

TIGHT BINGING BOOK

UNIVERSAL
LIBRARY

OU_154330

UNIVERSAL
LIBRARY

**ECONOMIC HISTORY OF
THE PEOPLE OF THE UNITED STATES**



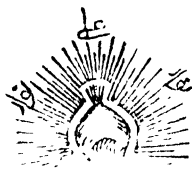
THE MACMILLAN COMPANY
NEW YORK • BOSTON • CHICAGO • DALLAS
ATLANTA • SAN FRANCISCO

MACMILLAN & CO., LIMITED
LONDON • BOMBAY • CALCUTTA
MELBOURNE

THE MACMILLAN COMPANY
OF CANADA, LIMITED
TORONTO

ECONOMIC HISTORY OF THE PEOPLE OF THE UNITED STATES

BY
FRED ALBERT SHANNON
*Department of History and Government
Kansas State College*



THE MACMILLAN COMPANY

New York

1936

COPYRIGHT, 1934,

By THE MACMILLAN COMPANY

ALL RIGHTS RESERVED—NO PART OF THIS BOOK MAY BE
REPRODUCED IN ANY FORM WITHOUT PERMISSION IN WRITING
FROM THE PUBLISHER, EXCEPT BY A REVIEWER WHO WISHES
TO QUOTE BRIEF PASSAGES IN CONNECTION WITH A REVIEW
WRITTEN FOR INCLUSION IN MAGAZINE OR NEWSPAPER

Published May, 1934, reprinted June, 1936.

SET UP AND ELECTROTYPED BY T. MOREY & SON
PRINTED IN THE UNITED STATES OF AMERICA

PREFACE

The events of the past few years have tended to center the attention of the people of the United States upon general economic problems to a greater extent than at any other time since the Populist uprising of the 1890's. The farmer, the industrial laborer, the traveling salesman, and the college student have come to talk of economic events from a wider point of view than that presented by their own present needs. Too often such conversation is built upon an unsubstantial basis of historical fact. Rarely does the speaker go back of the World War in his effort to understand the situation. He is prone to place the whole blame for economic ills upon the war, the shortcomings of succeeding presidential administrations, prohibition, or other events of an evanescent character which, however important in themselves, have been very largely the symptoms of economic disorder rather than the germs of the disease itself.

There can be no sound understanding of world economic problems which is not based upon a knowledge of the history of economic growth going back at least to the commercial revolution. Preferably, a history of such development should be world-wide in its scope. But such a history cannot conveniently be compressed within the space of one volume if the American student is to be given a comprehensive view of the economic past of his own country. The problem which confronts the author of an economic history of the people of the United States is that of assembling such facts from monographs and documents as will best illustrate the evolution of the industrial society of the nation, organizing the material in a manner calculated to be most intelligible to beginners in the subject, and keeping the narrative within speaking distance of world events. There is the further obligation of attempting an interpretation of the facts presented, though the selection and arrangement of data is in itself a more subtle form of interpretation. No author can hope to accomplish these things to the satisfaction of any great percentage of critical readers, and this fact is the main excuse of the author for adding a new economic history to a list which is already becoming long.

The length of the present volume is largely to be explained by a fuller treatment of labor, the growth of monopolies, the tariff, agriculture and agrarian problems than is customary in such manuals. This feature, instead of adding to the load, should lighten the burden

of the reader. Much student time has been wasted in ransacking libraries for fragmentary information which might as well have been included in coherent form in the textbook. For advanced students there is no substitute for extensive reading from monographs and a wide acquaintance with the literature of the subject, but it can well be doubted that the beginner acquires much of discriminative ability from his collateral reading while mainly absorbed in acquiring an understanding of the subject matter. The author has found from his own experience that the beginning student is much more likely to develop an interest in the literature of the subject by the thorough reading of one or two complete books on matters which have aroused his curiosity than in weekly peregrinations through a miscellany of odds and ends. For the benefit of persons who desire or need a wider view of the subject, a critical bibliography is included at the end of the text. In order to prevent repetition of items, the organization of the bibliography is by topics, the numbering of the chapters in the text not being followed. Selection rather than comprehensiveness has been the aim. No doubt most teachers will think of numerous books which might have been included, and which in some instances will suit their needs better than those listed.

In devoting increased space to the subject as the time approaches the present, and especially in the unusual amount allotted to the last seven decades, the author is not motivated by the idea that recent events are in themselves more important than those more remote, that the present generation is more worthy of consideration than those past, nor that the activities of greater numbers of people necessarily require more words to describe. The sole excuse is that the increasing complexities of a growing industrialism cannot be made clear without much more narrative than is required for a relatively pastoral, earlier population, centered in compact or small areas.

Among the persons who have read the entire manuscript I must mention with the most gratitude Professor Arthur Meier Schlesinger of Harvard University who was especially industrious in his efforts to make improvements. The shortcomings which survive are in spite of his criticisms. I have to thank Professor Ralph P. Bieber of Washington University for the map of Western Trails in 1860. I am especially indebted to my wife, Edna Jones, for making it possible for me to keep at the task during the years of preparation, and for assistance in reading the proof and making the index.

F. A. S.

CONTENTS

PART I. PERIOD OF COLONIAL DEPENDENCE, TO 1789

CHAPTER	PAGE
I. FROM THE OLD WORLD TO THE NEW	1
II. PROVINCIAL COMMERCE	24
III. BEGINNINGS OF AGRICULTURE	47
IV. LABOR AND OCCUPATIONS IN THE COLONIES	73
V. MANUFACTURING AND ALLIED INDUSTRIES, 1607-1776	94
VI. THE LAUNCHING OF A NEW NATION	116

PART II. THE PERIOD OF DOMINANT SEC- TIONALISM, 1789-1865

VII. WESTWARD EXPANSION	140
VIII. INTERNAL IMPROVEMENTS AND TRANSPORTATION, 1783-1860	168
IX. FOREIGN AND COASTWISE COMMERCE AND THE CARRY- ING TRADE, 1783-1860	201
-X. THE TARIFF AND PROTECTION, 1789-1861	223
-XI. THE SEEDS OF MODERN INDUSTRIALISM	242
-XII. BEGINNINGS OF THE LABOR MOVEMENT	269
-XIII. EXPANSION OF AGRICULTURE IN THE NORTH	292
XIV. THE PLANTATION AND SLAVERY	310
XV. FEDERAL FINANCES AND BANKING, 1789-1860	331
-XVI. ECONOMIC SECTIONALISM AND SECESSION	358
-XVII. THE CIVIL WAR YEARS	379

PART III. THE RISE OF CAPITALISM, 1865-1900

XVIII. THE REBUILDING OF THE SOUTH	400
XIX. THE SETTLING OF THE FAR WEST	420
XX. SPECIALIZATION ON THE FARM	444
XXI. AGRARIAN AND MONETARY PROBLEMS	460
XXII. THE RISE OF GREAT MONOPOLIES	488
XXIII. THE NEW PATHS OF INLAND COMMERCE	513
-XXIV. THE MECHANIZATION OF INDUSTRY	533
-XXV. THE GROWTH OF TARIFF PROTECTION	572
-XXVI. LABOR'S FIGHT FOR RECOGNITION	588

 PART IV. THE CAPITALISTIC AGE, 1900-1933

CHAPTER	PAGE
XXVII. COMMERCE AND IMPERIALISM	621
XXVIII. THE SUPERMONOPOLIES	668
XXIX. THE CONQUEST OF TERRESTRIAL SPACE	699
XXX. THE TRIUMPH OF THE MACHINE	726
XXXI. RECENT MONETARY AND TARIFF PROBLEMS	772
XXXII. THE RIDDLE OF THE LABORER	796
XXXIII. THE UNCERTAINTIES OF AGRICULTURE	825
XXXIV. THE PASSING OF RUGGED INDIVIDUALISM	851
XXXV. COMMENTS ON AUTHORITIES	887
INDEX	913

MAPS AND TABLES

MAPS

	PAGE
Europe in 1500	<i>following</i> 2
Settled Portions of the Colonies in 1700 and 1763	21
Territorial Expansion of the United States, 1783-1853	<i>facing</i> 140
Spread of Population, 1790-1830	164
Distribution of Population, 1860	166
Roads and Trails into the Western Territory	169
Early Post Roads	173
Principal Canals in the United States before 1860	179
Railroads in the United States in Operation in 1860	196
Index of Farm Prices, 1801-1860	308
Principal Western Trails in 1860	<i>following</i> 424
The Pacific Railroads in 1884	429
Map of United States in 1890 According to Population	<i>facing</i> 442
Conservation and Reclamation, Western United States, to 1917	745

TABLES

Imports and Exports of the Colonies, 1769	36
Population Growth, 1790-1860	163
Passenger Fares in Cents per Mile	198
Foreign Trade of the United States, 1790-1807	204
Foreign Trade of the United States, 1807-1818	214
Foreign Trade of the United States, 1818-1860	218
The Cotton Milling Industry in 1860	261
Production of Selected Commodities, 1840, 1850, 1860	306, 307
Population Growth of South, by Section and State	311
Cotton Prices in Selected Years, 1816-1860	314
Free Negro Owners of Slaves in 1830: Residence of Owners, Number of Owners in Each State, and Number of Slaves per Owner	326, 327
Growth of Banking, 1829-1837	350
Federal Balance Sheet, 1837-1846	353
Federal Balance Sheet, 1847-1860	355

	PAGE
Banking Statistics, 1838-1860	356
Numbers of Farms in the South: by Color and Tenure of Operator, 1930	410
Acreage of Farms in the South: by Color and Tenure of Operator, 1930	410
Growth of Cotton Manufacturing	415
Southern Manufactures in 1929	416
Ratio of Southern Manufactures to Total for United States, 1860 and 1927	417
Land Grants of the United States (Railroads not Included)	436
Land Grants to Railroads	436
The Production of Six Principal Crops, 1860-1930	448
Farm Animals, 1880-1930	448
Central States' Wheat Production (Per Cent. of Total for U. S.), 1859-1929	449
The Six Leading Wheat States (and Percentages) by Decades, 1859-1929	450
The Ten Leading Corn States (and Percentages) by Decades, 1849-1929	451
Silver Acts of 1878 and 1890: Illustration of Principle of Their Operation	480
Representative Farm Crop Prices, 1866-1915.	487
Growth of Railroad Mileage, 1890-1930	513
Sources of Immigration, by Per Cent. of Total, 1861-1920	591
Commercial Failures, 1866-1930	622
Wholesale Trade in 1929	631
Retail Trade in 1929	631
American Participation in the Foreign Carrying Trade	632
United States Merchant Marine Tonnage	633
Tonnage of Vessels Built for United States Fleets	634
Colonial Trade, 1900-1930	647
Foreign Investments, 1922-1927	652
Volume of American Foreign Trade, 1861-1930	656
Foreign Trade per Capita of Population	657
Index of Foreign Trade, 1860-1900	657
Percentages of American Foreign Trade by Selected Commodities, 1861-1930	659
Exports of Selected Commodities, 1860-1930	660
Imports of Selected Commodities, 1860-1930	661

	PAGE
The Regions of American Foreign Trade (Percentages of Total)	662
Foreign Trade of Various Portions of the American Coast and Borders, 1860-1930	663
Interest, Commissions, and New Investments, United States and Rest of World	666
Freight Business of Railroads, 1891-1929	702
Passenger Business of Railroads, 1891-1929	702
Capitalization and Revenue of Railroads, 1890-1929	703
Growth of Automobile Industry	714
Bus Transportation, 1929, Ownership, Number, and Mileage	717
Post Office Business, 1800-1930	723
Production of Fuel, 1901-1930	727
Electric Power Production, 1902-1930	731
Consumption of Various Kinds of Power in Selected Years	731
Iron Production by Sections, 1900-1930	733
Production of Steel Ingots and Castings: Long Tons	735
Production of Metals in 1929	739
Output of Nonmetallic Minerals (Leading Ones by Value) in 1929	741
Manufacturing by Geographic Sections, 1927	751
Manufactures by Classifications, 1899-1929	751
Furniture and Household Equipment, 1929	765
Miscellaneous Products, 1929	767
Tariff Rates of 1922 and 1930	794
Occupations Followed by Women, 1910-1930	807
Unemployment, 1920-1927	824
Farm Growth, 1900-1930	828
Farmers' Business Associations, 1915-1930	837
Value of Crops and Animal Products (Selected Years), 1897-1929	840
Acreage Values of Ten Leading Crops, 1871-1930	840
Monthly Wages of Farm Laborers (Average), 1866-1930	841
Index of Farm Costs and Prices (Selected Years), 1915-1927	841
Agricultural Balance Sheet, 1926-1927	842

ECONOMIC HISTORY OF THE PEOPLE OF THE UNITED STATES

CHAPTER I

FROM THE OLD WORLD TO THE NEW

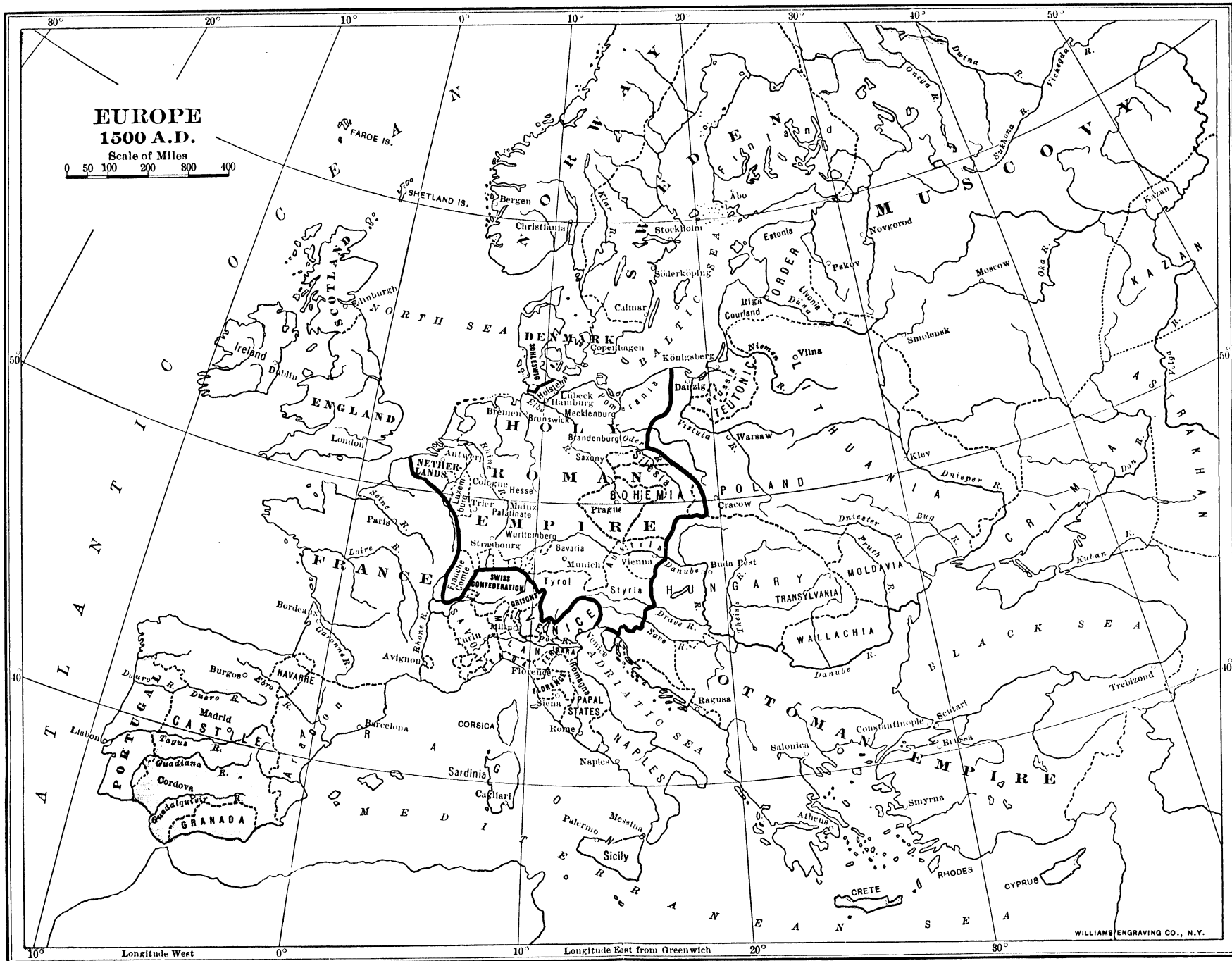
The Growth of European Commerce. 'The discovery and colonization of America were integral parts of a commercial revolution which in itself was a phase of Europe's transition from feudalism to the modern structure. Trade between Europe and Asia had survived even the shock of the collapse of the Western Roman Empire, but north of the Alps and the Pyrenees its influence was negligible in the first five or six centuries following. Commerce, even of a local nature, was seriously hampered until some degree of political stability was established. So long as one semibarbarian tribe or feudal state was most actively concerned in despoiling its neighbor, neither could have the time or incentive to create the surplus of goods upon which commerce must depend. But as modern states emerged with fairly stable frontiers—England, France, the low countries, along with the more powerful of the monarchies and republics of Italy, Germany, and Spain—the populations had better chances to develop along economic lines, and commerce began to expand.

Farmers, no longer threatened by pillage from neighboring clans or feudal barons, took courage to produce more than the mere necessities. Craftsmen likewise were induced to create surpluses. Merchants, ceasing to be the perpetual prey of robber barons by land and pirates by sea, had the incentive to carry larger stocks on longer journeys. Complete safety was never established, but security over large areas for long periods of time became greater as time went on. Towns grew up at strategic points as abiding places for merchants. Annual or semiannual fairs were held by favored and shrewd nobles for the exchange of merchandise. As population grew denser and rural laborers became too numerous, serfs tended to escape from the manors, seeking refuge in the towns and cities where their labor was in demand for the thriving business of manufacturers and merchants. Finally, as serfdom entered into its period of decay in Western Europe, all labor became more mobile and the surplus became general. Craft

and merchant guilds secured monopolies to protect their memberships and activities. Presently, international trade took on increased importance. The Hanseatic League of the north-European coast sent its ships to nearly all western ports and carried its goods through most of the interior of Europe. Shipping towns sprang up along the coast of England. The cities of the Netherlands began to specialize in manufactures and trade and to carry on an extensive overland traffic with the states of Italy.

Revival of Oriental Trade. At the same time Oriental trade was undergoing a revival in Western Europe. The Asiatic peoples of Turkestan, Mongolia, and the steppes of the Volga had never since the fifth century allowed Europeans to forget them. Hardly a century had passed without an irruption of Ural-Altaic invaders, occupying, often permanently, much of the territory from the Balkans to the Baltic. Most important to Western Europe was the occupation of Palestine and Asia Minor by the Seljuk Turks in the eleventh century. This led to the efforts of European states to recover Jerusalem for Christians. From 1096 to 1270 scarcely a generation passed without some great army setting out to conquer the East. These Crusades were far from being purely religious expeditions. Younger sons of nobles coveted dominions to rule. Vagabonds sought cover for thievery. Cutthroats and robbers found safety in numbers. Fanatics were anxious for indulgence to supplant purgatorial penance. Kings struggled for balance of power. Half-starved peasants sought relief from the overpopulated manors. But, more important in the present consideration, merchants were on the lookout for new trade connections. Before the end of the era Jerusalem had long been relegated to second place as an objective. The Fourth Crusade, in 1204, turned out to be nothing more than a successful effort on the part of Venice to ruin the power of her Christian trade rival, Constantinople. The stimulation of commerce was one of the main consequences of the Crusades. Returning soldiers could not forget the taste for Oriental luxury acquired along the Levant. Those who were able were ready to pay much for the spices, silks, and precious stones of the East, while the Mediterranean cities were eager to take advantage of the new trade.

Before the close of the Crusades three Italian cities, Pisa, Genoa, and Venice, had emerged as the principal maritime powers, and for a century afterward Genoa was the dominant one of the three. Her strength, growing out of the north-African trade of the Middle Ages and fostered by the western Crusades against the Moors, was pitted first against Pisa and then Venice. From 1261, when she liberated Constantinople, till 1381, when Venice emerged victorious, Genoa waged a gallant war against her neighbor on the other side of the



Italian peninsula. Thereafter, Venice was supreme in the trade along the Levant. Meanwhile, a new race of conquerors, the Ottoman Turks, had made its way into Asia Minor and was nibbling at the feeble Byzantine Empire. In 1453 Constantinople, the last stronghold of an ancient empire, fell before the Turks who were not stopped in their further advance till turned back at the gates of Vienna at the close of the seventeenth century. Though the Turk was looked upon in Christian nations as the scourge of God, the Venetians knew how to compromise between their religion and their commerce. As port after port along the Levant was captured by the newcomers, Venice saw the need of resorting to diplomacy. In 1479 she made a commercial treaty, frequently renewed, which gave her a monopoly of trade with the East. No other western power was able to cope with the combined force of Turkey and Venice and at the same time defend herself against covetous neighbors. Consequently, Venice remained in undisputed control of the trade until the Portuguese found a direct route around Africa to the Orient.

Prior to 1497, whether the luxuries of the East came from central Asia by native caravans to the Black Sea and Constantinople; by sea to Ormuz on the Persian Gulf, thence by land to the Mediterranean ports of Antioch, Jaffa, and Alexandria; or by ship through the Red Sea and across to Cairo and Alexandria, when they reached the Levant it was at a port where only Venetian ships could receive them. The tribute paid to the Turks or Arabs was merely added to the cost of the goods when sold in Venice to the merchants who carried them by sea or across country to the rest of Europe.

Monetary Problems of Western Europe. While Venice was prospering, other states were suffering from an insufficiency of hard money. The growth of population, increase of industry and trade, and the influx of Oriental goods were making greater demands for the precious metals than the mines of Europe could supply, while banking credit, then in its infancy, was inadequate to remedy the situation. Often dishonest methods of increasing the money supply were resorted to. Counterfeiting, excessive use of alloy, clipping, and shaking the gold in bags to wear it down (a process called sweating) afforded relief only till the victims discovered the ruses and began discounting the coins. Under the guise of stamping out heresy the kings of France in the thirteenth and fourteenth centuries confiscated the wealth of the Albigensians and of the crusading order of Knights Templars. Jew baiting became a favorite practice of kings in England, France, and elsewhere. Even the Reformation in England was tinged with a monetary hue. A desire to despoil monasteries and shrines of their gold led Henry VIII to his attack upon monasticism. The bones of Thomas

Becket were disinterred, not so much because he had rebelled against an earlier King Henry as because his coffin was decorated with gold.

In the mad scramble for money the Hispanic states were second to none. Eight centuries of conflict with the Moors (since 711) had taught the ruling classes that robbing neighbors was the quickest way to bring in revenue. The Moors, under the benign influence of the Arabs, had acquired a culture and habits of industry which for centuries was superior to the attainments of the older Hispanic stocks. They were the wealthiest inhabitants of the peninsula, unless that honor might be shared by the Jews. This fact added zest to the perpetual efforts to exterminate unbelievers. When Jews took the place of Moors in conquered territory they likewise fell prey to royal rapacity. In 1492, the same year which saw the fall of Granada and the last wholesale opportunity to rob Moors, an edict was issued for the expulsion of all Jews who had not been baptized into the Christian faith. But when they left their country they were not allowed to carry any money with them. The number driven out is estimated as high as 800,000, many of whom suffered violent death or slavery in Africa or starvation elsewhere as a result. Thereafter, the Inquisition as a tool of the state could be used to deprive heretics of property as well as life, and it was easy to suspect a Christianized Jew or Moor of a lapse from the faith, but this would not furnish enough revenue to offset the drain of luxuries and wars. Added taxes on industry and commerce were of little avail, because the unwise methods of levy stifled such activities. The Spanish sovereigns in 1492 were, therefore, in a better position than ever before to listen to any person who had a plausible scheme for tapping the resources of the Indies or discovering new lands to exploit.

Portuguese Explorations. Portugal felt the need of new resources even earlier than Spain. Seventy years before Columbus's first voyage to America Prince Henry the Navigator had turned his attention to the wealth of the Atlantic Coast of Africa. In time he evolved the idea of finding an all-water route to Asia. Beginning in 1420 he continued in his efforts until his death 40 years later, after which the work was continued by the Portuguese kings. Henry stressed the construction of stronger vessels, but had to fight against the fears of his sailors and the masters of the ships concerning the precipitous edge of a flat world and the dangers of encountering the monsters of the deep. He was misled by the old notion that the Niger River was a tributary of the Nile which might lead to the gold of the Sudan. Efforts to reach this El Dorado consumed much of the 25-year period which elapsed before the Cape Verde Islands were reached. Then, in 1442, the slave trade which had long been carried on overland was taken over by

Henry's navigators, and this proved profitable enough to delay further progress around the hump of Africa for another decade. At the death of Prince Henry the equator had not yet been crossed. More than a quarter of a century elapsed, under the diminished zeal of the kings of Portugal, before Bartholomew Diaz rounded the Cape of Good Hope in 1487 and returned because of a mutiny. But, the circumnavigation of Africa having been proved possible, Portugal had stolen a march upon the rest of the world. Ten years later Vasco da Gama repeated the exploit, reached the Indies in 1498, and returned the next year with a cargo that repaid him sixty-fold for the total cost of his venture. Portugal thereafter was assured of prosperity could she only retain her control of the route.

Reason for Columbus's Voyage. Spain turned her attention to exploration before the voyage of Da Gama, but after that of Diaz. Pausing for breath after the conquest of Granada and the expulsion of the Jews, Ferdinand and Isabella were ready to listen to the visionary Columbus and try the western route to possible riches. New lands might be discovered as profitable to Spain as Guinea had proved to be to Portugal. It was even possible that, by a lucky chance, the Indies might be reached by a still shorter route than that already almost in the grasp of Portugal. The sphericity of the world had been known by the learned since ancient times. The Portuguese had dispelled many of the terrors of the deep. Columbus's error in underestimating the circumference of the earth and of accepting Marco Polo's account as to the enormous eastward extent of Asia was another factor. Had his calculations been correct, China would have been nearer to Spain by the westerly route than to Portugal by the eastern. It was worth a venture, so Isabella furnished approximately \$60,000 for the voyage. 'Columbus himself seems to have been at least as much interested in discovering new lands as in finding a new route to India.' By his commission he was to be viceroy over all new islands and continents he might discover, and was to retain a tenth of all the wealth obtained. The fabled Atlantis must have gripped his imagination fully as much as the idea of winning in a race for Asia.* The irony of Columbus's fate is that he actually did discover new lands, thought he had reached the Orient, fell short of the wealth of Mexico and Peru, failed as a colonial administrator, and died with little reward for his discoveries.

It is clear that the discovery of America was almost inevitable within the generation of Columbus's activities, even had he never made the attempt. The Portuguese in rounding Western Africa were accustomed to passing or clearing the Cape Verde Islands which lie only about 700 miles east of the longitude of Brazil. It is highly unlikely that Portuguese sailors would not soon have been blown by storm or

trade winds sufficiently out of their course to land upon the coast of South America. Indeed, this happened to Pedro Álvares Cabral in 1500. His knowledge of the work of Columbus may have inclined him to permit the storms to carry him farther west than necessary, but, in any event, had it not been Cabral another would inevitably have made the discovery.

America as a Barrier to Asia. When Europe realized that America was a new land two lines of endeavor were followed: to find a way through or around the continents to Asia, and to discover treasures in America itself. Before long the French and English, as well as the Spanish became interested in the former goal. Ferdinand Magellan and his survivors demonstrated that the route to the Orient was too long if South America had to be circumnavigated. But this merely stimulated the efforts of others to find a shorter way farther north. Giovanni da Verrazano, an Italian in the employ of France, tried in 1524 to find a passage through the northern continent, but left little record of his failure. Ten years later Jacques Cartier, on a like mission, ascended the St. Lawrence to the site of Montreal where the rapids revealed his error. Between 1576 and 1616 Martin Frobisher, John Davis, Humphrey Gilbert, Henry Hudson, and William Baffin made efforts in the Arctic regions. On a like mission for the Dutch, Hudson in 1609 discovered the river which was given his name, and thus found one route to the interior which was missed by the French. The work of French explorers from Samuel de Champlain in 1608 to La Salle in 1681 were partly motivated by the hope of finding a passage through the continent. But it was left to a Dane, Vitus Bering (1725-1728), to demonstrate that a northern waterway, though blocked by ice, actually existed—that Asia and America were separated by a strait. The tangible result of all the explorations was to reveal the desirability of exploiting the barrier continent itself.

The Search for Gold. The pillage of Mexico and Peru, following 1520, furnished another and greater incentive to inland exploration. The cupidity of the whole Western World was aroused, and many a store of gold wrested by the Spanish from the Indians was again stolen by English pirates such as Francis Drake and John Hawkins in the sixteenth century. In 1541 Francisco Vázquez Coronado was seeking the fabled gold of Quivira in Kansas. The English settlers at Jamestown in 1607 were too willing to acclaim as gold the first iron pyrites they found. In 1616 Walter Raleigh set sail in his last endeavor to find the gold and mountain of sapphires in Guiana. Meanwhile, the Spanish claim to Florida, Texas, and lands to the westward and northward was established by exploration. In 1565 a permanent settlement was made at St. Augustine as an outpost against the French

and others, and in 1609 the trading post of Santa Fé was transformed into the capital of New Mexico. *

Motives Back of European Colonization. ~ The motives of Europeans for establishing colonies in America were nearly as numerous as the provinces resulting.* As to personal reasons for emigrating to an unknown country, individuals within the same colony differed widely in outlook. The fact that settlement continued unabated after dreams of hoarded gold had faded, attests the deeper and sounder motives of the masses. 'In general, the desire of the middle and lower classes of Europe to escape from an economic trend which was thrusting them farther down the scale' of existence found expression through the opportunity to make homes in a new country. Among the minor urges were missionary zeal, political turbulence, social ostracism, dynastic ambitions, political covetousness, religious persecution, love of adventure, and a desire to rid the older nations of criminal, pauper, and other undesirable elements. A mixture of social and antisocial forces was to be found in virtually every instance. *

The European states were overpopulated according to the economic development of the age, though the density then was only a fraction of what it later became. Peasant classes were emerging from serfdom only to find themselves economically in a position scarcely better than before. Agrarian revolts were ruthlessly suppressed, sometimes even with the consent of leaders of the Reformation who spurned the opportunity to make their strongest appeal to downtrodden classes. Europe was shaken by a series of wars fought in the name of religion, but with overwhelmingly political objectives.* Religious minorities were harried from place to place by governments dominated by sects of slightly different theological complexions, which themselves had formerly been struggling for toleration.* Commerce was seeking new areas to exploit, capitalists were looking for new investment opportunities, while governments were resorting to every known method to increase their incomes.*

^ Younger sons of nobles desired lands to govern in their own right. Peasants were willing to face the hardships of an unknown continent, assured that they could not render their situation worse, while they stood a fair chance for betterment. Religious sects, disappointed in efforts to control the governments of their native states, desired the opportunity to establish theocracies elsewhere. Craftsmen, small merchants, and laborers were ready to join their numbers to almost any other group which would promise them more certain economic advancement than was possible at home. When disappointed gold seekers were forced to turn to other extractive industries, it was found that America was rich in the resources of field and forest. The soil

itself became an inducement for migration, so that ultimately the land hunger of Europe supplied the chief motive for settlement.*

England's Neighbors in America. A well-rounded discussion of England's colonization should contain more of the activities of her American neighbors than will be found here, but, as a background for the later English economic activity, so much is not necessary. In contrast to England's laxity of control over her colonies, it is of especial interest to note the close supervision exercised by Spain and France. 'But more to the point is the effect of the colonization of Spain, France, and the Netherlands in limiting the scope of English activity. The Spanish in Florida and the Indian tribes south of the Appalachian barrier, with whom they were on intimate terms, furnished rivalry for the Southern fur trade and a bar to one of the best avenues of approach to the interior of the continent.' More on this point will be noted later. * A far greater menace to English advance was furnished by the French in Canada and the Mississippi Valley. French colonies were established almost simultaneously with those of England, but the latter state missed the easy waterways to the interior which fell to the French and, for a time, the Dutch.* The founding of Quebec by Champlain, in 1608, was the real beginning of French empire in America. Champlain followed this work with a career of exploration and colonial extension lasting for twenty-seven years. In order to cement friendship with the Algonquins he aided them in their wars with the Iroquois, thus initiating the permanent hostility of the latter confederation toward the French. This Iroquois hatred helped bring an end to French dominion in America a century and a half later, but it is also true that without the Algonquin alliance French control could not have been established in the first place. Champlain's successors pried out the secrets of the Great Lakes and Mississippi systems. Before the founding of Georgia there were scattered trading posts and agricultural settlements at various points from Detroit to New Orleans.

France's zeal in management of this empire was second only to that of Spain. The fur trade of New France was the private monopoly of a chosen few, and commercial initiative by others was firmly suppressed. The nature of the fur trade militated against settled habitation on the part of its participants. Hence, the French, like the Spanish, mingled freely with the natives. The returns from agriculture, in proportion to the costs, tended to direct attention more toward exploitation than settlement.* The climate of Canada did not attract French farmers in great numbers, while the settlements of the Mississippi Valley were too scattered to appeal to a gregarious people. Though far more people engaged in farming than in fur trade, such

remote frontiers could not attract settlers in such numbers as came to the English-controlled seaboard. At the beginning of the inter-colonial wars (1689) the total French population in America was not in excess of 12,000, and at the close (1763) not more than 80,000, as compared with about 250,000 and 1,600,000 for the English colonies at the same dates. *

Dutch interest in America was an outgrowth of the Oriental trade which was taken over during the period of Portuguese subjection to Spain (1580-1640). Not satisfied with the route around Africa, the Dutch had looked toward the western course, but were diverted to the fur trade by the discovery of the Hudson River. After 1609 no year passed without some fur trading along the Hudson. In 1623 the New Netherland Company established the town of New Amsterdam to protect its fur-trading monopoly. The colony itself was called New Netherland. The effort to establish great feudal estates, under the patroon system, did not result in making the colony primarily agricultural, though a later English variation of the system had different results. In 1655 the Dutch captured a Swedish colony which had been struggling along without support from home since 1638, and thus authority was extended to the mouth of the Delaware River. Dutch meddling in the trade of the neighboring English colonies aroused the ire of the English government which also wished to gain control of the Hudson-Mohawk route to the interior. When the English seized New Netherland in 1664 the inhabitants were so dissatisfied with government by a trading company that they offered scarcely a show of resistance.

General Motives Back of English Colonization. The negligence of the English government in planting colonies was probably due to the fact that the island kingdom was more nearly self-sufficient in her internal economy than were her rivals. It was a mercantilist age (see next chapter) in which colonies were prized in proportion to what they could contribute to the founders. Along the Atlantic Coast of North America there was no gold in paying quantities as in Mexico, no sugar-growing lands as in the Antilles, no spices or precious stones such as came from the Orient. The soil seemed adapted to the growing of just such crops as flourished in England, and English farmers wanted no competition in supplying the home market. As England became conscious of the depletion of her forests and iron deposits, the mainland took on new attractions (see chap. v), but until then the West Indies occupied the center of attention.

*The movement for colonization, therefore, came from the people, and there were sufficient reasons why Englishmen should wish to migrate. On the farms there was a surplus of laborers whose wages

had reached the minimum for even the most miserable sort of existence (see chap. iv). The gild control of manufactures was breaking down and the domestic system, somewhat similar to the later sweatshop, was taking its place. Even the country gentlemen and small merchants were finding their incomes depleted and their standards of living falling. The population was scarcely 5,000,000, but half this number had been added since the beginning of the Tudor period, and the economic system of the time was too narrow for their adequate support. Paternalism of government had reached minuteness in the regulation of economic activity. Farmers were limited as to the amount of livestock they could keep, the number of acres which might be devoted to certain crops, and the area of land a tenant might hold. Commerce abroad was relegated to monopolies; apprenticeship in trades was strictly limited and controlled; standards and methods of manufacturing were imposed. The protection of home industries reached the point where a corpse could not be buried unless shrouded in wool. Such unreasoned limitation upon initiative made release from economic depression more difficult, and thus contributed to the willingness with which people joined the early colonizing movements.

The Jamestown Settlement. The disheartening results of the efforts of Gilbert and Raleigh showed that individual enterprise was not sufficient for the planting of colonies. The efforts of Richard Hakluyt, chief backer of the early enterprises, failed to interest Queen Elizabeth in financial aid. Then the trading-company idea was applied. The British East India Company, chartered in 1600, showed such brilliant prospects of immediate profits that other companies sought similar trading monopolies in America. The Plymouth Company, looking for profits from the furs, fisheries, and timber of the northern coast, and the London Company, hoping to exploit the southern regions, were granted charters by King James in 1606. The scope of their activities was limited by the 34th and 45th parallels, while the right of either to colonize in the middle portion (38th to 41st parallels) depended upon priority of settlement. The early failure of the Plymouth Company's efforts eliminated all opportunity for conflict.

Jamestown, established in 1607 by the London Company, was the beginning of a permanent colony, but it was an expensive experiment which never repaid the company for its investment. Starvation, pestilence, and mistreated Indians threatened time after time to annihilate the whole population. Of 630 persons who arrived at Jamestown in the first two years of the colony, only 60 were left in the spring of 1610, after a winter of starvation which had driven one man to practice cannibalism on his wife. The "gentlemen" who comprised the bulk of the first settlers were ill adapted to make a living for them-

selves. Robbing and making enemies of the Indians and waiting for supply ships from England seem to have been among the chief activities. The situation was greatly changed in 1611. During the next five years Thomas Dale put the men to work and compelled them to save the colony, though at the expense of much needless cruelty. By 1616 the colonists had turned to settled agricultural pursuits, and three years later Governor George Yeardley allowed private property to supplant the earlier common-storehouse system. Tobacco was bringing a high price, 5 s. a pound, but overproduction and falling prices were on the way. The population was only about 400, though the company had spent not less than £100,000.* In 1624, when the colony became a royal province, the future of the inhabitants seemed bright.

