance, some of the islands of Indonesia, Malaya, and Bolivia send tin concentrate to the United States and Great



Press Association, Inc.

FIGURE 142 · *Part of Brazil's coffee crop being dumped into the ocean as a result of the lack of foreign markets*

Britain to be smelted. Most of the Philippine exports of Manila hemp, sugar, and coconut oil come to the United States. We expect to continue this trade even though the Philippines are now independent. Trade agreements helpful to the Filipinos have been concluded. In this way both countries will gain by trade treaties.

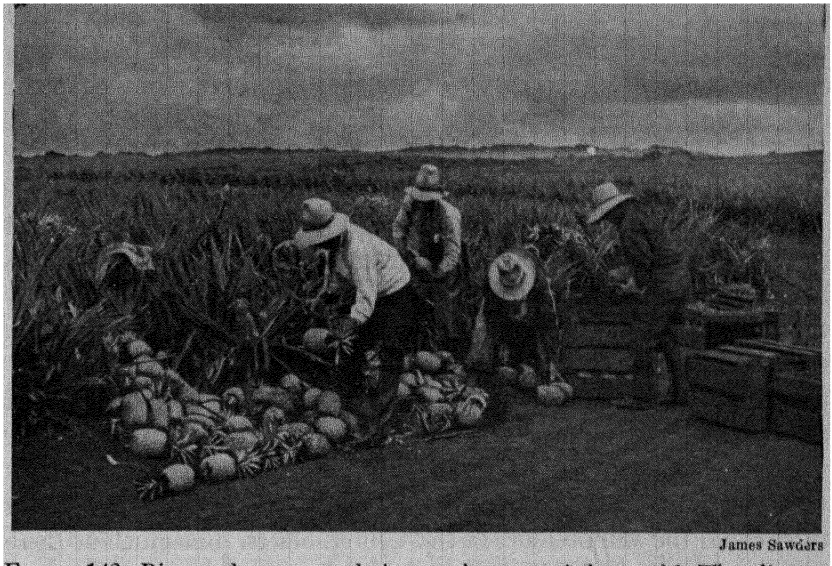
There are many nations which are both industrial and agricultural and some of these depend upon world trade for the export of their agricultural produce as well as their manufactures.

QUESTIONS TO ANSWER AND THINGS TO DO

1. Why do agricultural countries need foreign trade?

2. What is meant by one-crop or two-crop countries? Why are these countries more dependent than others upon foreign trade? Give examples.

3. What kinds of goods must an agricultural country import? Name some of the countries which produce large amounts of agricultural products.



James Sawders

FIGURE 143 · *Pineapples grow only in certain parts of the world.* The climate in Hawaii is just right for the production of this fruit

3. Other Reasons for World Trade

Makes Cheaper Goods Available. World trade makes possible the purchasing of goods from the countries in which they can be produced most cheaply. The standard of living in the United States is such that the people have come to look upon the automobile as a necessity and not as a luxury. The development of assembly-line methods in the automobile industry accounts for the large number of cars produced each year. These mass-production methods reduce the costs per unit, and cars sell at reasonable prices.

Just as an industrial nation is dependent upon its supply of iron and coal, so an agricultural country is dependent upon many natural conditions. The fertility of the soil, the amount of rainfall, and the length of the growing season are all factors which make an agricultural country prosperous. For example, Costa Rica has a suitable climate and soil conditions for raising bananas, in addition to a good labor supply. Thus bananas form the principal export crop of the country. As you can imagine, it would be very difficult to raise bananas in New York State because the climatic conditions are not right for the growth of the fruit. Bananas constitute only one

example of crops which are limited to certain parts of the world where they can be most efficiently produced. If the cost of growing certain foodstuffs plus the cost of transporting them is less than the cost of growing them in the United States, people will prefer to depend upon foreign trade and to import such foodstuffs from the country which can produce them most cheaply.

World Trade for Personal Profit. Some people encourage world trade because they make a profit from the trade itself. Shipping lines and railroad companies desire trade between nations because they make profits by carrying goods. Before World War II, English, German, Norwegian, and Dutch ships carried goods more cheaply than did the merchant ships sailing under the flag of the United States. Other shipping lines did not pay their seamen such high wages as did the United States lines, and their working conditions were different. Foreign shipbuilders could build ships more cheaply than could the shipbuilders in the United States. Inasmuch as these foreign shipping lines carried goods at a lower cost, many importers and exporters in the United States depended upon foreign ships to carry commodities for them.

The business of importing and exporting goods for others depends on trade. People who carry on this foreign trade do so because of the profits from buying the goods of the manufacturer, the miner, or the farmer in this country and selling them in other countries, or from buying goods in foreign countries and selling them to manufacturers or retailers in our country.

Airlines which carry goods, and busses or trucks which cross international boundaries, are paid for the services which they perform for exporters and importers. Transportation lines are also interested in the growth and expansion of world trade so that they may have more goods to carry and thus operate a profitable business.

QUESTIONS TO ANSWER AND THINGS TO DO

1. What groups of people make a profit by carrying the goods which get into world trade?

2. Give four important reasons for world trade.

CHAPTER NINETEEN · TRADE ROUTES, TRADE CENTERS, AND TRANSPORTATION OF GOODS

1. *Water Routes and Ports*

In the business of trade among nations, some routes across our world waterways are more favored than others. As would be expected, the routes which are short and free from ice and various other dangers are the ones which are most used. However, as nations develop new industries and have new products to export, and as nations raise the standard of living and have a desire for more goods, new routes may develop and the traffic on long-used routes may decline.

The water routes which traders have used most in the past are: the North Atlantic, the Mediterranean and Suez Canal Route, the Cape Route around Africa, the Panama Canal Route, and the North Pacific Route. However, the Lend-Lease program of the United States, during World War II, opened other routes such as the one from Eastern United States to Russia by way of Murmansk, and routes from the Pacific ports of the United States to the Southwestern Pacific countries and islands.

The North Atlantic Route. The North Atlantic Route connects the industrial regions of the United States and Canada with the industrial regions of Western Europe and the British Isles. This is a much-traveled route because of the importance of the countries it serves. This northern route across the Atlantic is far north of the equator and is much shorter than a route farther south would be. As you look at a globe or a global map you will see how much shorter the great circle route connecting New York City or Montreal with England or Western Europe is than a route nearer the equator.

The Mediterranean and Suez Canal Route. The Mediterranean and Suez Canal Route furnishes a short route, open all the year, for the ships of Western Europe and England to carry goods to Southern Asia and the islands of the Far East. By the use of this route, the textile mills in England may obtain supplies of cotton produced in India, and the industrial areas of Western Europe may receive such essential raw materials as rubber and tin from the East Indies.

The Cape Route around Africa. The Cape Route around Africa, although longer, is extensively used during periods of war. When

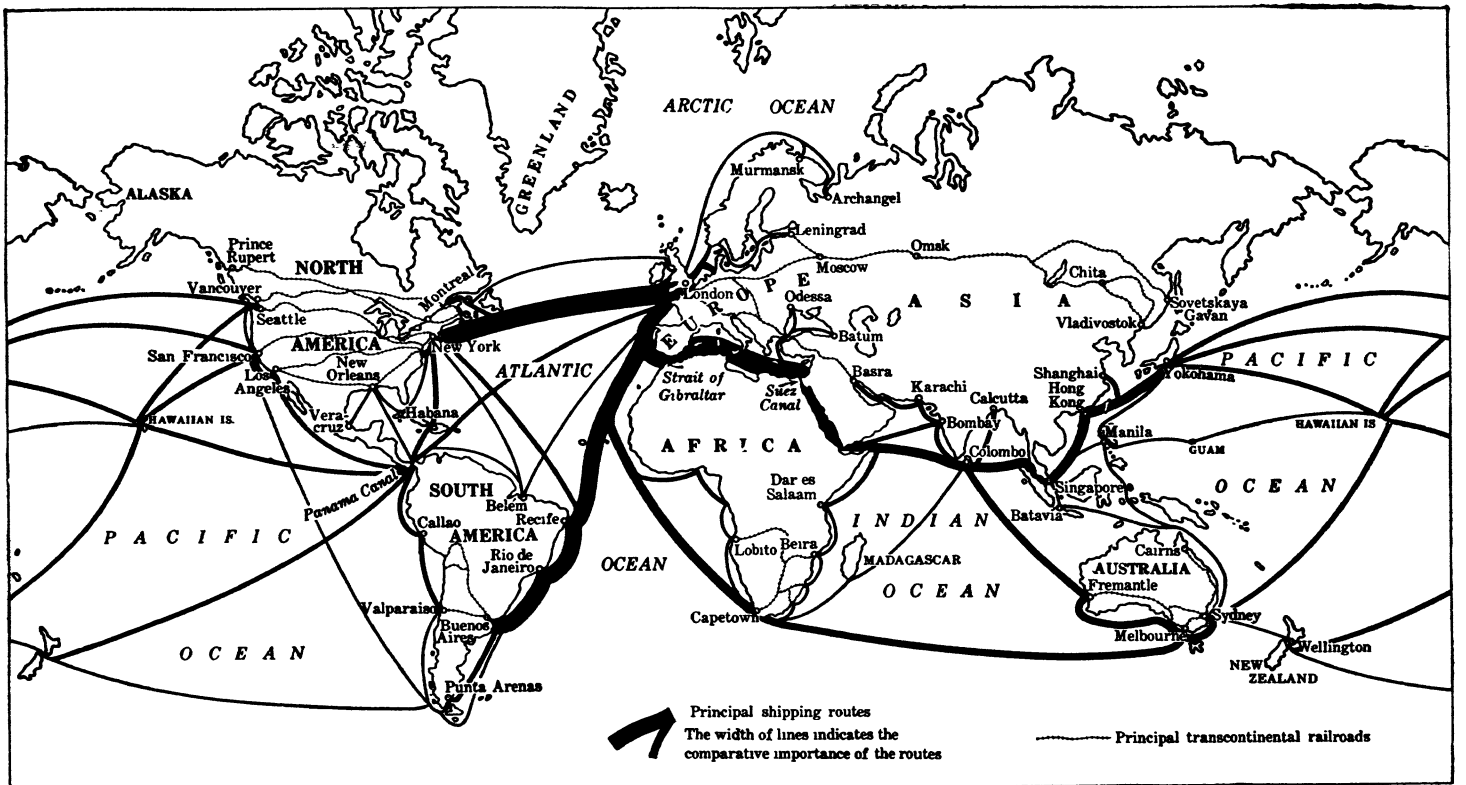
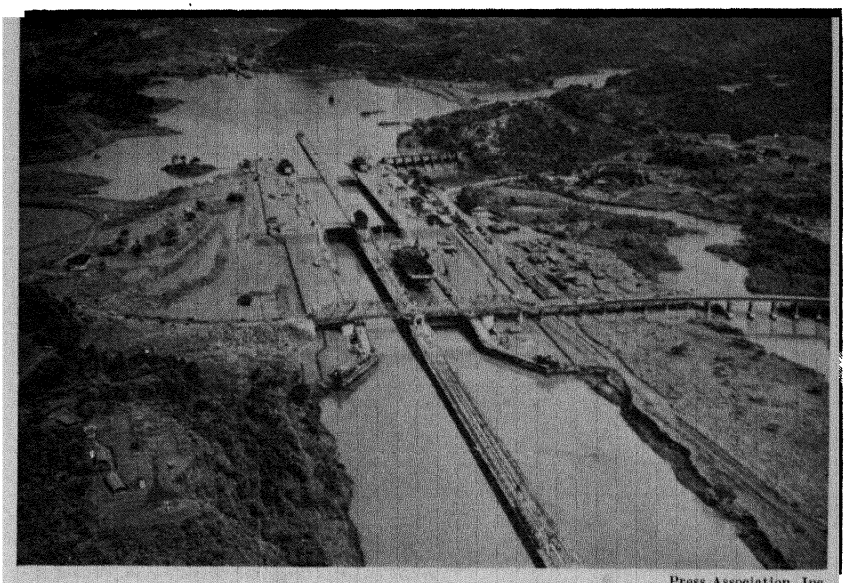


FIGURE 144 · *The principal shipping routes of the world*



Press Association, Inc.

FIGURE 145 · *A ship passing through a lock in the Panama Canal.* Why do you think locks were necessary in the Panama Canal?

the Mediterranean Route is blocked, countries of Western Europe trade with the Far East by means of the Cape Route. During World War II supplies were sent by this route to the eastern fronts: the northeastern part of Africa, the southeastern part of Russia, and India.

The Panama Canal Route. The Panama Canal Route, like the Suez Route, shortens distances. Exporters in the eastern part of the United States find it advantageous to send goods to the west coast of South America by way of this route. If you look at a map and draw a line from eastern United States directly south through South America, you will find that most of the continent of South America lies east of this line. Exports from the United States sent by way of Cape Horn and northward along the west coast to Valparaiso would be en route a long time and shipping costs would be great. Large quantities of goods are also sent from the ports in western United States to the ports of our east coast by way of the Panama Canal instead of by rail across country. This is because the cost of shipping goods is much less by water than by rail. The countries of Western Europe also use the Panama Canal in carrying on trade with the

British Columbia Government Travel Bureau, Victoria, B. C.

FIGURE 146 · *A view of part of Vancouver harbor.* Vancouver handles not only Pacific Ocean shipping, but it handles part of Canada's trade with Europe via the Panama Canal

countries of western South America. Moreover the Canal Route has shortened the distance between the ports of eastern United States and the ports of Asia and the Pacific Islands.

The South Atlantic Route. The South Atlantic Route connecting the east coast of South America with the coasts of Western Europe and Western Africa has grown in importance. Western Europe needs the products which Argentina has—the beef, mutton, corn, and wheat—and because the countries of North America do not need these products Argentina depends to a large extent on the European markets. Moreover, many of the ports of eastern South America are closer to Europe and Africa than to the United States.

The North Pacific Route. The North Pacific Route connects the west coast of the United States and Canada with Eastern Asia. In the past the trade on the Pacific has been much less than that on the Atlantic. Until the present time the western ports of the United States and Canada have not had the amount or variety of manufactured goods to export that the eastern ports have had. The Asiatic countries have had neither the money nor the desire to buy large amounts of goods from the manufacturing countries. However, in

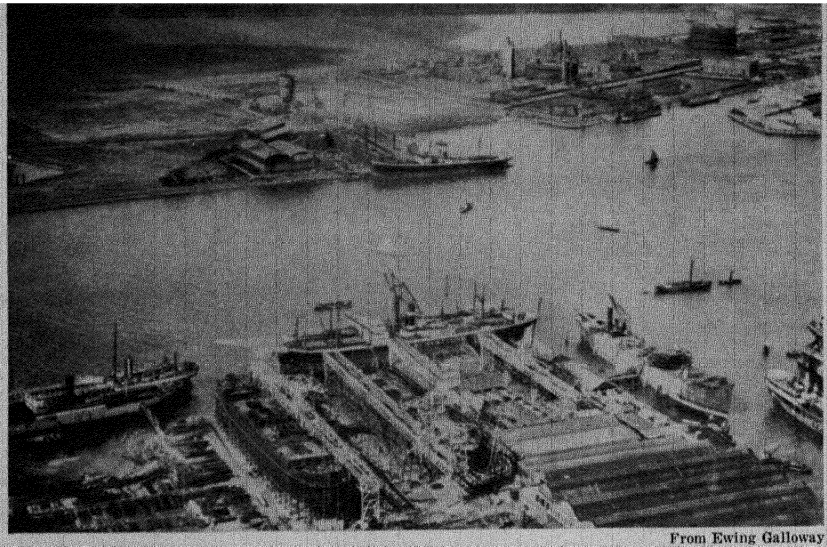
FIGURE 147 · *The harbor at Honolulu in the Hawaiian Islands.* Find these islands on the map showing shipping routes, and explain why they are called the "Crossroads of the Pacific"

1940 Japan did rank fourth among the countries of the world in the volume of goods purchased from the United States. During World War II, these western ports became important shipping centers. Many of our west coast cities developed into more important manufacturing centers. The Pacific is fast becoming one of the great highways of trade. As the Pacific and Far Eastern peoples become more acquainted with the products of Western civilization they may become larger buyers of Western goods.

The Central Pacific Route. The Central Pacific Route connects ports on the west coast of the United States with the Philippines, Southern Asia, and the East Indies. Ships following this route commonly call at Honolulu in the Hawaiian Islands.

The South Pacific Route. The South Pacific Route connects the west coast of the United States and Canada with New Zealand, Australia, and the islands of the South Pacific. This route has about the same volume of trade as the other two Pacific routes.

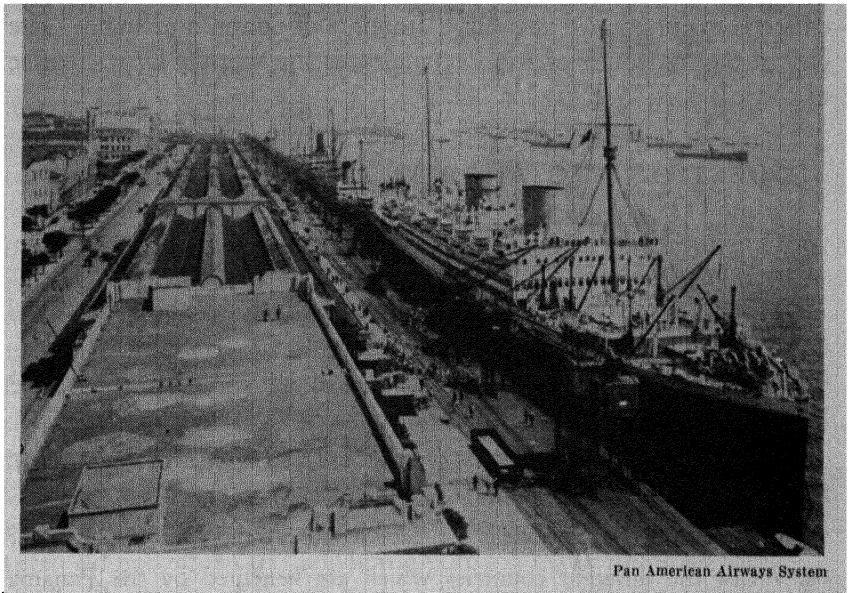
The Far North Atlantic Route. The Atlantic Route in the Far North connecting North America with Russia, and Western Europe with Russia, was of great importance during World War II, especially for the shipping of bulky goods.



From Ewing Galloway

FIGURE 148 · *An airview of Rotterdam harbor.* Rotterdam is the gateway to the Rhine Valley, and because of its location it is one of the great seaports of Europe

World Ports. Trade routes do connect countries. However, the fact that they connect trading ports is more important. Ocean ports do not grow up just anywhere along the coast. There are a number of factors influencing their growth. A great ocean port must have water deep enough for large ships. It must have a harbor extensive enough to dock a number of ships. It must be free from ice so that it may be used all the year round. It must have goods to export or be a market or distributing point for imported goods, or both. If a port is accessible to supplies of agricultural products, mineral resources, or manufactured products, there will be commodities to export. If a port city has a large population or is the main port in a densely populated industrial region of a country, there will be a large market for the imported goods. A port must have good railway or waterway connections with the interior of a country. The railroads and canals are needed to carry the goods from the interior of the country to the port for export. Also the railroads are needed to distribute the imported goods to the people living farther inland. In most cases the ocean port has large amounts of exported and



Pan American Airways System

FIGURE 149 · *Ships in the harbor of Santos.* Freighters from many parts of the world dock here to take on cargoes of coffee and other Brazilian exports

imported goods passing through it. Among the top ranking ports are New York, London, Kobe, Yokohama, and Rotterdam. They developed to export the manufactured products of the industries of their hinterland and to import the materials needed in those industries. During World War II many ports were destroyed and others decreased in the volume of commerce. The trade of some of these ports has revived as production has resumed.

On the trade routes serving eastern South America are the great ports of Buenos Aires, Rio de Janeiro, and Montevideo. Buenos Aires, the third largest city in the Western Hemisphere, is located on the Plata River. Two of its basic industries are the slaughtering and preparation of beef and mutton and flour milling. After the needs of the home market are met, a large surplus moves to the European markets. In exchange for these crops, ships bring textiles, coal, petroleum products, machinery, and other commodities to Argentina. The ocean port of Montevideo, in Uruguay, serves one of the richest grazing sections of South America. It is connected by the riverway with the industrial waterfront of Buenos Aires.

Through the port of Rio de Janeiro a part of the world's supply of coffee is exported and also large amounts of cotton and sugar. The city of Santos, south of Rio de Janeiro, is the world's largest coffee exporting port. *See Figure 149.*

QUESTIONS TO ANSWER AND THINGS TO DO

1. Why do regular trade routes develop?

2. What causes new trade routes to be opened or used?

3. What are the trade routes of the world which have been most used in the past?

4. What countries make the greatest use of the North Atlantic Route? Why does this route lead in volume of traffic?

5. What countries make the greatest use of the Mediterranean and Suez Canal Route?

6. Under what conditions is the Cape Route around Africa used most?

7. List the different countries which are benefited by the Panama Canal Route. Why do we use it for the shipment of goods from our east to west coast and west to east coast?

8. What countries make the greatest use of the South Atlantic Route?

9. Why has the North Pacific Route not been used as much as the North Atlantic Route? Why would you expect it to be more used in the future?

10. Why was the South Pacific Route used extensively during World War II?

11. Why was the Far North Atlantic Route used during World War II?

12. What are the physical requirements of a good ocean port?

13. Where must ocean ports be located in order to become important?

14. Why is it important for an ocean port also to be a land transportation center?

15. Why is an exchange of commodities of trade desirable at a port?

16. List the ten leading world ports.

2. *Water Transportation*

Commodities sent to world ports provide goods for export and import trade. Regular trade routes have developed to distribute these goods How, then, are the goods which are exchanged in world trade transported?

Types of Ocean Services. The ships which carry on the commerce of a nation make up the merchant marine. These vessels are not connected with the warships which make up the navy of a country but are privately owned by companies that offer one or more types of ocean transportation services. Freighters carry nonperishable products and can be hired or chartered to deliver bulky cargoes to almost any destination. Sometimes these vessels are called tramps since they do not follow a fixed route and time schedule. However, after discharging a cargo, the vessel is loaded with some other bulky cargo to be delivered to another port most anywhere in the world. Tramps often do not return to their home port for many months.

Another type of ocean carrier is provided by the regular line service. These ships travel on regular schedules over definite routes to specific ports of call. Freight or a combination of passenger and freight service are found on the regular lines. Some shipping lines carry only freight, while other shipping lines combine services. Most passenger liners have space to carry mail, express parcels, and some general cargo. The regular line freighters and passenger ships are usually larger, faster, and better equipped than the tramp steamers.

A third type of ocean service is provided by the industrial carriers. The ships in this fleet are not subject to all of the regulations of the other carriers. The fleet usually consists of vessels built to meet the special needs of the business of the owners. Thus, oil tankers, fruit boats, and ore carriers are examples of industrial carriers.

The Merchant Marine. What has been the problem in the United States with regard to the merchant marine? Much of our shipping is carried on by private shipping lines. During peace times, shipping lines in the United States have found it difficult to compete with shipping lines of other countries. There are a number of reasons for this. In the first place, the cost of building ships in the United States is high. Inasmuch as the standard of living in the United States is higher than that of some other countries, the shipbuilders pay the workers higher wages than are paid to shipworkers in other

countries. In the second place, the seamen are paid higher wages. This means that the shipping line which has ships built in the United

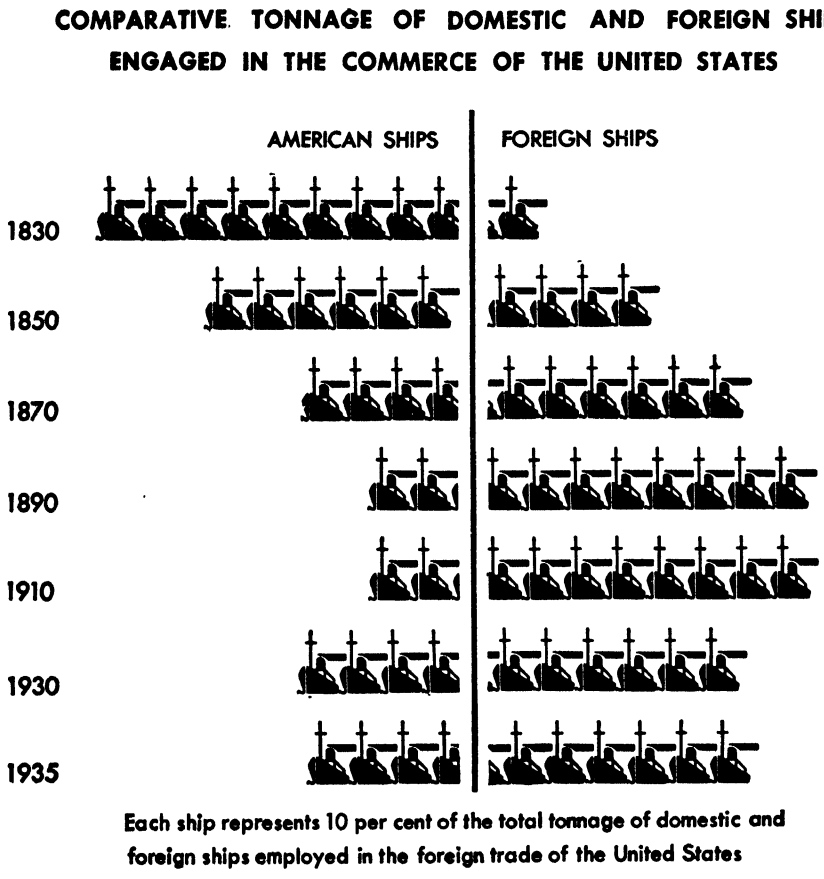


FIGURE 150 · *The United States depends to a large extent on foreign ships to carry its commerce*

States and mans them with United States seamen must charge more for carrying goods than a shipping line of a foreign country operating on a different basis. As a result, the exporter must decide on the basis of several reasons whether to ship goods by one line or another. Thus many of the shipping lines in the United States lose money competing with the shipping lines of foreign countries.

When the United States is engaged in war it must have ships to carry its troops and its supplies and to bring to the United States materials for the manufacture of war products. During World

War I the United States government built ships under a shipping board. At the end of the war, the government sold some of these ships, retired some from service, and continued to operate others. As a result of the decline in tonnage, the shipping lines of other countries were soon carrying some of the goods produced in the United States. They were also bringing imports from other countries to the United States. In the early nineteen thirties our merchant marine was carrying only about two fifths of our foreign trade. The United States government has tried to help build up our merchant marine in such ways as making loans to companies and awarding contracts for carrying United States mails. In more recent years the government has granted shipping companies sums of money to cover the difference between the cost of building ships in the United States and in foreign countries. It has also subsidized these companies to make up the difference in the cost of operating ships in competition with foreign shipping lines. In all of these ways the United States government shows that it recognizes the value of the merchant marine even during peacetime.

One of the additional problems faced by the owners of merchant ships is the fact that the length of life of a merchant ship is limited. After some years of service, ships become less efficient. Improvements made on newer ships soon make the old ones out-of-date. The life of a merchant ship is usually considered to be about twenty years. A survey of our merchant marine in 1937 showed that many of our merchant ships were fifteen years old then. Thus the shipowner is always faced with the problem of over-age ships.

World War II showed the necessity for our having a larger merchant marine. Our Maritime Commission was given the task of building a large number of merchant ships of all types. It encouraged men to serve in the merchant marine. The government began to buy and lease ships from the shipping lines. In the early days of the war there was a race in the building of freighters called Liberty ships. By December, 1943, over 1700 of these had been put into service. The Liberty ship was considered an average-size freighter with a capacity of 10,800 tons of cargo. That is the equivalent of four long freight trains of some 75 cars each. During 1944 the War Shipping Administration began building Victory ships. These were faster than the Liberty ships. In 1936 there were ten shipbuilding yards in the United States. By June, 1943, the number had expanded

to eighty-one. In little over a year and a half after the beginning of the war, two thousand merchant ships were launched. There were

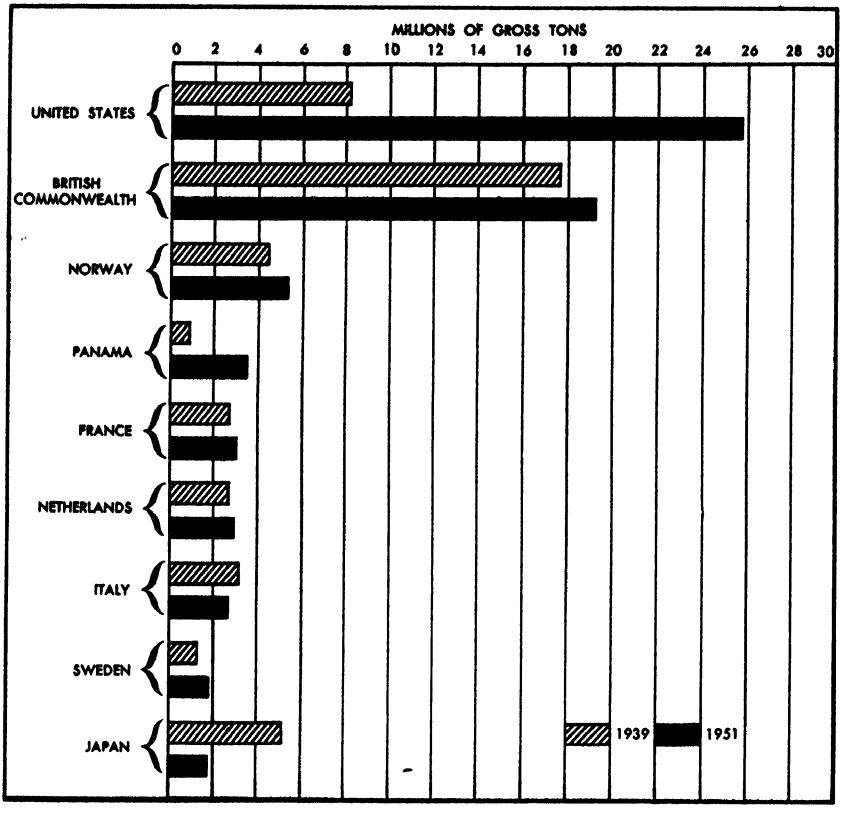


FIGURE 151 · *Tonnage of the world's largest merchant fleets in 1939 and 1951.* Which countries seem to have built the greatest number of ships in 1939? in 1951?

plans to complete five thousand ships before the close of 1944. By March, 1943, five ships per day were being delivered. The schedule for 1944 demanded the delivery of ships at the rate of six a day. The Maritime Commission said of this plan for our merchant fleet: "This fleet, the greatest ever constructed by a nation, is equal to two-thirds of all the merchant tonnage in the world in January, 1941. Our nation's shipbuilders under this program will have completed a fleet equal to the combined five largest merchant fleets in the world at the beginning of 1941, those of the British Empire, the United States, Japan, Norway, and Germany." Thus we see that the national

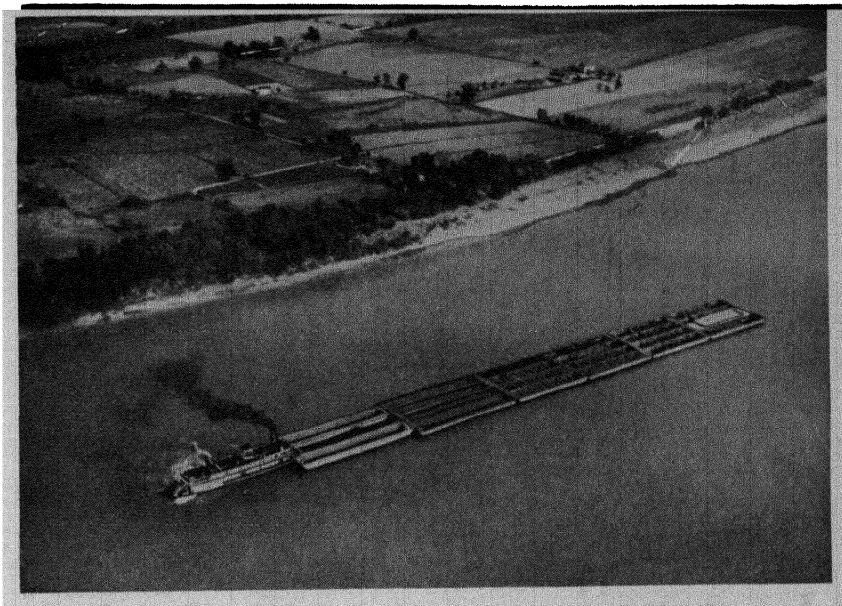
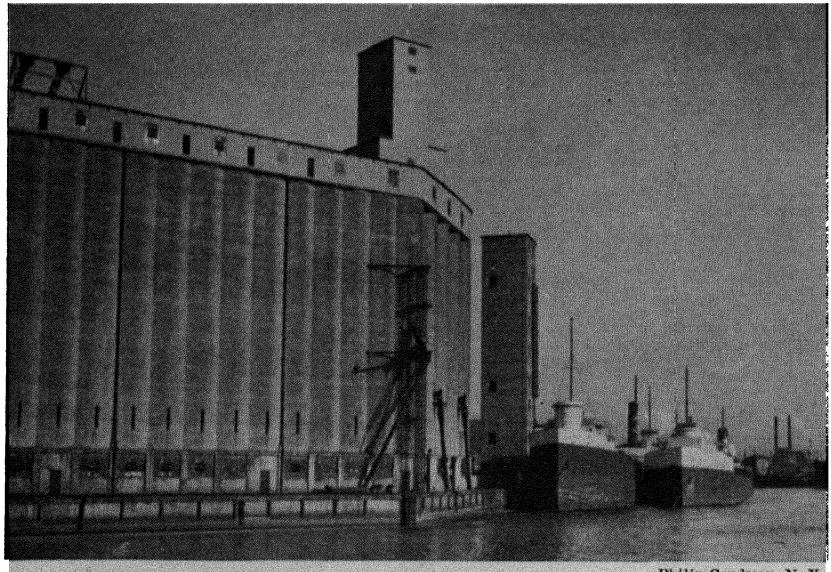


FIGURE 152 · *Coal barges on the Ohio River.* Large quantities of coal are carried westward from West Virginia and Pennsylvania by boat

government must control its merchant marine during time of war. Its aim was to develop as large and efficient a merchant marine as possible in the shortest time.

After the war ended, the government sold as many of the war-built ships as possible. Between 1946 and 1951 more than 800 were sold to United States lines, and some 1100 to foreign-flag lines. Early in 1952 the United States had more than 2000 merchant ships of average size in active service, and about two thirds of these were privately owned.

Inland Waterways. In some countries the inland waterways carry a large volume of traffic that becomes a part of foreign trade. Many different sizes of craft, boats, barges, river steamers, and even ocean-going vessels navigate these waterways. The Amazon River is navigable for small ocean freighters for more than 2000 miles. Its largest tributary, the Madeira, carries the trade of the lowlands of eastern Bolivia. In the United States, the Ohio and Mississippi rivers carry the largest volume of traffic, although much of the tonnage is a part of domestic commerce. In fact, the actual tonnage of the



Philip Gendreau, N. Y.

FIGURE 153 · *Grain elevators in Buffalo.* Here grain is stored awaiting shipment to the eastern seaboard by way of the Barge Canal

Pittsburgh District would rank it among the five leading world ports if it were classed as a world port.

In industrialized and densely populated areas in Europe, rivers are linked by canals. These waterways are the world's longest system of navigable inland waterways. Barges carry bulky materials from inland areas to the seaboard and carry imported commodities on the return trip inland. In Europe, coal, iron ore, and other cargoes need to travel only a short distance from one country to another to be classed as foreign trade. In New York State, one important cargo in the traffic on the New York State Barge Canal is grain which comes by lake freighters from the upper Great Lakes to Buffalo to be transshipped to the seaboard. The two inland cities of Manchester, England, and Houston, Texas, are really seaports since the canal reaching each city is large enough for ocean-going vessels. This kind of service saves time in handling incoming raw materials for the textile mills in the Manchester area, and in handling outgoing bulky raw materials from the Houston area. Besides the use of canals to connect rivers and to make inland cities into seaports, some canals shorten routes of connecting inland and coastal

waterways in the same way that the Panama Canal links two oceans and shortens distances.

Probably the most remarkable natural inland waterway is the Great Lakes. These lakes are large, deep, and extend far inland to mining and farming regions. The St. Lawrence waterway provides the outlet for seagoing vessels, and various canals link the Great Lakes system with navigable riverways in the United States. There are two drawbacks: ice closes navigation during the winter months, and some of the canal locks along parts of the route are not large enough to accommodate some vessels that would otherwise call at lake ports. New York State has a unique location with respect to the use of inland waterways and ocean transportation.

QUESTIONS TO ANSWER AND THINGS TO DO

1. Explain at least three types of services provided by shipping lines.

2. In what ways do some governments help shipping lines?

3. What is a merchant marine?

4. Why has it been difficult for shipping companies of the United States to get traders to send their goods in ships of the United States rather than in ships of foreign countries?

5. What was done to help our shipping problem during World War I? What did the United States government do with the ships which it owned after the war?

6. In recent years how has the United States government tried to help shipping lines?

7. How did the United States government solve the shipping problem during World War II?

8. What is meant by an over-age ship?

9. What are some of the postwar problems which the United States has faced in regard to its merchant marine?

10. Discuss the conditions by which inland waterways become important links in the flow of commerce.

11. Compare the merchant fleets of the British Commonwealth, France, the United States, Norway, and the Netherlands in 1951 (see the graph on page 270).

Photo Bucher from Three Lions

FIGURE 154. *The railroad lines which converge on Buenos Aires make that city the busiest railroad center in South America*

3. Land Routes and Transportation

Land routes are very important for trade between countries. Some countries do not have seaports. If their goods are to be sold to other countries they must depend upon land routes. It is also necessary to have well-developed land routes running across large countries. There must be land routes if the people in different sections of these larger countries are to trade with one another and with people in other countries. For example, the wheat farmers of our Middle Western States depend upon land routes to send grain to the lake and ocean ports through which it must pass on its way to foreign buyers. These same wheat farmers depend upon land routes to bring such products as Cuban sugar or Hawaiian pineapples from the seaports to their local markets.

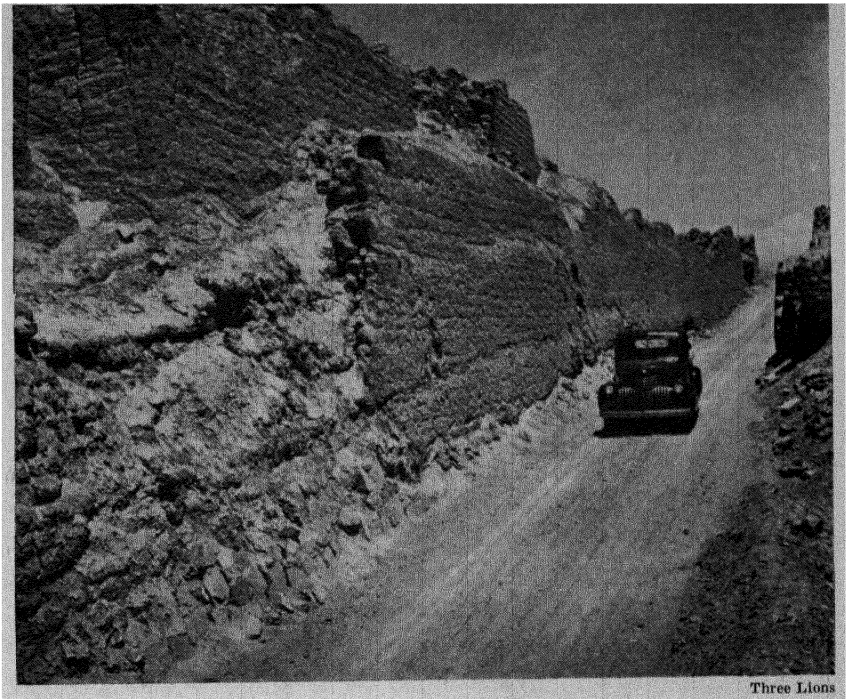
Railroads. The railroads have proved to be the best carriers of goods over these land routes. Railroads have come to be very important in world trade. Most of the goods sold in foreign trade

reach the ocean ports by rail. The fact that New York City is a great port handling a large amount of foreign trade is largely a result of the fact that it is a great railroad center. The goods from the northeastern part of the United States can be shipped to New York City easily. Railroads also carry imported goods to people in the interior of a country. Thus the railroads increase many times the number of consumers which one ocean port is able to serve. Moreover there are railroads which cross international boundaries and thus aid directly in carrying goods from one country to another. Railroad lines from the United States cross the Canadian border. Canadian lines cross parts of the United States. For quick transportation of perishable goods and for transportation of heavy and bulky goods, industries depend almost entirely upon the railroads, as the goods are carried much more quickly this way than by water, although not so cheaply.

Highways. Improved highways running across national borders have made it possible in recent years to ship quantities of peacetime goods and war supplies by means of trucks.

One of the outstanding highway systems which has been planned and largely completed is the great Pan American Highway. This begins on the Mexican-United States border at Laredo, Texas, goes through Mexico City, on through Central America, and down the west coast of South America. It runs southward as far as Valparaiso and then crosses the mountains to Buenos Aires on the east coast and continues near the east coast into Brazil and on to Rio de Janeiro. Some sections of the highway in Mexico and Central America have not yet been finished, but those in South America have been nearly completed. Each country has been responsible for building the section of the road running through its own territory. The South American countries have supplied the labor, but have received much of the building equipment and materials such as steel and cement from the United States. The fact that these South American countries have found it difficult to build railroads has made them interested in the completion of a successful system of highways. The engineering problem of building tunnels through the mountains, clearing the jungle, and grading the land for railroad tracks is costly. Moreover, branch roads can be built connecting the interior sections of the countries with the main highway. Branch lines would not be used enough to justify the building of railroads

FIGURE 155 · *The route of the All-American Highway.* The Pan American Highway is the section running southward from Laredo, Texas



Three Lions

FIGURE 156. *A branch road of the Pan American Highway in Peru.* This road runs between the walls of an ancient temple

into these areas where there are so few people. The highways are less costly and will probably lead to the development of new sections of country.

From time to time plans for an all-American highway have been discussed. This highway would connect the Pan American Highway with highways leading across the United States to the Canadian border where another road would be constructed leading directly to Alaska. During World War II a military road known as the Alaska Highway was built so that supplies could be transported inland to the faraway northwest corner of the continent. The highway extends from Dawson Creek, British Columbia, northwestward by way of Whitehorse, Yukon Territory, and across the Alaskan boundary to Fairbanks. Another highway connects Fairbanks with Anchorage. In 1946, the Canadian government took over the Canadian part of the highway. Now the Alaska Highway is open for public use.

As each section of the Pan American Highway has been completed, it has become one more link in a great highway system connecting the mainland countries which are members of the Organization of American States. The future will determine the importance of the highway in encouraging trade and an exchange of ideas between the countries of North and South America.

World War II brought to our attention another great road by which trucks carried supplies from the Indian Ocean to Chungking, the wartime capital of China. Goods were taken from the Indian Ocean port of Rangoon to the city of Mandalay and then sent by the Stilwell Road across the mountains to Chungking. During the early part of the war many of the Allied supplies for China were sent to the Chinese people by this route.

What is the future of highway building and transportation of goods by motor vehicles? Perhaps our railroad companies and trucking companies will work together instead of trying to compete for one another's business. The railroads may carry the goods which are sent long distances. The trucks may carry those which are sent short distances. In newly-developed sections and countries of the world the trucks may work with the railroads to transport goods to parts of the countries in which there are no railroads.

QUESTIONS TO ANSWER AND THINGS TO DO

1. What kinds of countries depend upon land routes for their foreign trade?

2. How do railroads and shipping lines work together to increase the foreign trade of a country?

3. Give examples of railroads which cross national borders.

4. What kind of goods would you ship from New York City to San Francisco by railroad? by boat?

5. Describe the Pan American Highway. What route does it follow? Why are the peoples of Latin American countries especially anxious to see it completed?

6. Describe the Alaska Highway. Why was it built?

7. Where is the Stilwell Road? Of what use has it been?

8. How can railroads, trucks, and busses work together in solving our transportation problems?

4. Air Routes and Transportation

Increase in the Use of Airplanes. World War II brought about great changes in air lines and in the extent to which the airplane is used in trade and communication between countries. During the prewar years passengers, mail, and a little express were carried by the airlines. Since then the transportation of all three classes has greatly increased, and air transport of freight has become important. The war opened new air routes. It brought the manufacture of airplanes under a system of mass production. Each nation at war tried to rival the others in the number and variety of planes produced. The war brought gliders into extensive use. Large amounts of supplies and large numbers of troops were transported as air cargoes. The war brought about the building of many factories for the manufacture of combat planes. These factories have turned to the manufacture of commercial planes. The war also produced a large number of pilots and trained mechanics. Businessmen and producers of goods have learned about new markets which may be developed. While many heavy, bulky goods will undoubtedly continue to be shipped over railroads and shipping lanes, larger and larger quantities of commercial goods and perishable goods are being carried by airplane.

Airplanes in Remote Regions. Moreover, it is possible to carry goods by airplane into remote sections of different countries where railroad lines have not been built. In South America airplanes are able to go where railroads and highways have not penetrated. Airplanes can fly over trackless mountainous country, jungles, and marshes. The rubber plantations of South America may be connected by plane with the shipping centers of the coastal cities. There is little doubt that the airplane will carry more of the import and export goods in many countries. *See Figure 157.*

Air Travel Speedy and Safe. Businessmen may visit new markets and receive orders for their products by means of the airplane. For example, a salesman for typewriters may take a plane from New York City to London, have lunch or dinner with a prospective buyer of typewriters, and close the business deal without having to wait weeks to arrange the terms of the purchase. Today people are thinking increasingly of distance in terms of hours rather than of miles.

This new air age is changing man's thinking in regard to distance and routes. The air line is interested in using the shortest route that

© E. Dahlberg from Three Lions

FIGURE 157 · *Small quantities of rubber bales are flown from the tropical lowlands of eastern Bolivia to a seaport*

serves the most trade areas along the way. Time is valuable and the aim of the air lines is to give speed and safe travel. The use of direct routes reduces flying time and permits the plane to carry more weight in passengers and cargo. As commercial air lines and military services map new routes, the plans must be based on the global nature of the world. The plans must also recognize the fact that the most densely populated areas are on the land masses north of the equator. Since it is a fact that the shortest routes are arcs of a great circle, air routes connecting North America and Eurasia would take a northerly course. On a flight from New York to China the route will be shorter by flying in a northerly instead of a westerly direction. In what direction does a plane travel in going from New York to Australia by a great circle route? from New York to England?

The airplane is compelling us to use different maps and to change our thinking so that we get a more accurate picture of distance.

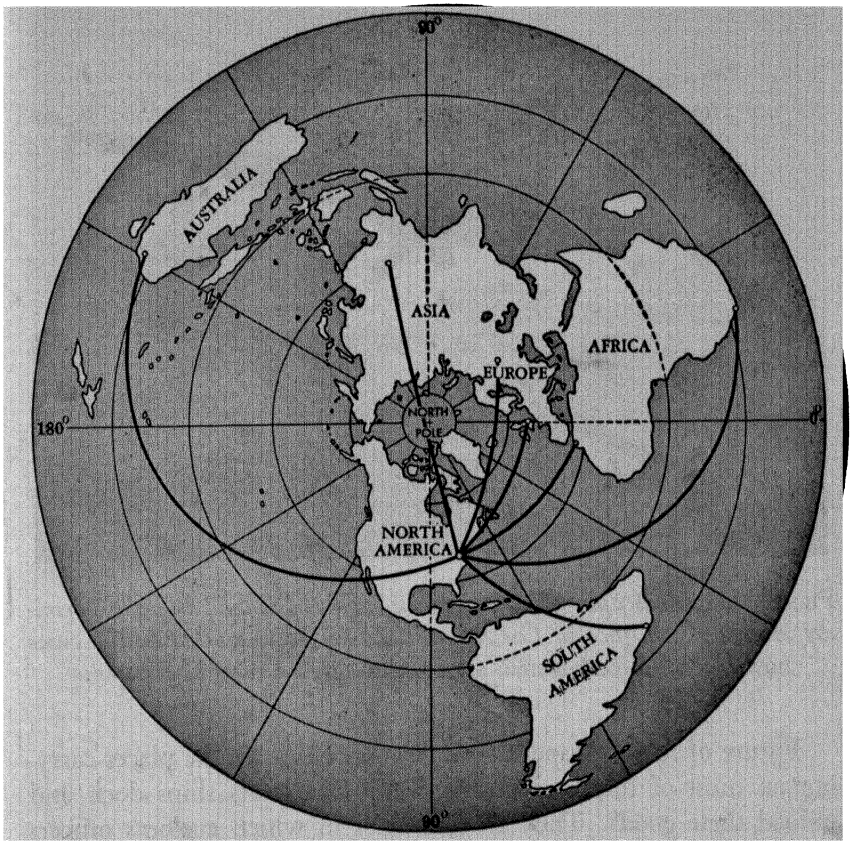
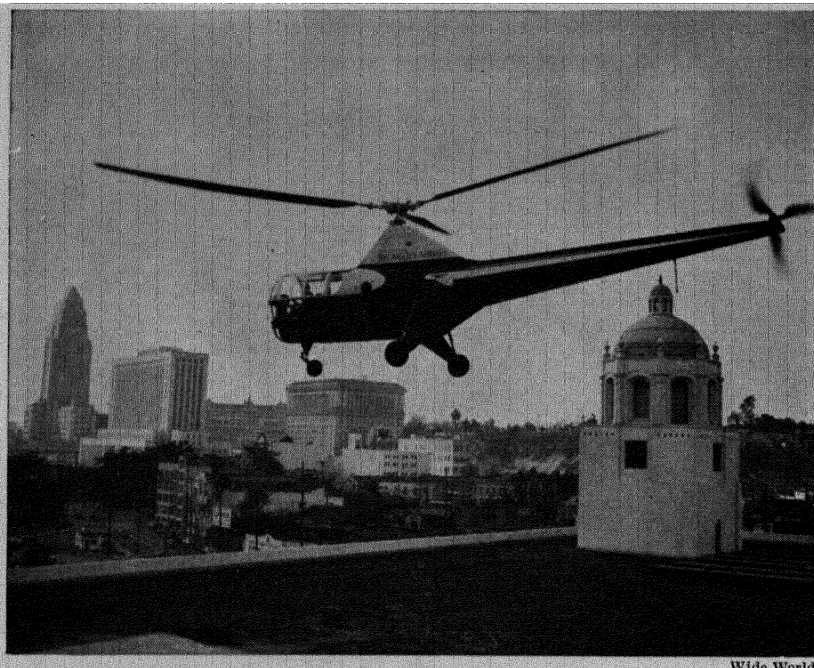


FIGURE 158. *A map showing some of the great circle routes between our country and the rest of the world*

Helicopters. One of the important developments of the airplane industry in recent years is the helicopter. This aircraft, which is power-driven by a horizontal propeller or propellers, has the advantage of being able to take off from and land on a limited space. Helicopters are being used for various local commercial purposes, such as carrying passengers and mail, as well as for crop dusting and other agricultural operations. They are also being used increasingly for military purposes. *See Figure 159.*



Wide World

FIGURE 159 · *A helicopter with mail aboard is about to land atop the Terminal Annex Post Office in Los Angeles.* Many Southern California cities now receive direct air-mail service through the use of helicopters

Future of Air Transportation. Seaport cities are the places carrying on most of the foreign trade. At these ports ships dock and unload their goods. They are the cities in which customs officers examine the imported merchandise and fix the duties to be paid. As the air lines carry more commerce, all this may be changed. It is probable that inland cities may become important ports of entry for foreign trade. An airfield in an inland city may be developed for the use of planes on international or intercontinental flights. The city then takes part in the foreign commerce of the nation.

How will the air routes of different countries be controlled in the future? Will each nation be free to say what nations shall fly planes over its land? Or, should the air over each country be free for the use of the pilots of all countries? These are questions which must concern the governments of the world.

QUESTIONS TO ANSWER AND THINGS TO DO

1. List the most important changes which World War II made in the use of airplanes.

2. Of what special value would air lines be in an undeveloped country?

3. How may the airplane help the businessmen in making agreements with companies in other countries?

4. How is the airplane changing man's ideas of time and distance?

5. Why do the commercial air lines want to use the shortest distance between two cities?

6. Does the airplane pilot on intercontinental flights follow the same route which the captain of a ship would follow? Why?

7. Why does the pilot fly north from San Francisco in order to reach Tokyo?

8. What is a helicopter? What is an autogiro? How do they differ from large commercial planes?

9. What difficulties may arise among countries concerning air routes and services?

CHAPTER TWENTY · HOW GOODS ARE EXCHANGED

Different Kinds of Money. How do people exchange goods within their local communities? We think little about the system used as it has become so common. For instance, if you have more baseballs than you want, you sell the extra ones. You receive money for the balls. Perhaps you use the money to buy a baseball bat. In this case, you, the boy to whom you sold the balls, and the boy from whom you bought the bat all used the same kind of money. Because there is a standard money in use throughout the United States, one does not stop to think of the difficulties which may arise when people of different countries want to trade with one another. There is no common money which is accepted by all the peoples of the world. The French use francs. The American aluminum producer who buys bauxite from the mine owner in central France must pay in francs. Also, the American importer who buys French perfumes must pay in francs. However, the automobile manufacturer in the United States who sells a car to a French customer wants to be paid in dollars. When the manufacturer of English wool sells his woolen goods to the clothing manufacturer, he is paid in English pounds. When the wheat grower of Argentina buys farm machinery from a firm in the United States, he pays for it with Argentine pesos. However, the manufacturer of the machinery wants United States dollars. Moreover, when the importer in the United States buys a shipment of Brazilian coffee, he expects to pay with dollars. However, the Brazilian exporter pays the grower of the coffee in cruzeiros. In other words, people carrying on trade between countries must remember that there are many different kinds of money in use in the world.

Exchange of Goods between Countries. For a moment let us think only of English and United States money. Under certain circumstances the Englishman wants United States dollars and the citizen of the United States wants English pounds. The United States traveler in England goes to a bank and exchanges his dollars for English pounds. As he travels about England he must pay his railroad fares and his hotel bills in English money. He must pay for all of the services given to him by Englishmen in money which the English people use. The English lecturer who comes to the United States goes to a bank and exchanges his pounds for dollars. He must pay

his traveling expenses in United States money. This is one way by which English banks have built up a fund of United States dollars

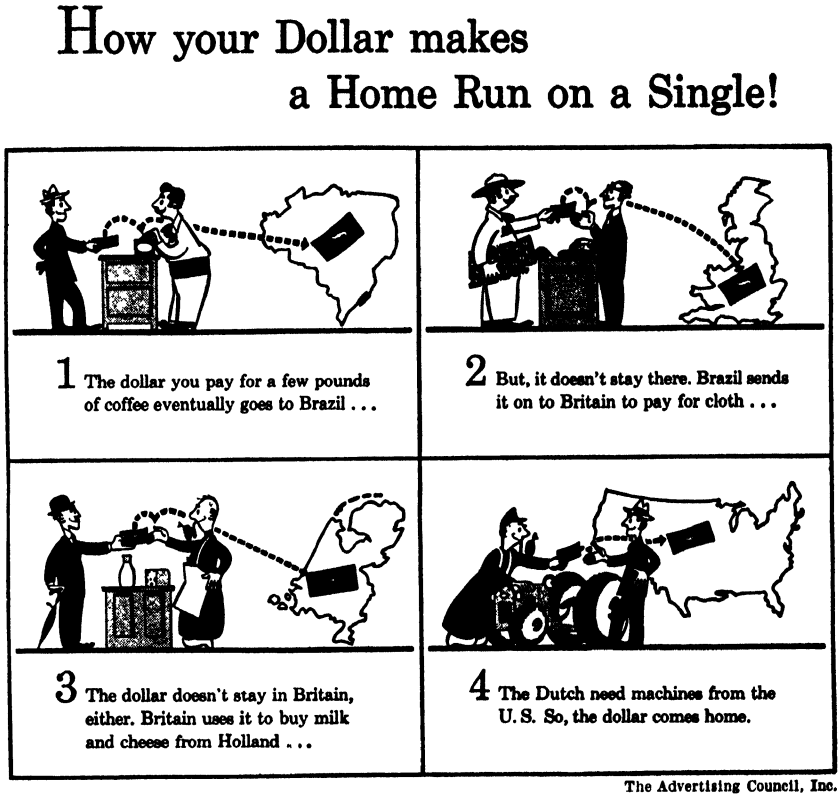


FIGURE 160. *An illustration of what happens to an American dollar in an exchange of goods between the United States and other countries*

and by which the United States banks have built up a supply of English pounds.

Let us take a very simple example of what might happen in the exchange of goods between these two countries. It will be assumed that there are no trade or tax restrictions. Tom Smith in the United States wants to buy two thousand dollars' worth of woolen cloth from an English exporter. When the shipment of woolen cloth arrives, Tom Smith may go to his bank in the United States, pay the banker two thousand dollars, and ask him to arrange to pay the debt of two thousand dollars to the English exporter.

At the same time John Jones in England wants to buy a two thousand dollar automobile from a dealer in the United States. When the automobile arrives in England, John Jones will go to his bank, pay enough pounds to be equal to the two thousand dollars, and ask his banker to pay his debt to the automobile dealer in the United States. The bank might ship Tom Smith's two thousand dollars to the English bank, and the English bank might ship John Jones's pounds equal to two thousand dollars to the United States bank. However, this would be needless. The English bank wants the pounds and the United States bank wants the dollars. What does actually happen? The bank takes the two thousand dollars which it received from Tom Smith and pays it to the automobile dealer. The English bank takes the pounds (worth $2000) which it receives from John Jones and pays it to the exporter who sold Tom Smith the woolen cloth.

No money is shipped. The Englishman receives his pounds. The United States dealer receives his dollars. In this case what actually happens is that goods are exchanged for goods.

Goods Exchanged for Services. Sometimes a firm in one country owes a firm in another country a sum of money because a firm in a third country performed certain services for them. An English steamship line might carry a shipment of seven automobiles from New York to Rio de Janeiro for a firm in the United States. The steamship charges might be $1400. Thus the firm in the United States would owe the English shipping line a debt of $1400 for services. At the same time an English firm might purchase a $1400 shipment of typewriters from a firm in the United States. Thus the English firm would owe the typewriter company in the United States $1400. The two debts might be paid in the same way that Tom Smith's and John Jones's debts were paid. Here the goods (typewriters) are actually exchanged for the services of the shipping company.

Balance of Trade. Thus we might conclude that goods exchanged between peoples of different countries must be paid for in either goods or services. If, after a period of time, more goods continue to be sent to England from the United States than are sent from England to the United States, the bank of England would owe money to the bank in the United States or to the exporters in the United States. Under these conditions, the United States is sometimes said to have a favorable balance of trade, because the United States has money credits in England. However, if the firms in the United

States did not want English goods or services, the English banker or exporter would send gold to balance the accounts. Up to the present

FIGURE 161 · *A cartoon illustrating some of the difficulties of achieving a favorable balance of trade*

time a debtor country has shipped gold to the country it owed for services or goods. Thus a country pays for the goods it buys in goods, services, or gold.

In former times, it was believed that a country with a favorable balance of trade (more exports than imports) was most fortunate. Such a country had money coming to it. Thus it would become wealthy. Today people are coming to see that such a country is not always so fortunate. It does have more goods to export, but it cannot export these goods unless it can find buyers. If the countries to which

it has been sending exports do not have goods or services to offer, they will have to pay for the goods they buy in gold or something which the exporters are willing to accept. However, these countries cannot continue buying goods, for they will not have any gold left. Thus the country which thought it had a favorable balance of trade might find that it had lost its customers. It might have surplus goods which it could not sell. Its producers would have to lower their prices. Their profits would fall. Then their country would not be so prosperous.

International trade, then, to be successful must be the exchange of goods and services by the people of one country for the goods and services of another country.

QUESTIONS TO ANSWER AND THINGS TO DO

1. Why is it more difficult to pay for things which you buy from people living in foreign countries than for things you buy from people living in the United States?

2. What must the United States tourist in England do in order to pay his bills?

3. What must the English traveler in the United States do in order to pay his bills?

4. Does the United States merchant who buys goods from the English manufacturer always have to send United States dollars directly to the English seller? Explain.

5. What is meant by the statement that in trade between countries goods are exchanged for goods?

6. What is meant by the statement that goods are exchanged for services?

7. What does the expression "favorable balance of trade" mean? Is it always an advantage to a country to have a favorable balance of trade? Why?

8. Upon what does successful trade between countries depend?

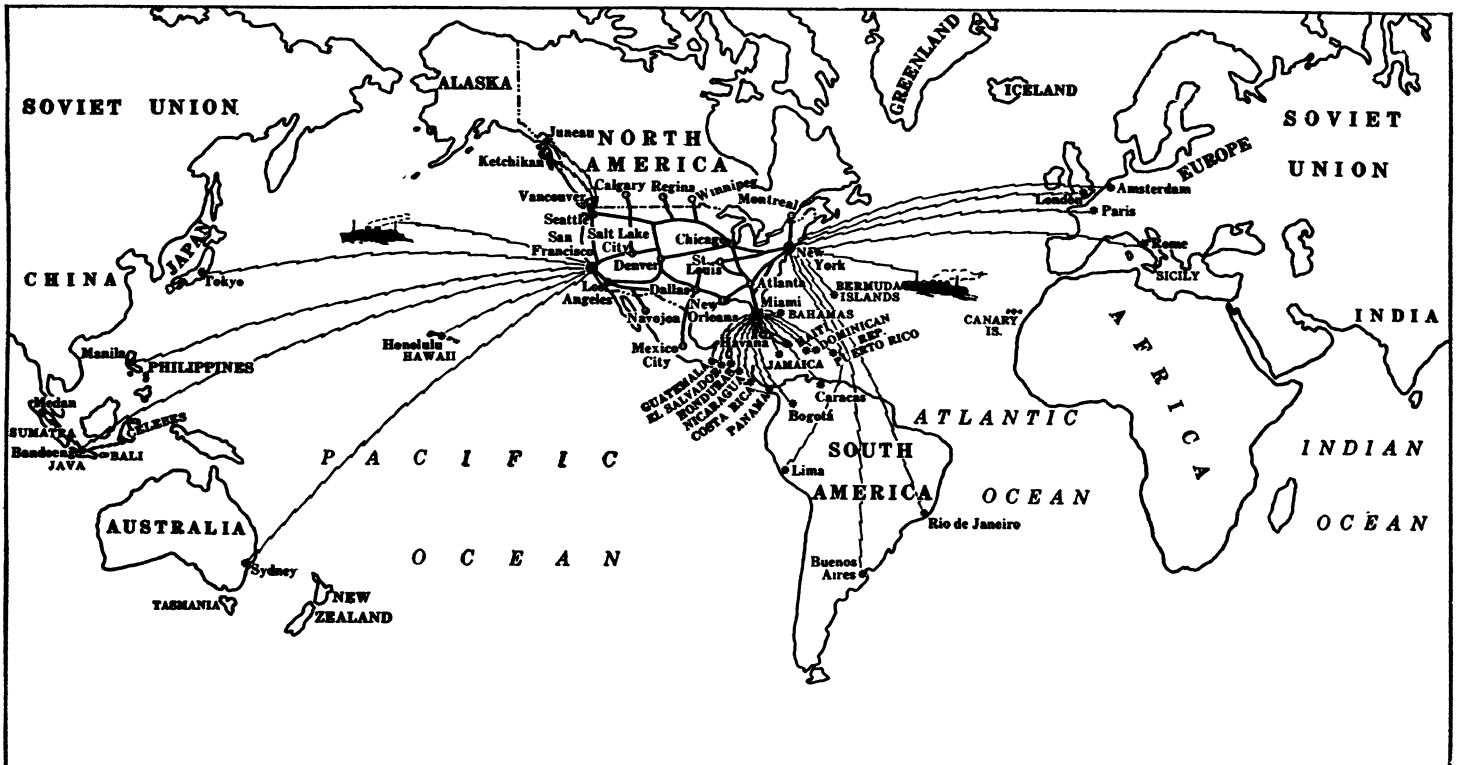
CHAPTER TWENTY-ONE · MODERN COMMUNICATIONS, AN ENCOURAGEMENT TO WORLD TRADE

Progress in Communication. If nations are to work together and trade with one another, they must be able to communicate with one another easily. Man has made successful progress in communication. Today distance hardly interferes at all with man's communication. The President of the United States may talk with the British Prime Minister over the transoceanic telephone. Cablegrams and telegrams may carry messages from people of one country to the people of another country in almost no time. Radio may bring us a word picture of events that are taking place in some distant country almost as those events occur. Television may be used to send actual pictures of the events which the radio speaker describes. *See Figure 162.*

Mail is sent from one section of the globe to another through the co-operation of the Universal Postal Union. United States consuls stationed in all of the important cities of the world furnish information to businessmen in the United States.