Puritans and Separatists: Settlement of Plymouth. While the beginnings of Virginia may be traced to the efforts of capitalists, soldiers of fortune, and indigent sons of gentlemen, the early settlements in Massachusetts were fostered chiefly by members of the small-merchant and shopkeeper class. These people, a product of the commercial revolution, found no niche in the old order of society which was made up of nobility, clergy, and landed gentry—the peasant masses being beneath social recognition. The people who lived by manufacture and trade came to be known as the “middle class.” Since they were different, they were avoided socially by the three older orders. Because they were shunned, they began to make a virtue and then a fetish of their peculiarities and to look upon the older estates as their persecutors—as worldly and evil. For such reasons they were ready to take a leading part in the Reformation and then, finding the Anglican Church still controlled by formalism, they became Puritans, Separatists, or dissenters of other sorts. They held high places in church and state during the Tudor period, and therefore submitted to increased taxation. But when the Stuarts deprived them of their special privileges and then began levying unusual taxes, they rebelled. Though the mass of the Puritans remained at home and participated in the overthrow of the Stuarts, some of them, urged on by fear of poverty and enticed by the pot at the end of the rainbow, migrated to Ireland, to the West Indies, and to the mainland of North America.

The story of the Separatists who sojourned in Holland and then came to Plymouth (1620) is too well known to bear another full repetition. A group of London merchants formed a stock company to finance the American venture, and each of the original settlers was given a £10 share of stock for his part in the enterprise. To repay the company it was provided that all earnings of the immigrants for seven years should go into a common fund, a plan similar to that of James-

town. The Pilgrims also had their period of trial and adversity, but under the governorship of William Bradford the situation was improved. The fur trade proving remunerative, in a short time the London merchants were paid off and the immigrants became their own masters. The theocratic government operated without a charter or royal governor but managed to maintain peace within and, in general, with the neighbors, till Plymouth was merged with Massachusetts Bay as a royal province in 1691.

Massachusetts Bay. In the same year that the Pilgrims sailed for America the Plymouth Company, which had done nothing since the failure of its colony in 1606, was reorganized under the name of the Council for New England. Ferdinando Gorges and John Mason were the entrepreneurs. They secured sole political and economic rights for colonization between the 40th and 48th parallels, in utter disregard of Dutch and French claims, and included in their monopoly all fishing rights off the coast. The company then parceled the land out into a number of proprietary holdings, most of which were not permanent, though Mason and Gorges and their heirs held on for some time in Maine and New Hampshire. By 1623 a number of fishing hamlets had sprung up—Portsmouth and Dover in New Hampshire, others in Maine, and a beginning at Cape Ann in Massachusetts. Budding settlements at Hull, Salem, Roxbury, Dorchester, Charlestown, Boston, Watertown, and elsewhere were also made before the Puritan migration of 1630. Some of these towns were permanent, others were not. None were prosperous for several years. A grant from the proprietors and a liberal charter from the king (1628–1629) cleared the way for the establishment of the theocratic, Puritan Massachusetts Bay colony under the leadership of John Endecott.

The colony prospered rapidly. The Puritans were a hard-headed and tight-fisted lot, with an eye to the main chance. The prospect of rewarded hardship in the New World was cheering, and the problems of the wilderness were attacked with force. Fishing and the fur trade occupied more space in their charter than did Calvinistic theology. To these pursuits were added agriculture, lumbering, shipbuilding, and commerce. From the beginning others than Puritans were in the colony, though taught to keep their differences of opinion to themselves. Among the less favored persons were many yeomen, peasants, craftsmen, and small shopkeepers, desiring land and better homes than were possible for them in England. These classes did much toward the rapid economic development of Massachusetts. Some of them also became refugees for the settlement of other colonies when their outspoken expression of unorthodox opinion shocked the Puritan oligarchy.

Economic Aspects of Puritanism. The religious motive is too often overemphasized in the settlement of New England—even of Massachusetts. John Winthrop, one of the wealthiest of the immigrants, mentioned his declining fortunes and limited chances for advancement as motives for coming to America. Indentured servants, of whom there were some from the beginning (see chap. iv), were hardly influenced greatly by the religious peculiarities of the colonies to which they were carried. Many others merely followed their leaders and neighbors, accepting their religion as they did their economic status, without understanding or question, just because they were accustomed to it. By 1642, when civil war broke out in England, the Puritan migration had virtually ended, with the population of Massachusetts not above 16,000. Before 1700 Puritanism had undergone changes resulting from contact with frontier conditions and the coming of age of two or three generations of children to whom the stories of the theological controversies of their grandparents were mere legends, though Cotton Mather and others still tried to fan the old flames. The change from Puritanism to Congregationalism was something more than in name and separation from the Anglican Church.

"Puritanism" itself is a term often too loosely used to cover all forms of reaction against worldly pleasures. It was not only among Puritans or even Calvinists in general that moral reform was taking hold in the seventeenth century. There were blue laws in Virginia and plenty of immorality in Massachusetts and Connecticut. Perhaps the extreme is reached by efforts to explain the development of capitalism and New England tight-fistedness in terms of Calvinistic theology. It is easier to demonstrate that individualism, bred of the middle-class struggle in England, produced the peculiar tenets of English Calvinism than to argue the reverse. Certainly the Jacobites of Scotland who supported the Catholic pretenders after 1714 were as penny-wise as the average product of New England. Capitalism in England was an outgrowth of the commercial revolution, already gaining headway before the time of John Knox. Inasmuch as the Yankee differed in personal traits from the planter and yeoman of Virginia, it is much more plausible to seek the cause in the rigorous climate, scanty soil, and enforced economic diversification in New England rather than in a difference of religious tenets and moral concepts of the two regions.

The Other New England Colonies. The rest of the New England colonies were closely associated with Massachusetts in their development. The settlers of Maine and New Hampshire came largely from Massachusetts, which colony also occasionally asserted political control which in 1668 became permanent over Maine. New Hampshire

got a separate government as a royal province in 1679. The movement into Connecticut was led by persons who found Massachusetts either not stern enough in her Puritanism or overly supplied with competing traders. Springing up in the 1630's the colonies of Connecticut and New Haven soon made a farce of proprietary control, defended themselves against the Dutch, forged ahead in agriculture and trade and in 1662 secured political recognition by a liberal royal charter under which they were united. Rhode Island sprang up as a group of detached settlements in the same decade as Connecticut, the leadership being furnished by dissenters such as Roger Williams and Anne Hutchinson who found Massachusetts too hot in its opposition to their outspoken tenets. A loose confederation of the settlements was achieved in the next decade, but not until the royal charter of 1663 was the legal position of the colony established. Rhode Island had good harbors and was soon to occupy a leading place in the slave and rum trades.

Maryland. The first era of mainland Colonial organization was ended with the establishment of Maryland. Though the proprietary charter issued to the Baron of Baltimore in 1632 conflicted with the claims of Virginia, Cecil Calvert, son of the original grantee, succeeded in maintaining the Potomac River as a southern boundary. Calvert hoped that the colony would become a refuge for his fellow Catholics and dissenters from the English church as well, his own reward to come from quitrents and the increase in land values. But Catholics did not come in in sufficient numbers to make the venture pay, and it later developed that nonconformists preferred to settle in regions where their own kind were to be found. But persecuted sects, especially Puritans from Virginia, did take refuge in the colony. Early in 1634 the settlement of St. Mary's was made at the mouth of the Potomac River. Having cleared Indian cornfields to use and the experience of Virginia as a guide, there was no false start nor period of starvation. At the close of the first season there was a surplus of corn for trade with New England. The attempted transplanting of the old English manorial system failed in contact with frontier conditions and the determined opposition of settlers. The growth of the colony was slow but steady, along lines earlier laid down in Virginia. In fact the two colonies became economically a unit.

Settlement in the West Indies. While these outposts were being established on the mainland of America, still larger numbers of English emigrants were flocking to Ireland, the West Indies, and Bermuda. Of some 75,000 who had crossed the Atlantic by 1640, at least two-thirds had found homes in the islands—from Bermuda, off the coast of Virginia, to Trinidad, in the neighborhood of Venezuela. Bermuda

was occupied in 1612, and following, as an outgrowth of the experiment in Virginia. But in 1625, when Virginia contained about 1,200 inhabitants, the population of Bermuda was well above 2,000 and was excelling in the exportation of tobacco. The island later came to be of less relative importance, though the cedar forests continued to attract shipbuilders. St. Christopher and Barbados, in the Lesser Antilles, were settled in 1625, the neighboring Caribbees, Trinidad, Tobago, and Nevis being added in the next three years. Antigua and Montserrat were acquired in 1632. Barbuda, Anguilla, and St. Kitts followed, and in 1646 a beginning was made in the Bahamas of which Nassau was soon to become the capital. Jamaica was seized from the Spanish by the elder William Penn in 1655. Tobacco was the first important crop of these English islands, but sugar soon took its place. Barbados alone throughout the century had a larger population than Virginia. During the civil wars in England it became a refuge for exiles of both parties. After the Restoration, discontent over the navigation acts and land policy led to Barbadian migration, not only to other islands of the West Indies, but to Virginia, Carolina, and even New England. The economic life of the British West Indies was always closely linked with that of the mainland colonies of the lower South, as will be seen in succeeding chapters, and in commerce with the North as well.

The Carolinas and Georgia. 'After fifty years of active settlement along the Atlantic Coast, only a fringe around Chesapeake Bay, and its larger estuaries, and the most favorable portions of the coast of New England were occupied by white people.' Adventurous Virginians, lured by the fur trade, had made explorations beyond the Appalachians, but beyond the falls of the James River all was unsettled wilderness. 'Maine and New Hampshire were characterized mainly by a string of lumber camps, fishing villages, and boat yards, all within a few miles of the shore, with enough farm land to satisfy local needs. From the Connecticut River to the mouth of the Susquehanna the Dutch were in nominal possession, but the population was less than 10,000, mostly on Manhattan, Staten, and eastern Long islands, and the neighboring Jersey shore.' A few hundred Swedes along the Delaware River constituted the remainder of the white inhabitants. South of Albemarle Sound to the Spanish outposts of Florida, the land was untouched by European influence. 'The next notable movements of settlement were into the tidewater region of the Carolinas and the territory conquered from the Dutch.'

Carolina was a most favored portion of the Atlantic seaboard, but the failures of the early Huguenots' and Raleigh's colonies had given the region a bad name. There were swamps along the coast, very few good harbor sites, and the Indians had learned hostility to the white

man. For such reasons settlement was long delayed. The first permanent white occupants were from Virginia. Since 1609 hunters and fur traders from Jamestown had made frequent visits and become familiar with the general characteristics of the region. In 1653 a group of dissenters from Virginia took refuge along Albemarle Sound. Non-conformists from other colonies drifted in, and in 1664 some of the Barbadian emigrants, mentioned above, made a new settlement at the mouth of the Cape Fear River. In 1663 a group of eight associates took over an earlier proprietary grant, but not till 1670 did they do anything toward the development of the country. Then a settlement was made near the present site of Charleston. In 1680 some Huguenots, uncertain of continued tolerance under the Edict of Nantes, began to settle along the Santee River, and Scots and others continued to arrive. The Port Royal settlement was destroyed by the Spanish three years after its establishment in 1683, but the colony soon became too strong for extermination by succeeding raiding parties. Efforts of the proprietors to establish feudalism failed from the start. Communication with the outside world was largely through Virginia so far as the people of the northern settlements were concerned, but from South Carolina ships going by way of the West Indies were used. The economic possibilities of the region were varied. To the north the soil was suited to tobacco. Along the southern coast was an excellent strip for the growing of rice and indigo. Above the fall line were almost inexhaustible supplies of pine timber for the extraction of naval stores. The political situation was bad, thanks to neglect by the proprietors when they failed to extort as much quitrent money as they had expected. Conditions improved after 1729 when the colonies, which earlier had been separated, were made royal provinces.

The founding of Georgia was inspired by the border troubles between the Carolinas and the Spanish. After earlier efforts had failed, James Oglethorpe, an English soldier, took up the work. He had a three-fold object in mind: to create a buffer state, to compete with the French and Spanish for the fur trade, and to furnish a haven for victims of British debtors' prisons. In 1732 he and his associates secured a charter as trustees for twenty-one years over the lands between the Savannah and Altamaha rivers and westward. The charter had some rather remarkable features: the proprietors were not to receive profits; all Christian sects were to be tolerated except Catholics; and there were to be no large land grants, no slavery, and no rum. Even the Indian trade was to be licensed. Most of these restrictions were soon forgotten. The settlement at Savannah was made in 1733. This was the first and last large importation of debtors—only about a hundred. Germans and Scotch Highlanders furnished a much larger proportion of

the population. Growth was slow, the population in 1760 being only about 9,000, a third of them slaves in spite of early intentions of the founders. By 1751, when the colony was transformed to a royal province, all of the prohibitions had been repealed. The economic progress of Georgia was very slight in the short period before the War for Independence. Rice, lumber, naval stores, and furs were the chief products of commerce. Food crops, cattle, and hogs were raised for home consumption.

The Middle Colonies. English control of the middle colonies began with the capture of New York in 1664. Much of the old Dutch political and social system was retained by the English. The population, as under Dutch rule, continued to be of mixed national origins, Dutch, English, Huguenots, and Jews being represented in the order listed. When in 1685 the Duke of York became king of England the proprietary colony was made a royal province. By 1700 the population was about 20,000, and there were some indications pointing toward commercial and industrial leadership.

As soon as the Duke of York came into possession of the Dutch territories he regranted what is now New Jersey to John Berkeley and George Carteret, who were also among the proprietors of Carolina. From that time till 1738, when it assumed the status of a royal province, the political status of New Jersey was one of frequently shifting control and internal dissension. As one historian has phrased it, the well-defined boundaries were "about the only simple and clean-cut feature of early New Jersey history."¹ Economically the colony fared much better. Though having complete control of no good harbors, New York and Philadelphia were each only a river's width removed. The land was separated from hostile Indian tribes by New York and Pennsylvania, and Indian rights to the land had been purchased. The soil in general was rich, and living conditions were easy. Some of the northwestern part was rather hilly, while along the lower Atlantic Coast it was marshy, yet adaptable to livestock growing and lumbering. Fish and oysters were plentiful. About two-thirds of the land was arable and produced plentiful crops of grain, both for domestic use and for export. The government in the eighteenth century was rather aristocratic, but political security was maintained. The latter was most necessary in order to secure economic advancement.

Even Pennsylvania, despite the presuppositions drawn from its Quaker origin, did not continually enjoy a peaceful Colonial career. In 1681 Charles II was induced to pay off an old debt to Admiral William Penn by giving a colony to his son William. The terms of

¹ Evarts B. Greene, *The Foundation of American Nationality* (New York, c. 1922), p. 162

the grant caused boundary disputes with New York and Maryland. It was not till the survey completed by Charles Mason and Jeremiah Dixon in 1767 that the southern line was definitely fixed. But, in spite of this and other troubles, the population grew rapidly and became prosperous. Philadelphia was settled in 1682. There were possibly a thousand Swedes, Dutch, and others in the region when Penn secured his charter. This number was multiplied eight-fold in four years, and included an even more complicated ethnical mixture than was to be found in New York. The thorough religious toleration exercised by the founder, extending to all except atheists, was partly responsible. Like most of the other proprietors, Penn hoped to garner wealth from land sales and quitrents. The continuance of the quit-rent policy by succeeding proprietors was the cause of much discontent and friction. Yet, as proprietary colonies went, Pennsylvania was one of the most successful and peaceable, and, like Maryland and Delaware, remained in that status except for one brief period till the War for Independence.

The Colonial history of Delaware is largely a footnote to the chronicles of other colonies. The Duke of York, disregarding the claims of Maryland, gave these three counties to Penn in 1682 so as to allow Pennsylvania easier access to the sea. The colony was governed as a part of Pennsylvania till 1701, when it was given a separate governor but remained a Penn possession till the end of the Colonial era. Population did not increase rapidly. General farming and manufacture were the main occupations. Delaware was chiefly known for its manufactures of iron, cloth, paper, and glass, but Philadelphia handled the commerce.

Population in 1700. At the close of the seventeenth century the population of all the mainland Colonies combined hardly reached 250,000. From 80,000 to 90,000 lived in New England, and about as many in Virginia and Maryland, in the ratio of two to one respectively. The middle colonies of New York, Pennsylvania, New Jersey, and Delaware totaled possibly 60,000. North Carolina numbered a little over 3,000, and South Carolina had about 10,000, nearly half being slaves. Population on the mainland still skirted the coast and tidal rivers, about as shown in the map on page 21, the longest stretch of unoccupied territory being from Albemarle Sound to the neighborhood of Charleston. Excepting Charleston there was hardly a town in the South worthy of the name. Even the capitals of Annapolis, Williamsburg, and Wilmington were mere villages.

The German Element. In the next sixty years population was multiplied approximately by seven. New waves of immigration accounted for a large part of the increase. From early years the English

settlements had contained some Irish, Welsh, Scotch, Swiss, Jews, and occasionally Greeks, Italians, and Poles. But far outnumbering all newcomers in the eighteenth century, excepting Negro slaves, were Germans and Scotch-Irish. In order to enhance the price of real estate in his colonies, William Penn inaugurated the practice of sending agents into southern Germany with flamboyant appeals to the inhabitants to shake off their bondage and journey to the trans-Atlantic Canaan. So successful was he that, by some estimates, nearly half the population of Pennsylvania in twenty years was German. These settlers were in large proportion true victims of persecution—economic, political, and religious. The Thirty Years' War (ending in 1648) had left Germany prostrate to such an extent that she was a century or more in recovering. Population had been reduced to a third or less, the survivors in some parts being in the most abject stages of poverty, semisavagery, and sometimes cannibalism. The Palatinate was almost a desert, but still subject to invasions by the French for over a half century after the formal Peace of Westphalia. The electors were tyrants of the meanest sort, grinding the peasants by a two-fold despotism of pillage and religious persecution. It was from such regions as this that Germans, especially after a new incursion of raiders in 1707, spilled forth by thousands into England, there to become public charges most easily disposed of by transportation to the Colonies. Other thousands came directly to America, either as servants or under the supervision of land agents.

They found their way into all colonies, but especially New York and Pennsylvania, with the latter getting the bulk of them. Spurned by the older inhabitants, they made their way to the frontier where they remained. Finding Pennsylvania (in spite of the inequitableness of quitrents and the political disabilities which they experienced) a veritable foretaste of Paradise in comparison with what they were accustomed to, they made their establishment permanent. There they developed their own local customs, evolved a jargon scarcely German and certainly not English, and for lack of a better name became known as Pennsylvania Dutch. By 1776 it is reckoned that in all the colonies collectively there were over 200,000 Germans and that they numbered in the neighborhood of a tenth of the total population of the country.

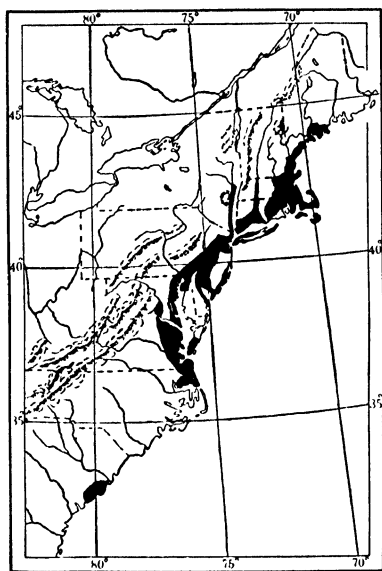
The Scotch-Irish. By the same date the Scotch-Irish were more than half again as numerous as the Germans, or about a sixth of the total for the Colonies. In contrast with less than 20,000 Puritan immigrants in the seventeenth century, it is of interest to note that the Scotch-Irish settlers of the eighteenth century numbered over 150,000, not counting the natural increase which more than doubled that

number. The Scotch-Irish were descended from lowland Scotch who had been colonized in northern Ireland, or Ulster, in the reign of James I. Ethnically they were mainly English with some Gaelic strain. Located in the least fertile portion of Ireland, these Scotch Presbyterians had, nevertheless, prospered beyond their neighbors to the southward. But adversity had come among them. British efforts to restrict their manufactures, a hated test act, increased rents, and epidemics all came in a series in 1700 and following. The Ulstermen, not having learned to live on next to nothing like the native Irish, began to migrate to America, carrying a deeply embedded bitterness against England. Every colony received a portion of them, with Pennsylvania far in the lead and South Carolina second. Everywhere the masses of them sought the frontier, either from preference, because of lack of opportunity nearer the coast, or on account of prejudice among the older stocks against foreigners—a feeling aggravated by the intransigent temperament of the immigrants. Unlike the Germans the Scotch-Irish did not settle down in a few compact communities and remain there. Paying quitrents to the Penns was a little too reminiscent of the British landlords of Ulster, so they assumed the leadership in moving down the Appalachian valleys and in the later transmontane settlement.

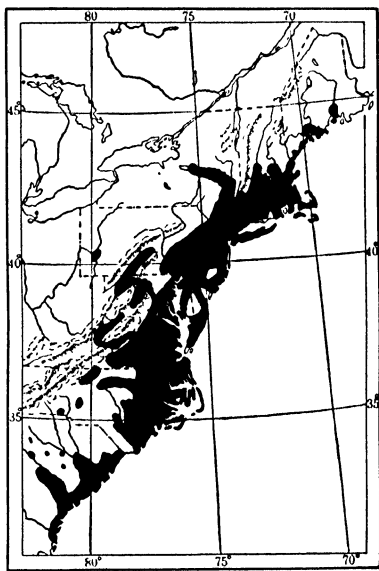
Frontier Settlement and Conditions. Meanwhile the frontiers of English occupation had remained anything but stationary. As population in the coast and tidewater settlements increased, the supply of better land diminished, this being especially true in the tobacco-growing sections. Indented servants who had completed their terms of servitude on Southern plantations joined the ranks of the land hungry, as did also the newly arrived free English immigrants. In New England the tendency was for surplus populations of the towns to move on to the next valley where the soil seemed fertile enough to justify the experiment, and there lay out a new township. Large strips of relatively useless land were often left vacant by this process, but the most desirable regions were nearly all occupied by 1760. Despite an unfavorable land policy in New York, the banks of the Mohawk River were occupied and lower New York was broadened out. In Pennsylvania the Germans, Scotch-Irish, and Swiss were not allowed to preempt all of the upper river valleys. An increasing discontent with the Quaker land monopoly along the Delaware River made large numbers of older citizens ready to risk new frontier experiences along with the newcomers.

'In the South, settlement spread by simultaneous movements both into the unoccupied portions of the tidewater region and beyond the fall line into the piedmont. In either case the problem of transporta-

tion had to be weighed against the question of fertility of soil. Back from the tidal rivers was the difficulty of hauling over primitive roads, and above the fall line the hindrances to navigation were numerous. Long before the possibilities of the tidewater had been exhausted the better portions of the piedmont were developed, the tendency being for new pioneers to proceed farther up the rivers into the mountain valleys rather than to recede too far from the sources of navigation in the piedmont. Thus, before 1760, there were numerous instances where new lands were being cleared at various points all the way from the coast to the westernmost valleys of the Appalachians, and, in at least one instance, around Pittsburgh, west of the mountains. In general the occupation of the frontier was in the form of peninsulas



SETTLED PORTIONS OF THE COLONIES
IN 1700



SETTLED PORTIONS OF THE COLONIES
IN 1763

of settlement, narrowing as they receded farther from the tidewater. But, especially in the Carolinas, in consequence of the wide expanse of pine barrens which did not attract pioneers, islands of settlement were made in the piedmont remote from the coastal civilization.

• Mainly because of difficulties of transportation the western communities were largely self-supporting. Farming even on the Southern frontier was on the general instead of the plantation scale, wheat and cattle being the leading products. Slavery had small place in frontier economy. Home manufactures took the place of many things

imported for use in the seaboard counties.' Numerous villages, even in the Valley of Virginia, had their own artisans and mechanics in sufficient numbers to supply the manufactures too intricate for the family bench or forge. Yet, some commercial contact was made with the outside world. Cattle were driven long distances to market, and also an extensive wagon trade was conducted between the towns of the Shenandoah Valley and the ports of Baltimore and Philadelphia. In political affairs the western communities were under-represented and often overtaxed, with consequences to be noted in a later connection.

Conquered Colonies. 'Great Britain secured other colonies by conquest in the eighteenth century.' By the Treaty of Utrecht, ending Queen Anne's War in 1713, Nova Scotia, Newfoundland, and the land around Hudson Bay were secured from France. In the Treaty of Paris, at the close of the French and Indian War in 1763, France surrendered to Great Britain all claim to Canada and the islands off the coast except St. Pierre and Miquelon south of Newfoundland, and everything east of the Mississippi River except the Isle of Orleans. Spain at the same time contributed the Floridas, being recompensed by France through the gift of all French territory west of the Mississippi, as well as the Isle of Orleans. Great Britain also got some of the French islands in the Lesser Antilles, but did not secure the coveted Guadeloupe or Martinique—a fact of importance in explaining the revolutionary movement which followed the treaty of peace.

The Situation in 1763. 'The thirteen of Great Britain's numerous colonies which, after 1763, began asserting their individualism were widely different from the scattered settlements which two generations earlier had clung to the coast and looked toward England. The bulk of the population still was found in the tidewater and commercial centers, but a stratified society had supplanted the homogeneous structure of earlier years. Industries and vocations had become established, and traditional ways of doing things were recognized. Colonists, in spite of their vaunted British citizenship, were American in thought and activities. The outposts of British civilization had become the matrix of a new nationality. As yet the Colonies did lip service to a foreign government and had more of filial devotion than brotherly sympathy, but they had not been tested by a common cause against the parent nation. Merchants of New York viewed those of Philadelphia mainly as rivals, while both considered the Carolinas much as they would one of the West India islands. Within the same colony, the interests of the piedmont were generally so far different from those of the coast that the sections sometimes found themselves in open hostility to each other. It was only on the frontier that people

could migrate from one colony to another and easily adjust themselves to the conditions of the new neighborhood. Even a war for independence, and a federal government, could not alone develop a strong sentiment of nationality between the states and sections. But a feeling of political detachment and self-reliance had reached the point where any effort of Great Britain to subordinate Colonial interests to imperial solidarity was bound to be firmly resisted. Economic changes which contributed to this state of affairs are considered in the chapters which follow. '

CHAPTER II

PROVINCIAL COMMERCE

Pioneer Needs. The Colonial pioneer had a greater personal interest in commerce than did the colonizer. The common people, habituated to meager subsistence as most of the settlers were, yet could not avoid missing and yearning for the small comforts to which they had been accustomed. Buckskin clothing, pine-knot torches, and puncheon benches were not originally adopted through choice, though a second generation of frontiersmen could view them as a matter of course. From the earliest days, persons who could afford them imported Old-World goods to supplement the coarser products of home or local make. Even the struggling farmer on the stonier acres had to buy occasional supplies of iron rods for his forge and salt for the kitchen. He was all the happier if he could also buy a better gun for himself, a piece of finery for his wife, or some trinkets for the children. But the development of domestic manufactures to meet such needs had to depend upon a larger population, greater demand, improved roads, and a great deal of experimentation, to say nothing about accumulation of capital, development of sources of raw materials, the training or collecting of a competent labor force, and the growth of wise management. A century and a half of Colonial experience was not enough to bring the finer sort of manufactures to the point where they could compete on equal terms with the goods of Europe. So, throughout the period under consideration, foreign commerce continued to play a larger part in economic life than would be expected in an older community.

Mercantilism. While not of primary importance in determining the nature of Colonial commerce, the vast amount of governmental regulation is bound to attract attention. In recent generations the fallacious notion has prevailed among the untutored that the colonists dwelt in the golden age of *laissez faire*. On the contrary, Colonial society was distinctly rigid in its attitude toward commerce and industry. This was particularly true of the local governments, as will be noticed in this and succeeding chapters. Minute regulation was exercised by Parliament principally over the ocean carrying trade, and was shaped according to the prevailing theory of mercantilism.

The mercantilist philosophy was an outgrowth from the excessive importance given to money during the commercial revolution. There

was an actual increase of money in Europe during the sixteenth and seventeenth centuries, but the demands of commerce were insatiable while the use of credit instruments as a substitute for money was retarded by the slow growth of dependable banking institutions. As late as the reign of Charles II, men of wealth in England were just beginning to trust their money to the goldsmiths for safekeeping, the latter issuing notes which passed at par value in local trade. The Bank of England was founded in 1694 along lines similar to those of the banks at Genoa and Amsterdam which had been in existence for three centuries in the former case and one in the latter. Bills of exchange drawn upon merchants of known integrity furnished some relief for hard-pressed commercial houses, but shortage of money in proportion to needs continued.

None of the methods of extortion or debasement of currency mentioned above (see p. 3) afforded permanent relief, and taxation alone, though filling the royal coffers, brought no more money into the realms. Combined with the demands of rulers, merchants, and producers for more money was the national urge for extension of markets and the desire for large fleets and plenty of trained seamen for the use of the navies. These demands gradually developed into the mercantile theory which began to assume recognizable form in the sixteenth century and which, so far as applied by England toward her colonies, may be stated as follows: 1. Money is the most valuable form of wealth. 2. A favorable balance of trade is one of the surest means of adding to the money supply. 3. The nation which does not naturally have such a favorable balance of trade can secure it by establishing colonies to furnish reexportable products and raw materials for manufacture in the mother country. 4. Any nation can increase its balance of trade through the same sort of colonial policy. 5. The colony must produce what the mother country needs, even if a bounty is necessary to encourage such activity, and it must not produce other commodities for export in competition with the mother country. 6. The colony must sell all its exports that are needed by the mother country, to her, and, in return, must buy all possible imports from her.

There were several corollaries, among which were these. 1. In order to develop a navy and at the same time keep freight costs at home, all ocean trade between the various parts of the empire must be carried in ships belonging to some part of the empire, even if it would be cheaper to hire the service of foreign vessels. 2. For like reasons, ships engaged in the imperial trade should be built within the empire, regardless of cost. 3. Since other countries had their own mercantile policies, concession would have to be made to them to the ex-

tent of allowing international European commerce to be carried in the vessels of either of the two nations involved in direct exchange. 4. Ships of a third nation should not be permitted to carry the goods traded between two other countries. The mercantilist policies of no two of the European countries were even essentially identical, but it is not necessary to survey other systems when the focus of attention is fixed on the English colonies.

England's system was slow of growth, was not as strict as some, and at first was centered mainly in preserving the profits from the sugar islands. But competition with English farmers, coming from the Northern mainland colonies, a desire to control the marketing of Southern staples, the hope of developing Colonial production of naval stores and various raw materials, and the need of limiting certain other manufactures, as well as medieval inheritance of habitual regulation and national ambitions led Parliament to enact a long series of laws for the regulation of Colonial economic activity.

The Navigation Acts. Between 1381 and 1651 numerous acts had been passed to stimulate the navy or to develop the merchant marine, but an act of the latter year was the beginning of the systematic attempt to make the Colonies profitable. The Dutch were rapidly creating a monopoly of the ocean carrying trade, while Oliver Cromwell wished to reserve more of this business to Englishmen. The act passed by the Commonwealth Parliament, in response to his wishes, provided that no products except those of Europe could be carried into any port under English sovereignty unless in ships the owner, captain, and majority of the crew of which were British (including Colonial) subjects. Continental European goods might be carried from the place of their origin by ships of the producing nation, but no foreign ship could carry the goods of a third nation into a port of the British Empire. The act was applied only in part, since England absolutely had to use Dutch ships until her own merchant marine could be built up.

Charles II, though denying the legality of anything done by the Commonwealth and Protectorate, knew how to learn a lesson from Cromwell. Consequently the Navigation Act of 1660 was essentially a repetition of that of 1651, but with some additions. Ships engaging in the Colonial trade must not only be British (including Colonial) owned but British built as well, and the ratio of British subjects in the crews was increased to three-fourths. Another important innovation was a requirement that all sugar, tobacco, cotton fiber, indigo, ginger, fustic and other woods used for dyes exported from the Colonies should be sent directly to England. Of these products tobacco

alone was in 1660 being produced for export in the mainland colonies. Later, of course, the indigo of South Carolina became subject to the act. In 1706 molasses, rice, and naval stores, and in 1722, copper, beaver skins, and other furs were "enumerated." Near the end of the Colonial period (1766), all exports were required to go to England unless destined to a port south of Cape Finisterre. By the Act of 1660 none of the enumerated products could be carried from the colony of their origin without the master of the ship giving bond of £1,000 or £2,000, according to the size of the vessel, that they would be landed in another British possession. Shipbuilders and merchants of the Northern colonies received distinct advantage from the prohibition against foreign-built ships, while for a time at least Virginia and Maryland were inclined to ignore the enumeration of tobacco. Under pretense of shipping to other colonies the product was turned over to Dutch ships at sea, or was carried to New England, from whence it reached the Dutch in New Amsterdam, and often was carried directly to Dutch colonies or to the mainland of Europe.

Not particularly with this evasion in mind, but especially to aid English merchants as distinguished from shipowners, the Navigation or "Staple" Act of 1663 was passed. With a few exceptions, all imports into the Colonies from Continental Europe had first to be brought to some port of England or Wales and be transhipped from thence to the Colonies. This law tended to restrict the export even of unenumerated commodities from the Colonies directly to Europe, since no return cargo could be secured except by touching at an English port on the return trip. The act also reënforced the law of 1660 concerning the bonding of enumerated articles. Punishment for failure to give bond included confiscation of ship and cargo, while governors who were lax about enforcement were made subject to fine or even removal from office. Still evasion continued. It was declared in 1663 that England lost £10,000 a year in customs duties through violation of the law. English merchants also complained that the Colonies, through failing to pay the duties in England, could undersell them in Europe. Most of the evasion occurred through the refusal of merchants to give bond, saying that the goods were destined for another colony. To check this practice another act, in 1673, assessed a tax on enumerated goods entering the intercolonial trade ranging from a penny a pound on tobacco to £5 a hundredweight on logwood. The duty was to be collected by special crown officers, of which five were sent to as many colonies, but they were not armed with sufficient powers to make their efforts altogether successful.

When enumerated goods had paid the stipulated tax on shipment to another colony, merchants were inclined to feel that it was not

necessary to give bond on reshipment. This theory was rejected by the British courts, and the Navigation Act of 1696 expressly declared that bond should be given on reexportation the same as at the time of first shipment. This law rounded out the policy established by preceding acts. It was a general enforcement measure. Violation had been the order of the day for a generation. Sympathetic jurors failed to convict the culprits, and officials were often in active connivance with the law violators. To correct this situation strict oaths were required of all shipowners and Colonial officers charged with regulation of trade, and all but British-born subjects were barred from the juries. The proceeds from confiscated vessels were divided equally between the crown, the governor of the colony, and the informer. British customs officers in the Colonies were to enforce the regulations. This series of laws laid the basis for later regulation of Colonial trade until the close of the French and Indian War. There is some question as to how well the acts were enforced in the first quarter of a century after 1696. Then came the ministry of Robert Walpole, 1721-1742. Walpole, in agreement with his inclination to "let sleeping dogs lie," turned over to Thomas Pelham, Duke of Newcastle, the administration of the Colonies. This individual, through lack of energy, ability, or knowledge of America, instituted the régime of "salutary neglect." He was in control much of the time till 1762.

Molasses Act of 1733. The navigation acts just mentioned had a show of reason to them, and some were likely to be as beneficial to the Colonies as others were detrimental. But, even from the English point of view, the Molasses Act of 1733 had less to recommend it. Northern merchants found markets in the French, Spanish, Danish, and Dutch colonies of the Caribbean for many kinds of goods which England refused to accept, and for the surplus of other commodities as well. In like manner the French islands, in particular, looked to New England as a market for their molasses. This was used by the Yankees in the manufacture of rum, for domestic use, for the fishing fleets, in the African slave trade, and the Indian trade. French molasses was superior to English (which was insufficient in quantity anyway) and could be bought more cheaply. British sugar planters, resenting the prosperity of their French neighbors, insisted on total exclusion of foreign molasses from all British possessions. Parliament adopted the more moderate policy of making the trade unprofitable by imposing a duty of 6 *d.* a gallon on molasses and proportional duties on rum and sugar purchased outside the empire. These duties were prohibitory, and if enforced would have ruined a good part of the West India trade. All the English islands together did not produce enough good molasses to supply Rhode Island alone.

The law was a mistake economically since, if enforced, it would drive Northern capital into manufactures to retrieve the losses in West Indian commerce. Goods from England were bought with money or credit obtained either directly or indirectly as a result of the trade which was threatened. The Colonies could not continue to buy from England if they could not sell to the West Indies, and they would be supplanted in favor in the West Indies by other nations if they did not buy what the islands had to offer in exchange. Thus England herself would have suffered by enforcement. It was a mistake politically, since it forced the merchants to violate it and thereby engendered disrespect for other laws. Lawbreaking became necessary, justifiable, and popular. Fortunately for all, the act was a dead letter from the beginning. Evasion became inevitable. So long as any subterfuge was necessary the favorite plan was for a shipmaster to clear from Jamaica with empty casks billed as molasses, then go to a French island and have them filled. The Molasses Act was the last important navigation legislation until after the French and Indian War. The laws following 1763 have so direct a bearing upon the American Revolution that they will be discussed under that heading.

Other Trade Regulations. "Another method of regulating trade was the use of tariffs and rebates or "drawbacks." Duties on Colonial goods in English ports frequently favored the British Colonies, the preferential tariffs having somewhat the same effect as free trade within the empire. Thus, while the tariff on English Colonial tobacco was frequently three times its value in Virginia, on foreign tobacco it was prohibitive. Also the remission of duties when cargoes were reshipped to Continental Europe relieved much of the burden of having to send all exports by way of England. The extra handling involved and the middlemen's profits still left the colonists at some disadvantage, and they often asserted that they would get more for the product in America if they were allowed to sell direct to Europe. About 1750 the total exports of tobacco from Virginia and Maryland amounted to about 85,000,000 pounds, of which four-fifths were reshipped to continental countries, which fact demonstrates the disadvantage of the planter in not getting the highest possible price. At that time tobacco constituted at least half of the total value of Colonial exports to England. Another form of drawback was that allowed on European goods coming by way of England to the Colonies. This sometimes allowed colonists to buy more cheaply than the people of England. For instance, Dutch and German linens sold so low in the Colonies as to hamper the development of the linen industries in Ireland and England. Sometimes the refusal to grant drawbacks was a stimulus to Colonial production, because of the increased cost of imports.

Restrictions on Commerce by Colonial Laws. 'More important than European mercantilism were certain other factors influencing Colonial commerce: commercial regulations of the Colonies themselves, geographic conditions, and a perennial shortage of money. Parliament did very little toward internal regulation of the Colonies.' The privy council, over which the king presided, and a Board of Trade exerted the greater supervisory powers, but until the restoration of the Stuarts, in 1660, even this interference was not great. Charles II (1660-1685) and James II (1685-1688) made genuine efforts to organize and govern the Colonies, but the period was too short and the reaction of the Revolution of 1688 was too sudden and drastic for any considerable permanent result. From 1689 to 1763 England was engaged in European and Colonial wars for something like forty years, or over half the period. Since, even during the years of peace, little attention was paid to the Colonies, they began to consider themselves autonomous and to act accordingly.

In this period the Colonies did much to regulate commercial as well as political affairs, especial attention being given to import and export taxes, tonnage duties, embargoes, inspection laws, regulation of ports, and bounties. Import duties were sometimes for protection of industries but more frequently in aid of commerce. There were preferential rates for shipowners of the colony and for direct trade with other countries, and high retaliatory duties against other colonies, but revenue was the chief aim of most tariff legislation. Care was taken not to hinder domestic shippers by the rates. Massachusetts, New York, and South Carolina alone persistently taxed imports. Other colonies either tended toward free trade or else varied from time to time in their policies. Export duties were not so fruitful a source of revenue, but they were levied by all except Delaware and Rhode Island. Staples such as tobacco, furs, hides, and lumber carried the highest taxes, which were sometimes remitted as a reward for direct trade and occasionally were used as a form of protection for local industries. Thus, export duties on lumber in Connecticut and New Jersey prevented a drainage of supply from shipbuilders and coopers. Tonnage duties were generally assessed as a means of raising money for defense, all colonies except Delaware and New Jersey using the rates as a part of their permanent policy. Embargoes were protective in purpose. Inspection laws were intended to protect buyers and thereby preserve the reputation of the merchants. Regulation and administration of ports were for the customary purposes of guarding commerce, procuring revenue, and improving harbors, but in the early eighteenth century were so intricate that a master of a vessel needed to be as much a lawyer as a navigator. Sometimes they were extreme'y meddlesome.

A young man crossing Long Island Sound to be married and transport his bride's personal property was deprived of his boat and its contents and had to pay a fine of £30 for failing to add 150 miles to his trip by going by way of the port of New York.

Geographical Influences. Had there been more uniform geographic conditions in the English continental colonies, commercial development would have been a much less complex problem than it turned out to be. From the Chesapeake Bay southward climate, soil, natural resources, and a broad coastal plain adapted the country to the production of just such staples as were in demand in England. The profit from these commodities was of sufficient size that the colonists had not much, if anything, to gain by trying to produce large quantities of the ordinary necessities and luxuries. Instead, they depended upon Europe for their needs, and for a long time profited by the exchange. The tidal estuaries of the Chesapeake region furnished abundant landing places for the small vessels of the day, while farther to the south such ports as Wilmington, Charleston, and Savannah were adequate for the needs.

The middle colonies could not compete successfully with their Southern neighbors in tobacco growing, but they excelled in the fur trade. Grain crops were best adapted to the soil and climate and nowhere along the coast could they be grown more profitably. The middle colonies, however, had to depend on alien markets for their grain exports and were induced to supply more of their own needs by mixed agriculture and manufacturing than was the case in the South. This tended toward greater local and less foreign commerce. The Delaware and Hudson rivers furnished unexcelled harbors.

New England had fewer natural blessings, except for proximity to the fishing banks, than either of the two other sections. The coastal plain was narrow and the soil less fertile than elsewhere. A living could be made by diversified agriculture, but there was little incentive to the growing of surplus crops. The indented coast line was sprinkled with ports for fishing vessels, but harbors suitable for ships of commerce were few. Shipbuilding materials were close at hand and water power was abundant. Hence shipbuilding, fishing, the ocean carrying trade, and manufactures played a more important part in New England economic life than in any other Colonial section. But, because of this greater self-sufficiency, foreign commerce, aside from the carrying trade, was of less importance than elsewhere.

Monetary Problems. One of the most vexatious problems in all colonies was the perpetual shortage of money.¹ The exportation of British coin was forbidden by law.² Even if permitted, trade balances would have brought it back again to England. Spanish dollars (pieces

of eight), brought in by the West Indian trade were the principal coins used from Georgia to New England, though values were expressed according to the cumbersome British system. In exchange, the Spanish coins were worth nearly twice as much in some colonies as in others, with little regard to distance from the source or abundance of importation. 'This variation of value made for a great deal of complexity in the coastwise trade.' Some Portuguese, French, and Dutch coins were also in use, and sometimes colonies made coins for themselves, as in the case of the "pine-tree" shillings of Massachusetts from 1652 to 1686. Since banking was not put on an established basis in England till the closing years of the seventeenth century, it could not be expected that any progress would be made in the provinces. The relief from money shortage through the use of bank notes had to await a later era.

Bills of exchange played an important part in settling foreign balances, but the principal recourse for local trade was barter or staple money. In Virginia, tobacco was deposited in warehouses and the receipts or notes were recognized as money by the Colonial government. Pennsylvania tried a similar experiment with wheat, and like efforts were sometimes resorted to in New England. 'Tobacco in the later Colonial period in Virginia was fixed at 2 *d.* a pound as money in payment of debts.' When tobacco sold on the market at more than that price, coin was given instead if creditors would take it. Patrick Henry established his fame as a lawyer by successfully pleading the cause of a Virginia parish which was being sued by its pastor for paying his salary in money instead of tobacco.

It was only natural that colonies should occasionally try the experiment of issuing fiat paper money. Massachusetts in 1690 was the first to do this, but she soon had several imitators. Most of the colonies at one time or another issued bills of credit, treasury notes, or land-bank notes secured by farm mortgages. Some colonies, Pennsylvania for instance, used paper money with moderation, others, like Rhode Island, went to excess and with harmful effects. Time and again the British government was compelled to call a halt on paper-money issues, and finally, in 1764, Parliament forbade the issuance of any such currency in the future, but there was a modification of this law in 1773. 'There is nothing remarkable in the fact that during the Revolutionary War, when the restraining hand of Great Britain was removed, the states became flooded with Continental currency.'

Commerce of the Colonies, by Sections. 'Tobacco was the basis of nearly all trade of the Southern mainland colonies in the seventeenth century, and was by far the most important export staple even after the eighteenth-century development of Carolinian crops.' The

Chesapeake colonies frequently had exportable surpluses of such products as wheat, corn, meat, fruits, and vegetables, and were consistent in the exportation of furs, forest products, and provisions for ships, though the total of such shipments was relatively small. In 1700 Southern trade with England was valued at two-thirds of that for all of the mainland colonies. *In 1770 the total exports of all the Colonies to any part of the world were valued at £3,438,000 (the pound being roughly five dollars) and more than a fourth of this was tobacco. Over 98% of the tobacco was shipped to England. '

Before 1700 the small trade of the Carolinas was mainly with the West Indies, New England coastwise vessels, and pirates.' Corn, salt meat, furs, and naval stores were thus exchanged for coin, sugar, molasses, rum, manufactures, and Negroes.' After 1700 rice and naval stores became the leading exports, rice being far in the lead. By 1750 indigo had assumed second place, leaving naval stores third. The importance of these three commodities is shown by the fact that in 1770, when the total exports of the Carolinas amounted to about £570,000, rice alone accounted for three-fifths, indigo nearly a fourth, and naval stores a tenth, including a small amount from other colonies. Nearly all of the indigo and naval stores went to England, but over half of the rice was sent direct to Southern Europe.' Exchange was mainly for manufactures, foods, and slaves.' In 1769 the total world trade of the South was valued at £3,125,700 while that of the Chesapeake colonies alone was £1,842,500. For comparison it may be noted that New England commerce for the same year was \$1,114,000. Georgia in industry and commerce may be considered merely as a frontier of South Carolina.

The commerce of the middle colonies was carried on almost solely through the ports of New York and Philadelphia, and, because of the late settlement of the latter, New York alone was of much importance before 1700. This fact, coupled with the advantage of New England in her fishing business, gave the latter section an early lead in export trade with England. Not until 1750 did this branch of commerce from the middle colonies exceed that of New England, but in the next quarter of a century the honors were about equally divided. As to imports from the British Isles, the middle colonies assumed an almost continuous leadership in 1740. In a number of years thereafter the imports of New York or Philadelphia alone exceeded the total for New England. During the third quarter of the eighteenth century the non-British foreign trade of the middle colonies kept full pace with or exceeded that of New England.

* Furs, grain, animals, staves, lumber, and whale oil were the principal exports of the middle colonies before 1700. In the eighteenth century,

grain, flour, and bread achieved overwhelming superiority.⁴ Exports of wheat and wheat products from all the Colonies in 1770 were valued at £636,000. This about equaled the total exports of the middle colonies at that time. But not all the wheat came from New York and Philadelphia. Maryland was exporting about 60,000 bushels a year and Virginia as well as New England contributed smaller portions. Yet the bulk of the wheat, flour, and bread came from the middle group, which for this reason were sometimes called the "bread colonies." Lesser quantities of butter, cheese, peas, corn, and oats were included in the major exports of the middle colonies. Of these commodities the West Indies received a large share, but the great bulk of the wheat and considerable portions of the corn, bread, and flour went to Southern Europe. Wheat alone of the 1770 exports listed above went to Great Britain, the amount being less than 12,000 out of a total of 851,000 bushels.

New England, like the middle colonies, was tolerably independent of importations of other than subtropical or manufactured goods. Fish, whale products, timber in the rough and semimanufactured state, ships, ship provisions of local origin, and rum from West Indian molasses became the export staples. Exports of fish, whale oil and whale bone (called "fins" in commercial cant), and spermaceti candles alone, including small quantities from Newfoundland and New York, totaled about £526,000 in value in 1770, while rum added another £22,000. The whale oil and fins, comprising about a fifth of the value of the products of the sea, went almost wholly to England. Nearly two-thirds of the fish, whose total value was about £400,000, went to Southern Europe, and most of the remainder to the West Indies. The bulk of the spermaceti also went to the West Indies, while nearly 85% of the rum exported entered into the slave trade with Africa. The products here listed about equaled in value the total exports of New England in 1770. A deduction of whale and fish products from neighboring colonies will allow for the other exports of New England in this typical year.

The Balance of Trade. England's efforts at maintaining a favorable balance of trade with the Colonies were eminently successful. The question of balance of trade of the Colonies was none of her worry. Yet, in a mercantilist age, this was a matter of utmost concern to the Colonies themselves. In the South the balance of trade with England usually favored the Colonies. From 1700 to 1773 the balance was favorable to Virginia and Maryland during sixty years and to England the other fourteen, mainly after 1757, with a total balance of over £8,153,000 to the Colonies for the whole period. In the same era the balance favored the Carolinas fifty-nine times and England fifteen

times, also after 1757, with a total balance for the Carolinas of nearly £2,612,000. This is explained by the fact that tobacco, naval stores, and indigo were enumerated articles. Since the bulk of the tobacco and much of the indigo were reexported by England to Continental Europe, England also maintained a favorable balance of trade from these commodities, but not wholly at the expense of the Colonies. Since half or more of the Carolinian rice went direct to the West Indies and Southern Europe, South Carolina therefrom obtained an additional balance which placed her almost on a par with Virginia.

In spite of this favorable balance, it is known that the South, and the tobacco colonies in particular, got into a sadly indebted condition to England in the decades before the Revolution. This was due to five principal causes, four of which can be laid at the door of commerce. In the first place, a sum greater than the balance from England went for the purchase of slaves, imported directly or indirectly from Africa and chiefly in British ships. In the second place, the Southern colonies carried almost none of their commerce in their own ships. The freight costs therefore went to England or Northern shipowners. Third, the enumeration of tobacco turned a good part of the annual value of the crop into the hands of British merchants. Fourth, from 1757 on, the balance of trade shifted to England. Poor business management and extravagance should not be forgotten as the fifth factor.

In the middle colonies and New England the balance was perpetually and overwhelmingly in favor of England. In the same period mentioned above (1700-1773), the balance against the former was over £16,900,000 and against the latter about £13,900,000 or nearly £31,000,000 together. It was the problem of settling this annual balance to England that determined the direction other Northern commerce was to take.

The fishing banks, within easy reach of New England, furnished a product much in demand in the West Indies and the Catholic countries of Southern Europe. Everything for shipbuilding except hemp and the better grades of iron was to be found in abundance, harbors were sufficient, and the navigation laws favored shipbuilding. Here was a combination of circumstances sufficient to capture the fancy of enterprising men who could see little future in farming, who doubted the expediency of extensive rivalry with English manufactures, but still hoped to build up fortunes. Once engaged in the ocean carrying trade they were not long in seeking out new markets to offset the one-sided commerce with England. Similar opportunities existed in the middle colonies, but it was not until after 1700 that the English settlers took full advantage of the example set by their thrifty Dutch predecessors. Thereafter they soon became close rivals of New England

36 ECONOMIC HISTORY OF THE UNITED STATES

for honors in shipbuilding and the carrying trade with Continental Europe and the West Indies. In the South, for lack of necessity, this form of business did not flourish. Some Virginia plantations had enough trade to employ the full time of two or more ships each, but rarely were the ships owned by the master of the plantation. A few excellent vessels were built in the Carolinas, but they were owned by Englishmen. The South participated largely in the intercolonial, West Indian, and European trade, but Northern or English merchantmen carried their wares.

IMPORTS AND EXPORTS OF THE COLONIES, 1769

EXPORTS IN POUNDS STERLING

	FROM		TO		TOTAL
	Great Britain	Southern Europe	West Indies	Africa	
North	284,269	335,810	555,612	19,584	1,195,275
South	1,247,245	216,923	192,292	690	1,657,150
Total	1,531,514	552,733	747,904	20,274	2,852,425

IMPORTS IN POUNDS STERLING

	TO		FROM		TOTAL
	Great Britain	Southern Europe	West Indies	Africa	
North	504,614	54,909	594,421	877	1,154,821
South	1,100,367	21,770	195,326	151,120	1,468,583
Total	1,604,981	76,679	789,747	151,997	2,623,404

TONNAGE EXPORTS

	FROM		TO		TOTAL
	Great Britain	S. Europe and Africa	West Indies	Continental America	
North	31,675	21,888	63,651	72,785	190,089
South	67,446	20,713	32,731	28,323	149,213
Total	99,121	42,601	96,382	101,198	339,302

TONNAGE IMPORTS

	TO		FROM		TOTAL
	Great Britain	S Europe and Africa	West Indies	Continental America	
North	30,353	20,906	60,888	78,198	190,345
South	60,357	13,245	34,028	34,171	141,801
Total	90,710	34,151	94,916	112,369	332,146

Near the end of the Colonial period about 40% of the imports and 45% of the exports of the Colonies by value, were by direct trade outside of Great Britain. In volume nearly 72% was non-British. The preceding table will reveal better than several pages of exposition the volume and value of commerce with the various parts of the world including the coastwise trade, in 1769. The Mason and Dixon line is used to distinguish between Northern and Southern colonies.

It will readily be seen that Southern Europe was the greatest reliance of the North in redressing its trade balance, and that even the South, in that one year at least, had a better balance with the continent than with England. Nearly all of the direct Southern commerce with Great Britain and Continental Europe was carried in ships of England. This was one part of the carrying trade from which shipowners of the Northern colonies abstained. They preferred to carry only those goods which, as merchants, they bought and sold. Had more tobacco been carried in American ships it is quite likely that the navigation laws would have been violated more than they were.

The West Indian Trade. The carrying trade between the West Indies and the Colonies, constituting more than half of the total commerce of the North and about an eighth of that of the South in the latter part of the Colonial era, was conducted almost exclusively in ships of the Northern colonies. The commerce was of early origin. In 1633 Dutch and Yankee ships were carrying goods between Virginia and the West Indies. Frequently the wares were peddled about from one river wharf to another by the shipmasters. The trade of New England developed simultaneously. In 1640 eleven cargoes of lumber were sent to the islands, and in a short time fish, staves, grain, and pork were added to the list of exports. The return cargoes contained cotton, tobacco, salt, rum, wine, sugar, Negroes, coin, and bills of exchange. In 1770 exports to the islands from the mainland exceeded £844,000 in value while imports amounted to nearly £950,000. Over half of the latter sum was expended for rum from the British West Indies. Molasses from the French islands ranked second (£186,000), while sugar was a close third, most of it coming from British islands. These three items constituted four-fifths of the imports from the West Indies, and at least two-thirds came from the British possessions. Yet it was because of the trade of the non-British islands, particularly the French ones, that the North was able to make a profit out of sometimes adverse balances with the West Indies as a whole. The French paid larger cash balances and supplied the raw material for much of the rum which played so great a part in the favorable trade with the Mediterranean countries and Africa.

So important indeed was this French West Indian trade that the

Northern merchants were unwilling to abandon it during the French and Indian wars. The French of Canada, who were rivals for the fisheries and fur trade, were looked upon as proper objects for hatred. But the French of the West Indies, since their pursuits were so different and so profitable to merchants, were easily considered to be of a different breed. When the British navy interrupted the regular French trade with the islands, sugar and other products became so cheap at the plantations that Colonial merchants took every opportunity to engage in what was really a treasonable practice. There can be no question but that the French and Indian War was prolonged by this trade, which made it possible for French ships to be provisioned in the islands with goods coming from ostensible enemies. Sometimes the traffic was direct, under guise of exchanging prisoners. More often, neutral West Indian ports were made depots of exchange. It was this practice which called forth the famous British "Rule of 1756." Since the Dutch and Spanish islands were presumably closed to both French and British colonies in times of peace, Great Britain now declared that she could not allow this harmful trade in time of war. Yet, through one subterfuge or another, the rule was frequently evaded throughout the remainder of the war.

The Coastwise Trade. Figures for the local internal trade of the Colonies are not complete enough for any sort of an estimate. Inter-colonial commerce by land was negligible, because of a lack of roads. Still less is known as to the amount of goods going back and forth over the waterways and trails to the frontier. • Neighborhood exchange followed the horse traders' rules of haggles and barter. Peddlers carried their packs for long distances and fixed their prices according to the shrewdness of their customers. But they were welcome visitors, dispensing news and gossip along with their wares. In remote places they were almost the only contact with the outside world. As to the volume of inland trade, this much alone is certain. The colonists depended far more upon foreign commerce and household manufacture in their system of economy than have the more recent generations, and, consequently, purely domestic commerce played a proportionately smaller part. •

The most reliable gauge of domestic trade for the Colonies is their coastwise traffic, concerning which the tonnage records of custom-houses make fairly definite information available. This trade consisted of three principal forms, generally combined: distribution of foreign imports, collection of cargoes for export, and exchange of commodities of one region for those of another in the Colonies themselves. Coastwise commerce was from point to point along the coast of the same colony as well as intercolonial. It was a free-for-all business. Even

New England fishermen often turned their winter months to profit by carrying salt, rum, sugar, small manufactured articles, and the like in their little boats to the South. There they peddled the cargoes at plantation wharves, taking naval stores, corn, and pork in exchange.

The Dutch, operating through New Netherland as a base, were the first to establish the coastwise trade on a systematic basis, and furnished the chief obstacle to the development of British commercial policy. This trade declined rapidly after the English capture of New Netherland, but the Dutch loss was the Yankee's gain. New England expanded the coastwise carrying trade to a much greater extent than did the middle colonies, making this a branch of her commerce second only to that with the West Indies. New England lay almost in a direct line between Virginia and England, and Virginia was not far out of the way in the voyage from the West Indies to New England. Taking advantage of this fact, the Yankee shipmasters by 1640 had established a regular trade with Virginia in connection with their other commerce. Imports both from England and the West Indies were thus easily exchanged for tobacco and bills of exchange on London.

This was so necessary a form of commerce as to overcome all obstacles of tariffs, shipping regulations, and jealously conceived retaliatory Colonial legislation. The collection of exports from port to port; the purchasing of breadstuffs in the middle colonies for home use; the regular exchange of grain, fish, provisions, and imported goods with the South for tobacco and naval stores—all these things did much to supplement the European and West Indian trade of New England in the eighteenth century. "The direct trade between the North and the South was small in comparison with the local coastwise trade of the North or with the European trade of the South, yet it was not to be disregarded." Colonial vessels enjoyed a peculiar advantage because of an oversight in the phraseology of the Navigation Act of 1660. English vessels were prohibited from carrying enumerated articles in inter-colonial trade, but no such restrictions were placed on Colonial ships. Since enumerated goods played so large a part in this form of commerce, Colonial vessels had a virtual monopoly of it. Duties in Colonial ports were lower than in British, even after drawbacks were allowed, hence enumerated goods cost less in the North than in England. The navigation acts of 1673 and 1696 did not completely prevent Northern merchants from taking advantage of this situation to reexport the goods without bond to the continent of Europe.

The tonnage table above (p. 36) illustrates the relative volume of coastwise trade as compared with foreign commerce in 1769. The column headed "Continental America" lists the coastwise imports and exports, but includes about 25,000 tons for Canada, Florida, and

the Bahamas. Since the commodities of coastwise commerce were somewhat more bulky than those of foreign shipments, the total value of the coastwise trade should be estimated as less than that with England, rather than slightly more as indicated by tonnage.

The Fur Trade. A portion of Colonial commerce which partook both of domestic and foreign character was the fur trade. It was a source of raw material for the making of hats, leather, and outer garments either in the home or in the workshop of the craftsman. From the earliest days of settlement the trade also supplied an important commodity for foreign exchange. In the course of time other industries far outstripped in growth that of the fur traders, but the latter, though declining in relative importance, increased regularly in total annual volume throughout the period.

The development of New York between New England and the Indian country farther west, combined with bad relations between the Yankees and the local Indian tribes (the friction culminating in King Philip's War), made of fur trade a negligible factor in the life of New England after 1676. Before this date the New York traders were already asserting their preëminence among English colonies. Equipped like the *coureurs de bois* of Canada, they acted both as trappers and traders. Penetrating far into the interior, they dressed like, mingled with, and resembled Indians. Even to the use of moccasins and snowshoes and the practice of scalping enemies in time of war, they copied the life of the darker race.

As early as 1656 the Dutch were bringing as much as 35,000 beaver skins annually down the river from Fort Orange (Albany). Since these skins passed as currency in several colonies, the better ones being rated at 10 s. a pound, there was sufficient temptation for British covetousness of the Dutch colony, even had there been no other commercial and imperial problems involved. Under English rule, friendly overtures made by James II toward the French incurred the contempt of the Iroquois. The result was a reluctance on the part of these hereditary enemies of the French to do business even with the English, and for a time, around the year 1687, the number of pelts exchanged fell from 40,000 to 9,000 annually. No such complaint of pacifism could be lodged against William III or his successors, so the old-time relations were soon resumed on a permanent basis.

The articles offered by white traders in exchange for furs were well selected for the purpose of tempting the Indians to continued activity, and at the same time the supplying of the wares created an additional market for Colonial as well as British manufactures. Rum, guns, ammunition, knives, axes, hoes, and brass or copper kettles were things that the Indians could not provide even good substitutes for if

dependent upon their own mechanical skill. There were other comforts that the Indians were ready to buy when more pressing needs were provided for. These included such items as hats, shirts, combs, cloth, and thread. Sometimes even tobacco and foodstuffs changed hands. In this trade the advantage was not wholly on the side of the white man. The Indian must often have felt that the paleface was a fool to part cheaply with so potent a liquid as rum. In spite of the dismal return to soberness, it was easy to remember the lightness of spirit and feeling of importance that accompanied a spree. The gun or the kettle, which no amount of labor in the wigwam could reproduce, was obtainable as the product of only a month or more of hunting.

The Indian did not realize that, with the furs thus exchanged, the traders could supply themselves anew with many times the amount of goods entering into the transaction. But there was a limit even to such profit as this, provided through competition with the French and Spanish. The French, for instance, traded in brandy and manufactures from their own country, but England, being the more advanced industrially of the two nations, could supply manufactures much more cheaply than could her rivals. Under any ordinary circumstances rum could be distilled for about half the cost of brandy. On the other hand the French, through the natural waterway approaches to the interior afforded by the St. Lawrence and Great Lakes and the Mississippi systems, could carry their goods to the best fur-growing regions and thus have first choice of the pelts. In general, they established more cordial relations with the interior tribes and, because of closer official regulation of their trade, were less prone to get the Indians drunk and then cheat them of a whole season's catch for a handful of trifles. In consequence many Indians preferred to accept smaller rewards rather than trade with the unregulated Englishmen.

English traders did not make the most of the advantage of having cheaper goods. As fur-bearing animals were thinned out in New York, the Iroquois, instead of trading their own catch solely, became middlemen for more Western tribes. Even then the English could undersell the French, and Indians carried their furs hundreds of miles to the Albany market. But the Albany merchants were their own worst enemies so far as monopolization of the fur trade was concerned. In spite of laws to prohibit the practice, they pursued the short-sighted policy of selling their goods to French traders, thus giving the latter much of the advantage in dealing with Indians that the English might have retained for themselves. Shortly after the Treaty of Utrecht (1713), from £10,000 to £12,000 worth of goods annually were sold to Montreal, while at the same time only £8,000 worth of furs were being shipped from Albany to England. A similar diversion

of English and Colonial manufactures, to French advantage, occurred at New Orleans. Yet, in spite of such subversive policy, New York remained in the lead of all other English colonies for the more valuable furs down to the end of the French rule in America.

South of New York, from Pennsylvania to Georgia, deer skins were the staple of the fur (or leather) trade. Pennsylvania became especially proficient in this respect. Some of the more enterprising traders had crossed the mountains to the headwaters of the Ohio River and were trading with Indians in the trans-Appalachian region ten years before Daniel Boone was born. Bad feelings and border warfare were provoked by the actions of occasional traders who sank below the level of decent savagery. After 1763 the British government tried to work out a reasonable control of the Indian trade, and in doing so did much to incite trading and land companies to revolt and revolution. One Pennsylvania fur company in this period took Benjamin Franklin in as a partner, and began jockeying with Parliament for a 1,200,000-acre tract of land west of the Wabash River. Such companies as this had something to do with precipitating the War for Independence, just as earlier fur traders had helped produce the wars with France.

In Maryland, private trapping largely substituted for the professional fur trader, and the annual output for the colony was valued at scarcely more than £700. But in Virginia the traders were penetrating 400 miles into the interior as early as 1700. The first William Byrd established his fortune by this business. In 1715 Lieutenant Governor Alexander Spotswood organized a trading company with £10,000 capital, only to see it attacked as a monopoly and forced to dissolve. A similar complaint was brought against the governor of Carolina in 1705. At this time dealers from the southern section of the province were said to be trading, either directly or through intermediate Indian agents, as much as a thousand miles into the interior, and Charleston was exporting 70,000 pelts a year. By the middle of the century a considerable portion of the exports from this Southern metropolis was furs, the total value being not far from £30,000 a year. Even earlier than this, traders from Georgia were competing directly with the French as far west as the Choctaw nation along the Mississippi River, and pack trains numbering as many as 600 horses were carrying 100,000 pounds of skins a year to the coast.

Before the French and Indian War the French were feeling keenly the competition with the English for continued dominance over the Indian tribes of the Mississippi Valley. The total amount of the English trade was, at a very conservative estimate, £90,000 a year, and probably much greater. It was at the headwaters of the Ohio

River, where British and French interests clashed most sharply, that the war began.

The Slave Trade. The slave trade was a relatively small part of the total commerce of the Colonies, yet one destined to cause untold controversy and sectional bitterness for two centuries. The table of commerce on page 36 lists the total exports to and from Africa of the North and South in 1769. It will be noted that the South had an overwhelmingly unfavorable balance while the situation was exactly the reverse for the North. Negroes from Africa at this date constituted over a tenth of the total imports of the South. How many more could be accounted for under the item of West Indian trade is indeterminate. It is rather difficult to keep the direct and indirect importation of slaves separate, since, in the seventeenth century especially, most Negroes were taken to the West Indies first, on the way to the Southern colonies. At any rate, virtually all the imports from Africa were slaves, forming an enormous bill of costs for the South to meet annually

Some slaves had been carried into Europe by way of the caravan routes for centuries before the Portuguese ventures around 1450. Less than ten years after Columbus's first voyage to America Negroes were carried to the West Indies to replace the diminishing Indian labor supply. From that time till late in the nineteenth century Negro slavery was a recognized institution in one portion or another of the New World. *

Since most of Spain's commerce was carried in licensed ships from other nations, the thrifty Dutch were the first to develop the West Indian slave trade on a large scale, and any school history will contain the information that the first cargo of slaves taken to Jamestown in 1619 was carried by a Dutch ship. In 1621 the newly formed Dutch West India Company was given a monopoly of the slave trade for Spanish colonies. For a time thereafter the company also continued to supply the needs of Virginia. But after about 1630 English merchants began to compete in this very profitable trade. In fact they had made a beginning under John Hawkins as early as 1562. The Royal African Company, chartered by England in 1672, and taking over the privileges of preceding companies, was given a nominal monopoly of the slave trade with English colonies. It maintained a preëminence in this business for a time, but its monopoly was restricted in 1697, after which it declined until its dissolution in 1751.

In 1713 (at the close of the War of the Spanish Succession), Spain agreed to an *asiento* treaty with England, giving the latter nation a part in the slave trade with Spanish colonies. The total volume of the traffic has been variously estimated. From 1689 to 1707 the Western

Hemisphere seems to have absorbed about 25,000 annually. During the later years of the War of the Spanish Succession the business declined, but recovered and rose to about 30,000 a year after 1713. In the latter half of the eighteenth century from about 50,000 to 100,000 Negroes a year were shipped to the Americas, and Phillips estimates that "The total transportation from first to last may well have numbered more than five million souls."¹ But of this number scarcely a tenth came to the mainland of North America. One estimate has it that until 1810 there were not more than 385,500 Negroes imported to the Northern continent. In the mainland English colonies the total slave population in 1700 was about 60,000. The thirteen colonies in 1760 had about 400,000 slaves, and by the First Census of the United States in 1790 the number was 697,877. Natural increase as well as the slave trade had contributed to this total.

Northern shipowners were not slow in taking a part in the trade. As the power of the Royal African Company declined, the Northern slave commerce grew. After 1700 it became a recognized and important part of the shipping industry particularly of New England and New York. By 1771 there were from 60 to 70 Colonial ships and 195 British ships engaged in the trade. Usually it was in vessels of relatively small tonnage that the commerce was conducted. British slavers might average about a hundred tons, but the Colonial trade was usually in vessels of from 50 to 60 tons with crews of about half a dozen, including officers. The slave trade carried no social stigma in the Colonies. Many a Puritan of Massachusetts either distilled rum for the African trade or was the owner of a slave ship. In fact, it was part of the preliminaries of starting on a year's slaving cruise to offer a prayer for a successful voyage.

The typical itinerary of a slave ship from New England was a three-cornered voyage. With a cargo of rum and provisions the ship sailed to the Gold Coast of Africa. There the rum was traded for slaves, the cost in 1750 being about 100 gallons a head for men, 85 gallons for women, and 65 gallons for children. A sixty-ton hull would take on a cargo of 75 or less slaves, the remainder of the rum being exchanged for gold. The "middle passage" was from Africa to the West Indies. This was the worst and most dreaded part of the business. Until the Negroes became tractable they had to be shackled, and at night and in bad weather had to be kept between decks in exceedingly uncomfortable and close-packed quarters. Because they were valuable freight they were not treated more cruelly than was necessary.

Before reaching the West Indies it was expected that five or six captives would die of one or another of the diseases with which ships

¹ Ulrich B. Phillips, *American Negro Slavery* (New York, 1918), p. 39.

were visited in those days. On reaching their destination the men were sold for an average of about £21, women for £18, and children for £14. Of the proceeds about one-third was invested in molasses and the rest, together with the gold from Africa, went to pay Colonial debts to Great Britain. The molasses was then taken to the home port to be manufactured into rum for future slave voyages. When every conceivable item of cost was accounted for, the owner of a £300 ship expected to make more than the value of his vessel out of the voyage.

Rhode Island was the colony profiting most from the slave trade as well as from her distilleries, and Newport was the central depot for slavers. Boston, Salem, and New York participated in the trade in the order listed. Some colonies attempted to stop the traffic before the Revolution. South Carolina, fearing a too large population of Negroes, tried to encourage white immigration, and in 1760 passed a law prohibiting the slave trade. Pennsylvania and Virginia placed a head tax of £20 on each slave imported, but all such acts were nullified by the British government, anxious to protect the commerce of its subjects. When Thomas Jefferson included in his original draft of the Declaration of Independence a condemnation of King George for such vetoes, this clause was stricken out of the finished document by the combination of Northern slave merchants and Southern slave buyers. By this time slavery was becoming unprofitable in Virginia, except as the surplus laborers could be sold to the Carolinas. A prohibition of slave importation would have done much to increase the price which Virginia could get for this commodity.

Piracy and Privateering. Aside from their influence upon legitimate trade, piracy and privateering have but small place in any discussion of commerce.⁴ Since the pirate and privateer gave nothing in exchange for what they took, their activities do not belong to the same category as those of merchants. Yet the goods seized by these freebooters were frequently exchanged along the coast for naval supplies and provisions, and hence became articles of commerce in the Colonies. Oftentimes there was but a shadowy distinction between the pirate and the privateer. Technically, in days when privateering was sanctioned by international law, the privateer was a merchant vessel whose master was provided with letters of marque from his government authorizing him to seize merchant craft of enemy nations in time of war. Ships thus captured could be taken into a home or neutral port and sold with their cargoes by prize courts. The proceeds of the sale would be divided between the officers and the crew of the privateering ship, with a dole to the nation granting the letters of marque.

Any other seizure of ships or cargoes, acts of depredation upon the

high seas, or attacks upon the coast by masters or crews of privately owned ships were acts of piracy. Even an authorized privateer, if he attacked a ship of a neutral nation was guilty of piracy. Thus, in the reign of Elizabeth, Francis Drake, John Hawkins, and others who seized Spanish ships in times of peace were nothing more nor less than pirates. The semiofficial sanction for such acts granted by the queen added nothing to the legality of the proceedings but merely made Elizabeth a silent partner of pirates.

Cargoes captured by privateers entered American ports as a part of the regular imports of the age. Concerning the trade of pirates no accurate estimate of volume can be made. Because of the illegality of their acts, they traded in a more surreptitious way and smuggled their wares into the less frequented ports along the coast. Planters and merchants welcomed the arrival of a pirate ship, because they were usually paid in gold for the provisions and ship stores purchased. Even Colonial officials were inclined to be blind to such transactions. In 1698 England passed a very stringent law against piracy, but the business flourished, nevertheless, during the succeeding War of the Spanish Succession. After the Treaty of Utrecht, the British navy was employed in the elimination of the practice. By 1720 the Atlantic Ocean was relatively free from this encumbrance to legitimate trade. In general, piracy was neither very profitable nor romantic. Even the highly overrated Captain Kidd was only a rather miserable pirate-chaser gone bad. Privateering was destined to a longer life than piracy. In England's wars between 1689 and 1763 privateering was about as effective as the activities of the navy. It was not until the close of the Civil War that the United States joined other nations in the outlawry of privateering.

Smuggling was another form of illegal or irregular commerce as profitable to Colonial America as it was annoying to the British government. American merchants could not see why laws passed by merchants in England for the benefit of their own class should be binding to the detriment of their American relatives. Since American merchants could have no legal recourse against import duties and restrictions on trade with colonies of foreign nations, they simply ignored the laws when convenient, seemingly necessary, or profitable. Port officials, paid from Colonial funds, were quite often peculiarly oblivious of such violations of law. Since the efforts to stop smuggling after 1763 were a considerable factor in producing the Revolutionary War these acts are reserved for a later chapter.

CHAPTER III

BEGINNINGS OF AGRICULTURE

The European Background. 'Agricultural methods and output were not much different in the time of George Washington from what they had been for thousands of years. Systems of landholding and types of labor had changed. One crop or product had supplanted another for a given locality as need demanded, but farming was still the laborious and plodding task of old. The eighteenth century saw some changes, but they were not widely adopted until the very close of the era, and even then but a beginning was made. In England, Jethro Tull earned before his death in 1740 the title of "the greatest individual improver of the century." He demonstrated that the growing of clover renewed soil fertility more rapidly than fallowing, and that turnips were a valuable second crop to grow in wheat fields, though root crops were known in ancient Mediterranean countries. Turnips furnished forage to keep animals through the winter, and thus permitted the growing of larger herds and flocks, improvement of breeds, and the accumulation of manure to make possible still larger crops, to support even more animals. Tull also invented a seed drill and a horse cultivator, to be improved upon later by others.'

In the same period Charles Townshend carried Tull's experiments to practical success, and Robert Bakewell shortly afterward was introducing innovations in stock breeding. He specialized particularly in producing cattle and sheep for their meat. The former had been customarily raised for milk and draft purposes mainly, and the latter for wool. The result was that, when finally butchered, the skinny carcasses were barely edible. Bakewell, being especially successful with sheep, succeeded in doubling the average size of the breeds he experimented with. 'Arthur Young, born a year after the death of Tull, was destined to become the greatest prophet and advocate of improved agriculture of his age, but the era of his activity, from 1767 to 1820, carries him beyond the scope of the Colonial period of America. The changes wrought by these and lesser men led ultimately to a revolution in agriculture quite comparable to that in industry, and, incidentally, contributed its share of social maladjustment and unrest.'

'So far as the English colonists in America were concerned, the seventeenth and eighteenth centuries were merely an era of transplanting Old-World crops and methods to the New World, the learn-

ing and adaptation of Indian crops and methods of agriculture, the development of a more modern system of landholding than the semi-feudal type first attempted, the production of staples for export, and the expansion of farming ever farther into the interior.