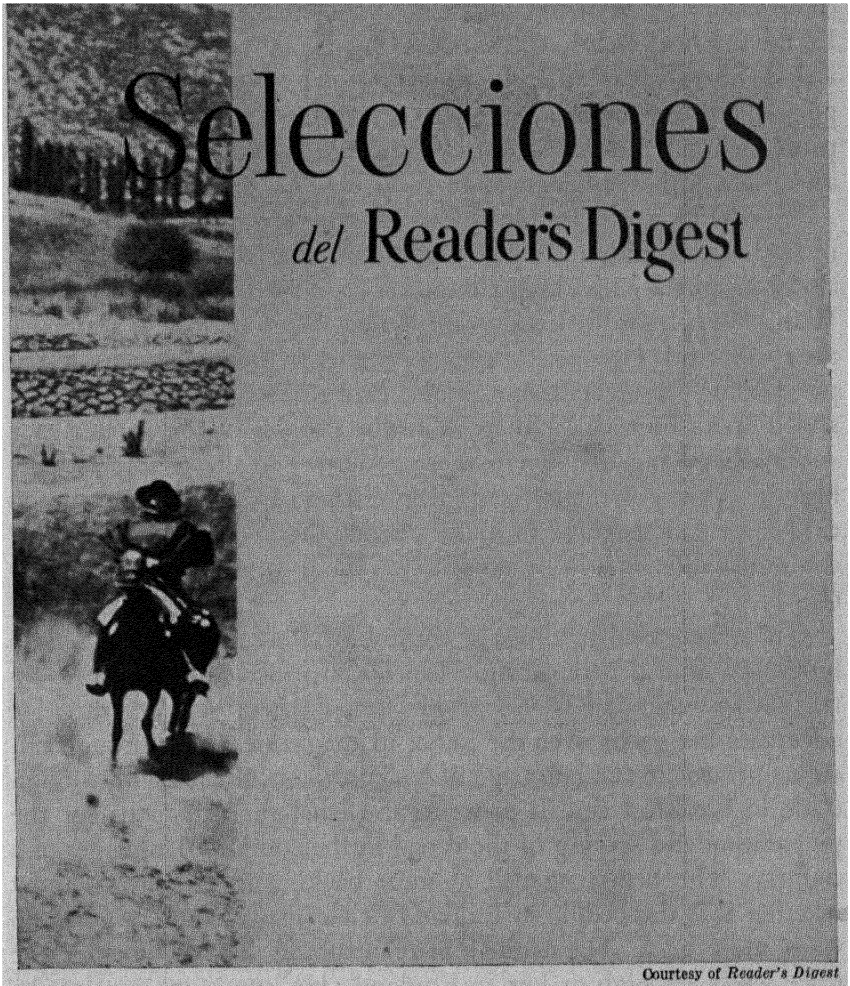
Events of importance are made known to people all over the globe through the press. News-gathering agencies such as the Associated Press have reporters stationed in the important countries of the world. Through the newspapers they make known the events which interest us. Teletype machines have been set up in important centers. These machines record typewritten accounts of events of interest as they are flashed over the wires from central news-gathering agencies. Many magazines and books are published in more than one language so that people of many countries may read them. Within recent years some magazines have been published in Spanish as well as English for the South American trade. News from other countries, gathered in all these ways, makes us know more of the conditions in those countries. Countries which know one another better will carry on more trade with one another and their trading will be more successful. *See Figure 163.*

A Handicap to Trade. One of the difficulties of trading between the peoples of different countries is that these peoples often do not speak the same language. It is difficult for buyers and sellers who do not speak the same language to make themselves understood even through their interpreters. Perhaps some progress is being made along this line. For many years French and English have been the



After map by American Telephone and Telegraph Company

FIGURE 162. *Overseas radio telephone connections*



Courtesy of *Reader's Digest*

FIGURE 163 · *A black-and-white reproduction of the colored front cover of a Spanish edition of a popular United States magazine*

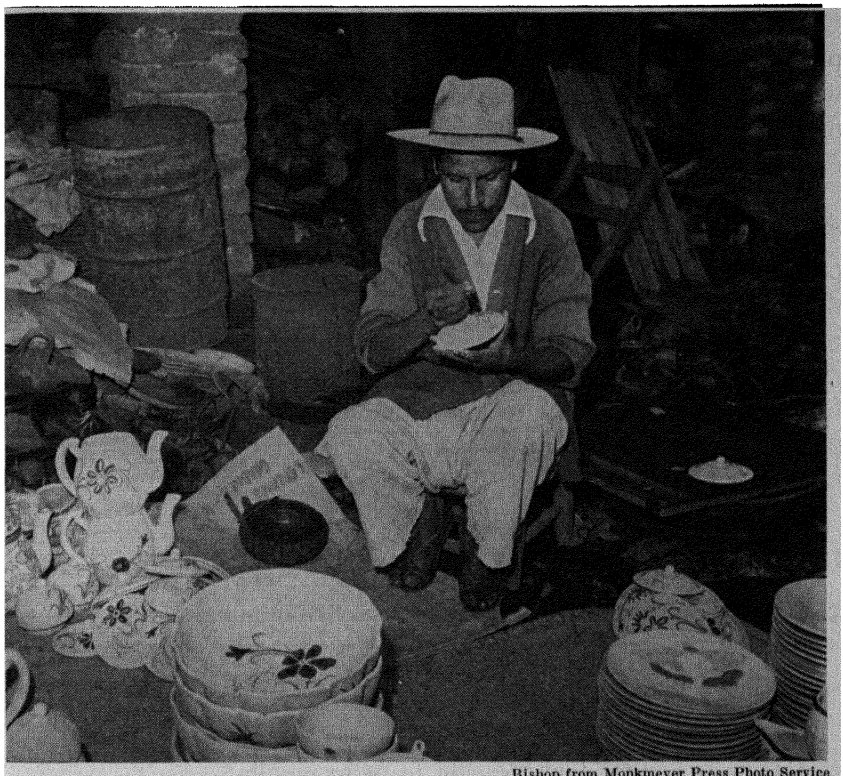
languages in which the governments of the countries of Europe and the United States have made agreements. People in foreign countries who wanted to trade or exchange ideas with other peoples would learn French or English. More and more people in other countries are coming to understand English. Undoubtedly this is a result of the fact that many of these people have traded with English-speaking people. Recently an attempt has been made to bring about closer

co-operation between the countries of North America and those of Latin America. Inasmuch as most of the peoples in the Latin American countries speak Spanish, the Spanish language has become more popular in the United States. Its study has been encouraged for people who are interested in furthering the development of business and trade with Latin American countries.

Co-operation as a Result of Communication. The progress made in means of communication has brought the nations of the world closer together. This closer communication made it possible, during World War II, for the leaders of different Allied nations to announce their ideas to the peoples of their countries at the same time. It was possible for President Roosevelt and Prime Minister Churchill, each seated at his own desk, to speak to the peoples of the world. The spirit of working together is more active when the people actually hear the voices of their leaders urging them to support a common cause. As nations come to know one another better through closer communication it may be possible for them to work together more closely.

These improved methods of communication are an advantage to businessmen in different countries. The manufacturer in one country knows what goods the people in another country want. He advertises his goods over the radio, in magazines, and through circulars printed in the language of his customers. Firms with foreign trade in breakfast cereals print on the label the directions for the preparation and serving of the cereal in the common languages of a country. The firms engaged in meat packing in Argentina know whether it is the people in England or Germany who are going to want more beef. The United States exporter knows whether the price levels are high or low in England. He knows what prices he may expect for the goods which he wishes to export. All these closer ties of communication make it possible for the people of different countries to do business with one another more successfully.

Exchange of Cultures and Ideas. Peoples of different countries are communicating with one another today through movies, students, teachers, musicians, and artists. Many of the ideas and impressions which foreign peoples have of the peoples in the United States come from motion pictures made in the United States. The films show some of our customs, our products, and the conveniences which we enjoy in the United States. Other peoples become interested in our



Bishop from Monkmeyer Press Photo Service

FIGURE 164 · *Tourists from our country bring back some of these specimens of Mexican pottery*

life. They want some of the things which we have. Manufacturing firms use films as advertisements of the products which they want to sell in other countries. In recent years the United States and the Latin American countries have tried to learn more about one another by exchanging students and teachers. Radio programs feature the compositions and literary works of other countries. Each week several radio programs give us story and music pictures of Latin American life as well as news of the happenings there. Singers and other musicians from Latin American countries often give performances in our country. The United States has been especially attracted by some of the Mexican art. Paintings by Mexican artists decorate the walls of public buildings in several of our large cities, and the artistic work of Mexican weavers and potters is well known here.

One might say that, as a result of this exchange of culture, the peoples of North and South America are getting better acquainted with one another. This exchange of culture between the countries of North and South America may well serve as a pattern for such an exchange with other countries.

How is world trade concerned with this exchange of cultures? Through modern means of communication and transportation people see or hear about things they do not have. They want and need these things for their own advancement and well-being and are quite ready to buy them. People who know one another through having exchanged cultures and ideas trade with one another more successfully and therefore come to know one another better. Thus we see that world trade may draw nations closer together.

QUESTIONS TO ANSWER AND THINGS TO DO

1. List different ways in which you may communicate with a friend of yours who is in England.

2. What is done to speed the delivery of mail these days?

3. How do the United States consuls aid businessmen?

4. How is foreign news brought to us so rapidly?

5. How may language be a hindrance to businessmen?

6. What languages are used most by nations in diplomatic discussions with one another?

7. How do manufacturers make use of different means of communication?

8. What are some of the ways in which the peoples of North and South America have been exchanging ideas?

9. How does communication between countries aid world trade? How does world trade aid communication?

CHAPTER TWENTY-TWO · POLICIES OF GOVERNMENTS AND THEIR EFFECTS ON WORLD TRADE

Governments have taken different positions with regard to trade between nations. Some nations which produce large quantities of only a few products wish to sell these products abroad, and they have found it necessary to buy from foreign countries things which they need. The governments of such countries have encouraged trade with other nations. They have allowed foreign goods to come into their countries freely and have allowed their own producers to export goods freely. Such countries are said to have a free-trade system.

In other countries governments have made laws taxing goods which are imported from foreign countries, or in some way limiting the amount of foreign goods imported.

1. *Tariffs*

Protective Tariffs. The most common barrier against goods imported from foreign countries is a tariff. What is a tariff? It is a tax placed upon goods imported into a country. For example, the United States places a tax upon many imported goods. Sometimes a tariff is put upon an imported article for the purpose of raising revenue for the United States government. The United States government might place a tax of two cents a pound upon the coffee imported. The coffee importer in the United States would have to pay two cents to the government for each pound of coffee which he purchased. This kind of tariff would not be a barrier to foreign goods because coffee cannot be grown in the United States and our people would probably buy just as much coffee even though it cost them two cents more per pound. On the other hand, some tariffs are placed upon goods not to get money for the government but to help the manufacturers and producers in the country. Before World War I this country depended upon imports of dyes from foreign countries. During the war our trade with those countries was discontinued. Some firms in the United States then started to produce dyes. At the end of the war the government put a tax in the nature of a tariff upon dyes imported from foreign countries, because it found that the foreign countries could send their dyes here and sell

them at a lower price than that for which the United States manufacturer could produce and sell them. The government wished to

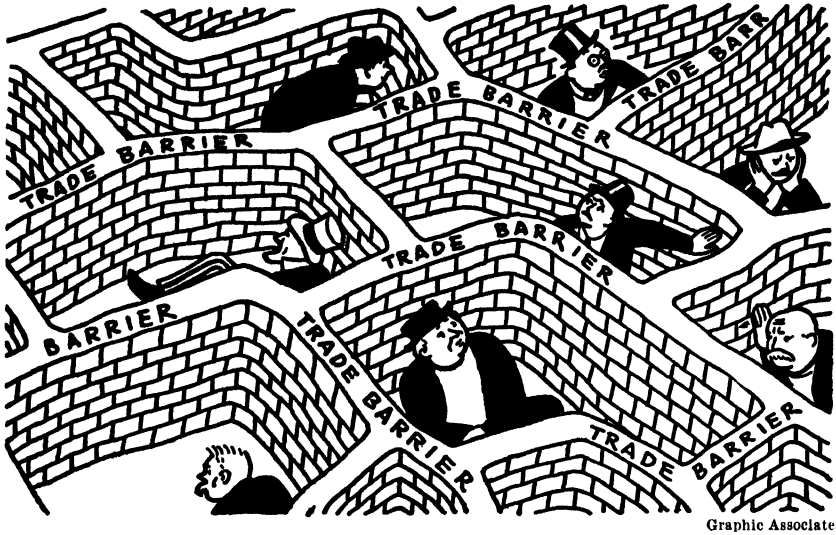
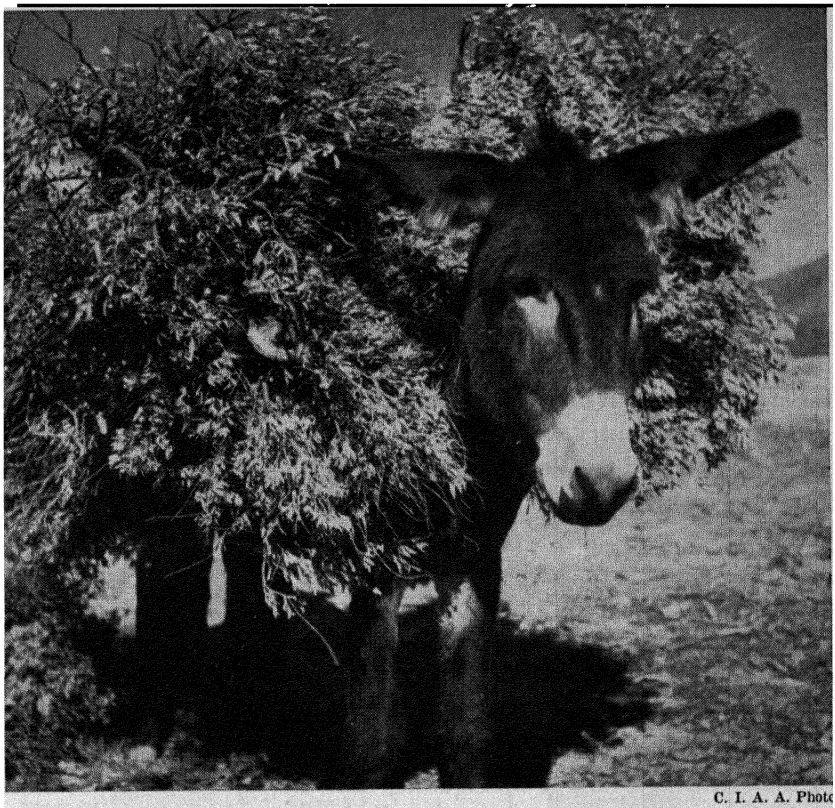


FIGURE 165 · *A cartoonist's idea of trade barriers*

protect the manufacturer who had started to make dyes. Such a tariff is called a protective tariff. A protective tariff does affect world trade because it keeps some countries from importing goods and encourages them to try to manufacture these goods at home.

Some Reasons for a Protective Tariff. Some people believe that the United States should have a protective tariff because that would make it possible for more industries to develop in this country. There are certain goods which can be manufactured in the United States but which can be made more cheaply in some other country. Unless a tax is placed upon such goods imported from a foreign country the consumer will buy the foreign goods at the lower price. For instance, if cheap electric-light bulbs, made in a foreign country, could be kept out of the United States by means of a protective tariff, then our manufacturers would be able to sell their own electric-light bulbs at a price which would cover the cost of making them in this country and yield them a profit. A protective tariff would be especially beneficial in time of war. During a period of war a nation's trade routes may be held by the enemy. If a country is dependent upon foreign nations for its food, clothing, or military supplies, it may find itself in a very serious situation. For example, at the outbreak of



C. I. A. A. Photo

FIGURE 166 · *A Mexican burro with a load of guayule, from which rubber can be obtained.* During World War II this plant was cultivated in northern Mexico and in parts of our Southwest

World War II the United States found that it had depended upon Southeastern Asia for most of its supply of rubber. When this supply was cut off, the United States had to look for new places to grow rubber, and also had to experiment with rubber substitutes.

Some people believe that only by the use of a protective tariff can the high standards of labor in the United States be maintained. Since a protective tariff protects the manufacturer and allows him to sell his product at a good price, the manufacturer is able to pay his workers a good wage. Also, they believe if the protective tariff makes it possible for more industries to develop in the United States, there will be a greater demand for workers, and employers will be able to pay their laborers a higher wage.

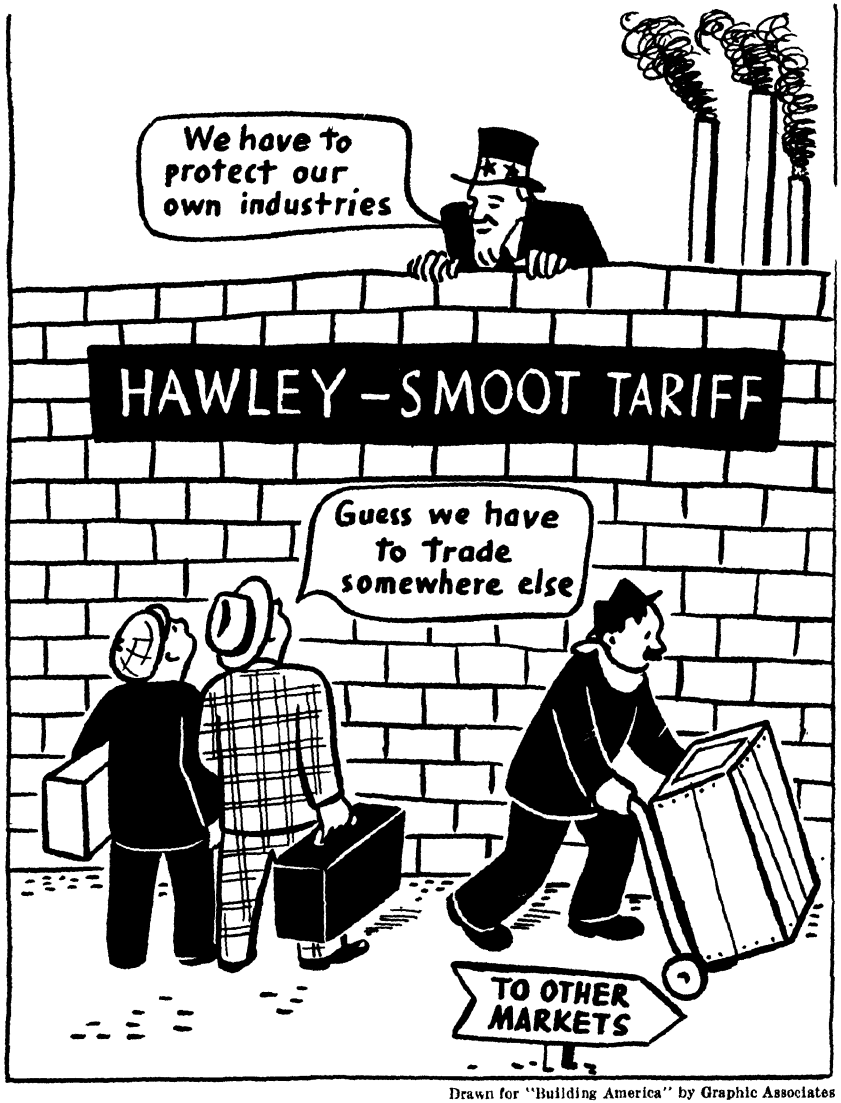
Some people have argued that a protective tariff would create a favorable balance of trade by cutting down the amount of foreign goods which the United States would import. However, it has already been shown that this so-called favorable balance of trade is not really favorable. When a country has bought more from us than it has sold to us, it must make up the difference by sending us gold. Soon such a country will not have enough gold to pay us, and consequently will stop buying our goods. Our exports will thus be cut down and our manufacturers and farmers will have a surplus of goods for which they will have to find another market.

Some Arguments against a Protective Tariff. A protective tariff raises the cost of living. It encourages our manufacturers to produce goods in this country which can be produced in foreign countries at a lower cost, and enables them to sell these goods to the people at a higher price than the consumer would have to pay for the foreign goods. Everyone knows the effect which an increase in prices has upon the amount of goods a person is able to buy with his weekly pay check.

Some people think that a free-trade system makes it possible for each country to develop those industries which it is most able to develop. They believe that an industry should be located in the part of the world most suited to its development. As a result the product of the industry is of the best quality and the price is lower. In the United States there are no tariff walls between the states. In other words, none of the states places a tax upon the goods which are brought into it from another state. California and Florida produce oranges much more cheaply than they could be grown in the hothouses in New York State. The Middle Western States grow wheat at a lower cost than it could be grown in Maine or Florida. Pittsburgh produces steel more cheaply than it could be produced in San Francisco. In the United States the people get the benefit of lower prices because each of these commodities is produced under favorable conditions.

Some states do have quarantine laws to prevent interstate shipment of agricultural products infected with certain diseases. Likewise some states place certain regulations upon trucks from other states which cross their borders. These regulations concern such items as the size of the truck and the weight of the load carried. Busses and motor vehicles which engage in interstate commerce

today have to secure a license from the Interstate Commerce Commission. States will still have to restrict the largest busses or trucks



Drawn for "Building America" by Graphic Associates

FIGURE 167. *A cartoon showing the effect of a high tariff on our foreign trade*

from using state highways which were not constructed for such heavy loads. No state limits the goods from other states coming within its borders by placing a tax directly upon the goods. The

people of the different states benefit from being able to exchange goods with one another. Thus the advocates of free trade believe that the people of the different parts of the world would receive better products at a lower cost if each country were free to buy the products from the countries best suited to their production.

A protective tariff leads to retaliation or retaliatory tariffs. What do we mean by retaliation or retaliatory tariffs? Nations, like individuals, often become provoked with one another, and refuse to co-operate in matters of policy and trade. For example, if the United States places a high tax on the beef which Argentina wants to sell to her, Argentina may say: "All right, we will tax the farm machinery which we have been getting from the United States." If the United States taxes the wool or linen which has been coming to the country from the British Isles, would it not be natural for the British to place a tax on automobiles and typewriters made in the United States? This is just what has happened when the United States has raised its tariff rates. In 1930 the United States passed a high tariff. Immediately other countries began to raise their tariffs on the goods from the United States. Of course, the result of such a tariff rivalry is less foreign trade. Countries will try to produce their own goods or make substitutes rather than pay the higher prices caused by high tariffs.

A Policy of Reciprocity in Trade. Some nations saw that high tariffs were reducing the amount of foreign goods coming into their country. Some producers in the United States found that other countries were not willing to buy their products. The foreign countries did not want to buy so much wheat and cotton, so many pieces of farm machinery, so many automobiles and typewriters, if we still kept our high tariff on their goods coming into this country. In fact, they could not afford to continue importing goods from us because of the high tariff. These countries seemed to be saying, "If you will not buy our goods because they are too costly, owing to the high tariff you put on them, we will not buy your exported goods." At this point the United States realized it would have to do something about the situation and thus started making agreements with other countries to the effect that the United States would lower the tax rate on the goods they sent to us if they would lower the tax on our goods sent to their countries. The United States said to Cuba: "We will lower the tax on your sugar if you will lower the tax on lard, wheat,

and machinery from the United States." Canada, our neighbor to the north, made one of these give-and-take agreements (reciprocal trade agreements) with the United States. The United States reduced the tax on Canadian lumber, cheese, and maple sugar. In return Canada reduced the tariff upon the imports of machinery, fresh vegetables, and canned vegetables.

What are the results of such agreements as these? There seem to be two definite results. In the first place such agreements increase the amount of goods shipped from one country to another. In the second place such agreements make nations better friends. Nations begin to work together rather than in opposition.

Let us see how the tariff would work if the price of imported sugar were $6 per hundred pounds and the price of wheat $2 per bushel, and the United States tariff duties were 13 cents per hundred pounds on sugar and 42 cents per bushel on wheat.

Tariff for Revenue

Sugar:

Cost of sugar to importer in United States	$6.00 per hundred lbs.
United States tariff	.13 per hundred lbs.
Price paid by importer at port of entry	$6.13 per hundred lbs.

The thirteen cents is collected by the customs agent. Each hundred pounds yields thirteen cents to the treasury of the United States.

Tariff for Protection

Wheat:

Price of foreign wheat imported into United States	$2.00 per bushel
United States tariff	.42 per bushel
Price of foreign wheat paid by importer at port of entry	$2.42 per bushel

Suppose the United States farmer is able to produce wheat for sale at $2.30 per bushel; the flour miller will buy wheat produced in the United States, and there will be no sale in the United States for the wheat produced in foreign countries. The tariff has protected the wheat grower in the United States.

2. Barter Agreements

Some countries cut down the amount of their foreign trade by agreeing to buy goods only by barter agreements. Barter is another word for "swapping" goods. You may like the sweater that John has and he may like the fountain pen you have. You may agree to take the sweater and give him the fountain pen. You have bartered the pen for the sweater. This is the kind of trade early peoples carried on. Sometimes nations do the same thing. They may refuse to buy from a country unless that country will take its pay in the goods which they have to sell. Before World War II, Germany made use of these barter agreements in her foreign trade. If she wanted to buy mutton or wheat from Argentina, she might offer to pay Argentina in dyes or chemicals. If Argentina did not want the products which Germany had for exchange then Germany might give Argentina barter notes. These barter notes would be promises to give the Argentine holder a certain amount of German goods at a later date. They would be Germany's "I.O.U.'s" to be paid later in goods but not in money. These payments would limit foreign trade because exporters holding these notes would have to use them eventually for the purchase of German goods. Under these conditions Argentina might look for another market for her mutton or wheat.

3. Quotas

Some governments limit the amount of goods that may be imported into their countries. They may do this to encourage the development of certain industries within their own countries. Before World War II, France and some of the other European countries limited the amount of certain kinds of products which they would import.

QUESTIONS TO ANSWER AND THINGS TO DO

1. What is meant by a country's having free trade?

2. What kinds of countries want free-trade systems?

3. What is a tariff? What two reasons may countries have for passing tariff laws?

4. State at least three advantages which are claimed for protective tariffs. What do you think of each?

5. State at least three disadvantages of a protective tariff. What do you think of each?

6. Just how does a plan of reciprocity in regard to world trade work?

7. What advantages or disadvantages do you see in such a policy of reciprocity?

8. What is meant by a barter agreement? Why should nations want to make barter agreements? What effect would a barter agreement have upon the amount of world trade carried on by a country?

9. What is meant by a quota system in world trade?

CHAPTER TWENTY–THREE · THE RESULTS OF WORLD TRADE

Variations in World Trade. As you may realize, the amount of world trade varies a great deal from year to year. There are many reasons for this variation. For instance, the growth of farm products for export is affected by weather and other climatic conditions. Manufactured goods for export depend upon prices, labor supply, the availability of raw materials and the law of supply and demand. The amount of goods which people will buy from foreign countries depends upon the tariffs which governments place on imported goods. Another important factor in the quantity of trade carried on is the number of ships, planes, railroad cars, and trucks that are available to carry the goods. In addition, the amount of world trade is influenced by wars and natural disasters, such as floods and earthquakes, which may close regular trade routes.

Since it is evident that world trade varies a great deal, what are the results of this trade? How does it affect people and industries, production, and co-operation among nations?

Effect on People. World trade makes it possible for people to have goods which they cannot produce and products which are not grown or produced in their immediate neighborhoods. Some countries depend upon the peoples of other nations for many necessary goods. Brazil has depended upon other countries for farm machinery and tools. This machinery is needed for the development of industries. Great Britain imports beef from Argentina, wheat from Canada and the United States, cotton from Egypt, and rubber from the countries of Southeast Asia. Thus we see that Great Britain depends upon foreign trade both for food and for the raw materials needed in industry. Many countries depend upon foreign trade for the products which they enjoy even though these products may not be necessities. There are many products that the United States imports which you may enjoy every day. Such products include bananas, pineapples, tea, cocoa, wool, and linen. Most of these products are not absolutely necessary for the people of the United States. However, they have learned to use and want them, and they have the money with which to buy them. If the people of the United States should stop buying these products, many workers in other countries would be out of work. They in turn would not be able to

Australian Government Photograph

FIGURE 168 · *Loading wool at an Australian port*

earn money with which to buy other products and imports from the United States of goods which they are accustomed to use.

Effect on Industries. World trade makes it possible to have an industry carried on in the part of the world where the goods can be produced most easily and cheaply. For instance, Brazil can and is producing crude rubber on new plantations developed along the upper Amazon Valley. The United States, along with other industrial nations, is producing synthetic rubber. Until recent times, however, most of the countries of the world have depended for their rubber supply on Indonesia and the Malay States. The producers have depended upon the world markets, and their income has been dependent upon the sale of the crude rubber. Australia has come to be a great wool-producing and wool-exporting country. With the money gained from the sale of the wool, Australians purchase goods which are produced more easily by other countries. Canada exports large quantities of nickel and asbestos. Because asbestos occurs in unusual deposits and is mined by the Canadians, people in other countries of the world can import the product. Thus we see that there are many things which can be produced only in certain countries which, because of climatic or other natural conditions, are suited to their production. Certain other countries produce

Associated Screen News Ltd., Montreal

FIGURE 169 · *Drilling asbestos rock in a mine in the Province of Quebec, the world's chief source of asbestos*

things much cheaper for a variety of reasons, such as good labor supply, an abundance of the raw materials needed, a cheap and large supply of water or electric power, or an excellent system of transportation. As these countries export their own products and profit by the sale of their goods they become markets for the products and manufactured goods of other nations. *See Figure 169.*

Co-operation Helps Trade. Trade between nations depends upon mutual interests and working together. International trade unites nations in the protection of their trade routes. The nations using the North Atlantic Route co-operate to keep an ice patrol to protect the ship lanes. Bridges which cross international boundaries are regulated by the countries connected. Examples of these are the Ambassador Bridge at Detroit and the Peace Bridge at Buffalo connecting the United States and Canada. Nations must co-operate in regulating railroads which cross international boundaries. Railroad trains in Europe cross many international boundaries, and thus the laws

of many countries affect them. Reference has already been made to the fact that some of our railroads use Canadian tracks, and some Canadian trains operate on United States tracks. Nations also co-operate in making regulations with regard to the use of their ports by the ships of other nations. Thus nations must co-operate in many ways, as we have seen, when such a vital factor as trade is concerned.

Relation of Exchange of Cultures to Trade. Trade between nations encourages an exchange of cultures. An exchange of products leads to an exchange of ideas. These ideas are sent from one nation to another in various ways. Books, magazines, and newspapers, together with the radio and motion pictures, are the most direct ways through which one nation learns about another. Interest in other countries is aroused by international trade and cultural exchange. This leads to extensive travel by people who desire to visit these countries. Thus we see that travelers follow traders on the world's shipping lanes, airways, railroads, and highways. Travel brings the nations of the world closer together and makes them appreciate the customs and ideas of nations other than their own. This ever-increasing exchange of products, cultures, and ideas should lead to greater understanding among nations, and perhaps in the future help to avoid disagreements which might lead to war.

Steps toward Peaceful Relations among Nations. In the Atlantic Charter drawn up by President Roosevelt and Prime Minister Churchill four months before the United States entered World War II, some of the conditions necessary for a peaceful world were discussed. Among other conditions the Charter says that ". . . access, on equal terms, to the trade and to the raw materials of the world . " must be open to all nations. It was the opinion of these two world leaders that world trade routes should be open to all peoples of the world. They also recognized the importance of raw materials and believed that every nation should be free to buy raw materials from the countries that are fortunate enough to have supplies of them. As seen earlier in this unit, modern industries depend on a very large number of these raw materials. The progress which industries make depends upon their ability to get the necessary materials.

The world is confronted with a most difficult problem today. It has seen the difficulties which countries face in times of war. Each fighting nation wants to produce as many kinds of essential goods

Fritz Henle from Monkmeyer Press Photo Service

FIGURE 170 · *A scene on the Pan American Highway in Mexico.* The Indians are selling hand-woven serapes, or woolen blankets, to tourists

as possible. No nation wants to realize suddenly that products which it needs are in the hands of enemy nations. This fear of war may force nations to feel that they must supply all their own goods and not depend upon other countries.

But there is another approach to this problem. As time goes on, and nations know each other better through trade and cultural exchange, they will be less likely to have disputes which lead to war. As you know, distance is shrinking and the world is becoming smaller. For example, by airplane no place in the world is more than sixty hours distant from us. The radio and transoceanic telephone have brought us within the sound of the voices of our world neighbors. Tourists and businessmen find that they can take pleasure and business trips to South America, Europe, or Asiatic countries easily and rapidly by different methods of transportation.

Do you think that these facts indicate a trend toward more peaceful relations among the nations of the world? Or do you think that

Photograph from *The Christian Science Monitor*

FIGURE 171. *A group of schoolteachers from Sweden on a World Study Tour.* The picture shows the group visiting Boston. People engaged in educational work are excellent promoters of good will

the ever-present fear of war will continue and perhaps be magnified by the results of World War II, thus leading nations to arm and to try to be more self-sufficient than they have been? Will our trade with other nations increase? Will there be less trade among the world neighbors? Will nations become more independent? What will be the attitude of the various governments toward world trade? The future will tell. What do you want as far as this problem is concerned? For what policies will you work?

QUESTIONS TO ANSWER AND THINGS TO DO

1. Give reasons for a change in the amount of world trade carried on from year to year.

2. What effects does world trade have upon the relations between the nations which carry on the trade?

3. Why should foreign trade make it possible for us to get better and cheaper goods?

4. What is the Atlantic Charter? What does it have to say about world trade?

5. Some people believe that the United States should carry on more foreign trade. Some think that it should carry on less foreign trade. What do you think? Why?

NOTE. Additional problems and activities and a list of reference readings for Unit IV are given on pages 495–498 of the Appendix.

V · ECONOMIC SERVICES AND RESPONSIBILITIES

CHAPTER TWENTY–FOUR · MAN'S WANTS

In Colonial Times. Man's primary wants are food, clothing, shelter, and companionship. These wants were satisfied rather easily in the days of George Washington when our Constitution was being adopted. Most of the people then lived in rural communities. With the help of neighbors, they built log cabins and cut wood for the fireplaces. They grew vegetables and stored them for the winter months. They preserved meats. They had the wool and flax which the womenfolk spun into thread and then wove into cloth. For companionship they had quilting parties, corn-husking bees or apple-paring bees, and cabin-raising celebrations. On the larger plantations the more wealthy had fine houses in which they brought up their families. They made their colonial homes the center of the social life of their time and passed these homes on to their children.

On such old plantations as those of the Washingtons and the Lees, the organizations in charge have tried to restore and preserve the complete historical setting so that the later generations will see how completely the colonial forefathers provided for their own needs. Today, guides will show you the mills in which the grain was ground, tell you how dairy products were prepared, and how meats were cured, and show you the spinning wheels and looms. They will tell you, too, how proudly the owners cared for their fine horses. It has been said that the Americans of colonial times produced at least 90 per cent of the goods they used. *See Figure 172.*

In Modern Times. What is the picture today—one hundred and sixty years later? Man's wants still include food, clothing, shelter, and companionship. But are these wants as simple as they were in colonial times? Are they as easily satisfied? Does each consumer supply 90 per cent of his own needs? In place of the corn bread, the cabbage, pork, and wild game of earlier days, our tables have bread, cakes, and pastries made in commercial bakeries; lamb and beef from the Middle Western plains; fresh vegetables from near-by market gardens; pineapples from Hawaii; bananas from Central America; and cocoa and coffee from South America. Dairymen protect our health by pasteurizing the milk before delivering it at our doors. Today the state government protects the householder by laws that require the use of pure water in city water systems. Then, too, a great change has taken place in our clothing demands during

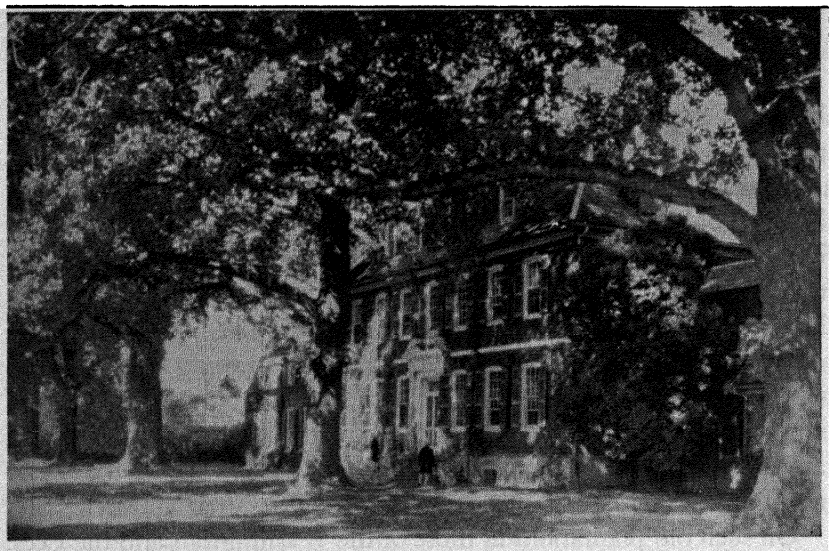
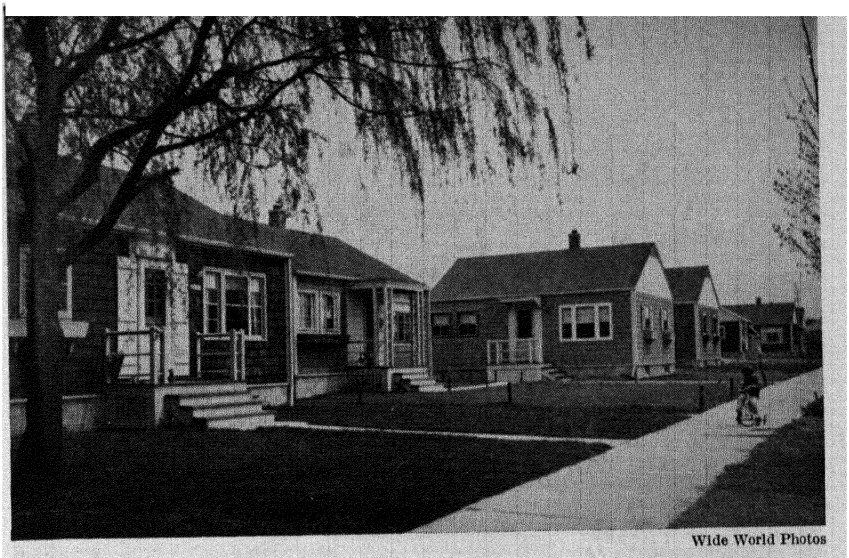


FIGURE 172 · *A colonial plantation on the James River in Virginia*

the past one hundred and sixty years. In place of the homespun which our great-grandfathers wore, our factory-made suits may be manufactured from Australian wool, our cotton dresses from fine Egyptian cotton woven in mills in England or in the United States. In place of the rude log cabin on the frontier, we find the modern prefabricated cottage. The frame, doors, and windows were all cut, seasoned, and fitted in the yards of some distant lumber company.

The farmer does not care for the independence of former days. He prefers the factory-made clothes of his city neighbor. He buys much of his food at the market in a neighboring city or town. He has learned that there are certain crops which he can raise better than others. He raises such crops, using what he needs of them and selling the rest. He grows cash crops so that he may have money to purchase things that he wants and cannot produce. He demands a greater variety of goods than did the early settlers, but he does not attempt to satisfy all his own needs directly.

Where Are Our People Living Today? In 1790 less than four per cent of the people of the United States were living in cities, while according to the census of 1950 two thirds of the people of the United States were living in urban or metropolitan areas. These



Wide World Photos

FIGURE 173 · *Many people today live in prefabricated houses such as these*

people were not living in the log cabin, the plantation home, or the rambling frame house of 1790. They were in the residential sections, the crowded centers, or the apartment-house sections of our cities, or in the neighboring suburban communities. As time has passed, these city dwellers have been able to supply fewer and fewer of their own needs. They are engaged in a variety of occupations such as business managers, doctors, lawyers, mechanics, electricians, or factory workers. The purpose of each is to sell his labor or services for money which he may use to purchase the things he wants and needs.

Man's Enlarged Wants. What has happened to man's wants and desires during the last one hundred and sixty years? His fundamental wants have not changed, but he now desires greater variety in foods, greater variety and choice in clothing, greater comfort and convenience in housing, and more companionship, entertainment, and social fellowship than his forefathers could even have imagined. Man's wants have increased and are continuing to increase.

Standard of Living. With pride the United States citizen says: "The United States has the highest standard of living of any country in the world today." Just what does he mean? Our standard of living is determined by the goods and services which we can buy

A. F. Sozio from Gendreau

FIGURE 174 · *One of our country's superhighways*

with the money we earn. Two factors have helped to give us a relatively high standard of living. The worker in the United States receives a higher wage than the workers of many countries. Our manufacturers produce large quantities of goods. As a manufacturer increases the number of products which he makes he is able to reduce the sale price of each product. The money which the worker earns is used to buy a large variety of goods. Commodities which people in some countries might consider luxuries are now considered necessities by many people of the United States. The radio, the television set, the automobile, the electric refrigerator, the electric vacuum cleaner, the telephone, and even frozen foods are becoming necessities for us in the United States. We feel, too, that we need superhighways, airplane transportation, and other such conveniences. The standard of living of the present-day consumer has been raised tremendously above the standard of living of the consumer of one hundred and sixty years ago.

Man Satisfies Fewer of His Own Needs. In the present-day world man's wants and desires have grown, but his ability to satisfy these wants directly has decreased. Instead of producing more goods and services each individual is producing more of a particular kind of goods or rendering more of a particular kind of service. He is exchanging this surplus of his product or service for the large number of goods and services which he must secure from others. Instead of producing 90 per cent of the goods which he consumes as did the citizen of 1790, the consumer of today is depending upon others for fully 90 per cent of the goods which he consumes.

QUESTIONS TO ANSWER AND THINGS TO DO

1. What are man's essential wants?

2. In the last one hundred and sixty years, what changes have taken place in the way man tries to satisfy his wants?

3. How do our rural and urban population compare in numbers today?

4. How have man's wants changed over the past one hundred and sixty years?

5. Explain the statement: "The United States has the highest standard of living of any country in the world."

CHAPTER TWENTY–FIVE · INTERDEPENDENCE OF PRESENT–DAY LIFE

Groups and Individuals on Whom Man Is Dependent. In these days in which man is so dependent upon others for the satisfaction of his wants, what are some of the groups and individuals on whom he depends? First, he depends upon the producer of the goods which he uses. Then, if he himself is a producer, he depends also on the consumers of his product or products. He depends on a variety of services which others perform for him. He depends on agencies which protect him against loss of life and property. Likewise he depends on the services which different units of government are performing for him.

Since most of the goods which man uses are produced by others, it may be well to consider the process of production and see just what people are engaged in producing goods. All production demands raw materials, equipment and machinery, and the labor which uses these raw materials and machinery to produce the goods which man requires. This production process may either be very simple or very complicated.

A Simple Productive Process. For an illustration of a simple productive process we might look at the work of the farmer. The farmer's raw materials are soil and seeds. These the economist may call raw materials or land. To cultivate his fields and harvest his crops the farmer must have various tools and specialized farming equipment. These the economist will list as capital. The farmer has purchased tools and machinery to make his farm more productive. He is using his wealth, the money he invests in machinery, to produce more wealth. The economist defines capital as wealth used to produce more wealth. However, raw materials and capital are useless without the labor which is used to combine these other factors of production and assist in making the finished product. All of us as consumers of agricultural products are dependent on farmers, seed companies, producers of fertilizer, manufacturers of farm machinery, laborers, and managers of large farming enterprises.

A Complicated Productive Process. For a more complicated example of a process of production, we might turn to a great manufacturing establishment such as an automobile factory. The essential factors in the process of production are the same. The raw materials

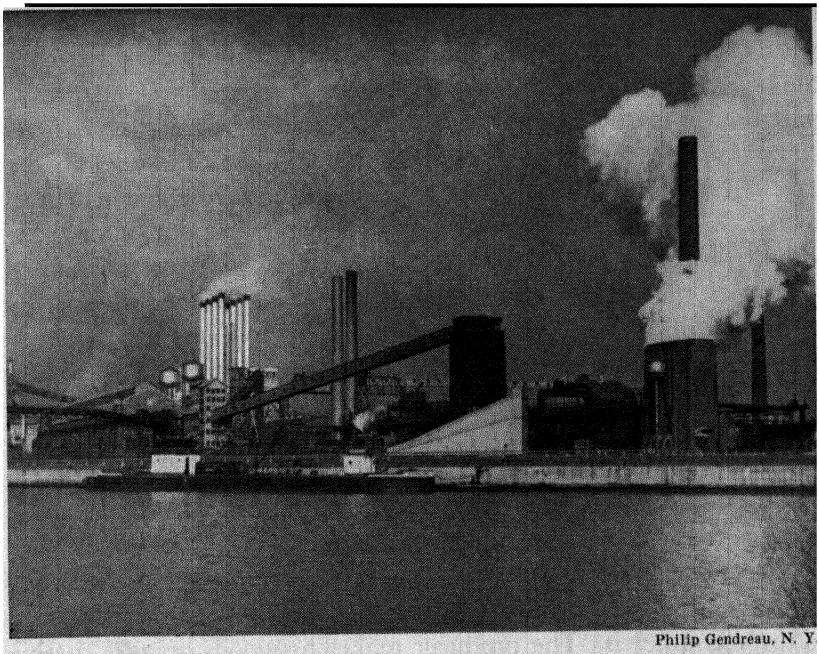


FIGURE 175 · *A large automobile plant near Detroit, which is one of our important manufacturing centers*

include rubber, steel, leather, plate glass, nickel, lumber, upholstery materials, cushion fillings, and many more. The capital is represented by the huge automobile plant in a large city with its branch assembly plants located in different cities. Here we find the elaborate assembly line which reveals how completely man depends upon machinery. The services of labor include the work of designers, draftsmen, and mechanics, and of many other people.

The introduction of machinery has created a large number of special processes which labor must perform. Each worker is assigned his definite task in the production process. This is an example of what the economist calls a division of labor.

Dependence of Consumers. But who owns and manages the huge automobile plant which is using the raw materials, capital, and labor? Many of us may be part owners. The capital represented by this automobile plant is undoubtedly larger than any one businessman would be able to supply. Thus a number of people, who want to invest in a business, organize a corporation which must meet certain

state regulations. The state then grants a charter to the group, which can now operate the business as a single individual. Each of the persons who invests money in the business is a shareholder and a part owner of the plant. He may buy one or more shares in the company. If each share sold at one hundred dollars and one member invested two thousand dollars he would have twenty shares of stock in the corporation. The possession of a required number of shares would probably give an investor the right to vote and to help to determine the policy of the corporation. The shareholders elect the board of directors and the board of directors appoints the managers to operate the business. To sum it up then, all drivers of automobiles are dependent upon the people who secured the raw materials for the manufacture of the cars, those who built the automobile plant, those who aided in producing the machinery used in the assembly line, the many groups of workers who are employed in the factory, the shareholders, the board of directors, and the managers of the plant.

Dependence of Producers. The producers of agricultural and manufactured products are just as dependent upon other producers as the consumer is. The producer makes his goods because there is a demand for them or because he thinks there will be a demand for them once he puts them on the market. Naturally he cannot use all the goods he produces, nor does he want to do so. He wants to sell them and use the money to purchase other goods which he needs. Unless he finds a large number of consumers who want his product, the producer will stop putting it on the market.

Man's Dependence on Services. It is not for goods alone that man depends on others. He is becoming more and more dependent on others for the services which they perform for him. The manufacturer or farmer may desire money to expand his plant or to buy more farm land. He will borrow from a bank or some institution which will give him credit. In another case he may go to an insurance company to secure protection from losses he might suffer from the burning of his home or the destruction of his crops. In addition, he may secure the aid of an agency or salesmen in selling his products. Another example is the housewife, who enlists the services of many people to do for her some of the things which her great-grandmother did for herself. The commercial laundry does the washing. The cleaning establishment does the dry cleaning and pressing. In some cities food is prepared in a centralized kitchen. Then, too, the

resident of an apartment house depends upon the engineer, the janitor, and the elevator operator. Altogether the number of service workers on whom man depends today is very large.

Man is also much more dependent upon government services than he was in former years. The local village or city government protects life and property by its police and fire departments. It protects health by providing supplies of pure water and making proper disposal of sewage and waste. The state government sees that conditions of labor meet regulations. The national government has become interested in housing conditions. It has also provided that many workers shall be insured by the government so they may receive an income when they are too old to work. The number of services performed by the different branches of government has grown very rapidly during recent years. Thus man is dependent on many groups and individuals for the goods, the markets, the services, and the protection which he enjoys. This may truly be called an age of interdependence.

The Extent of Interdependence. The local community furnishes many of the services which man enjoys each day. The baker, the painter, the paper hanger, the garage mechanic, the doctor, the dentist, and the visiting nurse probably live in our own community. However, the insurance company through which our house is insured may have its office in some distant city. The bank in which we deposit our money may be the branch of a bank in some neighboring city.

Government services are performed for us by our representatives and senators, the Cabinet members, and other officials both in Washington and in our state capitals. In our own local communities similar services are performed by the mayor and council, city manager, town clerk, county supervisors, and many others.

For the goods which man uses he depends on some of the most remote parts of the world, as you already know. The farmer uses fertilizer from Chile. The automobile manufacturer uses nickel from Canada, rubber from Southeast Asia or Brazil, mohair from Turkey, kapok from Sumatra, and wool from New Zealand or Argentina. The housewife makes use of foodstuffs from many different lands. As we saw in the unit on world trade, man is today dependent on very distant places in the world for the goods he uses.

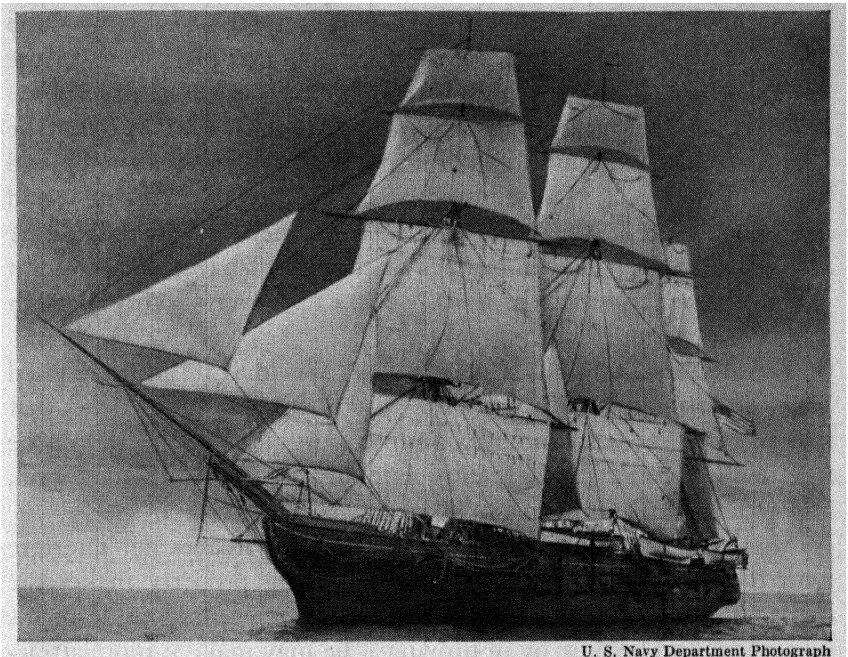
Factors Which Aid in the Exchange of Goods and Services. Inasmuch as man produces goods and renders special types of services

Jamestown Chamber of Commerce

FIGURE 176 · *A display of furniture at the Jamestown Furniture Market.* The building is entirely devoted to the wholesale display of furniture

for others, it is necessary to have agencies which will bring together these buyers and sellers of goods and services. This is done by markets, and by transportation and communication facilities.

Markets. A market is a place where goods are bought and sold. It may be a city market in which a farmer rents a stall and offers his produce for sale. It may be a market such as the Chicago Board of Trade, at which the brokers buy and sell grain for dealers. It may be a market like the furniture market at Grand Rapids, Michigan, or Jamestown, New York, at which the furniture dealers display samples to the wholesalers who come to buy; or it may be the small grocery around the corner, where you purchase some of your food. An organized market is, then, a place where producers and consumers or their agents meet for the exchange of goods. These markets, whether they are the farmers' markets, markets for the sale of special products, department stores, chain stores, independent grocery or clothing stores, bring buyers and sellers together. Producers and consumers depend on these regular markets for the exchange of goods.



U. S. Navy Department Photograph

FIGURE 177 · *One of the sailing vessels for which New England was famous before the days of steamships*

Transportation. The factor which has probably done more than any other to make men dependent on one another is transportation. Lack of transportation made it almost necessary for the earliest settlers to supply their own needs. The slow-moving covered wagons carried little, and the messenger riding on horseback came to the plantation seldom, and then only on some special errand. The sailing vessel of a New England trader, or of an English firm, docked at the plantation wharf only once or twice a year. The plantation had to supply the needs of its household by well-laid plans. First canal boats, then trains, and more recently busses, trucks, and airplanes have brought the goods of producers to buyers all over the world. Manufacturers now can produce their goods at almost any desirable place and ship them to buyers in distant cities or countries. As the methods of transportation have improved, the markets of producers have expanded.

Communication. Present-day communications have made the people of one nation acquainted with the products of other nations.

For example, the Brazilian coffee industry advertises over the radio in the United States while the producer of farm machinery in the United States places his advertisements in the South American newspapers. The advertisement for a particular kind of orange may be heard over the radio and read in magazines circulated in the United States and Canada. The businessman orders goods from his world neighbor in other countries by means of telephone, telegraph, or cable. In many ways the peoples of the world have been brought closer together and made more dependent upon one another through modern communication.

Free Enterprise in an Interdependent World. Life in the United States and in some other parts of the world is based on the belief that man should have as much freedom as possible; that he should be free to own property, free to engage in any occupation he may wish, and free to make agreements or contracts with others.

Man is free to buy, own, or sell property if it does not interfere with the rights of other individuals. Owning property makes the owner desirous of improving it because of his sense of pride in his possession, and because by improving it he may make it more attractive so that it will yield him more profit if he decides to sell. Owning property also gives a person an interest in his community and makes him feel more responsible and anxious to make it a more attractive and prosperous community.

In the United States the individual is free to follow any occupation that he wishes. He is not obliged to follow the family trade or business, nor does the government tell him in which trade or profession he must engage. He may follow any trade, profession, or business which he believes will bring him the greatest amount of satisfaction and the necessary income to meet his standards. Freedom of choice is advantageous. We usually do best the tasks we enjoy doing. Much of the progress in industry can be traced to the right of the individual to enjoy the profits of his own labor.

Likewise under our system, as was mentioned before, the individual is free to make agreements and contracts with other people if these agreements do not interfere with the rights of others. He may buy and sell his property at will. This freedom to make agreements has led the businessman to look to other states and countries for consumers to whom he may sell his goods, and likewise he has been able to buy the materials which he needs from other people.

Under our plan of freedom of contract, man has become dependent upon many people and many countries for both his markets and materials.

As has been pointed out, individuals in the United States today have many freedoms beyond those enumerated in the Bill of Rights. These freedoms help citizens to be more successful in their businesses and professions, as well as in their community life.

QUESTIONS TO ANSWER AND THINGS TO DO

1. List some of the groups of people upon whom man depends today for goods, services, and raw materials.

2. What are the factors upon which the producers of goods depend?

3. What does the economist mean by the division of labor? How was it brought about? What effects has it had upon industry?

4. Who are the owners of a business corporation?

5. What are some of the services for which your family is dependent upon people in your community?

6. What services does your government perform for you which it did not perform for your great-grandfather?

7. Explain the meaning of the term "market."

8. How have markets been changed by improved transportation? How have they been changed by modern means of communication?

9. Explain what is meant by "free enterprise."

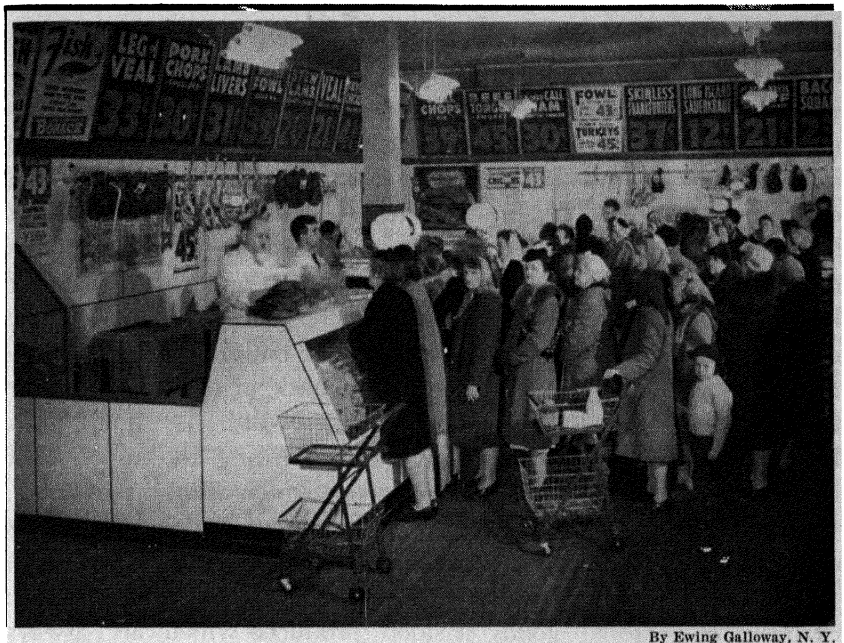
CHAPTER TWENTY-SIX · THE CONSUMER AND HIS PROBLEMS

1 *His Influence on Trade*

The Importance of the Consumer. The consumer is at the center of our whole economic system. The United States citizen who buys about 90 per cent of the goods and services which he consumes is dependent, as we have seen, upon many groups of people in many parts of the world. However, the producers and sellers of goods are just as dependent upon consumers, for it is the consumer of goods who determines how much farm produce should be grown and in how large quantities manufactured goods should be produced. During times of war, consumers demand large quantities of food and goods, such as clothing, furniture, and expensive household appliances, because they are making high wages and so can afford to purchase these things. Many industries, however, are engaged in producing vital war materials, and so the amount of consumer goods is curtailed. On the other hand, during a period of depression many people are out of work and often do not have the money to buy even the most essential consumer goods. It is, then, the consumer who determines the quantity of goods which the producer will be able to sell, whether in good times or in bad.

The consumer also helps to determine the type of goods the producer makes. For example, it is a custom for young boys to wear long trousers; so manufacturers of boys' clothing produce the style for which there is a demand. A clothing manufacturer in New York receives an order in September for women's summer clothing from an Argentine merchant. If the manufacturer does not know that September is a spring month in Argentina, because of the reversal of the seasons in the Southern Hemisphere, it may seem strange to him to send summer clothing to the Argentine merchant at that time. However, he knows that if he does not satisfy the merchant's demands, he will receive no more orders from him.

Moreover, it is the consumer who determines to a large degree the practices which merchants use in selling their goods. In a given neighborhood there may be a number of independent grocery stores. Some of them may sell special kinds or brands of foods. Some may provide delivery service. There may be several chain stores in the



By Ewing Galloway, N. Y.

FIGURE 178 · *A scene in the meat department of a large supermarket*

locality, and there may be a large supermarket. Some stores operate on the self-service plan. It is the consumers in the neighborhood who will determine whether all these stores will remain in business or not. If most consumers go to the chain stores or to the supermarket, the independent stores may have to go out of business. If the consumers continue to patronize certain independent stores which give special services and carry special brands of goods, the chain stores may have to look for a new location. Some stores may sell all their goods on a cash basis, while others may offer charge-account services. Some stores sell merchandise on the installment plan. The consumers in the community often use more than one of these methods. It is very likely that the stores will adopt the plan or plans which will bring the most consumers to their stores. The consumers, then, have an influence on the methods used by salesmen, on the kinds of stores in the community, and on the brands of goods offered.

Buying Practices. Should the consumer purchase large quantities of goods at a time? It is often true that goods bought in large quantities are cheaper than those bought in smaller quantities, and the

person who is looking for a bargain may easily be attracted by the cheaper price of goods bought in large amounts. However, the consumer's buying habits should be controlled by his personal needs rather than by a desire to get a bargain. For example, he may go into a store and find that strawberries are selling for forty cents a quart, or three quarts for ninety cents. If he can use only one quart before they spoil, he is not saving money by buying three quarts even though the price per quart then would be only thirty cents. If he discovered the same strawberries were selling for twenty-five cents a pint, he would be most unwise if he bought one pint in the morning for twenty-five cents and went back in the afternoon for another pint at twenty-five cents. In other words, he should plan his buying and regulate his purchases according to his personal needs. However, in the purchase of goods which are not perishable, the consumer can take advantage of quantity buying of many kinds of goods.