New-World Crops. There is some difficulty in ascertaining whether some products were native to America or were introduced by early explorers, adopted by the Indians, and later merely supposed to be indigenous. Jacques Cartier and other early sailors including Humphrey Gilbert are known to have tried out some European crops in America. On the other hand, certain products, watermelons for instance, were early taken from America to Africa by slave traders and later thought to be of African origin. Likewise "Irish" potatoes, originating in Peru, were carried to Ireland by a member of Francis Drake's crew in 1586, and, on their popularization in North America in the eighteenth century, were thought to be of Irish origin.

Of plants found first in America, Indian corn takes precedence over all others in importance, with potatoes second, tobacco third, and sweet potatoes, tomatoes, watermelons, and others following in somewhat indeterminate order. Among plants originating in both hemispheres, cotton is most important. In the combined Americas such other native products were found as beans, pumpkins, squashes, wild rice, sunflowers, peanuts, peppers, pineapples, bananas, nearly all kinds of berries, grapes, persimmons, and nuts. America also produced many food plants eaten by Indians and early colonists, whose use has since been generally abandoned. Wild fruits in superabundance were enjoyed by pioneers and later Americans alike. Strawberries and most of the juicier grapes of America are domesticated forms of wild varieties.¹ Of Old-World products transplanted in America the chief are small grains, most forage grasses and clovers, cowpeas, sorghum, hops, the common garden vegetables, and the larger varieties of fruits, including the citrous group. All of the farm animals are of Old-World origin except turkeys.¹

Geographic Influences. So far as the physical features of America are concerned, the English settlers did not find any great differences from Old-World conditions. In latitude the Colonies were far south of England, the British Isles lying totally north of the 50th parallel while the northernmost settlements of Maine were in the neighborhood of the 45th. New York lies halfway between the latitudes of London and Jacksonville, Florida. Virginia is as far south as Sicily. Yet the Jamestown settlers found a climate not far different from what they had left. South Carolina and Georgia were similar to southern France, while New England would compare more favorably with Norway than with anything in England. The direction of ocean

currents is chiefly responsible for this phenomenon. From the St. Croix to the St. Mary's—the present-day limits of Maine and Georgia respectively on the Atlantic Coast—the distance is not far from 1,200 miles in a straight line. The country behind this coast line varied as much in other physical factors affecting the possibilities of agriculture as in climate. Hemmed in by the French and Spanish, with their Indian allies, to the north and south respectively, with the Appalachians at their backs, and lacking easy means of passage to the interior such as the French possessed in their two great waterway systems, the English remained along the coastal plain, turned to agriculture and commerce, and left to the French first claim to the Mississippi Valley.

The coastal plain is more generous in its proportions toward the south than in the North. Most of New England outside of a few favored spots is a rugged plateau, occasionally rising into mountains. The soil is scanty and rendered intractable by rocks and boulders. Only the river valleys could attract farmers. This plateau extends southward to central Georgia, but recedes farther from the coast and is called the "piedmont region." The soil of the piedmont is of disintegrated rock and not particularly fertile except along the rivers, but at least it was not all scoured off as in the higher glaciated regions farther north. Extending from New Jersey southward, this upland is sharply divided from the lower coastal plain by the fall line, so called because rapids or falls occur in all rivers or streams crossing it. Below this line the land is but little above sea level. In the larger rivers the ocean tides back up clear to the falls, thus giving to the plain the name of "tidewater" region. Most of the rivers were navigable to the fall line by the ocean vessels of the Colonial era, and, in consequence, towns arose along the line to handle the trade of the piedmont. Trenton, on the Delaware; Philadelphia, on the Schuylkill; Baltimore, at Jones's Falls; Georgetown, on the Potomac; Fredericksburg, on the Rappahannock; Richmond, on the James; Petersburg, on the Appomattox; Raleigh, on the Neuse; Columbia, on the Congaree; Augusta, on the Savannah; and Macon, on the Ocmulgee, are among the chief of these towns of importance to modern days.

'In general, it may be stated that the farther south one went in the Colonies the better was the climate and the more abundant was rich land.' New England was about as well blessed as the old country so far as soil was concerned, and agriculture was the greatest single occupation of the region, but it was not adapted to the production of great export crops. The Hudson and Mohawk valleys of New York gave that colony an advantage over its eastern neighbors for the growing of small grains and for general farming. But the lands of eastern

Pennsylvania, western New Jersey, and Delaware were still better adapted for this purpose. Farther south the fall line recedes from the ocean till it reaches a distance of about a hundred miles at Richmond and half again as far in South Carolina and Georgia. The piedmont is of about equal width.

The coastal plain was not the unbroken mass of primeval forest pictured by poets. For centuries before the coming of the white man, Indian tribes had been clearing some of the better portions for their own farms. The Narragansetts had stripped the southern coast of New England to a distance of eight or ten miles from the seashore. There were hundreds of acres of farm land only a few miles up the river at the time that the Jamestown settlers were going through their starving period. Had the settlement been made at one of these clearings, no such calamity need have been encountered. Indians girdled the trees with stone axes or fire, planted their crops between the dead trees, and as the trees decayed and fell they were burned or dragged off for winter fuel. There was not much underbrush to bother with, thanks to occasional fires and the choking effect of larger trees. Yet it would have taken many years for the settlers in some localities to have cleared as much land as they bought or took by force, already under cultivation, from the Indians.

Indian Agriculture. The adoption of Indian crops and methods of farming was of even more importance than cleared land in making possible the permanent success of several of the colonies. North American Indians varied widely in civilization. The Aztecs of Mexico were more highly cultured at the time of Cortez than the Angles and Saxons had been a thousand years earlier. The Zuñi and Hopi of Arizona and New Mexico practiced irrigation, and the Atlantic Coast tribes in general were very adept at farming. The Iroquois of New York, besides being among the best farmers in America, had an intricate and highly developed form of government. On the other hand, the Utes and certain California tribes, perhaps largely through force of unfortunate geographic location, were mere collectors of whatever sort of food they could garner. In seasons of great scarcity, lizards and toads were a welcome relief from starvation.

"No people anywhere in the world," says Carrier, "ever made greater strides in plant breeding than did the American Indians."¹ Proof of this statement is seen in the fact that four centuries of growing corn by white people, including all the scientific efforts of the last few generations, has not resulted in a higher average yield per acre or a perceptibly better grade of corn. There is no wild grain even closely resembling corn, but fossil specimens in Peruvian graves show

¹ Lyman Carrier, *The Beginnings of American Agriculture* (New York, 1923), p. 41.

that the culture of the plant goes back thousands of years. Even popcorn and sweet corn were produced in a highly developed state. Ordinarily the aborigines did not attempt to keep closely related strains separated, but it has not yet been shown that for general purposes a pure breed is best. Even in the manner of growing corn, the white man has not improved fundamentally upon Indian practices. Only in the use of horse-drawn labor-saving implements of vastly greater utility were later methods noticeably different from the aboriginal. But there were no suitable native animals for the Indians to domesticate for draft purposes. They did not fail to utilize such as were available and amenable to such treatment. Horses which had run wild from Spanish importations were caught and tamed by Western tribes before they knew of the existence of white men.

Both the drill and checkrow processes of planting corn were used, the space between hills being about as at present. The soil was not tilled between the rows or hills, but the weeds were kept down during most of the growing season. Even this practice has been justified by the experiments of recent years which show that the only value of stirring the soil between the rows is to eradicate weeds. English settlers who were not so careful in weeding their corn patches were often taunted by the squaws for their laziness. Most of the farm labor was performed by the women, but this does not signify that they occupied a subordinate position. It was no uncommon thing for a squaw to kick her obstreperous husband out of the tent. In fact, some tribes were at times ruled by women. The women took pride in their work, sometimes raising as much as sixty bushels of corn apiece, and with the help of children even more. Furthermore, something like a fair division of labor existed between men and women. The men had to do the hunting and fighting for the tribe, and therefore needed an unusual degree of alertness and agility. This could not be attained by a man stooped to the work of the hoe. Self-preservation demanded such division of labor, and the man was better fitted for the hunt and the war party than was the woman.

As to the total amount of land devoted to the growing of corn and the size of the annual crop, there is no effective way of making an estimate. Many fields of hundreds of acres are known to have existed, and at least one village in Virginia had no less than 3,000 acres of cleared land, much of it in corn. In general, the Indians did not use fertilizers, since it was easier to move to new fields than to build up old ones. 'Yet, where good land was scarce, as in New England, and where herring came up the rivers in multitudes to spawn, fish were regularly used as fertilizer.' Some people have reckoned that the total annual crop in the present territory of the United States was at least

a million bushels, which estimate is very likely small enough. Since as much as a hundred bushels to the acre, in addition to a like amount of beans, pumpkins, and other vegetables, were commonly reported in Virginia, it would not have taken a large acreage to produce a million bushels. In fact, there was enough cleared land in the region of Chesapeake Bay alone to have produced that amount if it had all been used at once. But, however large the crop, it was none too much, for Indians ate corn in large quantities and in many forms. The use of roasting ears, mush, pone, hominy, succotash, and dried green corn was learned by white people from the Indians. The liquid form alone was a white man's invention.

* Aside from corn and other cornfield products, tobacco was the principal plant cultivated by the Indians. 'The varieties which they developed have been so long produced that they do not grow wild. The plant was raised all the way from Canada to the West Indies, and was so highly prized as an aid to health and in religious ceremonies that even the men would work in the tobacco patches. For lack of proper soil and climate, tobacco growing in the more northern territory was not as successful as in the Chesapeake region, and even the early Virginia tobacco was not as luxuriant in growth or as pleasant in taste as that grown in the West Indies. As in the matter of corn, the methods of growing and curing tobacco have not changed much from the practices of the Indians or those developed by early white growers in the Caribbean. The chief improvement made in its culture by white men was that of topping the plants to produce a heavier middle-leaf crop. This practice was started in Virginia about 1621.' The Indians sometimes cured the leaves in the sun and at other times by fire. It was only after generations that the white men came back to the Indian method of artificial heat in curing. Even the present names of most of the varieties of tobacco date back to the earliest accounts of its culture.

The Colonial Debt to the Indians. The debt of early colonists to the Indians was for food for immediate needs, cleared land for early growing of crops, instructions in methods of growing native crops, and sometimes even for places of habitation. Occasionally these boons came as free gifts, more frequently by purchase, and too often by force. Not till 1609 did the Jamestown settlers turn seriously to agriculture, when, under the energetic command of John Smith, 40 acres of land were got under cultivation after a bitter period of clearing. In the same year two captive Indians, one known as Kemps and the other as Tasore or Kinsock, began teaching the settlers about all they were ever to learn about the growing of corn. In the same year Smith was buying and stealing corn from the Indians, sometimes as much as 300 or 400

bushels at a time. All the stored grain of two villages was removed by the half-famished colonists, leaving famine in the ranks of their victims. The seizure of about 300 acres of cleared land at the site of the later city of Richmond completed the season's toll. But even all this ferocity did not save the settlers from the winter of starvation that followed. Within a few years, agriculture was in a state of settled growth, but in spite of the tyranny and energy of Smith and Dale, and the generous support of the London Company, the colony would have failed without assistance from and exploitation of the Indians.

[^] In Maryland the settlers at St. Mary's had the good fortune to arrive at the site of extensive Indian fields just as the natives were preparing to remove to a new location. They bought both the fields and houses of the tribe and lived alongside the Indians during the greater part of the growing and harvesting of the crop. With such an auspicious start, the colony was spared most of the tribulations that had earlier afflicted Jamestown and Plymouth: When John Smith explored the coast of New England in 1614 he made an accurate forecast of the future possibilities of the region. The Pilgrims seem to have been well indoctrinated with Smith's ideas, for they took no livestock with them and but a scanty store of food, expecting to buy corn from the Indians. They were more fortunate than they had anticipated. The tribe along the coast had recently been killed off by an epidemic, leaving a plentiful immediate supply of cleared land, buried stores of corn and beans, and a clean stream of fresh water. Though there was acute shortage of food at Plymouth for a while, the services of the friendly Squanto in teaching the people to grow corn were largely responsible for the permanence of the settlement. Cordial relations were established with the nearest tribe, but later encroachment upon Indian land, and other unjust treatment of the natives by later settlers, brought the inevitable consequences in King Philip's War of 1675-1676. Other examples of Indian aid in agriculture could be found in the Rhode Island settlements, in New Netherland, and elsewhere.

After the first decades of colonization, later settlers knew more of conditions in America before their arrival. Direct reliance upon Indians was not so necessary as in earlier days. As individuals, immigrants learned the native methods of growing corn and tobacco, boiling maple sap, and drying meat, but they learned from white people to whom these processes had already become habitual.

Methods of Colonial Farming. Farming in the seventeenth century was anything but scientific. The operations were all carried on by rule of thumb. Change and innovations were frowned upon. The methods of the ancestors were considered the best, and the older the custom the more it was revered. 'The almanac farmer is to be found

even today, but three centuries ago the zodiac ruled almost all of them. If the corn did poorly because planted in wretched weather but the right sign of the moon, seasons of prayer were depended upon to improve it. The incantations of the Indians over their crops resulted from no greater degree of superstition than that which beclouded the minds of the white men who supplanted them.

* By the methods employed, the farming of only a few acres was a life of drudgery. Heavy, hand-made hoes, mattocks, spades, shovels, picks, sickles, scythes, and forks were the sole farm implements of the first settlers in Jamestown and Plymouth.¹ The Pilgrims had not even one plow for the first twelve years in America, all of New England had only 30 in 1636, and Virginia had but 150 in the middle of the century. They were never plentiful.² After the trees were girdled and the heaviest roots grubbed up, the ground was broken by hoes, spades, or shovels. Hay was cut with a scythe and grain with a sickle. Threshing by the tramping feet of cattle or with flails, winnowing with hand sieves, hand-driven fans, or pitchfork, shovel, and wind made this task one to be dreaded. It is little wonder that a bushel of wheat usually cost the equivalent of four days' pay for a farm laborer.³

Such plows as were in use were of immense size, heavy of beam, and cumbersome beyond imagination. They required from four to six oxen and two men to operate them, and then they would scratch only about three inches deep over an acre a day. Before 1700 most of the plows were not even metal tipped both because iron was so scarce and expensive and because of a superstition about iron poisoning the soil. New England towns sometimes would pay a bounty to any man enterprising enough to buy a plow to use and rent to his neighbors. But for year after year no tilling was done at all in most fields. The farmer simply poked a herring and a grain of corn into the ground beside the old hill, and chopped the weeds down as he found the time. Even the herring was omitted except in the neighborhood of streams used for spawning. Later, when iron became more abundant and prejudices were overcome, more metal was used in plow construction, especially for shares, colters, and the cutting edge of the mold boards. Clod crushers, made of sections of logs, and harrows, generally A-shaped and with wooden teeth, finished the job. Horse-drawn cultivators were used slightly in Europe, but there was too much obstinacy and prejudice concerning these "horse hoes" for them to be rapidly copied in America.⁴ Some farmers managed to keep pace with improved methods, but they were looked upon with suspicion by their more backward and less prosperous neighbors.⁵

* The only important invention for agriculture in the Colonial period was Tull's horse-drawn drill, further improved in America. The

Reverend Jared Eliot of Connecticut, about the middle of the eighteenth century, enlisted the mathematical knowledge of President Thomas Clap of Yale and the mechanical skill of Benoni Hylliard, a local wheelwright, and made a drill for a fraction of the cost of an imported one. It would drill manure with the wheat, and, according to Eliot's own report, would plant more in a day than a hundred men could sow by hand. Even though his enthusiasm be discounted by 80% the drill was a remarkable improvement over older methods, but it did little to increase wheat growing in New England.

Land butchery was practiced in all the colonies. Because tobacco exhausted land more rapidly than other crops, attention has been called generally to the Chesapeake colonies as bad examples. One matter is overlooked in this condemnation. 'Abandoned tobacco fields were still capable of growing good crops of corn, and, for that matter, the fallowing of old fields tended to increase their fertility.' In a country of scarce land, such a practice would be reprehensible, but in America it was much more economical and convenient to move into new fields than to resort to expensive manuring.' After all, the land was not ruined beyond repair for the later age of more intensive practices. When crops became too scanty, the grain and general farmers of Pennsylvania and northward came as near copying the practices of Virginia as geographic conditions would permit. 'Rotation of crops being either unknown or unpracticed, fully half the land lay idle for years at a time. Only specially favored portions of New England possessed herring streams, and along these was to be found the land of highest price. A thousand fish to the acre would increase the yield of corn three-fold. In some other portions of New England and New York, manure, lime made from oyster shells, or gypsum were used, but there were also regions of abandoned farm land.

Efforts at Improvement of Agriculture. In that unprogressive age, it must be remembered, a few individuals made courageous efforts to learn, and to propagate their discoveries. Occasionally there was some governmental assistance. The herding of cattle in common in New England towns discouraged selective breeding and tended to deteriorate the strains. On the other hand, fairs for the exhibition and sale of cattle and other goods, such as that established at New Haven in 1644, must have furnished some encouragement to the more ambitious farmers. Even in the South not all owners let their stock run loose, and, where they were given reasonable care, the animals were equal to any in New England. George Washington was especially particular in the care of his sheep. He mentions a fleece from his estate which was judged by no less an expert than Arthur Young to be equal to the best Kentish wool. When he became President and left

the care of his estates to others, the average annual clip from his sheep dropped from $5\frac{1}{4}$ pounds to $2\frac{1}{2}$ pounds. Washington also declared that beef cattle in Virginia would yield from 800 to 1,000 pounds of meat where they were well cared for.

' James Logan, secretary of William Penn, experimented in horse breeding and cultivation of meadow grasses, and has been called the first scientific agriculturist in America.' Joseph West, as agent of the Carolina proprietors, conducted an experimental farm in the Ashley River settlement to see what crops were best suited to the soil and climate. James Oglethorpe tried a still more comprehensive scheme in Georgia, experimenting with such exotic products as oranges, olives, figs, and mulberries. The main result was to demonstrate that tropical plants were not suitable to Georgia. By this time there were some privately owned botanical gardens in America. 'Another effort worthy of mention is the Connecticut law of 1726 aiming at the eradication of barberry bushes because of their bad effect upon wheat.'

'The more enterprising farmers in the eighteenth century bought whatever books they could procure on agriculture. Many such volumes were imported dealing with general farming, gardening, stock raising, and veterinary medicine.' In 1747 Jared Eliot published his *Essays on Field Husbandry*, advocating the growing of turnips as a forage crop and bemoaning the scanty use of manure and ashes for fertilizer. But New England soil was too poor to grow turnips, and Eliot's other advice, like his drill, was not widely adopted. Eliot was the prophet of better days, and therefore more valuable to the nation than a mere successful man of his own era. His essays were frequently reprinted and published serially, and furnished the model for various other farm letters and diaries. Some of the writers were impractical and others were worse, thus tending to give "book farming" a bad repute. But most of the farmers would not accept the best of advice, continuing to depend upon the moon, magic, and divine providence to correct the results of their own unprogressiveness.

Landholding Systems: South and Middle Colonies. 'Landholding in the Colonies was without any system or consistency.' It was complicated beyond any possibility of simplification in discussion. To attempt any systematic description would be to paint a false picture, and to tell the story in detail would lead to hopeless confusion. Yet some features of the different methods of landholding must be presented in order to round out the story of Colonial agriculture.

Aside from New England all colonies were settled very largely under one sort or another of headrights. 'A freeman who had enough money to make a start in America was given a certain amount of land for himself and additional allotments for each immigrant he brought over

to work for him.¹ A few examples will suffice. Lord Baltimore established a few manors on as medieval a scale as that of the patroonages of New Netherland. Some of them endured till the end of the century, when they were made over into slave plantations. But an act of 1638 allowed individual settlers 100 acres for each man or woman and half portions for children under 16 years of age. Wealthier immigrants were awarded 1,000 acres for each five laborers imported. An annual quit-rent of 10 pounds of wheat for each 50 acres was assessed. Later acts modified the terms, but still so as to favor the exploiter of labor. After 1640 most of the patents granted were in small holdings. Between 1636 and 1650 the average patent was 446 acres, and for the remainder of the century it was 674 acres. This really indicates a relatively few very large grants and a great number of comparatively small ones. During this time Virginia was allowing headrights of 50 acres for each laborer's passage paid. Such patents varied all the way from 50 to 10,000 acres. South of Virginia the system of headrights was not essentially different.

The size of the patents is no indication of the amount of land being farmed. The larger estates rarely had more than a small fraction of the land under cultivation. For instance, William Fitzhugh in 1686 had one plantation of 1,000 acres with 300 cleared, and other holdings totaling 23,000 acres merely for speculative purposes, none of it being farmed. The rent rolls of Virginia for 1704 show a population of 65,000 living on something like 6,000 estates. Most of the farms ranged from 50 to 600 acres, with an occasional plantation of from 1,000 to 5,000 acres. Above the upper limit the holdings were wilderness secured for speculation, and should not be classed as plantations. In the seventeenth century, when freemen were over eight-tenths of the population and indentured servants were held for an average of not more than four years, large plantations were not easily possible. The growing markets for tobacco and the influx of slaves after 1700 tended rapidly to increase the number of large estates. A small farmer could grow as good tobacco or better than the larger planter but, with the multiplication of slave labor and resultant overproduction, he found it hard to make a living on a slender margin of profit. The great landowner could secure an ample income on a narrower percentage, through the greater bulk of his output. Yet there was not a time in the Colonial period when the owners of slaves numbered more than a fourth or a fifth of the non-slave-possessing small freeholders.

• In the South in general, in the eighteenth century, the rapid growth of slavery led to a difference in the methods of acquiring land. From early days planters had been permitted to buy at fixed prices according to their needs, and had availed themselves of the privilege. They

simply went out to hitherto unappropriated lands, chose what they wanted regardless of the shape or size of the tract, had the county surveyor lay it off for them, and took out warrants from the government. As a result, holdings often overlapped or big gaps occurred which might later be bought up by the planters surrounding them. This practice grew rapidly, as slave labor made it possible, and often great areas were purchased for speculation. Thus William Fitzhugh got his estate and Charles Carroll of Maryland laid hold on 60,000 acres. In the Carolinas many large tracts were sold. The second William Byrd, of Westover in Virginia, inherited 26,000 acres from his father and increased the holdings to about 180,000 acres before his death in 1744. Robert Carter of the same colony a few years earlier, according to report, left a fortune of 300,000 acres of land, 1,000 slaves, and £10,000 in money!

These, of course, are exceptional cases. For every Fitzhugh, Byrd, Carroll, or Carter there were a hundred former indented servants with farms of from 50 to 200 acres. This was particularly true of North Carolina which had so many poor immigrants from other colonies. Very little land in the South was held by lease. Poor persons either became squatters, worked the small grants allowed them by law as freed servants, or bought little patches as their needs and means permitted. Furthermore there was about as much tendency to break up as to create unmanageable estates. Taxes, quitrents, and chronic need of ready money led to the division of many a holding. When and where quitrents were carefully collected the tendency was to avoid owning unproductive land. Nowhere in the South was there a compact agricultural settlement. Because of the widely scattered condition of population the county became the unit of government, the township being entirely out of the question under the circumstances.

In all cases of excessive land grants, political influence was the prime factor. This was nowhere truer than in New York. Governor Benjamin Fletcher (1692-1698), a notoriously corrupt official, was so lavish in his disposal of the public lands that his successor was led to declare that three-fourths of the available land of the colony had been granted to about 30 persons, most of whom were of doubtful repute. One of Fletcher's henchmen, John Evans, was given an indefinite claim of from 350,000 to 600,000 acres for the nominal quitrent of 20 s. a year. The reform governor, Richard Coote, Earl of Bellomont, put a temporary check to this looting of the provincial resources. But after his untimely death Edward Hyde, Lord Cornbury, became governor (1702-1708), and came as near duplicating Fletcher's corruption as conditions would permit. He let the "Little Nine Partners" get

90,900 acres, the Wawayanda Company 356,000 acres, and the Great Hardenburgh Company 2,000,000 acres. In one case a 300-acre grant was so loosely phrased as to allow the claiming of 60,000 acres. The insistence of speculators on leases and permanent tenancy resulted in dissatisfaction and hostility against the monopoly for a century and a half.

There were no million-acre holdings in Pennsylvania, but the land system was so worked out that the Quakers got control of most of the best sites. Their holdings were from a few hundred to a few thousand acres each, in the eastern end of the colony. They ran the government solely in their own interests, and, if the later Germans and Scotch-Irish were allowed to dispute the less fertile mountain region among themselves, they were made to understand that the control of the eastern aristocracy was not to be disputed. The system of head-rights in the middle colonies was similar to that of the South.

Landholding in New England. In New England the English system of agricultural settlement predominated. Most farmers lived in small villages, with their fields, pastures, and waste land surrounding. The village with its land was known as a town (township). When the population of a town became too great, or dissensions arose, the landless and dissatisfied elements would get title from the legislature to a tract just beyond the limits of existing settlements. After a year or two, if the new town was getting along well, it would be given full representation in the government, common proprietorship of the land, and definite boundaries. The corporation then would assign to each of its members a portion of the land, usually from 20 to 30 acres in the earlier decades, and later up to 100 acres or more. The surplus after the division was held in common for use as meadow, pasture, or woodland. Big families generally received larger areas than smaller families, but the magistrates and preachers arranged things so that they always got the best land and the most of it. Early townships tended to conform in shape to the configuration of the land, but a rectangular system of survey developed in later years, the tendency being for townships to be six miles square and laid off in tiers. This was the method of survey adopted by the United States in 1785 for the whole public domain.

The New England system avoided the uncertain boundaries to be noted in the South, provided compactness of settlement with easy defense against Indian attack, and made for economic democracy. But there were shortcomings as well. There was less chance for individual initiative than in the South with its system of warrants (see p. 58). The tendency furthermore was toward clannishness and provincialism. Newcomers to towns were unwelcome and could buy no

land without the permission of the officials. Likewise, no person could sell his holdings without first offering them to the town. There was supposed to be enough land in the commons for later distribution as population increased, but the selfishness of the older landholders plus the activities of speculators tended in time to overturn the theory. Individual tracts were generally too small for subdivision among heirs, so by 1700 there was loud clamor of younger sons and newcomers in a number of towns for further division of the commons. Instead the firmly intrenched owners proposed merely to rent the commons and make permanent leaseholders of the tenants. Sometimes they succeeded, but elsewhere, as at Hatfield, Massachusetts, about 1700, the younger men won their fight and got a new distribution.

New England Speculators. New England had its fair share of the eighteenth-century speculators who took advantage of the growing scarcity of desirable land. There had been examples of favoritism in the earliest years of Rhode Island and Connecticut, and some holdings of 600 or 700 acres without town organization were noted. Shortly after 1700 speculators with political influence became involved in transactions only less reprehensible than those in New York. By a boundary settlement with Connecticut, Massachusetts got 106,000 acres of land which was sold to members of prominent families such as the Saltonstalls, Dudleys, Fitches, and Davenports. The price was about three cents an acre. One of the group made a regular medieval manor out of his 10,000 acres. James Fitch, on another occasion, was granted an entire Connecticut county for assuming guardianship over an Indian. He let the ward shift for himself while he turned his attention to the land. To prevent the government from recovering the tract for breach of trust he then sold the entire 165,000 acres to two groups of speculators.

Another favorite practice was to buy a town site from the legislature and resell to settlers. The ultimate purchasers were frequently defrauded by the speculators who, in the rôle of proprietors, retained the commons and refused to part with them except at exorbitant prices. Appeals to the courts and legislatures generally resulted in the upholding of the dealers. Haverhill, Massachusetts, in 1720 and following is an excellent example. Sometimes early prototypes of modern "blue-sky artists" were found who sold land to which they had no shadow of a title. Thus John Lamb, Timothy Ruggles, and Ebenezer Pierrepont evicted squatters from a tract six miles square and then began to sell the land to which they had no legal claim. To save the company from failure, in consequence of hostility from the squatters, the legislature in 1732 granted it another equivalent area. While the land pirates were thus rewarded for robbery, the eighty families of

squatters, holding about 100 acres each, were ordered to pay £1,300 to the government or move off. Failing to make their payments they were denied town status till 1776. The "Narragansett Planters" in lower Rhode Island held such large slave-operated estates in the eighteenth century that comparison was inevitably made to the very similar plantations of the South. Another group monopolized the Connecticut Valley in Massachusetts and came to be known as the "River Gods" or the "Lords of the Valley." Under such conditions of absentee landlordism as some of those mentioned above, the only chance for the poor man was to become a squatter or else go into debt to a speculator for a small tract at extravagant prices.

New England land grabbers after 1745 began to look for new fields to exploit. The Susquehanna Company for speculation in Pennsylvania succeeded in bringing on an Indian war and very nearly a war between Connecticut and Pennsylvania. Great Britain was drawn into the quarrel and Connecticut was split into two hostile parties. The partners ultimately succeeded in their land steal and managed to profit from it. Ezra Stiles, holder of 13,000 acres in the Susquehanna tract, also dealt in town sites in New Hampshire, Connecticut, and New York, getting only proprietary rights so as to enable him to prevent organization of town governments and keep control of taxation from falling into the hands of the actual settlers. In 1749 the Loyal Company, Ohio Company, and Greenbrier Company got grants from Virginia for 800,000 acres, 500,000 acres, and 100,000 acres respectively. This land was west of the mountains and the companies failed to profit from it. The French and Indian War prevented occupation of the land, and the British Proclamation of 1763 ultimately nullified the grants. This sort of land boom could not exist forever. The crash came in 1761. Prices of land and farm produce fell. Suits for collection of debts swamped the New England courts. When values dropped to about half, the holders of mortgages had to take the farms.

Feudal Vestiges. The efforts to establish manorial land tenure in Maryland and South Carolina, the patroon system of the Dutch in New York, the strip-system of farming and commons in New England, all indicated remnants of the feudal type of agrarian economy. Further vestiges were primogeniture, entail of land, and quitrents, acknowledged at least in theory in every colony and enforced with varying degrees of success everywhere except in New England. Quitrents were the most objectionable of these outgrown customs. If by primogeniture a younger son was left landless, he had already anticipated the event and made a start on newer lands. When the law of entail prevented a man from selling or deeding his estate to a person

outside the family without payment of a heavy tax, there was generally no great damage done. If the land was productive the owner would rarely wish to dispose of it. If unproductive it could always be abandoned, and better so than to retain it. But quitrents were a source of constant annoyance wherever their collection was attempted.

In England quitrents were a survival of the age when nobles furnished protection to peasants in return for such payments. The peasants owned their land, paid taxes on it, willed it to their heirs, and could even sell it subject to certain fines. But in spite of these evidences of ownership they and their heirs forever were expected to make annual payments to the ruling lords, merely because these lords sometime in the remote past had been powerful enough to reduce the ancestors of the peasants from the status of common owners to that of villeins. This system, tolerated in England only because its antiquity made it unquestioned, was foisted upon a group of wilderness colonies where new ideas of human values and relationships were evolving from contact with a set of conditions widely different from those of the Old World. Quitrents in the Colonies were not as large as those in England, mainly because it was impossible to make them so. Immigrants preferably came to the Colonies where the quitrents were lowest or least enforced, unless there were other advantages outweighing the difference in quitrents where they were higher.

By its charter the Council for New England was authorized to collect quitrents. The charter of Virginia provided direct tenure of land from the crown, the quitrents to go to the king. In the proprietary colonies the payments went to the proprietor, but when they were changed to royal provinces, except for a few minor instances, the rents, according to English law, reverted to the crown. Only in New England did the system break down entirely, though it was fought for by the Council for New England. When all rights to the soil were transferred to Plymouth and Massachusetts Bay in 1629 the principle was doomed in the surrounding colonies. By act of 1650 all remnants of such feudal practices were banned. Even in East Jersey, where many Puritans had settled, opposition to quitrents reached such a point that efforts of the proprietors to collect them led to riots in 1744 which virtually ended the system. From New York southward the rents generally ranged from 2 s. to 4 s. a hundred acres annually, the tendency being to reach but rarely to pass the upper figure, and in general being higher in the eighteenth than in the seventeenth century.

There were many variations in amount in the same colony, in different colonies, and at different periods. In general, the holders of vast, undeveloped estates paid the smallest rates. In New York a beaver skin was the annual rent for a tract of about a million acres, and the

tribute of one of the greater Pennsylvania landholders was a red rose. In Maryland and Virginia the speculators took out warrants but did not secure grants, thus tying up immense tracts of good land and at the same time avoiding the payment of the quitrents. This practice became particularly noticeable after 1712, when Charles Carroll was the land agent for the crown. The difference in amount of quitrents even among neighbors in the same colony led to much dissatisfaction and trouble. Further complications resulted from methods of collection. Even in provinces where the rents went to the king, legislatures found ways of lessening the efficiency of the crown officials. Punitive laws were of no avail, and the greater landlords had very nearly their own way. Collection in Maryland was more successful than elsewhere. The colony by 1776 was paying the Calverts over £8,000 a year, and not over a tenth of this was deducted for costs of collection. But the neighboring proprietary colony of Pennsylvania was a notable example of laxity, owing to legislative interference and carelessness of the Penn family. Virginia did scarcely half as well as Maryland, and the rest of the colonies lagged far behind Virginia.

From their size, as estimated today, the quitrents would not seem burdensome. Yet, four shillings represented the pay of a free laborer for about three days as wages ran in 1770, or for a week on the scale of a century earlier. If the overlord chose to, as he sometimes did, the quitrents might be expended for Colonial defense or local developments. Occasionally royal officials were paid from the receipts so as to make them independent of the legislatures. But, in general, they were in addition to all taxes for maintenance of government; were paid by owners of the land to persons living in a foreign country, for no apparent reason; and were so unequally enforced as to be annoying in the extreme to those who were compelled to pay them.

Southern Crops: Tobacco. In a consideration of Colonial crops, very little need be related here about corn after what has been said about its culture by the Indians. It was not the major export of any colony, but it was the mainstay of life in all but the middle group. It made the growing of livestock profitable in every colony, and the exportation of both salt meat and live animals became an item of commercial importance all the way from Massachusetts to the Spanish borderlands. Even in Virginia, corn and corn-fed animals were the backbone of existence. Tobacco was the money crop and got most of the advertising, thus obscuring the fact that other commodities out-ranked it in value.

¹ In adopting tobacco as its staple crop, Virginia did only what was natural. Other colonies from North Carolina to New England also made attempts at tobacco growing, but nowhere north of Maryland

was there much real competition. Only in the last century has the crop been extensively grown in the Connecticut Valley, and then with the use of expensive fertilizers. The development in the Chesapeake region was due to a great demand and high prices in Europe, encouragement from England, and an ideal soil and climate. Columbus noted Indians in the West Indies smoking tobacco in the form of crude cigars. Other early explorers took samples to Europe, where its use rapidly spread. A market for tobacco existed in England for more than a generation before the settlement of Jamestown, and economists were alarmed at the amount of money leaving the realm for its purchase. Partly as a result of this fear, a tax was placed on all tobacco imported. Yet, in spite of increased cost, it is said that in 1614 there were 7,000 tobacco shops in London. As late as 1619 (seven years after the beginning of its culture in Virginia) the price was 3 s. a pound in the Colonies. Ten years later the price was 3 d., and yet it was grown at a profit. For the next 150 years the price in Virginia averaged only about 2 d. a pound, but production constantly increased. It can easily be seen why Virginia turned to the growing of this plant when the price was measured in shillings instead of pence.

As soon as James I found that tobacco could be grown profitably in Virginia he decided to turn the situation to profit. In 1604 he had written his *Counter Blaste to Tobacco*, reciting about all the objections to its use, real and fancied, that have agitated reformers from that time on. But he did not lose possession of his native Scotch thrift. Between 1619 and 1652 various laws were passed to prevent the growing of tobacco in England, while at the same time imports from Virginia were encouraged by discriminatory tariffs. Also James created a monopoly for the importation of tobacco which was soon paying him £16,000 a year for the privilege. Such acts as these, coupled with the rebates at reshipment to Continental Europe, for a time tended to offset the later disadvantage of being compelled to send all exports to England.

John Rolfe, in 1612, first proved to the Jamestown inhabitants that they could grow tobacco from Caribbean seed as good as that of the West Indies, and immediately the scramble for tobacco land began. Oronoko was the first kind developed and the most extensively grown, but a small portion of Virginia was capable of producing also the highly prized sweet-scented. Tobacco was considered by the early growers to be worth at least six times as much as any other crop for the amount of labor and capital expended. Consequently, and since the clearing of land was a most laborious process, an early start and quick returns could be obtained more readily with tobacco than with anything else. Following Yeardley's liberal land policy, so much Indian land was seized as to bring on the massacre of 1622. Between 300 and 400

people were killed, about a fourth of the total population, but the remainder rallied later in the year and almost exterminated the Indian tribes along the peninsula.

This unregulated expansion caused overproduction, a glutted market, and falling prices. In 1619 the price of a wife sent over by the company was about an equal weight of tobacco—120 pounds. But this represented a year's labor and was worth £18 at the plantation. In 1630, with the price at a penny a pound, some husbands must have rued their earlier extravagance. By this later date planters had learned to produce much more per acre, and by the middle of the century the yield was about 2,000 pounds to the laborer on the better soil. Yet, even with larger bulk returns, tobacco could not be grown except at a loss at such a price, and efforts were made then and repeatedly afterward to restrict production by law. Some relief was obtained from such policies, but it was difficult to get the tobacco colonies to adopt the same plan at the same time, so in the long run no plan of retrenchment could be made to work very successfully. Sometimes groups of planters tried to restrict output and force others to comply with their decrees. Failure to join the movement led to such results as the plant-cutting riots in 1682, an affair somewhat comparable to the "night rider" episode in Kentucky early in the present century. Some relief was found when tobacco, at a fixed price per pound, was made a legal tender for payment of debts. In years of overproduction debtors found it easy to gain an advantage over creditors.

Complaint was constant against the enumeration of tobacco in the navigation laws, yet subserviency to British factors in all commercial transactions probably had more to do in directing the bulk of the crop to Great Britain than did the laws. In spite of all adverse circumstances, the planters generally managed to keep out of bankruptcy, and, though the annual volume of the crop fluctuated, each decline in production was followed by a new high peak. By 1690 exports amounted to 20,000,000 pounds, and at the outbreak of the War for Independence the figure of 100,000,000 pounds had been exceeded. Maryland was next to Virginia in production, exporting about a fourth of the total, while North Carolina came third.

There was but little change in methods of production. Sowing in hotbeds, resetting, frequent weeding and search for tobacco worms, and topping of the plants required much labor till the close of the growing season. Then came the task of reaping, curing, stripping, sorting, and packing in hogsheads. The casks, weighing from 600 to 1,000 pounds, were not loaded on wagons, but were merely rolled over "rolling roads" to the warehouses or "rolling houses." The exhausting effect of tobacco upon the soil led the

grower to acquire a plantation many times as large as he expected to farm at any one time. Fifty acres of land for each laborer was the rule in a day when three acres was the limit of production. But there were usually many more acres of corn, orchards, pasture, and the like than there were of tobacco. Tobacco was grown only on the newest clearings, the old lands being devoted to other crops.

Cotton, Rice, and Indigo. Cotton, the great staple of the nineteenth century, was not of high importance in the South till after the War for Independence. Columbus found great quantities of cotton and cotton cloth among the natives of Guadeloupe. But north of the frost line, where perennial types would not grow, it was not used or cultivated by any Indians with the possible exception of those in New Mexico and Arizona. By 1680 South Carolina was having some success with the annual varieties of sea island cotton, and before the War for Independence was exporting over a million pounds a year at a value of about £50,000, but this constituted only a small part of her total exports. In general, while cotton was of some importance locally, even the South imported more of it than was exported.

Of far greater importance to the lower South were rice and indigo. They were the money crops and supplemented each other on the same plantation because of the greater economy of labor in the two-crop system. During slack seasons in the rice fields the laborers could be used in the indigo, and *vice versa*, thus utilizing to the best advantage the time of the costly slaves.

Early experiments in growing rice failed, but before 1700, better seed having been imported, it was in process of becoming the leading crop of the colony. In 1765 exports were 32,000 tons worth £225,000. Only a small portion of the coast from the Cape Fear River southward would produce the crop. Rice needed to be inundated several times during the growing season, and this could be conveniently done only where fresh water, backed up the rivers by the tides, could be impounded for use. Even then great care had to be exercised to see that the fields were not ruined by brackish water, as sometimes happened when the tides were exceptionally high. Levees were opened long enough at a time to flood the land to a depth of eight or ten inches. This supplied the needed amount of moisture, kept down weeds, and helped prevent the rice being blown down by winds.

To Eliza Lucas, daughter of a former West Indian governor, goes the credit for getting indigo on a paying basis in South Carolina. This she did between 1741 and 1744.¹ Before this time Great Britain had

¹ During this time she married Charles Pinckney. She became the mother of Thomas and Charles Cotesworth Pinckney, great Federalist leaders of the early national period.

been largely dependent upon France for indigo. But after the Carolinian experiment the government decided to become independent of foreign sources. In 1748 Parliament offered a bounty of 6 *d.* a pound for all imports of the product from her own colonies. This was enough to make the growing profitable, and in a short time indigo was bringing half as much income to the coast as was rice itself. Since this was an enumerated article England got the whole crop, which before the Revolution exceeded 1,000,000 pounds annually. She soon had a surplus and was able to compete with France in the European market, and thus the interests of mercantilism were served.

Some 20,000 acres of land and the labor of 10,000 slaves were required for indigo. The process of obtaining the finished product was so loathsome as to make the work almost unendurable to free labor. The green plants were fermented in vats and the pigment was then leached out with water. This was followed by a settling, draining, and drying process. Fermentation was the disagreeable part. A fetid stench arose from the vats and flies bred in them by millions. Two crops a year could be produced in addition to the rice of the same plantation. With independence from Great Britain the bounty payments stopped, and then the planters no longer could compete with the West Indies. Without a supplementary crop, the profits from rice plantations dwindled and slave labor became a burden. But by this time the possibilities of cotton growing became apparent and new life was injected into the Southern economic system. Outside the narrow rice coast, grain, livestock, fruit, and garden crops were the chief products of the lower South.

Grain Crops. Small grains—wheat, oats, barley, and rye—were grown extensively in the back country of Virginia and Maryland, but mainly from Pennsylvania northward. The Pilgrims at Plymouth planted twenty acres of corn and five acres of small grain (wheat or barley) and peas the first year. They got a crop of corn, but the small grain did not mature. Rye was soon found to be the cereal, aside from corn, best adapted to New England, and ever since has remained the most dependable small-grain crop. As early as 1632 there is an account of a windmill for the grinding of rye being moved from Newtown (Cambridge) to Boston. Within four years water mills were in use at Roxbury and elsewhere. Wheat growing in the middle colonies was put on a paying basis by the Dutch, not only in New Netherland but along the Delaware as well. By 1645 they were exporting wheat (and flour) by the shipload, sometimes in vessels up to 300 tons capacity. It was wheat that made Pennsylvania the richest colony of the North. Corn, general farming, and livestock raising were also of importance. A report of 1750 tells of as many as 7,000 or 8,000 four-horse wagons

annually carrying produce to Philadelphia from points as much as a hundred miles distant. By remaining aloof from the intercolonial wars before 1754 the prosperity of Pennsylvania was still further advanced, so that by 1755 the colony was producing enough food to supply half again its population of 220,000. In production per acre the colony probably exceeded present-day accomplishments. But the number of acres farmed by each laborer is another story.

Mixed Farming. Mixed farming accompanied staple production and other economic activities in all colonies. The New Englander, in spite of his shortage of wheat, usually lived better than his English cousin. His garden produced about everything that it would today. With his corn, beans, pumpkins, fruit, meat, and fish, for example, he already had a varied diet. But he could supplement this with wild game (turkeys larger than any grown anywhere today, venison, or any of a large number of other animals and birds); with grapes, strawberries, and nuts, either growing wild or cultivated; and with maple sugar and sirup. Much the same thing could be said for the inhabitants of the other sections. The Carolinas had large crops of corn, peas, and beans, and the cooler portions of the piedmont even produced some wheat. One section might have a shortage of one commodity and a surplus of another, but this situation was remedied by the coastwise commerce. Exports, representing only surplus, are no indication of the extent of production in lines where only domestic needs were taken care of. This is particularly true of such perishable products as vegetables and fruits which were abundant everywhere.

Potatoes, not unknown in America in the seventeenth century, became popular in the Colonies between 1705 and 1750, because of their extensive use by the new Scotch-Irish immigrants. Sweet potatoes, used from the earliest days of colonization, were always more widely grown in the South than were Irish potatoes, merely because of the greater difficulty of storing the latter in a warm climate. Peaches grew in such abundance from Georgia to New Jersey as to be a common article of hog feed, while many more rotted because the swine could not consume the surplus. Pears and cherries were plentiful in many places, and apples abounded everywhere from Virginia northward. Rhode Island in the seventeenth century developed two new varieties of apples, the yellow sweeting and the Newtown pippin. Apples, being less perishable than peaches, were not wasted in such large quantities. They were stored or used for cider. All these fruits depended in quality largely upon the amount of attention paid to the trees. Some were of very fine stock and others were decidedly scrubby. Even oranges, introduced from the Mediterranean countries, were grown to a limited

extent in the lower South, 150,000 of them being sent to London in 1745.

Stock Raising. "Cattle" was a term used in earlier centuries to designate all sorts of four-footed farm animals. "Neat cattle" was the designation for the bovine part of the flocks and herds. Such usage being now obsolete, the word "cattle" will be used here in its modern meaning. All sorts of European farm animals, including poultry, were given an early start in America. Chickens, cattle, and hogs strayed from the Spanish expeditions in the Southwest or were shipwrecked on the coast of Nova Scotia and Bermuda, where they began to breed in the wild state. Hogs caught in Bermuda helped feed the early Virginians in their periods of want. Sheep and goats alone failed to thrive in the Southern climate, but most planters tried to raise a few for their wool. Nobody cared to raise sheep for mutton, since improper methods of butchering and preparation for cooking left a disgusting flavor in the meat which people thought was inherent. Other animals ran wild, leading to deteriorated breeds and interminable trouble from wolves, in spite of bounties offered. By 1640 the live-stock industry had developed so far in Maryland that farmers were required to fence their crops against cattle and hogs or else stand their own risk of destruction by the animals. A later law provided that a farmer could collect damages for injury to crops caused by trespassing animals only if he maintained a strong fence five feet high.

In the lower southern piedmont, livestock growing became a major industry. The ranches assumed on a small scale some of the characteristics of the industry on the Western plains a century and a half later. The annual roundups, the branding of calves, and the long drives to market were not entirely new practices in the 1860's. None too good care was taken of the stock and sometimes great numbers died from disease. In the winter of 1694-1695 an epidemic swept through the South, killing about 100,000 cattle and probably as many hogs. Yet there was quick recovery. Sometimes the wild cattle were hunted like deer. Horses also ran wild and in Virginia were almost as numerous as cattle. When needed they were hunted with dogs by men on horseback. It was no uncommon thing for one horse to be run to death in the effort to capture another.

New England, like Virginia, was slow in getting a start at stock breeding, largely because of the number of animals dying on the long sea voyage from England. Plymouth imported three heifers and a bull in 1624, having had no farm animals to start with. Massachusetts Bay made a fair beginning in 1635 and 1636 with horses, cattle, and sheep from Holland, and cattle and goats from Virginia. At first the animals were very expensive, cows costing from £25 to £30 each and

draft oxen £40 a yoke, while corn for their feed was 5 s. a bushel. The rapidity of increase, once the start was made, is revealed by the fact that by 1642 the price of cows had fallen to £6 or £8. The industry expanded in New England from the Massachusetts colonies just as in the South it spread from Virginia. In the middle colonies the Dutch and Swedes made independent starts. Along the Delaware a strain of the red Swedish cattle imported before 1655 is still to be found. The cattle brought to New York by the Dutch were later crossed with English cattle with a resultant improvement in an already good breed.

The number of draft animals was far below demand in the early decades. By his own labor a man could tend not more than four acres of corn, while, with a team of oxen, thirty acres were not too much. From early years, horses were used for travel, but oxen were almost universally the draft animals. After 1700 the use of horses increased, and especially with the building of better roads in the more established parts of the Colonies. Narragansett Bay, the Long Island Sound region, and the upper Connecticut Valley became especially noted for their horses.

Livestock raising became the back-country industry of the North as well as the South. It was a subsidiary consideration on every well-managed farm. Hogs quite frequently were banished to the nearest islands, where they proved less obnoxious to townsmen and also needed less looking after. In general the statutes required that swine be kept at a respectable distance from towns. Cattle were tended by town herdsmen in New England, all running together and usually branded. Sheep were raised in every Northern colony, and especially in New England. As early as 1637 in Plymouth, and later in other colonies, laws were passed to prevent the export of sheep or to encourage their production by freeing them from taxes. An individual example of preëminence in sheep raising is that of William Brenton of Rhode Island, who after 1750 kept a flock of 1,500 or more. The whole state of Rhode Island by 1930 barely maintained five times that number.

Of dairy cattle the tendency north and south was to keep just enough for domestic use, no particular effort being made to produce special breeds. Yet there were some instances where American cattle in the late Colonial period gave two gallons at a milking and produced two pounds of butter a day in the spring of the year. This was said to be better than English records of the time. Dairying was an important source of income in Rhode Island and parts of Connecticut, their butter and cheese being known afar. Other exceptions to the rule were in the middle colonies, where a surplus of dairy products was to be found.

Along with livestock, some attention should be paid to hay. Here was something for which the Indians had no use. Their only interest in grass was to burn it off the ground in the spring so that the tender, new grass springing up afterward would attract deer and buffalo. All kinds of hay now grown east of the Mississippi River, possibly excepting timothy, are imported varieties. In the lower South, where pasture was to be found even in winter months, not much hay was grown. On the other hand, Pennsylvania and New York were very particular about their meadows, even practicing irrigation for their improvement.

Experiments and Bounties. Neither the British government nor the Americans were wholly content to let each region raise what it could best produce. Instead, there were constant efforts to encourage the growing of exotic products. Bounties were the usual inducement. There were frequent appeals from the British government for Virginia to grow other things for export in addition to tobacco. The complaisant legislature accordingly would pass a law ordering the production of this, that, or the other. It was not expected that anybody would pay attention to the legislation, and nobody did except a few timid souls. Great bounties would be offered by the legislature of a colony for something not suited to economical production. At the same time such large quantities would be demanded before the bounty would be paid that the laws were of little effect. For instance Virginia in 1658 offered a bounty of 10,000 pounds of tobacco (about £80 in value) for exports of two tuns of wine, £500 worth of wheat, or £200 worth of certain staples, provided they were all produced on the same plantation and in one year's time.

Parliament in 1706 offered £6 a ton bounty for American hemp. Some legislatures tried to make hemp and flax growing compulsory, while others offered bounties. Virginia had a little hemp for export after 1750, but in most colonies the production was so slight that sale at home was more profitable than to accept the British bounty and ship it to England. A little flax was grown, particularly in the middle colonies, mainly for the seed. The country was not self-supporting in the production of fiber. As far north as Pennsylvania there were strong efforts to encourage silk culture. Bounties were offered, Italian and Armenian silk makers were brought over, public filatures were erected, especially at Philadelphia, and sometimes nursery agents got legislatures to make mulberry-tree growing compulsory. Some silk was made at a cost of twice what it was worth, but it took over a century of failures to discourage the efforts.

Price Fixing. Somewhat closely related to bounties as an encouragement to agriculture was the matter of price fixing, indirect and

direct. In 1631 Virginia prohibited the exportation of any kind of hides, either from domestic or wild animals. The purpose was to conserve the hides for clothing, thus helping redress an unfavorable balance of trade with England due to low tobacco prices. The experiment was repeated several times, and in 1657 the embargo was extended to mares, sheep, wool, and iron. All such restrictions were repealed a decade later. Additional relief from low prices and scarcity of money was found in making various products legal tender. This practice also necessitated price fixing. The procedure in regard to tobacco has already been mentioned. Maryland in 1662 made wheat, rye, oats, and peas legal tender at a valuation of five, four, two, and three shillings a bushel respectively. At the same time these commodities were legal tender in New England at rates about a shilling lower. Frequently, fixed valuations had the same effect without legal-tender stipulation. Fresh pork and beef were sometimes subject to such price fixing, the Virginia rates of 1682 being 12 s. and 10 s. respectively. Such efforts often failed to accomplish the desired effect, but they are worthy of mention as an additional instance of government regulation of Colonial economic affairs.

CHAPTER IV

LABOR AND OCCUPATIONS IN THE COLONIES

Population. In a country as distinctly rural and sparsely settled as America still was in 1776 industrial society was relatively simple, especially as compared with later periods or more industrialized countries. Some attention to the scattering nature of settlement and the large number of national elements in the population has been given in preceding chapters. Before the Revolution most communities and every grade of society contained a mixture of Old-World peoples. Among revolutionary leaders John Jay was descended from Huguenots, Philip Schuyler was Dutch, Nicholas Herkimer and Frederick W. Steuben represented different German states. The British Isles were represented by Robert Livingston, Scotch; George Clinton, Irish; Gouverneur Morris, Welsh; and Robert Morris, English. Of fifty-six signers of the Declaration of Independence, nearly a third were non-English. Eight were immigrants—three from Ireland, two each from England and Scotland, and one from Wales. Joseph Galloway calculated that half the revolutionary army was Scotch-Irish and only a fourth was English or Scotch. In fact, the mingling and mixing of nationalities by 1776 had reached the point where a truly "American" race can be distinguished, and the first official use of the word was in the Declaration of Independence.

Of population centers large enough to encourage wide diversification and specialization of employment among craftsmen there were only four of sufficient size to be classified as cities. Boston had a population of 7,000 before 1700 and about twice that number half a century later. The city grew up in haphazard fashion with narrow, crooked streets. By 1713 there was some stone paving in the center of a few streets, but sidewalks were lacking till after the close of the Colonial period. In New York the Bowery and Broadway were laid out in early Colonial days. The population on Manhattan Island in 1664 was about a thousand, but in 1700 the number had increased to 5,000, the Dutch and English being about equally represented. A census of 1746 showed 12,000 people, of whom 2,400 were slaves. Philadelphia, though the youngest of the cities, outstripped the rest in population. Also it was the only one which was laid out according to any systematic plan. A census of 1699 showed 4,500 inhabitants, which number had grown to 20,000 by 1740. A count of houses in 1776 showed 4,474 sheltering

an estimated population of 26,800. Charleston, the city of the South, having a population of about 10,000 in 1776, was nearly as cosmopolitan as New York or Philadelphia. The French element had been reinforced in 1755 by 1,200 exiled Acadians. So important was Charleston in the life of South Carolina that the colony has often been referred to as a city state. The spirit of a new age was reflected in the creation of a chamber of commerce in 1774.

By 1776 there was some paving around the market places and other most needful parts of the principal towns, but there was scant attention to street cleaning. The principal mode of garbage collection was by livestock roaming the streets. Boston paid more attention to public cleanliness than did other towns. Town pumps were the chief source of water supply as well as centers for gossip and bulletin boards. The virtues of the public drinking cup had not yet been questioned. Houses were usually frame and highly inflammable, though in the later eighteenth-century decades brick for building was finding favor, especially in the parts of the middle colonies and the South where forests were receding far enough to make the hauling of lumber expensive. Survivals of houses of the gentry, copied after the English style, have given rise to the fiction of a "Colonial architecture." Street lighting was by lanterns hung in windows, except for some efforts at public lighting in Philadelphia in the 1770's. Night watchmen in the later days, disturbing the populace by shouting the hours and state of weather, did little to make the streets safe. But curfew laws for old and young alike helped reduce danger.

Conditions of Travel. Provincialism was accentuated by the difficulties of travel, which tended to make each community as self-sustaining as possible. Travel for pleasure within the Colonies was almost unknown, and few persons traveled at all. Public conveyance between New York and Philadelphia was not begun till 1756, and then it was a three days' trip. When, a few years later, a spring-mounted wagon could make the trip in two days it was advertised as the "Flying Machine." Roads were but little better than cleared paths, and the rare bridge was likely to be a floating structure. Not till 1768 was a bridge built between Boston and Cambridge, and it came only after a controversy of fifteen years. Taverns, or "ordinaries" as they were sometimes called, were a prime necessity along all main roads as well as at the terminals. The better tavern keepers were real "hosts" and the term "guest" was more than a euphemism. The landlord of a reputable tavern was as respected as well as important person in his community.

Shortage of Free Hired Labor. Under such conditions of isolation there was little opportunity in most localities for the development of

specialized occupations. The village smith made his own horseshoes and nails, often even his tools, and sometimes produced a part of his raw material by hammering heated bog ore into wrought iron on his anvil. The carpenter was likewise a maker of furniture, while the cordwainer could turn readily from shoes to harness. The tinker was also a peddler, and attacked all sorts of repair work with more readiness than precision. Paul Revere was an able silversmith, but he could also turn out as good a set of false teeth as any other primitive dentist of the community. Craftsmen ordinarily were itinerants, or, if in established shops, made goods to order (bespoke goods), and in either case manufactured directly for the ultimate consumer. There was no intermediate employer of labor and no wage relationship.

Very little free labor for hire was to be found in the Colonies. At least four out of five free white men were farmers on their own land, depending solely upon their own work and that of their families for their income or living. Coöperation was their main reliance in rush seasons. Extra help for larger estates was provided by unfree labor—indented servants and slaves. Among the most important and largest classes of free labor were sailors and fishermen, but, even there, profit sharing, rather than stipulated wage payment, frequently prevailed. Some exception from these generalizations must be made especially toward the close of the period when, in some of the heavier occupations particularly, a real tendency toward a permanent wage-earning class was beginning to appear.

Both the independent position of the craftsman and the scarcity of free hired labor on the farm were due chiefly to the difficulties and cost of transportation from Europe to America and to the abundance of cheap land throughout the greater part of the Colonial period. England in the seventeenth century was overrun with labor paid so little that families could scarcely exist on their wages. In 1610 an English plowman received 50 s., an ordinary laborer 40 s., a skilled woman 26 s. / 8 d., and a woman drudge 16 s. a year besides food. Laborers feeding themselves got double these rates, but this meant merely from 64¢ to \$2 a month. Based even on values of that day these were practically starvation wages. Only by the help of women and children in the harvest fields and long hours of work at night, weaving or spinning for some neighboring capitalist, could an existence be eked out. People of such economic status (and they comprised the bulk of the population of England) could not have saved enough in a lifetime to pay their transportation to America even if land in the new country had been free and flowing with milk and honey.

Indented Servants. The cost of transportation from England or Ireland was from £6 to £10 a head, the equivalent of four or five

years' labor in England. Consequently, the planter needing more labor or the merchant desiring a household servant was glad to pay the cost of passage, plus a profit to the master of the ship, in return for the labor of immigrants for a like length of time. Likewise, the downtrodden classes of the Old World found in this way a chance for betterment of conditions. If they sold their services for four or five years, they would receive food, clothing, and shelter during the period of servitude and then be free to make a new start in a virgin country. Some, even, who could afford to pay their passage preferred to be servants for a few years than to make a penniless start with freedom. A few, in proportion to the total number, were debtors or other petty violators of the harsh criminal code which recognized 200 crimes as being of capital degree. Jails were relieved and the expense of hangmen saved by shipping some of the surplus of culprits to America. The death penalty was commuted to fourteen years of servitude and lesser sentences to shorter periods. Still other people were kidnapped by greedy shipmasters. There were cases of impoverished freemen in America who sold their services for a term of years in return for a lump sum of money. Finally, even American prisoners after 1700 were sometimes sold at the end of their sentences to pay for their room and board while they were in jail. All voluntary servants, generally called redemptioners, as well as apprentices in the different craft trades, were required to sign contracts with their masters. These, when carefully drawn, were written in duplicate on a single sheet of paper and separated by a jagged cut or indent. Since no two such cuts would likely be found to correspond with each other, the fitting together of the separate parts, one possessed by the master and the other by the servant, was the proof of the contract. Though the drafting was often careless and irregular, it was to the advantage of each party to the contract to keep his copy safe and intact so that the other could not take unfair advantage of him. The contracts came to be known as indentures and the laborers as indented servants.

Indentures were signed before the beginning of the voyage to America, and the contracts were passed on to the highest bidders when the immigrants reached their destination. Tobacco ships returned to the Colonies with less bulky freight than on the outgoing trip, and thus had plenty of room for passengers. The traffic in servants therefore was almost clear profit to the shipmasters. It was sometimes a part of the agreement that surviving passengers were responsible for the fares of those who died in passage, thus relieving the captain of the ship of as much care for the welfare of passengers as would be expected even on a slave ship. Brutality was a recognized feature of the treatment of poor immigrants in the seventeenth and eighteenth centuries.

It has been estimated that at least half of the white immigrants of the seventeenth century were redemptioners or had their fares paid by others. In Pennsylvania, Maryland, and Virginia perhaps three out of four of the white people in 1776 were of such stock. Between 1635 and 1705 over 100,000 were taken to Virginia alone, a number considerably larger than the whole population of the colony at the latter date. But there was a heavy mortality among laborers during the first year or two, while they were becoming acclimated to the miasmal conditions of the new country. Others after freedom migrated to North Carolina or elsewhere. Since their terms of service usually ranged from three to five years, with most of them in the four-year limit, there was never a great portion of the total population under indentures at any one time. In the middle and Southern colonies redemptioners and convict laborers were used almost solely for farm work. In New England there was not steady enough work on the farm to make this form of labor profitable, and few redemptioners could qualify as craftsmen. Skilled laborers in England could usually pay their own passage to America, and thus avoided indenture. There was some demand in New England for domestic servants, this being the use to which most redemptioners were put. In 1710 the legislature of Massachusetts offered a bounty of 40 s. for the importation of each male servant of from eight to twenty-five years of age, but this was an exceptional occurrence.

In general, the redemptioners were of good stock. It was force of circumstances and exploitation from above that kept them poor, not lack of native ability. All that servants needed, as a rule, was to acquire freedom before they began to ascend the social scale. Soon they became important factors in the life of the country. Thousands of them acquired capital, becoming planters, prosperous farmers, mechanics, artisans, or merchants. Even the convicts, of whom all provinces had their share, generally proved docile when transplanted to the Colonies. In 1629 seven out of the forty-four members of the Virginia House of Burgesses had been bound servants half a decade before, and in 1633 the indications are that over a third of the same body had served indentures. So rapidly did economic advancement come before the day of great slave plantations that rigid social lines could not be maintained.

Treatment of White Servants. The treatment of white servants varied according to character of masters and servants, Colonial laws, and terms of indenture. Most masters were humane or sensible enough not to resort to brutality, but where baser feelings cropped out it was natural to treat the short-term servant with less consideration than was shown to the life-term slave. Colonial laws and terms of indenture nearly always provided that servants should receive

adequate food, clothing, and shelter, be protected against brutality, and guaranteed an outfit of clothing, certain implements for farming, and sometimes a little money from the master at the termination of the contract. Some colonies, like Maryland and North Carolina, allowed fifty acres to freedmen, whereas in other colonies, Virginia for example, land was so cheap that the more industrious freedmen were not long in economic subjection. Some towns in New England allowed freed white men to participate in the land, and nearly all provided that they be given the necessities for existence. These laws were not always observed. Food, being cheap, was plentiful even if coarse, but clothing was likely to be scanty. The more savage type of master was known to treat his servants with brutality shortly before the close of their terms in order to induce them to give up claim to clothing, land, money, and the like, to which they were entitled, as a price for premature termination of the contract. Treatment in general was no worse than was administered to free labor in England. Servants, in theory, could always appeal to the courts for protection, and sometimes they were given their freedom because of repeated cruelty of masters.

Virginia (in 1705) and North Carolina adopted laws further improving the legal status of indented servants, the tendency being, among other things, to substitute fines for corporal punishment. Apologists, even before this time, were inclined to observe that four years of servitude in the tobacco colonies were better than a like term of liberty in England. On the other hand, the social status tended to grow worse in later decades. The growth of large plantations operated by slave labor, in the eighteenth century, and the contemporary rise of a merchant aristocracy in the North made it more difficult for the poor man to achieve equality with the mighty. A caste system was in progress, the indented servant being at the bottom of the white scale.

It has always been customary for the exploiters of labor to blame their victims for most of the crimes and moral delinquencies. This is an easy escape from the assumption of social responsibility in the matter. The American colonists were no exception to the rule. By some sort of divination they decided that servants and freedmen, especially the latter, were at the bottom of most of the infractions of law. This notion helped fix the social standing of the majority of the common people, but it also helped bring about precautionary measures somewhat helpful to freedmen. Prevention of criminality as well as pauperism lay behind the laws for giving the newly freed servant means for starting out in life. Such requirements were a protection to the life and property of the gentry. Yet, it is quite likely that freedmen actually were more numerous offenders than their former masters

against the laws of the masters' making. But they were never accused of such major atrocities as the fraudulent land deals of the period. The latter were considered merely clever strokes of business. The stealing of a chicken was a more grievous offense than the stealing of a township.

Reasons for Slavery. Slavery, like indentured labor, was introduced into the Colonies because of the lack of sufficient free labor. Later it was retained and extended because it was cheaper. The only reason why slavery did not flourish in Europe outside of the Iberian peninsula was that the labor of peasants and serfs was cheaper. A slave had to be fed, clothed, housed, and cared for when in infancy, sickness, incapacity, and old age. If he was not well provided for he was a useless laborer. Free men were not always so well taken care of. In Europe there was a surplus of labor, living on the verge of starvation, and not always succeeding in doing that. The landlord or the capitalist of the domestic system of manufacture could pay the peasants the minimum wage and not stop to worry about their welfare in times of slack employment, sickness, or other incapacity. If a laborer died there was always another to take his place. If he was inefficient he could be fired. Slavery under such circumstances would have been a more costly system, and hence Europe did not adopt it.

The situation in the Colonies was entirely different. Labor was the principal item in the cost of production, and European markets for staples could best be retained by planters who kept this cost at a minimum. As long as there was no overproduction, expensive labor made little difference. But when the price of tobacco fell to 2 *d.* a pound and less it was difficult for American planters to compete with the cheaper slave labor of the West Indies. General farmers, fishermen, trappers, fur traders, and dealers in forest products did not have to meet competition from West Indian labor, and they sold in markets not so easily glutted as that for tobacco. Consequently, up to a certain limit of cost, these latter producers could afford to import white servants and yet compete for European and West Indian markets. So it was the Southern planters who were driven to the more extensive use of slaves. If the slave system had not existed in the Latin-American colonies the British-American planters could have prospered without it.

Indian Slaves. Like the Spanish, the English colonists also attempted enslavement of Indians. In 1637 Massachusetts Bay, Plymouth, and Connecticut united in exterminating the Pequots, kept the female prisoners as slaves, and sold the men and boys in the West Indies. This experiment proving profitable, by 1646 the policy was developed of seizing whole Indian villages, because of the petty offenses

of individuals, and trading the prisoners to the West Indies for Negroes. It was not safe to keep the irate Indians too close to home. This policy was perpetuated by King Philip's War, and occasionally some Spanish Indians were imported. As late as 1706 Massachusetts sold Indian children under twelve years of age taken in war. Indian slavery was practiced in several other colonies, particularly South Carolina where figures for 1708 show 1,400 Indian and 4,100 Negro slaves. Indian slavery might have reached proportions similar to those in Spanish America had it not been that north of the Gulf of Mexico Indians were too few, too hard to catch, and too unyielding by nature to furnish an adequate and reliable supply of labor.

Slavery in the South. The Dutch privateer in 1619 brought only 20 slaves to Jamestown, and it was not till 1630 that another cargo arrived. After about 1635 a few were brought over every year, but by the middle of the century there were barely 300 Negroes in Virginia as compared with 15,000 whites. The total Negro population of the tobacco colonies by 1690 was not in excess of 5,000, which number was scarcely more than that of the North. This was not because the planters did not want slaves, but because they could not get them, the reason being that England was excluded from the slave trade by Spain and her agents. The few planters who had slaves before 1690 prospered wonderfully, and when the Royal African Company began its poachings in the slave trade, they were glad to get their share of the imports. It was not till after the *asiento* of 1713 that slaves became cheap and the numbers in the Colonies began to reach considerable proportions.

Slavery did not create the American plantation—that was done by tobacco growing. Instead, the plantation system led to the development of slavery. A few persons had attempted to manage plantations with free labor but were impoverished in consequence. For lack of anything better, indented servants were tried, but they were a source of anguish. They were often useless for a year or two until they got acclimated, and then, about the time they became really proficient, they became free and started their own farms to glut further the tobacco market. Also, toward the end of the seventeenth century, England checked the business of kidnapping, Virginia tried to stop the importation of convicts, and the Royal African Company began direct trading with Guinea. Slaves were less efficient than seasoned white men, but an indented servant cost from £2 to £4 a year besides board and clothing, while a slave, bought for from £18 to £30, had as many years' work in him on the average as he cost in pounds sterling, and any increase in his family was an additional source of profit to the owner. If well watched, Negroes were capable of tending

tobacco, rice, indigo, or other staple crops, and with their labor a planter could produce cheap staples at a profit.

After 1700 the Carolinas achieved importance in the plantation system, and there was a great influx of slaves. The Negro population of the rice coast grew from the 4,000 of 1708 to 40,000 by the middle of the century, and to 90,000 in 1765. At the latter date the white population was only 40,000, and fears of black supremacy were being entertained. After the middle of the century some of the largest slave holdings in the Colonies were in Georgia. By the First Census of the United States one Georgia planter owned 695 slaves. Even in Charleston the number of blacks outnumbered the whites. The rice coast had the densest Negro population of the country in the latter half of the eighteenth century. But in total number of slaves the tobacco colonies outnumbered the lower South by four to one. Though individual holdings were not so great, tobacco plantations were scattered all through the tidewater and some of the piedmont region, whereas there was no plantation crop as yet adaptable to the back country farther south. As early as 1712 Virginia had three counties where Negroes outnumbered the whites, and a few planters had a hundred slaves each. Yet, to the end of the Colonial period there were only a few great slave owners in the tobacco colonies. The largest holding on record is that of Charles Carroll of Maryland, with over 300. George Washington was one of the greatest owners in Virginia, his total in 1783 being 188.

Slavery in the North. Not only was slavery less necessary in the North, but also slave labor was poorly adapted to the varied activities of Northern economic life. Slaves were fairly effective as household servants or when worked in gangs of from 20 to 30 under an overseer, but when scattered at odd jobs or left unwatched they were too likely to lie down behind a stump and go to sleep. In general, Northern agriculture could not use gang labor, nor were there any year-round tasks to occupy the time of slaves. On the other hand, white mechanics did not care to work alongside of Negroes in the handicrafts. Shipbuilders would not buy slaves for their intricate work, and Negroes did not do well as fishermen or sailors. New England, however, could procure slaves more cheaply than the South. Slave merchants usually had a surplus beyond what they could sell in the West Indies or the Southern colonies, and these were disposed of cheaply when the ships returned home to Newport, Salem, or New York. There was no prejudice against slavery in New England. By Calvinistic doctrine God's elect were few and scarcely to be found outside the Puritan fold. Negroes were damned anyway, and hence were fit subjects for slavery. Cotton Mather prayed for a good servant and felt that it was an act

of divine providence when his congregation bought him a Negro slave. Puritans settling on Providence Island off the coast of Nicaragua, about the time of the establishment of Massachusetts Bay, started slave plantations on a big scale, but the colony was shortly afterward captured by the Spanish.

Slaveholding in New England was negligible north of Massachusetts. Massachusetts itself had about 500 in 1700 and 5,000 in 1776, the apex having been reached a few years before the Revolution with a total of 5,800. Connecticut had only about 30 slaves as late as 1720, the price being about £22 each, but the number increased rapidly until 1776 when there was a total of some 6,500 in holdings of 15 or less. In Rhode Island, the haven of slave traders, slaveholding existed on something like the Southern scale. Some estates ranging from 5,000 to 10,000 acres were operated chiefly by slave labor. South Kingston in 1730 had 965 whites and 333 Negroes. The Negro population reached its height in 1756 with just under 4,700, or 11% of the total. In 1774 there were a thousand less Negroes, and the percentage had declined to six. The New England Confederation of 1643 provided in its original articles for the return of fugitive slaves.

New York excelled any other Northern colony in slave owning. The early Dutch were not great buyers (though in Guiana they were the severest of masters) because they were chiefly interested in the Indian trade, and the patroon system failed to develop a plantation régime. The English after 1700 began importing about 100 Negroes a year for a quarter of a century, and then the trade was accelerated till Negroes numbered about a seventh of the total population. Some owners had as many as 30, and about a tenth of the white families had one or more slaves. The total before 1776 exceeded 20,000. Pennsylvania, considering her southerly location, had relatively few slaves. Quakers had a slight touch of conscience in regard to the matter, though Penn himself owned a few. The greatest retarding factor was the heavy influx of the Germans and Scotch-Irish, which made slavery less necessary than in Maryland and southward. By 1750 there were about 11,000 Negroes and mulattoes in the colony, the number remaining nearly stationary for the next quarter of a century. Delaware had a slightly larger ratio of slave population, while New Jersey resembled Pennsylvania on the western side and New York on the eastern.

Treatment of Slaves. The treatment of slaves did not vary much from colony to colony. In Virginia the system at first grew up without sanction of law, though this does not invalidate the argument of a later era, when the abolition sentiment was raging, that slavery could not exist without positive legal sanction. Circumstances were greatly changed in the two centuries before that doctrine was developed. It

was not till 1656 that the word "slave" was used in any Virginia law. Before that time some slaves had been liberated after a term of years, a few had become landowners, and at least one of them owned a slave of his own. In 1662 an act provided that the children of slaves should be free or slave according to the status of the mother. Evidently paternity was too difficult to establish. In 1680 a regular slave code was enacted on the West Indian pattern. Slaves were given an inferior status before the law and were denied many of the privileges and immunities of free men. This code, as a result of slave conspiracies real and fancied, gradually became stricter. In 1682 the right to freedom on acceptance of Christianity was taken away. Before 1692 slaves were allowed trial by jury, but thereafter they were given immediate trial by persons appointed by the sheriff, and one witness was enough to convict. On the other hand, a Negro could not act as a witness against a white person. By act of 1723 any five or more Negroes conspiring together were made liable to the death penalty. Maryland followed a policy about the same as that of Virginia, while in South Carolina the first Barbadian settlers brought their own code with their slaves.

Malarial conditions in the rice swamps kept Negroes and whites more widely segregated than elsewhere, thus preserving more of the primitive Negro traits. Race relations were cordial, but not so intimate as in Virginia where the master had the same regard for his slave as he would for a valued horse. The large Negro population of the rice coast by the middle of the eighteenth century made the governments and white population in general very solicitous about Negro efficiency, morality, and good will. The danger of slave revolt was too great to permit masters to indulge in unnecessary cruelty except where incipient revolt was actually discovered or suspected. The savage nature of some newly imported Negroes, and numerous attempted insurrections before 1750, made the determination of the British king to veto restrictions on the slave trade all the more ominous. There were always profit-hungry planters to buy the Negroes in spite of what was recognized as the better policy, and in consequence the trade flourished.

Aside from conspiracy or insurrection, running away was the most serious offense of the slaves. Sometimes they had their ears nailed to the pillory and later cut off. Barbarous as it sounds, this was a common mode of punishment for white culprits as well. The idea of race inferiority of Negroes was not long in developing, and sexual offenses with Negroes, when proved, were in all colonies attended with greater penalties than when the same relations occurred with Indians. In general, new slaves were easily managed and were treated with consideration. They were too valuable as property to be seriously mis-

treated by sane owners. Their tendency to escape was often the result of uncertainty as to their fate. Some of the new arrivals thought they were going to be eaten by their masters. When such slaves were placed with Negroes accustomed to American life they soon lost their fear and became docile. When mixed with the more turbulent of convict laborers they grew worse.