Seasonal Buying. Should the consumer buy goods in season? One example of seasonal goods is food products which are always cheaper in season. Fresh strawberries are cheaper in June than in December. Melons are cheaper in the summer than in the winter. Many fresh vegetables are shipped from the Southern states or countries to the Northern states during all seasons of the year. The price of vegetables will be high if they have to be shipped long distances to markets. Fresh vegetables will be sold in Northern markets at a lower price when they are produced in that region. Consumers usually save money if they use perishable products which are in season in their own localities. On the other hand, in the purchase of clothing and nonperishable products, there may be advantages in not doing all the buying when there is the greatest demand for goods of a definite kind. Buying early in the season may give the consumer the advantage of a better selection from a larger variety of goods. Buying at the end of the season may give the buyer the advantage of lower prices, for the merchants may desire to dispose of remaining goods.

Cash or Short-Term Credit Buying. How should consumers pay for the goods which they buy? Some pay cash. Some use charge accounts. Some make use of installment plans.

Most small purchases are made with cash. The consumer usually pays cash for the groceries he buys, for small articles of clothing and

ordinary household articles, and for his purchases at the drugstore or the store around the corner.

Some people use charge accounts. These are often used for more costly purchases. The consumer does not have to carry so much money with him, and besides he has the use of the goods which he purchases before he has to pay for them. He charges his purchases and then pays at the end of the month. It is usually true that prices are a little higher in stores which carry charge accounts, because this service requires extra bookkeeping and more work in checking accounts. This means that the merchant may not have the money to buy new goods when he needs them. He may, therefore, have to borrow money, and for this borrowed money he will have to pay interest. In some cases, people who charge goods may default on payments because of sickness or some other unfortunate circumstances. The merchant may have to employ more help in an attempt to collect these debts, some of which he may never be able to collect. How does the store meet these extra expenses which may result from charge accounts? Of course, it has to list them as one of the expenses of the store. In order not to lose money, price levels are kept high enough to meet this expense. It is also true that consumers who pay cash also help to pay for the expenses entailed in carrying and collecting charge accounts.

Installment Buying. In recent years the consumer has been making many more expensive purchases on the installment plan. We find many people buying automobiles, radios, electric refrigerators, and even houses on the installment plan. Under this plan the consumer makes a small payment when he receives the goods, and pays the balance in regular installments over a period of months or even years. Of course, the consumer has the immediate use of the article which he has purchased, and this plan has made it possible for many low-income families to enjoy conveniences which they could not otherwise have. The businessman who must have an automobile to use in his business is able to purchase one on the installment plan and thus expand his business. The merchant is able to purchase an extra delivery truck and increase his business services. After making a small initial payment, the buyer of a house pays monthly installments, often no larger than the rent paid to a landlord. After a number of years, the house belongs to him. People who cannot afford to buy houses on a cash basis may thus become owners instead of renters.

There are, however, some dangers to this installment-buying plan. The consumer may be tempted to buy a number of articles on the

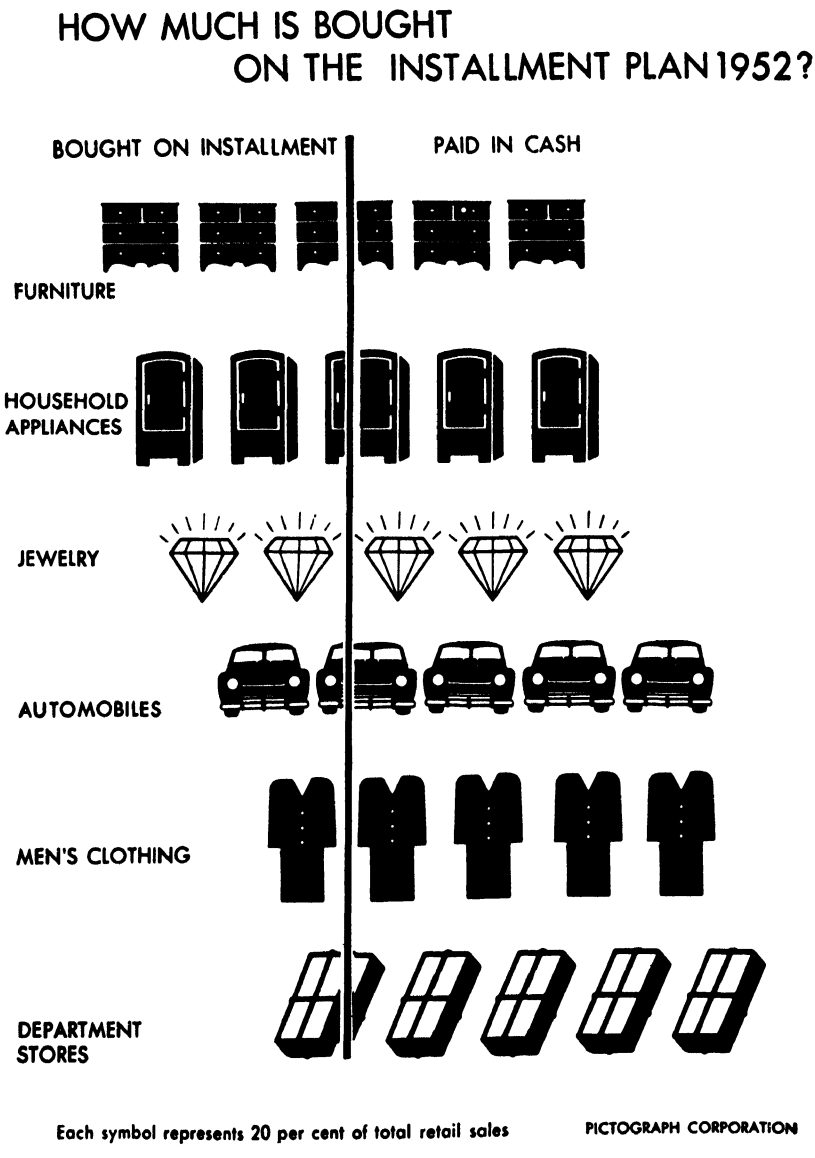


FIGURE 179 · *A graphic picture of installment buying in 1952*

installment plan and find later that he is unable to continue the monthly payments on all of them. It is also often true that the

interest charged by the merchant is rather high. The interest is stated as a monthly interest. The consumer may be glad to pay a monthly interest of 3 per cent, which may seem a very small charge for the loan, in order to have the immediate use of his goods. When this 3 per cent monthly interest is figured on a yearly basis, however, it becomes 36 per cent, which does not seem so small. The man who buys a refrigerator on the installment plan and finds, after he has paid two or three installments, that he cannot keep up the payments, will probably lose the refrigerator and will have nothing to show for the payments he has made. In fact, the installment plan is so attractive that people may be persuaded to buy articles which they cannot afford, and perhaps do not need. As a result, they lose more than they gain. Some installment contracts make it possible for the loan company to make up for the money lost by taking some other property of the consumer besides the article which was purchased on the installment basis. All these factors make it most desirable for the consumer to examine his own financial condition and to inquire about the advantages and disadvantages of the installment plan.

Which of these methods of payment are consumers using most? According to government reports for 1951, consumers of retail goods bought 69 per cent of the goods purchased with cash, 19 per cent on charge accounts, and 12 per cent on the installment basis.

Consumer's Service Demands. Consumers make extensive demands on merchants. Many of these demands cause an increase in the price of goods. Quite thoughtlessly a consumer may complain about high prices charged by some store, not realizing that it is the special services, which he expects and the store provides, that are responsible for these high prices. The expense of handling charge accounts and installment purchases has been mentioned. Delivery costs, too, add to the expense. The consumer can reduce these costs by carefully planning his buying. If, for instance, he orders groceries in the morning and again in the afternoon, he is causing unnecessary delivery costs. With careful planning he could probably have all his groceries for the week delivered on one or two trips. Some customers demand a large variety of goods from which to select. They desire the privilege of returning goods taken on approval. Perhaps they are guilty of unnecessary handling of goods. As a result the article for sale may lose its fresh look and the merchant may have to sell it at a reduced price. If the consumer demands special services

and follows expensive buying practices, he will have to pay for these in the increased price of the goods he buys.

Public Affairs Committee, Inc.

FIGURE 180 · *A cartoon showing the "wonderland of products" faced by a consumer in a present-day store*

Quality, an Important Factor. One of the most confusing problems which the consumer faces is "What shall I buy?" When he enters a large grocery store there are many different brands of coffee on the shelves. Among the canned vegetables and fruits, too, he finds many different brands, different-sized cans, and different-priced goods. He enters the household department of one of our large department stores. Sheets of various prices and brands are on display. How can he determine what to buy? Should he buy the highest-priced goods? Not necessarily, for he knows that price alone cannot be considered a measure of quality. Through advertising or quantity production, a manufacturer may have been able to establish such a reputation for his product that merchants expect to charge a high price for that quality. However, the consumer cannot afford to buy the highest-priced article unless the price is a real measure of quality or a guarantee of service. Perhaps his friends have always used a certain brand of goods. Should he buy the brand which they buy? Again it may have been good advertising or good salesmanship which persuaded them to buy a particular brand. In any case, may consumers depend entirely upon the advice of the salesman? Confronted with all the different brands of goods on the shelves, it would be difficult for the most alert salesman to know all the advantages and disadvantages of each brand of goods. Moreover, the merchant may wish to remove from his shelves a particular brand of goods for which he has found a small demand. If the consumer has not decided what he wants, the salesman may persuade him to buy this brand so that the merchant may stock a more popular brand.

Is it any wonder that consumers are confused and desire help in determining what to purchase?

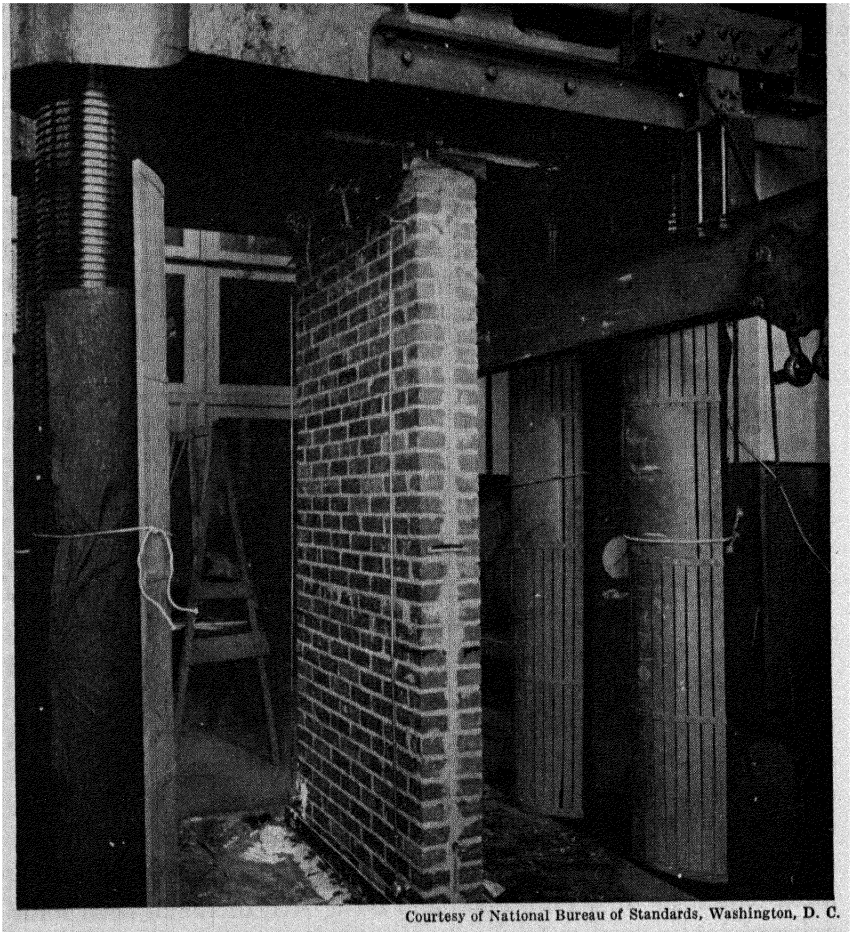
Standards for Judging. Today consumers demand some standards by which they are able to judge their purchases. They want to know the quality of the goods. They want to know whether the material is durable. Will it last? Will it stand the strain of the use to which it will be put? They want to know whether they are getting their money's worth. Does the can of one brand of soup contain as much food value as a can of another brand? In other words, the consumer desires some standards by which the goods offered for sale may be judged. Then, if he is a wise buyer, he can purchase goods by grade and know what he is getting.

Consumer Protection. In recent years much attention has been given to the problem of consumer protection. Manufacturers, independent research bureaus, and government agencies have become interested in the problem.

Manufacturers maintain research and testing bureaus, and as a result of various tests, they seek to improve the products they offer for sale. They advertise their goods for the qualities which laboratory tests reveal. A common example of this is seen in the speed and safety tests which automobile companies give to their cars. After the tests have been made the manufacturers advertise the speed and safety records which their cars have been able to maintain. Labels on goods inform consumers of some of the good qualities which the tests have shown.

Government Protection. Since 1906, when the Federal government passed the first Pure Food and Drug Act, there has been some government protection for consumers. Of course the Federal government has the right to control only those goods which are shipped across state borders and become a part of interstate commerce. However, most large manufacturing companies sell their products in more than one state. In 1938 the United States passed a new Food, Drug, and Cosmetic Act which gave the consumer much better protection than did the earlier acts. This act prevents shipment in interstate commerce of any food, drugs, or cosmetics which have misleading or exaggerated claims made for them. It prevents the shipment of adulterated foods. Violators of this act are subject to investigation and prosecution by the Federal Trade Commission.

One of the government agencies which offers protection to the



Courtesy of National Bureau of Standards, Washington, D. C.

FIGURE 181 · *Testing the strength of a brick wall with a 10-million-pound testing machine.* The National Bureau of Standards gives information on a wide variety of building materials

consumer is the United States Bureau of Standards in the Department of Commerce. This bureau has a large group of scientists working in its laboratories all the time. It works out standard specifications of quality for many different kinds of goods. These are available to all government purchasing agencies and to private consumers if they ask for standards on definite articles. It is the Bureau of Standards which has attempted to standardize some goods by limiting the number of sizes and designs produced. An outstanding

example of standardization is found in some types of automobile equipment. In the furniture industry the sizes of beds have been

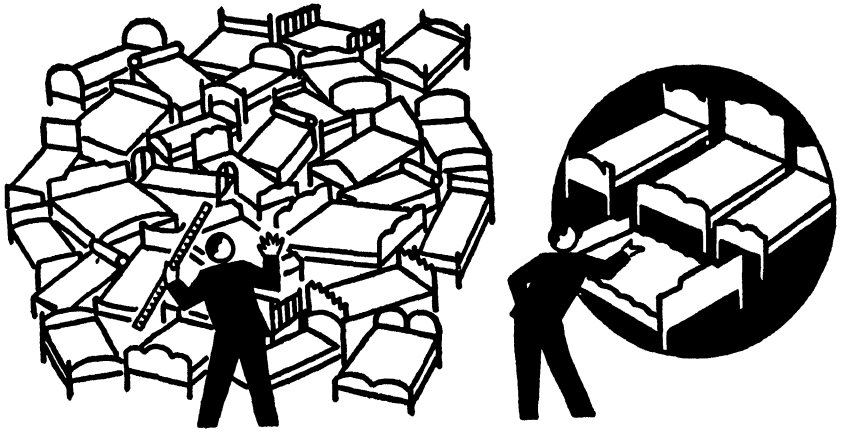


FIGURE 182 · *A pictorial graph showing seventy-eight bed sizes reduced to four*

so standardized that the manufacturer now makes four instead of seventy-eight sizes. This makes it possible to standardize bedding, and to make useful goods for which there is a large demand. Standardization reduces the cost of production and makes it possible to sell standard equipment at a lower price.

The Bureau of Agricultural Economics in the Department of Agriculture has made progress in setting standards which may be used in grading various kinds of foods. Meats are graded as: U. S. Prime, U. S. Choice, U. S. Good, U. S. Medium, U. S. Common, U. S. Cutter, and U. S. Low Cutter. Canned foods and vegetables are graded: U. S. Grade-A Fancy, U. S. Grade-B Choice, U. S. Grade-C Standard, and Substandard Grade.

The Federal Trade Commission, working with the Pure Food and Drug Administration, has attempted to label textiles with some meaningful information. For example, wool is labeled: new, reused, reprocessed. In the many rayon materials mixed with wool and cotton the label carries the name of the material which predominates first. For example, rayon-wool has more rayon than wool, and

cotton-rayon has more cotton than rayon. Goods which carry the label "washable" must not fade when washed, and must not shrink or stretch in any considerable amount when washed.

Under the Department of Agriculture the government issues a monthly magazine, "Consumer's Guide." This carries helpful information to consumers about standards, conservation, thrift, and consumer protection.

Private Consumer Agencies. Various private organizations have been started to aid consumers. Some of these have been organized by businessmen and some by consumers themselves.

In large communities, Better Business Bureaus have been organized by businessmen and interested public-spirited citizens. The bureaus aim to protect consumers from unfair business practices such as false advertising, exorbitant prices, and fake solicitors who try to appeal to consumers. These organizations make available to the public information which they secure about unfair business practices. They publish Better Business Bulletins and conduct radio programs warning the public against unjust practices.

The Better Business Bureau keeps records of various business firms and their transactions in the community. It investigates the practices of business crooks, fake business schemes, and of various agents who try to take advantage of consumers. It also offers its services to consumers. Any consumer who becomes suspicious of a solicitor, agent, or business firm may check the records at a business bureau, or ask the bureau to investigate the concern. By bringing to light unfair business practices, bureaus reduce the number of these practices. Among some of the many warnings given to the public through the Education Division of the Better Business Bureau are the following:

Don't patronize the merchant who promotes fake "Selling Out" and "Going Out of Business" sales, or who uses tricky signs, e.g., what appears to read "Going Out of Business" is sometimes actually worded "Going Out for Business," the word "for" being inconspicuous.

Many schemers make a living by mailing unordered merchandise in hopes that you will pay for it. Sometimes they use a charity or sympathy appeal. Recipient is under no obligation to remit for it or return it.

Investigate all charitable solicitations before you give. Advertising projects, dances, and other benefit affairs frequently net the charity little, but the promoter much.

Telephone charitable solicitations by strangers are seldom worthy of donation. Many are conducted by professional solicitors who work on a high commission.

The money-back guarantee is only as good as the company that makes it.

Before you invest—investigate!

Read before you sign!

Consumers themselves have started such organizations as Consumers' Union and Consumers' Research. Each organization solicits members and uses its membership dues to conduct its research and testing program. It gathers information in regard to prices, standards, and values. Consumers' Research publishes "Consumers' Digest," which is distributed to members and sold on newsstands. It gives readers the findings of its research and testing bureau and articles upon general consumer problems.

The American Medical Association has done much to protect the health of consumers, and to save them money through its investigations. It conducts tests on foods and drugs. If the foods and drugs tested meet the requirements of the American Medical Association, the company producing them is given the A. M. A. seal, a copy of which it uses on its labels.

Standards Dependent upon Consumer Demands. The previous paragraphs have pointed out that some manufacturers maintain valuable testing and research bureaus, government agencies set some standards for grade labeling of goods, and some private organizations are spreading valuable consumer information. However, consumers are still confronted with a maze of different brands and standards. Again consumers can demand what the producer must produce, and the conditions under which he must produce it. If consumers do not demand labeled and graded goods, producers see no need of testing, inspecting, and grading. The process of setting up standards for a product is a lengthy and costly one, and starts with the consumer. If the consumers demand certain standards and help to create a demand for quality goods, producers will supply the market. If the demand is sufficiently large, the price of standard goods will be low enough so that they will be available to all.

QUESTIONS TO ANSWER AND THINGS TO DO

1. How do consumers influence the activities of producers and merchants?

2. How can a consumer determine whether to buy goods in large or small quantities?

3. List the advantages and disadvantages of charge accounts; of installment buying.

4. List some of the consumer practices which raise the prices of goods.

5. Why are consumers more confused as to what they should buy today than they were fifty years ago?

6. How do manufacturers try to protect consumers?

7. List the services performed for consumers by: The Federal Trade Commission, The United States Bureau of Standards, The Bureau of Agricultural Economics, and The Pure Food and Drug Administration.

8. What is the "Consumers' Guide"?

9. What kinds of work are being done by Better Business Bureaus?

10. List private organizations which have attempted to help consumers. Outline the work of each organization listed.

11. What are some of the ways in which consumers themselves may bring about an improvement in the standards of the goods which they purchase?

2. *Modern Advertising*

The Extent of Modern Advertising. The advertiser aims to sell some particular commodity, service, or idea to as many people as possible. He knows that there are certain effects which he must create on the mind of the possible buyer if he is to make a sale. He must arouse interest in the commodity which he has to sell. That interest must be changed into an actual want for the goods or services. Finally, the want must be so real that the desire for the commodity or service is greater than the desire for the money which it takes to purchase the commodity or service.

Types of advertising have changed through the years, though the purpose of advertising has not changed. For example, William Penn sought through his pamphlets distributed in England to show his

FIGURE 183 · *Times Square, in New York City, with its many advertising signs.* Many organizations advertise their products here

fellow citizens the advantages of coming to his colony in the New World. He offered to sell land cheap, or to rent it to those who could not afford to buy it. Thus William Penn saw the advantage of letting others know what he had, and of attempting to arouse their interest in his land. At that time the Industrial Revolution had not yet begun and modern manufacturing was unknown. Man produced most of the things which he used. Today, about two and a half centuries later, man buys from others most of the goods which he uses. Great manufacturing concerns are producing tremendous quantities of goods. The manufacturer looks on the whole nation, and even on the whole world, as his market. Modern advertising, therefore, has grown to be an important industry in itself, as well as a separate department in many industries.

Methods of advertising are almost unlimited. The most common are the newspaper, magazines, and radio advertisements. Some advertisers attempt to appeal to the general public. Others aim to influence the particular group on which they depend for the sale of their products through the use of posters, billboard displays, streetcar display cards, and roadside signs. Some companies conduct national advertising campaigns for the purpose of making some special brand

of goods popular. Local merchants may conduct campaigns to encourage the sale of their goods in their own community.

Many business concerns spend large amounts of money on advertising. Newspapers and magazines depend on advertisements to pay part of their expenses. In the United States the radio programs which the public enjoys are paid for almost entirely by advertisers. It has been estimated that manufacturers spend from 10 to 25 per cent of their income on advertising costs.

The work of advertising is organized in different ways. Some firms hire special advertising agencies to do the work for them. Such agencies are also organized with special departments. Other firms maintain their own advertising departments under an advertising manager.

Advantages of Advertising to the Consumer. Advertising brings to the public information in regard to new products, scientific developments, medical research, and labor-saving devices. It keeps people aware of progress which is constantly being made.

Many people believe that advertising improves the quality of goods sold. The advertisement gives the consumer information which laboratory tests have shown about the good qualities of the product. However, some believe that false claims are made by advertisers. Certainly it is true that manufacturers do not undervalue the products they advertise. However, there are factors which keep manufacturers from making too extravagant claims for their goods. For example, competing firms, which are selling the same kind of products, are on the alert for a manufacturer who makes false claims for his goods. Moreover, the most recent Pure Food, Drug, and Cosmetic Act makes "misleading advertising" illegal and requires the manufacturer to give the consumer desired facts in regard to the use of the product advertised.

Large amounts of money are spent on advertising. These costs are added to the expenses of the manufacturer, and the price of the product is set high enough to cover the expense of advertising. However, many argue that advertising so increases the demand for the goods that the manufacturer has to produce more goods. Under the mass-production system the manufacturer is able to reduce the cost of making the individual product. The advocates of advertising, therefore, say that it actually reduces the cost of the goods to the consumer and enables him to buy a greater variety of goods.

By Ewing Galloway, N. Y.

FIGURE 184 · *Customers at a stationery sale, advertised by newspaper, in a large department store*

Disadvantages of Advertising to the Consumer. Some consumers believe that advertising is an unnecessary expense. They believe that because the manufacturer must add his advertising costs to the other costs of production they are charged a higher price for the goods they buy. Some believe, too, that advertising encourages extravagance, since clever advertisers appeal to the desires of the consumer until he is encouraged to buy goods and services which he cannot afford.

Many object to the system of "loss leaders" which is used by merchants. What is meant by a "loss leader"? A "loss leader" is a well-known commodity which is offered for sale by a merchant at cost, or below cost, to attract customers to his store. The hope is that, when the customer comes to the store to buy the advertised article, he will buy other goods also. A large business concern is able to make up the loss which it suffers on the leader by raising the prices on other goods. Of course this is opposed by other merchants who cannot afford to sell the leader at such a low price because they

do not carry a stock sufficiently large to absorb the loss. Some states have passed Fair Trade Practices or Loss Leader Laws which attempt to limit the use of the "loss leader" system. The Federal government has passed the Miller-Tydings Act aimed at this practice. This act allows manufacturers to set the lowest price at which retail merchants may sell their nationally advertised goods. This, it was hoped, would limit the number of commodities which merchants might offer as leaders.

Advertising—Good and Bad. There is good and bad advertising. Some people will argue that bad advertising makes unjust claims for the goods it advertises. To this all will agree. However, more recent laws, such as the Pure Food and Drug Acts, have started a movement for better advertising. The demand is being made that misleading advertising be stopped. The advertisers are encouraged to give consumers desired information. Competition between companies is forcing businessmen to improve their advertising. Moreover, through the information furnished by consumer organizations, through government standards, and consumer education programs, consumers are making more intelligent demands upon advertisers. If consumers demand helpful and honest advertising they will get it.

QUESTIONS TO ANSWER AND THINGS TO DO

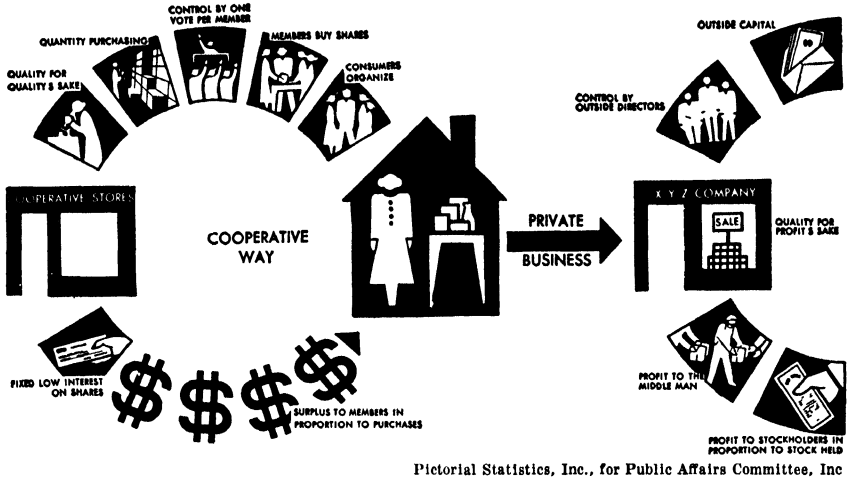
1. Make a list of the methods used by advertisers. What are some of the services rendered by advertisers? What do you think about the statement that advertising reduces the cost of consumer goods instead of increasing them? Explain.

2. Explain the system of "loss leaders." What attempt has been made to control it?

3. *Consumer Co-operation*

Attempt of Consumers to Help Themselves. The consumer co-operative movement is not a new movement, though until recent years it had received little acceptance in the United States. The movement had its beginnings in England, where the first successful co-operative organization of consumers was started by a group of Rochdale weavers in 1844, over a century ago. These weavers banded together to start a store. The members bought shares of stock in the

co-operative, and each member received one vote regardless of the number of shares he held. He received a very small interest on the



Pictorial Statistics, Inc., for Public Affairs Committee, Inc

FIGURE 185 · *A comparison of the methods of a co-operative with those of a privately-owned business*

money he invested in the organization. The store sold its goods at the market price. The consumers were given receipts for the purchases which they made at the co-operative. They kept these receipts, and at the end of the year received dividends called patronage dividends in proportion to their purchases. In this simple organization were laid the principles for the consumer co-operatives of later years.

The Purposes of a Co-operative. What are the purposes of a consumers' co-operative? In the first place, it aims to operate the business for the benefit of the membership. It buys directly from the wholesaler—sometimes a co-operative wholesale organization. It eliminates all extra services which increase prices. However, it does not, as a rule, lower prices to the consumer. Rather it charges him the same price charged by other retail stores. Then it divides the profits among its patrons by giving them patronage dividends in proportion to their purchases. Advocates of the co-operative claim that it handles a high quality of merchandise, for its purpose is to serve its members and not to make a profit. Co-operative stores often handle their own brands of goods which they secure from their co-operative wholesale houses. They do, however, handle other brands

as well. Co-operatives also furnish competition to the privately-owned stores. Such competition is often beneficial to the consumer.

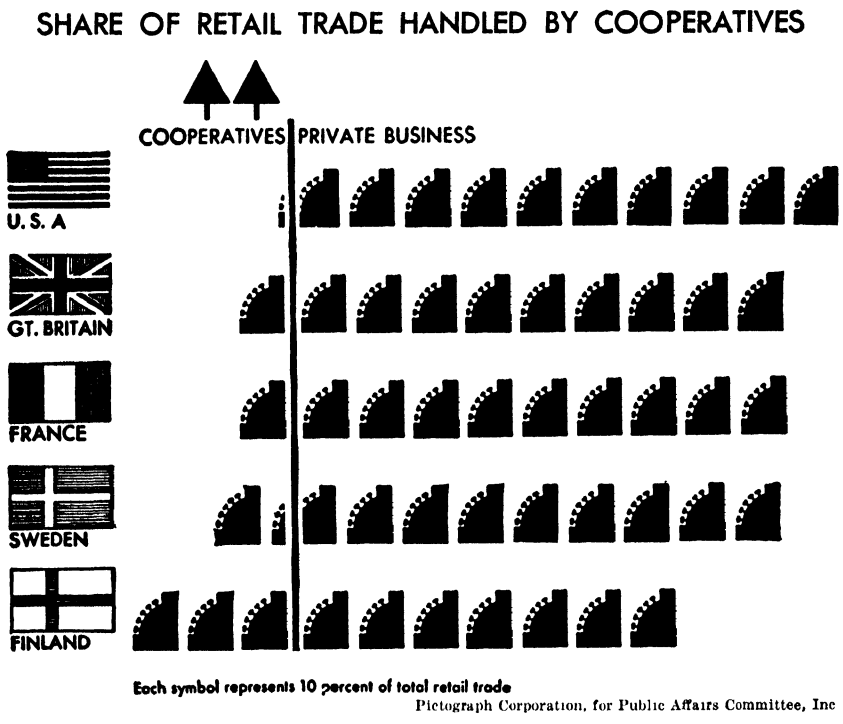


FIGURE 186 · *This graph shows that co-operative retail trade is far less important in the United States than in Great Britain and northern Europe*

Development in the United States. The consumer's co-operative has been rather slow to develop in the United States. There are a number of reasons for this. In most countries the co-operative has developed first in rural districts. In the United States the mail-order house served the rural population well for a number of years. It sold goods at reduced prices, for it did not have to maintain costly retail stores or showrooms. Then came the chain store which operated on such a large scale that consumers were able to buy goods at lower prices. As a result there seemed to be no real need for the co-operative. In many cases consumer co-operatives, starting as small experiments, lacked experienced managers who were able to compete successfully with the established businessmen.

Despite the fact that consumers' co-operatives have developed slowly in the United States, there are now many such organizations. The movement was accepted rather readily by farmers who combined to buy machinery, fertilizer, and farm equipment. Marketing co-operatives have also been formed by farmers who combined to get better prices and marketing conditions for their produce. Powerful among these are such organizations as the Citrus Fruit Growers Co-operative and the Dairymen's League. The depression of the 1930's hastened the growth of co-operatives among other groups. Low-income groups and some industrial groups organized. In 1950, more than six and one-half million people in the United States were members of farmers' marketing and purchasing co-operatives. These co-operatives handled over eight and one-half billion dollars' worth of goods. However, the share of retail trade that is handled by co-operatives reveals that they do a much larger percentage of retail selling in Great Britain and the countries of northern Europe than they do in the United States.

QUESTIONS TO ANSWER AND THINGS TO DO

1. Describe the consumers' co-operative movement started by the Rochdale weavers in England.

2. What are some of the advantages claimed for consumer co-operatives?

3. What groups of people have been the first to start consumer co-operative organizations in the United States?

4. How do you account for the fact that consumer co-operative organizations have developed more slowly in the United States than in some European countries?

4. *Budgeting*

Aid to the Wise Consumer. What is budgeting? It is planning the use of income. For instance, every efficient business concern makes estimates of its financial plans. Each year it plans what improvements it can afford to make and how these improvements will increase its business. Very often the members of the same business concern fail to plan their own personal finances. People often recognize that planning is desirable, but fail to do any planning with their own finances. How often does the student who receives his allow-

ance on Monday morning spend all his money during the first of the week and have no money for carfare or lunch on Friday?

	Per cent	Annual		Monthly	
Income	100		$3600.00		$300.00
Expenditures:					
Essentials - Food	28	$1008.00		$84.00	
Housing	18	648.00		54.00	
Clothing	10	360.00		30.00	
Investment and Savings - Savings	10	360.00		30.00	
Other Assets	3	108.00		9.00	
Operating - Household	15	540.00		45.00	
Personal	2	72.00		6.00	
Advancement - Health	6	216.00		18.00	
Education	2	72.00		6.00	
Recreation	3	108.00		9.00	
Gifts and Donations	3	108.00		9.00	
Total Expenditures	100		$3600.00		$300.00

FIGURE 187 · *A page from a typical family budget*

There are three essentials to budget making. A budget must include all of one's income and a plan for the use of that income. It must be made at the beginning of the period of time which it covers. It is a blueprint to be followed during the year. Budgets may be made for a week, a month, a year, or for a number of years. A budget is not an inventory made at the end of the year.

Each budget makes provision for the present, the future, and perhaps the past. Provisions for the present are made for immediate living expenses. Under plans for the future would come such items as: insurance, reserve funds for old age, money for a new car, funds for possible sickness, or funds for the education of some member of the family. Some family budgets will have to make provision for money to cover past contracts. Perhaps the family has bought a house and payments have to be made on the mortgage. Perhaps an automobile or an electric washing machine has been purchased on

installments. Provision must be made in the budget for these monthly installments. In some cases old debts may have to be paid.

The making of a budget is an individual problem and is made for the period of time most convenient to the maker. There are various budget books and plans which have suggestions for different kinds of budgets. Usually these may be obtained at savings banks or stationery stores. The person who starts a budget for the first time will probably find it advantageous to write comments as he records expenses. With this information he can change his plan to meet his personal needs. No income is too small for its use to be wisely planned. In planning the use of a small income in our earlier years, we shall have learned much about planning a larger income when we receive it.

Advantages of Budget Making and Keeping. There are many advantages in keeping a personal budget. It encourages thrift. It compels the maker to consider the various items for which he saves and spends money. Some extravagant purchases will probably be avoided if he writes down prices and values and compares them with the other uses to which his money might be put. The budget gives the maker the personal satisfaction of planning the use of his income in a way that provides for the purchase of a new coat or payment of the next installment on the automobile. The savings item in the budget gives the family a feeling of security. It removes the worry which might be felt in case of some unexpected emergency. Then, too, a family budget creates a better understanding among the members of a family, for each one knows the financial situation. Finally, a budget helps the consumer to become a wise spender, for it lets him see his financial condition. He is not going to buy a $500 radio when a $50 one would suffice, for he may need the money that he would save on the radio to pay the coal bill at the end of the year.

Various government and wartime practices reveal the advantage of systematic planning. Many people started buying bonds on payroll deduction plans. Also the pay-as-you-go income tax plan showed the advantages of planned income-tax payments. Such government plans as old-age pensions under the Social Security laws have made some groups save for the future. All these plans help the consumer to divide his income systematically.

QUESTIONS TO ANSWER AND THINGS TO DO

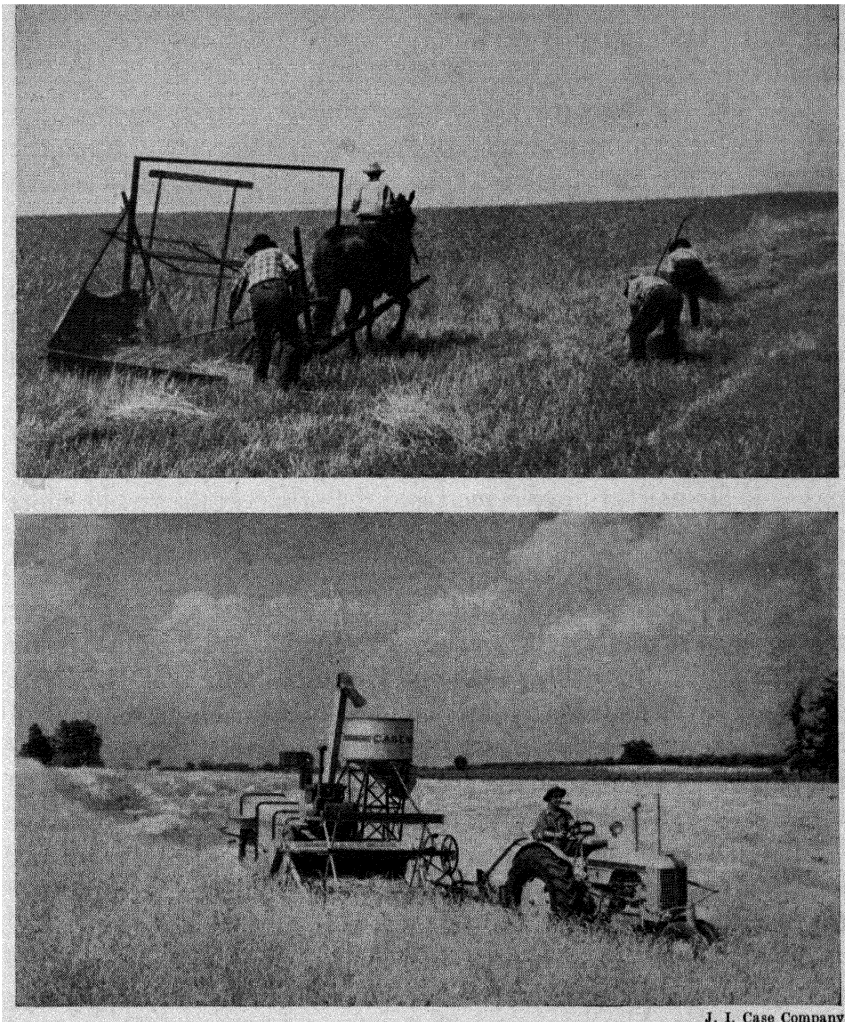
1. What are the essential factors of a budget?
2. List the advantages of a personal budget.

5. Demand and Supply

The Demand for and Supply of Commodities. The economist is constantly using the terms *demand* and *supply*. Just what does he mean? The demand for a commodity is the number of units of that commodity which consumers are requesting at the market price. The amount of a commodity which consumers will purchase will probably change as the price of the commodity changes. The supply of a commodity is the number of units of a commodity which sellers will offer at the market price. Again the amount of a commodity which sellers will offer will probably change as the market price changes.

Demand. In our economic system demand is constantly changing. There are a number of factors responsible for this change. Demand for goods or services may be inelastic or elastic. If the demand for a commodity remains almost constant, it is an inelastic demand. For example, the amount of bread used by the public does not change very much. The consumer does not eat much more bread if the price is lowered, nor does he reduce his consumption of bread if the price rises. The demand for milk remains relatively constant. However, the demand for radios and fur coats does change with the price. The higher the price of these articles, the fewer the consumers will purchase. The lower the price, the more the consumers will purchase. This changing demand for commodities is called an elastic demand. For most luxuries, then, the demand is elastic.

The standard of living of the consumer determines the demand for many commodities. The standard of living is determined by the income of the consumer and the commodities which the consumer wants and needs, or is accustomed to use. Most people with low incomes will not purchase such luxuries as fur coats. It is probably the people in the middle or higher income groups who will buy more books, magazines, and television sets. As the level of income of the population is raised, and more people are receiving higher wages, the demand for these commodities will increase. How will the producer know what luxuries the higher income group or the



J. I. Case Company

FIGURE 188 · *How styles in farm machinery have changed.* Compare the picture of the first machine reaper (top), invented in 1831, with that of one of our modern reapers

"new rich" class will demand? This will be determined by their personal desires or the commodities and services to which they and their families have been accustomed. Some will spend their extra money on amusements, concerts, and lectures or will buy a summer home. Others will send their children to college, or help them to

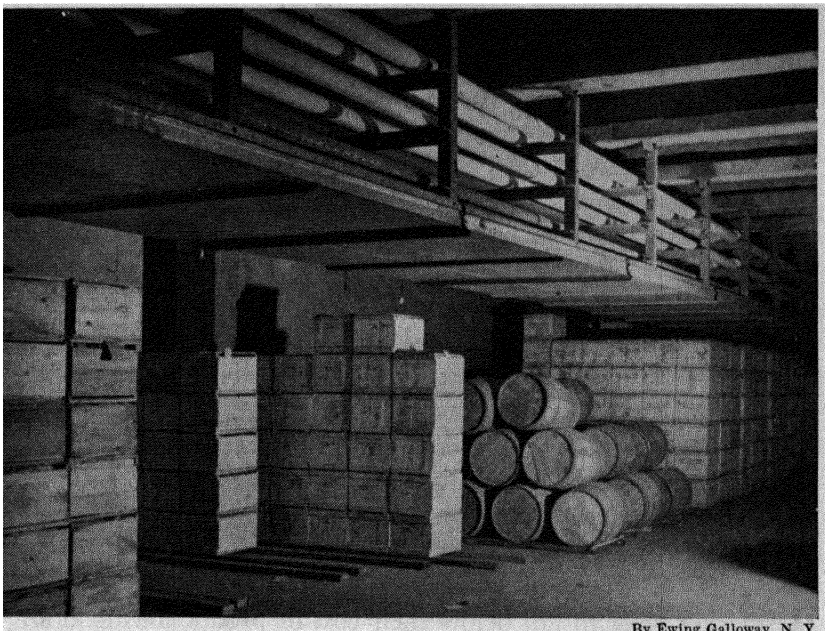
further their education. It is difficult for the producer to determine just what goods and services this "new rich" group is going to want at any time.

The styles or fashions of the time do, however, have an important effect on the consumer demand. For instance, in recent years, the tractor and the combine have taken the place of horse-drawn farm vehicles. On the highway, the automobile has replaced the horse and buggy, and so the demand for gasoline has increased. If you look at an old family picture which was taken many years ago you will see how completely style has changed in the field of men's and women's clothing. Manufacturers are alert to changes in style, and so they watch the trend of fashions. *See Figure 188.*

Supply. The supply of a commodity is the number of units of that commodity which will be offered for sale by producers at the market price. If the market price is increased the producer may make more goods. If the price is lowered he will produce less, or stop production entirely.

The supply of goods which the producer will be able to offer for sale will also depend on the available raw materials and on the supply of labor which he is able to obtain. During World War II, rubber goods for civilians were at times almost unobtainable in the United States. The war made it impossible for manufacturers to obtain raw rubber from sources in Southeast Asia. Likewise, during a period of war or a period of great prosperity, there is a great demand for labor. The manufacturer is forced to pay high wages. Either he will not be able to offer so many goods for sale, or if he does keep up production, he will demand a higher price for his goods.

Market Price. Market price is the price at which goods are exchanged. It has been shown that both demand and supply are affected by market price. An illustration may serve to show how market price is set. A fruit grower who grows apples harvests his apple crop in the fall of the year. He may place the entire crop on the market at once, he may store the winter apples until they are ready for use, or he may place a part of his crop or even his entire crop in cold storage. What he will actually do is dependent on the demand for apples or the number of buyers waiting to buy his produce. In other words, the number of bushels of apples which he will place on the market is dependent upon the price which he will receive. However, the number of bushels which the buyers will take



By Ewing Galloway, N. Y.

FIGURE 189 · *Apples and other fruits stored in a refrigerated warehouse until they can be placed on the market*

is also dependent upon the price which they will have to pay. Let us suppose that the apple grower is willing to sell his whole crop of 5000 bushels at the price of $5.50 per bushel (see supply and demand schedule below). However, there is a demand for only 500 bushels at that price. If he insisted upon $5.50 per bushel, he would find that he could not sell his 5000 bushels.

BUSHELS OFFERED BY GROWER	PRICE	BUSHELS BUYERS WILL BUY
5000	$5.50	500
4500	5.00	750
4000	4.75	1000
3500	4.50	2000
3000	4.00	3000
2500	3.50	4000
1000	2.50	4500
500	2.00	5000

At $4.75 the producer will place 4000 bushels on the market. However, at that price there is a demand for only 1000 bushels. At

$4.00 per bushel the grower will offer 3000 bushels and the buyers will take 3000 bushels. In other words, $4.00 is the price which will clear the market. All the apples offered will be taken by the buyers.

Let us see what would happen if the price fell below $4.00. If the market price were $2.00 per bushel, there would be buyers who wanted 5000 bushels, but only 500 bushels would be offered. The buyers would begin to offer more money to secure the apples of which there was such a scarcity. They would raise the price to $2.50 per bushel. At this price there would be a demand for 4500 bushels of apples; however, only 1000 bushels would be offered. At $4.00 the grower is willing to supply the number of bushels which the buyers will take. Thus $4.00 is the market price.

The market price of apples is also influenced by the number of apple growers. If there is competition, each apple grower will compete with the others and try to sell as much of his crop as possible. Thus competition for the market will tend to lower the price to the consumer. However, the competing growers cannot afford to allow the market price to fall below their cost of production including a reasonable profit.

However, one apple grower might develop an especially good grade, or unusual variety, of fruit. The demand for this apple might become very great and the grower might gain a monopoly of the business of producing this particular variety of apple. He would have no competitors because his product would be superior. How would he determine the price at which he would sell his product? He would sell his apples at the price which would yield him the largest total profit. The illustration below shows the price at which his total profits would be highest.

PRICE	PROFITS PER BUSHEL	NUMBER OF BUSHELS SOLD	TOTAL PROFIT
$3.50	$.50	5000	$2500
3.75	.75	4000	3000
4.00	1.00	3000	3000
4.50	1.50	2500	3750
$4.75	$1.75	2000	$3500

At $4.50 per bushel the monopolist makes 25 cents less on each bushel of apples which he sells, but he makes $250 more on his total

sales than he would at $4.75 per bushel. The monopoly price for apples is $4.50. Neither the lowest price with the largest volume of sales, nor the highest price with the fewer sales, is as profitable as a price and sales volume somewhere between these extremes.

QUESTIONS TO ANSWER AND THINGS TO DO

1. Explain the terms: demand, supply, elastic demand, inelastic demand.
2. How does man's standard of living influence his demand for goods?
3. How are the supply and demand of goods influenced by market price?
4. What are some of the factors that help to determine the market price of a commodity?

6. *Standard of Living*

As It Affects a Consumer's Demands. The standard of living of an individual depends on the purchasing power of his income and the conveniences and comforts to which he is accustomed. It determines his consumer demands.

The standard of living in the United States is high compared with the standards of many other countries. In other words, the average United States citizen has more comforts and conveniences than the average citizen in many countries. There are a number of reasons for this. The United States possesses an abundance of natural resources. As well as furnishing much of our food, these natural resources have furnished large supplies of raw materials for our factories. Of special importance to our manufacturing industries have been our supplies of iron and coal. Then, too, the businessmen of the United States have developed mass production to a very high degree. Through mass production prices have been lowered. Manufacturers have needed large numbers of workers. Workers with reasonably high wages have become consumers of large amounts of manufactured goods. More consumers have increased the demand for goods and have helped to lower prices. Also, since the individual in the United States is free to enter any industry, business, or profession for which he is qualified, the individual consumer has been able to raise his standard of living.

Many Variations. The expression "standard of living" is, however, a relative one. It varies with different groups of people and

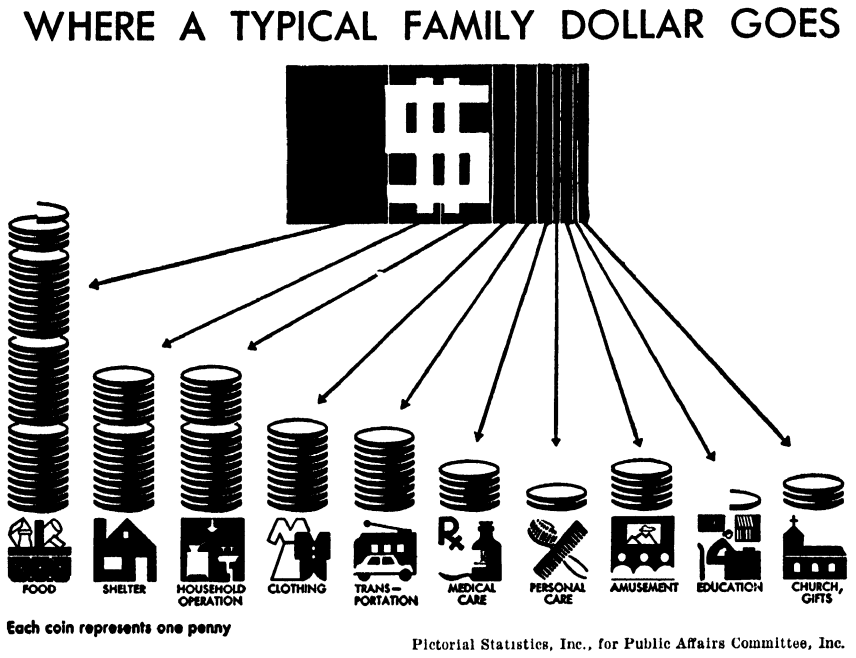


FIGURE 190 · *How a typical family dollar is spent*

different localities as well as in different countries. Reports show that the standard of living of our rural population is usually lower than that of the city dweller. In 1950 the average personal income in California was about $34 per week, in New York State about $36 per week, in Florida about $23 per week, and in Mississippi less than $14 per week. These figures include only money income. In many cases, individuals add to their money income by growing a part of the food that they use. These differences in weekly incomes certainly affect the standard of living which the people in these sections are able to maintain. The standard of living of a family is also affected by the number of members in the family who have to be supported by one wage earner. The income which a family has will depend, too, on the occupational group to which the wage earner belongs. Again the conveniences and comforts which a family will be able to afford will depend on the level of prices or what the family income can buy.

Standard of Living Affects a Consumer's Purchases. Under the standards of living found in the United States certain general conclusions may be drawn as to the purchases of consumers. According to the 1950 census the average family income was $3,319. In 1951 the Bureau of Labor Statistics estimated that the moderate-income family spent thirty-five cents of every family dollar for food, thirteen cents for clothing, and fourteen cents for rent and fuel. This would leave thirty-eight cents out of each dollar for savings, medical expenses, educational improvement, recreation, and luxuries. Some general principles may be drawn as to expenditures. About a century ago, the German economist, Dr. Ernst Engel, proposed certain principles which seem to have held true through the years. He suggested that as the family income increases (a) the percentage spent for food decreases, (b) the percentage spent for clothing is about the same, (c) the percentage spent for rent, light, and fuel remains about the same, and (d) the percentage spent for luxuries, educational improvement, and amusements increases. These principles indicate that the standard of living of a consumer determines the type of goods which he buys. The lower-income groups, therefore, have little to spend on luxuries and extra comforts.

QUESTIONS TO ANSWER AND THINGS TO DO

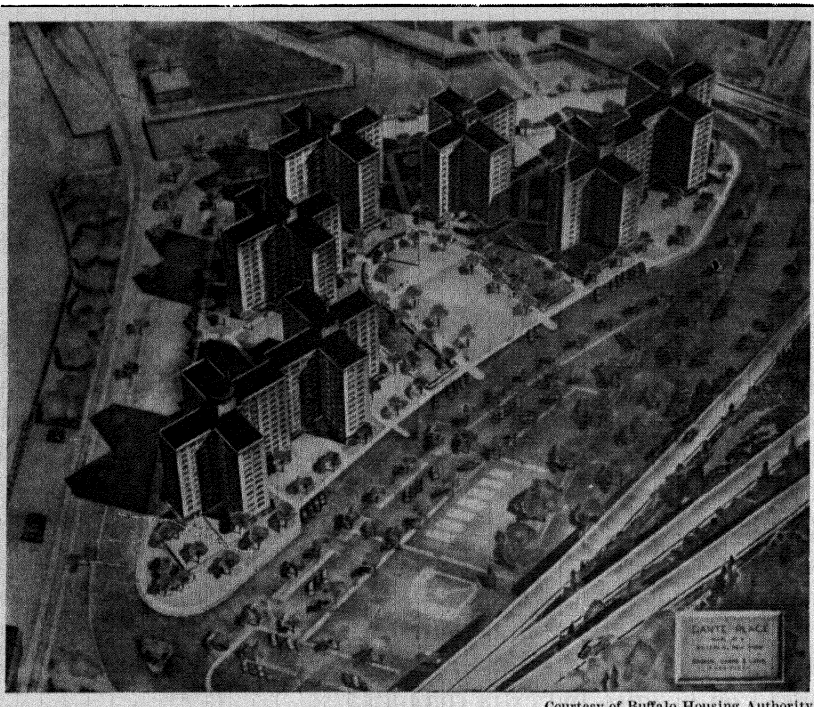
1. How do you account for the fact that the people of the United States have a rather high standard of living?

2. As a rule, among what people of the United States will the highest standard of living be found?

3. Give the provisions of Engel's principles and apply them.

7. Government Regulations and Policies

In Peacetime. During normal times the Federal government performs two kinds of services for the consumer. First, it protects consumers by means of various regulations. It has been shown that the consumers are protected from false advertising and adulteration of food products by the Federal Trade Commission and the Pure Food and Drug Administration. Consumers are also protected from unfair railroad rates. bus fares. electricity rates, and gas rates. If companies



Courtesy of Buffalo Housing Authority

FIGURE 191 · *An architect's drawing of a housing project in Buffalo which was built with State aid.* The project reclaims a section of the city's water front as a residential area, and eliminates some sub-standard housing

furnishing these services carry on business between states, the Federal government regulates rates. If the companies operate entirely within one state, they are regulated by the state governments. In New York State it is the Public Service Commission which hears complaints of consumers and sees that they are given reasonable rates.

The second peacetime service of the government is to provide special aids for consumers with the lowest standards of living. In recent years both the Federal and state governments have co-operated in an attempt to carry out helpful projects. The Federal government has given aid to local governments for the improvement of living conditions of the lowest income groups of our cities. In order to remove some of the slum and tenement sections and improve conditions, the Federal government has aided local communities in building housing projects. Before World War II, some local communities agreed to destroy one sub-standard dwelling unit in the slum sections of a

city for each new dwelling unit provided in a housing project. Such housing projects are available to lower income families only. Rents are charged in accordance with ability to pay. Often the rent paid is not sufficient to maintain the project; so the Federal government pays an annual subsidy to the local housing authority to make up the difference between the rent received and the maintenance cost of the project.

Another group whose standard of living the Federal government has tried to improve is the rural population. It has tried to help the farmer to secure reasonable prices for his products, and in periods of overproduction it has tried to raise farm prices by urging the farmer to produce less. In order to secure the co-operation of the farmer the government has paid him for the surplus crops which he has not grown on the acres of land which he has left uncultivated. Moreover, during periods of scarcity subsidies have been given to farmers to encourage them to produce more. Thus subsidies are paid by the government to the producer to encourage or discourage production. At times the government has given subsidies to our sugar growers to encourage the production of more sugar. In 1890 the government paid the producers of beet sugar two cents a pound for each pound of sugar produced within the United States. Another way of aiding the farmer is by means of loans at low rates of interest from the Federal government.

In Wartime. The responsibilities of the Federal government increase during a period of war. Its first responsibility is the successful conduct of the war. A second is to protect civilians and at the same time regulate their activities in the interests of the war. The first aim of the government becomes the production of war materials. It restricts the production of consumer goods for civilians in order to provide war materials and supplies for the armed forces. Manufacturers are told they may not produce certain kinds of goods, and other kinds of goods may be produced only for the government. War industries are given priority for the purchase of necessary raw materials.

During wartime people are urged to conserve various scarce materials such as rubber, scrap iron, tin, aluminum, paper, and fats, which are saved to supply war needs. Drives to conserve such essential materials reveal some of the wasteful peacetime practices of consumers. *See Figure 192.*

From Ewing Galloway

FIGURE 192 · *Collecting paper for salvage during World War II*

Industries producing large quantities of war goods find it necessary to reduce their production of peacetime goods. The result is a scarcity of goods for consumers to buy. At the same time, there is an increased demand for labor at increased wages. Therefore, consumers have large amounts of money to spend and are willing to pay high prices. Because of this demand for scarce goods the government often adopts rationing plans to distribute the available goods among more people by limiting the amount that each consumer may buy. To restrict the demand for goods it also limits credit buying. During World War II it limited the length of time for which charge accounts might run. Limits were also placed on installment buying. Buyers were expected to make larger initial payments on their purchases and shorten the period of time over which they paid monthly installments.

During a war period, too, the government attempts to place some control over excessive profits. Ceilings, the maximum price which

might be charged, were placed upon certain commodities during World War II. Rents were fixed or frozen, making it illegal for landlords to raise the rents which they ordinarily charged their tenants.

Some will complain that different units of government place too many regulations upon consumers. Others will argue that there should be more regulations. It all depends on your point of view.

QUESTIONS TO ANSWER AND THINGS TO DO

1. List some of the peacetime and wartime services which governments render to consumers.

2 In what way does the government regulate the activities of the consumer in wartime? Are such limitations wise? Why?

3. What is a subsidy?

CHAPTER TWENTY–SEVEN · MAN'S PURCHASING POWER

Since man depends on others for some 90 per cent of the goods and services which he uses, and since he depends for these commodities on distant cities, farms, countries, and peoples, his ability to purchase such goods and services is very important. Under our modern economic system man procures the commodities and services which he desires by the use of money and credit. There are various agencies which help the consumer to secure the money and credit which he needs. Among these are the Federal government, banks and other credit agencies, and investment companies. At times you will find that large amounts of money and credit are available; at other times money is scarce and it is difficult to secure credit. The purchasing power of money also changes. For instance, sometimes a dollar will buy a large amount of goods and at other times a much smaller amount of goods. This chapter will help you to find out some important facts about money and credit and the reasons for some of the changes in amount and value of money.

1. Money

Exchange of Goods. In the days when man produced most of the goods he used he was not concerned about how he might procure the goods made by others. If he met someone who had a commodity which he wanted, he could probably acquire it by giving that person something which he had. This exchange of one commodity for another is called barter. As you can readily see, our present economic life could not exist under a system of barter exchange. If you are going to exchange goods under a barter system, you must find a buyer for your goods who also has some commodity which you want. Moreover, the buyer must want your goods more than he wants his own, and you must want his goods more than the ones which you have to offer; otherwise no exchange will take place. Also, the goods exchanged must have about the same value. For example, you may want a book, but you may have nothing to exchange for the book except a cow. You will not be willing to exchange your cow for a single book.

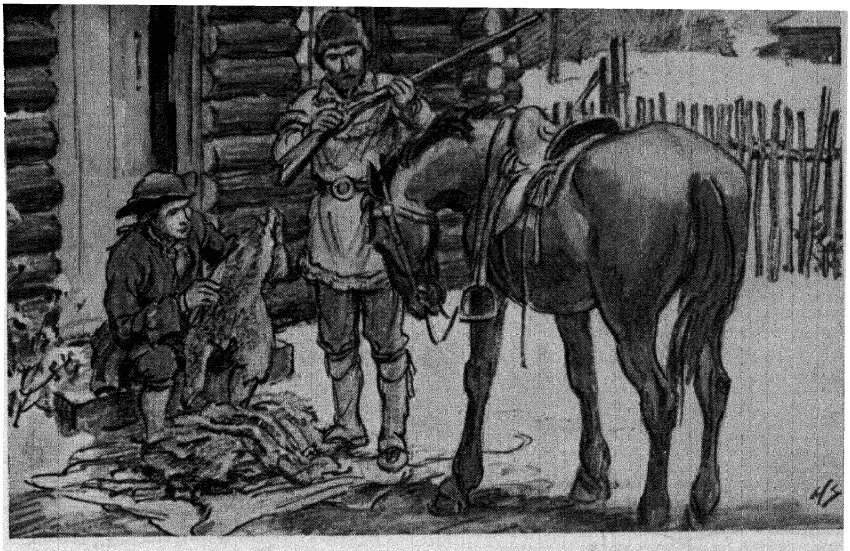


FIGURE 193 · *Bartering furs for a gun in the early days of our country*

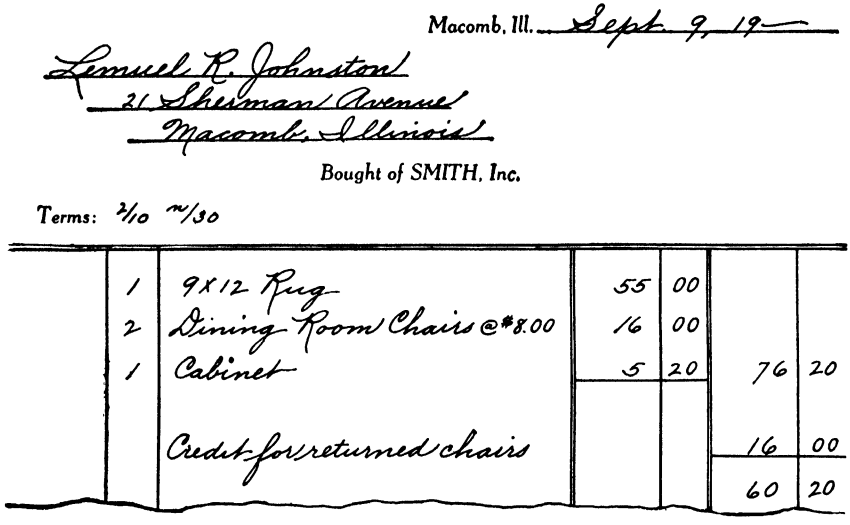
In these days the producer sells his goods to the peoples of every continent in the world, and likewise the consumer buys products from his most distant world neighbors. Sellers and buyers cannot search out one another to exchange their goods by barter. They must make their exchanges in some commodity which will be acceptable to both. Thus the money we use today has been developed for that purpose.

Purposes of Money. What is money? What are its purposes? Since we live in an age when money is extremely important, its varied purposes should be of great interest to us.

Perhaps you make an agreement with the owner of the local newspaper to deliver papers for him. You figure the value of your job in the amount of money you earn. You may sell your bicycle for thirty dollars. You figure the value of the bicycle in terms of the money you receive from the sale, and yet the money itself is worthless to you. The silver, nickel, copper, or paper is of no value if you keep it in the form of money. In other words, money is valuable only in so far as it can be used to purchase desired goods or services.

Money helps man to satisfy his economic wants in several ways.