In treatment of slaves the Northern colonists were probably no worse and certainly no better than their Southern neighbors. Before 1712 most of the Northern colonies had denied ordinary political and civil rights to free Negroes and mulattoes, prevented slaves from testifying against whites, gave children the same legal status as their mothers, restricted manumission, and made the holding of property more difficult for freedmen. Few of the latter became more than wage earners or owners of small farms. The Massachusetts laws were very severe with criminally inclined slaves. In 1691 one slave accused of arson was burned alive and another was hanged and then burned. In the latter case the crime was an accidental result of pilfering for food. Legal marriage between members of the race was permitted, but the couples could be separated by sale. Negro children were a burden to owners and were often given away to anybody who would have them. Rhode Island's slave code was quite Southern in character. Manumission was carefully restricted by various Colonial laws to prevent the freedmen from becoming objects of charity. For some offenses penalties were lighter for slaves than for white men. For instance, in New York, for thefts of less than £5 in value, a white man might be put to death whereas a slave would be whipped and his owner compelled to make restitution. On the other hand, for trying to escape to Canada slaves received the death penalty and masters were reimbursed from a special tax fund. Insurrections and conspiracies had the same effect upon Northern slave codes as upon Southern.

Sources of Supply of Free Labor. Among free white laborers only skilled craftsmen could command wages high enough to divert their attention from the lure of cheap land. But such workmen were not readily tempted to migrate to the New World. Capitalists were chary of manufacturing ventures in a thinly populated country where competition with the well-intrenched industries of England was scarcely feasible. Production could be only for local markets, and such manufacture could be done with the ordinary tools of the skilled craftsman. Rougher sorts of work were done in the home or shop of the farmer, and it was only such persons as shoemakers, tanners, carpenters, cabinet makers, blacksmiths, farriers, and the like who could be assured of steady work wherever they went in the Colonies. Even these seldom pursued a single branch of a trade alone, but supple-

mented the small demand for their specialty with numerous related side lines. Furthermore, skilled craftsmen were better paid in Europe than was common labor, and hence there was not the same inducement to emigrate. The man who was making a decent living in England usually needed more of an inducement than the difference in pay to make him anxious to face the unknown hardships of America.

Nevertheless, there were skilled workmen of an adventurous or roving spirit, others rather shy of the law, religious exiles such as the Huguenots, political refugees, and marginal producers who were ready to take a chance in the New World. Also, there were developed in the Colonies persons with more mechanical skill than managerial ability, who found it more convenient to work at a steady wage for others than to pinch along at farming. Certain towns by 1700 had about a tenth of their population listed as free laborers, and at least a few were to be found nearly everywhere in the older settlements.

Social Position of Craftsmen. Largely because of their scarcity, craftsmen held a relatively favorable position in the social scale. It may be true that frontier conditions breed democracy, but it is even more certain that social equality, if it is ever found, lasts no longer than the wealthier or more genteel inhabitants will permit. So far as the American Colonies were concerned there was a rather rigid social gradation established from the beginning. The higher class (according to its own rating) was an aristocracy of religion, wealth, and gentle birth. Clergymen, because of their moral influence and control over the franchise (as in Massachusetts); gentlemen, who imported their rank from England; and merchants, achieving importance from their money, constituted the aristocracy of the North. Great landowners substituted for the shortage of native merchants in the South. These social lights were always addressed as Mr., Mrs., or Miss, when more exalted titles were lacking. The second grade was composed of the ordinary freeholders and craftsmen. They were shown their inferiority by being called "Goodman" or "Goodwife," the latter being sometimes shortened to "Goody." Unskilled labor came third and was known by the first name only—John, Tom, or Mary. Indented servants, slaves, and free Negroes were at the bottom of the scale and were addressed in some such manner as, "Here, you!" They were permitted to attend church, certainly, for where better could they be taught subordination? But politics and association with their "betters" was another matter entirely.

Lines of social demarcation were very distinct. People of lower classes were often arrested and punished for wearing bits of finery allowable only for persons of a higher class. Even the pews in church were frequently assigned according to rank. The gentleman in many

cases was exempt from corporal punishment. For instance, a Massachusetts gentleman in 1631 was fined and deprived of the title of "Mr." for stealing corn from Indians. His servants who assisted him were flogged. This incident, along with others, might signify to the irreverent that stealing from Indians was a government monopoly!

There was little of democracy anywhere. Voting was hedged about by property and religious qualifications, so that only a small proportion even of adult males was given the suffrage. Unmarried women had the rights of men before the law, but no more voice than children in the running of church or state. Married women were expected to take literally the injunction that they and their husbands were one, the husband being the articulate member of the union. The wife had no personal property or control over her real estate during the lifetime of the husband. If she worked for pay the husband collected the wages. He could correct and punish her the same as one of the children. Apparently because of some biological misapprehensions, the mother was supposed to have about the same relationship to her children as an incubator would to a chicken. The father alone had legal custody of children, and could dispose of them by will at death, even if the mother survived. On the other hand, the man was responsible before the law for his wife's conduct. It would be a mistake to suppose that women resented such subordination. They were taught from the cradle up the Biblical doctrines of the marriage relationship and especially the injunction of Paul: "Wives, submit yourselves unto your own husbands, as unto the Lord." After the death of the husband the widow recovered some of her submerged individuality, and frequently conducted the business left by her husband. But the sphere even of such activity as this was carefully circumscribed by men.

No "Labor Problem." Considered in its modern meaning, there was no such thing as a labor problem in the Colonies. There was no wage-earning *class* as such. The scattering laborers who worked for wages went their own way, had no organizations or labor unions, no strikes or other concerted movements, and very little if any social philosophy. Of agricultural wage labor there was more employed in Pennsylvania than farther northward, but all port towns had rough laborers and a liberal supply of sailors or fishermen. Estimates for 1717 give 3,500 sailors for the ports of Salem and Boston alone. Before the eighteenth century few farmers or planters could employ the full time of skilled workmen, and hence were not inclined to have their bound labor developed along such lines. What was needed was to have enough mechanics and artisans to fill orders for goods as they were demanded. Therefore, craftsmen manufactured and sold directly to consumers. Essentially the workman was his own master and

merchant. The price agreed upon for his wares represented merely compensation for his labor, plus the cost of raw materials when these were not furnished by the consumer, and did not include profit or interest on capital. Tools used by craftsmen were not looked upon as capitalistic investment, but merely as means for making a living.

Itinerants and Shopkeepers. Such labor was divided into two main classes: itinerants and shopkeepers. The first type wandered from job to job, working up the farmer's raw materials in the latter's home. They had no opportunity for organization and, because of lack of property and fixed habitation, no suffrage or political influence. The second class had shops of their own and made goods to order, generally from their own materials. Local regulations sometimes prevented them from refusing to use the raw materials furnished by their customers. Some shop owners, shoemakers for instance, needed very few implements and no heavy machinery, and hence had to compete with itinerants and newcomers in the trade. Others, such as iron workers, required immovable machinery, costing a considerable sum of money, and consequently encountered very little competition.

The latter type of workmen was greatly in demand, many communities giving them bonuses and concessions of various kinds to induce them to settle there and follow their trades. It was not solicitude concerning the welfare of laborers so much as the desire of landowners and merchants to get needed products more cheaply which led to the adoption of these protective policies. Examples will be shown in the following chapter of loans and gifts of money in various colonies to encourage the establishment of iron and steel mills, glass houses, cloth manufactories, and the like. Embargoes and export taxes on raw materials, monopolies for a limited period of time, protective tariffs, and the building of roads for the feeding of local markets all were intended to encourage manufacturing through appeal to labor. But, as the preambles to many of these acts showed, the underlying reason was the benefit accruing to the landed or capitalist classes. It was only in later centuries, after the policy of protection was firmly intrenched and the benefits were going to employers instead of laborers, that the defensive argument arose of giving work to the poor and providing markets for raw materials.

In spite of such laws Virginia could not get enough laborers, because of the lure of the plantation. As a result, in the seventeenth century a law was passed forbidding certain kinds of craftsmen, such as brick makers, carpenters, joiners, sawyers, and turners, to till the soil, in expectation that thereby they would be compelled to follow their trades. On the other hand, Massachusetts in 1646 was short of farm labor and compelled craftsmen to work in the fields. All such laws,

and those listed above as well, were limited strictly as to duration, the idea being to encourage the establishment of an industry and then leave it to shift for itself as soon as it could go alone.

Apprenticeship. Both as a means of recruitment of labor and to protect established trades, the Colonies copied British laws concerning apprenticeship. There were no such strict regulations concerning compulsory employment and hours of labor as in the Elizabethan statute of 1563, but real concern was shown that the trades be perpetuated. Apprentices signed articles of indenture as rigid as those of the immigrant redemptioners, and the laws were strict regarding runaways. In Colonial practice the terms of indenture were frequently less than the seven years required in England, sometimes hardly half as long. This provided a larger group of craftsmen, but often resulted in partial training, scamped work, and undesirable competition with better workmen. Benjamin Franklin, the fifteenth of seventeen children of a Boston soap boiler and candle maker, apprenticed to his brother to learn the trade of printer, and running away to the distant and almost foreign Philadelphia at the age of seventeen, presents a not unusual picture of life and labor in a Colonial metropolis.

A well-regulated system of apprenticeship furnished needed protection in the trades against unfair competition. The greatest danger to the shopkeeping craftsman came from competitors who used inferior materials and then undercut prices. The itinerant, since he used products furnished by his customers, could not indulge greatly in this practice. As early as 1648 Boston shoemakers and coopers complained of unfair competition by inferior goods and asked the government for power to suppress the practice. Accordingly they were given charters granting them privileges about equivalent to those of medieval guilds, with control over all laborers and the quality of goods manufactured, and authority to enforce their regulations. There are no other such cases on record, but minor powers were frequently granted the brotherhood of a particular trade. New York, in 1680, ordered a five-year apprenticeship for coopers, carpenters, smiths, and others, and later permitted the crafts to appoint inspectors to maintain the quality of goods. Sometimes a government would decree compulsory separation of trades, such as forbidding butchers, curriers, or shoemakers to tan leather and restraining tanners from competing with the former. Such restrictions, even including the guilds in Boston, were abandoned as soon as the interests of the customers were deemed to be sufficiently served.

Beginnings of a Wage-earning Class. Toward the end of the Colonial period a real wage-earning class grew up in the principal towns. Some masters of shops developed markets beyond the possi-

bility of their own labor to supply, and began hiring journeymen to help them. In addition to goods made to order ("custom" or "bespoke" work), standard articles were made to sell to less particular customers. In larger establishments the masters merely supervised and looked after sales. Elsewhere they continued to work alongside the journeymen and apprentices. In either case there was small chance for friction between the capitalist and his employees. Since markets were still restricted and demand exceeded supply, any matter of increased wages could be passed on to the consumer. Journeymen coöperated with masters in efforts to suppress employers who lowered standards.

Wages. It is most difficult to make any comparison between wages in Colonial and recent times. Even a comparison of money wages with the cost of living is deceptive, because of the differences in standards. Scores of things now considered as necessities were unknown in the eighteenth century. The best that can be done is to see how much laborers were paid in money, how well they lived, and how much they saved. A comparison with wages in England is helpful.

Because Colonial wages in the early years were high in proportion to those of England, there was fear among the privileged classes that craftsmen would become too wealthy, and thus obliterate social distinctions. For this and other reasons, many attempts were made to fix maximums. Massachusetts Bay in 1633 set the upper limit for skilled labor at 2 s. a day or 14 *d.* and food,¹ the day being from sunrise to sunset. Idleness was a misdemeanor and punishable as such. The day's pay was about the same as that of an English plowman for a week, but the cost of living was relatively high. Since 10 *d.* was considered the value of a day's food for one, it can be seen that 2 s. would not go far in supporting a family. Two years later some artisans who accepted a fourth more than the maximum were fined, but this effort at enforcement caused men to abandon their trades or migrate. The law was then repealed, leaving each town to set its own maximum, and there was a consequent drifting of workmen to the higher wage centers. In 1640 an attempt to adjust wages to general prices, during an era of economic depression, likewise failed.

Connecticut as late as 1660 fixed wages of farm laborers at 2 s. a day in the summer and 18 *d.* in winter, while carpenters were allowed 2 s. / 6 *d.* and 20 *d.* These rates stood for several years, and in 1680 were considered high. Compared with conditions of a century later this opinion seems very plausible, at least for farm labor. Current wages for the latter varied somewhat from place to place, but from 1765 to 1770 ranged between £12 a year in the middle colonies and £20 a year in the South. At the same time, German immigrants were

¹ The shilling was, roughly, 24¢ and the penny 2¢.

rated at about £9 and indented servants £11. With slave labor, all items considered, costing the planters £8 a year, its advantage in the South is apparent. At 2 s. a day from March to September, agricultural labor in New England in the seventeenth century would have cost about £18, and artisans fared still better. The latter, in fact, were well off, with an economic standing rare for any age. Some artisans at death left property valued at more than £200, which in purchasing power was probably equal to \$10,000 in 1920. The same class of labor in England was being paid not more than £5 or £6 a year, all members of the family had to work, and little was saved. Down to the War for Independence the wages of skilled labor were scarcely any higher than at the beginning of the century. Rapid growth of population in the Colonies was tending to restrict the early advantages of craftsmen. Yet, labor in America even at that time was better paid than anywhere in Europe.

Absence of Labor Organization. If there were any strikes of laborers against capitalistic employers before 1786, records of such action have never come to light. A few instances of resistance to governmental price fixing are noted, but these could not properly be called strikes. When New York cartmen in 1677 refused to submit to an ordinance fixing 3 *d.* a load as the price for hauling the city dirt, and when the master bakers of the same town in 1741 protested against the assize of bread (a sort of price fixing) and closed their shops, such action could not be considered in the light of a strike of journeymen against employers.

Neither were there any labor unions before independence. Such organizations of craftsmen as existed were combinations of masters rather than employees, the Philadelphia house carpenters of 1724 being an example. The need of journeymen's unions in this period is shown by the fact that there were journeymen carpenters who were deprived of a fifth of their wages by masters. The latter furnished nothing but supervision, and hence were indulging in sweatshop practices. The nearest approach to trade unions in the Colonies were benevolent societies for journeymen and apprentices in a few of the most important towns. They paid sick and other benefits, looked after poverty-stricken members, and, for lack of banks, had strong boxes for deposits and occasional loans among members. The societies were formed by persons new to the handicrafts who had no other emergency resources. When incorporated, they were restrained by law from interfering with wages, hours of labor, or anything else that might be detrimental to employers.

Other Occupations and Professions. At the top of the industrial scale in the eighteenth century was a small number of artisans and

artificers whose skill and select patronage set them apart from the rougher mechanical trades of the day. These shaded off into a still smaller group of artists. While there were cabinet makers, silversmiths, and artificers in the baser metals who might be termed artistic craftsmen, there were also portrait painters whose faithful attempts to copy nature might be called craftsmanlike art. Of higher order were John Singleton Copley of Boston and Benjamin West of Pennsylvania, both born in the late 1730's. Neither found much encouragement for his art in the Colonies, and both did their best work in their later years after settling in England. West was the teacher of Gilbert Stuart and Edward Savage who belong to the early national period and established their fame by their portraits of Washington. Of native sculpture and music there was none worthy of note. Neither was there a profession of writing. The books and pamphlets of the period were the by-product of other professions, particularly the ministry and the law, though there were also agriculturists and merchants who wrote ably and forcibly on technical and political subjects. Thomas Hutchinson, jurist and statesman of Massachusetts, in 1764-1767 issued a *History of the Province of Massachusetts Bay*, which was a faithful, annalistic account of great value to later historians. Printers were also editors and publishers, thus merging a handicraft with a profession. Some of them, by their writings, aided forcefully in the shaping of public opinion.

The outstanding professions of the era were the ministry and the law. The eight Colonial colleges of note founded between 1636 and 1769 all had as their prime object to train for the ministry, though many graduates, including the Adamses and Jefferson, never entered that profession. Pennsylvania College and King's College (Columbia) also established schools of medicine. Narrow as the curriculums were, confined mainly to Latin, Greek, theology, philosophy, and logic, ministers of the Colonies had a wider training than the average of postrevolutionary frontier preachers. Whether among the zealous theologians of New England or the pleasure-loving curates of the Anglican colonies, ministers occupied an enviable position in the community. Lawyers, generally office trained, had ample practice, added to by the numerous controversies over land boundaries and opportunities to defend smugglers. They had an early and abiding penchant for politics.

Medicine was a rather blowzy profession, partaking too much of quackery and magic. There seems to have been much reason to Franklin's observation that there was not much difference between a good physician and no physician, but a tremendous difference between a good physician and a bad physician. Surgery was worse than med-

icine, and, in the favorite practice of bloodletting to allay fevers, was sometimes pursued by persons of little skill. A lack of anaesthetics and the absence of cleanliness were perhaps the worst weaknesses. Years might have been added to Washington's life had it not been for excessive bleeding by his physician. Yet, more scientific advance was made in medicine than elsewhere in the Colonial era. The adoption of the Turkish method of inoculation for smallpox was accomplished in spite of prejudice and theological opposition.

While teaching might not be classified as a profession, at any rate it was often a lifetime occupation in the Colonies. Ezekiel Cheever of New Haven held the record of seventy years of teaching. This was an occupation to which women were admitted, especially in New England where the dame school was preparatory to the grammar school as the latter was to the college. Free schools in the modern meaning were unknown even in New England, though more closely approximated there than in other colonies. The parochial idea in education prevailed in elementary schools, but individual private instruction in the homes was dominant in the plantation areas. Essentially, the school teachers, aside from the clerically trained college professors, were jacks of all lowly trades, not even excluding laundry work.

The theater played a minor rôle in the Colonies and was nonexistent before 1700. Thereafter came a few attempts at development under private patronage, especially at Williamsburg, New York, and Philadelphia. Popular prejudice against acting was if anything even greater than the scruples against "graven images." The barn-storming companies with their repertories of Shakespeare and light contemporary comedy often met strong Calvinistic denunciation for corrupting public morals. Traveling mountebanks, acrobats, exhibitors of freaks and strange animals, and patent-medicine men could usually collect a cross-roads or street-corner crowd to view their performances. George Washington's account-books show many shillings spent for the support of such itinerant talent.

Distribution of Wealth. The distribution of wealth was probably as equitable in the Colonies as at any later time. By the close of the era about a sixth of the population were slaves who had no property of their own, but were instead a species of chattel themselves. Their economic assurance was merely that of having enough of the necessities of life to insure effective and docile labor. The mass of the free people had some property and generally a little real estate. The New England land system, in spite of abuses, allowed greater distribution than could be found in the same region today. In spite of land monopolies, even in the middle colonies there was less tenantry in proportion than in later generations. Even on the frontier, where money was

almost a figure of speech, there were plenty of the common and coarser necessities of life. In the larger towns, as noted above, the laboring class was assured of steady employment. Organized philanthropy was unknown because unneeded. Colonial legislation provided for almshouses for derelicts, but, as far as possible, relatives were made responsible for their own unfortunates. There was no class which needed to fear periods of unemployment and want except as a result of natural calamities.

There was a surplus of wealth only among planters, a small number of Northern farmers, merchants, and a select class of artisans and manufacturers, references to whom are made at various places in these pages. The bulk of their wealth was in property and credit, rather than money. Numerous efforts have been made to estimate the size of certain Colonial fortunes, but in general the safest plan is to consider acreage of land, numbers of slaves, or tonnage of ships. On this basis it is possible to refer to a few Colonial "millionaires," provided that the term is not applied too literally. When Washington became President he asked that he be paid no salary, but that Congress merely meet the expenses of maintaining the presidential mansion and provide for other costs of living and entertaining. Congress soon decided that it would be cheaper to make an annual allotment of \$25,000 a year. This, probably better than an extended account, will tend to show what by the close of the Colonial period had come to be considered the extreme of elegant living.

CHAPTER V

MANUFACTURING AND ALLIED INDUSTRIES, 1607-1776

The Need for Colonial Manufactures. A number of circumstances made it inevitable that certain manufacturing and extractive industries should early assume a significant rôle in almost every Colonial community. For one thing, the very conditions of frontier existence made home industry imperative. Farmers were usually adept at the use of tools, and laborers who turned farmers in the new country were more at home puttering around the workbench than in the field. Household furniture, clothing, and farm implements of foreign make were often unobtainable when most needed, even assuming that the consumer had the purchase price or credit to procure them.

The cost of British manufactures in America was often prohibitive, except to those who could indulge in luxury, prices usually being twice those in England. In later eras of paper-money inflation the importer had to protect himself to such an extent on credit sales that seven-fold above first cost was sometimes charged, and, even on a specie basis, some such transactions at 250% above cost in England netted the importer a loss. Prevailing high prices were of course an incentive to competition from local mechanics—all the more so when raw materials could be produced in the neighborhood.

England's Interest. England herself was not essentially a manufacturing state in the seventeenth century and, consequently, was not yet greatly concerned about manufactures in the Colonies except as industrial pursuits interfered with the supplying of British home needs. England was just emerging from the gild system of manufacture and was as yet decidedly inferior industrially to Flanders. Largely because of their inelasticity of organization, the gilds were not well adapted to expansion to meet the needs of a commercial revolution and, in consequence, a capitalistic system of manufacture was in process of growth (see Chap. XI). Though this new development had been brewing since the time of Elizabeth, it was not till after the Whig merchants got permanent control of Parliament in 1688 that the government of England became acutely conscious of the possibility of industrial competition from the American possessions. To an appreciable extent the industrial development of America was parallel to that of England instead of being purely an outgrowth.

In many instances England actually encouraged manufactures in the Colonies. The London Company advertised for workers in metal, wood, textiles, and leather as well as coopers, shipwrights, brick makers, architects, and bakers to settle in the newly founded Jamestown. Tar, pitch, glass, potash, and clapboards were included in the first cargo from the colony. Even an iron smeltery was established in the days of company control, but it was destroyed by the Indians in the uprising of 1622 and was not rebuilt. In fact, all of these early attempts at capitalistic industry proved immature and are of little significance so far as later development is concerned. The most important point is that England at the time saw nothing reprehensible in such stimulus to manufacturing away from home. Besides, she wanted iron but lacked ample supplies of wood, and charcoal was too expensive to transport.

Even after the development of a conscious industrialism in England certain types of manufacturing, and especially the production of raw materials, were encouraged in the Colonies. Lumbering, shipbuilding, the manufacture of naval stores, potash, and crude iron were the principal activities thus fostered. A desire to be rid of the impositions of a Swedish tar monopoly and dependence upon other Baltic countries led Parliament in 1706 to offer bounties of £4 a ton for tar and pitch and lesser sums for rosin, turpentine, and masts of Colonial origin. Lumber in 1723, pig and bar iron in 1750, and potash in 1751 were put on the free list when coming from English possessions. These acts were successful in serving British interests, but the increased output of the raw materials also stimulated the use of them for further fabrication at the source of supply.

Retarding Influences. Helping to counterbalance these incentives to manufacture was a set of circumstances tending to check or limit the extent of development. Aside from high labor costs, which tended to nullify the cheapness of raw materials, and far more important than the peccadillo of parliamentary interference, was the problem of markets. The insufficiency of roads was a hindrance both to the manufacturer and the importer. But, in the search for markets in the coast-wise trade, the colonist was at a decided disadvantage in competition with a more highly perfected commercial organization of British rivals. Such manufactures as depended on other than local markets had to be situated near navigable water. Since water power was the chief reliance for heavier work, such as the operation of mills and tilt hammers, another reason for such location was provided. On the other hand, a good system of internal waterways sometimes retarded the growth of manufactures. For example, the Mohawk and Hudson rivers in New York reduced the cost of transporting a bushel of wheat for

a hundred miles to 2 *d.* at a time when the charge for similar service in Pennsylvania was a shilling. The additional profits from farming in New York therefore helped to make its metropolis chiefly a commercial town at a time when Philadelphia was compelled to adapt its local resources to manufacturing.

Shortly before the Revolution, as cross-country roads became more numerous, centers for manufacturing sprang up at points like Worcester and Springfield on the road from Albany to Boston, and at Lancaster, Hagerstown, and Winchester on the route from Philadelphia into the Valley of Virginia. These roads also stimulated the utilization of raw materials of the back country for export trade. The importance of such highways can easily be overemphasized. They were harbingers of a more industrial era, but in general the home market for manufactures was pretty thoroughly localized throughout the Colonial period. Even in the intercolonial trade it was difficult for the small producer to estimate the demand, or to have goods ready for disposal at the right time and place. For certain staples there was usually a market. Leather, iron, and bricks were always in demand. Rum, which was considered almost as much a necessity as flour, had a never-glutted market. New York and Pennsylvania beer was sold in most of the Colonies. In the later years Philadelphia supplied some of the demand for carriages on the Southern plantations. When Benedict Arnold invaded Quebec in the War for Independence the expedition was not a total novelty to him, for as a youth he had peddled Connecticut cheese in Canada. But the extent of such trade was very limited. It took time and experience as well as improved means of transportation to create a really extensive home trade for any manufacturer.

For foreign exports of bulky nature the freight cost was a serious restraining factor. In 1715 it cost £4 a thousand feet to send lumber from New Hampshire to England. In general, even the bounties on naval stores barely paid the difference in cost of transportation from America as compared with the freight from Sweden. Because of the bulkiness of most of the Colonial exports it was not always possible to find sufficient return cargoes, thus helping to explain the frequent sale of American ships in English ports. Sometimes it was even found practicable to ballast a vessel for its return trip with limestone for American smelteries. Again, ports occasionally were flooded with British goods which had then to be distributed by American merchants in the coastwise trade. Markets thus being established, port-town manufactures sprang up to supply them in periods when imports were fewer.

Legislative Interference and Assistance. Aside from purely economic factors, the development of Colonial industry was influenced

by legislation emanating not only from Parliament but also from provincial, town, and county governments. In 1699 Parliament passed a Woolens Act, aimed particularly at the Irish, but including the Colonies as an additional precaution. The law stipulated that woolen yarn and cloth should not be shipped from the colony of its origin, and prohibited intercolonial trade in raw wool. An incentive to obedience was furnished by the removal of all export taxes on woolens from England (1700). In 1732 similar legislation was aimed at Colonial makers of beaver hats, who were competing on superior terms with British hatters even in the English market. Exportation of hats from the colony where they were made was forbidden, and there were annoying provisions concerning apprenticeship and the employment of Negro labor. In 1750, in order to encourage production of crude iron in the Colonies and to check higher manufactures of iron and steel, the last of this series of acts was passed. At the same time that duties were removed on Colonial pig and bar iron coming to England, colonists were forbidden to build any more slitting mills, plating forges, or steel mills. Those already in existence were not interfered with. Neither the Woolens Act nor the Hat Act was carefully enforced, and the Iron and Steel Act was in existence so short a time outside of periods of war and domestic turbulence that its effect was scarcely noticeable. On the other hand, an export duty of 10 s. a ton placed in 1679 on iron sent to the Colonies, stimulated smelting in New England.

The removal of the export tax on woolens probably did more to check the Colonial industry than did the prohibitory act. In 1731 a drawback on exported hemp was repealed to encourage Colonial manufacture. Encouragement to shipbuilding furnished by the navigation laws has already been noted. The same acts, by excluding the Dutch from the Colonial trade, so increased freight on tobacco (from the prevailing £4, to £9 and even £14 a ton) that the Virginia legislature attempted encouragement of manufactures as a method of relief.

Colonial tariffs proved of assistance, except in cases where they were disallowed by a jealous Parliament. Numerous protective features might be noted in these tariff laws, but the minuteness of care is sufficiently illustrated by a Massachusetts act of 1695 protecting three salt makers by a duty of 10 s. a hogshead. In the period of extremely low tobacco prices after 1660 Virginia forbade the buying of any imported goods for resale, and Connecticut for a short time in a period of financial depression banned all foreign buying. But such laws as these were temporary in effect and such as England was bound to discourage. Export taxes (see p. 30) were another means of insuring a plentiful supply of raw materials for home use.

Virginia was probably the only colony to establish public industries by law. In 1661 the legislature ordered each county to set up one or more tanneries and to provide tanners, curriers, and shoemakers. Price fixing and penalties were included. Again, in 1666, each county was instructed to establish a loom and provide a weaver. The laws were productive of some success. Even earlier than this, Virginia (1646) had provided two establishments at Jamestown where children from each county were to be taught the processes of carding, spinning, and knitting, and in 1663 the counties were ordered to assume such tasks of instruction. Maryland and Massachusetts also took seriously the responsibility of training the youth in the trades, and Penn's fundamental law for Pennsylvania made the industrial training of all children, rich or poor, under twelve years of age a legal duty. Some of these acts, as well as others governing the apprenticing of poor children, were intended more to protect the taxpayers against poor relief than to stimulate manufactures, but the effect was two-fold. Isolated examples of mills built from township funds may be found in New England, but there were no acts of the legislatures in this respect before 1776.

Somewhat related to these public enterprises were occasional efforts to compel citizens to engage in household industries. Massachusetts in 1655 provided stiff fines for each family capable of and failing to manufacture three pounds of yarn a week for each spinner. Connecticut in 1640 compelled each town to import cotton for local manufacture, and other colonies made the growing of flax and hemp compulsory. Massachusetts Bay in its early years imposed a fine of £12 for failure to send the hide of every appropriate farm animal killed to a tannery.

Bounties and Monopolies. Bounties and other subsidies were the most widespread and perpetual form of government encouragement. They were granted by every colony with the possible exception of Delaware, and allowed both for the production of raw materials and for higher stages of fabrication. Several colonies before 1699 offered bounties for woolen cloth, but Rhode Island was the only one to defy the Woolens Act thereafter and before the outbreak of the Revolution. This effort in 1751 was quickly repealed at royal command. Linen, sailcloth, potash, and tar were given innumerable Colonial bounties, and Pennsylvania in 1732 even allowed 2 *d.* a gallon for all rum exported. Most of these bounties were in legal-tender produce, but sometimes large money payments were made. Rhode Island in 1728 granted £3,000 for the erection of a cloth mill, and at different times other colonies allowed lesser sums for textile and steel mills. The granting of land for the establishment of glass houses, brick kilns,

salt works, and the like date from the earliest settlements in New England, and bounties as high as £10 a year are recorded as additional inducement to skilled craftsmen. This sum in addition to fifty acres of land was given by Massachusetts Bay to a shoemaker as early as 1629 to induce him to come to the colony.

Monopolies for a limited period of years were in some instances authorized by legislatures for the erection of mills requiring a large amount of capital. Thus, Massachusetts Bay in 1644 gave an iron master a 21-year monopoly, and in later years made lesser concessions for the production of salt, canvas, and duck. The last-named grant was made eighty years after the first, thus showing the permanence of the idea. Fulling mills, sawmills, and other large enterprises were commonly given local monopolies, and occasionally an inventor was allowed a patent for his device. The legal use of such commodities as hemp, flax, tar, and lumber as money amounted in effect to the setting of minimum prices, and therefore reacted toward increased output when the fixed price was favorable.

Manufacturing in the Home. The first successful industrial efforts of settlers were directed toward the supplying of individual needs, or the supplementing of meager returns from agriculture by fishing, hunting, trapping, and fur trading. These tasks called for only the most primitive form of organization: household manufacture at the spinning wheel, loom, carpenter's bench, or fireside forge; labor in the forest with ax and saw; leaching of ashes in improvised hoppers, boiling of soap, and molding of candles from bayberries or tallow; the making of a fishing boat with the assistance of a neighboring shipwright, and the catching and curing of fish; or setting out with guns, traps, or traders' packs in quest of furs.

An occasional sawmill relieved the tedium of one of the hardest of manual tasks. Gristmills were not long in making their appearance, though many persons continued for decades to use wooden mortars. Itinerant or established shoemakers soon arrived, but they were not indispensable, since Indian moccasins were not difficult to copy and for many purposes proved more comfortable than shoes. Lime and brick kilns, smelteries and other iron works, glass houses, tanneries, pottery shops, breweries, and distilleries, as they developed in numbers, were great conveniences for the gentry, but the masses of the common people needed very little dealing with them. The ordinary man built his house of logs, covered it with tinder-like thatch or clapboards, dispensed with brick even in the making of chimneys, eschewed glazed windows, and found his wife uncomplaining for lack of a second room until the second dozen of children began to appear. Buckskin clothing could be made without the intricate processes of tanning.

Piggins, trenchers, and other vessels and utensils of wood, horn, shell, or gourd were not out of harmony with puncheon benches and tables and rough-sawed furniture. It took the economies of production of the later machine age to bring the cost of a great number of manufactures within reach of the purse of the common family.

It is almost impossible to classify the leading manufactures of the era according to organization of production: household, small shop, mill, or rudimentary factory. There were few articles that were made exclusively in the home, but at the same time many things which later generations associated wholly with factory production were extensively manufactured in the home or small shop, as well as in power-driven mills. Any other prearranged plan of discussion is likely to collapse on application. No particular attempt at classification will be made here except into rough divisions according to source of raw materials and destined use of the products.

Textile Manufactures. The making of cloth came about as near being a purely household industry as anything else. Improved machinery did not appear even in England till the very close of the Colonial period, so there was very little to gain by taking spinning out of the home, even where capitalists were interested in the commercial manufacture of cloth. Essentially the same was true of weaving. Fulling was most effectively performed by water power, and consequently was less exclusively done in the home. Dyeing was accomplished by methods as primitive as those of spinning, almost any pigment giving a permanent or semipermanent stain being used. Occasionally, as in England, merchants let out material for laborers to work up in their homes, but this system did not become firmly rooted. Spinning by women and girls and weaving by men, boys, and women under the family roof remained dominant till the nineteenth century. When the regular day's work was done, the family often took up these tasks by the light of the fireplace, fat-pine torches, or candles.

Wool was the most important raw material for commercial cloth, and was generally made into serge and kersey. Of linen, the coarse osnaburg or "ozenbrig" was commonest, and in the eighteenth century was the most used for outer clothing by common people. Cotton ran a close third, being used as a substitute for linen. Linsey-woolsey, whose composition need not be described, was also high in popular favor because of its durability. Stockings of wool and coming to the knees were the chief knitted goods, but even men and women in rural sections went barefooted whenever the weather permitted. Leather likewise had numerous uses as clothing in the older settlements as well as on the frontier. Slave clothing compared rather favorably with that of free laborers in climates where much clothing at all

was needed. The outfit of a shirt and trousers with the addition of a coarse jacket in winter, which was deemed sufficient for a Virginia slave, was about the same as the self-adopted costume of the Pennsylvania farmer. Along the rice coast, where plantation houses were somewhat distant from the centers of labor and where the climate made conventional clothing a nuisance, pickaninnies ran naked and Negro men wore only a breech clout in summer.

Advantages of climate, coupled with favorable legislation, led to a rapid development of woolen manufacture in the Northern colonies. New England towns sometimes drafted a spinner from each family, worked them in squads of ten under directors, and required each to do stipulated stints. A fulling mill was set up at Rowley, Massachusetts, in 1643, and many other towns were soon likewise equipped. Before the end of the century small quantities of cloth were being exported. This does not mean that there was a surplus of wool in the Colonies as a whole or even in New England, but that because of poor marketing conditions slight excesses at certain ports could be exchanged with Europe more readily than with other regions within the Colonies. Taking the entire area and population of the Colonies, there were never enough woolen goods manufactured in America to supply the need. If American-grown wool had suited the fancy of English manufacturers, it is not likely that as much would have been utilized at home as was actually the case.

By 1700 Long Island and Connecticut were especially noted for their woolens. In a later year a New York governor complained that his subjects were getting too proficient in the making of serge, linsey-woolsey, and coarse cloth, expressing fear that the province would soon be entirely independent of British woolens. Other crown officers declared that thirty-nine out of forty in the province were wearing homespun clothing. Even when the excessive zeal for the king's law on the part of his officials is duly discounted, there remains ample evidence that Northern colonies placed diminishing dependence upon the staple of England. The coming of some Scotch-Irish spinners to the neighborhood of Boston, about 1720, at a time of business depression, resulted in one of those sporadic movements to "boost" home industries, so characteristic of urban life. For a time even the rich adopted the fad of spinning. The outburst of enthusiasm soon spent itself, with little permanent effect, though there was a similar craze about a generation later. The renewal of Colonial bounties on woolens in 1775 was one of the evidences of open revolt against Great Britain.

Farther south, there was similar activity in proportion to the adaptability of the country to sheep raising. Germantown, Pennsylvania, in 1758, was reported to be making over 700,000 pairs of wool stockings

a year at an average price of about a dollar a pair. The colony at the same time was supposed to be producing nine-tenths of its own clothing. New York was decidedly less advanced in this industry. In spite of slower development, the South also did what it could when necessary. In Virginia, the output of the looms generally ran in inverse ratio to the price of tobacco. By 1715 William Byrd saw hope of the tobacco colonies soon becoming independent of British textiles, but his vision was too roseate. At about the same time South Carolina planters were mixing wool and cotton for slave cloth, manufactured by the wearers. In the frontier regions of the South, homespun clothing was about as common as anywhere in the country in the eighteenth century.

The making of linen was a tedious process, but not much more so than many other tasks of the era. The flax plants were cut, cured, rotted, dried, and pounded. The fiber then was combed, spun, bleached, rinsed, and dried again before ready for the loom. Connecticut and Massachusetts by 1640 were beginning to respond to legal encouragement. A decade later at least one Virginia planter had machinery in operation for supplying the plantation needs, and had several slaves trained as textile workers. With the coming of the Scotch-Irish, the industry began to emerge from the era of osnaburg and huckaback. In 1710 Spotswood was willing to believe that one of the best tobacco counties of Virginia was also making over 40,000 yards of cloth, including a good share of linen, in a year's time. More reliable figures show that in 1754 a single cargo of linen from New Jersey to New York was worth £12,000.

Cotton was quite extensively used in the South, generally mixed with other fibers, and by the middle of the eighteenth century some of the planters seem to have had a glimmering of the potentialities of cotton as a staple crop. At the outbreak of the war with Great Britain, many planters increased their cotton acreage in anticipation of an undersupply of imported textiles with accompanying high prices. Roller gins for sea-island cotton were already in use. In the North, as well, cotton was imported from early days, and its use was encouraged by the governments. In 1768 the Colonies as a whole consumed nearly 400,000 pounds of the fiber in addition to the domestic crop. The imports were mainly from the West Indies. Because of the source of supply, cotton was not so generally employed in household manufacture in the North as in the South. Instead, even before the Revolution, there was a tendency toward the rise of cotton manufactories under the control of merchants. In this industry Philadelphia took a prominent part, and it was there that the first crude precursors of Whitney's cotton gin were produced.

Leather and Hats. Leather was made in almost every locality, being tanned in vats with lime and the bark of hemlock or oak. When used for clothing, the leather had to be softened, this being accomplished in beating mills operated by water power. Tanneries in the North were usually individual commercial enterprises. In the South they were a part of plantation economy, a planter employing a few of his slaves at this sort of work for himself and neighbors. The same generalizations apply to higher manufactures of leather. A Virginia planter in 1649 was reputed to have, besides tanners and leather dressers, an additional eight slaves trained as shoemakers. But this was certainly an exceptional instance. Before the Revolution Massachusetts was already preëminent in the shoemaking industry.¹

Hat making flourished in the Colonies in spite of the act of 1732. There was some decline in the town of New York, but New England was supremely indifferent to such legislation. Besides fine felt hats made of beaver fur, and selling at \$2.50 each, the craftsmen made many other cheaper grades from wool and skins for the country trade. The Carolinians, beginning by making hats on the plantations for the Negroes, expanded the business and on the eve of the Revolution were selling them in Virginia and elsewhere for 70¢ apiece. Though doubtless most of the headgear of the Colonies was home-made, the manufacture of better hats, like that of shoes, was a skilled trade and was chiefly the product of the workshop. On a relatively small scale, the industry was permanently established before 1775.

Food Products. Food products requiring more or less of mechanical preparation for market included principally flour, bread, beer, rum, meat, and fish. The milling of flour was established wherever wheat was grown in any considerable quantities, and hence reached greatest commercial importance in New York and Pennsylvania, with Maryland and Virginia showing promise in the eighteenth century. Some early mills were driven by the wind and a few by impounded tides, but by far the greater number were situated at water-power sites along small streams—wider rivers being too expensive to dam. Many mills merely ground the grist, leaving the bolting to the customers, while even in larger mills the bolting was often in separate buildings by other water wheels than those running the burrs. On the other hand, a few merchant mills were even equipped with cooper

¹ Shoes sold for 50¢ and 75¢ a pair in the seventeenth century and from 75¢ to a dollar in the eighteenth. During the War for Independence they went as high as \$2 in specie. Broadcloth, mostly imported, varied from \$1 to \$4 a yard according to quality, with little fluctuation to 1775. The prices of other textiles are rather meaningless because of differing widths and quality. Osnaburgs generally brought less than 30¢ a yard while calico was sometimes higher, that imported from India selling for as much as 50¢.

shops and bake ovens. Uncleaned grain and rough staves were bought, and barreled bread was exported, but it was a fair-sized mill anywhere in the Colonies before 1750 which could be depended upon for twenty barrels of flour a week.

Gristmills, being looked upon as quasi-public in character, were subject to legal regulation just as were ferries and taverns. This was especially true in connection with toll rates, which varied from one-sixteenth of the grist in New England where mills were plentiful, to one-sixth in Maryland and Virginia where they were few. There were instances in which mill owners, wishing to abandon custom trade entirely, were compelled by law to set aside certain days of the week for toll grinding. Certain standards of perfection were established and serious efforts were made at maintaining them through adequate inspection. But in another regard the millers were singularly free to exercise their shrewdness. Sometimes they managed, as at Philadelphia in 1767, to combine and corner the local wheat market or store flour for higher prices and sell in a rush on a favorable market. Flour milling thus became a somewhat speculative enterprise.

Toward the close of the Colonial era a few decided improvements were made in milling machinery. Some persons still clung to hand or horse-driven burrs. Other mills, even of more pretentious size, still were devoted in dull seasons to the grinding of rags for paper, malt for beer, or almost anything else that needed grinding and which would not injure the stones. But, at the same time, as fine mills as anywhere in the world were to be found from Philadelphia to Baltimore. Very few mills, however, employed any labor outside the family of the owner.

Great masses of colonists rarely tasted wheat bread, corn being their mainstay, and only in fair-sized towns were commercial bakeries profitable. Aside from supplying the local trade with bread regulated by law as to size of loaf, price, and quality, the chief market of the baker was for shipbread, more durable than palatable according to modern standards and capable of storage for weeks or months before sale in Europe. The methods of baking in the largest shops were the same as those employed in the home, except on a larger scale.

Brewing, like baking, was done both in the kitchen and in separate establishments. Before the colony was forty years of age Virginia boasted of six public breweries. Before the eighteenth century, several colonies were encouraging the use of domestic raw materials by taxing imported malt and hops, but recompensing the brewer by a tariff on beer. These taxes frequently were directed against importation from neighboring provinces, and probably had some effect. Most breweries were small, though a few of them were worth as much as \$2,000 or \$3,000 in Colonial values. In all of them the processes of brewing

were the same as in the home. Malt was generally prepared by the brewer, and its grinding was about the only process that ever employed other than hand power. Barley, wheat, corn, and rice were all used according to locality, price, and other considerations.

Another by-product of agriculture, also considered somewhat as a food, was distilled liquor. A little whiskey was made, but the more important commercial product was rum. Some Southern planters had their own private stills, and doubtless there was a certain amount of home distilling elsewhere, but for commercial use New England, and especially Rhode Island, took the lead. Pennsylvania in 1723 offered a bounty of 2 *d.* a gallon for all exports of spirits, but Philadelphia continued to import more than she exported. Sometimes a colony would segregate distilling for a time, but on no moral grounds. Thus, the town of New York once excluded distilleries from the corporation limits because of a misapprehension that the fumes had been the cause of an epidemic. New England also on a few occasions banned rum making, but merely because a shortage of molasses was causing a drain upon a scant grain supply. In general, there was a steady growth in distilling. In the eighteenth century, though the wholesale price rarely exceeded 50¢ a gallon, large profits were made.

The packing industry got a good start in Colonial days. Salt beef and pork, generally known as "provisions," were packed in barrels for trade with shipmasters in or near virtually every port town and at many plantations. Lard, butter, cheese, candles, soap, and pickled oysters figure in the products thus barreled up by merchants and planters for the island trade. Laws regulating the methods of packing, type of barrels, quality of meat, and amount of salt to be used were passed intermittently.

The Fisheries. Fishing was in several ways connected with other American industries. Before the discovery of America, fishermen were sailing far west of the British Isles in pursuit of their elusive prey. John Cabot's voyage of 1497 resulted in a knowledge of the Newfoundland Banks, and within five years thereafter fishermen ventured to this region in the wake of his discovery. Within a short time, ships from England, France, Portugal, and Spain had semipermanent fishing posts in Newfoundland. Jacques Cartier and other explorers used these stations as a base for further expeditions. The French alone claimed 150 fishing boats on the Newfoundland Banks 30 years before the founding of Jamestown and Quebec. John Smith, predicting that Northern colonies could prosper greatly from the cod fisheries, declared this resource to be worth more than the gold mines of Spain.

The Plymouth settlers began fishing almost immediately after their first devotionals, and the fishing villages of Massachusetts Bay pre-

ceded the Colonial charter. Both the organic act and Colonial legislation favored the industry, and the Navigation Act of 1663 exempted salt from the list of goods which on importation from Continental Europe to America had to come by way of England. This latter concession was all the more beneficial because of the shortage of known salt deposits in the Colonies. The usual fishing boat had a crew of three in addition to the master. Three trips a season were expected, which, considering the hundreds of miles distance to the banks, was a sufficiently hard standard to maintain. By 1664 there were, according to reports, 1,300 boats of varying sizes engaged in the business off the coast of New England and Newfoundland. Thereafter, there was a considerable fluctuation. Naval activities during the frequent wars between 1689 and 1763 sometimes almost stopped the industry, but in each period of peace new heights of prosperity were reached.

Of all fish the cod was most valued, though, later, mackerel rose in estimation. The heads of the cod were thrown into the sea or sometimes used for hog feed, tongues were pickled in small kegs, and oil from the livers was used to soften leather. The bodies were salted, dried, and stored for export. Grades unmarketable, though not necessarily inferior, were reserved for home use. Of the remainder the choicest were sent to Malaga in Spain and to the Canary Islands, the next grade went to the Portuguese islands, and the poorest were sent to Barbados as food for slaves.

Whaling. Whaling developed as a separate industry. The first cetaceans were stranded on the beach or sighted from the shore and caught by use of small boats. Many uses were found for whale products. Blubber furnished the principal oil for illumination and lubrication. The sieve-like mass of horny tissue in the mouths of certain varieties, under the name of whalebone or "fins," found an all-embracing use. The cachalot was especially valued because of the large cavity in its head filled with liquid spermaceti and sperm oil. This species also, when in a diseased condition, formed a waxy internal secretion known as ambergris—highly valued by makers of perfume.

It was nearly half a century after the first New England settlements before whaling began to assume real commercial importance. Andrew Robinson, the Gloucester ship captain who devised the first schooner in 1713, supplied a boon to the whaler and fisherman alike. The schooner, being more easily manipulated in pursuit of whales than earlier vessels, was soon in extensive use. Before the middle of the eighteenth century, whaling had become more profitable than cod-fishing and seemed likely to outstrip any branch of fishing in total value of product. In 1768 4,000 tons of oil alone were exported in addition to fins, spermaceti, and candles. Nantucket was the leading

port, but there were several rivals. As the business grew, the whales were followed as far north as Davis Strait, and the voyage was lengthened from weeks to months. There is no definite evidence of activities beyond the Atlantic and Arctic oceans in Colonial days.

Lumbering. Of all American manufactures none other were so greatly encouraged by England as the products of the forest. Wood (the almost universal fuel), potash, certain dyes, tanbark, and naval stores, in addition to lumber, were prime necessities obtainable only from the forests. Wood was then used for many things for which steel was later substituted. Wherever cast iron proved too brittle, wrought iron too pliable, and steel too expensive wood was used instead. As early as 1584 Hakluyt declared America could supply all Europe with naval stores and potash. John Smith realized the importance of New England for masts and stores. In 1622 the Council for New England expressed the belief that America could duplicate nearly anything manufactured in Europe, and the charter for Massachusetts Bay was granted in hope of stimulating the production of forest materials.

Pine and oak were the most highly prized of the numerous kinds of wood available. The white pine of New England was good for lumber, tar, and turpentine, but especially for masts and spars. Some of the masts were so large that it took 40 oxen to drag them to the water. In 1644 masts nearly a yard in diameter at the butt sold for from £95 to £115 each—a small fortune for that age. The best trees on public land were blazed by royal officials with the impression of an arrow, thus indicating their reservation for the king's navy, but timber speculators, loggers, and sometimes Colonial officials openly flouted the law. In a century's time the coast from Boston to the Kennebec River was denuded of timber for a distance of six miles from the shore, and it was difficult to drag huge masts for greater distances. The fir timber around Albany was excellent for lumber and shipbuilding, while the yellow pine of the South was supreme for pitch, tar, and turpentine. Pennsylvania had excellent oak for ship timbers, some trees being free of branches for 60 feet. But for this latter purpose the live oaks of the Carolinas were best of all, thus explaining a southward movement of shipbuilding toward the middle of the eighteenth century.

Oak was rived into barrel staves and clapboards or was sawed into planks. Some lumber at all times in the Colonies was sawed from the logs by hand. This process was one of the most exasperating and back-breaking of all tasks invented by man. Whether standing in the pit below the log or occupying the position above it, either of the two sawyers was in a situation to encourage the development of an explosive vocabulary. It is small wonder that the ordinary householder was satisfied with hewed logs and puncheon. But sawmills operated by

water power were quick in appearing. These were of the simplest possible pattern. The saw was pulled downward by the water wheel and was lifted again by a bent sapling. The log was secured to a carriage operated by a cog wheel or a weight suspended from a pulley. A mill on some such principle as this was erected on the Piscataqua River by John Mason in the first years of New Hampshire. Thereafter many mills were established, some in remote places, and no colony was without them. In 1767 there were 50 sawmills on the Cape Fear River in North Carolina, and a mill in New Jersey was equipped to saw logs measuring as much as 63 feet in length. Gang saws were in use early in the eighteenth century, some mills being developed to the number of 14 saws in a gang.

New Hampshire and Maine excelled all other colonies in exports of lumber, and there as elsewhere the receding timber line called for protective legislation. Massachusetts had to take such steps before the colony was 50 years old. Rivalry over lumbering rights in the upper Connecticut Valley before 1760 led Connecticut to call upon Great Britain for an admiralty judge, the worst hated of all royal officials. Before the reign of George I, England had made several efforts to prevent the cutting of small pine trees, but the laws were so unwisely phrased that, if enforced, they would have hindered even necessary clearing of land for farms. No efforts at conservation were of much practical value.

The profits from the lumber industry were large. A mill operated by a man and a boy could saw 1,000 feet of pine lumber in a day, would cost from \$500 to \$1,000, and the daily product would be valued at from \$5 to \$10 according to time and location. Though Great Britain continued to encourage this trade, the greatest market for lumber was found in Spain, Portugal, and the West Indies. In 1768 alone the sugar islands took about 12,000,000 staves, 39,000,000 clapboards and shingles, and over 35,000,000 feet of boards, in addition to larger timbers, as compared with a scant 3,000,000 feet of lumber of all kinds sent to the British Isles. Large fortunes were made in New Hampshire from the lumber business, among them being that of Mark Huntington Wentworth, brother of one of the governors, who became one of the richest men in the Colonies. The range as well as the refinement of the business is revealed by the fact that market conditions and freight rates sometimes made it more economical to export hewed logs than lumber, while, at the other extreme, the recently exploited mail-order sale of framed and fitted houses really was first initiated in Colonial New England for the island trade.

Other Forest Products. Potash for soap and glass making and bark for tanning were by-products of lumbering. Potash making was

sometimes centralized in commercial plants, the operators buying ashes from farmers, leaching them, and boiling the liquid dry. The residue was a black, impure form of potassium carbonate. When the carbon was burned out the product was called pearl ash. The latter was not extensively made, and even of potash there was relatively little for export.

Not much progress was made in the production of naval stores until after the bounties of 1706. When tar sold for from 4 s. to 12 s. a barrel in America a bounty equal to the cost of the freight to England was enough to stimulate manufacture for the better market. Tar was the primary manufacture and required but very little skilled labor. Pitch-pine knots were roasted in sod kilns, like charcoal, and the liquid was drained off into barrels. The largest kiln on record ran 960 barrels at a firing, but half that amount was considered a good quantity. Turpentine was distilled from tar and sold for about half again as much. The residue was pitch, which was still more costly. The best tar in later Colonial days was made after a special preparation of the trees by partial girdling. While some naval stores were made in about all of the Colonies, North Carolina easily took first rank, with South Carolina second.

Shipbuilding. Shipbuilding was another industry of early beginnings and steady progress. In 1614 John Smith's men made some small boats along the coast of New England, and in the same year a Dutch trader, Adriaen Block, constructed a seagoing vessel on the Hudson River. The *Blessing of the Bay*, built for Governor John Winthrop of Massachusetts, was launched in 1631, and thereafter shipbuilding was continuous in New England. Winthrop's ship was of 60-tons' burden and a fair-sized vessel for the day. But, before 1650, Salem had viewed the launching of the *Trial* of 300 tons, an unusual accomplishment for a period when vessels of from 90 to 100 tons were the standard. By 1725 a ship of 700 tons had been launched. In 1670 Edward Randolph estimated that Massachusetts had built a total of 730 vessels, the greater number of which had been sold to England. A quarter of a century later, the colony had in its possession only 190. Connecticut and Rhode Island were close rivals of Massachusetts. Before 1700 shipbuilding had become one of the major industries of the section.

Outside of New England progress was steady, but the start was later and the output less. Virginia, in 1661, was offering bounties ranging as high as 200 pounds of tobacco a ton for craft of over 100 tons, and, before 1700, British merchants were building ships in the colony without such inducement. Philadelphia builders had large orders before the town was fully laid out, and continued to expand

their business. South Carolina more than once in the eighteenth century offered bounties to attract shipbuilders, but the industry did not flourish beyond the activities of British merchants attracted to the locality by its live-oak timber. Around the year 1700 Maryland had some 80 or more ships, locally owned and for the most part home built. But Philadelphia and New York were the principal shipbuilding centers outside of New England. In 1772, so far as records go, 182 seagoing vessels of all sizes were built in the Colonies. Of these, 123 were from New England, 15 from New York, and 18 from Pennsylvania. The rest were from the South.

According to one estimate 30% of the 7,700 vessels flying the British flag in 1775 were American built, and 75% of American commerce was carried in her own bottoms. These craft would hardly average 100 tons each, and there were some vessels engaged in ocean trade of not over 10 or 20 tons in capacity. The cost of manufacture ranged from \$9 to \$40 a ton, depending upon various circumstances. When, in the 1760's, ship carpenters began demanding 67¢ a day for their work there was a decline in the industry.

Iron Manufactures. Crude iron and its manufactures were produced in America in the first generation of settlement, and there was but slight interruption thereafter, but for lack of sufficient domestic demand there was no such development as in textiles and forest products. America had plenty of ore, a seemingly limitless fuel supply, and prevailing high prices. Pig iron at the smelteries sold at from \$15 to \$25 a ton. Scarcity of imported iron, high prices, or the stimulus of European capital, and sometimes all three, were needed to create an iron industry. England, unable to supply herself with iron, had no considerable quantity to export, while Spanish and Swedish wrought iron was almost prohibitive in price.

The first permanent Colonial furnace was in Massachusetts. John Winthrop, with financial aid from England and imported craftsmen and supplies, set up a smeltery at Lynn in 1643. After getting a good start, the furnace turned out about eight tons of pig iron a week. From that time on there was steady expansion in New England, which held a prominent position in the trade till well past the Colonial period. Not till after 1920 did the industry decline so far as to be omitted from statistical tables. The explanation of this decay belongs more properly to a later chapter. It was made inevitable by the richer ores and cheaper fuel of the West after 1860. By 1700 New Jersey was making beginnings, and a few years later Augustine Washington set up blooming forges in Virginia on the largest scale in the Colonies to that time. Later, the roll of iron manufacturers came to include such men as Daniel Dulany and the Carrolls in Maryland, Governor Spotswood in

Virginia, Henrick Wilhelm von Stiegel with his fantastic plans in Pennsylvania, and Peter Hasenclever with the most magnificent but failing efforts in New York and New Jersey.

The simplest of all works was the bloomery—a large blacksmith's forge or open brick furnace heated by charcoal, in which rich ores could be brought to a plastic mass known as a bloom. The bloom was then hammered by hand on an anvil till enough slag was removed to reduce it to wrought iron. Bog ores, scraped from the bottoms of marshes or fished up from deeper pools with oyster rakes, were generally used in the earlier days. In the eighteenth century, bloomeries in the mountain regions were using pigs from rock ores under tilt hammers to manufacture bars for export. Smelteries were larger establishments, consisting chiefly of hearth, stack, and bellows. Fire-clay or fire-resisting stone had to be employed in their construction. Limestone or oyster shells were used for a flux. Sometimes casting was done directly from the smelting furnace.

Products of higher value were the output of forges, slitting mills, and steel mills. At refining forges, the pigs were reheated and hammered into wrought bars. Plating forges and trip hammers were found in a few localities for the making of wrought-iron products from the commercial bars. At slitting mills, bars were sheared into plates, heated white, and then run through rollers and past steel discs which produced small rods for sale to farmers and blacksmiths who further converted them into nails and other small articles. Steel was made in a few establishments by heating bars for a long time in "air ovens" with a mixture of carbon and horn shavings protected by ashes. The product was known as tool steel or, because of its surface appearance, blister steel. Puddling furnaces and rolling mills in the modern sense were unknown in the Colonial era.

Slitting mills and plating forges cost no more to own and operate than ordinary gristmills, the labor being provided by the owners and their families. Smelting furnaces and refining forges were usually joint-stock affairs, and sometimes several were controlled in the same locality by a combination somewhat like the later community-of-interest trusts. Mills ranged in size from blacksmith-shop proportions to an equality with any in the world. The Principio Company in Maryland operated four furnaces and two forges, owning 30,000 acres of land as a source of supply for charcoal and ore. The capital was from England, and after the Revolution the British government recompensed three of the partners for their loss by a grant of £24,000. A fourth member of the firm who sided with the states was permitted to retain one of the forges, while the confiscated portion of the property was sold by the state for \$250,000. All together the Colonies by 1771

were producing for export 5,000 tons of pig iron and 2,000 more of bars a year, in addition to what was used at home. The exports were twice as large as imports, and this ratio had been maintained for about 40 years prior to that time. Southern colonies in general produced surpluses of raw iron, while Northern colonies, and particularly New England, specialized in making cast, wrought, and steel products. Probably the first American steel was manufactured in Connecticut in 1727. Soon afterward, tool making was developed on a larger scale. Raw iron moved northward in exchange for finished products in the coastwise trade. But sometimes the directions were reversed. South Carolina at one time was selling hoes in the town of New York, and after 1742 Franklin stoves were shipped everywhere up and down the coast.

Other Minerals. Colonists made little use of other domestic minerals. Some copper was found in New York, Connecticut, and elsewhere, while lead deposits were discovered in Virginia and some lead was obtained, probably from Missouri and Iowa, through the Indian trade. Most of this frontier necessity, however, was imported. Saltpeter for gunpowder was procured from Appalachian caves, as the restless pioneers penetrated the outmost reaches of Britain's empire, but trade in the commodity scarcely exceeded the embryonic stage. Lime was made from sea shells and limestone. Even the use of coal showed signs of later development. Some of it was burned in grates and stoves and a little in the iron works, especially by blacksmiths. William Byrd, as early as 1704, acquired several hundred acres of coal land in Virginia, but found it futile to develop it in an age of plentiful wood. Evidently the stories of Washington's army freezing within sight of coal at Valley Forge are as groundless as the rest of the school child's knowledge of the great Virginian. Stupidity is not an essential attribute of a hero.

Miscellaneous Products. Most important of the minor products based on mineral raw materials were glass, pottery, and brick. All of these were made by German, Polish, and Italian labor in early Jamestown, but none achieved permanent importance till much later. Just as the colonists in time abandoned their thatch roofs for coverings of clapboards and shingles, so, as they grew more affluent, they indulged their taste for more substantial building material, glazed windows, glass utensils, and pottery. In Massachusetts, brick making was in progress in 1629. Other colonies also got an early start. By 1700 brick was coming into general use. Thomas Jefferson's home at Monticello is a monument not only to his architectural proficiency, but also to the skill of Colonial craftsmen and manufacturers. In 1768 large quantities of brick were being shipped to the West Indies, and in

addition the kilns were turning out many kinds of glazed bricks, roof and enameled tiling, and pottery. New York and Pennsylvania before 1700 were supplying other colonies with porcelain ware, and even Georgia in her early years made pottery for sale in South Carolina. The later glass-making industry was largely localized in Pennsylvania and New Jersey. Baron Stiegel produced some very fine glass at his immense establishment in Mannheim, Pennsylvania, and he claimed that he made a profit of over \$13,000 a year from it. If so, then something else must account for the financial embarrassments in which he was involved within five years' time. Another glass house, located in New Jersey, is said to have made over \$100,000 for its proprietor before 1750.

Even the scholar was not overlooked in the roll of Colonial manufactures. He was supplied with paper, candles, and the output of the printing press. Paper was made from clean white rags, all of the work except grinding was by hand, and the product was excellent. The method was slow, requiring three months to finish a piece of paper. Yet, when a start was properly made, a mill with one grinder and a pulp vat could turn out 125 pounds of paper in a 15-hour day. Most of the paper was made in and around Philadelphia, Benjamin Franklin being interested in 18 mills. The total output was far below demand.

Besides the open hearth, pine-knot torches, and home-made candles of tallow and bayberries, spermaceti came into use for illumination in the eighteenth century. In a capitalistic way this product got a start about 1750 through the arrival of a group of Jews at Newport. In consequence of their impetus, seventeen manufactories were established in that neighborhood within a decade. In 1762 a veritable monopoly was created in New England and Philadelphia. It took a scholar of means to use this product. For five hours a day for a month, one such candle at a time would cost \$5.25, or, at the most conservative estimate, \$25 in modern value. If the cost of electricity was in the same proportion, a 16-candle-power light instead of costing its present 35¢ for a like time would carry the prohibitive price of \$400.

Printing. As to printing, Governor Berkeley of Virginia was not the only one to discourage it. Edmund Andros, when he arrived in New England in 1686, had orders to put a stop to printing in Massachusetts, but did not fully exercise the authority. Governor Thomas Dongan of New York a few years earlier also was ordered to prevent the establishment of presses in New York. But all these instances merely represented royal fears of the airing of seditious opinions. Yet, the ruling classes of the Colonies likewise were exceedingly fearful of criticism, and subjected printing to license and censorship. Massa-

chusetts at one time limited printing to one closely watched Cambridge press.

The first newspaper in America, and the tenth in the world, was published in Boston by Benjamin Harris in 1690. Under the title of *Publick Occurrences both Forreign and Domestick*, it lasted one issue only, and of that single sheet, which when folded was only eleven by seven inches in size, the fourth page was blank. The second effort was the *Boston News-Letter*, established in 1704 and running weekly till 1776 when it was suppressed because of its Loyalist leanings. Other weekly papers sprang up in various parts of the Colonies in succeeding years, till in 1776 there were about 40 of them. Magazines were not greatly developed in the Colonies, and none of them were permanent. Their place was taken partly by almanacs, of which *Poor Richard's*, with its homely wit and pinch-penny philosophy, was only one of several in the popular list. Books also were published, but, consisting mainly of sermons and theological polemics, however interesting they may have been to America's ancestors, prove appallingly dull reading today. An important exception should be noted. The *New England Primer* of unknown authorship appeared about 1690 and, largely because of its pious precepts, was used till early in the nineteenth century. In its multitudinous editions its total sales ran above 3,000,000 copies.

Machine Developments. There was some development in machine work before 1776. As iron and steel became more plentiful they were substituted for wood in shafts and pulleys. Power mills were equal to any in Europe and generally superior to those in England, while log carriages for sawmills and some improvements in gristmills were American inventions. As deforestation led to irregular water supply in smaller streams, mills were moved to better sites, where enlargement with better machinery was a frequent consequence. Under-shot water wheels of low efficiency remained in vogue, but before 1776 the transmission of power was made more effective, so that several machines could be run by the same wheel.

Changes in Organization. Decided changes in organization of manufactures also took place. There was no real factory system in either England or America before the Revolution, but England made by far the greater strides in merchant control of household labor. In America the household manufacturer was his own master, and the competition of water power was the chief impingement upon his independence. The domestic laborer of England was rapidly becoming a piece-wage earner. In both countries there were embryonic beginnings of a factory system. From early days, certain colonies had private or public spinning schools to teach the children of poorer families to

become self-supporting. The output was the property of the entrepreneur. Poorhouses and workhouses also were utilized for the manufacture of cloth. One spinning school, opened in Massachusetts by William Molineux in 1769, was in several respects organized on the factory basis. With his 400 spinning wheels he employed the almost gratuitous labor of 300 women and children the first year. Other machinery was installed, and before the settlement of his estate five years later the mills were turning out cloth on a large scale. Among other budding factories by 1770 was that of Charles Carroll, on his plantation in Maryland, where his slaves and servants manufactured large quantities of coarse linens and woolens. A plantation in South Carolina was making 120 yards of cloth a week at the time of Burgoyne's surrender. It was only during the revolutionary years that England began to forge ahead of America in the type of machinery used. In organization of manufactures, the difference was that between the domestic system of England and the household system of America, more concerning which will be said in a later chapter. In number of machines, volume of manufacture, and relative importance of industries England remained far in the lead.

CHAPTER VI

THE LAUNCHING OF A NEW NATION

Changing Relations with Great Britain. Events of the century and a half preceding the Treaty of Paris (1763) were such as might under enlightened leadership have resulted in the development of any one of several solutions of the problem of the future relations of the Colonies with Great Britain. Prior to that date there had been numerous examples of the exercise of the royal prerogative, especially by Cromwell, Charles II, James II, and William III, more audacious than anything ever laid at the door of George III. During the same period there had been a large number of cases showing that the colonists by groups and as individuals were determined to put their own interests first when any fundamental issue with England was at stake. This was revealed not only in the ignoring of British law and official dalliance over royal commands but also on a few occasions by open rebellion. Distance, time, and changing population were making of the tradition of British citizenship a mere pretty piece of fiction long before the revival of British interference in Colonial activities in the 1760's. This spirit was nurtured by the official neglect of Colonial affairs in the reigns of Anne and the first two of the Hanoverian kings. The first sovereign of the century to possess a mind of his own, narrow and bigoted though it may have been, was George III. Too deeply imbued with the petticoat precepts of his youth, he would likely have become a troublesome factor in Colonial politics even had there been no special incentive to the exercise of royal prerogative.

Regional Discontent in the Colonies. The close of the French and Indian War found the Colonies divided into three distinct zones of population so far as opposition to British policy was concerned. The first of these to take alarm was that of the coastal region from New Hampshire to Pennsylvania inclusive. The section was dominated by the merchant class, actively supported by mechanics, small shopkeepers, and such farmers as were interested in commercial prosperity because of the need of exporting their surpluses. The merchants were concerned merely with maintaining or restoring the commercial status of 1763. As a class at no time did they favor independence. Secession to them meant severance from the privileged position in imperial trade guaranteed by the navigation laws. Besides this, as the Stamp Act riots were soon to disclose, violent opposition to British policy

roused the animosities of the unenfranchised classes and put strange notions of equality into their heads. These "poor reptiles," as Gouverneur Morris called them—"these rats and vermin," as other patriots preferred to consider them—were too prone to remember that oppression from England was quite similar to what they had long endured from governments controlled by their more affluent neighbors. All leveling tendencies must therefore be suppressed. Consequently, nonimportation agreements and other such mild measures came to be the main reliance of the merchants.

The second region, that of the tidewater South, was under the control of the planter class which was burdened to the breaking point by debts to British factors. The obligations had become hereditary and could not even be dissolved by bankruptcy, since any loose laws in this regard were promptly vetoed by the king. Repudiation seemed the only outlet, and independence might achieve this. To be sure, planters did not openly argue thus crassly, and probably not many even admitted the motive to themselves. But, after blaming the low price of tobacco upon the navigation laws and proceeding seriatim through the grievances, it was not hard to conclude in the long run that it would serve the oppressors right if the tables were reversed.

The last section to be aroused, but the most persistent when awakened, was the frontier, extending uninterruptedly from Maine to South Carolina. This population, largely farmers, mostly non-English, and always discriminated against in matters of Colonial representation and taxation, knew all of the arguments of rebellion long before the Revolution. Taxation without representation was a heritage from their grandfathers. Oppressive laws and impingement upon local self-government at the hands of a distant legislature were an old story. The absence of hard cash and bans upon paper money, that bugaboo of merchants and bale of planters, had long since made of barter an established institution among Westerners. The proposed creation in the country of bishoprics of the Church of England, opposed almost as bitterly by Anglicans of the South as by the Puritans and Quakers of the North, was equally unpalatable to the Presbyterians, Mennonites, or other dissenters of the frontier. In some respects, the back-country rebels were possessed of more defensible motives than their future allies: they had no extensive debts to repudiate and no violation of acts of trade to palliate. When legislatures fell into the hands of coastal revolutionaries, and frontiersmen were offered easily forgotten promises of democratic reform to join in the movement, the latter saw the possibility of accomplishing a two-fold gain and responded heartily. In Georgia, where parliamentary bounties and

military protection against the Creeks created Loyalist sentiment, and in North Carolina, where hostility between Colonial governments and Western settlers led to armed conflict in 1771, the frontier was not to be depended upon by the revolutionists. In Pennsylvania and South Carolina, where Loyalists were especially numerous in the coast counties, it was the back country which held the balance of power in swaying the Colonies to the cause of revolt.

The Outlook in 1763. In the country as a whole the outlook was more than customarily optimistic in 1763. The Spanish menace was removed from Florida. Northward to the Arctic and westward to the Mississippi everything was under English control, giving room for almost indefinite expansion. Commerce with Continental Europe would surely be stimulated by the restoration of peace. In spite of Pontiac's rebellion, it was obvious that French influence over the Indians was about at an end. Land-hungry colonists saw visions of new homes on the Ohio and its tributaries. Before the outbreak of the French and Indian War groups of squatters had already occupied sites west of the mountains in Pennsylvania. The war resulted in a recession from this advanced frontier and a suspension in the clamorings of Gargantuan infant land companies. But after the treaty of peace the companies multiplied rapidly both in number and voracity. Why should not the debt-ridden planters of the tidewater South redress the balance by holding millions of acres in the coveted region for speculative purposes? This idea gained momentum as the controversy with Great Britain progressed. George Washington, Richard Henderson, and a long roll of prominent planters and merchants were involved in the numerous land companies of 1763 to 1774.

Seemingly all that these optimists needed was a revival of Walpole's policy of British indifference. In reality, there was plenty of dynamite in the Colonial situation, especially as regards the West, and totally aside from the possibility of British intervention. Squatters and land speculators were natural enemies of fur traders. The activities of all were of such a nature as to incite hostility among the Indians. Because of absurd charters, the new West was claimed by no less than eight colonies. Especially to the north of the Ohio River, their grants were conflicting in the extreme, and any efforts to appease the cormorant-like land companies were sure to invite intercolonial strife. At the same time, the small colonies could scarcely be expected to remain quiescent while their neighbors engrossed the best of Britain's new possessions. How Great Britain could have remained aloof from the turmoil these conditions were almost certain to produce is hard to see.

A Changed Royal Policy. But the king and Parliament had no ideas of abstaining from participation in New-World problems. Discontent had already been expressed in Parliament because the ministry had taken Canada and the Eastern Mississippi Valley from France when it might instead have taken what was then the much more valuable sugar island of Guadeloupe. It was even darkly hinted that removal of the French menace would put notions of independence into Colonial heads. In earlier generations the West Indies had occupied the major attention of the Colonial office. Now with the continental possessions enlarged to an indeterminate extent, there were problems of imperial reorganization arising which could not be avoided. The critics had to be silenced, and hence the Colonies must be made profitable. The Western problem needed solving. Also, there was the difficulty of making French Catholics satisfied, or even quiescent, under the rule of English Protestants who had been their enemies for generations. The British plans for the solution of these enigmas ran clearly athwart the desires of the Colonists, and neither the king and his ministers nor the provincial subjects made any serious effort to understand the problems or point of view of the other. By wiser handling of the situation Great Britain might have developed and maintained a benevolent protectorship over an autonomous dominion. Since it took another century and more of muddling through to evolve this solution of the Colonial problem, it is hardly likely that any ministry which could have maintained influence over Parliament (even had there been a different king from 1763 to 1775) would have worked out any satisfactory answer to the riddle. With an obstinate king, an undemocratic Parliament, and ineffective or purblind ministries, conflict was inevitable.

The Grenville and Townshend Measures. The policies of 1763-1765 were certainly sufficient to arouse hostility among a people almost convinced that they had already achieved a position of autonomy. A thoroughgoing reform of the customs service, including revival of "writs of assistance" to help in the detection of smuggling, strict enforcement of the navigation laws, and new tax legislation, were depended upon to compel the Colonies to pay their share of the debt incurred in consequence of the French and Indian War. The Sugar Act of 1764 cut the duty on molasses to 3 *d.*, but this sum would be collected. The act also increased or added new duties on other articles from foreign colonies and repealed drawbacks of duties on European goods coming by way of England. The Stamp Act of 1765 was expected to add £60,000 to British revenue. But all of these measures combined would bring in enough taxes to pay only a part of the added cost of administration, especially since a Quartering Act of 1765 had

provided for the billeting of 10,000 British regulars in the Colonies. Combined with these measures was the king's Proclamation of 1763 suspending settlement and land sales west of the Appalachian divide, pending settlement of the Western problem, and the Legal-Tender Act of 1764 mentioned in an earlier chapter (p. 32).

The protest against this series of measures and laws was loud and insistent. The Sugar Act would disarrange the whole trade with the West Indies. Enforcement would spell ruin for many, cause justifiable breach of the laws against manufactures by others, and create a surplus laboring population depending upon westward migration for relief. The Currency Act was a hardship for New York merchants and debt-ridden planters, though a boon to creditors elsewhere. The Proclamation of 1763 was a staggering blow to all who depended upon vague Colonial charters for gain in the Mississippi Valley. The Quartering Act added insult to injury, for, now that help so often called for in vain was sent to protect a frontier that no longer needed such guarding, the soldiers were stationed where their only use could be to maintain a watch upon provincial activities at Colonial expense. The Stamp Act roused the most violent opposition because it introduced the principle of internal taxation, which might in time be extended indefinitely. Perhaps the main reason for the general virulence of protest was that the evidence of the tax would be present on every newspaper, pamphlet, almanac, or legal document that met the eye. Besides, it was the lawyers and publishers whose activities would be most seriously affected, and few persons by voice and print could reach a wider audience.

Passive resistance, organized opposition, and mob violence greeted the measures. Frontiersmen flocked to Pittsburgh and the western portions of Virginia and North Carolina in cynical disregard of the Proclamation of 1763. Richard Henderson continued his attempts at settlement in Kentucky, while George Washington and others were doing some exploring and prospecting in a neighboring region. By 1769 the Watauga region in Tennessee was permanently occupied. The Sugar Act was met by a merchants' boycott on British goods. This last demonstration possibly more than all the constitutional arguments, and certainly more than the Stamp Act riots, influenced an astonished king and Parliament to ameliorate the policy. Thousands of laborers in England and Scotland were made idle, and influential merchants were threatened with ruin as a result of the non-importation associations. Still other merchants had millions of pounds owed them by American importers, which the latter could not pay because of the general disarrangement of trade. Whether hungry laborers were heard or not, the cries of the merchants had to be

heeded, and these men of influence demanded that the laws be modified for their benefit.