In the first place, money is used as a medium of exchange. For example, suppose you received thirty dollars by selling your bicycle



Macomb, Ill. Sept. 9, 19—

Samuel R. Johnston
21 Sherman Avenue
Macomb, Illinois

Bought of SMITH, Inc.

Terms: 2/10 n/30

1	9x12 Rug	55	00		
2	Dining Room Chairs @ 8.00	16	00		
1	Cabinet	5	20	76	20
	Credit for returned chairs			16	00
				60	20

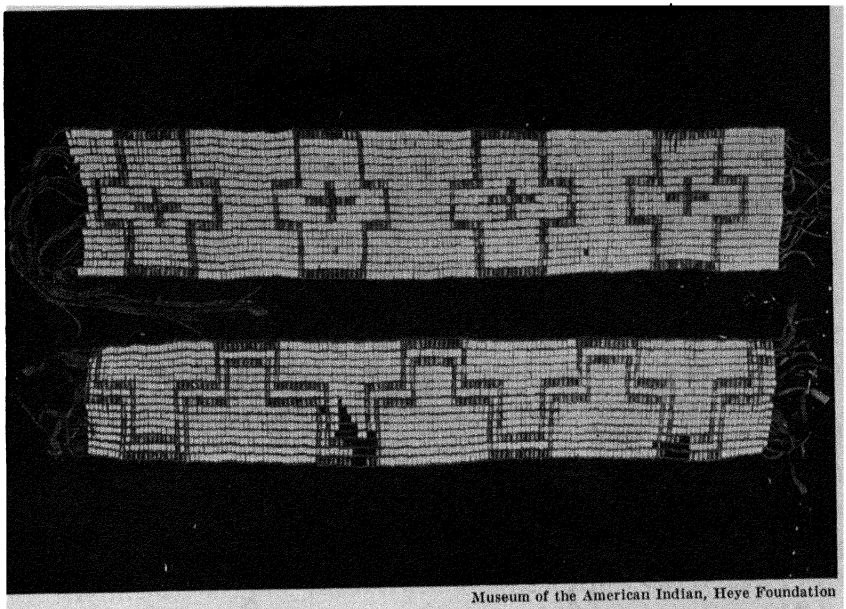
FIGURE 194 · *A bill for goods purchased*

and then you visited one of the best photography supply stores in your city and with that thirty dollars bought a new camera. Money is the medium by which you have exchanged your bicycle for the camera. You could not have taken your bicycle to the store and exchanged it directly for the camera, for the merchant would have had no use for a bicycle, whereas the thirty dollars represents to him thirty dollars' worth of purchasing power.

Money is also used as a measure of value. For example, a dealer in real estate will speak of one house as a five-thousand-dollar house and another as a seven-thousand-dollar house. After window shopping in town you tell your parents that you like the fifteen-dollar suit, the twenty-dollar dress, or the ten-dollar pair of skis which you have seen. In each case the value of the goods has been measured in money.

Then, too, money is a standard for deferred payments. For instance, you buy a suit at a store and have it charged. The merchant figures the debt which you owe him in terms of dollars and cents, and sends you a bill at the end of the month.

Money is also a store of value. The majority of people are able to earn the most money when they are well and during the middle



Museum of the American Indian, Heye Foundation

FIGURE 195 · *Wampum belts used by certain Indians as a medium of exchange*

years of their lives. A part of this money they may invest and save for a period of old age or sickness. Really they are storing some of their present strength and earning power so that it may be used at a time when it is most needed.

Characteristics of Money. Different people have used different commodities for money, as we discover from historical records. There we find early men using cattle or bars of metal as a medium of exchange, while later men used salt and skins. Early settlers in colonial North America exchanged goods with the native Indians for beads, shells, and pieces of wampum. Today, as you know, these articles would be very unsatisfactory as a medium of exchange. Now most countries use either gold or silver as standards of their money systems. Naturally we might ask just why man has abandoned these earlier types of money. Why do most countries base their money systems on gold or silver?

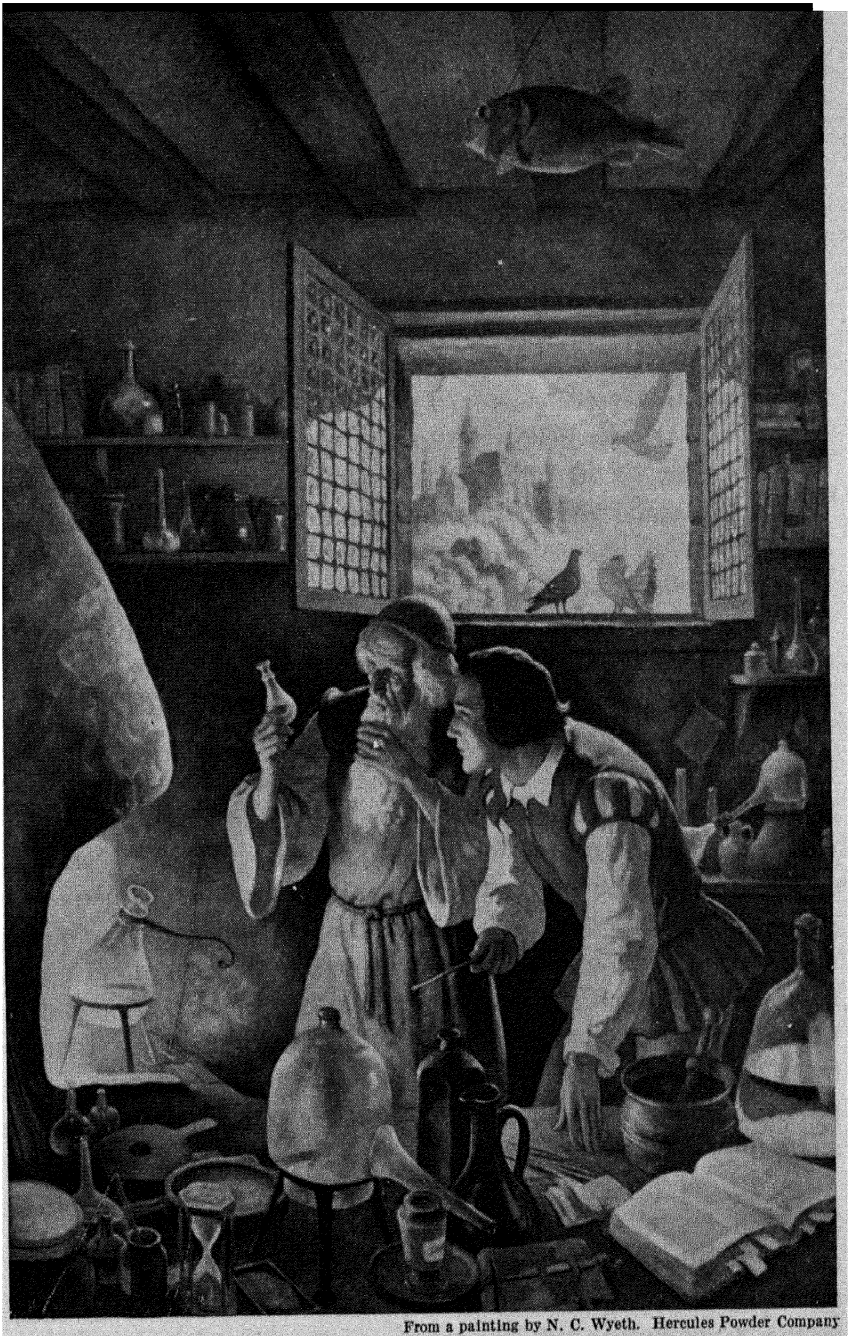
In the first place, there are certain characteristics which a material must have if it is to be accepted for use as money. The material used for money must be valuable. You may say that all money is valuable, but this is true only because people are willing to accept it. For in-

stance, the people in one country may be willing for a time to accept any commodity for money which the government of that country backs. However, the people of other countries will not accept the commodity unless the material which backs the commodity has some real value in itself. Gold and silver are both valuable for jewelry, as well as being valuable commodities. They are used for other purposes besides money. The value of both gold and silver is great because these metals are relatively scarce, and the amount of them in the world does not change a great deal from year to year. Thus we can understand why the value of the gold and silver does not change so much as would the value of a more plentiful commodity.

The material used as money must be portable, that is, capable of being carried. Our early ancestors must have had difficulty in using cows for the purchase of goods. Salt, too, must have been cumbersome. Iron bars which were used must have been very heavy. Both gold and silver have the advantage of having considerable value in small quantities, which can be carried easily and conveniently.

The material of which money is made must also be durable. Salt exposed to dampness or water might form a salt solution and disappear. Cattle as a medium of exchange lose their value as they grow older. Gold and silver are more durable than many other commodities, although they are so soft that a harder metal is alloyed with them to keep them from wearing. A rather small amount of the alloy, however, makes a gold or silver coin quite durable.

A commodity used as a money standard must be divisible. This means that it must be possible to make small units of purchasing power from the commodity. For example, gold and silver can be coined in units of small value as well as in units of larger purchasing power. Moreover, the value of the gold does not change as a result of being coined in smaller denominations. Five one-dollar gold pieces have just as much value as one five-dollar gold piece. A five-dollar gold piece may be coined with just one half as much gold as a ten-dollar gold piece. Likewise, one five-dollar gold piece is just as valuable as another. However, if you should cut a cow into several parts and attempt to use the parts as a medium of exchange, you would have some parts with very little value and some with a great deal of purchasing power. In other words, the material which will be acceptable as money must be divisible and the parts must be uniform in value.



From a painting by N. C. Wyeth. Hercules Powder Company

FIGURE 196 · *An alchemist at work in his laboratory, trying to turn some of the common metals into gold*

Finally, money must be made from a material which is easily recognizable so that it cannot be imitated. Gold and silver are easily distinguished from other metals. In fact, early alchemists spent their lives in vain trying to find some method of changing the baser metals into gold. Also, gold and silver can be stamped easily and thus be recognized. *See Figure 196.*

Money Standard. Under normal conditions, different money standards are in use in different countries, and countries may change their monetary standards as a result of changing financial and political conditions. Some countries use one metal as their money standard. Some use two metals and so are said to be on a two-metal (bimetallic) standard. Previous to the depression of 1929 and World War II, many of the industrial nations of the world, such as the United States and Great Britain, used the gold standard. Some less industrialized nations, such as Mexico and China, which did not have so much foreign trade, were on the silver standard.

A currency based on the gold standard meets certain definite requirements. Gold sets the value of the currency and is contained in a definite amount in each dollar and other gold coins. Gold is freely circulated within a gold-standard country, and other money circulated in the country may be exchanged for gold. Gold is also freely imported and exported. In other words, trade balances, which you studied in the unit on world trade, are settled by shipments of gold.

There are times when countries find it advantageous to go off the gold standard. In going off the gold standard a country departs from some of the requirements of the gold standard. In the midst of a financial depression or a war, it may want to make sure that it does not lose its supply of gold. In order to keep the people of the country from demanding gold in exchange for other types of money, the government may call all the gold into the treasury and refuse to allow the free export and import of gold.

In the depression year of 1933 the government took the United States off the gold standard. It called all the gold into the Treasury, refused to allow gold to circulate in the United States, and limited the exportation of gold. As a result, the United States was said to be on the "Gold Bullion" standard, because the gold coins were melted and recast in bars called bullion. The gold bullion was placed in safekeeping by the government. Gold still set the value of United States money, although it was not freely circulated or exported.

In like manner many of the countries which were on silver standards called in their silver and limited its circulation and export.

Kinds of Money. You have become so accustomed to the different kinds of money which you use from day to day that you probably never have stopped to think how many different kinds you carry and how different they really are. Under normal conditions there are in circulation in the United States standard, representative, credit, and token money.

Standard Money. Standard money is made from the commodity which the country has accepted as its standard. Standard money has enough metal in it so that its value is equal to the purchasing power which the government has stamped on the coin. When a country is on a real gold or silver standard, its standard money circulates. Its consumers use gold or silver coins as they buy and sell goods. When it leaves the gold or silver standard and goes on a gold or silver bullion standard, the standard is no longer coined nor does it circulate, but it is kept by the government as a reserve fund or backing for other money which is circulated.

Representative Money. Representative money and credit money are types of paper money which are in common use. When you go to the store to purchase a dollar's worth of groceries or ten dollars' worth of clothing, your mother probably does not give you silver dollars. In the first place, there are not many silver dollars in circulation in most parts of the country. In the second place, you would probably hesitate to carry silver dollars around in your purse, for they are heavy and cumbersome. Instead, your mother may give you silver certificates, which are representative money. A silver certificate is a paper bill which is backed by silver. Look at a one-dollar or five-dollar silver certificate. Across the top of these bills you will find printed the words "Silver Certificate." The Treasury seal and the number on the silver certificate are stamped in blue. The government is keeping one dollar's worth of silver in the form of either silver coin or silver bullion to back the one-dollar certificate you are carrying. Likewise, for the five-dollar silver certificate, the government has five dollars' worth of silver in its reserve.

When the United States was on the gold standard, gold certificates were in circulation also. These gold certificates were backed by an amount of gold equal to the amount printed on the gold certificates. Likewise, the gold certificate carried across the top the words "Gold

Certificate." Under normal conditions these silver and gold certificates may be exchanged for the metals which they represent. They are called representative money, since they circulate in place of the coin and they represent the gold or silver in the nation's reserve.

When a country is not on a real gold standard, it does not circulate gold certificates. Such certificates are redeemable in gold, and if they were circulated people might demand gold in exchange for them so that our gold reserve would be depleted. Under the gold-bullion standard, you will remember, the gold is kept by the government in the form of gold bullion, and it cannot be used to redeem the gold certificates.

In the eastern part of the United States most people prefer to use silver certificates rather than silver dollars. However, many people of the Western states prefer the silver coin to the silver certificate.

Credit Money. In addition to representative money, another kind of paper money in constant use is credit money. Credit money is not backed dollar for dollar by either gold or silver. Rather it is the promise of the government or a bank to pay a certain amount. The government has declared that it shall be accepted as money. Among the paper bills which you carry in your purse or billfold you will find credit money in the form of United States notes. These are paper bills issued by the United States government, promising the holder a certain amount of purchasing power. You may recognize these bills by the fact that they carry across the top the words "United States Note." The Treasury seal and serial number on a United States note are printed in red. These United States notes are sometimes called greenbacks.

Another kind of credit money which you probably have in your possession is the Federal Reserve note. Federal Reserve notes are issued by Federal Reserve banks (which are bankers' banks). The Federal Reserve banks loan the notes to your local bank. The local banker gives these notes to you for use when you draw money from the bank. In connection with the purchases which you make you may receive some Federal Reserve notes in five-dollar or ten-dollar denominations. These paper bills carry across the top the words "Federal Reserve Note." The Treasury seal and the serial number are printed in green on them.

Token Money. For many purchases which you make you need money having less than a dollar's worth of purchasing power. The

silver dollar, the silver certificate, the United States note, and the Federal Reserve note are not made in denominations of less than one dollar's worth of value. Hence the national government has made coins of smaller denominations for your convenience. These coins of smaller value, such as half dollars, quarters, dimes, nickels, and pennies are sometimes called token or subsidiary money. These token coins, such as the half dollar, the quarter, and the dime, do not contain enough silver to make them worth fifty, twenty-five, or ten cents. Their value is determined by the stamp upon them rather than the amount of metal which they contain. The nickel does not contain five cents' worth of nickel. The penny does not contain one cent's worth of copper. These coins are issued especially for the convenience of consumers. The national government has ruled that they shall be accepted in the payment of debts of certain amounts.

Counterfeit Money. One of the most serious crimes in this country is counterfeiting, which is making an imitation of a country's money and putting it into circulation. The counterfeiter is cheating the person to whom he passes the counterfeit bill or coin, and he is placing the person found with the counterfeit money under suspicion. Most important of all, he is committing a serious crime against the government of the United States by interfering with the money system which is run by the government for the benefit of all the citizens.

The national government urges us to study our money and be familiar with the different kinds so that we may easily detect any counterfeit money. On our paper money the location of each of the following items should be carefully noticed: the serial number, the seal, the signature of the Secretary of the Treasury, and that of the Treasurer of the United States. It should be remembered that the color of the seal and the serial number differ on different types of money. The portrait on a bill should be carefully examined. On a good bill the portrait is always clear and stands out very distinctly. It is often blurred on the counterfeit. Do you know that a one-dollar bill always carries a portrait of Washington, a two-dollar bill one of Jefferson, a five-dollar bill one of Lincoln, and a ten-dollar bill one of Hamilton? The counterfeiter may try to make a ten-dollar bill out of a one-dollar bill. The portrait will show you at once that the bill is counterfeit.

The paper upon which genuine bills are printed is of very good

quality, with scattered red and blue silk threads running through it. Merchants, as well as other people who handle large amounts of money, should make themselves familiar with the tricks of the counterfeiter. They should also request the secret-service agents to notify them of any suspected bills which have been passed in their localities so that they may watch for such counterfeits.

Counterfeit coins lack the ring which a genuine coin has when it is hit against a hard surface. The milling (small grooves) on the edge of good coins is very regular and distinct. For self-protection and for the protection of the monetary system all people should make it their responsibility to try to detect counterfeit money. Likewise they should use their efforts to help to locate the counterfeiter.

Principles of a Good Money System. To serve the needs of its people a nation's money system should be stable. The purchasing power of the money should not change a great deal. The consumer should be able to buy approximately the same amount of goods with a dollar from year to year. The money should be acceptable to the peoples of other countries. Moreover, a good money system should be capable of meeting the needs of the business of the country. The colonists did not need a large amount of money, but today businessmen depend on money for practically all their transactions. A nation should have enough money in circulation so that businessmen may be able to secure the funds which they need to expand their businesses.

To meet the requirements of a good money system, then, a country should have money the purchasing power of which changes little; the money should be acceptable to people in other countries; and the country should be able to supply enough money to meet its business demands.

QUESTIONS TO ANSWER AND THINGS TO DO

1. What is barter? What difficulties does it offer?

2. Why is a system of money exchange necessary for the modern world?

3. What are the different purposes of money? Illustrate each of these.

4. Explain the characteristics which a commodity must have in order to be used as a money standard.

5. Explain the following terms: gold standard; bimetallic system; gold-bullion standard.

6. List the different kinds of money which are in use in the United States today. Outline them under these four headings: standard money, representative money, credit money, token money.

7. Why is it important for everyone to try to discover anyone guilty of counterfeiting?

8. What advice would you give to a merchant who thinks there may be counterfeiting in his locality?

9. What are the requirements of a good money system?

2. *Banks and Credit*

Sometimes people do not realize the importance of banks. They may say that they have no bank account and are not affected by banks and banking institutions. All of us, however, are in some way aided by our banks. For instance, your employer pays you with a bank check for your services. The bank gives you the money when you present the check. The grocery store from which your mother purchases her groceries is able to stock its shelves with different kinds of groceries only because it has been able to borrow money from the bank to buy a large supply of commodities. Perhaps some bank has helped you to start a Christmas Club fund which you may use at Christmas time. There are very few people who are not helped in some way by banks. Most of our businessmen would find it impossible to conduct their businesses without banking institutions.

Services of Banks. The more important services of banks are (a) the safekeeping of money and other valuables, (b) the investment of idle money, (c) the granting of credit, and (d) the transfer of money from one person to another.

Safekeeping of Money and Valuables. For many people the most important service of banks is the safekeeping of money or other valuables. The person working for a salary or a regular wage saves a certain amount from each pay check and deposits it in a savings account. In this way he is able to accumulate enough money to buy a home, purchase an automobile, or take a trip which he has long desired. The bank keeps his money safe. It was as an institution for the safekeeping of money that early Italian bankers in Florence started some of the first banks. They had a strong box or some hidden place where money would be safe from the robbers and

By Ewing Galloway, N. Y.

FIGURE 197 · *The interior of a bank vault, showing safe-deposit boxes*

pirates of the day. For a small fee they would protect the depositors' money. Today banks not only keep money, but they rent safe-deposit-box space in their vaults where customers may keep such valuables as jewelry, important legal papers, stocks and bonds.

Investment. Banks also invest idle money. The bankers soon saw that it was foolish to allow all the money which they had taken for safekeeping to remain idle. Through the deposits of their customers they accumulated a large amount of money, and that money was really taken out of circulation while it was stored in bank vaults. At the same time businessmen and traders wanted money and were willing to pay for its use. Today banks make profit not by charging for the safekeeping of the money which their customers deposit with them, but by loaning this money and charging the borrower for its use. This charge is called interest. Businessmen borrow very large amounts of money from banks. Sometimes the loans are made to them for short periods of two or three months. This gives the merchant a chance to purchase some of the goods which he handles,

to sell the goods, and to pay back the loan. Sometimes the loans are for longer periods. If a manufacturer desires to build a new plant or make an addition to his factory, he needs a long-term loan, which may run for a period of several years. Banks also loan large amounts of money to the government by the purchase of government bonds.

It may well be asked whether a bank does not lose money through these loans. A person borrowing money from a bank must establish his credit with the bank; he must show the bank that he is able to pay his debts. If he borrows money on a promissory note, the bank will probably request him to have the note signed by one or two other persons. In this case each signer of the note becomes responsible for the payment of the loan if the borrower of the money is unable to pay. Before the businessman is able to borrow a large amount of money from a bank he must file a financial statement with that bank and thus establish his credit. Sometimes a bank may require a borrower to deposit stocks and bonds or to give the bank a mortgage upon his property as security for a loan.

Credit. Probably the most important service which banks render is the extension of credit. You may say here that we have just been studying the loans made by banks to businessmen. That is one way in which banks extend credit. True, but let us see just how that system works. For example, Mr. Smith borrows five thousand dollars from a bank for the purpose of making an addition to his factory. But probably Mr. Smith does not go out of the bank carrying the five thousand dollars in currency. What really happens is that the bank adds five thousand dollars to Mr. Smith's deposit account in the bank. When Mr. Smith buys lumber, steel, or cement, or pays his workers, he pays for these commodities or services with bank checks which he draws against his deposit. The lumber company deposits Mr. Smith's check to its account. The steel company deposits Mr. Smith's check to its account. Mr. Smith has paid his debts to the steel and lumber companies, but he has not used any of the four types of money which we discussed earlier. Mr. Smith is using the credit which the bank has given him in his deposit account. One might say he is using a new kind of money—"checkbook money." This type of money is becoming more and more important because businesses are enlarging, our business system is becoming more complex, and many more people are becoming dependent

on banks. The pictograph shows you that there is much more "checkbook money" than genuine currency in circulation in our country.

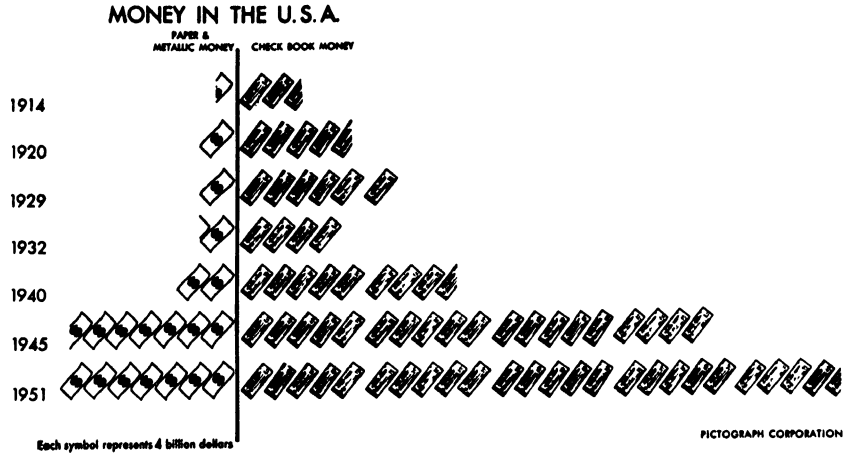


FIGURE 198 · *How the money in the United States was divided between the years 1914 and 1951.* During what years of this period was the increase in the use of checkbook-money greatest? How do you account for this increase? How do you account for the decrease in 1932? for the increase in 1951?

When the United States government needs money, it sells government bonds. Some of these bonds are purchased by individual buyers. Some are purchased by banks. When a bank buys fifty thousand dollars' worth of government bonds, it may simply add fifty thousand dollars to the deposit credit of the United States government in the bank. By this transaction, fifty thousand dollars more of "checkbook money" has been placed in the hands of the United States government.

Of course banks cannot go on making loans, creating deposit credit, and making "checkbook money" indefinitely. Each bank must keep a certain percentage of its deposits on hand in the form of cash. This cash reserve must be sufficiently large to protect the bank in case a large number of depositors want to draw out their money in cash at the same time. Then, too, while banks are all the time giving deposit credit and allowing "checkbook money" to be used, they are also collecting money as the loans which they have made come due.

Transfer of Money. Finally banks aid their customers in the transfer of money from one person to another. For example, you have already seen how the bank helped Mr. Smith to pay his debt to the lumber dealer and the steel manufacturer. Perhaps your father is an automobile dealer and wants to pay a Detroit manufacturer for cars which he has just received. He may go to his bank, buy a draft, and send it to the Detroit producer. In other words, he pays his bank in his own community for the cars. The bank by the use of the draft asks the Detroit bank to pay the producer. Probably the money is never shipped. Rather, the producer in Detroit is given additional deposit credit in the Detroit bank. The reason the bank does not send currency each time that it transfers money is that such a transfer would be an unnecessary expense. Very likely within a day or two some Detroit buyer will want to pay a debt to some merchant in your community. It is, then, a very real service which our banks render in helping us to transfer money from one person to another and from one community to another.

Different Kinds of Banks. We use the term "bank" very generally, but there are in reality several kinds of banks. You will want to be able to understand the purposes of different kinds of banks.

Savings Banks. Savings banks are banks the special purpose of which is to accept accounts for safekeeping. Most people who deposit money in savings accounts are interested in accumulating funds for some future time. As a rule, they are not interested in withdrawing large amounts of their savings. The banks pay them a small rate of interest for the use of their money and then loan it at a higher rate of interest. The kinds of investments which savings banks may make with their depositors' money are regulated. They usually invest in real estate, government bonds, or corporations approved by banking officials. They are able to depend on long-term investments because people are not constantly withdrawing their deposits. When you start a savings account in a savings bank you are given a bankbook showing the exact amount of your account. Each additional deposit is entered in your book. From time to time the interest which your account has earned is added. Whenever you wish to withdraw money, you must present your bankbook. The withdrawal is entered and the balance figured. Your savings account book is very important. It is a record at any time of the exact amount of money in your account.

By Ewing Galloway, N. Y.

FIGURE 199 · *Depositing money at a teller's window in a commercial bank*

Commercial Banks. The commercial bank carries on business for a large number of people. It handles checking accounts for the small depositor. It rents safety-deposit boxes so that its customers may have a place for their valuables. Some commercial banks handle trust funds. A trust fund may be a fund left by a deceased person for his heirs. The bank is often given the task of dividing such an estate or administering it for children until they are of age. Some commercial banks which handle such accounts are called trust companies. Some commercial banks advise their customers on investments. The most important work of the commercial bank, however, is to serve the manufacturer, the merchant, and the trader. Some of the ways in which it serves the businessman have already been mentioned. It loans him money and makes it possible for him to use "checkbook money" extensively. It transfers funds to others for him and collects debts for him from debtors in distant cities. In fact, the commercial bank makes possible the extensive business practices on which businessmen depend today.

Investment Banks. It might be said that investment banks are not banks at all because they do not perform the ordinary services of accepting savings accounts or checking accounts. They are, however, very important for the manager or founder of large business corporations. If a group of businessmen want to start a corporation, build a factory, or enter some new business enterprise, they will find that they need a large amount of money. They need to buy a factory site, to build the factory, and to purchase equipment, and it will be some time before their new factory will produce enough goods to yield them profits. Thus they will need the long-time use of a large amount of money. Some of this money they may want to get from other men who are willing to co-operate and become part owners of the business. To these men they will sell stock. They know that the commercial bank will not be willing to buy their stock and bonds, because it is loaning its money on short-time loans to the businessmen of the community. If the commercial bank bought the stock and bonds of this new enterprise, it would not have the money to serve the local businessman when he needed loans. The leaders of this new enterprise will consult the investment banker. The banker will go over their plans and, if he feels that the new business will succeed, he will buy the stock and bonds which they wish to sell. Thus he will make the money available to the new business. Then the investment bank will sell these same stock and bonds to other people who have money which they wish to invest in some long-time investment. The investment bank usually handles such securities as stock and bonds rather than regular banking transactions.

The Government a Banker and a Protector of the Banks. The national government itself performs banking services for a number of people. It has also set up several boards which help banks to protect the interests of their customers.

Postal Savings Banks. Postal savings accounts are handled by regular post offices. They perform a service similar to that of the savings bank. Any person ten years of age or older may start a postal savings account. Such an account may be opened with as small a deposit as one dollar. Deposits may be made at any time and in any amount. The account will be carried by the post office until it reaches twenty-five hundred dollars. These postal savings accounts are very convenient for young people who start their first savings account with small amounts. Also, many people who are able to save only

small amounts from their earnings make use of this service of the post office. In 1951 the deposits in postal savings accounts amounted to more than $2,788,000,000.

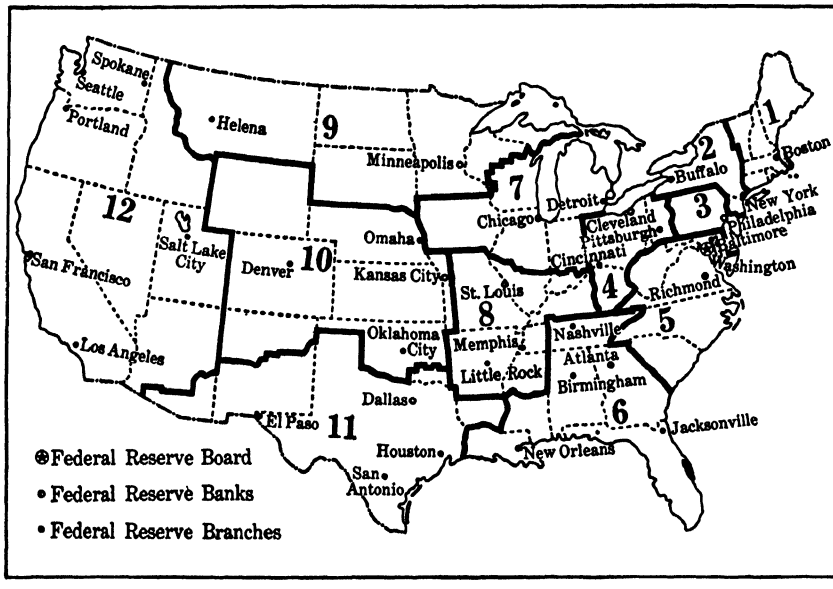


FIGURE 200 · *A map showing the Federal Reserve Districts of the United States.* In which district do you live?

Protective Agencies. The national government protects bank depositors through the Federal Deposit Insurance Corporation. This is a corporation to which a number of banks belong. It insures the deposits of its member banks. For example, if you have a deposit in a bank which is a member of the Federal Deposit Insurance Corporation, you are sure of recovering all your money up to ten thousand dollars even if the bank should fail.

The Federal Reserve System was created under the authority of the national government. Under this system there are twelve Federal Reserve Banks in the United States. The whole country is divided into twelve districts with one of these Federal Reserve Banks in each district. All national banks belong to the Federal Reserve Bank in the district, and other banks may join if they meet the requirements. These Federal Reserve Banks loan money to the member banks when they need it. The member bank which borrows from

one of these Federal Reserve Banks gives the Federal Reserve Bank some of its notes, stocks, bonds, or mortgages and receives a new kind of money, which, as you know, we call credit money, in the form of Federal Reserve notes. Thus the Federal Reserve Bank helps to put into circulation more money at times when more money is demanded by businessmen.

Earlier in the chapter it was pointed out that a good money system must be able to meet the demands of business. It must provide more money when it is needed. There will be some times during which businessmen will not demand so much money, but when businessmen are asking for more loans the Federal Reserve Bank will help the local bank to extend more credit and it will issue more Federal Reserve notes.

QUESTIONS TO ANSWER AND THINGS TO DO

1. How are you helped by banks?
2. Explain the services which banks render to various groups of people.
3. What is "checkbook money"? Why is it so important?
4. Explain the work of a savings bank.
5. Why is your savings bankbook important to you?
6. Outline the service of the commercial bank. Why is it so important to the businessman?
7. Explain the work of an investment bank.
8. Explain the statement: "The government itself is a banker."
9. How does the Federal Deposit Insurance Corporation aid you as a bank depositor?
10. How is the businessman helped by the Federal Reserve System?

3. *Other Credit Agencies*

Banks as credit agencies have been discussed. The businessman who desires loans for the regular conduct of his business usually borrows from the commercial bank. You have seen how people starting new businesses patronize the investment banks.

There are a large number of people in the middle-income and lower-income groups who find it necessary to borrow money. Some

emergency (such as sickness) may make these loans necessary. In some cases consumers may borrow in order to be able to make installment purchases. The people who borrow small amounts of money and receive their loans for a short period of time often turn to loan agencies other than banks. Some make use of personal finance companies and some of pawnshops. In more recent years some have joined credit unions.

Personal Finance Companies. A personal finance company is a private organization formed according to state laws. For the most part it handles small loans, and finances purchases made on the installment plan. It is necessary for any company making small loans to a large number of different people to charge higher rates of interest than a commercial or investment bank would charge its regular business customers. The finance company does not know its customers and has to send out investigators to find out the financial condition of the different people who desire to borrow money. A large amount of bookkeeping is required in keeping records of the financial standing and credit of customers. Borrowers are continually making partial payments on their loans, and all these accounts must be carefully kept.

Pawnshops. Some people who desire short-term loans and do not want to bother about establishing their credit with a bank or a finance company make use of pawnshops. The borrower takes some valuable possession which he may have—jewelry, furs, stocks or bonds—to the pawnshop broker. He leaves this as security for the money which the broker loans him. When he pays the loan he reclaims his possession. Pawnshops have fallen somewhat into disrepute, however, because stolen goods have sometimes been deposited as security upon which a thief would try to get money.

Credit Unions. Credit unions are relatively new organizations formed to give credit to their members on reasonable terms. They are a kind of consumers' co-operative. They are formed by a group of people who are closely associated and thus know one another. For example, some farm organizations have formed credit unions. Credit unions have also been formed by people associated in the same occupation, such as civil-service employees, teachers, or employees working in a given factory. Each member of the union buys stock in the organization. The shares of stock usually sell for a small amount. A common price is five dollars a share. Each member has

one vote in the organization regardless of the number of shares he owns. Members receive dividends on their stock. The dividend is

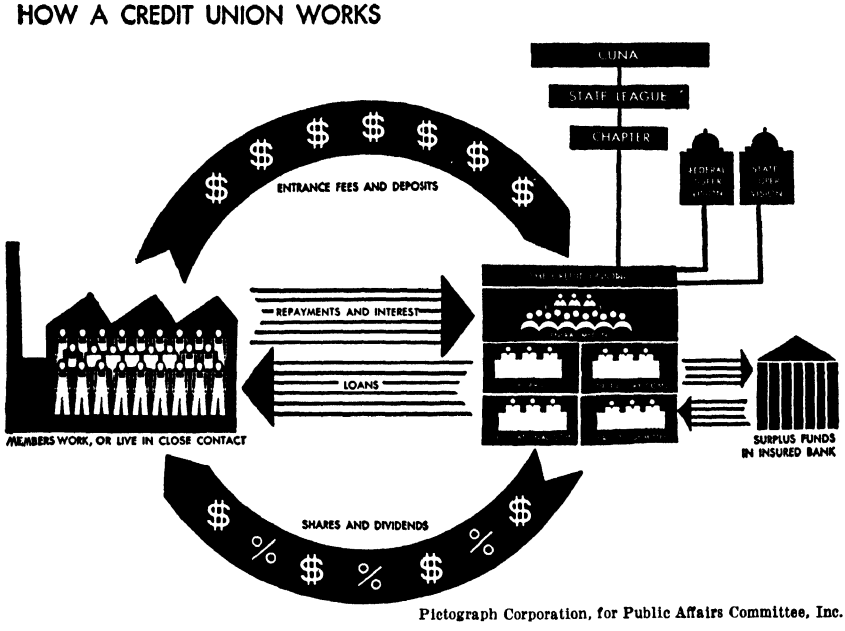


FIGURE 201 · *The working of a credit union*

small, but it often represents a higher percentage on the investment than a savings-bank account would yield.

If a member desires to receive a loan, he makes application to the governing body of the credit union. Since he is already known by the members of the group, action can be taken on his request rather quickly. The large amount of investigation which has to be done by the personal finance company is unnecessary. The officers of the credit union often contribute their services. The expenses for rent, light, and heat are small, for the union may use a small office in the factory or a room contributed by some member. Thus the union is able to make loans to its members at a very low interest rate. The extra money of the credit union which is not borrowed by members may be invested or placed in some commercial bank. All credit unions are regulated by either national or state law. Limitations are usually placed on the size of the loans and the interest charges.

The pictograph on page 382 shows the amount of money loaned to consumers by different lending agencies in 1950.

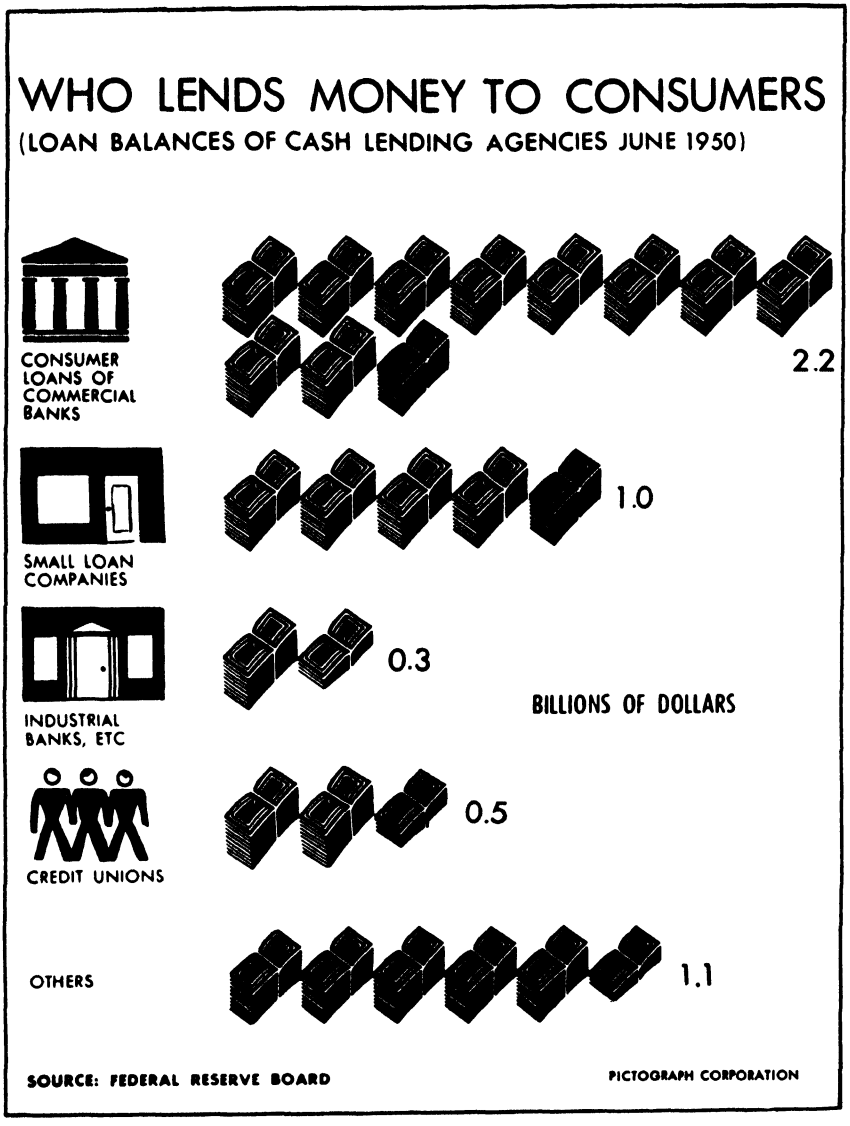


FIGURE 202 · *The various agencies that lend money to consumers*

QUESTIONS TO ANSWER AND THINGS TO DO

1. Explain the work of a personal finance company.

2. Explain how a credit union works. What groups of people have formed credit unions? List the advantages of credit unions.

4. The Use of Money and Credit

Credit, Its Use and Misuse. In the last section you studied the different agencies from which you or your family might receive personal credit. You have seen the conditions under which these different agencies would loan money. Some people are very wise and cautious in the loans they seek. Others use credit very unwisely and encounter all kinds of difficulty.

There are many occasions when the refusal of individuals to borrow money would be very unwise. For example, the family with a small income may find it impossible to accumulate enough savings to care for an emergency, but in time the head of the family will be able to pay back his loan out of his regular earnings. Perhaps other members of the family will be able to work and add to his earnings. Certainly it would be most unwise for such a family to refuse to borrow money in order to provide necessary medical care. In an earlier section of this unit you noticed that the businessman who bought an automobile on the installment plan was able to increase his earnings. There are many cases in which a loan will pay for itself several times by the increased income which the loan will make it possible for the borrower to earn. Again, you have seen that there are some comforts which middle-income and lower-income families would never be able to enjoy unless they were purchased on the installment plan.

Many people misuse credit, however. Often banks or loan agencies which refuse to loan money after investigating the financial condition of the person who wishes to borrow are rendering that person a real service. They are keeping him from receiving loans beyond his ability to pay. Easy credit often leads to extravagance. The person who has successfully paid back one loan may not hesitate to borrow again and again. Soon he finds that the regular payments on his loans are very burdensome. Then, too, a person who finds that he can borrow easily is tempted to plan the use of his income

By Ewing Galloway, N. Y.

FIGURE 203 · *Investors watching the board in a broker's office*

less carefully. He may say, "Why plan for the future? When I want money I can borrow it." Credit too easily granted has been the means of keeping some people poor.

The question of the wise and the unwise use of credit is purely a personal one. Each person should examine his financial condition carefully and reconsider his personal budget before he decides whether he should or should not borrow a certain amount of money. Will the present use of the money give more satisfaction than its future use? If so, are the charges which must be paid on the loan justified?

Savings—How Shall They Be Invested? Your budget has an item labeled "Savings." By means of these savings provision is being made for some future need or emergency, or for some future pleasure or comfort which you desire. There are various ways of investing savings and making them grow. The most common are securities, such as stocks and bonds, savings accounts, and insurance.

Stocks and Bonds. Various manufacturing or industrial corporations issue stocks and bonds. In an earlier section you have read how

the investment banker buys stocks and bonds and sells them to other investors. Money invested in bonds is loaned to a company and gives the purchaser a specified rate of interest. Money invested in stocks represents the purchase of a share in the company. If the company makes money, the stockholder receives a dividend, or his part of the profits. Information about stocks and bonds of different corporations may be gained from the financial statements issued by the corporations, from businessmen who know the corporations, and from brokers who make it their business to buy and sell stocks and bonds. When the national government (or some other unit of government) desires money, it sells bonds to the people. These bonds may not yield so high a rate of interest to the purchaser as bonds issued by a business corporation, but since they are backed by the government, they are considered the safest investment a person can make.

Savings-Bank Accounts. Savings banks usually pay a higher rate of interest on their accounts than do other banks. They are allowed to loan money only to businesses which are considered very safe. Don't forget to look for the sign "Member of the Federal Deposit Insurance Corporation" in your savings bank. If you find that sign, it is a guarantee that, even if the bank fails, depositors will receive all their money up to ten thousand dollars.

Insurance. Many persons invest their savings in some type of life insurance. Life insurance is sold for two purposes—for protection and for the purpose of saving money for future needs.

The policy most commonly purchased for protection is the straight-life policy. It is usually purchased by the head of a family who has large family responsibilities. A straight-life policy gives protection to the members of his family in case of the death of the purchaser. The purchaser pays a premium to the company each year (in monthly, quarterly, semiannual, or annual payments) as long as he lives. Upon his death his dependents receive the face value of the insurance policy (perhaps $1000 or $5000) from the company. The premium which the policyholder must pay depends upon his age and physical condition at the time he purchased the policy. The insurance company has determined what the average length of a man's life is. The younger a person is when he buys his policy the more years he will have to pay premiums to the company. Thus the annual premium on a five-thousand-dollar policy will be smaller for

By Ewing Galloway, N. Y.

FIGURE 204 · *The head of a family is wise to consider carefully the kind and amount of life insurance that he must carry to protect his wife and children*

a man twenty-five years of age than for a man of thirty-five. After a purchaser has held his policy for a time, he is able to borrow money on the security of the policy.

Endowment and annuity policies are purchased for the special purpose of accumulating savings. An endowment policy is purchased for a definite period of time—ten, twenty, or twenty-five years. It is purchased primarily as a savings investment. However, it protects the insured person during the term that it runs; and at the end of the term the insured receives the face value of the policy with the interest it has earned. People purchase endowment policies to save money for some definite purpose. For example, parents often provide for the education of their children in this way.

Many people purchase annuities, which can hardly be called insurance policies, though they are sold by insurance companies. They may be purchased by annual payments over a period of years or in one cash payment. They represent the purchase of a monthly income which the owner will receive for the rest of his life, beginning at a stated age, perhaps sixty-five.

In recent years various types of group insurance have become popular. A number of people in a given industry or occupation may

© Phoenix Mutual Life Insurance Company, Hartford, Connecticut

FIGURE 205 · *No more worries for the couple in this picture.* The retirement-income plan of insurance brings them a check each month

buy insurance as a group. Health insurance plans, hospitalization plans, and retired-income plans are sold to such groups. Under such plans the company spreads its risk over a large number of people, many of whom will draw no insurance benefits. Thus the insurance rates are lower than the rates on personal policies.

Insurance is a distinctly individual problem. The kind of insurance which is good for one person may be just the wrong kind for another. Each person must determine carefully his insurance needs. Is he purchasing insurance for the protection that it gives? Does he have a large number of people dependent on him for their living? Is he making his purchase in order to save money? Does he wish a life income after he retires?

Requirements of a Good Investment. There are a number of ways in which a person may invest his money. How can he determine what is a good investment? Some general requirements of a good

By Ewing Galloway, N. Y.

FIGURE 206 · *Getting advice before making investments is a good idea*

investment can be stated. When making an investment the investor is concerned mainly with the income which he is going to receive, the safety of the investment, and whether he can get his money when he wants it.

Through a careful investigation of different kinds of investments the investor can determine what income he may expect from various investments in normal times. He may examine the past record of the company in which he is about to invest. Has the company been making money? Has it been paying regular dividends to its stockholders? How do the dividends of this company compare with those of other companies in which he might invest? Is the business of the company likely to continue to be good? This may depend on the kind of goods produced or services rendered. Is there likely to be a continued demand for these goods or services? Has the company borrowed large amounts of money or incurred large debts which will have to be paid and which might reduce the dividends of the stockholders? Answers to such questions as these may show the investor what income he may reasonably expect from an investment during normal times. However, it is not easy to determine so accurately how his investment might be affected by depression or war.

How can the investor determine the safety of an investment? It has been suggested that the loan value of an investment may tell

something about its safety. What is meant by the loan value? If an investor wishes to borrow, he may take his stock or bond to a bank and see whether the bank is willing to accept it as security. If the bank will accept the investment as security, the amount of money it is willing to loan with this investment as security is the loan value of the investment. You will remember that a person is able to borrow on his insurance policy after he has had it a short time. When he has paid more premiums on it, he is able to borrow more on it; that is, the loan value of the policy increases. It is always well not to place all one's savings in one kind of investment. There is safety in variety. Some investments may yield large returns; others may prove to be very poor investments.

Can an investment be turned into money easily? There are two reasons for the question. In case of an emergency, the investor may need the money. Also, the investment is probably safe if it can be sold quickly. The fact that it can be sold quickly shows that others are anxious to purchase it because they recognize its value.

QUESTIONS TO ANSWER AND THINGS TO DO

1. List some of the justifiable reasons for borrowing money.

2. What is meant by the statement that credit has been the means of keeping some people poor?

3. What are the differences between stocks and bonds? How may a buyer decide what stocks and bonds to purchase? What advantages have government bonds over the bonds of private companies?

4. For what purposes is insurance purchased? Explain the purpose of a straight-life policy, an endowment policy, and an annuity.

5. What are some of the requirements of a good investment?

5. *Purchasing Power—Stable or Unstable*

In a previous section of this chapter it was shown that the purchasing power of a country is represented by its money and credit. However, there may be money in a country which is not in use. Perhaps it is hoarded. At various times in history people have become fearful that they would lose their money and have taken it out of circulation. You will remember that it was to prevent the hoard-

ing of gold that the United States went off the gold standard and adopted the "gold bullion" standard. The available purchasing power of a country, then, is dependent on the money and credit actually in use. The total purchasing power of a country is dependent on the activity of the money. For instance, suppose a father gives each of his five sons a new dollar bill, and each son keeps his bill for a week. At the end of the week those bills represent a total purchasing power of five dollars. Suppose, on the other hand, that each of those dollar bills was used to purchase goods and changed hands on each of the seven days of the week. Then the same five bills would represent a total purchasing power of thirty-five dollars. Thus it might be said that the total purchasing power of a country depends on the amount of money and credit and the speed with which the money and credit circulate.

Relationship of Money and Prices. Does money always have the same purchasing power? The first purpose of money which you studied was to act as a medium of exchange. The value of money is determined by what it will purchase. In other words, the value of a dollar is equal to the commodities for which it can be exchanged. Economists sometimes speak of the money wage and the real wage which a worker receives. He may receive thirty dollars a week. That is his money wage. Most people would hesitate to say whether that was a good wage until they knew something about prices. If prices are high, thirty dollars a week may be a low wage. If prices are low, it may represent a very good wage. A real wage is judged by the commodities which the wage earner can purchase with his money wage.

A money system is stable if the money will always buy about the same amount of goods. It is unstable if there are great changes in the amount of goods which the money will purchase. One of the requirements suggested for a good money system is that it remain as stable as possible. No money system has proved itself absolutely stable, but naturally some systems are much more stable than others. Stories have been told of the lack of stability of the German mark after World War I. At that time the mark would purchase so little that it was hardly worth the paper on which it was printed. Our greatest concern about a money system, then, should be the purchasing power of the money and the changes in that purchasing power from time to time.

In considering the relation between money and prices the word

"inflation" is commonly used. Inflation might be explained as an undesirable rise in prices; and a great fall in prices is often spoken

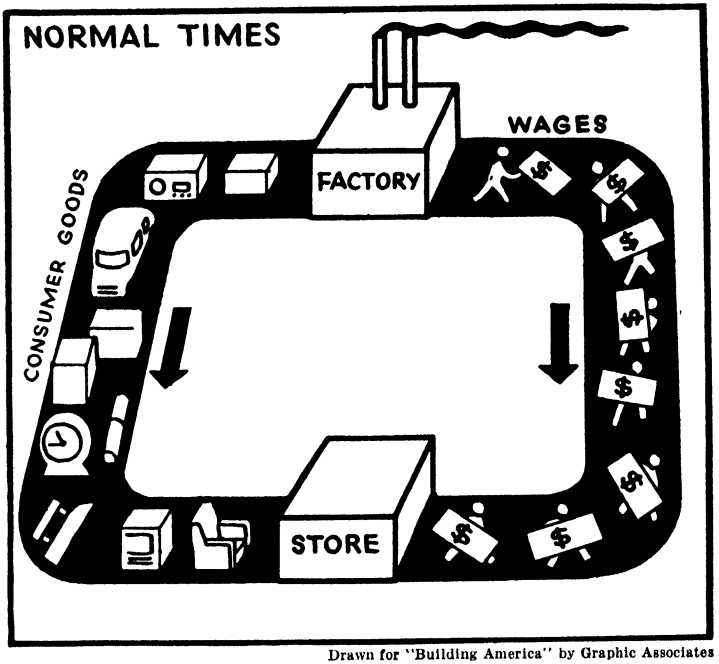


FIGURE 207 · *In normal times enough consumer goods are produced to meet normal needs*

of as deflation. Inflation and deflation are relative terms. A rise or fall in the price of one commodity, such as potatoes, would not represent a movement of inflation or deflation. As seen earlier, such a change might be caused by a scarcity or oversupply of potatoes. It is when there is a general rise or fall in practically all prices that the movement is spoken of as inflation or deflation.

Conditions Which Lead to Inflation and Deflation. Inflation has been called an undesirable increase in prices. It may be caused by a decrease in the supply of goods for people to purchase. For example, during a period of war many industries which formerly made such goods as refrigerators, radios, clothing, or automobiles are either taken over by the government or asked by the government to make war supplies. As a result there are fewer goods to sell to consumers. As goods become scarce, the people who have money are willing to

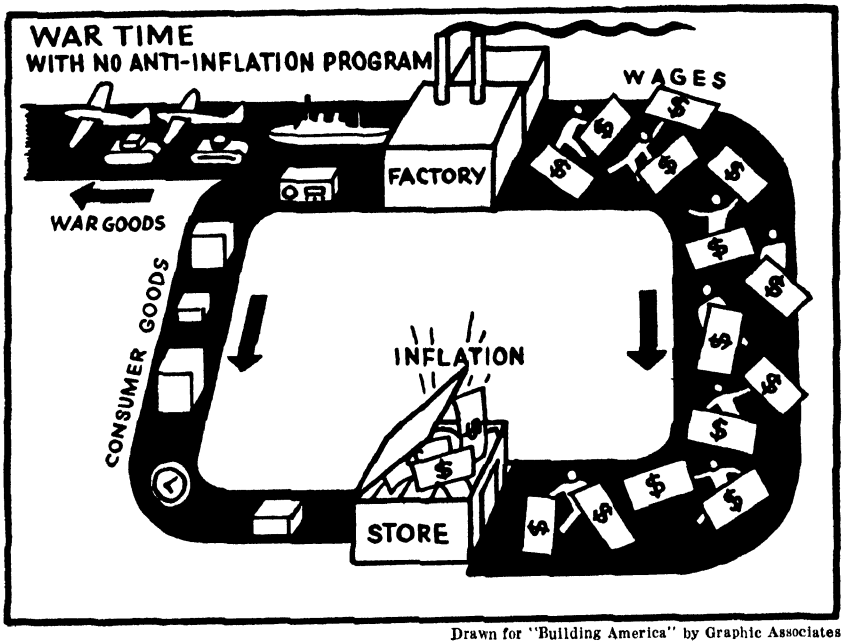


FIGURE 208 · *In a period of war, when there is more money in the hands of more people and there are fewer consumer goods to be purchased, inflation may arise*

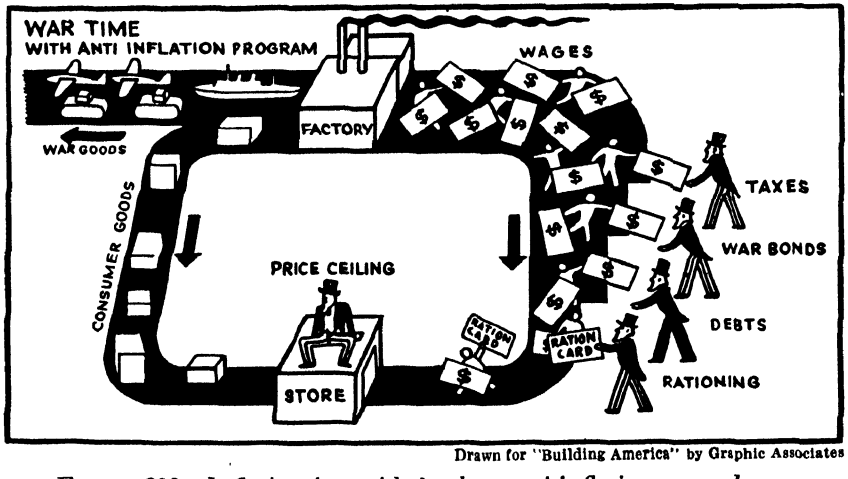


FIGURE 209 · *Inflation is avoided when anti-inflation controls are applied in time of war*

pay more for them. Thus buyers begin to compete with one another for scarce goods. This makes it possible for sellers to raise their prices and still sell all the goods which they have on hand.

Inflation may be caused also by an increase in available money and credit. There are a number of ways in which available money and credit may be increased. There have been times in our history when the money of the country was increased by printing-press money. For instance, during the Revolutionary War, the Continental Congress issued paper bills called continental bills. These were used to pay for the war. They did not have a sound backing, and they became so numerous that they lost considerable value. Soon the expression "not worth a continental" came into use.

At times credit may be expanded so much that it has the effect of bringing about inflation. During periods of prosperity businessmen want to expand their production or start new businesses, and banks and loan agencies are able to make profits by loaning them money. A period of prosperity seems to be assured. Credit is overexpanded. Thus the money and credit for the purchase of goods increases faster than the goods available for purchase. For example, if there were in this country just ten books for sale and only ten dollars with which to purchase them, the price of each book would be one dollar. But if the credit and money supply of the country were increased to twenty dollars and there were nothing to buy except the ten books, the price would increase to two dollars a book.

The national income may increase so that there is danger of inflation. In periods of business activity and expanding industries or in time of war there is little unemployment. People who formerly have been unemployed are at work and earning money. In a period of war large numbers of people are employed by the government and there is a large increase in the income received by the people of the country. Thus the national income is said to have increased. It has been estimated that the national income in the United States rose from seventy-six billion dollars in 1940 to about one hundred and thirty-five billion dollars in 1943. Meanwhile there was a decline in the number of consumer goods to be purchased. If efforts had not been made to check inflation, there would probably have been a great rise in prices.

Deflation has been defined as a disastrous fall in prices. This condition may come about in the following way. A period of infla-

tion causes industries to expand until they overproduce. They try to improve their production methods so that they do not have to employ so many workers, and the result is a large increase of consumer's goods and services without an increase in the amount of money and credit with which to purchase these goods. The producer must lower his prices. As prices fall, some producers go out of business, perhaps with a surplus of goods on hand. Prices are so low that many businesses cannot afford to produce. As industries stop production, more people are unemployed and the national income is lowered. Again prices must be lowered or consumers will not buy the goods on the market. The amount of money in circulation in the country has thus decreased faster than the supply of goods and services, and we say that the country has entered a period of deflation.

The Effects of Inflation. The attitude of any given person toward inflation depends on his financial condition. If he is a debtor he will probably favor inflation. Let us see why. Suppose you borrowed fifteen dollars from a friend a year ago. At that time, when prices were low, you could purchase twenty baseballs at seventy-five cents each with the fifteen dollars. Now the money has become inflated and consequently prices have risen. Baseballs are now selling for a dollar and a half each. You now pay back your fifteen-dollar debt, and since you are making higher wages, it is fairly easy to save the money. However, when you pay your friend the fifteen dollars which you owe him, he will be able to purchase only ten baseballs. You, the debtor, like this rise in prices, or inflation. What does your friend, the creditor, think about it? He gets back the same amount of money which he loaned, but he can purchase only half as many balls as he could have purchased at the time he loaned you the money. The creditor never likes inflation.

The Effects of Deflation. A person's attitude toward deflation also depends on his financial condition. If he is a debtor he does not like deflation. Suppose that you borrowed fifteen dollars from a friend a year ago when prices were high. You purchased ten baseballs for one dollar and a half each. During the year prices have fallen and baseballs are now selling for seventy-five cents each. Along with decreases in prices, the wages which you are receiving have been reduced, and so it takes longer to earn the fifteen dollars which you must pay back than it would have taken a year ago. When you pay your friend the fifteen dollars he is able to buy twenty balls. Your

friend, the creditor, likes deflation. The money he receives from his debtors will buy more than it would have bought at the time he loaned it.

Effects of Inflation and Deflation on Different Groups. Many people are both debtors and creditors. These people both gain and lose through any change in prices.

Some people live on a salary or wage which changes very little from year to year. Government employees and teachers come in this class. Some older people live on pensions, insurance, or the interest they receive from bonds. Their income is more or less fixed. These people are hurt by inflation. While their income does not change, prices do, and thus the number of commodities which they can buy is reduced. This same group of people is more favorably affected by deflation. As prices are lowered, their income buys more.

Many workers have their wages set for only short periods of time. With a rise in prices their wages will soon rise. With a lowering of prices their wages will be reduced. Inflation does not hurt them so much as it hurts the salaried worker. However, they are not helped by deflation, and they may be hurt by it. Their wages will probably be lowered, and in some cases the workers may be put out of work, because the demand for the goods which they are producing has decreased.

The effects of inflation or deflation on the businessman are somewhat dependent on the kind of business in which he is engaged. Is he producing or selling necessities or luxuries? Rising prices are advantageous to the businessman if he is careful not to overexpand his business. Lowering of prices may cause his business to fail. Perhaps he has a large stock of goods on hand which he has produced with raw material and labor purchased at high prices. He cannot sell the goods at a price which will cover his costs. Thus deflation may mean his failure.

For the time being, some people may be helped in inflation or deflation. It is usually true, however, that a period of inflation is followed by a period of deflation, and a period of deflation by a period of inflation. In the long run, a stable price level, and neither inflation nor deflation, benefits all consumers.

Control of Inflation. There are a number of ways by which governments have tried to control or prevent inflation. They have tried to reduce the money and credit which people have to spend; they

have tried to limit the goods which the individual consumer may buy; and they have tried to limit the prices which may be charged.

Money and credit have been limited in a number of ways. The government often reduces the amount of money which consumers have to spend by raising taxes. During World War II people were urged to invest in government bonds. In this way the amount of money which they had to spend upon consumer's goods was reduced. At times the government has limited the profits of certain groups of people. For example, property owners have been told that they may not raise the rents which they charge their tenants. You have seen that the government has limited installment buying and the length of time for which charge accounts may run under certain conditions. Debtors are often urged to pay their debts rather than purchase scarce commodities.

Governments have limited the goods which individual consumers may purchase. Often this has been done by means of rationing systems. The idea of the rationing system is to divide the available goods among all consumers so that each consumer may have his share. The fact that he has money to spend and is willing to pay more for the goods might lead him to offer higher prices, but under the rationing system the extra money does him no good. He may purchase only his share. In a period of emergency such as war, the government may rule that the individual consumer may not purchase certain kinds of goods which are reserved for the government for war purposes.

Governments have also limited the prices which may be charged for certain goods. When the government tells a merchant that he may not charge more than a certain price for a certain kind of goods, the government is said to have put a ceiling price on the commodity. Merchants do not have to charge the ceiling price, but they may charge no more than the ceiling price.

Control of Deflation. During a period of deflation prices are lowered, there is much unemployment, and some industries stop producing goods. Various attempts have been made by governments to prevent periods of deflation.

Governments have tried to check the lowering of wages. Often they have established minimum wages, which means that they set the lowest wage which employers may pay their workers. In some cases they have limited the number of hours which employers may require

their employees to work. In this way the employer has to hire more men, and so fewer workers are unemployed.

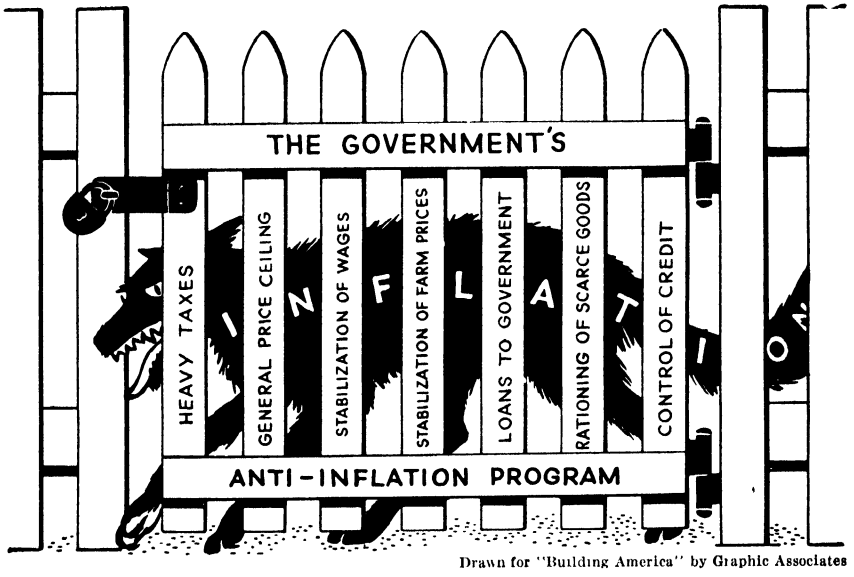


FIGURE 210 · *If the wolf, inflation, should break through any one of the pickets in this seven-point anti-inflation program fence, trouble would begin*

Various methods have been used to encourage men to produce more goods. In some countries interest rates have been lowered to encourage businessmen to borrow more money. Some governments have issued more money, hoping to raise prices. You will remember that if there is more money actually in use to buy commodities the price of the commodities usually rises.

The Consumer's Responsibility in Keeping Prices from Changing. The person who is really affected by changes in prices is the consumer. If prices change rapidly he never knows what his income will buy, and thus it becomes the responsibility of the consumer to help to prevent periods of inflation and deflation. What are some of the ways in which the consumer may help? If goods are rationed, he should follow the rationing rules gladly. If he does not need all the goods which he is able to buy, he should not buy them. If he limits his buying during a time of threatened inflation, he, with all the other consumers, can prevent prices from rising and therefore pre-

vent inflation. If he increases his buying during a period of deflation, when prices are low, he may stimulate the demand for goods and help to bring prices back to normal. This increase in prices will encourage businessmen to expand their factories and build new ones. It is therefore to the interest of the consumer as well as of the entire country to prevent inflation and deflation.

QUESTIONS TO ANSWER AND THINGS TO DO

1. How may the purchasing power of a country be determined?
2. How is the value of money determined?
3. Explain what is meant by a real wage.
4. Explain inflation and deflation.
5. What are some of the different causes which bring about inflation?
6. What is meant by the expression "national income"?
7. What causes deflation?
8. Are debtors and creditors helped or hurt by inflation and deflation?
9. List some of the groups of people who would be especially hurt by inflation.
10. Explain ways in which governments have tried to control inflation and deflation.
11. Explain the following terms: rationing, ceiling prices, minimum wages.

CHAPTER TWENTY-EIGHT · SERVICES OF GOVERNMENT

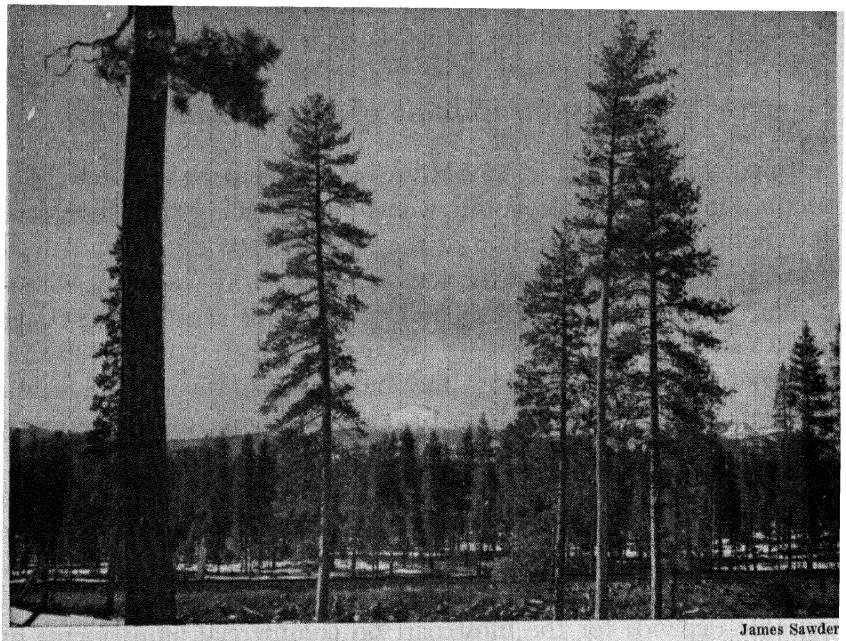
1. *Responsibilities of Government*

In colonial days the responsibilities of government were few. The people supplied their economic wants by producing their own food and clothing. The education of the children was begun by private tutors in the homes. Later the sons of the wealthy were sent abroad to study in the colleges of England. The people supplied their own devices for recreation, but they did look to their colonial governments for protection against the Indians. However, neither the colonial governments nor our first national government seriously affected the lives or activities of the people.

Increased Government Responsibilities in an Interdependent World. The picture today is quite different. Man does not separate himself from his neighbors, but is constantly working with them. He does not supply his own economic needs for either food or clothing. He depends for the most part on commercial amusements or some government agency to provide recreation. He depends on the government for the protection of his economic interests in this interdependent world, and he also depends on the government to perform for him many services which he cannot perform for himself.

Man's food and clothing are produced by distant manufacturing concerns, by farming co-operatives which specialize in the production of a single commodity, or by the farmers of some foreign country. How has all this changed the responsibility of government to the individual consumer? The government must protect the consumer in the quality of goods which he purchases. Also the government must see that goods are produced under conditions which are fair to all the people who produce similar goods. Thus the change in the type of business organizations on which man depends has increased government responsibilities.

It is said that the government performs for the citizen services which he cannot perform for himself. In the early days such services were few in number. For example, people soon began to depend on government agencies to carry their mail, but other than the post-office business there were few services in which our early government engaged. Today different units of government conduct several types

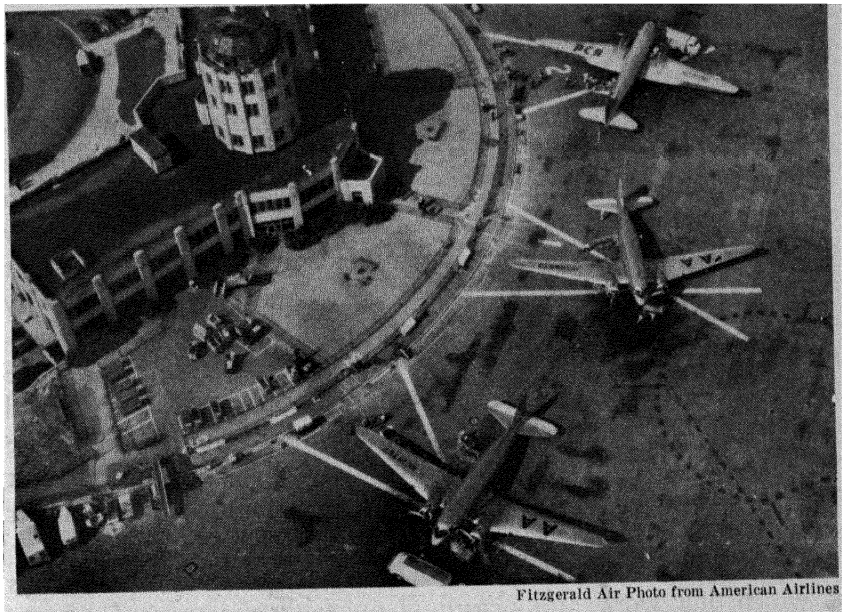


James Sawder

FIGURE 211 · *A national forest in the Cascade Mountains in Oregon.* There are more national forests in the West than in the East. Why?

of work. Some examples include: provisions for free education, the construction of irrigation projects, and management of national forests. Local governments often operate the public water works, the transportation system, and sewage-disposal plants. In fact, our life today has become so interdependent that there are many services which man cannot perform for himself and for which he must depend on the government.

Effects of Modern Inventions on Government Responsibilities. The automobile has enlarged the responsibilities of governments. It used to be true that each man spent a certain number of days working on the roads in his community. These men built roads which were quite passable for the stagecoaches and other horse-drawn vehicles, but the automobile owner of today wants the highways of his state and nation built and repaired by expert road builders and engineers. He demands safe and modern highways with "thru-ways," lanes for commercial vehicles, underpasses, and improved grade crossings. Such highways are planned by civil engineers. Thus governments—



Fitzgerald Air Photo from American Airlines

FIGURE 212 · *A view of the airport in Buffalo*

state, national, and local—have become the road builders. Also, states must protect the rights of the individual automobile owner to see that he is not endangered by careless drivers, and the highways must be patrolled by state police.

The airplane, also, is increasing the responsibility of both local and national governments. For example, the people of a city may petition that they be placed on the routes of the main commercial air lines. They want their city to have the most direct air connection with other communities and to be placed on the regular air-line schedules. The commercial air lines will not include such a city on their lines or among their stops unless the city provides a modern airport; so some city governments are building immense modern airports in order to attract the best commercial air service.

Today one of the questions occupying the nations of the world is who shall control the air lanes over a given country. Shall one nation have complete control of the air above its lands and keep the planes of other nations from flying over them during peacetime? Such questions will be settled in the future, but by the governments of the world rather than by individuals.

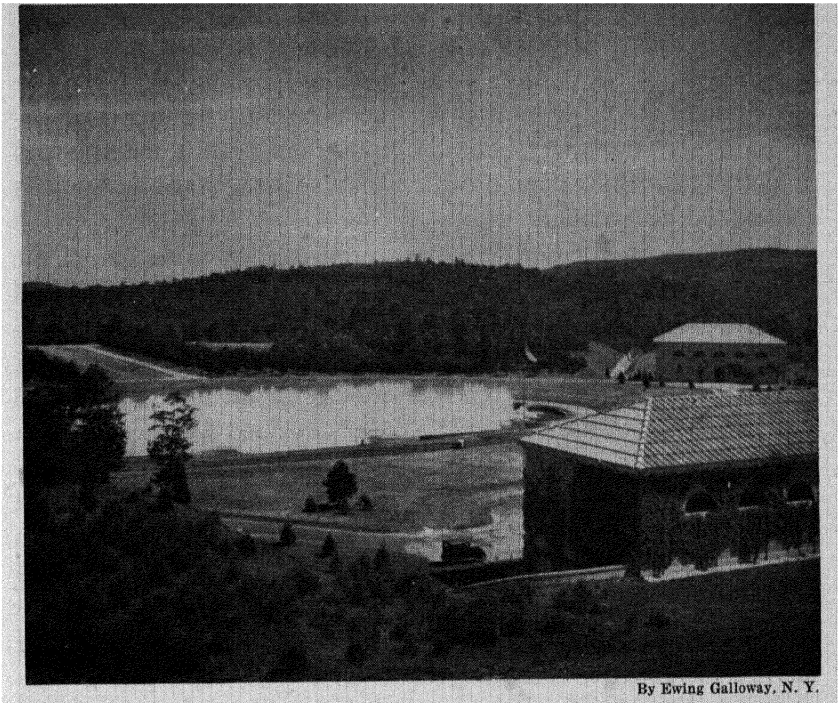
We might go on listing other inventions which have made men more dependent on one another. As this interdependence increases, man depends on governments for more protection and more services.

Changes in Community Life Have Increased Government Responsibilities. As more and more people have moved from rural to urban communities large cities have developed. People living in closely crowded cities need many kinds of protection not needed by the rural population of earlier times. For example, pure water must be provided, and the people of a closely crowded city community cannot depend on wells to supply their water. If the local government does not provide the water system itself, it must inspect the privately owned water system and see that the water is filtered and treated to protect the people of the community against diseases. The state and local health authorities must protect the residents against the spread of contagious diseases, and the city must provide proper garbage and sewage disposal.

In many cities laborers have crowded around the industrial plants in which they work, and as a result unhealthful congested districts have developed. Recently both local and national governments have become interested in improving the living conditions of these city dwellers. They have tried to do away with the tenement sections of our cities which have become centers of crime and disease.

As cities grow and people move farther from their places of work, it becomes more and more important that they have good transportation facilities. In some cities the government itself has gone into the business of providing such transportation. In other cities streetcar and bus systems provided by private companies are subject to regulations of local or state governments.

In the unit on world trade you learned how modern communications and cultural relations, as well as the exchange of goods and services, have brought the nations of the world closer together. The closer relations between nations have increased the responsibilities of the governments of the nations. For instance, can the United States government give financial aid to the ship lines so that they will be able to carry the goods made in the United States as cheaply as the ships of foreign countries do? Latin American countries want to advertise their coffee over the United States radio networks. The United States manufacturer of automobiles or farming machinery wants his advertisements to be heard in the countries of South



By Ewing Galloway, N. Y.

FIGURE 213 · *This large artificial lake, or reservoir, in the Catskill Mountains supplies New York City with millions of gallons of water every day*

America. The United States government wants to get our radio broadcasting companies to co-operate with the companies of Latin America in so adjusting their broadcasting frequencies that the programs of the countries may be exchanged. It becomes the responsibility of the United States government to adjust its trade agreements with other countries so that the United States may gain the good will of those countries without sacrificing the interests of the manufacturer and producer of agricultural products in the United States.

We might justly conclude that the interdependence of modern life has increased remarkably the services which must be rendered by both local and national governments. A government must provide its people with many new kinds of protection and must perform many new kinds of services for them.

2. *Kinds of Services*

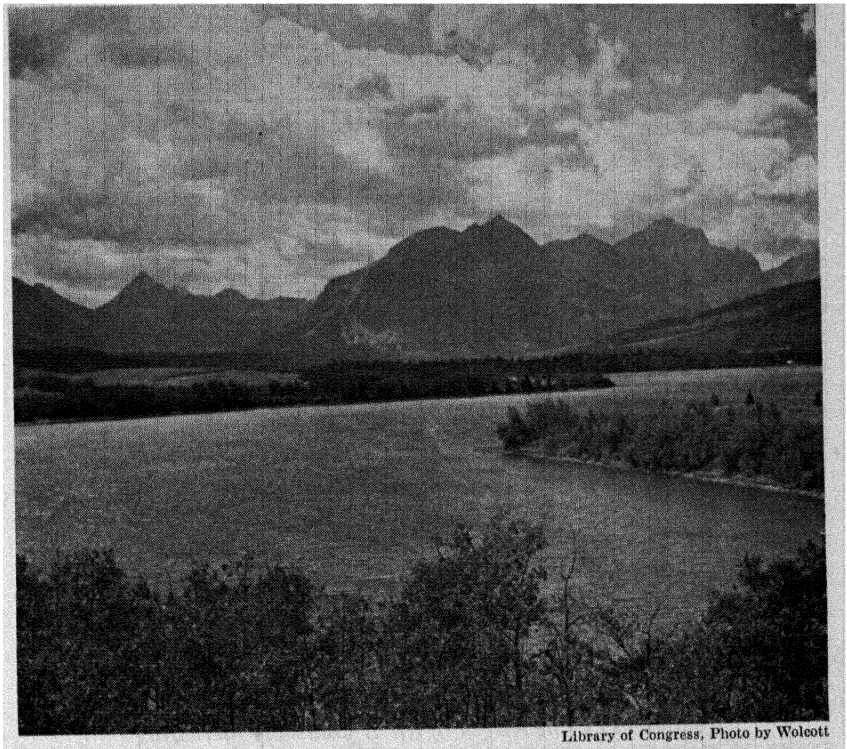
National, state, and local governments perform a number of different kinds of services. For example, they protect the life and property of the individual, provide for his social welfare, and protect and extend his economic rights.

Protection of Life and Property. From earliest times one of the main functions of a government has been to protect the life and property of individual citizens. The national government accomplishes this through the different branches of the armed forces. During periods of war this is an enormous expense, but, nevertheless, it is a service which all agree should be provided with the greatest care regardless of expense.

It has also been the duty of a government to protect the lives and property of its citizens from criminals within the country. For this purpose our national government has the Department of Justice and the Federal Bureau of Investigation, the states have their departments of justice and state police, and the local governments have their sheriffs, local police, and detectives.

Social Welfare. Provision for the social welfare of people is one of the government services which has been much expanded in recent years. Some of the important functions of this type of government service are the provision of educational and recreational facilities, health protection, and the provision of social security.

Education. Man has come to look upon the provision of educational and recreational facilities as a function of government. Education is primarily a function of the state, but even so both national and local governments are also concerned with education. Public education began with an attempt to provide education for children whose parents were unable to send them to private schools. It has grown until it is now the backbone of the educational facilities of the nation. Each state controls its own educational system by regulating courses of study, qualifications of teachers, and attendance laws. The money for the support of schools is provided largely by local funds, although some contributions are made by state and national governments. Local governments provide public libraries, museums, and art galleries. Thus they improve the educational opportunities offered to their residents.



Library of Congress, Photo by Wolcott

FIGURE 214 · *Glacier National Park, one of the "playgrounds of the nation"*

Recreation. Governments also provide facilities for the recreation of their people. Our country has many great national parks such as Yellowstone, Yosemite, and Grand Canyon. These have been called the "playgrounds of the nation." States, counties, and cities likewise have their government-supported parks. Local communities make various provisions for recreation, such as museums, zoölogical gardens, stadiums, and organized playgrounds.

Health. Local governments are especially interested in the protection of the health of their communities. Housing programs and control of contagious diseases have been mentioned. In addition, many communities have slum-clearance programs, systems of public-health nursing, clinics, and dispensaries.

Social Security. A newer field of government activity is that of social security. Until rather recent years social-security legislation was considered the field of the state and local governments. The state has

had workmen's compensation laws, labor laws regulating the conditions of women and children working in industry, and laws regu-

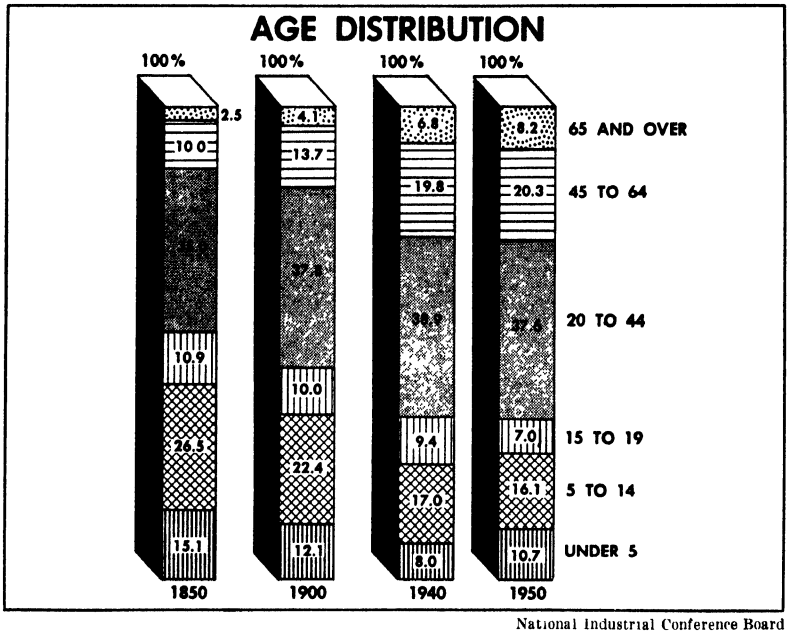


FIGURE 215 · *The length of life is gradually increasing*

lating the hours of work and the minimum wages which must be paid in certain industries. The local community has provided financial aid for the poor and medical aid for the sick through its welfare department. Recently, however, the national government has assumed the responsibility of passing social-security laws. The national program of social security makes provision for old-age insurance, unemployment insurance, and assistance for various groups of the needy.

Under the old-age-insurance plan, workers in most industries receive a monthly income varying from fifteen to one hundred and fifty dollars when they reach the age of sixty-five. The fund which makes possible the payment of this income is accumulated by a tax paid on the wages of the worker. The worker pays into the fund one and one half per cent of his wages, and his employer pays an equal amount. As it becomes necessary, the amount paid into the fund may be increased. Thus the national government builds a fund from which older people who meet the qualifications may secure

an independent income. An amendment to the act allows self-employed people who meet the requirements to receive old-age and survivors' insurance also. One of the reasons for the Social Security Act is the fact that our people are living longer than they did fifty years ago; and that the percentage of our people who are sixty-five years of age or more is therefore much larger than it was in former years.

The Social Security Act also makes provision for helping the states to care for various groups, such as aged dependent persons, who could not be covered by the old-age insurance; dependent children; dependent mothers with children; the blind; and the physically handicapped. As soon as states pass laws to care for these groups, the national government apportions some money to the states to help to make payments to these people.

Unemployment-insurance laws have been passed in all the states as a result of the encouragement of the United States government through its Social Security Act. Under this act the national government placed a tax upon employers, and with the revenue that was gained from this tax it created a fund from which it made payments to states which passed unemployment-insurance acts. Under these state laws workers who become unemployed through no fault of their own are paid unemployment benefits for a certain number of weeks while they are unemployed.

Protection and the Extension of Man's Economic Rights. Finally, the national government helps to protect and extend the economic rights of the individual. It does this through the regulation of certain economic agencies, special economic services which it performs, and the protection of certain economic groups.

Regulation of Economic Agencies. Government regulation of economic agencies has become very important as our economic life has become more complicated. You have studied a number of these regulations. You may not realize, however, in how many ways the national government protects you until the functions of some of its agencies are summarized. For example, it protects you, as a consumer, through its Pure Food Laws and its laws against false advertising. It protects you, as a bank depositor, through the Federal Deposit Insurance Corporation. It protects you, as a traveler, against unfair railway and bus rates, through its Interstate Commerce Commission. It protects you, as a farmer or shipper, through the regular

weather reports which its Weather Bureau issues. It protects you, as an inventor, through the patents which it issues to you. It protects you, as an author, through the copyright which it gives you. These are only a few examples of the kinds of protection which are given you by the national government. It may be said that the national government is increasing your economic freedom and protecting your economic rights by such services as these, and at the same time it is keeping various businesses from interfering with your rights as an individual.

Economic Services of Government. Different units of government perform different services for the people. For instance, the national government carries our mail, provides us with a money system, and builds dams for flood control and for irrigation projects. Both state and national governments build roads. Among the economic services of local governments are the construction of streets, and the building and maintenance of schools, libraries, and museums.

Protection of Certain Economic Groups. More recently the national government has assumed the responsibility of helping or protecting certain groups of people. Attempts to aid the farmer have included a number of different plans. The Department of Agriculture, for instance, furnishes farmers with information through various bulletins. Farmers have been urged to use certain plans of soil conservation to improve the land. When prices have been low, the government has given farmers subsidies on their crops, and during depression periods farmers have been paid for reducing production. At times farmers have been deferred from military service to assure continued production of the country's food supply. State governments have created experiment stations to advise farmers on special problems, while state agricultural colleges have given free courses in agriculture to citizens of their states.

In an earlier chapter the special aid which the national government has given to cities for slum clearance through its housing program was mentioned. Likewise, the national government has helped unfortunate farmers whose land was very poor to move to better land. It has tried to improve their housing conditions, as well as those of city dwellers, by loaning money to encourage the building of better homes for rural people.

In recent years the national government has passed various laws to help labor groups. Formerly labor legislation was considered a

Soil Conservation Service

FIGURE 216 · *Strip cropping is one of the ways by which the government has taught farmers to conserve their soil*

function of states. The great depression of the nineteen-thirties, however, centered the attention of the national government on labor. Laws were passed regulating hours of work and setting the lowest wage which employers might pay their workers. These regulations applied only to workers engaged in interstate commerce or producing goods for interstate commerce because the national government cannot legislate on purely state functions. Legislation was also passed which made it possible for laborers to join the labor union which they desired. If a majority of the workers in a given factory joined a labor union, it was necessary for the employer to make agreements with the union rather than with the individual worker.

Summary. Thus government services have been expanded and the responsibilities assumed by governments have increased. Many

Monkmeyer Press Photo Service

FIGURE 217 · *The town of Greenbelt, Maryland, was built as a government project and sold to the Greenbelt Veterans Housing Corporation.* This view from the shopping center shows two housing units and the movie house

of these new government services are favored by all people. Some people, however, think that the national government has gained too much power through such services; and still others think that the services of the national government should be extended into more fields of activity. What do you think? Why?

QUESTIONS TO ANSWER AND THINGS TO DO

1. Explain some of the reasons for governments' increasing their services within recent years.

2. Outline the different kinds of protection provided by the Social Security Act.

3. What are some of the ways in which governments protect the individual from business organizations which might interfere with his rights?

4. Some governments may be said to have gone into business themselves. Explain this statement and give examples to prove that it is true.

5. Give examples of problems, formerly considered state problems, upon which the national government has recently passed laws.

3. *Financing Government Services*

Increasing Costs of Government Services. Everyone must realize the tremendous increase in the costs of government in recent years. This is partly a result of the increase in government services which you have been studying, and partly the result of the fact that the various units of government were forced to undertake large responsibilities for relief during the depression years. In the prewar year of 1940 the national government expenditures amounted to over $9,500,000,000. The great costs of World War II made those of all previous wars seem trifling by comparison. In 1944, Congress raised the national debt limit (the amount which the government may borrow) to $260,000,000,000. By June, 1946, the debt had reached $269,000,000,000. Since then, because of the continued demand for military preparedness and the costs of the Korean war, the national debt has remained high. In 1952, it amounted to about $260,000,000,000, or approximately $1690 for every person in the United States.

Financing Government Services through Taxation. Government services must be financed by taxation or by borrowing money which will have to be paid back later with money collected by taxation. In learning about taxation we are going to study the different principles of taxation, the methods of payment, and the different kinds of taxes. The most common theories of taxation are the ability-to-pay theory and the benefit theory. Let us see just what is meant by each of these. Then you can decide which you think is better.

The Ability-to-Pay Theory. With a tax based on the ability to pay, the person having the most money pays the highest tax. It used to be said that the property tax on real estate is based on ability to pay because the owner pays a definite tax on the valuation of his property; that is, the person who owns the more valuable property pays the larger tax. In earlier days property ownership was one measure of a person's wealth. Today, however, there are many other ways in which a person may invest his money besides buying real estate. He may have placed his money in a savings-bank account, have purchased stocks or bonds, or have invested in some kind of insurance. Many people oppose the property tax because they feel that the property owner may be less able to pay large taxes than the person who has invested his money in some other way.

Perhaps the income tax is more truly based on the ability-to-pay theory, for in the case of this tax the person with the larger income pays the higher tax. Most income-tax laws contain a provision that the person with a very low income shall pay no income tax, and most of them increase the rate of the tax for people having higher incomes. Besides the normal tax, the Federal income-tax law now imposes a surtax (extra tax) on higher incomes.

The Benefit Theory. This theory is based on the belief that people should pay taxes according to the benefits which they receive from the government. Thus we might say that gasoline and automobile taxes are based on the benefit theory, for the motorist receives benefit in the nature of roads built by the state or national government.

Most students of taxation favor taxes based on the ability-to-pay theory. Which theory do you prefer? Why?

Direct and Indirect Taxes. Some taxes are paid directly to the government. The person who pays a tax on real estate pays it directly to his local government, and the person who pays a Federal income tax pays it directly to the nearest branch of the Bureau of Internal Revenue of the national government.

Indirect taxes, which yield a large amount of money, are taxes which are not paid directly to a unit of government. They are paid to someone else (a middleman), who pays them to the government. For example, a gasoline tax is not paid directly to the state or national government but to a gasoline dealer, who, in turn, pays the state or national government. One of the indirect taxes is the sales tax, which is a tax placed on goods at the time of their sale. Some cities and states have general sales taxes, which are taxes paid by consumers on all the goods they buy. Such taxes consist of a charge of one or two cents on each dollar's worth of goods purchased. The merchant collects the tax and turns it over to the state or local government.

Some people favor direct taxes, for they believe that they owe a direct responsibility to the government, and if they pay a direct tax they know just what they are contributing. The indirect tax has sometimes been called a painless tax, for it is collected by the merchant, the gasoline dealer, or the owner of the motion-picture house, and may be paid without the taxpayer realizing it.

National Taxes. The taxes from which the national government gains most of its revenue are excise taxes, income taxes, inheritance taxes, and customs duties collected on imported goods.

An *excise tax* is an indirect tax on goods produced and sold within the country. Such a tax is placed on tobacco, gasoline, amusements,

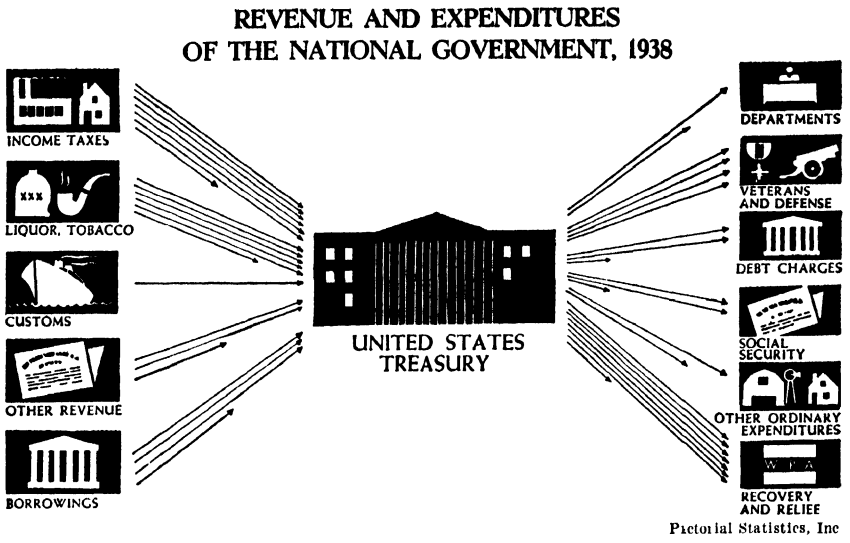


FIGURE 218 · *Revenues and expenditures of the national government in a normal peacetime year*

and various luxuries. By raising the rates on taxed goods or including new goods on the list of those taxed, a unit of government may secure considerable revenue.

Income Tax. Reference has already been made to the income tax, which yields a larger amount of national revenue than any other tax. The national government taxes both personal and corporation incomes with this tax, which is a direct tax paid by the individual to the government and based on ability to pay. Most income taxes recognize the ability of the taxpayer to pay in a number of ways. For example, they provide a personal exemption (an amount which is not taxed) which makes it unnecessary for people with very low incomes to pay any tax. The personal exemption depends on the financial responsibilities of the taxpayer. The head of a family is allowed a personal exemption larger than that of a single person. A taxpayer is allowed an additional exemption for each person who is dependent on him for support.

Economists call the national income tax a graduated tax. By this they mean that the tax rate increases as the income of the taxpayer

increases. Each person pays a normal tax. In addition to this normal tax, persons receiving higher incomes pay a surtax. This means that people receiving higher incomes pay a larger tax because the government believes that they are more able to pay. In 1952 the national income tax rate was 22.2 per cent upon the first $2000 of taxable income. Upon the higher incomes the rate increased to 92 per cent upon any additional income over $200,000 for a single person, or over $300,000 for the head of a household. Thus the national income tax is truly based on the ability-to-pay theory.

The *inheritance tax*, sometimes called the estate and gift tax, is used by the national government. It is also based on the ability-to-pay theory, for the rate increases as the amount of the inheritance or gift increases.

Customs Duties. The national government is the only unit of government allowed to collect customs duties. The United States tariff laws make provision for these duties, which are taxes paid by people who import certain foreign goods. From the unit on world trade you will remember that many tariff laws have been passed to protect the manufacturer in the United States by keeping foreign goods out of the country. Tariff duties which keep goods out of the country, however, do not bring money into the United States Treasury. Thus a smaller amount of money is usually collected by the national government through its customs duties than through the other taxes we have studied.

State Taxes. State governments depend on income taxes, excise taxes, and inheritance taxes for revenue. Some states use various types of sales taxes. The use of the sales tax has caused much lively debate. Some persons favor a general sales tax on all sales because they say that it is easy to collect a large amount of money in this way. Although this is true, many persons oppose it because it bears most heavily on the people least able to pay. If a state had a 2 per cent sales tax, each family with a low income would pay two cents on each dollar's worth of goods bought, and each family with a large income would also pay two cents on each dollar's worth of goods bought. A family with an annual income of two thousand dollars feels a tax of two cents on a dollar's purchase more than does a family with an annual income of fifty thousand dollars.

There are other kinds of taxes used by various states. Most states, however, secure the greater part of their revenue from the

income tax (personal and corporation), the excise tax, and the inheritance tax. *See Figure 219.*

REVENUE AND EXPENDITURES OF STATE GOVERNMENTS

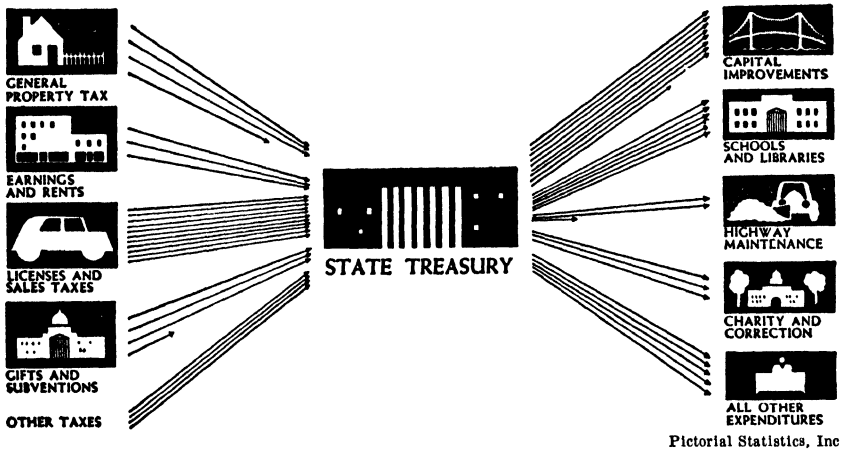


FIGURE 219 · *State governments also depend on various taxes for their revenue*

Local Taxes (City, Town, and County). Local governments depend for their revenue largely on a property tax on real estate, which can be adjusted so that it will yield as much money as a community needs. Through its budget the community council estimates the amount of money needed for the year. It knows the value of the property in the community, for the assessors have placed a value on each owner's land and buildings. With this information at hand, the budget director of a local community is able to determine the rate of the property tax for a given year. For instance, suppose that he finds that $100,000 is needed for that year. He knows that the total value of the property in the community is $5,000,000. He divides the $100,000 (the money needed) by the $5,000,000 (the valuation of the property) and finds that the tax rate is two cents on a dollar. If a piece of property is valued at $5,000, the owner will pay a tax of $100—that is, the valuation of the property multiplied by the tax rate. *See Figure 220.*

Each unit of government collects money from several different sources. An attempt has been made, however, to study those taxes

on which different units of government are most dependent, and to find out which of them yield the largest amounts of revenue.

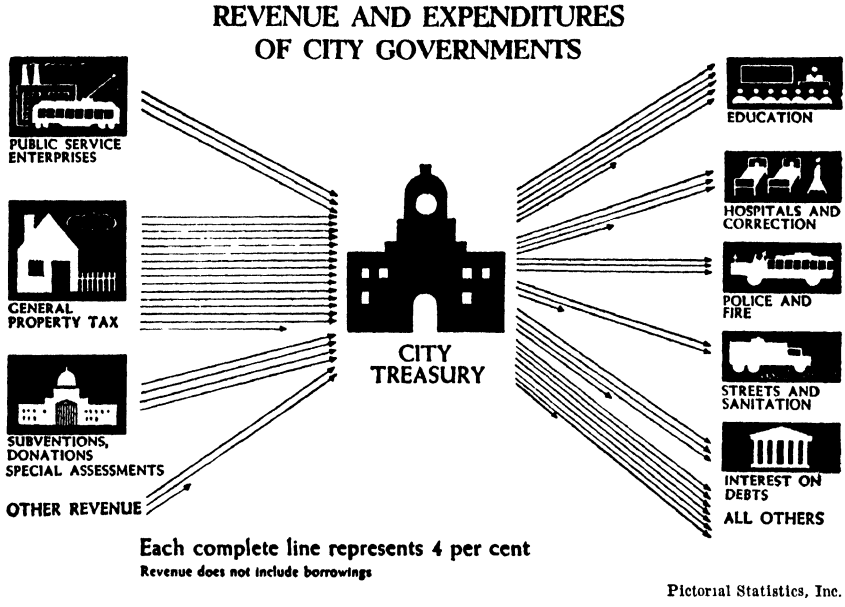


FIGURE 220 · *How the cities collect and disburse their income*

Financing Government Service through Borrowing. There are many occasions upon which governments have found it necessary to borrow money. Loans made to governments, however, are not a source of permanent revenue, for the government has to pay its debts just as the individual does. The people are the government, and therefore in the long run the people will have to pay taxes to the government so that it can pay its creditors. The government often borrows money by selling bonds. Most people wish to help all they can in the necessary activities of their government, and so they are glad to purchase these bonds. Moreover, a government bond is a good investment because the government pays its debts. It pays the interest which it promises for the use of the money, and it will buy back the bond if the purchaser finds it necessary to sell it.

Governments find it wise to borrow money for improvements which will benefit the people of the future. For instance, your community may build a new school building. For many years to come

children will enjoy the use of that building. The local government believes that it is justified in selling bonds to raise money to build the school. The taxpayers for the next five, ten, fifteen, or twenty years will have to pay taxes in order to pay back the bondholders. However, the children of those same taxpayers will benefit from the school building.

The national government borrows the most money during a period of war or some great emergency. During World War II the United States debt increased in one year (June 30, 1942, to June 30, 1943) from about $72,500,000,000 to over $136,000,000,000. At the same time the national income tax and the excise taxes were increased. It would have been impossible to increase taxes enough to prevent an increase in the national debt, and even if possible, it would not have been wise. No war is fought for the benefit of the people of one generation alone. The solution of the difficulties which a war attempts to solve has its effect on later generations, and hence they should help to pay for it.

Borrowing money (selling bonds) delays the payment of a debt to some future time. It makes it possible for a government to share its burden with future generations. Most people discourage the borrowing of money by governments when it is possible for them to meet their present expenses through taxation. For long-time improvements and emergency expenses, however, borrowing is essential.

QUESTIONS TO ANSWER AND THINGS TO DO

1. Explain the benefit and ability-to-pay theories of taxation.

2. Explain these terms: direct tax, indirect tax, sales tax, excise tax.

3. List and explain the nature of the taxes on which the national government depends for most of its revenue.

4. What are the taxes most commonly used by states?

5. What units of government use the property tax? What are some of the advantages and disadvantages of this tax?

6. Under what conditions is it wise for a unit of government to sell bonds?

NOTE. Additional problems and activities and a list of reference readings for Unit V are given on pages 498–502 of the Appendix.

VI · WORK AND WORKERS IN OUR ECONOMIC WORLD

CHAPTER TWENTY-NINE
OCCUPATIONAL AND EDUCATIONAL OPPORTUNITIES IN OUR ECONOMIC WORLD

1. *Occupational Opportunities*

Variety of Occupational Opportunities. The occupational opportunities which your great-grandfather faced when he was a boy were very few as compared with the opportunities which you have today. If he lived on a farm, in all probability he followed the vocation of his father. The country then depended largely upon agriculture. If he did not want to work on his father's farm or follow some other occupation in which his father was engaged, he might have worked in the country store. If he were especially ambitious, he might have gone to a school of higher learning and studied for one of the professions—law, medicine, the ministry, or teaching. His task of deciding what vocation he would follow was not a difficult one, for the fields which he might enter were very few.

Numerous changes have taken place during the past seventy-five years. For instance, today manufacturing, not agriculture, is the industry employing the largest number of workers. The market of the farmer and the industrialist is not just the local community, but the world, and thus large numbers of people are employed in transporting and selling goods. In 1870 only 25.7 per cent of the people of the United States lived in cities having a population of 2500 or more. Since then, however, there has been a movement of the rural population into the cities. According to the 1950 census two thirds of the people of the United States were living in urban communities of 2500 or more or in urban-fringe areas of metropolitan centers. You have seen the many ways in which man has come to depend upon others to satisfy his wants. These are a few of the many changes which have opened new vocational fields and new kinds of occupations to the young people of today.

What are the different occupations followed by the people of the United States? New inventions and scientific research are creating new occupations constantly. To keep a list of occupations up to date we should have to watch the inventions and new types of work being developed within old industries all the time. Various studies differ as to the number of occupations followed in the United States.

Authorities estimate that there are between 18,000 and 22,000 different occupations. The Bureau of the Census classifies these occupations as follows:

1. Professional and semiprofessional
2. Farmers and farm managers
3. Proprietors, managers, and officials, except farmers
4. Clerical, sales, and kindred workers
5. Craftsmen, foremen, and kindred workers
6. Operatives and kindred workers
7. Domestic service workers
8. Protective service workers
9. Service workers, except domestic and protective
10. Farm laborers and foremen
11. Laborers, except farm and mine
12. Occupation not reported

It should interest you to know how many different occupations there are today, and to see how they are classified according to their general type. Naturally many of them will not appeal to you as a vocation, but some will arouse your interest. See Appendix, pages 506–508.

Different Industries. Not so long ago the most important industry in the United States was agriculture. Now, as a result of the many new industries which have been developed and many old ones which have been expanded, it is manufacturing. This change is due to the growth of our cities and the consequent increase in markets, and to the more extensive use of machinery and new inventions. Each of the newer industrial fields offers opportunities for younger workers to follow the new vocations which have developed within that field.

The Bureau of the Census lists the main industries in the United States as:

1. Agriculture, forestry, and fishery
2. Mining
3. Construction
4. Manufacturing
5. Transportation, communication, and other public utilities
6. Wholesale and retail trade
7. Finance, insurance, and real estate

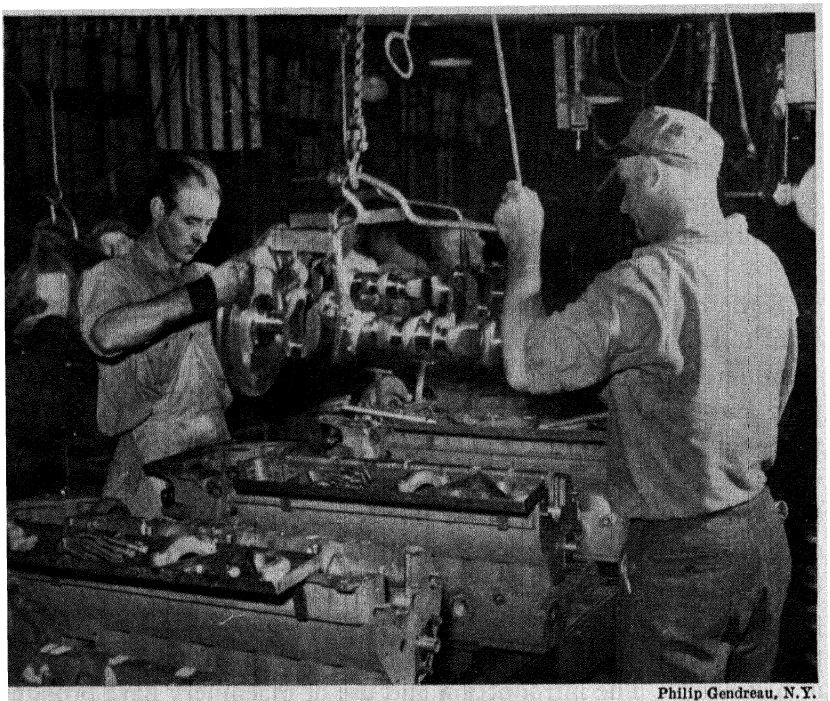
8. Services:
   a. Business and repair services
   b. Personal services
   c. Amusement, recreation, and related services
   d. Professional and related services
9. Government
10. Industry not reported

Some of the above industries will appeal to you, and you will want to study the opportunities which they offer.

Different Labor Groups. Although about three fourths of the people in the United States were engaged in agriculture seventy-five years ago, others owned factories, industrial establishments, or private businesses. The conditions in these businesses were very different from the conditions which we face today. For example, in many cases the owner of a store was also the only clerk. The owner of a factory personally inspected the work of his employees. The employees were required to show a certain amount of skill at their particular tasks because industries depended upon a large amount of handwork. The introduction and use of machinery have brought many changes in the working conditions which we find in factories. Many small businesses have disappeared and larger ones have developed. The store owner employs salesmen, buyers, managers, delivery men, advertisers and credit men to help to carry on the business of his establishment. The factory owner has so many employees that it is impossible for him to know each of them personally. Much handwork has been replaced by machine work, and many workers are tenders of machines rather than skilled craftsmen.

These changes have had the effect of classifying workers into different groups. The largest of these groups is the great body of unskilled laborers who work under the supervision of employers or foremen. They perform definite tasks assigned to them, which do not demand a great amount of skill. As workers they do not have to assume any of the responsibility which the owners or managers assume.

Above the unskilled worker in rank is the group of semiskilled workers. They may be engaged in tasks which demand some mechanical ability. Probably they have passed through a period of training or apprenticeship. *See Figure 221.*



Philip Gendreau, N.Y.

FIGURE 221 · *Semiskilled workers assembling part of a motor in an automobile factory*

Above these in the labor scale is the group of skilled laborers or craftsmen. The use of machinery has thrown some craftsmen out of work. Machine-made goods have brought changes in the trades of the dressmaker and the tailor. However, many skilled craftsmen still find a market for their services. Among these skilled workers are paper hangers, carpenters, electricians, bricklayers, and plumbers.

As businesses have grown, business managers have become important. Many people are now engaged in the field of management. Business managers are responsible to the owners, consumers, and employees for the running of a business, and they usually have been trained in business methods.

A number of people are always found in the professions. In this group, training is required to master the skills and specialized work needed in a profession.

At the top of the labor pyramid is the small group of people who

are the owners and proprietors of businesses. As a rule they possess both business ability and capital.

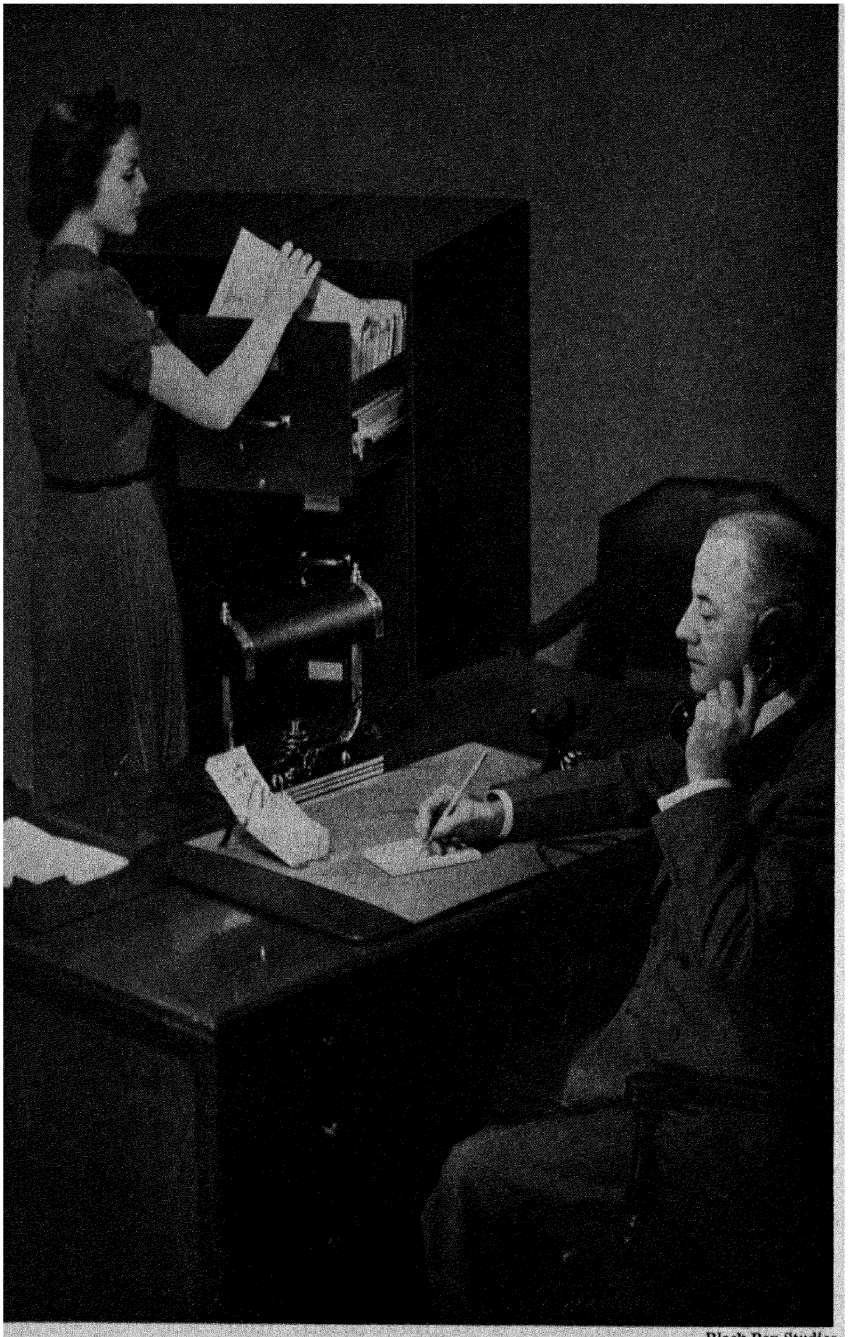
Thus the worker in the United States may be an unskilled worker, a semiskilled worker, a skilled worker or craftsman, or a business manager. He may follow one of the professions, or he may be among the owners and proprietors of modern industry.

Recent Trends in Occupations. Man is living in an age of change. People speak of the Oil Age, the Automobile Age, the Electric Age, and the Air Age. These expressions merely indicate that the use of oil, the automobile, electricity, or the airplane has so influenced the conditions of the time that people think of the age as controlled by these different factors. As new inventions come into use, old occupations may cease to exist and new ones may be developed. It is impossible to predict what occupations will continue to be important. In studying present-day life, however, we can discover general tendencies or trends. Reference has already been made to the fact that machinery has destroyed the occupations of some craftsmen, many of whom have become machine-tenders rather than skilled workers.

What are some of the general occupational trends? Various units of government are employing more people, and there appears to be an increasing demand for workers in the fields of construction and building. For a number of years there has been an increase in the demand for service workers, and large numbers of workers have been demanded in the fields of communication and transportation. Also research and scientific work are opening new fields which provide occupational opportunities.

Government Service. The number of people employed by the United States government increased from 588,000 in June, 1930, to 2,490,000 in June, 1951. This includes those persons regularly listed as civil servants, those not in military or naval service, and those not in our legislative or judicial branches of government. The national government has extended its work into many new fields during recent years. As our life has become more complex it has been necessary for the government to regulate many more activities of both individuals and business organizations. The government has begun to perform many services which people formerly performed for themselves.

The national government offers employment in many fields of work. For instance, in the clerical field it employs bookkeepers,



Black Box Studios

FIGURE 222 · *Secretaries and file clerks in government offices hold responsible positions*

machine operators, accountants, auditors, clerks, and typists. It employs such craftsmen as machinists and toolmakers. Among the semiprofessional workers employed by the government are draftsmen, library assistants, and public-health nurses. A large number of professional workers are on the government payroll as chemists, engineers, economists, and statisticians. Local governments are also employing more civil-service workers. The particular government positions available to you will depend upon conditions in your local community.

Construction and Building Trades. As individuals, businesses, and the government recovered from World War II and were able to put into effect the many building programs which it had interrupted, there was an increasing demand for the work of architects, engineers, draftsmen, carpenters, electricians, plumbers, and bricklayers. People had saved money with which to pay construction costs. Large numbers of new homes were needed in the cities which had been crowded with defense workers. Many city dwellers wished to build homes in nearby suburbs. Businessmen expanded their plants. Various units of the government carried out all kinds of government construction projects.

Service Trades. Recent years have seen a growth in the demand for the service trades. You depend upon others to do for you many things which your grandparents did for themselves. For example, you use the services of the central laundry, the dry-cleaning establishment, the baker, the barber, the beautician, the elevator operator, and the gas-station attendant. Thus we see that as more machinery is developed and as more airplanes and automobiles are put into use, there is an increased demand for maintenance and repair men. As the standard of living in the United States has been raised, the demand for professional services has increased. The percentage of people employed in the professions has been doubled since 1870.

Opportunities for the statistician have been enlarged within recent years. Private concerns know the importance of improving their business methods in order to compete more successfully with others. Government agencies are engaged in so many new kinds of work that they have to depend upon large numbers of statisticians.

Communication and Transportation. The fields of communication and transportation have expanded during recent years. The radio, transoceanic telephone, and television are all opening new

By Ewing Galloway, N. Y.

FIGURE 223 · *Bricklayers are one of the important groups of specialized workers engaged in the building trades*

occupational fields. Transportation has probably provided employment for more workers than communication, for the producer must have methods of distributing his goods to his expanding market. People travel extensively for business purposes and pleasure. Thus motor vehicles and airplanes have offered new vocational opportunities in the transportation field.

New Fields Opened by Research and Science. The fields of research and scientific development are constantly changing the occupational picture of the country. Governments and private industry employ large numbers of people in their research departments. Scientific developments often result in the starting of new industries. Some of the more recent developments have led to the expanding use of plastics and rayon, the extensive use of refrigeration and air conditioning, and the process of dehydration. These new processes are opening many occupational fields, but how long they will continue to be expanding fields is uncertain. Newer inventions may take their places and create new occupations of their own. The automobile transferred the work of the local livery stable and the

work of the blacksmith to the garage and welding shop. We cannot look into the future and see what will happen in the field of inventions, but we can study new inventions and try to understand the changes which they are likely to make in the occupational pattern of the community and the nation.

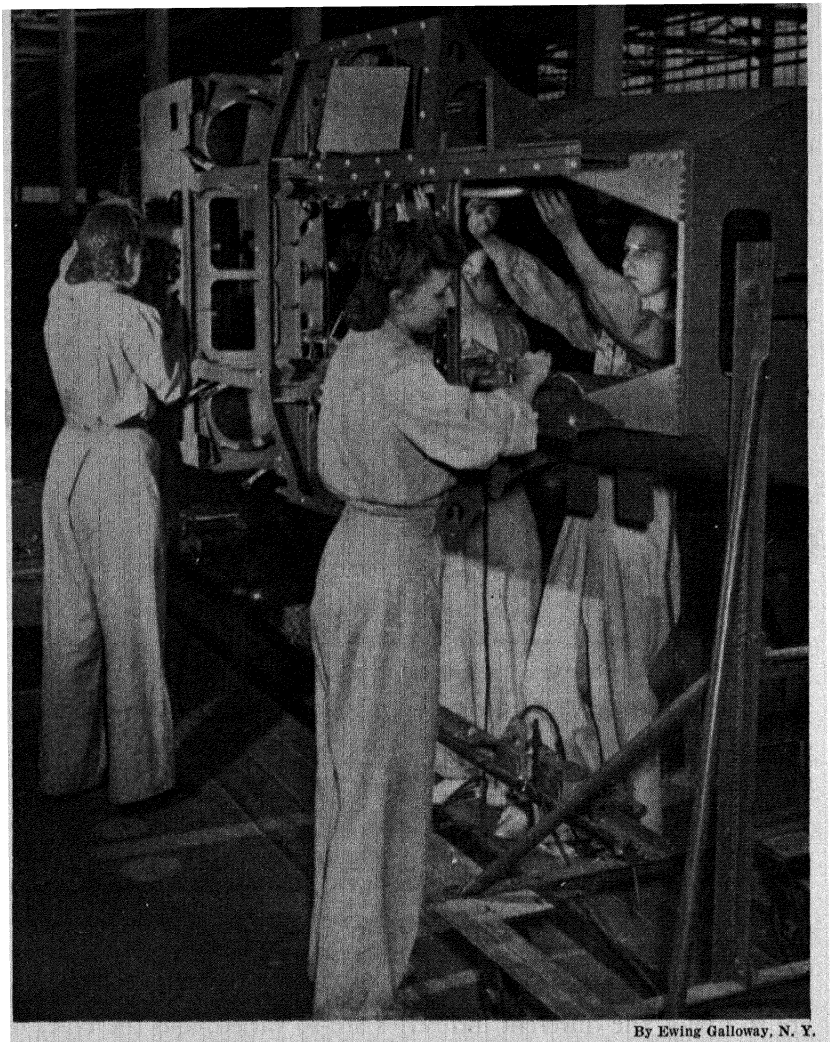
Effects of War upon Occupational Trends. War has the effect of changing completely the occupational picture of a country. In wartime many more people are employed by the national government in both military and nonmilitary activities than in peacetime. There is a great expansion of factories producing munitions and war supplies. The production of nonessential goods for civilians is curtailed or eliminated. An expansion of agriculture is usually necessary to meet the war demand for food. Many people are shifted from nonessential to essential wartime industries. Women take the places of men in many fields. New occupations are developed. For example, World War II compelled the United States to start the synthetic-rubber industry. The country also developed many rubber substitutes. *See Figure 224.*

Many new vocations were created by World War II, and the importance of others was increased. One of the newer fields, occupational therapy, tries to meet the need of the veteran. The occupational therapist works with those who have been ill, injured, or in some way physically disabled, co-operating with the doctor in trying to get the patient to overcome his physical handicaps and to learn some trade which is suited to his ability.

There is also a great shift in labor when a nation returns to peace after a period of war. Wartime industries are abandoned for peacetime occupations, and the output of consumer goods is resumed.

Families of Occupations. The occupations which people follow are so many, the different industries are so varied, and the types of work within industries vary so much that the over-all picture becomes most confusing. When we consider the occupations, industries, and types of work which really interest us, we find that there are not so many. When we consider those the requirements of which we are able to meet, there are still fewer.

There are large groups of occupations which make similar demands upon the individual and which have similar requirements. These related occupations are sometimes called job families. After you have analyzed yourself you will realize your abilities and the



By Ewing Galloway, N. Y.

FIGURE 224 · *Women taking the place of men on an airplane assembly line during World War II.* These women are installing tubing

occupational families for which you are fitted. Then you will be able to study carefully those occupations which you may follow.

Occupational Information. In deciding what occupations you should study you will need to consider the occupational trends of your local community as well as those of the country as a whole. If you are willing to locate in some distant community, a survey of the

occupational trends of the whole country will be most valuable; but if you do not care to leave your community, you should give special attention to the opportunities for employment which it offers.

There are a number of sources of helpful information for the person who wants to study occupations. You will find a number of books on occupations in your school library or in the public library in your community. The librarian will help you to find those which will be of most interest to you. You will find valuable information in such magazines as *Vocational Trends, The Occupational Index,* and *Occupations.* Short studies of vocations in pamphlet form are published by different organizations. Your teachers or the librarian will be able to tell you where these may be obtained. There is probably a branch of the State Employment Bureau in your community, and there may also be a community-guidance bureau or a branch of the United States Employment Service. All these agencies will be able to furnish you with information on occupations and the trends in different fields. If your community has a Better Business Bureau, it may be able to advise you as to which are the most trustworthy agencies to consult for occupational information. It will be able to warn you against any agency which gives out unreliable information.

Perhaps one of the best ways to learn about the vocation in which you are interested is to visit the industry or to talk with a person who is employed in it. You may be able to secure a vacation job connected with the occupation which you are studying. This will give you first-hand information. It is well to consult those who dislike a given occupation as well as those who like it, for then you can see both its advantages and its disadvantages.

How to Study an Occupation. In making a study of a number of occupations the student must know what information is valuable. What does he need to know about a given occupation in order to compare it with other occupations and decide whether he would care to follow it? He needs to know the type of work and its demands, the rewards and chances for advancement which it offers, any special advantages or disadvantages which it has, and its position in the community.

Type of Work and Demands. There are a number of questions which need to be considered to discover the type of work and the demands made by an occupation. In the first place, just what does

the worker do? What is his daily program? Does the occupation require mechanical skill, and the ability to work with one's hands? Does it require mental ability and technical knowledge? Does it require clerical ability? Does it require ability to work with others? In other words, does the worker have to work with things, with ideas, or with people? What preparation or training is required by the occupation?

Rewards and Advancement. The rewards and chances for advancement offered in a given occupation should be carefully investigated. What salaries or wages does the occupation offer? What would a beginner receive? More important yet, what chances for advancement are offered? Is the occupation so filled with workers that advancement would be very slow? If a worker receives promotions, what rewards are offered by the top positions in that field?

Advantages and Disadvantages. Most occupations carry with them some special advantages and disadvantages. Is the occupation in which you are interested one which might place a severe strain upon a person's health? Is the work carried on under pleasant or unpleasant circumstances? Is the worker forced to work long and unusual hours, as a doctor does? Does the worker have to remain away from home for long periods of time, as a seaman or a salesman might? Is the occupation a seasonal one, providing work only part of the year? Would the occupation be permanent, or would it be quickly affected by a period of war or depression?

Position in the Community. Finally, what is the position of the occupation in the community? Is there a demand for workers in the field? What is the attitude of the community toward that occupation? Does it offer a chance to render community service?

QUESTIONS TO ANSWER AND THINGS TO DO

1. What are some of the changes of the past seventy-five years which have increased vocational opportunities?

2. Which industry in the United States employs the largest number of workers? Which one employs the next largest number?

3. Into what labor groups would you classify workers in the United States?

4. Why have some crafts and trades gone out of existence?

5. Why is it impossible to predict what occupations will be important in the future?

6. What are some of the fields that have offered large numbers of employment opportunities during recent years?

7. Account for the fact that the national government employs more persons than it did in earlier times. List some of the positions which are available in government service.

8. What is meant by the service trades? Why are they important?

9. Do you think that the fields of communication and transportation will continue to demand a large number of workers? Why?

10. List some of the effects of inventions upon occupations.

11. How does war change vocations and occupations?

12. Why are statisticians and occupational therapists in demand today?

13. What is meant by a family of occupations?

14. Make a list of the different sources from which you might obtain occupational information.

15. List the different kinds of information which you should try to obtain in studying an occupation.

16. Divide the class into eleven committees. Let each group take one of the major occupational groups. Refer to the detailed listing of the occupations as given in the United States Statistical Abstract. Each group should report to the class the examples listed under each major group, giving them in order of numbers so employed.

2. *Educational Opportunities*

Today youth is surrounded by educational opportunities. There are general educational advantages offered to all young people, as well as opportunities for special training open to those interested in the professions, managerial positions, and the crafts and skilled trades. There are provisions for apprenticeship training. Many opportunities are available for the worker to improve himself while he is on the job.

General Education. The general education offered to all young people furnishes a basic training for all vocations. It gives the student an opportunity to learn the correct use of the English language. It

By Ewing Galloway, N. Y.

FIGURE 225 · *Workers in a chemical laboratory.* Some knowledge of the principles of chemistry is useful in many kinds of work

furnishes him with an understanding of the scientific laws through his study of biology, physics, and chemistry. It helps him to understand the basic social and economic principles which affect him and broadens his knowledge of the world in which he lives through the study of such social sciences as history, economics, and geography. It has been said that the school, which furnishes this basic training, is youth's first job. The record which the student makes in this first job interests his future employer. Many are the young people who have failed to obtain certain jobs because their records as students have shown a lack of interest or application.

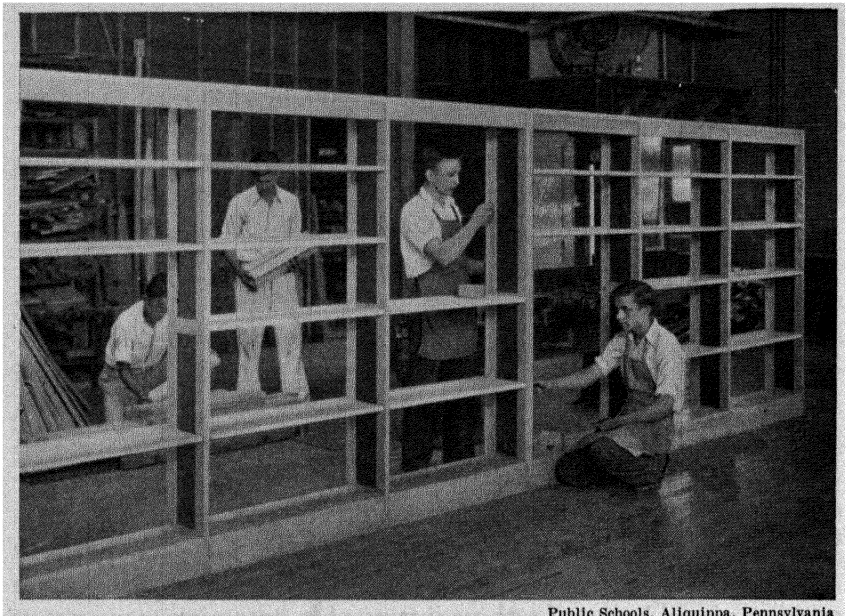
The youth who decides in what vocation or family of vocations he is interested should choose elective subjects in high school which will be especially helpful to him. Students interested in engineering should take advanced work in mathematics and science. Those interested in law, journalism, social work, or library work should follow special courses in English and the social studies. The prospective accountant, businessman, or architect should specialize in advanced mathematics. The student considering work in foreign

service, radio, or music should study foreign languages. The student considering medicine or pharmacy should study biology and chemistry. The girl who wants to become a dietitian, a tearoom manager, or a homemaker should include courses in home economics in her schedule. Students interested in commercial art, advertising, architectural work, or interior decorating should follow the art course.

Training for Professions and Managerial Positions. There is an almost limitless number of training opportunities for people who are interested in the professions and managerial positions. Training courses are offered in colleges, professional schools in our universities, business schools and special professional schools. Competition in some of the professions has led many students to specialize within their field and take advanced courses. The prospective lawyer takes his pre-law course in college, attends law school, and then possibly specializes in corporation law or international law. After attending college and being graduated from medical school, the doctor may specialize in some one field of medicine. There are many schools offering special courses for those interested in becoming managers or entering one of the semiprofessions. In these schools one may train to become a hotel manager, a tearoom manager, or a dental hygienist.

The cost of training for the professions is rather high, but the length of the course depends on the amount of specialized work which is done and the particular school or schools attended. Definite information may be obtained by comparing catalogues of institutions offering the desired courses. It is only proper that the student should be warned against the school which offers the cheap, short course. Sometimes state colleges or universities are able to offer students lower tuition fees as a result of receiving aid from their state governments. In other cases low tuition fees may result from poor equipment or too few teachers on the faculty. The student should determine the school he will attend on the basis of the courses offered and not on cost alone.

Training for Business and Trade Positions. Business schools, vocational schools, and corporations train students in certain crafts and skilled trades. Business schools offer courses for typists, stenographers, accountants, and operators of business machines. Vocational schools are often provided by the local Board of Education. Students are given instruction in an almost unlimited number of trades. Much of the training for the skilled trades is now done in the schools which



Public Schools, Aliquippa, Pennsylvania

FIGURE 226 · *Members of a high-school class in carpentry constructing an adjustable-shelf bookcase for the school library*

corporations maintain. These schools have the advantage of training a person for the specialized type of work which the corporation needs. Many workers such as bricklayers, carpenters, and electricians are trained as apprentices by the master workmen of their trades while they are actually on the job. These corporation schools and apprenticeship training programs are causing many vocational schools to change their programs. In addition to giving specialized training in many different crafts, some attempt is made to develop the manual skills in the groups or families of occupational crafts.

Training through Experience. Many workers gain training through actual experience. Some are able to learn much about an industry or occupation through vacation jobs. Others follow the work-study plans which many schools offer. Under these plans the student in college or trade school attends classes for a certain number of weeks and then works at a definite trade for an equal length of time. The idea underlying the plan is that it gives the student an opportunity to make practical use of the training which he is receiving in college or school.

Opportunities for Improvement on the Job. Workers in practically every field have opportunities to improve themselves while they are on the job. It is this desire for self-improvement which often leads to advancement. Free night-school courses are offered by Boards of Education. Colleges, universities, and trade schools offer extension work in many different courses. Correspondence schools are available for those who are unable to attend night schools or extension courses.

Importance of the Right Training. There are warnings which should be sounded for those who are trying to decide on the training which will best fit them for their chosen vocation. In some lines of work the openings are few and the competition is keen. It has been said that there is always room at the top for the best. If a person is to become one of the best in any occupation or industry, he must have the best of training and be able to use it wisely.

Students selecting a college or university should study the courses offered by different institutions. Which college offers the greatest variety of courses in the fields which interest them? What is the scholastic standing of the different colleges and universities? What are the records of the various institutions in placing their own graduates? A student should ask advice of those who are succeeding in the vocation for which he is preparing as to which institutions they would recommend. *See Figure 227.*

The high-school graduate is a possible consumer of the services of colleges, business schools, special trade schools, and correspondence schools. These institutions advertise just as the producer of commercial goods advertises the brand of goods which he wishes to sell. The advertising methods are many. Catalogues and circulars, personal representatives, and newspaper and magazine advertisements present the advantages of certain institutions.

You have doubtless seen the advertisement of a correspondence course which guarantees a good job in six weeks to those who take its courses. Such a promise needs to be investigated. If you are a high school graduate, you need to ask questions such as these: Is there any demand for workers in the field for which the course promises to prepare you? Who are the instructors in the school? What standard does it have? Can it give you anything which you could not obtain through the extension courses offered in your own community? Is the business school through its advertisements

By Ewing Galloway, N. Y.

FIGURE 227 · *A student conferring with an adviser in vocational guidance*

promising to prepare you for work for which there is no present demand? Would it be wise for you to take a short course and learn to operate some of the newer business machines? Is there danger of your preparing for a business position no longer available as a result of the use of modern business machines?

Two questions should be answered as you undertake training for a vocation. Do occupational trends indicate that there will be a demand for the vocation? Where may you secure the training which will be most acceptable to your future employer?

QUESTIONS TO ANSWER AND THINGS TO DO

1. In what ways does the basic education which you receive in high school train you for all vocations?

2. Make a list of the subjects which you would advise a person to take in high school if he is interested in medicine, engineering, radio, accountancy, tearoom management, interior decorating, or library work.

3. What kind of training must a person have for the professions? How does the expense of training for one of the professions compare with that of preparing for a trade?

4. List the different ways in which you might receive training for a trade. What are the advantages of each of these different types of training?

5. How may students receive experience in the work which they are considering making their life work?

6. What are some of the ways in which you may improve yourself while working on the job?

7. Why is the type of vocational training which you receive so important?

8. What advice would you give a friend who is about to select the college which he is going to attend?

9. Why is it unwise to depend upon advertisements of schools and courses found in newspapers or magazines alone, in selecting a school or courses?

CHAPTER THIRTY · CHOOSING AN OCCUPATION

One of the problems that the majority of individuals must face is that of choosing an occupation, for there are few people who do not have to work to earn a living. The choice of the right vocation deserves very careful consideration and study. It is one of the most far-reaching and lasting decisions you will have to make because much of your life will be spent at work. This chapter will help you to study this problem by examining the importance of the early choice of a vocation, the methods of analyzing yourself, matching the worker and the job, and some of the factors which determine success in an occupation.

1. *The Importance of Early Choice of a Vocation*

Waiting Is Unwise. If you wait to start looking for a job until you need it, you will have lost the opportunity to train yourself for an occupation which best fits your capabilities and interests, your chance to choose the job you want. When the high-school course comes to an end, a student suddenly realizes that he has not prepared for any particular vocation or family of vocations. Up to that time he has thought little about a job and when he is graduated he can only say "I'm going to look for a job." But is he prepared for that job? Perhaps a graduate says that he is going to college. Why is he going to college? What courses is he going to take? For what type of vocation is he going to train? Some know and will be enthusiastic about the choice. Others, however, will be unable to give a reason for going on to college except to attend another school without any thought of training for a particular vocation or family of vocations.

It is wise to begin early to consider a vocation. You have seen that the types of training needed for different occupations are varied. For certain professions or trades a long period of training is necessary. The student who has decided early upon the family of occupations which he wishes to follow may be able to choose courses in high school which will fit him for such occupations, and he will profit by saving time as he gains a more thorough training and education. In college the selection of proper courses is even more necessary.

Vocational preparation is important. Employers want workers

who are the best in their field. This is an age of efficiency, and the efficiency of a worker is largely determined by his preparation for and experience in a given type of work. Workers with training and experience have the advantages in any field where there is competition for employment.

What, then, are the steps you should take in choosing a vocation? First, you should study different occupations and discover their requirements. The next step is to analyze yourself. Just what abilities, interests, and aptitudes do you have? With this knowledge, it is possible to match your personal qualifications to the requirements of certain occupations or occupational families and to make a fairly satisfactory choice.

2. *Analyzing One's Self*

Analyzing yourself is a personal problem, and one in which every individual must interest himself. To construct a picture of yourself there are a number of facts which you should consider.

Personal Abilities. Not all individuals have the same abilities. This is fortunate for everyone's personal happiness and for the welfare of the country. As each separate part of a machine helps to make the complete machine function, so various people following different occupations help to make the life of a community run smoothly. Recognition of your own particular ability is important, for otherwise you may never do your best work but may become one of those individuals known as a "round peg in a square hole."

People can be classified into four general ability groups. Each group possesses an ability which may bring success. Of course, any combination of these basic skills gives an even wider field of vocational opportunities from which to choose.

Superior Mental Ability. Some people can analyze, understand, and solve various difficult problems. They recognize the relationships which exist between conditions. They are able to weigh the facts and develop wise judgments. They are able to make decisions with confidence, knowing that the outcome will be desirable.

Clerical Ability. Some individuals have clerical ability. They like to work with details. They are orderly, exact, good organizers, and willing workers. Some of these people like to operate business machines and carry on routine work. *See Figure 228.*

Remington Rand, Inc.

FIGURE 228 · *Clerks in the filing department of a large office need ability to work with complex details*

Mechanical Ability. People with mechanical ability handle machinery and tools easily. Some of them have the ability to work with their hands. Some have especially sensitive finger tips, which enable them to follow a vocation which demands finger dexterity or a keen sensitiveness to touch. Others have the ability to handle machinery which requires the co-ordination of the different parts of the body, such as is needed by the operators of various motor vehicles. Many people have one or more of these mechanical aptitudes.

Social Understanding. A fourth class of people possesses a great amount of what we can call "social understanding." They are able to work with others and to get along with others. They are tactful and co-operative. They are popular with the groups to which they belong. Their basic characteristic is that they like people.

Which ability do you possess in greater degree—mental, clerical, mechanical, or social understanding? Perhaps you are one of those rare individuals who possesses more than one of these four abilities. If that is true, what combination of abilities and skills do you have?

U.S. Department of Agriculture

FIGURE 229 · *This 4-H club boy has a special interest of great value in his thriving vegetable garden*

Interests. Everyone has special interests. In analyzing yourself, you must consider the major interests which you seem to have. What kind of discussion is it that makes you forget yourself? What games or hobbies do you enjoy so much that you lose your sense of time and forget to go home or to keep an appointment? Do you enjoy working with people or would you prefer to work alone with your chemistry set? Do you prefer to read a book or to work with the radio set which you have put together? If you enjoy a book more, what kind of book appeals to you most—adventure, science, or history? Do you like working out-of-doors or would you rather be indoors? Do you like machinery? As a child did mechanical toys appeal to you? Did you like to construct bridges and buildings? What courses in school do you enjoy most? What subjects have interested you enough so that you go to the library of your own free will to find out more about them? What are your major interests? Now, add these to your list of abilities.

Background and Training. There are many conditions surrounding your early life and training which may affect your vocational choices. Have you spent your early life in the country? Do you enjoy the out-of-door life which a rural community offers? Would

moving to the city be distasteful to you? On the other hand, you may have grown up in the city and may be accustomed to the associations and opportunities of the city. Would you be unhappy in a smaller community, and would you miss the educational and recreational facilities found in the city? Are you a member of a large family? If so, you may have learned early to co-operate and work with people. Have you read extensively? Have family discussions made you more interested in scientific developments, the business world, international affairs, or social conditions in your own community? All these factors may have an effect on your vocational choices and affect your point of view.

Physical Assets or Handicaps. It would be very unwise to ignore your physical assets or handicaps in considering a vocation. There are some occupations which demand a considerable amount of physical strength and endurance. Poor eyesight would make it impossible for a person to follow certain vocations while other physical deformities and defects would close other vocations. Persons may have tendencies towards certain diseases which would limit their choice of vocation. Anyone with a weak heart would be unwise to choose a type of work involving nervous strain. Those with weak lungs should not work in factories where dust conditions are prevalent. Have you normal physical strength and average health or are there some vocations which you should avoid?

Financial Ability to Acquire Training. The amount and type of training required for various vocations differ greatly. Your ability to secure this training should be considered. Can you complete enough training to make it possible for you to compete successfully with others who will be seeking employment in your chosen field? Is your family financially able and willing that you go to college or the trade school which may be necessary to fit you for the occupation you are considering? If your parents cannot finance your education, you may say that you will work your way through school. Remember that this will take physical strength and ability. You would have to be willing to limit the time spent in social and recreational activities because of the work and study schedule. Many students find that their health and scholarship or both suffer.

Aids in Self-Analysis. There are numerous tests which may help you in analyzing your abilities. Private and public guidance agencies have testing bureaus which the individual may consult, and there

FIGURE 230 · *A tryout shop, in which students may try the simple work involved in a number of trades to test their abilities*

are schools which carry on extensive testing programs. Some of these tests are to determine what ability, mental, clerical, mechanical, or social understanding, you possess in the greatest degree. There are I. Q. (intelligence quotient) tests which determine the amount of mental ability you have. Others discover the special kind of mechanical ability you may have. No test can tell you exactly what occupation you should follow. The best a testing program can do for you is to indicate the field or family of occupations in which you would be most likely to succeed.

Several warnings should be considered in the use of tests. They should be given by people who understand administering of tests and the factors for which they are testing. The results of any test depend upon the surroundings under which the test is given, and upon the health and mental condition of the individual at the time of the test. Most people deem it inadvisable to depend upon the results of one test alone. They believe that a person should take several tests aimed to discover similar abilities, and if the results of the different tests agree, they may be considered rather trustworthy.

Opinions of Others. Other people may be able to give you valuable information about yourself which will help in constructing a picture of your abilities. Whom would you consult? In many ways your parents know you better than you know yourself. Some parents give their children complete freedom of choice in selecting a vocation. Others attempt to influence the type of vocation they would like their children to follow. Your personal friends and companions may be consulted, although their analysis may not be sufficiently broad or mature, and they may be hesitant in giving advice. Your guidance counselor or teacher will be glad to assist you in this self-analysis. The advisers of young people's clubs, employers for whom you have worked, and leaders of religious clubs to which you belong may help you to fill in or confirm the analysis of your abilities and shortcomings.

The Record of One's Analysis. The individual, the school, and the guidance counselor should keep a record of the individual's personal analysis which is often called a "picture or profile of the individual." This record should include: results of various tests which the person has taken; information as to background and training; physical strength and handicaps; school record, including courses taken, grades received, and special extra-curricular activities; and special abilities and interests. It is advisable to have the record represent several different points of view by containing information gained from various sources.

QUESTIONS TO ANSWER AND THINGS TO DO

1. Why is it important for an individual to make an early choice of a vocation?

2. Why is it more important for you to prepare for the vocation which you intend to follow than it was for your grandfather?

3. List the different points which you should consider in trying to analyze yourself.

4. What are four different abilities according to which different individuals might be classified or grouped?

5. Why is it most important that you know the ability or abilities which you possess?

6. Make a list of your special interests.

7. How may your early background and training affect your vocational choices?

8. What are some of the physical conditions which you should consider in analyzing yourself? How might these affect your vocational choices?

9. Why must finances be considered in selecting a vocation?

10. What information do different tests attempt to discover about an individual? What factors may influence the results of the tests? What use may be made of tests in determining the family of occupations you should choose?

11. What people would be able to give you valuable help in analyzing yourself?

12. Try to match your individual profile to the requirements of certain groups of occupations.

3. *Matching the Worker and His Job*

Importance of Obtaining the Right Job. Many individuals choose an occupation without giving proper attention to the requirements of the job or to their own abilities. Perhaps they make up their minds that they want to follow a certain profession for which they are not fitted, and are disappointed when they do not secure employment or do not succeed if they are employed.

In choosing a vocation it is well to select a field or family of jobs rather than one definite job. If you prepare for a group of occupations whose requirements you are able to meet, you are more sure of employment. In the first chapter of this unit you saw how occupational trends change with new developments in machines, with war, and with new inventions. There may not always be a demand for a specific vocation, but there is likely to be a call for some of the jobs in a family of occupations which requires certain definite abilities.

You will want to consider the wage or salary which you are likely to receive and determine whether or not it permits you to maintain the standard of living which you desire. Your occupational success depends on your doing what you can do best, but your success cannot be judged alone by the salary or wage which you receive.

Personal Satisfaction. Success is measured also by the personal satisfaction which results from doing a task well. From which of the

The Paraffine Companies

FIGURE 231 · *This office machine, which is used for the keeping of accounts receivable, requires an expert operator*

occupations under consideration will you be able to receive the greatest amount of personal satisfaction? You will have much more satisfaction in following a trade in which you excel than in attempting a profession whose requirements you cannot meet. For example, if you are an expert in running a certain machine, you will be happier doing that work than if you attempted to be a business manager when your abilities do not fulfill the requirements of that position.

You should consider the opportunities for advancement in a vocation. Some occupations have different levels of work, providing an opportunity for proficient workers to advance from one to another. Some jobs have been called "blind alley" jobs because they offer no chance for advancement. Advancement is important not only for the increase in salary it may mean but for the feeling of success it gives the worker.

One other factor should be considered in determining the personal satisfaction an occupation may offer. Will the occupation call forth your best work? Will it challenge you and make you feel that

you are contributing your best effort to your work and to your community?

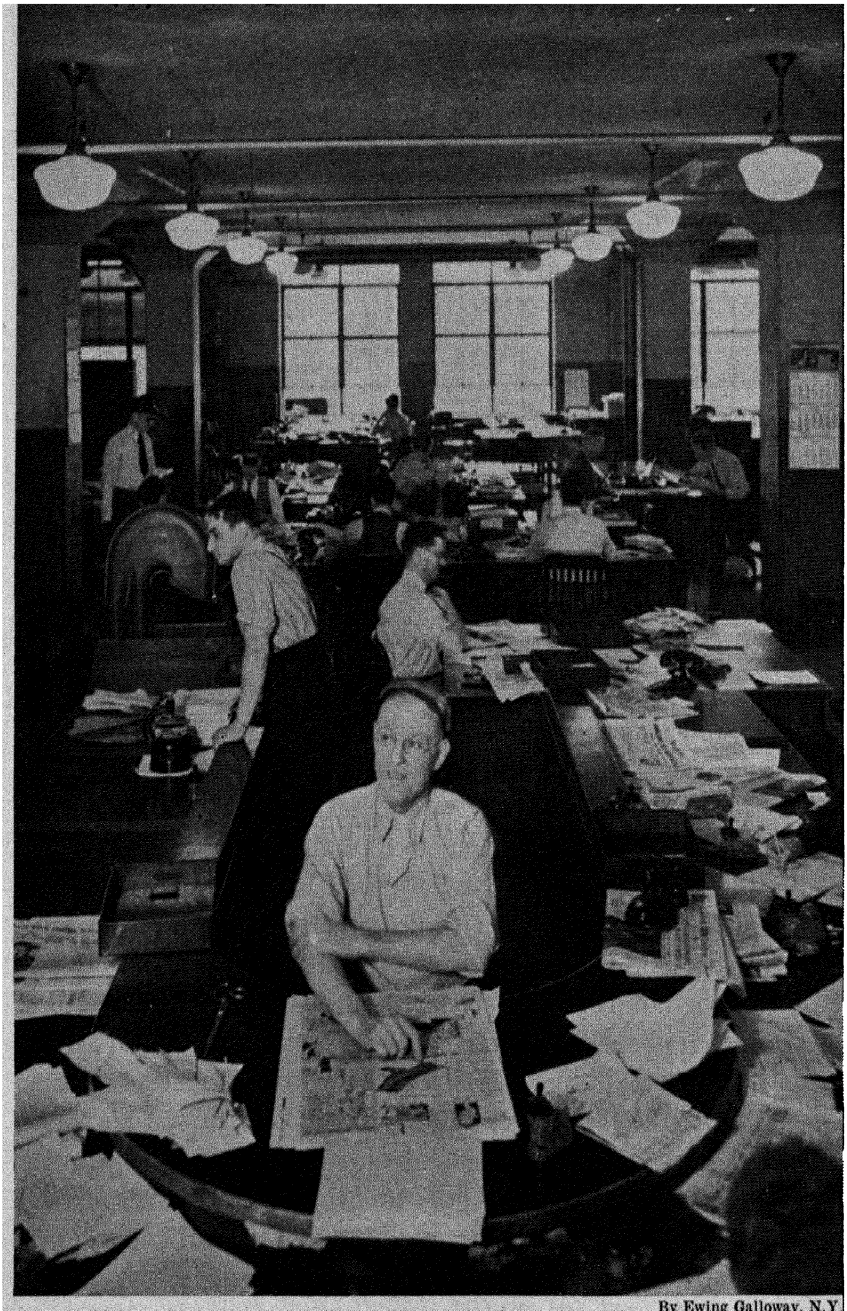
How to Match the Individual and the Job. In the study of occupations you have learned some of the fundamental requirements for different occupations, and in the study of personal analysis you have learned the classifications of persons into four groups by abilities. Now let us see how the different abilities meet the requirements of the different vocations.

Jobs for Those with Superior Mental Ability. Those with superior mental ability can usually analyze problems and attempt to solve them, and are capable of creative work. It has been estimated that about 8 per cent of all workers need this ability to analyze and solve problems.[1] Some of the occupations which require this superior mental ability are in the fields of education, law, medicine, and social work. A certain person in this group may prefer to be a journalist, reporter, librarian, or research worker. If you have the good fortune to have a combination of mental ability and mechanical skill, you may find a vocation which interests you in the fields of medicine, nursing, dentistry, or engineering. If you have a combination of mental ability and ability to work with other people, you may be most successful in law, social work, or government service. *See Figure 232.*

Jobs for Those Having Clerical Aptitudes. Clerical positions appeal to those who like mathematics, commercial subjects, and detailed work. As businesses have developed large organizations, and as government agencies have expanded their activities, there has been a growing demand for clerical workers. However, there has been an increase in the number of schools preparing people for clerical work, and this has resulted in an oversupply of clerical workers in certain fields. In addition, business machines have made unnecessary some of the skills formerly required of clerical workers. If you are a prospective clerical worker, you should examine the opportunities for employment in the particular field for which you wish to prepare before starting your training. Individuals with clerical abilities find employment as bank clerks, bookkeepers, secretaries, stenographers, typists, accountants, and office clerks.

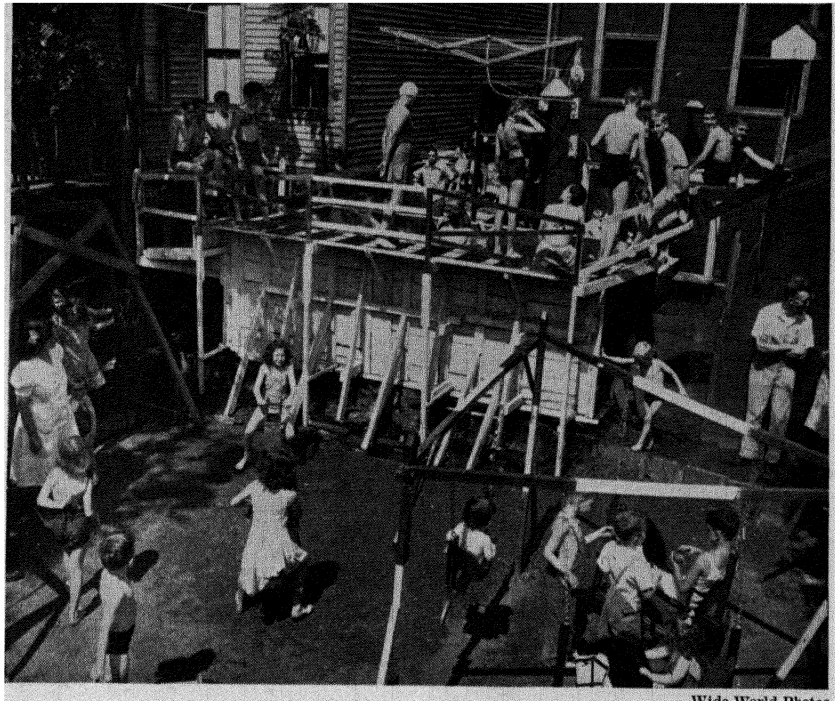
Jobs for Those with Mechanical Ability. Some persons have remarkable ability in using their hands, in working with tools, and in handling machinery. It has been estimated that about 67 per cent of

[1]Brooke, E., and Roos, M., *Career Guide*, Harper, 1943.



By Ewing Galloway, N.Y.

FIGURE 232 · *A scene in the city room of a large newspaper.* Reporters must be quick, accurate thinkers and workers in order to keep up with the events of the day



Wide World Photos

FIGURE 233 · *Playgrounds should be supervised by persons able to direct the activities of children with skill, tact, and enthusiasm*

all workers need some ability to work with tools and use their hands effectively.[1] Some occupations which depend upon this ability are the machine operator, the toolmaker, the engineer, and the draftsman. The professions of the surgeon and the dentist demand a high degree of finger sensitiveness. Successful surgeons, dentists, and engineers all have a combination of mechanical and mental skills.

Jobs for Those Possessing Social Understanding. Some people have the unusual ability to work with others. They enjoy people and attract people to them naturally. They may not possess superior mental ability or mechanical skill, but they are very successful in using their ability to understand people. According to one estimate, this social understanding is the primary need of 25 per cent of all workers.[1] The salesman needs to understand his customers and create in them a desire to purchase the products he has to offer. Those who follow the service trades need to show an interest in

[1]Brooke, E., and Roos, M., *Career Guide*, Harper, 1943.

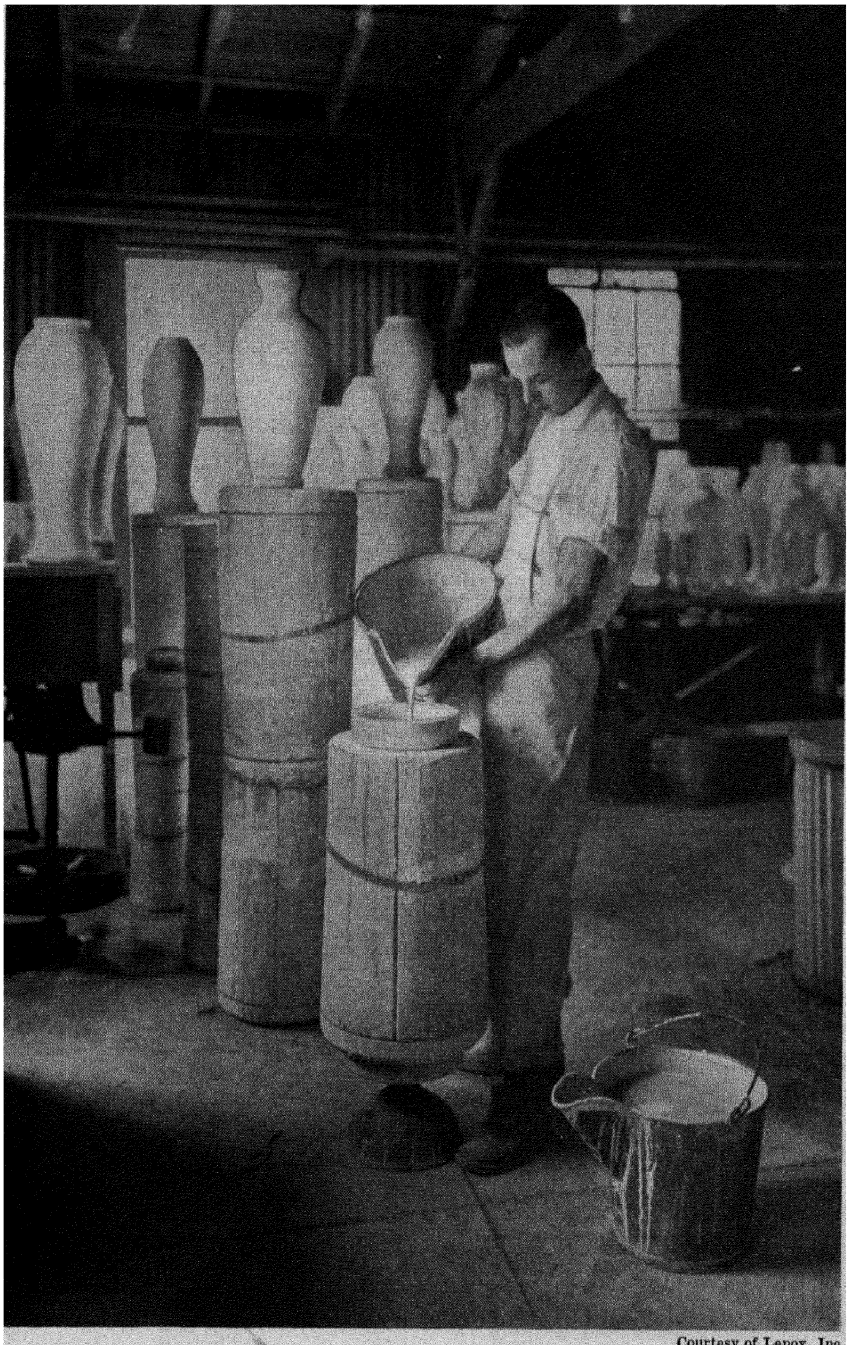
people or they will find no market for their services. Persons engaged in recreational occupations must gain the good will of many different types of people and radiate interest and enthusiasm in directing entertainment. The waitress, the restaurant owner, the business manager, the foreman in the factory, and the salesman should possess the ability to meet people readily. The most successful doctors, lawyers, and teachers combine social understanding with their mental abilities. In fact, any worker will be more successful if he possesses this ability, for human relations to some degree enter into all types of work. *See Figure 233.*

Interest. Your personal analysis has revealed which is your greatest ability, mental, mechanical, clerical, or social understanding, but there are many jobs, sometimes many families of occupations, which require only one of these abilities. How can you narrow your choice to a smaller number of vocations? You can decide which of the occupations interests you the most. To make a success of a vocation, you must be really interested in it. It may be well for you to make a more careful study of the most important vocations in the occupational field for which you seem to be fitted, for you may become interested in vocations which you have not yet considered because you know too little about them.

Preparation. Today employers can and do expect thorough preparation of employees. You have learned the occupations for which you are fitted and have decided which ones interest you. Now you must consider for what occupation you will be able to secure the most satisfactory preparation in view of the training available and your family's ability to assist you in acquiring the necessary training.

4. Factors Determining Success in a Job

If you have met the requirements and obtained a job, success is largely dependent upon yourself and your desire to succeed. You must develop an interest in your work, learn more about it and grow in it. If you are a craftsman, seek to improve your craftsmanship. There are workers who try to get out of doing all they can, and there are others who are conscientious and desire to give their best services to the employer. The latter are the ones more likely to succeed. Success in many vocations is dependent upon tact and ability to get along with fellow workers as well as with the employer.



Courtesy of Lenox, Inc.

FIGURE 234 · *A craftsman in a pottery casting a vase in a plaster of Paris mold.* His interest in his work helps to contribute to his skill

Advancement often depends upon willingness to start at the bottom of the ladder and perform efficiently the tasks of each job represented by the rungs of the ladder. An individual may plan on becoming the manager of a large department store as soon as he has completed his training. However, managerships are usually at the top of the ladder and are sometimes given to those persons who have proved their ability in less important positions. The delivery boy may become a clerk, the clerk a floorwalker, the floorwalker a buyer, and the buyer finally may become a manager. It is equally true that training in merchandising is considered as important as experience in some large department stores.

Ask yourself these questions: Am I interested in my work? Am I putting forth my best effort? Am I willing to start at the bottom of the ladder? Am I able to work with others?

QUESTIONS TO ANSWER AND THINGS TO DO

1. Can you measure your success in an occupation only by the salary which you receive? Why?

2. Why is it wise, in making an early choice of vocations, to select a family of occupations rather than a definite occupation?

3. Make a list of jobs open to those having superior mental ability.

4. Make a list of jobs open to those persons possessing unusual mechanical ability.

5. What jobs are especially dependent on one's ability to work with other people?

6. Why should your special interests be carefully considered in choosing a vocation?

7. How may your finances or the financial condition of your family affect your choice of vocation?

8. What factors help to determine the personal satisfaction which you receive from an occupation?

9. Make as long a list as you can of the factors which will help to make you successful in the job which you choose.

CHAPTER THIRTY–ONE · SECURING A JOB

With a vocation selected and the necessary preparation for it completed, a person is ready to consider the problem of getting a job. This requires the same preparation and planning as any successful activity. The individual seeking a job must use his powers of salesmanship in selling himself and his abilities to an employer. There are two steps to this process: finding the job and making application for it.

Finding the Job. A person looking for a job needs to know the employment trends and opportunities in his community and in the country as a whole. Public and private employment agencies can furnish this information in many instances. The local Chamber of Commerce, as well as the local newspapers, provide information about new or expanding industries. New industries which locate in a community will probably have jobs for the residents.

The Better Business Bureau will be able to give certain types of information about any company or industry. Such information will help the applicant to decide whether he is interested in seeking employment with the company.

Most large communities have a branch of the United States Employment Service as well as a branch state employment bureau or placement service. These agencies will register an applicant and notify him when there are openings in positions in which he might be interested. Many communities have private employment bureaus which charge a fee to assist a person in locating a job. The want ads in the local newspapers reveal opportunities for employment. Friends and acquaintances are often able to furnish valuable leads to jobs. They may know of positions which are open, or they may know some employers in whose businesses there are opportunities for employment and write a letter of introduction to them for the applicant.

Applying for the Job. A letter of application may precede the personal interview. If the position is in a distant city, a letter may take the place of the interview. In either case a letter is one of the first contacts an applicant makes with a potential employer.

It is most important that the letter of application should create the right impression on the reader since it speaks for the applicant. The letter should conform to good business style, be correct in form and content, and should be written on business stationery. In the

By Ewing Galloway, N.Y.

FIGURE 235 · *A high-school graduate being interviewed for her first job by the head of a large office*

letter the applicant should emphasize the qualifications which seem especially to fit him for the job.

It is well to include in a letter of application the names and addresses of persons who are willing to write a favorable letter of recommendation if one is desired. An applicant should never include a name as a reference without permission of that person. Care should be taken in selecting references. They should be persons who can speak with knowledge about the training, qualifications, character, and experience of the applicant.

An interview is the job-seeker's opportunity to sell himself to an employer who does not know him, using every means of salesmanship at his command. The interview may be with the employer or with some member of the personnel department.

Preparation for an interview is important. The first step is to learn everything possible about the position and the employer. The applicant should attempt to anticipate the questions that the interviewer may ask and to formulate the possible answers. The interviewer will be interested in the applicant's training, abilities, back-

ground, and special interests. He will also want to know the applicant's reasons for thinking he can fill the position for which he is applying.

At the time of the interview, there are several rules to observe. If the applicant has an appointment, he should be on time. He should be properly and neatly dressed in clothes suitable for business wear. He should use good English, and be courteous and sincere. He should be modest, and at the same time he should explain fully his abilities. The aim of the applicant is to give the interviewer a true picture of himself and his abilities.

Even though the interviewer asks questions which seem to be in no way related to the position, the applicant should not show any irritation or unwillingness to answer them. Such questions may be asked as a means of evaluating some quality of the applicant. If the interviewer suggests a series of tests, the applicant should agree to take such tests.

The applicant should so prepare himself for the interview that he will show no nervousness. Some employers are impersonal and show no special interest in their applicants, but this may also be one method of testing the applicant. An overanxious attitude on the part of the applicant may be as objectionable to the interviewer as an understatement of abilities. The applicant should not take too much of the interviewer's time. When he leaves, he might suggest that he would be glad to furnish any further information or references desired.

Most large business or industrial concerns require that all applicants file application blanks. These are often long and complicated forms giving a complete story of the applicant's training, experience, and background. The application blank is important. It should be read with care and completely filled out. The completed blank should be legible, and all grammar and spelling should be correct. The application blank and any letter of application will remain with the employer after the interview. They should create an impression of neatness and orderliness and should present a true picture of the applicant and his abilities.

QUESTIONS TO ANSWER AND THINGS TO DO

1. What agencies in your community may be able to help a person to secure a job?

2. What aid may friends and acquaintances give in helping a person to secure a job?

3. After deciding to apply for a job, you will profit by doing the following things:

a. Make a list of directions for the writing of a letter of application.

b. Make a list of rules to be followed in making a personal application for a job.

c. Make a list of directions to be followed in filling out an application blank for a job.

4. What preparation should an applicant make for an interview with an employer?

5. Assume that you are applying for a job. Name five persons who might be willing to write helpful letters of recommendation for you and tell why you chose each person.

CHAPTER THIRTY–TWO · WORKING CONDITIONS

You have studied the vocational and educational opportunities open to workers, and have discovered some of the problems which the worker faces in deciding on a vocation and in securing a job. This chapter will examine the conditions confronting different groups of workers after they have obtained positions in the fields which they have selected. These conditions will be studied under four main topics: (1) the worker and his government; (2) organizations of workers and employers; (3) employer-employee relations; and (4) the shifts in the labor supply.

1. *The Worker and His Government*

In this age of interdependence different units of government have become very much concerned about the worker and the conditions which he faces. They have studied the problems of laborers and have begun to assume new responsibilities for their welfare. Laws have been passed which regulate working conditions and attempt to improve the worker's security in his job. Governmental agencies are performing a large number of services for the worker which he formerly provided for himself. There is also on the part of governments an interest in helping workers to make satisfactory vocational adjustments. The national and state governments have tried to better the condition of certain underprivileged groups.

Governments Regulate Working Conditions. Both state and national governments have passed laws to protect the worker and to provide satisfactory working conditions for him.

Hours and Wages. The Federal government regulates the maximum number of hours and the minimum wage which workers may receive if they are employed in industries sending products across state borders. Regulation of the hours and wages of laborers is a power which the national government has assumed only recently.

The Fair Labor Standards Act, which was passed in 1938, set standards for certain laborers. Its aim was a forty-hour week for laborers in interstate industries. The forty-hour regulation was put into effect in 1941, three years after the passage of the act. This did not mean that a worker might not work more than forty hours a week, but it provided that he could not be compelled to work more

than forty hours. For any additional hours that he worked he was to be given extra pay.

Under the Fair Labor Standards Act, workers were to receive time and a half for overtime. This means that if the regular wage of a worker is eighty cents an hour, he would be paid for overtime work at the rate of $1.20 an hour. The act has been amended to provide a minimum hourly wage of seventy-five cents. The provisions of the act apply only to industries which do business in more than one state or which send their goods across state borders. The act also created a Labor Wage and Hour Division in the Department of Labor. This division has the responsibility of investigating hours and wages in different industries.

Various state governments had passed laws regulating the hours and wages of workers before 1938. These laws are still in effect for workers who are engaged in industries which do business within only one state.

Women and Children. Some state governments had legislation regulating the work of women and children before the Federal legislation in 1938, when the Fair Labor Standards Act provided for the regulation of child labor. Many state laws regulating child labor, however, are more strict than this national law. The Children's Bureau of the Department of Labor is responsible for the enforcement of the child-labor provisions of the Fair Labor Standards Act. The act prohibits the shipment of goods across state lines if they have been made by children under sixteen years of age. In industries which the Children's Bureau considers "particularly hazardous," the minimum age at which a child may work is eighteen years.

In many states the educational authorities co-operate with the labor authorities in facilitating the enforcement of child-labor laws. For example, children are not allowed to leave school to work until they reach a certain age. Under some conditions they are given working certificates and are required to attend a part-time school. The employer who hires children under the legal age must demand from them working certificates, or be held responsible for violating the child-labor laws.

Laws regulating the conditions under which women may work have been passed by many states. In New York State the working conditions for women are set by the State Industrial Commissioner. There are regulations governing the hours women may work and the

wages they must receive. Many states specify the type of work which women may do, and some prohibit night work for women.

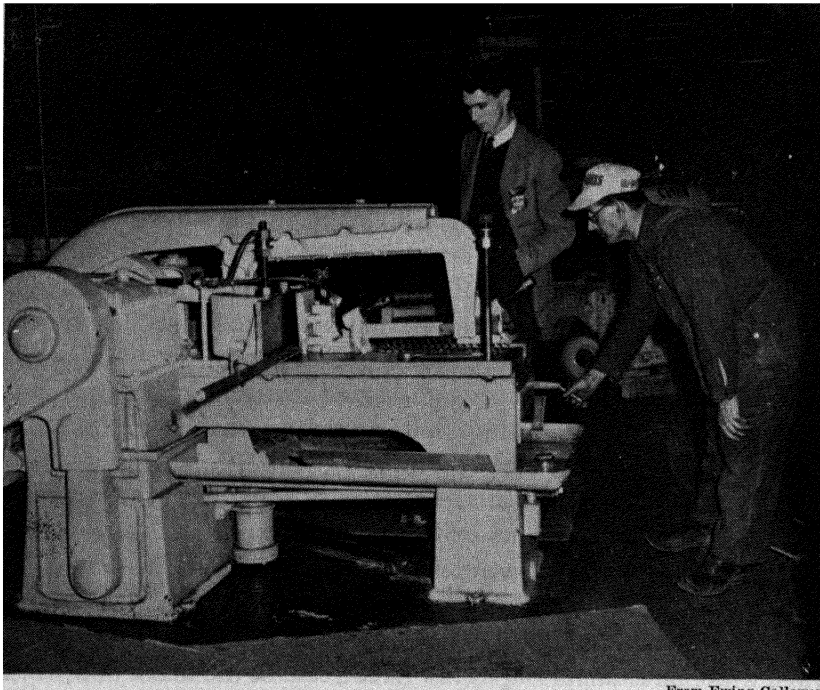
Because of the great demand for labor, it often becomes necessary during periods of war to suspend certain labor laws which regulate hours. Many labor regulations were set aside temporarily during World War II. The order of the President made forty-eight, instead of forty, the minimum number of hours per week which laborers in war-production centers could be compelled to work. Such workers were given overtime pay for labor in excess of forty hours per week.

Working Conditions. Factory conditions are controlled by the various states. There are state laws regulating sanitary conditions in factories and requiring proper lighting and ventilation. Special laws have been passed stipulating that dangerous machinery must be covered or guarded for the protection of workers. Some states have workmen's compensation laws under which employers insure their employees against accidents or injuries received while in their employ. Different states have different regulations as to the amount of compensation which the workers shall receive. Usually medical expenses are covered, and the employee receives a part of his regular wage while he is unable to work. In the case of the death of a workman, his family is paid benefits under most compensation laws. *See Figure 236.*

Protection for the Professions. Most states regulate some of the professions by requiring state examinations for those who are eligible. Many states require such examinations of doctors, trained nurses, and pharmacists. In most states lawyers must pass the state bar examinations. Teachers have to meet certain standards for certification set by their state and local governments.

Professional examinations have two advantages: (1) they protect the people of the state by testing the ability of professional workers before practice is permitted, and (2) they help to maintain standards in the professions.

Government Services for Workers. Governments today perform many services for labor which an individual worker cannot perform for himself. Different governmental agencies now have broad social functions which include provision for the unemployed, social security, assistance to underprivileged labor groups, aid to the worker in making occupational adjustments, and protection of the interests of labor through boards and government-sponsored organizations.



From Ewing Galloway

FIGURE 236 · *The "danger" parts of this power saw in an aircraft plant have been painted a brighter color than the rest of the machine as a warning to workers*

Provisions for the Unemployed. Both state and national governments attempt to help a worker when he is unemployed through no fault of his own. The last unit pointed out that the national government has encouraged state governments to pass laws for unemployment insurance. You will remember that the national government collects a payroll tax from which it makes payments to the states which have unemployment insurance laws. Under these laws an employee may not remain unemployed just for the purpose of collecting benefits. During a period of unemployment he is supposed to look for work and is registered with the state employment bureau. He may not refuse to accept a position if it requires the type of work for which he is qualified. The amount of money which the unemployed worker receives and the number of weeks for which he receives unemployment benefits are dependent upon his regular wage and the length of time which he has worked previous to be-

coming unemployed. The New York State law, under revisions effective in 1951, provides benefits of from ten to thirty dollars per week, and provides that such payments be made for not more than twenty-six weeks during any one year. Different states have different laws providing for unemployment insurance, although all the states receive financial assistance from the national government.

Different units of government often try to provide employment for workers during periods of unemployment. Some national governments have undertaken programs of public works and loaned large amounts of money to local governments for such purposes. During the depression period of the early nineteen-thirties, the United States government undertook such public works as the Tennessee Valley project. Under this project the government used the available labor supply to build dams to control floods and regulate navigation on the Tennessee River and its tributaries, to construct power plants for the generation of electricity, and to reduce erosion and gullying of the land. Through such organizations as the Civilian Conservation Corps, the national government provided work for young men who were unable to find employment. They cleared forests of slash and underbrush and reforested barren lands; they built roads and worked on other government projects. Local governments also provide employment on the projects which they are able to finance during periods of unemployment. At such times an expanded program of construction includes new public buildings, housing projects, the repairing of streets, or the modernization of sewage and waste-disposal systems. *See Figure 237.*

Social Security. Since the passage of the Social Security Act in 1935 the national government has taken upon itself the responsibility of providing for, or participating with state governments in, such social welfare as old-age insurance, unemployment insurance, and assistance for various groups of unfortunates. The provisions of this act have been outlined on pages 406-407.

State governments provide direct relief for many groups of needy persons. Among such groups are dependent aged persons and persons who are totally disabled. The Federal government matches state funds up to fifty-five dollars per month. If the state government pays twenty-seven dollars and fifty cents per month, the Federal government will pay the same amount, provided that the state law meets the requirements of the national government. Any relief given in

By Ewing Galloway, N. Y.

FIGURE 237 · *Civilian Conservation Corps workers laying logs for the foundation of a road in one of our national forests*

addition to fifty-five dollars must be paid by the state. The national government also aids the states in providing financial aid for dependent children, crippled children, mothers with dependent children, and the blind.

The old-age assistance is administered by the states, each state determining the conditions under which a person may receive benefits. Provision is also made in state laws for maternal and child-health service and state-health service. The relief payments which are made by the states to needy people are handled through local divisions of the state welfare boards.

Local governments have county welfare departments which provide temporary relief for the needy, county homes for the aged, and free medical aid for those who are unable to provide such services for themselves.

You will recall that the Social Security Act encourages the states to pass unemployment compensation acts, while the system of old-age insurance is controlled directly by the national government.

Photo by courtesy of the New York State College of Home Economics

IGURE 238 · *A clothing laboratory at Cornell University.* Each student is making a dress for herself

Occupational Adjustment. Governments have become interested in the problem of occupational adjustment, for it is recognized that young people should receive training in essential fields of work. The best way to help bring the worker and the job together is through education.

The national government encourages vocational training in several ways. Federal funds equal in amount to state funds are appropriated for education in industry, commerce, domestic science, and agriculture. This means that the national government contributes one Federal dollar for each state dollar expended for training in these fields. Federal funds are available for vocational and agricultural courses in high schools.

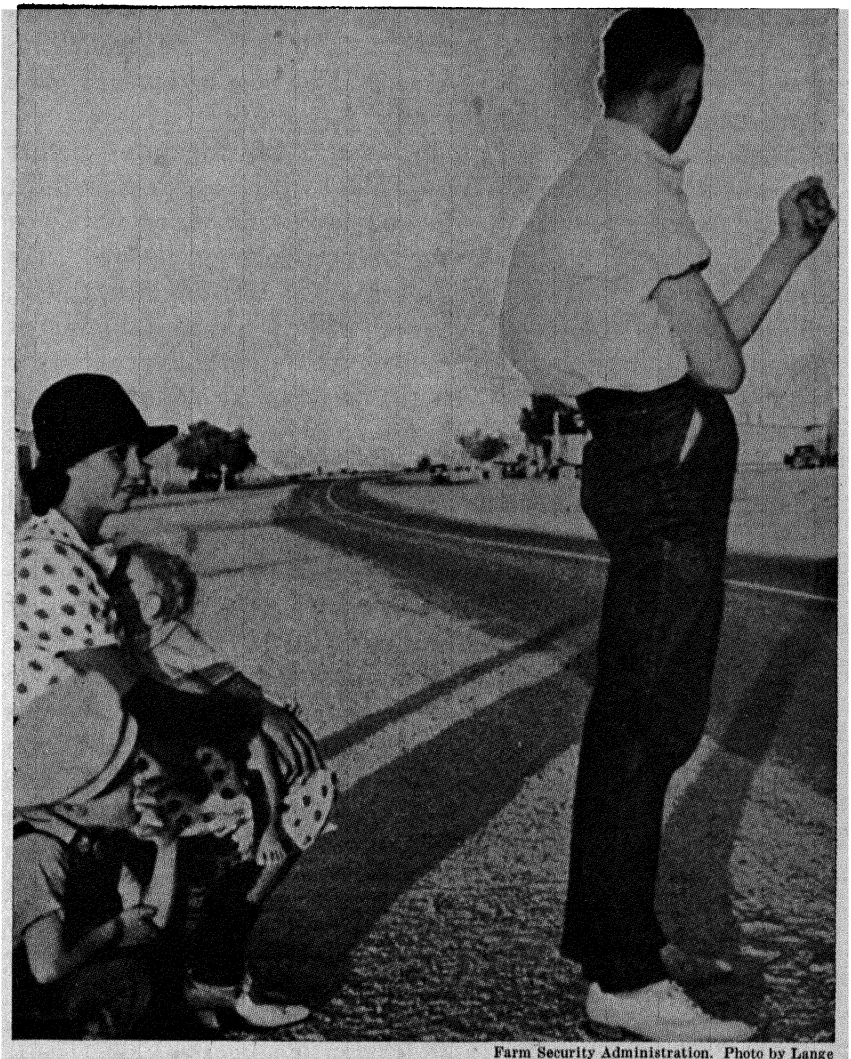
Most states have state universities which provide to residents of the state free tuition in all courses or in certain courses. In New York State free courses in agriculture and domestic science at Cornell University are given to residents of the state, and the forestry school at Syracuse is also free to them. At Pennsylvania State College

and Ohio State University, the courses are offered free or for very small fees to students from Pennsylvania and Ohio respectively because those institutions have received financial aid from the national and state governments. In many states these colleges or universities which furnish free courses to residents of their states are called state universities. Some of these are land-grant colleges—that is, they were given land grants by the Federal government.

Local communities are offering many opportunities for vocational training and guidance. Local boards of education provide vocational, technical, and commercial high schools. In regular academic high schools, courses are offered in manual training, agriculture, business, domestic science, and commercial art. Both high schools and colleges have undertaken programs of counseling students in making proper selections in vocational courses.

Governments now appreciate the importance of bringing together the job seeker and the right job. Various employment bureaus have been created which aid applicants in finding jobs for which they are fitted. The United States Employment Service has branches located over the entire country. State employment services maintain placement bureaus within the state. National, state, and local governments recognize the importance of having the right person in a position. Civil-service examinations are required for many permanent government positions. Those positions which are filled through an examination system are said to be on the classified list. This means that the government has classified these positions, has set definite standards for each, and requires applicants to pass certain examinations. By such methods the different units of government endeavor to employ people who have the training necessary for the work which they undertake.

Underprivileged Groups. During the depression years the national government undertook to relocate underprivileged groups in various sections of the country. One such group was the tenant farmer. A tenant farmer lives and works on the farm of a landlord. He may pay the landlord rent and sell the products which he grows on the land. More often he pays no rent but receives a share of the produce which he grows as compensation for his work on the farm. During depression years the earnings of a tenant farmer were very small. He and his family usually lived in a rough cabin. Naturally his standard of living was low. The land became increasingly un-



Farm Security Administration. Photo by Lange

FIGURE 239 · *A migratory farm worker and his family.* Such workers must be constantly on the move and so can have little settled family life

productive because of the unscientific farming methods which he used. The government tried either to move the tenant to more productive land or to show him how to improve the land he occupied. In many Southern communities model-farming projects were undertaken. Neat homes were built and sold to responsible tenants on an

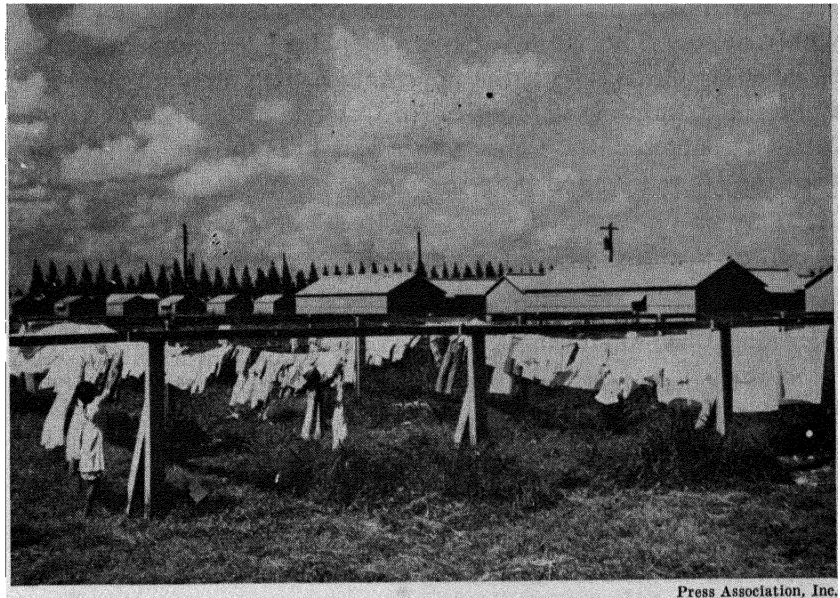
installment plan. The tenant was required to follow scientific farming methods. Besides the crops which he sold for cash, he had to grow more of his food and preserve it. This plan encouraged some farm tenants to become homeowners.

Another underprivileged group is that of the migrants—another name for seasonal crop workers. This worker has no permanent home because he follows the ripening crops and makes his home wherever he happens to be. During the bean-picking season he picks beans. He moves into the beet fields to pull beets. He picks cotton, pulls onions, and picks berries. As soon as the members of a group of migrants hear of a crop that is ready for harvest, they hasten into the area in much larger numbers than the farmers need. As a result they become stranded without money and live under the most undesirable conditions. *See Figure 239.*

During the depression days of the nineteen-thirties, the national government and the state governments in the areas affected by the migrant worker became concerned with this problem. State employment services began gathering information as to the number of workers needed to harvest different crops, and when and where the workers were needed. This information was made available to the laborers. It was hoped that this planning would prevent migrants from moving to sections which advertised for labor, only to find upon arrival that there were no more jobs to be filled. Texas is one state which has been successful in gathering this occupational information and distributing it to the migrants. In 1946, New York State set up additional regulations and requirements to provide for the problems of migrants. The national government, through the Farm Security Administration, built camps and housing units to provide better living conditions for the migrants.

During periods of labor scarcity there are fewer tenant farmers and migrant laborers. In periods of unemployment, however, more people become migrants and more return to the unsatisfactory condition of the tenant farmer. State and national governments are trying to improve the unsatisfactory labor and living conditions which exist among these classes of laborers.

Government Boards. There are government departments, bureaus, and commissions which study the problems of the laborer. The United States Department of Labor has a Commissioner of Labor Statistics who gathers information on labor conditions in all



Press Association, Inc.

FIGURE 240 · *A migratory labor camp in Florida.* The members were comfortably housed and were furnished shower and laundry facilities

parts of the country. There are a Women's Bureau and Children's Bureau which study the problems of women and child workers and which enforce laws regulating their labor. There is a Bureau of Labor Standards, as well as other bureaus which are responsible for the enforcement of other national labor laws. States have labor boards and industrial commissions to study their own labor conditions and recommend such changes as seem desirable.

Labor is one of the fields of human effort in which the nations of the world have co-operated to maintain an international organization. The International Labor Office gathers information on labor conditions and standards in different parts of the world. It arranges an International Labor Conference to be held each year which is attended by representatives of the governments, the employers, and the workers of the member nations. The work of the conference is to form draft conventions (model labor laws), which are submitted to the member nations and later considered by the lawmaking bodies of those nations. Under the terms of membership there is no obligation on the part of the member nations to pass such laws, but they

are obliged to consider them. The International Labor Office represents a successful beginning of international co-operation with regard to labor problems. With the approval of the International Labor Conference, meeting at Montreal in October, 1946, and the United Nations Assembly, the Labor Office was brought into relationship with the United Nations as a specialized agency.

QUESTIONS TO ANSWER AND THINGS TO DO

1. Why has the national government taken on the responsibility of regulating labor conditions?

2. What industries are affected by the provisions of the Fair Labor Standards Act?

3. Outline the provisions of the Fair Labor Standards Act in regard to hours, wages, and child labor.

4. Explain what is meant by time and a half for overtime.

5. What workers are affected by state labor laws?

6. What is the nature of the work of the Children's Bureau of the United States Department of Labor?

7. Why are labor laws sometimes suspended during wartime?

8. What are some of the factory conditions which are regulated by state laws?

9. What are the advantages of the professional examinations given by some states?

10. How did the national government encourage the states to pass unemployment insurance?

11. What are the principal provisions of the New York State Unemployment Insurance Law?

12. During depression years what kinds of work has the national government provided for the unemployed?

13. For what groups of people do state governments provide relief?

14. What are some of the services which local welfare boards perform for their communities?

15. Review the provisions of the national Social Security Act. For what three kinds of services does it provide?

16. Outline the provisions which the national government makes for vocational training.

17. How do state governments and local governments provide for the vocational training of their residents?

18. Explain the meaning of the classified lists in the government's civil service.

19. Describe the living conditions of the tenant farmer group. What was done to improve the conditions of this group during depression years?

20. Describe the living conditions of the migrant-laborer group. What was done to improve the conditions of this group during depression years?

21. Outline the work of the United States Department of Labor.

22. What is the International Labor Office? Describe its work.

2. *Organizations of Workers and Employers*

Both workers and employers organize to improve their conditions and protect their interests.

Professional Workers' Organizations. Many professional groups form their own organizations. Most professions have national, state, and local organizations. The American Medical Association (the medical professions), the Federal Bar Association (lawyers), the National Education Association (teachers and other educators), and the American Nurses Association are all national organizations which also have state and local associations.

Professional organizations have a number of aims. One of these is the self-improvement of their members. In order to help to accomplish this aim, they keep their members informed of new developments and methods in their professions. Through co-operative work, they seek to improve their professional standards and to extend the influence of their professions. They try to protect their members against those who do not live up to the expected standards. Professional organizations strive to better the conditions under which their members work, and to see that they receive a fair compensation for the services they render.

Labor Unions. Workers have organized into different types of unions, such as craft unions, industrial unions, and company unions. The craft union is an organization of skilled laborers, all of whom are engaged in the same type of trade or craft. Examples of the craft union are the barbers' union and the plumbers' union.

An industrial union is a union of all the workers in a given industry. It includes all grades of workmanship, skilled and unskilled. The use of machinery has so increased the demand for unskilled laborers that most industrial unions have more unskilled than skilled workers as members. Examples of industrial unions are the United Steel Workers and the United Mine Workers.

A company union is a union of workers employed by a given company. It has no connection with the workers employed by other companies. The organization of a company union is often approved by the company, for it co-operates with the company more than would a craft or industrial union with members outside the company.

Some labor unions co-operate by joining national or international labor organizations. The American Federation of Labor is such an organization and is composed mainly of craft unions. It was organized over seventy years ago at a time when unskilled laborers were not organized in unions. Trade or craft unions had been in existence for many years, and the federation sought to unite them. It tried to persuade lawmaking bodies to pass legislation favorable to labor.

The Congress for Industrial Organization is another union of unions. Its members are industrial unions. By the time it was formed, in 1935, machinery had replaced many of the workers formerly engaged in specific crafts. There was less demand for a high degree of skill. With modern machines expert craftsmen were not so necessary. Thus the Congress for Industrial Organization is a union of unions which admits to membership the unskilled and semiskilled workers.

Aims of Labor Unions. The fundamental aim of a labor union is to improve the conditions of its members. Different organizations use different methods in trying to accomplish this end, but all labor unions work for better labor conditions. One aim is to reduce the number of hours per work day and week and to add extra pay for overtime. They campaign for higher wages to raise the standard of living for the worker. Labor unions set up insurance plans to provide benefit payments in case of sickness or injury and strikes. Union members sometimes form credit associations or co-operate in other ways for mutual benefit. Trade or craft unions set standards of workmanship for the workers.

There are certain agreements which unions seek to work out with the employers.

Union Recognition. The agreement of a company to meet with representatives of the union is called union recognition.

Collective Bargaining. The meeting of representatives of the company or employer with those of the union to consider contracts in regard to wages and conditions of labor is called collective bargaining.

Closed Shop. A closed shop is a factory or business in which the employer agrees to hire only union members. The unions always work for this principle because it makes the organization stronger and larger.

Check-off. The company collects the dues for the union by deduction from the worker's pay check.

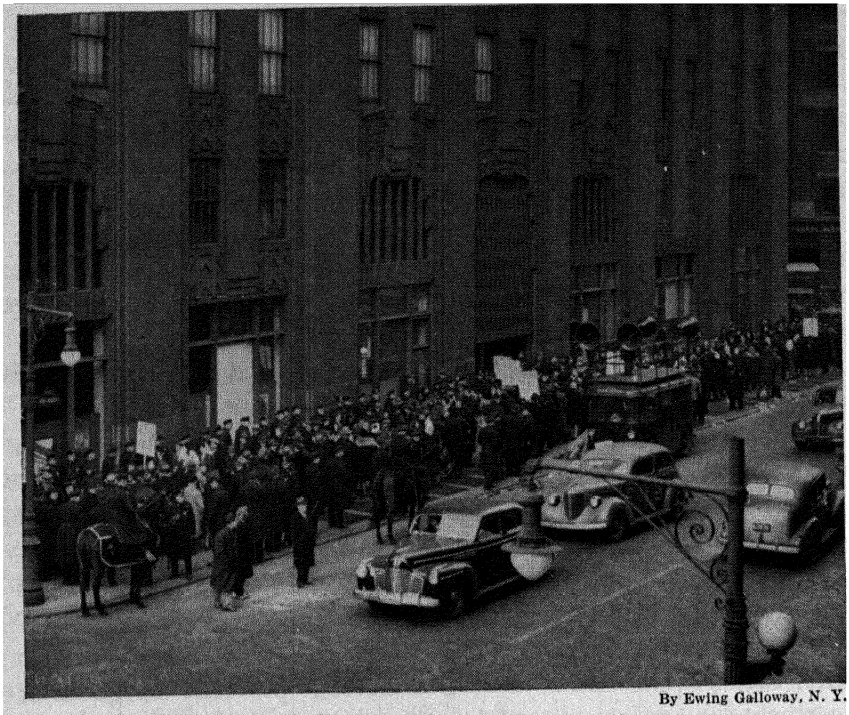
Maintenance-of-Membership. The worker who is hired by a company as a union member cannot leave the union.

Methods of Labor Unions. Labor organizations use a number of different methods to secure their goals. Collective bargaining agreements with the employers are one means of improving the conditions of the workers.

Many labor organizations use the boycott to force employers to meet their requests. A boycott is a refusal to purchase the goods or to accept the services of an employer who opposes labor's demands. You have probably seen men stationed in front of a store or a factory carrying signs urging people not to buy goods from the store or company because it is unfair to organized labor. These men are called pickets, and the union uses them to help to enforce its boycott.

Union labels are placed upon goods which have been produced by union members according to union standards. The union encourages people to purchase only goods with these labels.

The most common weapon used by labor unions to obtain their demands is the strike, which is a refusal to work until the employer meets their terms. Other union laborers who are not connected with the factory in which the strike started may also strike. This is called a sympathetic strike. If a union persists in its strike, and if the union and the company are unable to settle their grievances, the employer sometimes hires nonunion men. These strikebreakers are called "scabs." The union may attempt to keep scabs from working by means of long solid lines of union members who serve as pickets to prevent the entrance into the factory of the strikebreakers. *See Figure 241.*



By Ewing Galloway, N. Y.

FIGURE 241 · *Strikers picketing the entrance to the office building of the company employing them*

Organized Labor versus Unorganized Labor. Until 1935 a relatively small number of laborers belonged to organized labor groups. Since that time there has been a large increase in union membership; and as it has increased, a more aggressive attitude has been taken by organized labor. This increased strength of the federated unions has had two results. Labor has gained political recognition, and many laws favoring labor have been passed. At the same time many employers have increasingly opposed the gains by labor. Increased labor-union activity has become such a controversial issue that the general public has sometimes taken sides with employers and against labor, and as frequently for labor and against employers.

Opponents of union organization make various charges against unions: (1) that unions do not have the real interest of the individual laborer at heart; (2) that unions engage in questionable practices; and (3) that unions interfere with the personal freedom of the workers.

It is said that some unions are dominated by organizers or leaders who gain power over the members, forcing them to pay initiation fees and very high dues into the union treasury. Union officials may receive large salaries and fees while the workers have to sacrifice in order to pay their union dues. Workers are often forced to stop work because of sympathy-strike orders. Ambitious workers may not receive any reward for superior performance, for all workers are paid the hourly wage set by the wage contract made between the union and the employers.

Some labor unions favor such practices as allowing workers to make only a certain amount of goods per day with the aim of creating more work and giving more workers employment. Such procedure results in an increase in the cost of production and in a higher selling price of the goods. In the end the worker's pay check will buy fewer goods.

The contention is also made that a union interferes with the personal freedom of the worker because the latter is not free to sell his services to the employer for whom he desires to work, nor is he free to change jobs when he wishes.

Pro-union arguments are many. Four important benefits of unions are as follows: (1) Today the individual laborer is unable to deal directly with the employers in large industries. The personal relationship which formerly existed between the individual worker and his employer is lacking in this day of mass production. (2) It is through organized effort that it has been possible to secure favorable labor laws for the workers. (3) All the desires of each individual laborer cannot be considered by the union, but his most vital needs have been its aims—increased wages, shorter hours, and favorable working conditions. (4) Insurance, health, welfare, and the proficiency of the members of the union may be maintained by the union. Many unions hold high standards.

Labor and the Public Interest. That the public is very much interested in the laborer who is such an essential part of our mass-production system is shown by the legislation to improve labor conditions and to guarantee the social security of the laborer.

The public is disturbed by strikes and by the violence which sometimes accompanies them. The aim of the strike is to secure certain gains from the employers, but it is not the employer alone who is hurt by the strike. This has been particularly evident in the

wave of strikes which came with the initiation of the reconversion period following the close of World War II. Our life is so interdependent that a strike in one large industry, such as steel, will eventually have its effect on subordinate industries or industries using steel as a raw material. Such a strike will create unemployment in other industries. A strike of one of our public utilities, such as railroads, busses, telephones, or telegraphs, may cause a complete tie-up of our transportation and communication systems. Public interest is of vital concern in such cases, and the national government has intervened in some serious labor disputes and either compelled the laborers to return to work, or taken the industry over and carried on the work with government employees. If labor unrest and disputes disrupt the life of the people too frequently, there follows a demand for anti-labor legislation which may mean a sacrifice of much of labor's gains.

Some labor groups have brought their problems into politics and have exerted powerful influence on political campaigns. The active participation of labor as well as of other groups can be of great benefit to the country. If, however, the individual is to perform the responsibilities of good citizenship, he must be informed on all the important problems which face the country and not think of his grievances alone. Political activity should be accompanied by political responsibility on the part of all people.

Employer Organizations. Employers unite to form various kinds of organizations. Employers in one type of industry or trade may unite, and employers of different industries may get together in nationwide or community organizations.

The organization of employers in a given industry or trade is called a trade association. Such organizations encourage employers to co-operate in production and marketing methods, to exchange ideas, and sometimes to enter into price agreements. Some trade organizations practically control prices and production in a given industry.

The National Association of Manufacturers and the United States Chamber of Commerce are examples of organizations whose membership includes employers in different industries. The National Association of Manufacturers is a voluntary organization. It makes studies of business conditions in the country and tries to encourage policies which will benefit its members. It gathers information about

industrial areas and opportunities for foreign markets and trade. The members of the association use this data in planning for the future.

The United States Chamber of Commerce also keeps its members informed of the conditions of foreign and domestic trade. You are probably familiar with the work of your local Chamber of Commerce, which encourages the development of the local community as a commercial center. It also aids businesses by encouraging the business expansion of the community. It tries to attract new industries by advertising the advantages of a community on the theory that a larger community offers businessmen more opportunities.

Methods of Employers. There are several means at the disposal of the employer in his efforts to counteract the demands by labor.

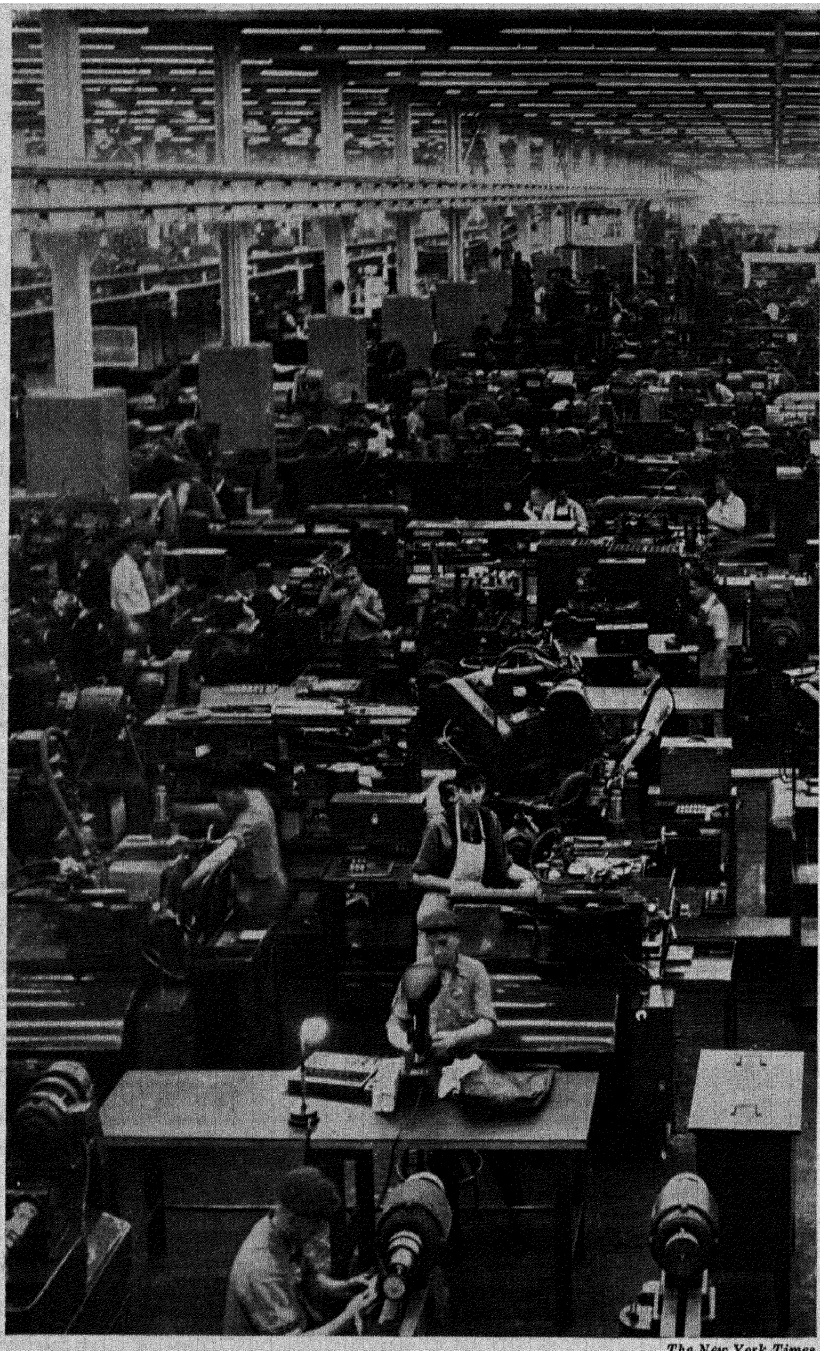
Most employers prefer the open shop to the closed shop, for they want to be able to hire both union and nonunion workers. They also favor company unions rather than craft or industrial unions.

The blacklist, which is a list of workers who are supposed to be troublemakers, can be circulated among employers so that such workers will not be hired.

Employers can close their shops to the workers until they agree to work under the conditions which the employer desires. This is called the "lockout."

An injunction is a court order secured by an employer against labor leaders or labor groups which directs workers to cease certain destructive acts against the property of employers. The person or persons against whom an injunction is issued have the right to be tried in court for the violation of an injunction. Today use of the injunction has been limited by the national government, and it may not be issued unless actual violence is involved or there has been a court investigation of both sides of the controversy.

Employer Organizations and the Public. The life of the individual consumer has been completely changed by mass production. The number of different goods which he may purchase to satisfy his needs has increased tremendously. The fact that industry can produce large quantities of goods economically has made it possible to reduce costs and permit the public to buy goods at reasonable prices. The speed and efficiency of both wartime and peacetime production have been admired by the public, with due credit given to both management and labor. *See Figure 242.*



The New York Times

FIGURE 242 · *An example of mass production—the assembly line in a plant manufacturing airplane engines*

The activities of labor organizations have led employer organizations to defend the position and policies of employers. They have attempted to focus public attention upon the interests and problems of the employer and to emphasize the dependence of public welfare upon modern industry.

Employer organizations have often worked to gain monopolies for the control of certain industries or products. A monopoly should reduce the cost of production as a result of quantity production, but often the saving resulting from this reduction in cost is kept by the company. Management could win the favor and good will of the public if such saving were shared with labor in the form of increased wages and with the public in lower prices.

Blame for the unrest which results from strikes and industrial strife falls upon management as well as upon labor. It is the responsibility of management to carry on business so that labor discontent fails to develop. Many strikes could be avoided if management had a better understanding of the problems of labor. Some employer organizations have tried to meet labor difficulties by encouraging improved methods of handling labor problems. In some industries management has developed plans for sharing its extra profits with workers; in others it has invited the co-operation of labor in solving the problems of industry. There are other industries, however, in which no co-operative effort exists, and it is in these that many labor disputes occur. The co-operative effort of both employers and employees is necessary to bring the industrial peace in which the public as the third party is so vitally concerned.

QUESTIONS TO ANSWER AND THINGS TO DO

1. Name some professional groups which have professional organizations.

2. Explain the three different types of labor unions which may be found in the United States. Give an illustration of each of these.

3. How should you define the American Federation of Labor? the Congress for Industrial Organization? What are some of the differences between these organizations?

4. Make a list of the aims of labor unions. What methods do labor unions use in attempting to gain these aims?

5. Explain each of the following terms: collective bargaining, union recognition, closed shop, check-off, maintenance-of-membership, time-and-a-half for overtime, boycott, picket, sympathetic strike, scabs.

6. Why do some workers refuse to join unions?

7. How is the general public affected by militant labor union activities?

8. What different kinds of organizations do employers form? What are the aims of these organizations?

9. Explain each of the following terms: open shop, blacklist, lockout, company union, injunction.

10. What is a trade association? What are its aims?

11. What is the work of your local Chamber of Commerce?

12. How may the United States Chamber of Commerce aid businessmen?

13. In what ways are employers responsible for labor disputes?

14. What are some of the possible solutions for the unrest caused by labor disputes?

3. *Employer-Employee Relations*

The relationships between employers and employees vary at given times in different industries. In this section you will have an opportunity to study these relations by examining (1) plans for co-operation between employees and employers; (2) difficulties which arise between employers and employees, and methods of settlement; and (3) government regulation of employer-employee relationships.

Co-operation. There are many plans that have been worked out by the mutual co-operation of employees and employers, although such news is less likely to reach the newspaper headlines than are the disputes and strikes. There are plans for profit sharing, there is the co-operative work of the labor-management committees, and there are programs which factories have adopted for the social welfare of their workers.

Profit Sharing. Plans to share profits are based upon the belief that the earnings of a company are the result of the combined efforts of labor and management. If the earnings are greater than management has anticipated, those earnings are shared with the workers. The plan of distribution takes different forms. Some companies give

By Ewing Galloway, N. Y.

FIGURE 243 · *Representatives of the management and labor of a manufacturing plant conferring about labor problems*

bonuses to employees at the end of the year or at the holiday season. Employees may be given shares of stock in the company as bonuses, or they may be offered the privilege of buying stock at a reduced price. As stockholders they become part owners of the business.

Labor-Management Committees. A labor-management committee within a factory has an equal number of representatives of both labor and management. Labor and management sit down together to discuss their common problems and the industrial methods used in their plant. Through their efforts many scientific improvements have been made in factories. Time-saving methods have been discovered, and many safety devices have been employed which have reduced industrial accidents.

Such committees existed in many industries before World War II. During the war they received considerable encouragement from the United States War Production Board. This board also issued a weekly bulletin called *The Labor-Management News.* In 1944 there

were 4000 such committees operating in different war-production plants.

There is considerable evidence to show that labor-management committees have been responsible for improving the methods used in many factories. They also have been a constructive force in effecting industrial peace in place of the unrest and disorder which so often accompany labor disputes. It will be interesting to see whether peacetime industry will continue to profit from the experience of wartime industry by increased use of labor-management committees.

Factory Owners Improve Factory Conditions. Many factory owners have improved conditions in their factories by providing recreation and club rooms and clean, attractive cafeterias. Some companies have employees' bands, orchestras, and athletic teams, and sponsor annual company picnics. Many plants have infirmaries. Some companies maintain garden plots for their workers, and some build and finance attractive housing projects within a convenient distance from the factory.

Difficulties between Employers and Employees. Difficulties between employers and employees result from conflicting aims. Sometimes the two groups are able to settle these difficulties through their labor-management committees or by means of collective bargaining. Labor disputes must be settled eventually by some form of agreement between employers and employees. Both groups may voluntarily agree to submit the dispute to a national or state board created to give decisions on labor difficulties. In some countries employers and employees are compelled by law to submit their industrial disputes to compulsory arbitration boards, and to abide by the decisions of those boards. The United States has not adopted compulsory arbitration of labor disputes during peacetime. During World War II, however, the United States government created the National War Labor Board, which was given the authority to settle all labor disputes referred to it by the Department of Labor. Industries were expected to accept the decisions of the board. The War Labor Board was abolished by the President in December, 1945.

Government Regulation of Employer-Employee Relations. The national government gives more protection to the worker today than it did in the past. Labor has gained greater power as a result of the increasing strength of labor organizations and the passage of the National Labor Relations Act in 1935.

From Ewing Galloway

FIGURE 244 · *An attractive cafeteria, where good meals may be obtained at a reasonable price, may be an important aid in the maintenance of good relations between the owners and employees of a factory*

The National Labor Relations Act guarantees several rights to workers. The right of a worker to join the union of his choice is recognized. No employer may refuse to hire or may dismiss a worker because he is a union member. Workers have the right to bargain collectively with their employers. If more than one union claims the right to bargain with the employer, the National Labor Relations Board holds an election in the plant or factory to determine to which union a majority of the workers belong, and that union is named the bargaining agency with which the employer must make agreements.

One of the rights guaranteed to labor is the right to strike. The Taft-Hartley Act, which was passed by Congress in 1947, provides that a strike in an industry *that affects the health and safety of the people* may be delayed for an eighty-day period. During this period the government may try to bring the strikers and the manage-

ment together. Another provision specifies that employers may not be forced by a labor union to have a closed shop, but that they may have a union shop. Under a closed shop, you will remember, an employer may not hire a worker who is not a union member. Under a union shop, a non-union worker may be hired, but within a short time he must join the union recognized by that shop. Some people favor these and the other provisions of the Taft-Hartley Act, while other people feel that the provisions are unfair to organized labor.

QUESTIONS TO ANSWER AND THINGS TO DO

1. What are the main provisions of some of the profit-sharing plans used in different industries?

2. What is a labor-management committee? What are some of the accomplishments of such a committee? Would you like to work in a factory in which there was such a committee? Why?

3. What are some of the ways in which factory owners have tried to make the living and working conditions more pleasant?

4. What are some of the causes of labor disputes?

5. What is meant by settling labor difficulties through compulsory arbitration?

6. What are some of the reasons for labor's increased power in recent years?

7. Outline the provisions of the National Labor Relations Act. Why has it been called the great charter of labor?

8. Why was the War Labor Board created? When did its work come to an end?

9. Read and report on the work of the American Arbitration Association, 9 Rockefeller Plaza, New York 20, N. Y.

4. Shifts in the Labor Supply

There are many factors which cause an oversupply or scarcity of labor in different areas, including: population changes, periods of prosperity or depression, war and postwar conditions.

Population Changes. Recent years have witnessed certain population changes in our country. There is today a larger percentage of older people in our population than ever before. Such people are not

productive laborers, and their wants must be supplied by younger people. There has been a movement of workers from rural centers to urban communities. If more workers come into the cities than the industries need, there will be an oversupply of labor and consequent unemployment in urban centers. Such migration is likely to cause a shortage of farm laborers. Just before World War II many people were advocating that industries move out of the cities into the suburbs, where workers would be able to find more agreeable living conditions. The difficulties of wartime transportation and a scarcity of labor interfered with this plan. Will this suburban movement be revived?

A country's labor supply is in part dependent upon its immigration policy. The labor unions favor the restriction of foreign immigration. They fear that the foreign laborer will take the place of the United States laborer or cause his wage to be lowered. What will be the immigration policy of the United States in the postwar period?

Prosperity or Depression. During a period of prosperity there is an urgent demand for laborers. Workers receive good wages, and the standard of living is raised. Expanding factories and businesses require more workers. These workers, in turn, purchase large amounts of consumer goods. Such a period of business expansion and labor scarcity continues until too many goods are produced. Then a period of depression begins. Employers close their factories because they cannot find a market for their surplus goods. Workers are without jobs and cannot continue buying because they have little or no money. Debtors cannot pay their debts, and creditors receive little or no income. The demand for labor is slackened, and there is widespread unemployment.

War and Postwar Periods. A country at war must have war materials. New war-production industries must be started, and old industries must be shifted to war production. Fewer civilian goods are produced because there are fewer factories and workers to produce them. Man power for industrial production is reduced because many workers are in the armed forces. There is an urgent demand for new workers. Women undertake new tasks. Everyone who is able works and receives good wages.

A postwar period, when servicemen in large numbers come home to re-enter the labor market, necessarily brings an enormous shift of the labor supply and attendant problems. Will consumers wish to

buy the many civilian goods which were restricted or unavailable during the war? Can the wheels of peacetime industries be set in motion with the speed necessary to provide employment for large numbers of workers? Can many of the industries which developed as a result of war necessity be converted and absorb more workers, or will factories disappear as quickly as they were built, leaving thousands of workers without jobs? Will inventions which were suppressed during the war be developed and create new consumer demands so that there will be work for many people? How many of the people who went into war plants to do the work of men called into the services will wish to continue working? What will the workers do who moved to war-production centers during the war and who do not wish to return to their former homes? These are only a few of the problems to be considered in a postwar period.

QUESTIONS TO ANSWER

1. What are some of the movements of people which may cause an oversupply or shortage of labor in certain areas?

2. What is meant by saying that we are becoming a nation of older people? How does this affect industry?

3. What are the effects of a period of prosperity upon labor?

4. What are the effects of a period of depression upon labor?

5. How does war affect labor? Explain.

6. Why is there danger of unemployment in a postwar period? What are some of the ways in which the unemployment in a postwar period may be lessened?

5. *The Worker's Responsibilities in a World of Work*

Each worker has his place in what has become essentially a world community with the increasing interdependence of all parts of the world. What are the individual's responsibilities as a worker in this world community?

Each person should have as his goal the desire to be a successful worker in the world of work. His ambition should be to perform the duties of the occupation which he has chosen in such a manner that he will gain personal satisfaction from doing his task well. This

personal satisfaction is one of the rewards of the successful worker, and the gain is not his alone but the community's. A worker with self-respect, with pride and satisfaction in his job is a happy, interested member of a community and a positive and active influence in serving that community.

Another responsibility of the worker is co-operation. In this interdependent world community there are many groups with which he must co-operate. There are those who follow the same trade or profession. They must co-operate with one another to improve those trades and professions. No man today can satisfy his wants from his own trade or profession alone. He must depend upon large numbers of people in his own community as well as many others in distant parts of the world. In production, in buying, in selling, in all the services which we find necessary in this complex existence of ours, there must be co-operation.

Social consciousness is also the responsibility of the worker. Each individual must understand the problems of his fellow men, those of his neighbor next door and those of his world neighbors. For example, do the residents of our cities know anything about the living or working conditions of the miners who produce the coal that they use? Do the consumers of sugar know about labor conditions on the plantations of Cuba or Puerto Rico? Does the user of rubber think of Far Eastern rubber plantations and the laborers at work tapping the rubber trees? For the most part workers are likely to see only the problems which they know and understand best. But no longer can one group or certain related groups seek to benefit entirely at the expense of others. An unselfish approach will show the necessity at times of compromise to secure the common good that the whole world may progress.

QUESTIONS TO ANSWER

1. What are the responsibilities of the worker suggested in this section?
2. Which ones do you consider most important?
3. What additional responsibilities would you suggest that each worker should accept?

NOTE. Additional problems and activities and a list of reference readings for Unit VI are given on pages 502–505 of the Appendix.

APPENDIX

Problems and Activities for Unit I

PROBLEMS

1. The air age has called attention to the importance of great circle routes. What is a great circle route? Explain fully its importance to an air pilot.

2. Make a list of the items which should be included in the key which accompanies any physical map.

3. Select three river estuaries about which you are able to obtain information and explain the effects of the estuary upon the development of the section of the country in which it is located.

4. If you were to climb one of our Western mountains, you might come to an area which is snow-covered, an area of dense vegetation, a field of lovely mountain flowers, or a timber line above which all vegetation, including live trees, ceases to exist. Explain the reasons for such variations on mountain slopes.

5. What geographic features account for the climatic conditions which attract people of the United States and cause them to spend their winter vacations in Florida or California?

6. The engineers of the Pan American Highway, which is being built from the Mexican border of the United States southward and is to connect the capitals of the Central and South American countries, have met many difficulties. On a map of the Western Hemisphere indicate the difficulties which these engineers would face.

7. Various types of map projections are used today. Explain each of the following projections: Mercator, elliptical, semi-elliptical, polar, azimuthal, Van der Grinten.

8. In your study of Unit One you have learned several geographic terms. Make a list in your notebook of the new terms which you have learned and give a brief explanation of each. Include in your list such terms as the following: equinox, savanna, tundra, coral reef, monsoon, eclipse, taiga, etc.

9. You have a plant which you wish to get as much sunlight as possible. In what direction should you want the window in which you placed it to face if you lived in St. Petersburg, Florida? in Montevideo, Uruguay? in Fairbanks, Alaska?

ACTIVITIES

1. Make a diagram of the sun, moon, and earth showing their positions during a partial eclipse and during a total eclipse.

2. Visit an observatory, if possible, and look through the telescope. Locate the larger planets. What do you see that you cannot see with the naked eye? Study the relative location of the larger planets.

3. Make a chart showing just what changes a person traveling around the world will have to make in his watch and where these changes will have to be made. Make one chart for a person traveling west from New York City and another for a person traveling east from New York City.

4. Current magazines and newspapers have large numbers of maps. Make a collection of these and explain for what purposes each would be most useful.

5. On an outline map of the United States indicate the lowland, upland, and mountainous regions.

6. Prepare a pictograph map of South America showing the different geographic areas. How are these areas affected by latitude, altitude, mountains, and climatic conditions?

7. As a member of the Miami Chamber of Commerce, you are asked to prepare a pamphlet advertising Florida as a winter resort. What geographic features will you emphasize? What ones will you omit?

8. The airplane has made accessible areas of South America which were little known in earlier years. Locate some of these areas and show why this statement is true.

9. The Chamber of Commerce of New York State has recently published a pamphlet "Summer in New York State." What features should you expect to find included as attractions to summer visitors? Secure the bulletin and see what added information it contains.

Books for Reference Reading for Unit I

Boy Scouts of America. *Weather—1943.*
Bradley, J. H. *World Geography.*
Brooks, C. F. *Why the Weather?*
Byrd, R. E. *Discovery.*
Byrd, R. E. *Little America.*
Finch, V. G., and Trewartha, G. T. *Elements of Geography—Physical and Cultural.*

FRANCK, H. A. *Scandinavian Summer.*
FRANCK, H. A. *Vagabonding Down the Andes.*
FRANCK, H. A. *Working North from Patagonia.*
RENNER, G. T. *The Air We Live In.*
VAN CLEEF, E. *Geography for the Businessman.*
VAN LOON, H. W. *Van Loon's Geography: The Story of the World.*
VAN ZANDT, J. P. *The Geography of World Air Transport.*

Problems and Activities for Unit II

PROBLEMS

1. Account for the fact that the earliest civilizations of which we have any knowledge developed as river-valley civilizations. Select four early river-valley civilizations and explain the geographic factors which caused man to develop civilizations in these areas.

2. Classify the peoples of the world as to the language group to which they belong.

3. In what languages are the activities of the United Nations conducted? Account for this.

4. Make a list of the problems faced by a country with a very dense population.

5. Locate the most densely populated areas of Asia and Europe. What cultural, economic, and religious groups are represented in these densely populated areas?

6. From your study of population distribution and the areas of most advanced civilizations what effects would you say that climate has on population groups?

7. "Nearness to the sea encourages the growth of dense populations." Make a list of illustrations which prove this fact.

8. Give examples to show that mineral resources have caused people to settle in what would otherwise be very undesirable geographic areas.

9. "Coal for power and iron and steel for the making of machinery have been the two most important factors in the modern development of manufacturing." Select three world areas which prove this fact. Explain.

10. Make a list of the factors which are unifying the different nations of the world today. Make another list of the factors which cause nations to be rivals of one another. How are these factors related to world peace?

ACTIVITIES

1. On an outline map of the world indicate the principal agricultural areas. What geographic factors have caused these to develop as agricultural instead of industrial areas?

2. On an outline map of the world locate the most important manufacturing areas. What geographic factors are responsible for these areas having developed as manufacturing centers?

3. Make a chart of the peoples of the earth, dividing them as to race, language, and economic groups.

4. Prepare a map showing the approximate population of the different continents and the largest countries. What conclusions are you able to draw as to:

The hemisphere with the largest population?
The races with the largest population?
The cultural groups with the largest population?
The most densely populated centers?
The number of peoples located in agricultural and industrial areas?

5. On an outline map of South America indicate the population density of the different countries. What are the most densely populated areas? How do you account for this density? How do you account for so few people in other areas?

6. The three largest Western Hemisphere countries are Canada, Brazil, and the United States. Find the population of each of these countries and account for the differences in their population.

7. The horrors of modern warfare make it wise for the nations of the world to co-operate with one another more closely than ever before. What suggestions can you make which would bring about more friendly relations among nations?

8. Make a study of the organization of the United Nations. What are some of its accomplishments in bringing about world co-operation?

9. Arrange for a meeting of the United Nations Assembly, having different members of your class act as delegates from the various member countries.

Books for Reference Reading for Unit II

AMERICAN REPUBLIC AFFAIRS. United States Department of State. Publications on Latin American Peoples.
BOWMAN, ISAIAH. *The New World.*
BURROWS, MILLAR. *Founders of Great Religions.*
CARNEGIE ENDOWMENT FOR INTERNATIONAL PEACE. Pamphlets on *Machine Age in America; The Ties That Bind.*
COOPER, ELIZABETH. *My Lady of the Chinese Courtyard.*
HAGER, A. R. *Brazil, Giant to the South.*
HERRING, H. C. *America and the Americas.*
HERRING, H. C. *Good Neighbors.*
MILLS, D. *Book of the Ancient World for Younger Readers.*
National Geographic Magazine. Consult index.
PAN AMERICAN UNION. Pamphlets on Latin American countries and peoples.
UNITED NATIONS. DEPARTMENT OF PUBLIC INFORMATION. Pamphlets on the organizations connected with the United Nations and their activities.

Problems and Activities for Unit III

PROBLEMS

1. Locate the great pasture lands of the earth. What climatic and geographic features do you find? Examine the density of population. What do you discover about the density of population in these grazing areas?

2. Just what does the economist mean when he refers to the "Conservation of Natural Resources"? Make a list of the different ways in which our forest resources may be conserved.

3. List ways in which our mineral resources may be conserved.

4. On what parts of the world do the farmers of the United States depend for their natural fertilizers?

5. Locate some of the important fishing areas of the world. What are some of the methods used to conserve our supply of fish?

6. Some people have called the conservation of natural resources an international problem. List facts to prove that it is a problem for all nations.

7. Account for the fact that the greater part of the manufacturing of the world is done in the Northern Hemisphere.

8. What changes have been made in the kinds of power used for manufacturing during the last one hundred years? What are the advantages of these different kinds of power?

9. New sources of power may make it possible for more nations of the world to engage in manufacturing. Explain this statement.

10. Account for the fact that the United States is one of the most important countries in the manufacture of steel and automobiles.

11. Account for the fact that the British Isles became one of the first great manufacturing centers in the world. What are their most important manufactures?

ACTIVITIES

1. Consult the World Almanac and find a list of the mineral resources which the United States imports each year. Upon what countries do our manufacturers depend for these minerals? Are we truly one "Economic World"?

2. Using the map on page 214, select the manufacturing center nearest your home and make a list of the factors which have caused manufacturing to develop in that area.

3. Today man is being urged to conserve coal, oil, and natural gas. Consult people interested in these sources of power and then explain why their conservation is necessary.

4. Consult the World Almanac to find the ten most important manufactures of the United States. See how many reasons you can find for the location of each of these industries in this country.

5. On an outline map of Europe indicate through the use of pictographs the manufacturing centers and the goods which are produced there.

6. The Union of Soviet Socialist Republics has recently become more industrialized. On a map locate the industrial areas of Russia. Find out what industries the country is developing. Account for its interest in these industries.

7. According to the 1950 census, about two thirds of the United States population live in urban communities. List the factors which account for the movement of people from rural to urban communities. What problems were created for our cities as a result of the movement of peoples into cities during World War II?

Books for Reference Reading for Unit III

BUILDING AMERICA PAMPHLETS: *Conservation; Food; Cotton; Lumber; Rubber; Fuel; Our Farmers; Steel; Man and Machines.*

CHASE, S. *Rich Land, Poor Land.*

EMENY, B. *Strategy of Raw Materials.*
FINCH, TREWARTHA, and SHEARER. *The Earth and Its Resources.*
FOREST SERVICE, UNITED STATES DEPARTMENT OF AGRICULTURE. Bulletins.
GAER, J. *Men and Trees.*
NATIONAL COUNCIL FOR SOCIAL STUDIES, RESOURCE UNIT. *The Use of Natural Resources.*
PARKINS, A. E., and WHITTAKER, R. *Our Natural Resources and Their Conservation.*
PUBLIC AFFAIRS PAMPHLETS: *Saving our Soil; Farmers Without Land; Machines and Tomorrow's World.*
RENNER, G. T. *Conservation of National Resources.*
RENNER, G. T., and HARTLEY, W. H. *Conservation and Citizenship.*
STALEY, E. *This Shrinking World.*

Problems and Activities for Unit IV

PROBLEMS

1. If the percentage of goods which the United States exports is rather small, why is it necessary for our farmers and manufacturers to have a foreign market for their goods? (Try to find out what the cotton growers, the wheat farmers, and the typewriter manufacturers will say.)

2. Such countries as Cuba must carry on foreign trade or their people will suffer. Why is this true?

3. The countries to which the United States exported the largest amount of goods in both 1939 and 1940 were Great Britain and Canada. Can you discover the reasons for this? Explain.

4. Problem for discussion: Which is more dependent upon foreign trade, a manufacturing country or an agricultural country? Give reasons for your answer.

5. List some of the nations which benefit from trade sent through the Panama Canal route. List some of the goods which you would expect to find on ships passing through the Canal.

6. Is it desirable for a country to have its own merchant marine? Why or why not?

7. Topic for class debate: Should the United States government give help to private shipping companies in the United States?

8. Will the airplane lessen the importance of the railroads and ocean-going ships in the carrying of goods in foreign trade? Give reasons for your opinion.

9. In what ways is the airplane changing the methods of our businessmen?

10. The airplane is changing our ideas of distance and direction. Explain this statement with as many facts as you can.

11. Payment for goods bought from people in a foreign country is more difficult than payment for goods bought in one's own country. Explain the difficulties and methods of making payments.

12. The battle of New Orleans was fought after the peace treaty ending the War of 1812 had been signed. Would such a thing be likely to happen today? Outline the improvements in communications between nations which would affect this problem.

13. How should you expect better communications to affect trade between the nations of the world?

14. How should you expect better communications to affect the attitude of the people of one country toward those of another country?

15. Topic for class debate: Should the United States lower its tariff on goods imported into the United States?

16. How does fear of war encourage foreign trade? How does fear of war discourage foreign trade?

17. Some say that foreign trade is encouraged in a period following a war. Some say that it is discouraged during such a period. What reasons for their way of thinking might each group of people give?

18. Foreign trade is much more necessary for some countries than for others. Explain. Make a list of countries for which foreign trade is most necessary and give reasons in the case of each country.

19. Is a large amount of foreign trade an encouragement to peace between nations? Or is a large amount of foreign trade a cause of rivalry between nations which might lead to war? List the reasons for your beliefs.

ACTIVITIES

1. Select a world map on which the United States is centered. Draw an automobile on the site of Detroit. Connect the automobile by lines with the parts of the world which furnish the raw materials to the automobile manufacturer. ("The World on Wheels," published by Carnegie Endowment for International Peace, will help you.)

2. If you live in a railroad center, find out what are the main railroad lines running through your city. Secure a map of the United States and

locate your city on it, and draw the routes of the chief lines which run through your community. Do railroads connect your community with very distant ones?

3. Read the story of "Rubber" in a pamphlet published by the Pan American Union. How does the growing of a product shift from one part of the world to another as conditions demand?

4. Our present age has been called the Machine Age. This Machine Age has made us more dependent upon other nations of the world. Read the pamphlet "Machine Age in America" published by the Carnegie Endowment for International Peace. List some of the ways in which you are more dependent upon other countries than your mother and father were when they were your age.

5. Make a list of the furnishings which you have in one room of your home. In one column list the things which are supplied by United States producers alone. In another column list the things for which you have depended in any way upon a foreign country.

6. On a world map draw the trade routes which were most used before World War II. Then add the routes which were used during the war, marking them in a different device or color.

7. On a map of the Americas, trace the highway routes which connect Rio de Janeiro with Fairbanks, Alaska.

8. Read about the work of the Division of Cultural Relations in the State Department in Washington and find out some of the things which that division is doing to encourage better relations between the peoples of North and South America.

9. Read the pamphlet "Foreign Trade and the Pantry Shelf" published by the Carnegie Endowment for International Peace. Then in diagram or chart form show how the pantry shelves of the peoples of the world depend upon foreign trade.

10. Secure maps of the United States showing the main railroads, bus lines, and air lines. Compare these routes as to miles covered, parts of the country served, and the straightness of the routes.

11. If you live in a city which is a lake or ocean port, consult your shipping companies or port authorities and discover with what lake or ocean ports your city is directly connected by regular shipping lines.

12. Make a trade map showing the most important trade routes and locate the important seaports on each route.

Books for Reference Reading for Unit IV

BUELL, R. L. *The Hull Trade Program and the American System.* World Affairs Pamphlet 2, Foreign Policy Association, New York.

BUILDING AMERICA. *A Photographic Magazine.* Americana Corporation, Chicago. *America and Foreign Trade; Aviation; Transportation.*

CARNEGIE ENDOWMENT FOR INTERNATIONAL PEACE. Pamphlets on World Interdependence: *The World on Wheels; The Ties That Bind; Foreign Trade and the Pantry Shelf; Machine Age in America; Our Neighbors, North and South.*

DAY, C. *History of Commerce.* Longmans, Green & Co., New York.

FOREIGN POLICY ASSOCIATION. Headline Books: *Made in U.S.A.; The Good Neighbors; Battles Without Bullets.*

KAEMPFFERT, WALDEMAR. *Science Today and Tomorrow.* Viking Press, Inc., New York.

KEIR, R. M. *March of Commerce.*

National Geographic Magazine, February, 1943. *The Alaskan Highway: An Engineering Epic.*

PAN AMERICAN UNION PAMPHLETS: *The Americas; The Panama Canal; The Pan American Highway; Cacao; Quinine; Rubber; Buenos Aires; Montevideo; Rio de Janeiro.*

SCHONEMAN, E. T. *Story of Trade.* Basic Social Education Series. Row, Peterson & Co., Evanston, Illinois.

STALEY, E. *Raw Materials in Peace and War.* Council on Foreign Relations, New York.

STALEY, E. *This Shrinking World.* World Citizens Association.

WAUGH, F. V. *Trade and Commerce.* Basic Social Education Series. Row, Peterson & Co., Evanston, Illinois.

Problems and Activities for Unit V

PROBLEMS

1. Suppose your mother had recently joined a consumers' club. Make a list of the subjects which you think the members of this club should study to make them better buyers.

2. Man cannot avoid seeing and hearing modern advertising. List some of the different kinds of advertising you meet during one day.

3. Prices are often raised by the extravagant services demanded by consumers. Make a list of services which might raise the price of goods for consumers.

4. It has been said that war shows us some of the ways in which we waste goods. What are some of the goods which consumers are urged to

conserve during war? What effect may wartime conservation have on peacetime practices?

5. War changes many consumer practices. List some of the practices.

6. Suppose a group of workers in your father's factory is forming a credit union. The group is drawing up a request for a charter from the state government. What points should be included in the charter?

7. The national income for the people of the United States for the year 1944 was estimated at about 130 billion dollars. Only about 95 billion dollars' worth of goods were produced for consumers to buy, so people were willing to pay more for the goods which they bought. How did the government attempt to prevent people from paying more for these consumer goods? How would prices have been affected if the government had done nothing?

8. How is a large corporation organized? How is its business conducted? Who are its owners?

9. "Cash purchases save money for the consumer." Give reasons for the truth or falsity of this statement.

10. List some of the ways in which consumers are protected.

11. "Consumers themselves may improve the quality of goods offered for sale." Explain this statement.

12. It has been said that it is as unreasonable to refuse ever to borrow money as it is to borrow money continually. Give reasons for this statement.

13. The market price of oranges changes rather rapidly. What are some of the factors which might cause this price change?

14. The standard of living in the United States is higher than that in many other countries. List reasons for this.

15. Under certain conditions countries change their money standard. The United States went off the gold standard in 1933. Why would a country change its money standard?

16. "The person who discovers a counterfeiter is rendering a service to himself as well as to the United States government." Explain this statement.

17. From what kind of bank will each of the following receive the service which meets his needs: the owner of an independent grocery store, a professional man who is working for a monthly salary, a group of men who are establishing a new business and need to sell stock to provide the capital for their business?

18. Which of the following would you advise the people listed below to purchase: an endowment policy, a straight life policy, an annuity?

a. A man thirty years of age who has a wife and children.

b. A father who wants to be sure that his son, now eight years old, may have a college education after he is graduated from high school.

c. An unmarried person who wants to save money for a trip around the world.

d. An unmarried woman who is working on a salary and will have to retire at the age of sixty-five years.

19. How would each of the following be affected by inflation?

a. A college professor.

b. A worker in a steel factory.

c. A laborer on a farm.

d. A farm owner who has a mortgage on his farm which must be paid at once.

e. The head of a family who works in a paper mill and is buying his home on the installment plan.

f. A person living on a pension.

20. Make a list of suggestions which you would give to a friend who has just received some money which he wants to invest.

21. The responsibilities of government have increased during recent years. List some causes for these increased government responsibilities.

22. Make a list of government services showing the most important services performed by each unit of government: national, state, county, city, or town.

23. Make a list of government taxes showing the most important taxes used by each unit of government: national, state, county, city, or town.

24. How are you and your family protected by: Federal Deposit Insurance Corporation, Interstate Commerce Commission, State Public Service Commission?

25. Costs of government have increased during recent years. Make a list of reasons to account for this.

26. List some of the arguments which you might use to further the sale of government savings bonds among the members of your student body.

ACTIVITIES

1. Arrange a class debate on the subject: Installment buying helps the consumer.

2. If there is a consumers' co-operative store in your community, visit it and bring a report back to your class. Include in your report: the different brands of goods sold, the prices, the amount of business done, and the groups of people who patronize the co-operative.

3. Prepare for a class debate on the subject: Much money is wasted through modern advertising.

4. Arrange a class discussion on the subject: Division of labor is necessary for progress.

5. Secure a popular magazine and make a list of the companies which advertise in the magazine. What do you find about the importance which businesses place on advertising and the size of the market upon which a large industry depends today?

6. Prepare a personal budget to cover a period of one month.

7. Secure examples of each of the different kinds of money in circulation and explain each.

8. Secure a blank check and a promissory note. Place them in your notebook and explain how each is used as a credit instrument.

9. Visit your local post office and find out just what you need to do to start a postal savings account. Report to your class on the postal savings system. If you like the idea of starting a postal savings account, be able to tell your class members why you think it is a good idea.

10. Send to the United States Secret Service, Treasury Department, for its bulletin "Know Your Money." After studying this bulletin place in your notebook a list of rules on:

a. How to know counterfeit coins.
b. How to know counterfeit paper bills.

11. See whether you can find in your local community a group of people who have organized a credit union. Perhaps one of the members of such a union will explain to you how his union works. Find out whether his union belongs to the Credit Union National Association. From your interview, what advantages or disadvantages do you see in the credit union?

12. Arrange for a class debate on the subject: A national income tax is more desirable than a national sales tax.

13. Arrange a forum discussion on the advantages and disadvantages of a sales tax.

14. Arrange a class discussion on the subject: The new library (or some other public building which your community is considering) should be financed by the sale of bonds rather than by taking the money from current taxes.

15. If you have a Better Business Bureau in your community, consult the bureau and find out some of the practices about which consumers in your community should be informed.

Books for Reference Reading for Unit V

BUILDING AMERICA. *Advertising; Banking; Business; Wartime Living for Peacetime Security; We Consumers.*

CLARK, J. *How to Check Inflation* (Public Affairs Committee).

DALLAS, H. *How to Win on the Home Front* (Public Affairs Committee).

DALLAS, H., and ENLOW, M. *Read Your Labels* (Public Affairs Committee).

FOSTER, C. D. *The Rich World, the Story of Money.*

FOSTER, L. R. *Credit for Consumers* (Public Affairs Committee).

FOSTER, W. T. *Loan Sharks and Their Victims* (Public Affairs Committee).

HOUSEHOLD FINANCE CORPORATION. *Money Management* (Budget Calendar).

KRUG, E. A. *Why Taxes? What They Buy for Us* (Unit Studies in American Problems).

MOFFETT, C. W. *More for Your Money* (Public Affairs Committee).

NATIONAL EDUCATION ASSOCIATION. *My Part in This War.*

SHERMAN, H. *Inflation in One Easy Lesson* (Council for Democracy).

STEWART, M. *Co-operatives in the United States—A Balance Sheet* (Public Affairs Committee).

STEWART, M. *Credit Unions—The People's Banks* (Public Affairs Committee).

STEWART, M. *How Can We Pay for This War?* (Public Affairs Committee).

STEWART, M. *How to Buy Life Insurance* (Public Affairs Committee).

STEWART, M. *The Smiths and Their Wartime Budgets* (Public Affairs Committee).

Problems and Activities for Unit VI

PROBLEMS

1. Make a list of reasons why it is more difficult to choose a vocation today than it was seventy-five years ago.

2. All people should not attend college. In what ways may you determine whether or not you should attend college. Make a list of vocations which require college training.

3. Advancement within a job is a source of personal satisfaction. Make a list of suggestions which might help a person to obtain advancement.

4. Workers in seasonal trades often demand higher hourly wages than are paid in other trades. Why is such a demand justified?

5. How have occupational trends in your community changed during the last two years? (Consult as many sources of information as are available.)

6. Outline the procedure followed in your school in connection with issuing working certificates.

7. Make a list of the different vocations for which the high school subjects in which you do your best work might prepare you.

8. "The person who chooses a vocation early improves his chances for efficient training." Explain this statement.

9. How could a person's hobbies or leisure-time activities be considered helpful factors in choosing a vocation?

10. Some people believe that inventions cause widespread unemployment. Some believe that they increase the demand for goods so much that they create more jobs. What do you believe? List reasons for your opinion.

11. "War periods destroy some occupations and create others." Give facts to prove this statement.

12. War and depression periods increase the number of people employed by governments. Why are all such new employees not placed on classified lists and required to take civil service examinations?

13. List the advantages and disadvantages which you see in attending college under the work-study plan.

14. Why do most guidance counselors insist that a person who is analyzing his own vocational abilities take a number of tests rather than depend on the results of one?

15. How can your community help you to find a job? List the different agencies from which you might get information about available jobs.

16. Make a list of definite rules which you should follow in interviewing an employer about a job.

17. Is it better to care for the unemployed through a system of unemployment insurance or by means of welfare checks from the local welfare board? Why?

18. List reasons for the growth of labor union membership during the past fifteen years.

19. Which do you think meets the need of today's workers better, the craft union or the industrial union? Give reasons for your opinion.

20. List the reasons which a worker might give a union organizer for refusing to join a labor union.

21. List some of the ways in which workers have benefited through labor organizations.

22. Show how the monopoly which an employer gains over a given industry may be an advantage or a disadvantage to the public.

ACTIVITIES

1. Select four or five vocations which interest you and in which tests have shown that you might succeed. Make a detailed study of each and tabulate your materials in a personal career book. Illustrate your materials with clippings and pictures.

2. Start a card file of occupations in which you are interested. Make a list of the most important facts which you want to know about each occupation. Tabulate your information about each occupation in the same form so that you may compare the results.

3. Arrange a class forum discussion on the occupations in which the class in general shows an interest. Secure the list of vocations to be analyzed by having each member of the class indicate one or more occupations in which he is interested. Each student should make himself an authority on one definite occupation so that he will be able to answer the questions of the other members of the class in connection with that occupation.

4. Divide your class into groups representing the professions, management, craftsmen, clerical workers, and unskilled workers. Let each group present a detailed summary of the work which it contributes to the life of your community.

5. Prepare a detailed report on living conditions among tenant farmers.

6. Read an account of the living conditions of the migrant worker and make a report to the class.

7. Secure information about the government's plan to help workers to improve their living conditions through the model farms and communities which it has built.

8. Visit a government housing project in your community and report to the class on the type of buildings, the basis for selection of tenants, the conveniences, and the recreational facilities which are furnished.

9. Gather information about new inventions which you believe will affect industry and workers. Keep a record of the effects of these inventions on occupational trends.

10. Make a survey of the educational opportunities offered in your community. For what occupations can you receive training in your own local community?

11. From some member of your local Chamber of Commerce secure information about the work of this organization in your community. Report your findings to the class.

Books for Reference Reading for Unit VI

ALSOP, G. G., and MCBRIDE, M. F. *She's Off to Work, A Guide to Successful Earning and Living.*

ANDREWS, E. W. *Looking Ahead—Choosing and Preparing for a Vocation.*

A GUIDANCE BOOKSHELF ON OCCUPATIONS. United States Office of Education. The Federal Security Administration gives a list of books upon different vocations.

BACHER, O. R., and BERKOWITZ, G. J. *School Courses and Related Careers.*

BARRETT, T. *What about Jobs?*

BRECK, F. E. *Jobs for the Perplexed.*

BROADLEY, MARGARET E. *Square Pegs in Square Holes.*

BROADLEY, CHARLES V. and MARGARET E. *Know Your Real Abilities.*

CARLISLE, NORMAN V. *Civil Service Careers for Girls.*

DAIR, R. D. *Your H. S. Record, Does It Count?*

DRIESE, M. *How to Get the Job.*

FILENE, C. *Careers for Women.*

GREENLEAF, WALTER. Career Monographs—19 different careers (United States Office of Education).

HUMPHREYS, J. A. *How to Choose a Career.*

KITSON, H. D. *How to Find the Right Job.*

LINGENFELTER, M. R., and KITSON, H. D. *Vocations for Girls.*

NORTON, J. K. *Should I Quit School to Take a Job?*

OCCUPATIONS. Vocational Guidance Association.

OGLESBY, C. *Business Opportunities for Women.*

PLATT, R. H. *The Book of Opportunities.*

VOCATIONAL TRENDS. Science Research Associates.

Classified List of Occupations

[Adapted from the Classified Index of Occupations and Industries of the Bureau of the Census]

1. Professional Workers

Actors and actresses
Architects
Artists and art teachers
Authors, editors, and reporters
Chemists, assayers, and metallurgists
Clergymen
College presidents, professors, and instructors
Dentists, physicians, and surgeons
Engineers
  electrical
  mechanical
  industrial
  chemical
  mining and metallurgical
Lawyers and judges
Librarians
Musicians and music teachers
Osteopaths
Pharmacists
Social and welfare workers
Teachers, county agents, and farm demonstrators
Trained nurses
Veterinarians

2. Semi-professional Workers

Athletes and athletic instructors
Aviators
Chiropractors
Dancers and dancing teachers
Designers and draftsmen
Funeral directors
Medical service workers
Optometrists
Photographers
Radio and wireless operators
Religious workers
Showmen
Surveyors
Technicians, laboratory and others

3. Proprietors, Managers, and Officials of Different Industries

Business and repair services
Construction
Eating and drinking places
Farming
Finance, insurance, and real estate
Manufacturing
Mining
Personal services (such as hotels and laundries)
Recreation and amusements
Retail and wholesale trade
Transportation, communication, utilities

4. Clerical, Sales, and Kindred Workers

Accountants
Auctioneers
Baggagemen
Bookkeepers
Cashiers
Collectors, bill and account
Mail clerks
Messengers
Office machine operators
Receptionists
Salesmen and saleswomen
Stenographers, typists, and secretaries
Telephone and telegraph operators
Ticket agents

5. Craftsmen, Foremen, and Kindred Workers

Bakers
Blacksmiths, forgemen, and hammermen
Boilermakers
Cabinetmakers and patternmakers
Carpenters
Decorators and window dressers
Electricians
Foremen in different industries (see list under number 3)
Inspectors
Jewelers, watchmakers, goldsmiths, and silversmiths
Locomotive engineers and firemen
Machinists, millwrights, and toolmakers
Masons, tile setters, and stonecutters
Mechanics and repairmen
Metal molders
Millers
Opticians, lens grinders, and polishers
Painters, paper hangers, and glaziers
Piano and organ tuners
Plasterers and cement finishers
Plumbers, and gas and steam fitters
Printing and engraving craftsmen
  Compositors and typesetters
  Electrotypers and stereotypers
  Photoengravers and lithographers
  Pressmen and plate printers
Rollers and roll hands, metal
Roofers and sheet metal workers
Sawyers
Shoemakers and repairers (nonfactory)
Stationary engineers, cranemen, and hoistmen
Structural and ornamental metal workers
Tailors and furriers
Upholsterers

6. Operatives and Kindred Workers

Apprentices
  Carpenters'
  Electricians'
  Machinists'
  Plumbers'
  Printing trades'
Asbestos and insulation workers
Attendants (garage, airport, parking)
Blasters and powdermen
Boatmen, lock keepers, and canalmen
Brakemen and switchmen, railroad
Buffers and polishers, metal
Chainmen, rodmen, axmen (surveying)
Conductors
Dressmakers and seamstresses
Drivers and deliverymen
Dyers
Filers, metal
Firemen (except train and fire dept.)
Furnacemen, smeltermen, and pourers
Graders and packers (fruit and vegetable)
Grinders, metal
Heaters, metal
Linemen and servicemen (power, telegraph, and telephone)
Manufacturing industries
  Apparel
  Chemicals (including coal and petroleum products)
  Food and kindred products
  Iron and steel
  Lumber products, including furniture
  Machinery
  Non-ferrous metals
  Paper, printing, and publishing
  Rubber and leather products, including footwear
  Scientific and photographic equipment

Stone, clay, and glass products
Textiles and floor coverings
Tobacco
Transportation
Meatcutters
Milliners (non-factory)
Mine operatives
Motion picture projectors
Motormen
Non-manufacturing industries (see list under number 3)
Oilers, machinery
Photographic process workers
Power station operators
Sailors and deck hands
Welders and flame-cutters

7. Service Workers

Barbers, beauticians, manicurists
Boardinghouse and lodginghouse keepers
Bootblacks
Charwomen, janitors, and porters
Cooks
Domestic service workers
Elevator operators
Housekeepers, stewards, hostesses
Practical nurses and midwives
Ushers
Waiters and Waitresses

8. Protective Service and Government Workers

Firemen, fire department
Guards and watchmen
Policemen, sheriffs, and marshals
Soldiers, sailors, marines, and coast guards
Other Federal government workers
Other state government workers
Other local government workers

9. Laborers

Fishermen and oystermen
Laborers in the various industries (*see* list under number 3; *see also* manufacturing industries under number 6)
Longshoremen and stevedores
Lumbermen, raftmen, and woodchoppers
Garage laborers, car washers and greasers
Gardeners, except farm and grounds keepers
Teamsters

INDEX

KEY. ā as in āle; ă as in ăm; â as in senâte; â as in câre; à as in àsk; ä as in ärm; ă as in ăccount; ȧ as in sofȧ; ē as in ēve; ę as in hęre; ĕ as in ĕnd; ē as in ēvent; ĕ as in makĕr; ĕ as in recĕnt; ī as in īce; ĭ as in ĭll; ĭ as in charĭty; ō as in ōld; ŏ as in ŏdd; ô as in ôbey; ô as in ôrb; ŏ as in sŏft; ŏ as in cŏnnect; ū as in ūse; ŭ as in ŭp; û as in ûnite; û as in ûrn; ŭ as in circŭs; u as in menü; o͞o as in fo͞od; o͝o as in fo͝ot; oi as in oil; ou as in out; n̄ as in ṇ canyon; ŋ as in iŋk; N as in boN; K as ch in German ich; ~~th~~ as in ~~th~~en; th as in thin; t͡u as in nat͡ure; ' as in evil (ē'v'l)

Pages on which maps appear are indicated by *italic* type.
All Federal acts and agencies are listed under United States government.

Addis Ababa (äd'ĭs ä'bȧ bȧ), 43
Adirondack State Forest, 75
advertising, advantages and disadvantages, 332, 340–342; art training for, 435; false, 407; magazine, newspaper and radio, 292, 324, 338–340; vocational school, 437
Aegean region, 124
Africa, camels and goats, 80; Central, 174; colonies, 160; deserts, 81; East, 55; east coast, 67; farm lands, 132, 133; grasslands, 133, 134; humid subtropics, 87, 88; hydroelectric potentials, 212, 213; languages, 142, 144, 145; manufacturing, 136, 253; mountains, 43; Negroid race, 111–112; North, 67, 108, 132, 145, 151; ocean currents near, 72; plateaus, 40, 41; religions, 151; Rhodesia, 134, 197, 248; Southeast, 89; Southwest, 85, 112; Sudan, 79, 112; West, 67, 112, 244. *See also* Egypt, Ethiopia, Liberia, and South Africa
air bases and ports, 100, 172, 282, 401
air conditioning, 428
air lines, 258, 280, 401
air routes, 23, 27, 99, 243, 279–282, 401
airplanes, 279–282; government and, 282, 401; international understanding, 182; manufacture of, 206, 217, 218–220, 250, 478; occupations connected with, 427, 428, 430; reduction of travel time, 308; in remote regions, 45, 81, 97, 279; United States, use in, 316; wartime use, 219; world trade and, 323
Akron, Ohio, 221
Alaska, coasts of and coastal current, coastal ranges and islands, 42, 47, 50, 51, 72; Highway, 277; rainfall, 66; religions in, 147, 151; time zone, 21
Albania, 147
Albemarle Bay, 49
Aleutian Islands (*a* lū'shăn), 21, 51, 72, 109
Alexander the Great, 126
alfalfa, 84
Alps, 170
altiplano (al tē pla'nō), 40, 97
altitude (elevation), 42, 65, 66, 80
aluminum and bauxite, 175, 198, 199 (*196*)
Amazon, Lowlands, 34, 173; River and Valley, 136, 271, 279, 305
Ambassador Bridge, 306
American Medical Association, 337, 471
American Nurses Association, 471
Anchorage, 277
Andes Mountains, 43, 44, 47, 81, 98, 119
Andorra, 161
antarctic, 13, 65, 73, 74, 99
Appalachian Highlands, 45, 46, 173, 208, 216
Arabia, 41, 67, 81, 108, 145, 151, 153
Arabian Sea, 170
Aral Sea, 151
architecture and building, during depression, 463; of early civilizations, 117, 119, 121, 122, 123, 124, 125, 126; international relations and, 183, 186; occupations in, 425, 427, 428; Renaissance, 127; training for, 434, 435
arctic, archipelago, 52; circle, 13, 73, 74, 95, 175; coastlands, 98; ocean current from, 72; zone, 42
Arctic Ocean, 27
Argentina, climate, 44, 84; exports, 206,

228, 244, 248, 254, 262, 304; flour milling, 254; imports, 254; meat packing, 253–254; money, 284; plains, 34; population, 171, 172; ranching, 193
Aristotle (ăr'ĭs tŏt'l), 3, 125
Arizona, 41, 43
Arkansas, 198
Armenia, 147
art, commercial, 435, 466; of earlier civilizations, 118, 121, 124, 125, 127, 183; exchanges, 292, 293
asbestos, 246, 305, 306
Asia, civilizations of, 115–116, 126; climate, 68, 92; farm lands, 131; languages, 145; manufacturing, 252; mining, 175; physical regions, 34, 45, 84, 85; races, 109; southeastern, 78, 297, 304; time zones, 21; travel to, 308; water power, 213. *See also* names of Asiatic countries
Associated Press, 289
Assyrians, 108, 124
asteroid (ăs'tĕr oid), 8
astronomy, 117, 118, 124
Atacama (ä tä kä'mä) Desert, 81, 83, 201
Athens, 125
Atlantic Charter, 307
Atlantic coast, 48, 62
Atlantic Ocean, 34, 72, 136, 259–262
atmosphere, 4, 15
Australia, aborigines in, 113, 158; civilization in, 121; climate and vegetation, 84, 87, 88, 89; desert, 81, 84; east highlands, 45; farm lands, 131, 133; hides, 248; manufacturing, 136; mines, 83; physical regions, 34, 41, 45, 81; population, 174; religions in, 147, 151; southwest, 85; time zone, 21; wool, 206, 228, 244, 248, 305
Austrian Tyrol (tĭr'ŏl), 43
automobiles, government and, 400–401; international understanding and, 182; manufacture of, 206, 217, 218, 246, 248, 250, 318–319, 424; markets for, 257; occupations connected with, 427, 428; standardization of equipment, 335; widespread use, 425
Azores, 52
Aztecs, 117, 118, 119

Babylonians, 108, 123, 124
Baltic Sea, 55, 57, 170
Baltimore, Md., 215, 216
bananas, 181, 244, 257, 304, 313
banks and banking, branch, 321; checking accounts, 376; commercial, 376; exchange of money and credits, 284–287, 375; government and, 377–379; inflation and, 393; investments, 372–373, 375, 376, 377; safekeeping of money and valuables, 371, 376; savings, 347, 375, 377, 381, 411; sources of money and credit, 320, 360, 368, 373–374, 376, 379, 382, 383
barley, 86, 91
Belfast, 223, 225
Belgian Congo, 112, 248
Belgium, flax, 223; Gulf Stream and, 72; king of, 155; manufacturing, 176, 226, 228; physical regions, 34, 40; race, 107
Bengal, Bay of, 170
Bering Sea, 109, 203
Better Business Bureaus, 336–337, 431, 455
Bhutan (bo͞o tän'), 153
Bingham, Utah, 138
Birmingham, Ala., 218
Birmingham, England, 224, 225
"Black Country," 224
Blackstone Valley, 215
Bogotá (bō gō tä'), 43, 81
Bolivia, altiplano of, 40; tin, 198, 248, 255; trade, 271, 280; tungsten, 250
bonds, banks and, 372, 379; government, 373, 374, 375, 385, 416, 417; purchase of, 347, 384, 385, 411
borax, 82
Bordeaux (bôr dō'), 50
Boston, Mass., 215, 216, 222, 309
Bothnia, Gulf of, 57
boycott, 473
Bradford, 206
Brazil, climate of, 79, 80, 87, 89; cocoa, 244; coffee, 80, 244, 255, 256, 324; government, 161; imports, 304; language,

144; manganese, 197; money, 284; physical regions, 45; population, 171; rubber, 305; steel manufacturing, 138; water power, 213
Brazilian Highlands, 45, 46
Bremen, 49
Britain, 108. *See also* Great Britain
British Columbia, 42, 47, 51, 66, 70, 277
British Commonwealth, government of, 158–160, 163; Great Britain and, 155; language of, 144
British Empire, and India, 159; fur-seals agreement, 203; merchant marine, 270. *See also* British Commonwealth
British Guiana (gē ä'nà), 161, 198
British Isles, 66, 91, 136, 222–225
British Malaya, *see* Malaya
Buddhism, 105, 147, 148–149
Buenos Aires (bwā'nōs ī'rās), 49, 136, 174, 254, 265, 275
Buffalo, N. Y., 215, 218, 272, 306, 356, 401
building, *see* architecture
building stone, 191, 199–200
Bulgaria, 147
Burma, 146, 148, 163
business and businessmen, associations of, 183, 476, 477, 479; budget planning, 345; communication, transportation and, 292, 308; during inflation and deflation, 395, 397, 398; methods, 343; money, credit and, 370–375, 376, 379, 385; owners, 425; in prosperity, 393; training, 435–436, 466
business machines, 438, 441, 449
buying practices, 327–331

cables, 52, 221, 289, 324
Cairo (kī'rō), 172
Calicut, 75
California, 56, 68, 85, 100, 171, 209
California, Valley of, 37, 60
camels, 80, 85, 135, 139
Canada, Alaska Highway in, 277; exports, 246; farm lands, 131; forests, 42, 96, 136; glacial deposits, 57; government, 158–159; growing season, 93; Great Lakes waterway, 204, 273; languages, 144; manufacturing, 136, 205, 248, 262; nickel, 197, 248; physical regions, 34, 35, 37; population, 158, 171; railroads, 275, 307; religions, 147, 151; trade, 301, 304, 305; tundra, 42; water and hydroelectric power, 208, 209, 213; weather conditions originating in, 61, 70
canals, 204, 264, 272, 273, 323
Canary Islands, 52
canning, 137, 215
Canton, 167, 235
Cape Cod, 51
Cape Horn, 261
capital, 318, 319, 425
Caracas (kä rä'käs), 81
Cardiff, 224
Caribbean (kăr ĭ bē'ăn), countries, 244, 248; Sea, 55, 72
Cascade Range, 209
Caspian Sea, 151
Catskill Mountains, 403
cattle, in Africa, 134; in the Americas, 44, 134, 192, 248; as medium of exchange, 363, 364; on savannas and grasslands, 80, 133. *See also* dairy cattle *and* ranching
Celebes, 52
Central America, bananas from, 313; climate, 68, 81; early civilizations, 117–118, 120; farming, 131; government, 161; language, 144; Pan American Highway, 275, 278
Ceylon (sē lŏn'), 158
Chaldeans (kăl dē'ănz), 123
Chamber of Commerce, local, 455, 477; of United States, 477
charge accounts, 327, 329, 358, 396
Charlotte, N. C., 215
chemicals, 228, 231
Chesapeake Bay, 49, 56
Chicago, Ill., 37, 215, 216, 218, 322
Chile, Central Valley of, 37; climate of, 85; coastal plain and islands, 47, 51; desert, 81, 83; forests, 90; iron, 218; nitrates, 201
China, civilization of, 115–117; climate and vegetation, 87, 88, 89; dialects, 142; farming, 115, 116; government, 153, 161, 162; making of china, 235; manu-

facturing, 136; mineral resources, 197; monetary standard, 366; physical regions, 34, 36, 88; population, 166–168, 171, 237; raw silk exports, 206; religions, 148, 149; soil erosion, 194; Stilwell Road, 278; United Nations and, 185; water-power potentials, 213
chocolate, 228
Christianity, 126–127, 147
chromite and chromium, 197, 248 (*196*)
Chungking, 278
Churchill, Winston, 292, 307
Cincinnati, Ohio, 215, 216
cities, finances of, 416; growth of, 207, 237, 314–315, 421, 422; large, 235; small, 233; transportation and, 210, 235
citizenship, 476
city-states, 126
civilization, American Indian, 117–120; occidental, 121–128; oriental, 115–117
civil-service examinations, 466
Cleveland, Ohio, 37, 215, 218
climate, adaptations to, 100; altitude and, 65; classification of, 73–75; climatic regions, 75–100 (*77*); definition of, 58; energy and, 173; farming and, 117, 191, 257; on islands, 52, 54, 133; land and water influence, 66–68; latitudes and, 64–65, 75–100; mountains and, 42. 43, 44, 65–66; ocean currents and, 72 (*71*); occupations and, 233; population and, 166, 172–173, 175; trade and, 181; on uplands and plateaus, 39, 40, 41; winds and, 68–70
clothing, in colonial days, 243, 314; manufacturing of, 206, 228, 424; in United States, 216, 244, 314, 315, 326
clouds, 62–63, 64, 68
coal (*196, 252*), Argentine imports, 265; climate and, 94; coking, 218, 226, 230; conservation of, 213; as fuel, 197; Japanese supplies, 231; manufacturing and, 176, 205, 210, 224, 225, 253; shipments, 271, 272; Soviet deposits, 46, 230; steam power and electricity from, 210, 211, 215, 216, 223; strike, 484; Svalbard mines, 54; synthetic rubber and, 222; transportation and, 175
coastal lands, 47–51; Arctic, 98; climate of, 66, 75, 79; farming on, 131, 133; fiorded, 90
cobalt, 248, 250
cocoa, 244, 304, 313
coconut oil, 256
coffee, Brazilian, 80, 172, 244, 265, 266, 324; climate and, 78, 79, 80; Colombian, 244; United States imports, 251
collective bargaining, 473, 482, 483
Colorado, 85; River, 41, 209
Colosseum, 127
Colombia, 43, 244
Columbia River, 41, 208, 209
Columbus, Christopher, 117, 127
comets, 9, 10
communication, desert barriers to, 81; electricity and, 221; international understanding and, 116, 178, 182, 324; strikes and, 476; trade and, 243, 289–294, 323–324; vocations in, 422, 425, 427–428. *See also* different means of communication
communism, 164
Confucianism, 147, 148
Congo River and Basin, 34, 136, 197
Congress for Industrial Organization, 472
conservation, 88, 191–204, 212–213; government and, 140, 408, 409
consumer co-operatives, 342–345, 380
consumer goods, in wartime, 326, 358, 391, 392, 393, 396; deflation and, 394; during prosperity, 485
consumers, advertising and, 340, 341; dependence on others, 139, 317, 319–320, 361; inflation, deflation and, 396, 397, 398; influence on trade, 326–332; markets and, 322, 324; mass production and, 477; money and, 369, 382; prices and, 296, 394; protection of, 333–337; purchasing power, 370; railroads and, 275; in wartime, 358
Consumers' Research, 337
Consumers' Union, 337
continental shelf, 48, 55, 56
Copernicus (kō pûr'nĭ kŭs), 4
copper, 123, 138, 175, 197, 198, 230, 369 (*197*)

Córdoba, 44
corn, 35, 93, 117, 262
Cornell University, 465
corporations, bank, 378; investment in, 319–320, 375, 377, 384–385; vocational training given by, 435–436
cotton, climate and, 86, 87, 88; exports, 206, 207, 228, 245, 248, 266, 304; imports, 206, 228, 251
Cotton Belt, 87, 215
cotton manufacturing, in England, 223, 224; in Europe and Asia, 226, 228, 231; labeling of cotton goods, 336; in United States, 206, 215, 216
credit, banks as sources of, 320, 371, 372–375, 379; inflation and, 393, 394, 395, 396; money, 368; poverty and, 384; as purchasing power, 360, 389
credit unions, 380–382, 472
Crete, 108, 124
cryolite, 250
Cuba, manganese, 197; physical formation of, 51; reciprocal trade with United States, 300–301; sugar, 244, 255
Cusco (kōōs'kō), 119, 120
customs duties, 413, 414

dairy cattle and dairying, 37, 91, 93
Dairymen's League, 345
dams and reservoirs, 86
Danubian Plains, 93
Dawson Creek, 277
Deccan Plateau, 170
deflation, 391, 393–395, 396–398
dehydration, 428
Delaware River and Bay, 49, 56, 173
demand and supply, 348–353, 398
democracy, 126, 163–164, 165
Denmark, 34, 72, 107, 132, 155, 209
depression, consumer goods during, 326; costs of relief, 411; crop reduction, 408; growth of co-operatives, 345; investments, 388; labor, 409, 484, 485; monetary standards, 366; public works, 463; tenant farmers, 466–468
deserts, near equator, 67, 79, 81, 82; in middle latitudes, 84, 85; mountains and, 43, 44; on plateaus, 40, 41
Detroit, Mich., 37, 215, 218, 306
diamonds, 255
dictatorship, 160, 164, 165
Dnepr River (d'nyĕ'p'r), 209, 210
Dnepropetrovsk (d'nyĕ prô pyĕ trôfsk'), 210, 230
doldrums, 68, 69, 76 (*69*)
Donets River (dŏ nyĕts'), 230
Dutch Guiana (gĕ ä'nȧ), *see* Surinam
dyes, 228, 295

earth, its atmosphere, lithosphere and hydrosphere, 4; axis of, 12–13; circumference, 6, 17; diameter, 6, 33; global form of, 3, 23, 32, 280; latitude and longitude, 17–18; moon and, 6, 10; past knowledge of, 3–4; relation to solar system, 3, 4–6, 9; revolution of, 11–12; rotation of, 3, 11, 18; seasons of, 12–16; surface of, 32–57, 166–172, 191 (*32–33*); time and, 18–22
East Indies, 248
Easter Island, 111
Eastern Hemisphere, 26 (*26*)
Eastern Orthodox Catholic Church, 147
eclipses, 10
Ecuador, 43, 44, 244
education, board of, 435, 466; child labor and, 460; in colonial days, 399; government and, 400, 404; vocational training, 433–438, 440, 444, 449, 465
Egypt, early civilization of, 121, 123; cotton exports, 206, 223, 248, 304, 314; population, 171, 237
Eire (å'rĕ), *see* Ireland
Elbe River, 49
electrical machinery and equipment, 206, 217, 220–221
electricity, generation of, 210, 211–212, 463; rates and prices, 306, 355; use of, 197, 221, 425. *See also* hydroelectric power
elevation, *see* altitude
Elizabeth I, Queen, 153
employer-employee relationships, 480–484; business managers and, 424; job

preparation and, 452; labor unions and, 471–477; personal relationship, 423, 475; public and, 479
employment, 191, 205, 235, 393, 475. *See also* labor *and* occupations
Engel, Dr. Ernst, 355
engineers and engineering, aptitudes and training for, 434, 451; in China, 116; in Crete and Roman Empire, 124, 126; government, 427; road-building, 126, 400–401; water power and, 207
England, climate of, 72; consumer co-operatives in, 342; government, 153, 155, 158, 163; imports, 206, 248, 251, 259; language of, 144; manufacturing, 216, 223, 224–225, 259, 314; money, 284; physical regions, 40; shipping, 258, 259; water power, 207
English Channel, 57
equator, longitude and, 17; Mercator projection and, 23, 25; mountains near, 42, 43, 44; poles and, 13; route around, 22; sun and, 14, 15, 16, 64; trade winds and, 69
equinoxes, 14
Erie, Lake, 218
Eskimos, culture of, 110, 128, 135, 192, 197; in North America and Greenland, 52, 54, 65
Essen (ĕs'ĕn), 226
Ethiopia, 43, 81, 145, 154
Euphrates River, 36, 121
Eurasia, air travel to, 100, 280; climate, 93; farm lands, 133; forests, 136; map projections of, 23, 25; tundra pastures, 98, 135. *See also* Europe and Asia
Europe, aviation in, 219; civilization of, 121, 126, 127; consumers' co-operatives, 344, 345; dairying, 91; electrical industries, 220; farm lands, 131; forests, 90; languages, 143–145, 291; manufacturing areas, 136, 205, 210, 212, 252 (227); metal and cloth manufacturing, 226, 250, 253; mineral resources, 175, 199, 200; physical features, 34, 36, 45, 47, 48, 49, 56–57; population, 170–171, 173; races, 107–108; religions, 147; time belts, 19–20; trade and transportation, 204, 259, 264, 272, 306, 308; wars in, 180; water power, 213; weather and climate, 62, 66, 72, 90, 92, 94. *See also* names of European countries
Everest, Mt., 33
exchange, 284–288, 321–324, 360–362

Fair Labor Standards Act, 459, 460
Fair Trade Practices Laws, 342
Fairbanks, 277
Falkland Islands, 54
Fall River, Mass., 215
falls and fall line, 207–209, 215
farm machinery and tools, changes in, 349, 350; exports, 246, 324; imports, 254, 304; manufacturing of, 217, 218, 219; use in production, 318
farming, 131–133, 140; cash crops, 314, 468; in Central Africa, 174; in Central America, 117, 118, 120, 131; in China, 115, 116; climate and, 76, 78, 86, 88, 91, 94, 172, 173, 407–408; conservation and, 191, 204, 408; co-operatives, 345, 399; in early civilizations, 121, 122, 123, 124; in forest regions, 135; government aid, 408, 465, 466; growing season and, 65, 67; manufacturing and, 205, 421, 422, 423; migratory workers, 467–468; mixed, 34, 39; in oases, 82; on plains, 34, 35, 36, 37; population and, 166, 167, 168, 169, 171, 175, 233, 237; as production, 318; on uplands, plateaus and mountains, 39, 46, 48, 81; tenant, 466–468; wartime, 429
fascism, 164
Federal Bar Association, 471
Fertile Crescent, 121
fertilizers, 88, 191, 199, 201, 318, 321
Finland, 97, 109, 136, 161; Gulf of, 57
fiords, 47, 90
fish and fishing, conservation and, 191, 201–203, 204; continental shelf and, 48; in different climatic regions, 76, 90, 99, 117, 136, 137; as an industry, 422; primitive peoples and, 135
Flanders, 223, 228
flax, 223, 228, 313
floods, 79, 80, 95, 133

Florence, 371
Florida, 72, 100, 201
flour milling, 215, 254, 265
fog, 54, 60, 89, 98
food and food-processing, 215, 313, 315, 320
forests, 135–136, 140, 422; conservation of, 140, 191, 193–195, 204; forestry school, 465; reforestation, 194–195, 463; in subarctic, 42, 94, 95, 96, 97; in subtropics, 88–89; in tropics, 36, 42, 67, 76, 79; on uplands, 39, 40; in west coast marine climates, 90, 91
Formosa, 52
France, farming in, 91; government, 153, 161, 185; hydroelectricity and water power, 209, 213; language, 144; manufacturing, 226, 228, 235; plains, 34; potash, 201; races, 108; textile exports, 216; trade, 302; uplands, 40
freedom and free enterprise, 324–325, 474, 475
French Guiana (gē ä'nȧ), 161
French Indo-China, *see* Indochina
frigid zones, 74

Galileo (găl ĭ lē'ō), 3–4, 11
Galveston, Tex., 207
Ganges River, 169
Gary, Ind., 218
George VI, 155
Georgia, 200, 215
Germany, climate of, 92; fascism in, 164; manufacturing, 226, 228; plains, 34; potash, 201; races, 107; shipping and trade (prewar), 258, 270, 302; uplands, 40; water power, 213
Germany, Western, 155, 161
Ghent, 228
Gironde estuary (zhē rôNd'), 50
Glacier National Park, 405
glaciers, 42, 56–57, 92, 98, 210, 213
Glasgow, 225
Gloversville, N. Y., 235
gloves and glovemaking, 235
gold (*196*), alchemy and, 365; Aztec, 118; Canadian, 97; international payments in, 287, 288; as money and money standard, 363, 364, 366, 367, 368, 390; South African, 255
Gold Coast, 197
government, 153–165 (*156–157*); of early civilizations, 118, 123, 126; financing, 411–417; inflation and deflation controls, 395–397; labor and unemployment, 463; responsibilities and services, 318, 321, 399–410; world trade and, 244, 245, 282, 295–302. *See also* local government, state government, *and* United States government
grade labeling, 335, 337
grain, colonial mills, 313; in different climatic regions, 81, 82, 83, 86, 88; storage and shipment, 272; in Valley of California, 37. *See also* names of grains
Grand Canyon of the Colorado, 41
Grand Canyon National Park, 405
Grand Coulee Dam, 208
Grand Rapids, Mich., 322
granite, 199
grasslands, climate and, 81, 84, 85; livestock and, 133, 134; as a natural resource, 191, 192–193, 204. *See also* savannas
grazing, importance of, 140; on plains, 34, 35, 37, 84, 93, 133; population and, 233; on savannas, 80; in South America, 265. *See also* ranching
Great Barrier Reef, 52
Great Britain, consumer co-operatives in, 344, 345; government, 155, 185; imports, 304; manufacturing, 222–225, 252; monetary standard, 366; religion, 147; tin smelting, 255–256
great circle routes, 22, 100, 259, 280 (*281*)
Great Falls, Mont., 209
Great Lakes, 68, 93, 204, 272, 273
Great Plains, 43, 70, 84, 134, 191
Greece, 108, 125, 147, 155
Greenbelt, Md., 410
Greenland, 23, 24, 52, 98, 99, 250
Greenwich, 17, 19
growing season, in agricultural countries, 257; importance of, 58, 75, 172–173; in middle latitude climates, 84, 85, 92, 93,

133; in subarctic, 95; in subtropics, 87, 88; in tropics, 65; water bodies and, 67
Guatemala (gwä tē mä'lȧ), 117
Guatemala City, 81
Guianas (gē ä'nȧz), 161
Guinea, Gulf of, 67
Gulf Stream, 72 (*71*)
gypsum, 82

Haile Selassie (hī'lē sē lȧs'ē), 154
Hamburg, 49
Hamilton, Alexander, 369
Hamilton County, N. Y., 75
Hammurabi (häm ŏŏ rä'bē), 123
Hawaiian (hä wī'yăn) Islands, 52, 111, 263, 274, 313
hay, 37, 92, 93
health, climate and, 173; consumer protection and, 337; disease and, 204; government and, 404, 405; housing and, 238, 402; insurance, 387; labor unions and, 475
Hebrews, 108, 123, 145
hides and skins, 136, 192, 193, 248, 254, 363
highways and roads, in the Americas, 275–278, 316; government and, 400–401, 408, 412, 463; in Inca Empire, 119; in Japan, 166–167; over mountains, 45, 46; on plains, 34; in Roman Empire, 126; in tropical highlands, 81
Himalaya (hĭ mä'lȧ yȧ) Mountains, 153
Hinduism, 147, 151, 179, 180
Honolulu, 263
Hood River, 44
horse latitudes, 68, 70, 85 (*69*)
Houses of Parliament, 158, 163
housing, for employees, 482; Federal, 321, 356, 408, 410; rural, 408; urban and suburban, 234, 237–239, 315, 427, 463
Houston, Tex., 49, 272
Hudson River, 55, 173
humidity, 58, 60, 68, 80
Hungary, 145
Hwang River, 115, 167
hydroelectric power, 208–210; African potential, 212; inexhaustible resource, 213; in Japan, 231; in the Piedmont, 216; sources of, 92; in the Ukraine, 230
hydrosphere, 4

ice, 259, 264, 273, 306; caps, 97, 99
Iceland, 143, 145
Idaho, 41
Incas and pre-Incas, 117, 118–119, 120
income, budgeting, 345–347; fixed, 395; from investments, 388; low and middle, 356, 357, 379, 383, 412; national, 393, 394; from old-age insurance, 406–407; after retirement, 386–387; standard of living and, 348, 353; tax, 347, 411–415, 417
India, caste in, 179; climate, 68–69, 75, 81; cotton exports, 223; early trade, 139; government, 154, 158, 159; languages, 142, 143, 146; manganese, 197; manufacturing, 136; plains of, 34, 36; population, 169–170, 173, 237; religions, 150, 151; water-power potentials, 213
Indians (American), 40, 109–110, 111, 117–120, 128, 142, 158, 363, 364, 399
Indiana Harbor, Ind., 218
Indochina, 146
Indonesia, establishment, 162–163; mountains, 52; petroleum, 162; population, 133; rubber, 206, 305; tin, 198, 255
Indus River, 169
Industrial Revolution, 339
inflation, 391–398
installment buying, 329–331; loans for, 380, 383; of merchandise, 327, 328; restriction of, 358, 396; rural houses and, 468
insurance, of banks, 378; budgeting and, 346; hospitalization, 387; labor unions and, 472, 475; old-age, 406–407, 463, 464; as protection, 320; savings invested in, 384, 385–387, 411; as vocation, 422
interest, banks and, 372, 375, 385; from bonds, 385, 416; credit unions and, 381; during deflation, 397; Federal rates to farmers, 357; installment buying and, 331; personal finance companies and, 380
International Chamber of Commerce, 183
International Date Line, 20–22 (*21*)

International Federation of Educational Associations, 184
International Labor Office, 469, 470
international misunderstandings, 178–181
international postal union, 289, *see* Universal Postal Union
international understanding and co-operation, conservation and, 203–204; growth of, 178, 181–187, 292–294, 307, 487
interstate commerce, 298–299, 333, 407, 409, 459
invention, *see* science
investment, banks and, 372–373, 375, 376, 377, 385; brokers, 384, 385; choice of, 387–389; companies, 360; corporations and, 319, 320
Iran, 41, 67, 108, 151
Iraq, 108, 151
Ireland, island, 40; republic, 161
iron (*196*, *252*), galvanizing, 199; Hittites' use of, 124; importance of, 197, 205; imports, 176; as medium of exchange, 363; mines and deposits, 46, 94, 138, 175, 198, 206, 218
iron manufacturing, 205; alloys, 250; in British Isles, 224–225; in Europe, 226, 228, 253; exports, 222; in Japan, 231; in Soviet Union, 230; in United States, 217–221
irrigation, in dry season climates, 75, 79, 80; in early civilizations, 123; near mountains, 37, 38, 44, 60; Nile Valley, 133; in oases, 82; population and, 173; in United States, 44, 60, 84, 85, 131, 191, 400
islands, 47, 51–54, 78
Israel, 55, 145
Italy, climate of, 68; fascism in, 164; hydroelectricity and water power, 209, 213, 228; manufacturing, 228; marble, 200; race, 108; silk exports, 226, 228

Jamestown, N. Y., 322
Japan, civilization, 115; china, making of, 235; climate and products, 87, 88; fur-seals agreement, 203; imports, 251, 263; manufacturing, 136, 231; merchant marine, 270; mountains, 52; population, 133, 166–167, 168; raw silk exports, 206, 226; religions, 148, 149; rubber control, 222; water power and hydroelectric power, 210, 212, 213
Java, 78, 168–169, 237
Jefferson, Thomas, 369
Jesus Christ, 125, 147
Johnstown, N. Y., 235
Judaism (jo͞o'dā ĭz'm), 151
Jura Mountains, 235

Kalahari Desert, 44, 81
Kamchatka, 52
kapok, 250, 321
Kentucky, 218
Kharkov (kär'kôf), 230
Kitty Hawk, N. C., 218
Kobe, 265
Korea, 68, 115
Kurile Islands (ko͞o'rĭl), 52

labor, child, 460, 469; conditions, 321; costs, 257; division of, 319; government and, 408–409, 459–470, 481, 484; groups, 423–425; hand, 79–80, 211, 235; management committees, 481–482; production and, 318–319; standards, 297; supply, 257, 304, 305, 350, 484–485; wartime demand for, 358. *See also* workers
labor unions, 409, 471–476, 477, 483, 485
Labrador, 72; Current, 72
lagoons, 52, 53
lakes, 95, 97, 209
Lamaism, 149
Lancashire, 223, 224
languages, 142–146 (*142–143*); of early civilizations, 123, 125, 126; nationalism internationalism and, 178, 179, 182 race and, 105; study of, 435; trade and 289, 291, 292
Lao-Tse (lou'dzŭ'), 148
Lapland, 135
Laredo, Tex., 275, 276
Latin America, 292, 293
latitude, 14, 17, 23, 27, 64–65 (*18*); and climatic regions, 75–100
Laurentian Upland, 39

Lawrence, Mass., 215
lead, 175, 197, 198, 230 (*196*)
leather, 221–222, 228, 248, 319
Leeds, 206, 223
Lend-Lease Act, 245, 259
Leningrad, 230
Liberia, 67
Liechtenstein (lĭk'tĕn shtīn), 155
Liége (lē ĕzh'), 226
life, length of, 406, 407
Lille (lēl), 226, 228
limestone, 199, 218
Lincoln, Abraham, 369
linen, 223–224, 228, 304
lithosphere, 4, 33
Liverpool, 49, 223, 251
livestock, leading areas, 91, 94, 133, 192; problems connected with, 80, 84, 168. *See also* names of domestic animals, grazing, *and* ranching
Llanos (lä'nōz) of Venezuela, 79
loan value, 388–389
loans, bank, 372–374, 377, 378; charges for, 384; other credit agencies, 379–383, 393; to governments, 416
local government, 321, 399–410, 415–417, 463, 464
Lodz (lôdz), 228
London, 49, 223, 265, 279
Long Island, N. Y., 75
longitude, 17, 18–20, 27 (*19*)
Lorraine (lô rān'), 226
Louis XIV, 153
Louisiana, 201
Lowell, Mass., 215
lowlands, 166–167, 168, 169 (*32–33*)
lumber and lumbering, 135–136, 194, 195; automobiles, 319; in mountains, 42; prefabricated construction, 314; in taiga forest, 95; in tropics and subtropics, 79, 88–89
Luxembourg, 155, 226
Lyon, 226, 228, 235

Macedon (măs'ē dŏn), 126
machinery, ability to operate, 442, 449; Argentine imports, 265; effect on occupations, 422, 423, 424, 425, 472; manufacturing, 176, 207, 217, 225, 253, 319; mining, 254–255. *See also* farm machinery
Madagascar, 151
Madeira Islands, 52
Madeira River, 271
Magnitogorsk (măg nē tô gôrsk'), 230
Maine, 47, 51
Malay Peninsula, 113
Malay States, 305
Malaya, 198, 248, 255
managers and managerial positions, comparison with trade positions, 448; of corporations and businesses, 320, 344, 423, 424, 425; in farming, 318; training, 425, 433, 454
Manchester, England, 223, 225, 272
Manchester, N. H., 215
mandates, 160
manganese, 46, 197, 230 (*196*)
Manila hemp, 256
manufacturing (*214, 227, 229*), assembly-line, 257, 319, 430, 478; cities and, 235; climate and, 92; employment in, 205–206; importance of, 140, 422; leading areas and industries, 136, 205, 213–231, 252–254; mass production, 257, 279, 340, 353, 475, 479; mineral resources and, 175, 176, 197; in mountains, 46; natural resources and, 191; population and, 236–237; power and, 92, 207–213; raw materials, 78–79, 206, 236; tariffs and, 296, 297, 298; trade and, 248–254, 304; on uplands, 39. *See also* producers and production
maps, 23–31, 280 (*24–26*)
marble, 199, 200
markets and marketing, 322; in cities, 422; co-operative, 345; factories and, 236; methods, 476; transportation and, 264, 274; world trade and, 248, 252, 255, 256, 305, 339, 421, 477
Massachusetts, 222
mathematics, 117, 121, 434
Mayans, 117, 118
meat and meat packing, 215; Argentine, 253–254; beef, 262, 265, 304, 313; colonial production, 313; English imports,

251; grade labeling, 335; mutton, 262, 265; in savannas and other pasture lands, 80, 192–193
medicine, 121, 435
Mediterranean, civilizations, 121, 124, 126; race, 107, 108; regions, 85, 151; Sea, 55, 139, 151
Melanesia (mĕl *ā* nē'shĭ ā), 111, 113
Melbourne, 136
Mendoza (mĕn dō'sä), 44
meridians, 17, 19, 20, 22, 24, 26
Merrimack River and Valley, 208, 215
Mersey River, 49
Mesabi Range, 198
Mesopotamia, 36, 121, 145
metal ores and industries, 191, 197–199, 230; alloys, 197, 250, 364. *See also* mineral resources
Mexican Plateau, 40, 118
Mexico, art, 293; desert, 81; early civilization, 117–118, 120; farming, 131; government, 161; guayule, 297; monetary standard, 366; Pan American Highway, 275, 308; Valley of, 118
Mexico City, 184, 275
Mexico, Gulf of, 34, 55, 62, 72
Michigan, 201, 218
Michigan, Lake, 218
Middle Ages, 126–127
Middle America, 109, 131
Middlesbrough (mĭd'lz brŭ), 225
Milan, 228
Milwaukee, Wis., 218
mineral resources (*196*), conservation of, 191, 195–201, 204; of desert areas, 83; population and, 166, 174–176; in Ural Mountains, 46, 230; world trade and, 181, 248, 254–255
mining, airplanes and, 81; centers, 175; climate and, 94, 95; copper, 138; in deserts, 82, 83; hydroelectric power and, 92; importance of, 137, 422; in mountains, 42; in South Africa, 255; in Ural Mountains, 230
Minneapolis, Minn., 208
Minnesota, 37, 198
Mississippi, 87; River and Valley, 36, 92, 93, 194, 208, 271
Missouri River, 209
Mobile, Ala., 49
Mohammedanism, 105, 151
Mohawk River, 173
Moline, Ill., 218
molybdenum (mō lĭb'dē nŭm), 197
Monaco (mŏn'*ā* kō), 155
monarchies, 153–155, 158, 165
money, "checkbook," 373–374; deflation and, 397; exchange and, 284–288, 315; inflation and, 392, 393, 394, 395, 396; kinds of, 284, 367–370; purchasing power, 370, 389, 390; purposes and characteristics of, 360–366; safe-keeping of, 371–372; standards, 366; system, 370–379; use and misuse of, 382–389
monsoons, 68, 69, 79, 133
Montevideo (mŏn tē vĭd'ē ō), 49, 136, 265
Montreal, 259
moon, 6–7, 10
Moscow, 230
motion pictures, 206, 292–293, 307
mountains (*32–33, 67*), as barriers and boundaries, 44–45, 67; climate and, 40, 41, 43, 44, 65–66, 73, 75, 90, 97; height of, 33; islands formed by, 51–52; old, worn-down, 45–46; population and, 166–167, 170, 171; submarine, 55; transportation and, 45; water power, 92; young, rugged, 42–45
Murmansk (mōōr mänsk'), 259
music, 182–183, 292, 435
Mussolini, 160

Nancy, 226
Natal, 89
National Association of Manufacturers, 476
National Education Association, 471
nations and nationalism, 105, 179–180
natural gas, 197, 211
natural resources, 191–204, 233, 255, 257, 353
naval stores, 88
Negroes, in Central Africa, 174; languages, 105, 142; music, 183; tribal government, 158
Nepal (nĕ pôl'), 153

Netherlands, the, climate, 72; government, 155; manufacturing in, 226; plains, 34; race, 107; shipping, 258; Surinam, 161
Netherlands Indies, *see* Indonesia *and* East Indies
Nevada, 43
New Bedford, Mass., 215
New Britain, 52
New Brunswick, 202
New Delhi, 159
New England, climate, 62, 72; colonial days in, 243–244; cotton imports, 206; electrical industries, 220; manufacturing, 208, 211, 215; shoe factories, 222; uplands, 39; water power and hydroelectricity, 207, 208
New Guinea, 52, 113
New Jersey, 50–51
New South Wales, 34
New York City, air travel and, 279; great circle route and, 259; leading port, 265, 275; manufacturing, 215, 216, 222, 326; Times Square advertising, 339; water supply, 403
New York State, climate, 75; free vocational courses, 465; glovemaking, 235; hydroelectricity and water power, 208; migrant workers, 468; rate regulation, 356; salt production, 201; unemployment insurance, 463; waterways, 272, 273; women workers, 460
New York State Barge Canal, 272
New Zealand, civilization, 121; climate, 90, 133; government, 158; International Date Line and, 21; race, 111; religions, 147; South Island, 47; wool exports, 206, 248
Newcastle, 225
Newfoundland, 48, 72
news and newspapers, 289, 307, 339, 340, 341, 450, 455
Niagara Falls, 208
Nicaragua, 181
nickel (*196*), as alloy, 197, 250; in automobiles, 319; Canadian exports, 246, 248, 305, 321; coins, 369
Nile River and Valley, agriculture and, 36, 122, 133, 172; civilization, 121; population, 171, 237
nitrate, 82, 83, 201 (*196*)
North America, agricultural lands, 131, 133; air travel and, 100, 280; climate, 65, 66, 84, 92, 93, 98; Coast Ranges, 42, 90; coastal lands, 47; continental shelf, 48; cultural exchanges, 294; estuaries, 49; forests, 136; glacial deposits, 56; manufacturing, 252; map projections of, 23, 25; migration and civilization of Indians, 109, 117; mountains, 45; Pan American Highway, 278; pasture lands, 135; plains, 34, 218; population, 65, 171, 173; water power, 213. *See also* names of countries
North Carolina, 215
North Dakota, 37, 60
North Sea, 48, 55, 170
Northern Hemisphere (*26*), climate, 16, 69, 70, 84, 89–90; farm lands, 133; fishing, 136; longest day, 13; manufacturing, 205, 253
Northern Ireland, 58, 223
Norway, climate, 66, 72; fiords, 47, 48; forests, 90, 136; government, 155; hydroelectricity and water power, 92, 209, 213; islands, 51; language, 145; races, 107, 109; shipping, 258, 270; surface, 90
Nova Scotia, 72
Novosibirsk (nô vô sē bērsk'), 230
nylon, 215

oases, 82–83
occupations (*130–131*), in cities, 237, 315; choosing, 324, 440–452; natural resources, climate and, 233; occupational adjustment, 459, 461, 465, 466; opportunities in, 421–438; securing a job, 455–457; success in, 452–454; training for, 433–438
oceans, bottom of, 54–57; continental shelf, 48; currents, 23, 72 (*71*); estuaries, 48–49; hydrosphere, 4; land areas and, 33, 50, 66, 67, 90, 92; map projections, 25, 27; in north polar region, 65, 99

Oder River, 49
Ohio, 218, 466
Ohio River, 271
Ohio State University, 466
Olympic Games, 184–185
Oman, 153
Ontario, 135
Oregon, 171, 209
Organization of American States, 183–184, 278

Pacific coast, 48, 137
Pacific islands, 128, 143, 151, 248
Pacific Ocean, 20–22, 72, 136, 262, 263
Pakistan, 154, 158, 159
Palestine, 151
Pamlico Bay (păm'lĭ kō), 49
Pampa, 87, 89
Pan American Highway, 81, 275–278, 308 (*276*)
Pan American Union, 183, 184
Panama Canal, 261, 262
paper and paper manufacture, 88, 121, 135, 206, 231, 358
Paraguay, 34, 248
parallels, 14, 17, 18, 24, 26
Paris, 228
Parthenon (par'thĕ nŏn), 125
pasture lands, 192–193. *See also* grasslands
Patagonia, 44
Peace Bridge, 306
Penn, William, 338
Pennine (pĕn'ĭn) Range, 223
Pennsylvania, 217–218, 271, 466
Pennsylvania State College, 465
Peoria, Ill., 218
Persian Desert, 81
personal finance companies, 380, 382
Peru, 117, 118, 119, 120, 197, 277
petroleum and oil products, Argentine imports, 265; conservation of, 213; fuel and power, 197, 211; for lubrication, 245; pipe lines, 211; population and, 175; sources, 83, 94; synthetic rubber and, 222; widespread use, 425
Philadelphia, Pa., 215, 216, 222
Philippines, 33, 52, 110, 113, 133, 256
Phoenicians (fē nĭsh'ănz), 108, 123, 124, 125
phosphate, 201 (*196*)
Piedmont Belt, 39, 215
Pisa, 3, 11
Pittsburgh, Pa., 206, 215, 217–218, 272
plains, 33 (*32–33*), arctic, 98; flood, 36, 167; interior and coastal, 34; lake and lowland basins, 37; population and, 167, 169, 170, 171; river-made, 36
planets, 4–8, 9, 10
plastics, 255, 428
Plata River, 49, 265
plateaus, *see* uplands and plateaus
platinum, 230 (*196*)
Plato, 125
Po River plain, 36, 37, 228
Poland, 34, 92, 94, 228
poles, latitude and, 17; map projections of, 23, 26–27 (*26*); polar caps, 99; sun and, 12, 13, 14, 74
Polynesia, 110–111
population (*168–169*), air travel and, 280; in Asiatic islands, 133; changes, 484–485; climate and, 72, 78, 80, 81, 82, 88, 92, 97; conservation and, 203; distribution of, 166–176; on farm lands, 191, 233; on grasslands, 193, 233; increase of, 105; in manufacturing regions, 236–237; on plains, 34, 36; on plateaus and uplands, 39, 40, 41; in ports, 264; world peace and, 178. *See also* names of countries
ports, chief, 216, 223, 230, 265, 274; international regulations, 307; manufacturing and, 210, 235; trade and, 81, 254, 259–266
Portugal, 108, 144
potash, 201, 228
potatoes, 84, 91
pottery and potteries, 225, 293
precipitation, in various climates, 84, 92, 93, 95, 98, 99; various forms of, 60. *See also* fog, ice, rainfall, *and* snow
prefabricated houses, 314, 315
pressure (atmospheric), 58, 60–63, 66
Pribilof (prē bē lŏf') Islands, 203
prices, agreements regarding, 476; ceilings

on, 358, 396; consumer and, 397–398; increases in, 236, 350, 391, 393, 395, 396, 397, 475; market, 343, 348, 350–353; mass production and, 477; monopoly and, 479; quality and, 332; reduction in, 316, 335, 353, 394; wages and, 390; world trade and, 257, 288, 296, 297, 298, 300, 304
producers and production, in depression, 394; labor unions and, 475; markets and, 322, 323, 350; in the modern world, 317, 318–320, 326, 361; monopolies and, 479; in normal times, 391; in prosperity, 393; trade associations and, 476; in wartime, 429, 484, 485. *See also* manufacturing
professions and professional workers, associations of, 471; comparison with trades, 448; examinations and standards, 461, 487; as a group, 139; opportunities, 237, 421, 423, 425, 427; training, 424, 433, 435
profits, banking, 372; from corporations, 385; inflation and, 393, 396; sharing, 480–481; tariffs and, 296; wartime control, 358; world trade, 258, 288
prosperity, 393, 427, 484, 485
Protestantism, 147, 149
Provincetown, Mass., 51
Public Service Commission, 356
public utilities, 476
public works, 463
pulp (wood), 88, 95, 135
Pyrenees (pĭr'ē nēz) Mountains, 161
Pythagoras (pĭ thăg'ō răs), 3

quality, 332, 399
quarantine laws, 298
quarrying, 137
Quebec, Province of, 144, 306
Queensland, 89
Quinault (kwē nŭlt'), Wash., 90
Quito, 43, 81

race and races, 105, 113–114 (*106*); Caucasian, 107–109, 113; Mongoloid, 107, 109–111; Negroid, 107, 111–113
Racine, Wis., 218
radio, advertising, 292, 324, 339, 340; broadcasting, 243; consumer protection programs, 336; government and, 402–403; international understanding and, 182, 289, 290, 292, 293, 307, 308; manufacturing of, 206, 221; occupations connected with, 427, 435; stations on islands, 52; in the United States, 316
radium, 97 (*196*)
railroads, compared with other transportation, 261, 278, 279; electric power and, 212, 221; international understanding and, 182; manufacturing and, 205, 206, 217; mountains and, 45, 46; on plains, 34; rates, 355, 407; steam power and, 210; subtropical crops and, 88; taiga forest and, 95; trade and, 139, 174, 258, 264, 274, 323; tunnels, 45
rainfall, 60, 63 (*59*); agriculture and, 257; climate and, 74; cloudbursts, 70; in cyclones, 62; grazing and, 193; hydroelectricity and, 210; in low latitudes, 76, 79, 81; in middle latitudes, 84, 85, 86, 87, 88, 89, 90, 91, 94; mountains and 43, 44, 65, 66, 67, 68, 92; on plains, 34, 36; on plateaus, 40, 41; population and, 172, 173; in Orient, 133; seasonal distribution, 60, 75, 79, 86
ranching, 84, 88, 192–193
Rangoon, 278
rationing, 358, 396, 397
raw materials, Atlantic Charter and, 307; for British wool industry, 223; farming and, 318; from forests, 135; manufacturing and, 78–79, 191, 205, 206, 236, 251, 253, 318–319, 350; New England imports, 211; from Southern Hemisphere, 136; steel as, 476; transportation and handling of, 210, 235; world trade and, 243, 248, 250, 251, 254, 255, 304, 306
rayon, 215, 335, 428
real estate, 375, 411, 412, 415, 422
reciprocal trade agreements, 300–301, 403
recreation, in colonial times and present, 399, 404, 405, 427; conservation of areas for, 203; for factory employees, 482; in mountains, 42; New York State resort area, 75; as occupation, 423, 452

Red River of the North, 37
reefs, 47, 50, 52, 53
reforestation, 194–195, 463
refrigeration, 253–254, 316, 351, 428
reindeer, 99, 135, 192
relief features (*32–33*), classification of, 33; escarpments, 41, 55; farming and, 88; map devices indicating, 28–31; of ocean bottom, 54–57; rainfall and, 90; swamps, 95; temperature and, 65, 66; transportation and, 81. *See also* coastal lands, islands, mountains, plains, rivers, and uplands
religion, 147–151 (*148–149*); civilization and, 115, 123, 125; peace and, 179, 183; race and, 105
Renaissance (rĕn ĕ säns'), 127
rents, 329, 355, 359, 396, 466
republics, 161–163, 164
reservoirs, *see* dams
Retsof, N. Y., 201
Rhine River and Valley, 226, 264
rice, 36, 78, 79, 80, 88
rift valley, 55
Rio de Janeiro, 46, 136, 265, 266, 275
rivers and river valleys, canyon-cutting, 41, 55, 56; deltas, 36; estuaries, 48–50; flood plains, 133; settlement and, 173–174; in subarctic, 95; as waterways, 204
Rochdale weavers, 342–343
Rochester, N. Y., 216
Rocky Mountains, 42, 43, 209
Roman Catholicism, 105, 147, **149**
Roman Empire, 126, 144
Romans, 121, 124, 164
Rome, 126, 127, 147, 150
Roosevelt, Franklin D., 292, **307**
rotation of crops, 191
Rotterdam, 264, 265
rubber and rubber manufacturing, air transport and, 279, 280; automobiles and, 319; Brazilian, 305, 321; British, 304; guayule, 297; in jungles, 76; manufacturing, 221–222, 248; raw and synthetic, 206, 221, 222, 305, 429; in Southeast Asia, 78, 321; during war, 206, 222, 297, 350
Ruhr Valley, 226
rural population, 354, 357, 402, 408, 421, 485
Russia, *see* Soviet Union
rye, 91, 93

Saar Basin, 226
Sahara Desert, 68, 81, 82, 111, **112**
St. Étienne (săn tā tyĕn'), 226
St. Lawrence, Gulf of, 56
St. Lawrence River, 49, 204, **273**
St. Louis, Mo., 216, 222
St. Peter's Church, 150
salary, 395, 447
salt, 82, 191, 199, 200–201, **363**
Salt Lake, 44
Samoa, 111
sandstone, 56, 199, 200
San Francisco, 137
San Marino, 161
sand bars, 47, 50
Sandy Hook, 50
Santos, 265, 266
São Paulo (soun pou'lðô), 136
Saudi Arabia (sä ōō'dē ȧ rā'bĭ ȧ), 153
savannas, 42, 79, 80
savings, 347, 375, 377, 381, 384–387
Scandinavia, 45, 107
science and invention, civilization and, 115, 116, 125, 127, 139; German, 145; government and, 400–402, 408; industry and, 250, 421, 422; occupations and, 425, 428–429, 434
Scotland, 40, 47, 107, 158, 207, 235
seals, 203, 204
services, of city workers, 315; exchanged for goods, 286, 287, 288; merchandising, 331; modern man's dependence on, 320–321; occupations related to, 423, 425, 427, 451
Setauket, N. Y., 75
shale, 56
sheep, 54, 80, 84, 133, 192, 206, 223
Sheffield, 225, 235
shellfish, 203
Shinto, 147, 149
ships and shipping, building of, 217, 225, 258, 267, 269–270; comparison with

trains and planes, 261, 279; routes, 259–266 (*260*); trade and, 52, 139, 206, 210, 225, 258; types of, 267–273, 323
shoe manufacturing, 222, 235
Si River, 167
Siam, *see* Thailand
Siberia, eastern uplands of, 40; farm lands, 133; forests and tundras, 42; herding, 135, 192; International Date Line and, 21; languages of, 145; manufacturing, 230; population, 65; railroad, 230; religions, 147, 151; vegetables, 97
Sierra Nevada, 42, 43, 60, 209
silk, 88, 115, 116, 138, 206, 226; manufacturing, 206, 215, 226, 231, 235; in France, 226; in Italy, 228
silver, 118, 197, 363, 364, 366, 367, 368, 369 (*196*)
Singapore, 75
smelting, 217, 255–256
Snake River, 41, 209
snow, 63; in cyclones, 62; in high latitudes, 98, 99; hydroelectricity and, 209; in middle latitudes, 60, 85, 87, 92, 95; on mountains, 44, 60, 65
social consciousness and understanding, 442, 445, 487
social security, 347, 404, 405–407, 461, 463–464, 475
social sciences, 434
social welfare, 404–407, 463, 464, 475, 480
socialism, 162–163, 164
Socrates, 125
soil, climate and, 172; conservation, 191–194, 408, 409; farming and, 318; fertile, 36, 37, 94, 117, 131, 133, 171; in tropics and subtropics, 88, 257; in upland regions, 39, 90; world trade and, 181, 257
Solomon Islands, 52
solstice, 14
Somaliland, 67
Sonoran (sō nō'răn) Desert, 81
South Africa, civilization of, 121; chromium, 248; coal, 255; desert, 40, 44, 81, 84; grasslands, 135; manufacturing, 136; mines, 83; mountains, 44, 45; plateaus, 40; religions, 147; Southern Highlands of, 45; Union of, 158, 197, 255
South America, Andean coast, 47; coffee, 313; cultural exchanges with, 289, 294; exports, 88; farm lands, 131; government, 161, 164; grasslands, 84, 133; hides, 248; imports needed, 254; Indians in, 109, 111, 117, 118–120; languages, 144; location of, 261; manufacturing, 136, 253; map projections, 24; ocean currents and, 72; plains, 34; Plata River estuary, 49; plateaus, 40; population, 171, 174; travel to, 275, 278, 279, 308; tribal religions, 151; water power, 213; woods, 248. *See also* names of South American countries
South Bend, Ind., 218
South Carolina, 215
South Dakota, 37, 60
South Georgia, 54
Southern Hemisphere (*26*), climatic conditions, 69, 70, 88, 90, 94–95; forests, 136; Negroid race in, 111
Southern Rhodesia, 134, 197, 248
Soviet Union (Russia), in humid continental climate belt, 92, forests, 96, 136; fur seals, 203; government, 162, 164; grain areas, 93; languages, 145; manufacturing, 229, 230 (*229*); mineral resources, 197; plains, 34; races, 109; religions, 147, 151; United Nations and, 185; uplands and plateaus, 40; water and hydroelectric power, 209, 210, 213. *See also* Siberia *and* Ukraine
soybeans, 251
Spain, 86, 108, 164, 223
standard of living, in China, 117; consumer demand and, 348, 353, 355; in industrial nations, 251; labor unions and, 472; low, 356–357, 466; in one-crop and two-crop countries, 255; trade and, 179, 259; in United States, 257, 267, 315–316, 427; variations in, 354, 485; vocations and, 447
standardization of goods, 334–335
stars, 8–9
State Employment Bureau, 431, 462, 468
state government, aid to state colleges, 435; corporation charters from, 320;

fair trade laws, 342; health protection, 313; housing, 356; labor, employment and, 321, 455, 459–469, 482; laws regulating loans, 380, 381; responsibilities and services, 399–410; social welfare, 463–464; taxes, 414–415
State Industrial Commissioner, 460
steam power, 210–211, 223
steel, alloys, 197, 250; automobile production and, 319; Brazilian, 137; exports, 222; machinery, 176, 253; manufacturing, 205, 206, 217, 218, 224–225, 226, 228, 230, 231; for Pan American Highway, 275; strike, 471
Stettin, 50
Stilwell Road, 278
stocks, banks and, 372, 379; buying and selling of, 377, 384–385, 411; profit sharing and, 481; as security, 373; as shares in corporation, 320, 385
stores and storekeepers, 139, 322, 326–327, 344, 423
subsidies, 269, 357, 408
Sudan, 79, 112
Suffolk County, N. Y., 75
sugar and sugar cane, in Asia, 78; Brazilian, 266; Cuban, 244, 274; refining, 215; on savannas, 79, 80; United States and, 88, 251, 256
sugar beets, 84, 85, 91, 357
sulphur, 201
Sumatra, 162, 250, 321
Sumerians (sŭ mĕr'ĭ ănz), 123
sun and solar system, angle of rays, 15–16, 65, 74; climate, seasons and, 12–16, 76, 79, 81, 108; eclipses, 10; planets, 3, 4–8, 9, 11; revolution of earth around, 3, 5, 11–12; source of light and heat, 6–7, 9, 11, 12, 13, 14, 15, 58, 64; time and, 18–19
Superior region, Lake, 206, 218
supply (goods), 350, 391
supply and demand, law of, 304
Surinam (sōō rĭ näm'), 161, 198, 199
Susquehanna River, 49, 173
Svalbard (säl'bär) archipelago, 53
Swansea, 224
Sweden, forests in, 136; government, 155; hydroelectricity and water power, 92, 209, 213; iron ore, 218; language, 145; population, 97, 109; teachers from, 309
Switzerland, government, 161; hydroelectricity and water power, 209, 213, 228; manufacturing, 226, 228, 229; population, 170
Sydney, 136
Syracuse, N. Y., 465
Syria, 151

Taft-Hartley Act, 483–484
Tampa, Fla., 49
Taoism (dou'ĭz'm), 148
tariffs, 295–301, 304, 414
taxes, 396, 406, 411–417
tea, 78, 80, 88, 304
telegraph, 182, 221, 289, 324, 476
telephones, manufacturing of, 221, 250; strikes, 476; transoceanic service and international understanding, 182, 289, 308, 324, 427 (*290*); in the United States, 316
teletype machines, 289
television, 289, 427
temperate zones, climate on tropical mountains, 43, 44; mineral resources and, 175; plains, 34; seasonal changes, 73; sun's rays and, 74; in winter, 60
temperature, climate and, 36, 58, 60, 61, 65, 66, 75; in high latitudes, 98, 99; in low latitudes, 76, 79, 81; in middle latitudes, 87, 90, 92, 93, 95; of sea water, 54, 67
Tennessee, 200, 201
Tennessee River, 208, 463
Texas, 201, 468
textiles and textile manufacturing, Argentine imports, 265; in British Isles, 222–223; in Europe and Asia, 226, 228, 230, 231; labeling of, 335–336; in United States, 215–216
Thailand (tī'lănd), 148
Thames River, 49
Thar (tŭr) Desert, 81
Tibet, 149; Plateau of, 40, 98
Tigris River, 36, 121

time zones, 18–22 (*20*)
Times Square, 339
tin, 198, 248 (*196*)
tobacco, 88, 245, 246
Toledo, Ohio, 37
torrid zone, 73, 74
trade (*249*, *260*), airplanes and, 220; Argentine, 84; balance of, 286–288, 298, 366; communication and, 289–294; early, 123, 124, 139, 144; international exchange, 284–288; international understanding and, 181–182; Japanese, 231; major industry, 422; nature and extent of, 243–246; opportunities in foreign, 477; policies, 295–302; reasons for world, 248–258; results of, 304–309; routes, 23, 24, 78, 259–282, 306. *See also* transportation
transportation, by air, 279–282; in ancient Crete, 124; coal, petroleum and, 175; cities and, 235; over deserts, 81; electricity and, 221; government provision of, 402; Great Lakes waterway, 204; on land, 274–278; manufacturing and, 205, 206, 230, 236; in mountains, 45; on plateaus, 41; on rivers, 173; routes, 24, 259–282; in South Africa, 255; in Soviet Union, 230; steam power and, 210; strikes and, 476; in subarctic, 95, 97; in tropics, 80; in United States, 173; unites East and West, 116, 117; vocations in, 139, 422, 425, 427–428; on water, 267–273; world trade and, 88, 243, 258, 304, 306, 323. *See also* different types of transportation
Trans-Siberian Railroad, 230
Trinidad, 52
tropic of Cancer, 14, 73, 74
tropic of Capricorn, 15, 73, 74
tropics, coral reefs in, 52; climate of, 76–83; forests, 36, 42; heat waves from, 70; mineral resources in, 175; mountain areas, 42, 43; plains, 34; rubber production, 221
trucks, 139, 218, 258, 275, 278, 323
Truk Islands, 52
trust companies, commercial banks designated as, 376
Tucumán (tōō kōō män'), 44
tundra, 42, 95, 97, 98, 192
tungsten, 197, 250
Turin, 228
Turkey, 151, 153, 161, 197, 321
Tuscarora Deep, 55

Ukraine (ü'krān), 230, 231
unemployment, deflation and, 394, 396, 397; government and, 461–463; insurance, 407, 462, 463, 464; labor supply and, 485; migrant and tenant farmers, 468; strikes and, 476; in wartime, 393
Union of South Africa, 158, 197, 255
Union of Soviet Socialist Republics, *see* Soviet Union
United Kingdom, 158
United Mine Workers, 472
United Nations, 144, 160, 185–187, 470
United States Chamber of Commerce, 476–477
United States, automobile industry, 248, 250, 257; cattle and ranching, 134, 192–193; clothing, manufacture of, 216, 244; coal and steam power, 210; consuls, 289; consumer co-operatives, 344–345; cotton and cotton goods, 206, 223, 228, 314; deserts, 81, 84; electric power and equipment, 208, 209, 210, 212, 213, 220; farm lands, 131, 251; forests, 136, 194–195; food-processing, 215; glacial deposits, 57; growing season, 93; iron and steel industries, 217–221, 253; imports, 224, 254, 255; international participation and co-operation, 184, 185, 203, 204, 291–294; languages, 144; leather industry, 222; manufacturing, 136, 205, 251, 262, 316 (*214*); mineral resources and mining, 175, 197, 198, 199–201; money and monetary standards, 284, 285, 366; physical regions, 34, 35, 36; population centers, 171, 421; prevailing winds, 61–62, 70; races, 105; religion, 147; rubber industry, 206, 221–222; shipping, 258; soil erosion and conservation, 88, 191, 192, 193; textiles, 215, 216; time belts, 19–20; tin smelting, 255; trade and

transportation, 244, 245, 246, 248, 250, 251, 254, 259–282, 295–301, 304, 305; water power and hydroelectricity, 207–209, 213
United States government (Federal), Agricultural Economics, Bureau of, 335; Agriculture, Department of, 194, 335, 336, 408; banks and banking control, 377–379; Bill of Rights, 325; bonds, 373, 374, 375, 385, 396, 416; Census, Bureau of the, 422; Children's Bureau, 460, 469; Civilian Conservation Corps, 463; Commerce, Department of, 334; Congress, 158, 161; consumer protection, 333–336, 355–356, 399; credit and, 360, 381; employees, 395, 425–427, 429, 476; Employment Service, 431, 455, 466; farmers, aid to, 357, 408; Farm Security Administration, 468; Federal Deposit Insurance Corporation, 378, 385, 407; Federal Reserve System, 368, 378, 379; Federal Trade Commission, 333, 335, 355; financing, 411–417; flood control, 408, 463; Forest Service, 194; housing, 356–357, 408; Interior, Secretary of, 484; Internal Revenue, Bureau of, 412; Interstate Commerce Commission, 298–299, 407; Investigation, Federal Bureau of, 404; irrigation projects, 408; Justice, Department of, 404; labor and, 408–409, 459–470, 476, 481–484; Labor, Department of, 460, 468, 482; Labor Standards, Bureau of, 469; Labor Wage and Hour Division, 460; land-grant colleges, 466; Maritime Commission, 269, 270; Miller-Tydings Act, 342; money and monetary standards, 366–370, 390, 408; national forests, 193, 194, 195, 400; National Labor Relations Act, 482, 483; national parks, 405; Postal Savings Bank, 377; Pure Food and Drug Act and Administration, 333, 335, 340, 342, 355, 407; rationing, 358; Representatives, House of, 159; Resources Committee, National, 354; responsibilities and services, 399–410; Senate, 159; social security and, 347, 407, 463–464; Standards, Bureau of, 334; Tennessee Valley Authority, 208, 463; Treasury, 366, 367, 368, 414; vocations in, 423, 425–427, 429; War Labor Board, 482; War Production Board, 481; War Shipping Administration, 269; wartime controls, 357–359; Weather Bureau, 58, 408; Women's Bureau, 469
United Steel Workers, 472
Universal Postal Union, 289
uplands and plateaus, 33 (*32–33*); canyons, 41; climate of, 65, 73, 79, 81, 84, 97; irrigation projects in, 191; manufacturing on, 39; population, 39, 40, 170, 171; submarine, 55
Ural Mountains, 45, 46, 230
Uruguay, 34, 87, 89
Utah, 44

Valparaiso, 136, 261
vanadium, 197
Vancouver, 26
Vatican City, 147, 150
vegetation, climate and, 75; in high latitudes and altitudes, 97; in low latitudes, 76, 79, 81, 82; in middle latitudes, 84, 94; in mountain regions, 42
veld (vělt), 84
Venezuela, 79, 255
Vermont, 200
Victoria Falls, 212
Victorian Highlands, 45
Virginia, 194, 314
volcanoes, 52, 55, 56

wages, deflation and, 396; good, 297, 353, 485; higher, 251, 258, 267, 268, 472; inflation and, 394, 395; labor unions and, 475, 485; minimum, 406, 409, 459, 460, 461; money and real, 390; monopoly and, 479; unemployment insurance and, 462; in the United States, 316; vocations and, 447; wartime, 326, 350, 358, 485; workmen's compensation laws, 461
Wake Island, 52
Wales, 158, 224

war, causes of, 180; credit control during, 358; effects and expense of, 243, 244, 326, 404, 417, 429; inflation and, 392, 396; investments and, 388; labor and employment during, 350, 393, 429, 430, 461, 484, 485; merchant marine during, 268; monetary standards in, 366; production controls during, 357, 358, 391, 429, 485; tariffs and, 296; trade and, 259, 304, 307, 308. *See also* World War I *and* World War II
Wasatch Mountains, 44
Washington, George, 313, 369
Washington, D. C., 183, 184, 321
Washington (state), 41, 90, 171, 209
watches and clocks, 228, 229, 235
water power, development of, 212, 213; English use of, 223; manufacturing and, 205, 207–210, 215, 216, 231; in mountains and upland regions, 39, 46, 92; prices and, 306
water routes and waterways, inland, 271–273; international co-operation and, 204; manufacturing and, 205; new, 243; ports and, 264; in remote regions, 76, 95, 97; world, 259–263 (*260*)
weather, areas of changeable, 84, 92, 205; coffee picking and, 80; elements of, 58, 60–64; farming and, 408; manufacturing and, 205; means of counteracting, 100; mountain barriers and, 65–66. *See also* climate
weaving, 115, 119, 120, 206, 235
Wei River (wā), 115
Weser River (vā'zĕr), 49
West Indies, "deeps" in, 55; farm lands, 131; government, 161; Indians, 117; languages, 105, 144; once a mountain range, 51
West Virginia, 218, 271
Western Hemisphere, 90, 265 (*26*)
wheat, Argentine, 254; belts, 93; Canadian exports, 246, 304; English imports, 251; in Mediterranean climate, 86, 132; in Northern Hemisphere, 93; rainfall and, 60, 92; shipments, 274
Whitehorse, 277
winds (*69*), blizzards, 70; cyclones and anticyclones, 61–63, 70, 92; on deserts and grasslands, 84, 193; monsoon, 68–69; mountains and, 65–66, 67; origin of, 66; rain-bearing, 40, 44, 67; tornadoes, 70; trade, 61, 68, 72; over uplands and plateaus, 40, 41; weather and, 58, 61–64; westerlies, 61, 70, 72, 90, 92
women, 460, 461, 469, 485
wood, for fuel, 89, 92, 95, 194, 197, 210; for furniture, 135, 248; other uses, 135, 193–195. *See also* pulp
wool, Argentine, 321; Australian, 305, 314; from central Asia, 85; colonial production, 313; imports, 206, 215, 223, 228, 244, 248, 304; Inca weavers, 119; labeling, 335; manufacturing, 215, 223, 228, 231; New Zealand, 321; from pasture lands, 192; from Southern Hemisphere, 136
workers, in cities, 235; in manufacturing, 236, 319, 353; responsibilities of, 486–487; from rural centers, 485; semi-skilled, 423, 424, 425, 472; skilled, 235, 251, 423, 424, 425; in the United States, 316; unskilled, 423, 425, 472. *See also* labor
working conditions, 406, 409, 423, 459–487
workmen's compensation laws, 406
World War I, 160, 219, 390
World War II, airplanes, use during, 219, 279; aluminum output, 198; British dominions, 160; building trades, 427; communication, 292; conservation drives, 357–358; conversion of automobile plants, 218; costs of, 411; government bonds, 396; labor and employment, 430, 461, 482, 483; manufacturing, 243; price control, 358–359; rubber production, 206, 222, 297, 350, 429; Soviet industry, 230; trade, 243, 245, 261, 265, 278, 279, 298
Wright, Orville, 218

Yakima Valley (yăk'ĭ mȧ), 44
Yangtze (yäng'tsĕ') River. 167

Yellowstone National Park, 405
Yemen (yĕm'ĕn), 153
Yokohama, 265
Yorkshire, 223
Yosemite National Park, 405
Youngstown, Ohio, 218
Yucatan peninsula, 118
Yukon River, 138
Yukon Territory, 277

Zambezi River, 212
Zaparozhe (zä pô rôzh'yĕ), 210
zinc, 175, 197, 198, 199, 230 (*196*)
Zürich (zo͝or'ĭk), 170