The concessions made in 1766 were very slight. The Stamp Act was repealed and the duty on molasses was reduced to one penny, but made to apply even on the product from English islands. The Proclamation of 1763 and the Currency Act remained unimpaired, British troops stayed at their posts, and the administrative machinery continued to function in enforcement of other laws. Yet the Colonial merchants backed down entirely. Better to submit to a few inconveniences than to carry further their folly in inciting the rabble to attacks on property and discussion of the rights of man. Their own prestige was at stake, and never again did they whole-heartedly join hands with the unenfranchised classes in radical opposition to British policy. Lacking the commercial leadership and lulled into repose by repeal of the threatening stamp duties, the other sections likewise subsided for a time in their resistance and began hoping for better days.

The interval of relative tranquillity was short. Taking advantage of a temporarily headless ministry, Charles Townshend in 1767 took his cue from American constitutional arguments and induced Parliament to impose new duties on glass, tea, red and white lead, painters' colors, and paper. Other acts further strengthened the customs service and suspended the New York Assembly for partial failure to comply with the terms of the Quartering Act. These laws caused a new era of alarm. It was well understood that the new taxes were merely an entering wedge for the imposition of greater ones in the future. Indiscriminate search of houses by means of writs of assistance was abhorred by the innocent about as much as by smugglers. Then, what did the suspension of the New York Assembly forebode if not the possibility of gradual suppression of all local self-government? Alarmed and perplexed merchants dared not go beyond the methods of petition, pamphleteering, and a complex system of nonimportation, in which Southern colonies also joined. But, in spite of these cautious efforts, the conservative merchants were compelled to view again the rise of popular discontent, constitutional arguments of subversive tendencies, and mob violence. The importers themselves grew a little rough in their methods when trying to coerce members with depleted stocks who sought to break the nonimportation agreements.

The Agitators Take Control. It was now men like Sam Adams (a failure in business but a Machiavelli in politics), James Otis (legal defender of smugglers), and Patrick Henry (interested in Kentucky land) who became leaders of the active minority which furthered the cause of revolution, but it was the nonimportation policy which had most effect on Parliament. In spite of difficulty in maintaining the

agreements, exports from England to America fell off to such an extent that in 1770 a new prime minister, Frederick North, secured a repeal of all the Townshend duties except 3 *d.* a pound on tea, which was retained to soothe the feelings of the king. Again the parliamentary concession was far from complete surrender, but jangling discord in the nonimportation organization had reached the point of forced dissolution, and when news of the North measure arrived all pretense of boycott except of taxed goods was quickly abandoned. Soon even the taxed tea was being drunk everywhere except in the regions where smuggled Dutch tea was cheaper.

For the next two or three years there was relative quiet on the surface, during which Sam Adams had great difficulty in holding his revolutionary organization together. Yet there was a seething undercurrent ready to burst forth at the least provocation. The idea was taking root that parliamentary control could extend no further than to certain limited rights of common imperial regulation. Unswerving loyalty was owed only to the king. Controversies with royal governors and conflicts with revenue officers and boats added to the strain. Sam Adams by 1773 had so recovered his prestige as to get his committees of correspondence in operation in Massachusetts. The idea was further expanded by Virginia a few months later, and soon the Colonies were in closer and more continuous communication with one another than at any previous time. When the troubles of 1774 arrived there was already in good functioning order in the Colonies a nucleus of radical political machinery for carrying the controversy over the heads of the conservative merchants and precipitating armed conflict.

Drifting into War. Parliament in April, 1773, decided to relieve the powerful East India Company from financial embarrassment caused by mismanagement by giving it a monopoly in the tea trade with the Colonies. To help in this work, all duties paid in England were refunded on reëxport, thus enabling the company to pay the tax in America and still undersell smugglers. This would ruin legitimate tea merchants also, and nonimportation agreements would be of no effect against a British monopoly. The only thing to do was to prevent the tea from reaching the consumers. The problem was handled admirably everywhere except at Boston, but there the obstinacy of Governor Thomas Hutchinson prevented a peaceful solution. The consequence was the "tea party" followed by retaliatory parliamentary legislation in 1774. While the temper of Parliament was up it passed four acts for punishment of the rebels. Then, under the momentum of this spurt of energy, it took up the problem of territorial organization north of the Ohio, a matter that had been left dangling for eleven years,

and gave the region to Quebec. Closing the Boston port till the tea was paid for was a mere act of justice. But the abrogation of the Massachusetts charter and substitution of military government was a threat to all colonies. The new Quartering Act seemed to threaten the remnant of local self-government, while the authorization of trial in England for British soldiers and officials accused of crime in the Colonies caused overheated minds to envisage an unbridled soldiery free to commit rapine and murder at will in carrying out orders issued by an arrogant military government.

The severity of these acts drove many hitherto mild-mannered persons in every colony into the ranks of the rebels. At once a contest began between moderates and radicals for control of a continental congress. The West was given equal proportional voice in the selection of delegates, and the radicals won control of the First Continental Congress. The Congress established virtual nonintercourse with Great Britain, and thus lost any support it might otherwise have gained from the merchants who now began drifting into the Tory cause. The social pyramid was for a time inverted while the mechanics and laborers began dominating local affairs. North and his following were as uncompromising as Sam Adams, so war was the result.

Patriots and Loyalists. For fifteen months the conflict was nominally for the rights of colonists as Englishmen, then the final step in revolution was taken by adoption of the Declaration of Independence. From that time on there could be no moderates—one must be either a Tory or a Patriot. John Dickinson pondered long which cause to espouse and finally became a hero by joining the side for independence. Joseph Galloway likewise debated the question with himself and became a hated Tory. Many other thinking men found the choice difficult, and another large number, even when the war was ended, wondered whether they had decided rightly. The main strength of the Tories, or Loyalists as they preferred to call themselves, was recruited from merchants, capitalists, large landowners, clergymen, and scholars—from those persons accustomed to rule and who, through innate conservatism, wished to maintain the *status quo*. The Patriots were dominated by indebted planters, land speculators, and Northern agitators belonging to the local-merchant and shopkeeper classes. But the backbone of the party was furnished by small farmers, mechanics, and frontiersmen, now for the first time enjoying a measure of consideration. John Adams estimated the number of Loyalists at a third of the population of the states, with a far larger ratio in Georgia and the principal port towns from Charleston to New York. But only a small part of the nominal Patriots could be depended upon to support the cause of revolution through thick and thin. A large number would

shout for the American army but sell their goods to the British who paid in gold. There were plenty of reasons for half-hearted patriotism on the part of the masses who had not sought the quarrel in the first place and found the Congress and army so frequently dominated by incapable leaders.

The War for Independence revealed many of the elements of a civil conflict. Men of American birth enlisted in both armies. The small but important battle of King's Mountain was fought almost entirely between Patriots and Loyalists. In towns controlled by the British army the Loyalists congregated from all quarters and led merry lives at the expense of visible Patriots. Elsewhere the tables were vengefully reversed. By law, threats, or bodily violence, active Loyalists were driven from their homes in almost every locality not occupied by British soldiers. Their property was confiscated and sold to pay state debts incurred in consequence of the war. After the close of hostilities they were disfranchised, denied recovery of property, and ostracized to such an extent that some 60,000 of them emigrated to the Canadian provinces, the Floridas, and the Bahama Islands. The Treaty of Peace of 1783 left the problem of reimbursing Loyalists unsettled, and Great Britain herself ultimately made large grants of land besides paying about \$16,000,000 in cash for this purpose.

European Assistance. In a still more real sense the war was a major European conflict. The American alliance with France in 1778, the Franco-Spanish alliance of 1779, and open warfare of Holland against the British by 1781 were the major manifestations. The Armed Neutrality League, comprising nations from Sweden to Turkey, was another thorn in the side of the British. There is no question as to the prime importance of these European coalitions in helping secure American independence. Direct military aid by land, even from the French, was not of major consequence, but the naval war was almost purely a foreign affair. France and Spain gave noteworthy help in the last years by harrying the British navy and threatening British posts in the Floridas and the Mississippi region respectively. The Dutch furnished a base and ships for raids upon British merchant vessels. Of still greater importance were the loans of hard money made by the governments and citizens of these three allies, without which the war could not have been financed. The Armed Neutrality League also was giving deep concern to the British government at the time when other difficulties were piling up after 1780.

Privateering. Largely because of the attitude of European governments, privateering became a strong weapon of the United States, at a time when the American navy under Esek Hopkins was relatively ineffective and John Paul Jones with his French ships and heteroge-

neous crews was performing feats more spectacular than important. Nearly a thousand privateers were commissioned by Massachusetts alone. Almost all of the states as well as Congress itself issued letters of marque and reprisal. Many of these merchant craft were only incidentally interested in privateering, but others made the business their main concern. For the entire war the privateers captured or sank some 600 vessels estimated, with cargoes, as worth in the aggregate about \$18,000,000, thus adding to the worries of enemy merchants because of greatly increased marine-insurance costs. This achievement was largely offset by a partially successful British blockade of American ports, and the capture of hundreds of American ships by Loyalist privateers. Yet the privateers and allied navies combined more than offset the naval strength of Great Britain, and influenced noticeably the outcome of the war.

The Frontier in the War. Almost as important as the naval war in securing recognition of independence was the failure of British armies to accomplish anything of permanent importance in the attempts to conquer the back country. John Burgoyne's failure in New York was partly caused by unexpected frontier resistance, and Charles Cornwallis was vanquished in the South, after winning most of his battles, because it was impossible for him to hold his gains. The work of George Rogers Clark on the remotest frontier is another luminous example of pioneer enterprise in the war, regardless of the effect it may or may not have had upon the ultimate decision of Great Britain to surrender the Old Northwest to the United States.

Reasons for American Victory. Without danger from a European coalition, with larger and better led armies, and with ample time Great Britain could have conquered the states and subdued them. The United States accomplished a far greater task in overcoming the Confederacy in the Civil War. But after Yorktown the British had no heart for the struggle. Merchants were disgruntled at losses of ships and American trade. The latter they wished to regain without caviling at independence. The war was piling up debts and increasing taxes, to the great dismay of the thrifty. Washington had proved one of the most obstinate foes in history. Cornwallis's surrender was a discomfiting sequel to the failure to conquer the South. The European coalition was getting into action and threatening to put Great Britain on the run. The Whigs were growing in power in Parliament and demanding recognition of American independence so that more attention could be given to fighting the traditional enemies, Spain and France. Naval reverses in 1782 proved the last straw, and a new ministry agreed to independence as a preliminary to peace negotiations. Many points were left only partially settled in the Treaty of

1783, certain portions of the boundary being in dispute till 1842. But, with independence and possession of the Eastern Mississippi Valley, the United States gained as much by the treaty as though she had actually forced it down the throat of a conquered enemy instead of, as the case really was, snatching it from the chaos of a baffled ministry of a nation still materially capable of prolonged fighting.

Immediate Effects of Independence. Having now reached a goal that would have been deemed fantastic eight years earlier, the states were confronted with the problem of establishing themselves in a discordant family of nations. Aside from independence, a certain number of social and economic gains had already been achieved. Separation from Great Britain automatically ended quitrents. The seizure of Loyalist property, estimated at \$40,000,000 in value, led to subdivision of many a large estate into small farms which were sold by the states on liberal terms. Some individual holdings provided farms for literally hundreds or thousands of freeholders. Another smashing blow at land monopoly was the abolition of primogeniture and entail. Thomas Jefferson, in the vanguard of most movements for democracy, set the pace in Virginia, and this state led the rest. Restrictions on settlement west of the mountains were removed, and the heyday of squatters began in spite of the efforts of a new swarm of speculators to monopolize Ohio.

In other ways, however, movements for democracy were pretty effectually retarded. State constitutions adopted during the war fell short of granting what the liberals, laborers, and back-country people desired. Property qualifications for voting left the majority of adult male citizens without suffrage. Office holding was subject to still higher restrictions, so that the old-line aristocracy retained their Colonial supremacy. In the apportionment of representation in the legislatures the old evils continued. Western counties were rarely given in any state more than half the voice in government that their population warranted. The West and the common people had won the war, but the men of means reaped the advantage.

Steps toward a Permanent Union. The idea of union was by no means a novel one to the statesmen of 1776. The New England Confederation of 1643, in spite of its exclusion of heretical Rhode Island, has often been pointed to as the first attempt at intercolonial union. The idea is rather far fetched, yet still worthy of remembrance. Various proposals for confederation came from different quarters in the seventeenth and eighteenth centuries, but, except for the unwelcome and abortive attempt at the Dominion of New England, no headway was made prior to the French and Indian War. At the outbreak of hostilities in 1754 Colonial leaders met at Albany, on sugges-

tion of the British ministry, and there adopted Franklin's plan of union for a more effective prosecution of the war. But the work of the congress perished with its inception, for it was unacceptable both to Great Britain and to the Colonial governments. The former thought the plan conveyed too much autonomy to the Colonies, while the latter feared it would grant too much prerogative to a central congress.

No further attempts were made toward permanent organization until 1776, but the Stamp Act Congress, nonimportation agreements, committees of correspondence, the First Continental Congress, and the Association were necessary forerunners of the Second Continental Congress and its work. A proposal for a committee to draft Articles of Confederation accompanied Richard Henry Lee's resolution of June, 1776, for a Declaration of Independence. Thereafter, progress was slow. John Dickinson made the report of his committee before the middle of July, but it was not till November, 1777, that the plan was adopted by Congress, and on March 1, 1781, that the new form of government was established.

Reasons for the tardiness of adoption are plentiful, and a few should be mentioned. The Continental Congress was a mere council of ambassadors, appointed to furnish direction for the war, and was not intended as a constituent assembly. It had enough to do without worrying over constitutional debates, and there were plenty of moot questions to settle. The greatest obstacle to adoption was furnished by the small states who had no claims to Western lands. Though these states, through equal representation, were promised disproportionately large power in Congress, they had plenty of reason to object. Taxes were to be apportioned according to the value of improved land in the states, but Congress was to have no authority over any trans-Appalachian territory acquired by the treaty of peace. Six states with sea-to-sea ¹ charters and New York, with a vague claim to all lands controlled by Indians vassal to the Iroquois,² would monopolize all British territory west of the mountains except such portion as Pennsylvania might retain by boundary settlement with Connecticut and Virginia.³

Because of overlapping of claims, especially north of the Ohio River, there would be numerous opportunities for conflict over suzerainty between the claimant states, but, regardless of the nature of the settlement of such disputes, the victors would have vast reservoirs from which to draw income from land sales. They could pay their war debts and maintain reduced taxation for decades, while the land-

¹ Massachusetts, Connecticut, Virginia, the Carolinas, and Georgia.

² Based on England's Treaty of Fort Stanwix, 1768. See next chapter.

³ A settlement was made with Virginia in 1779, with Connecticut in 1782.

less states struggled along as best they could with increased state taxation in addition to the burden of helping support the confederation government. Yet, the Western country, if secured at all, would be won as a result of the combined effort of all. For this reason the smaller states withheld ratification of the articles until the large states gave promise of surrendering their Western claims. Maryland was the last to yield, and her action was somewhat of a compromise. When New York abandoned her claims in the Old Northwest, and Virginia showed indications of taking like action in the same region, Maryland ratified. It was twenty-one years before all the land was surrendered, but the precedent as established showed promise of ultimate victory.¹

Maryland performed a valiant service, not only for herself but for the West as well, in insisting upon the land cessions. But if ratification had been postponed much longer it might never have been obtained. Great Britain might well have insisted upon treating with the states separately instead of collectively, and greatly to her own advantage. Only a common cause against Great Britain held the states together till the surrender of Cornwallis. Considering the difficulties of agreement between the states for the next eighty years following, it is difficult to see how they could have evolved anything like a workable union between themselves if the first step had not been completed before the cessation of hostilities.

The Articles of Confederation. No profit is to be obtained from harping upon the weaknesses of the Articles. They were merely what they claimed to be—an instrument of alliance between a group of states bound together into a “firm league of friendship” in which each state was to retain its “sovereignty, freedom, and independence.” All powers not expressly delegated to the congress were retained by the state governments. Among congressional powers were sole determination concerning the waging of war or making of peace, control of foreign affairs including the drafting of treaties, the fixing of standards of coinage, weights, and measures, establishment and maintenance of a postal service, and assumption of responsibility for debts contracted by the Continental Congress.

Important measures required an affirmative vote of delegations from nine of the states. Amendments to the Articles had to be ratified by all of the legislatures. Taxes could not be raised directly from the people, but were to be apportioned among the states for their own governments to collect. Congressional control over foreign commerce was meager. The states were left to regulate trade among themselves, to make their own tariff laws, and to adopt suitable retaliatory meas-

¹ Further details concerning Western cessions are reserved for the following chapter.

ures in case of foreign discrimination against American commerce. These were the chief defects, but they were not insurmountable. Given time enough to overcome their antipathy to outside regulation—a not unnatural feeling considering the circumstances of the preceding two decades—the states surely would have taken steps to remedy the shortcomings. The four years of peace preceding the assembling of the Constitutional Convention of 1787 was not long enough a time for the people or their state governments to adjust themselves to the new relationship with their neighbors.

Shortcomings of the Confederation Government. This was the usual period of moral relapse which follows a great war. Even a much stronger government might well have found itself in serious difficulties under the circumstances. Whatever else may be said, Congress did not go to the extremes of repudiating its foreign debt or of imploring former allies to cancel its obligations. For that matter it has not yet been proved that relations between the states were made more cordial by the increased federal powers so suddenly granted by the Constitution of 1787–1789. Perhaps a more gradual extension of control over interstate commerce and taxation, and a *zollverein* of spontaneous growth, more attuned to demand of the people, would have been less provocative of interstate dissensions than the alternative plan which was so soon adopted. Would not the states in a decade or two have seen the futility of denying to Congress a fair proportion of taxes, and themselves have insisted upon the arrangement of a debt settlement? The question may be useless, but the alternative thought is obvious, that the Articles of Confederation, like the villain in the old-time melodrama, have been painted too black in order to make appear more lily-white the purity of the hero—the Constitution of the United States.¹

The Financial Angle. One of the worst failures of the Confederation Congress was the attempt to straighten out the finances of the country. The situation as inherited in 1781 was already extremely bad. In 1774 the Continental Congress adopted a policy of issuing promissory notes known as Continental currency. The states were relied upon to give this paper legal-tender value. Though at first the issues were cautiously made, before the end of 1779 over \$241,000,000 of the currency had been emitted, but the amount in circulation was limited to \$200,000,000 by March, 1780. Its purchasing value was about two per cent. as measured by gold. At that time \$120,000,000 were retired, after being received by the states at the ratio of forty to one in payment of taxes. Then a new issue, supposed to be worth forty times

¹ The constructive work of the Confederation Congress in the organization and government of the Northwest Territory is deferred to the next chapter.

face value as compared with the old notes, was tried, but stabilization was not achieved and the notes ceased to have money value, except as a commodity for speculation at rates of from 500 to 1,000 for one dollar in gold. No further attempt was made to redeem the Continental currency till 1790 when \$6,000,000 were accepted at the ratio of a hundred to one. The rest of the paper was repudiated entirely. The states on their own initiative issued over \$209,000,000 in paper money, most of which was never redeemed.¹

Thus, by 1790, the people had absorbed a debt in excess of \$100 per capita and representing a good part of the cost of the war. These figures, however, are somewhat deceptive, since most of the fiat money was issued when its market value was already greatly depreciated. A farmer who received \$100 a bushel in Continental money for his wheat and then found his payment repudiated was not much of a loser. Yet, in the era of rapid decline, every person who handled the notes found them depreciating in his possession, and the net loss on each note handled represented just so much involuntary payment toward the cost of the war. Congress, under the Constitution, did even less than did the Second Continental Congress toward settlement of this branch of the war debt. There were no speculators in paper money demanding special favors under the Hamiltonian régime.

The state of the bonded indebtedness of the country was nearly as bad. By the time the war was officially ended Congress owed France, Holland, and Spain about \$8,000,000 plus a domestic debt, including interest, of over \$35,000,000. Three-fourths of the foreign debt was owed to France, which nation, on the verge of bankruptcy as it was, yet was generous enough to continue making loans even after the signing of the preliminary articles of peace. Gravier de Vergennes, the French minister for foreign affairs, was indulgent even when Robert Morris, the American superintendent of finance, overdrew the congressional account with France to the extent of 3,500,000 livres. In the next six years \$2,296,000 more, by some magical process, was borrowed from Holland on top of an unpaid foreign interest charge nearly as large.

Efforts to raise money from the states were relatively futile. From 1781 to 1783 Congress asked the states for \$10,000,000 and received less than \$1,500,000. South Carolina was the only state which paid more than 25% of the taxes called for, and the total receipts were barely enough to run the meager government.² Interest charges accumulated, till by 1790 the original \$28,000,000 owed to the states

¹ Over half of this amount was issued by Virginia. That state, together with the Carolinas, accounted for over 93% of the total.

² Of \$16,000,000 called for in eight years' time about \$6,000,000 were paid.

and people was increased by an additional \$13,000,000 of unpaid interest. Till 1782 interest at home was paid by loans from abroad. Thereafter, no attempt was made to pay interest anywhere until 1790. Bonds shrank to a sixth and a tenth of their face value and still lower. Much of this trouble was due to the fact that an amendment to the Articles of Confederation, permitting Congress to collect a five per cent. import duty, was balked by Rhode Island, though all the other states had ratified.

Condition of Commerce. In the same period, commerce was seriously hampered by state control of trade, both interstate and foreign. In consequence of the War for Independence, the United States had severed themselves from their favored position in British trade guaranteed by the navigation laws. In 1783 and afterward orders in council were issued which, while granting Americans certain privileges, still virtually prohibited trade in American ships with the British West Indies (see Chap. IX). Yet the states continued buying British goods. The imports from the mother country were £3,700,000 in 1784 as opposed to exchange exports of only £750,000. Hard cash was drained from the country to pay the balance. Trade with France and Holland was relatively unrestricted. France and Spain limited direct commerce with the West Indian islands, while some Central European states made very satisfactory treaties. But Great Britain listened to all pleas for further concessions with bland indifference.

Enterprising Yankees were not long in finding a substitute for British markets, and in 1785 the first ship completed its return voyage from China. As new competitors with England in the Oriental trade, Americans soon were making noticeable inroads on the business with China, Hawaii, and the Pacific Coast of North America. By 1789 commerce was as large and in as sound a condition as before the war, but the drainage of hard cash had not yet been reversed, and diplomacy with Great Britain and Spain was as disappointing as ever. The failure of John Jay, in 1785-1786, to arrive at any satisfactory settlement with Spain left the South and Southwest in an unhappy frame of mind over the control of the Mississippi River, and the Northeast without suitable trading privileges with Spanish insular possessions. John Adams was equally unable to convince Great Britain of the need of making a treaty of commerce. The British knew that America was incapable of retaliation and that trade would continue to their advantage regardless of the failure of negotiations. Inability to collect prerevolutionary debts in America was made the excuse for British policy, but additional profits to British merchants formed the underlying motive of the diplomatic dalliance. American envoys were equally unsuccessful in efforts to restrain the pillage of Mediterranean

commerce by Barbary pirates who were no longer held in restraint against American ships by the British navy.

A further hindrance to commerce was the complicated tangle of tariff laws between the states. High duties in one state and lower ones on the same commodities in a neighboring state led to an annoying amount of smuggling. States dependent upon harbors outside their own borders were especially vexed. New Jersey, for instance, depended largely upon the harbors of New York and Philadelphia and paid taxes on commerce whether coming or going. Slight revenge was obtained by taxing a New York lighthouse on Sandy Hook in Jersey waters.

Monetary Grievances. Monetary grievances were perhaps the worst of all because so many people were affected. British and French gold which flowed into the country during the war had been driven into hiding by the cheaper paper money. With the coming of peace and repudiation of the Continental currency, the gold flowed out again in payment for luxuries from Great Britain. The resulting money shortage caused depression, followed in 1785 by a panic. Tax laws were regressive in character, bearing most heavily upon those persons least able to pay. Debts of small farmers were growing in size and number. Many of these debts had been contracted during the period of paper-money inflation, and now creditors were demanding payment in an era of deflation when values were reduced to a mere fraction. Since creditors would not scale down the debts to fit new monetary values, the farmers insisted that paper-money laws be passed to bring currency down to a value more in keeping with the situation which had existed when the contracts had been made. It was the old paper-money issue of the 1760's in a new incarnation, and was merely an episode in the series of farm-relief movements which have continued since that time.

The paper-money element was strong in most of the states, being recruited not only from men with just grievances, but from persons of baser motives and from professional malcontents as well. Seven states were carried for paper money in the 1786 elections.¹ In a few cases, as in Pennsylvania, moderate concessions were made in the way of paper-money issuances, and with salutary results. Rhode Island went to extremes in inflation, so that debt repudiation was the virtual result before the courts refused to recognize the legal-tender nature of the notes. In Massachusetts, merchants and creditors effectively blocked paper-money legislation, whereupon various uprisings occurred. The most noted of these was led by Daniel Shays, who suc-

¹ Virginia, Delaware, Maryland, Connecticut, New Hampshire, and Massachusetts were the six states held by the opponents of paper money.

ceeded in terrorizing the government for six months before he was finally defeated in a pitched battle in February, 1787.

Economic Motives of the Makers of the Constitution. The economic turmoil of these years of national infancy was even more complex than the above examples would indicate. But the upshot of the whole matter was that the propertied men of the states, regardless of sectional location or difference in economic pursuits, tended to agree that the one easiest and surest way to protect property rights against the onslaughts of populism, to maintain and increase personal fortunes, and, incidentally, to benefit the country at large was to bring about a more complete federal centralization of government. The merchants wanted a more simplified tariff system—doing away with interstate trade barriers—and congressional power to pass laws retaliating against European acts of trade. Southern slave owners were uneasy about runaways and incipient servile insurrections. They wanted assurance of assistance from a central government with power to act in case they should feel the necessity of calling for such aid.

Speculators in Western lands, having secured through war and the Treaty of 1783 the opportunity to acquire grants from a pliable Congress, now found that they were likely to lose everything because of the inability of this same Congress to continue furthering their interests. They could be helped only if the government could maintain a standing army for defense against Indians, prevail upon Great Britain to abide by her treaty obligations by removing her soldiers from posts south of the lakes, and secure from Spain free right of Americans to navigate the Mississippi River throughout its entire length. Great Britain and Spain should also be induced to pacify the Indians instead of inciting them to commit depredations upon the lives and property of American settlers.

Bond speculators, who had bought up state and congressional securities at a small fraction of their face value, desired a federal government with power to collect taxes directly in order to bring the market value of the bonds to par. Creditors in general were just as anxious to squeeze the last drop from the debtors as the latter were to repudiate the debts. The safest policy for creditors was to take from state governments the power to issue legal-tender paper notes and to give Congress control over bankruptcy laws. It was much easier for debtors to stampede a state legislature than a federal congress, especially if the latter had adequate military protection. Debts to foreign nations did not worry many Americans, but, if the debts could be properly funded, the danger of intervention for collection could be avoided, and it might be possible to secure better recognition

in all diplomatic ventures if the United States could show that finances were on a sound basis.

So long as the richer men of the states had these business-like propositions in mind it made little difference that by 1787 the finances of the states were essentially sound, that commerce and the ocean carrying trade were on the upward trend, that the balance of trade was approaching equilibrium, and that a new era of prosperity was emerging. It mattered little that the nation, only four years after the close of an exhausting war, was undergoing economic reconstruction with commendable speed. It was of small consequence that the financial difficulties were of hereditary nature. The capitalist classes demanded more security for their investments both actual and prospective, and, since they also were the enfranchised groups, they got what they desired.

Steps toward a New Union. Since 1780 some of these hard-headed men of affairs had been advocating a more centralized form of government than that provided by the Articles of Confederation. In 1785 the first link was forged in the chain of events that was to result in triumph of the principle. Delegates from Maryland and Virginia met at Alexandria in the spring of that year to devise a settlement of disputes over navigation of the Potomac River and Chesapeake Bay. Continuing the discussion at Mount Vernon, the members decided that the problem was of more than local importance and determined that a conference of all the states was necessary to unsnarl the commercial tangles of the country. In response to a call from the Virginia legislature, only five of the states ¹ were represented at the Annapolis Convention of 1786 which was expected to settle the difficulty. Balked in its efforts, the Annapolis Convention adopted the revolutionary plan offered by Alexander Hamilton.

There was only one way in which the fundamental law of the United States could be legally revised, and that method was prescribed in the Articles of Confederation. Amendments should first be approved by the Congress and then ratified by the legislatures of all the states. Knowing the futility of any effort to achieve fundamental amendments by this process, the Annapolis delegates decided upon a veritable *coup d'état*. Though the formalities of abiding by legal procedure were for a time adhered to, all subterfuge was ultimately brushed aside and a *de facto* government was set up under terms of its own making, to become *de jure* in consequence of its permanence. The Annapolis Convention called upon the states to

¹ They were Delaware, New Jersey, New York, Pennsylvania, and Virginia. Massachusetts, New Hampshire, North Carolina, and Rhode Island appointed delegates who failed to make their appearance.

send representatives to meet in Philadelphia in May, 1787, presumably for the purpose of drafting proposed amendments to the Articles of Confederation, on the assumption that they would be adopted, if at all, by the legally prescribed method. Congress saved its own face for a time by a tardy and half-hearted indorsement of the call. At the appointed time and place delegates from eleven of the states¹ met together with a hearty intention to achieve all they could possibly get for the advantage of their respective states, without making any concessions to others that could not be more than offset by gains for themselves.

Economic Aspects of the Constitution. Fifty-five men in all, out of sixty-two delegates originally appointed, were present during some part of the deliberations of the convention, though apparently never all at the same time. Thirty-nine of them remained to the last and signed the finished document. These men, in spite of state and sectional differences, were essentially of one mind on the fundamental problems to be settled. Few representatives of the revolutionary liberals of an earlier decade, no small farmers or mechanics were present. As Charles A. Beard says, the membership of the convention "was made up of practical men of affairs—holders of state and continental bonds, money lenders, merchants, lawyers, and speculators in the public land—who could speak with knowledge and feeling about the disabilities they had suffered under the Articles of Confederation. More than half the delegates in attendance were either investors or speculators in the public securities which were to be buoyed up by the new Constitution. All knew by experience the relation of property to government."² At least forty of the delegates later profited by the Hamiltonian funding of the public debt, twenty-four were money lenders, eleven were interested in commercial and manufacturing enterprises, and fifteen were slaveholders.³ After allowing for all duplications, few if any of the delegates were devoid of acute personal interest in the outcome of the convention's work.

Of course the members wrangled over innumerable things—the representation of large and small states in Congress, the counting of slaves in apportioning representation and direct taxes, and all the rest of the list without which no American political history or book on government is complete. Yet, the Constitution as finally signed was far more than the mere "bundle of compromises" that it

¹ Delegates from New Hampshire made a belated appearance in June. Rhode Island remained aloof till the last.

² Charles A. Beard and Mary R. Beard, *The Rise of American Civilization* (New York, 1927), Vol. I, p. 311.

³ Arthur M. Schlesinger, *New Viewpoints in American History* (New York, 1922) pp. 192–193.

has so often been called. The compromises represent mere minor concessions made by the delegates in order not to wreck an instrument which gave them essentially what they were tacitly agreed upon. The convention was never as near disruption as even some of its members in the heat of debate thought it to be. Conservative business interests had too much to gain by agreement to be rent asunder by trivial matters.

First, they decided that democracy should have no place under the new frame of government. The President was to be chosen in a round-about way, through electors themselves selected in any way the state legislatures should determine. Considering the aristocratic nature of the legislatures of the time, it was certainly not dreamed that the day would come when the "common rabble" should be given a voice in elections. The long term and indirect election of senators was provided with a like purpose of keeping these officials as far as possible from popular control. Federal judges were given life tenure, appointment to be made and confirmed by the indirectly elected President and Senate. Only the House of Representatives was left to popular choice, and then with the restriction that the suffrage should be coextensive with the electorate for the "most numerous" house of the respective state legislatures. This meant something far remote from universal manhood suffrage. Then, by the elaborate system of checks and balances, responsibility of government was left in such an indeterminate status as to baffle the ordinary voter even of Hamilton's select group of the rich and "wellborn." These barricades seemed ample defense against any threatened democratic uprising.

Then, in turn and collectively, each of the major financial groups was made secure in the perpetuation of its prerogatives. Commercial, shipbuilding, and manufacturing interests were protected by giving Congress control over interstate and international commerce, by abolishing interstate tariffs, and by almost unlimited treaty-making powers in the hands of the President and Senate. Manufacturers were given special hope through the power of Congress to levy and collect import duties. Though tariff for protection was not specifically mentioned, the manufacturer was certain that his special welfare was in the interest of the "general welfare of the United States" as mentioned in Article I, section 8, paragraph 1. All financial interests alike were safeguarded by the fifteenth paragraph of the same section, and by Article IV, section 4, giving to Congress the power to use the militia to suppress insurrections and to send armed forces into a state on application of the state government for protection "against domestic violence." Even the guarantee of "a republican form of government"

in the latter section could easily be interpreted as a safeguard against seizure of power by the forces of popular control.

Shaysite revolts and slave insurrections alike were amply guarded against. Also the slave owners were given their greatly desired fugitive-slave clause. Creditors in general were protected against paper-money repudiation and easy bankruptcy laws by denying to the states the right to "make anything but gold and silver coin a tender in payment of debts" or to "pass any . . . law impairing the obligation of contracts," and by giving Congress power "to establish . . . uniform laws on the subject of bankruptcies throughout the United States." Bond speculators were virtually guaranteed magnificent returns on their investments by federal assumption of the debts of the Confederation and sufficient power of the government to raise money for their payment. Even the speculators in Western lands were given renewed hopes by the possibility of more favorable treaties with foreign nations as an outcome of the added dignity acquired by the United States through the Constitution.

Everybody was cared for in one way or another except the great mass of the common people. The "fathers of the Constitution" were no doubt thoroughly sincere in believing that whatever was for their good was for the benefit of the people at large, but for some reason they neglected to include even a bill of rights in the interest of the common man.

The Adoption of the Constitution. The new Constitution was a plain breach of contract as arrived at in the earlier Articles of Confederation, which among other things had pledged the states to a perpetual union. The Constitution provided not for a continuation of the old union, but for secession from it and the establishment of a new union of as few as nine states, if that number should so determine. The remnant of the Confederation might struggle along as well as it could in loyalty to the original agreement—or in sheer perversity, if the matter is viewed from the opposite angle.

The forces opposed to the Constitution rallied rapidly when the instrument was submitted to the states for their ratification. Anti-federalism included not merely the Shaysite inflationists, but a good number of highly respected gentlemen who objected either to such things as excessive centralization or to the revolutionary procedure which was being followed. A good majority of all citizens of the country who had any opinions on the question, and in some states even a majority of that smaller class, the voters, were opposed to ratification. The West was lined up against the East, small farmers and mechanics against capitalists, inflationists against creditors, impecunious former

bondholders against speculators, defenders of the rights of men against apostles of the sacredness of property.

Since ratification was to be by specially elected state conventions, the issue became clear cut. In a bare majority of the states did the Federalists have definite control in the ratifying conventions. In Massachusetts, New Hampshire, Virginia, and New York the Antifederalists were either in majority or so close to it as to cause Federalists to employ filibustering tactics to prevent an adverse vote before a few wavering members could be induced to change their minds. In Massachusetts, John Hancock was detained from the convention by a convenient attack of gout until he was offered the governorship of the state in exchange for his influence on the behalf of the Constitution. The old war horse Sam Adams followed the lead of Hancock. These two had a sufficient following to secure ratification, but with only nine votes more than the necessary majority. New Hampshire, Virginia, and New York were a few months slower and several votes closer in their voting, the last-named state slipping through by a bare majority. North Carolina refused ratification in its first convention and entered the new Union nearly seven months after the inauguration of Washington. Rhode Island took no action at all until forced into ratification by economic pressure six months later than North Carolina.

The Antifederalists performed a noteworthy service to the nation. Such men as George Clinton of New York, Richard Henry Lee, Patrick Henry, and George Mason of Virginia, Elbridge Gerry of Massachusetts, and Luther Martin of Maryland cannot be accused of demagoguery or debt-repudiation selfishness in their stand against ratification. The last four were nonjuring members of the federal convention and Patrick Henry was one of the elected members who failed to attend. Their regard for the rights of man was no doubt tempered with a liberal alloy of state-rights feeling, but, as a consequence of their fight, they stampeded the Federalists into promises of a bill of rights in the form of amendments as soon as the new constitution should be adopted. The Pennsylvania convention decided to submit ten amendments, and with Massachusetts—the sixth state—the practice of proposing amendments with each state ratification was established. Virginia drafted thirty-two. The ten amendments adopted in 1791 were the direct outgrowth of Antifederalist hostility to the aristocratic character of the original document, and, supplementing as they did the theory of delegated powers, they constitute today the main bulwark against federal encroachment upon individual liberty. No part of the Constitution is more highly prized than that which was forced into it on account of Antifederalist criticism.

The ninth state to ratify was New Hampshire, on June 21, 1788. Virginia followed four days later and New York fell in line before the end of July. The success of the Constitution being assured, the Confederation Congress made a graceful gesture of defeat by calling upon the states to select their presidential electors, senators, and representatives in Congress. Even the time and place of establishment of the new government had to be fixed by the expiring Congress without constitutional authorization. March 4, 1789, was selected as the date, and for nearly a century and a half following, Congress did not see fit to alter the quadrennial recurrence of inauguration of presidents at that peculiar time of the year. The place of meeting was on Wall Street in New York.

Genuine Antifederalists could not give sanction to the new government by taking part in the elections, so even the House of Representatives of the new Congress was selected by a small group of voters and was strongly federalistic. Congress assembled on the appointed day, but delay in securing a quorum enforced postponement of the counting of the electoral votes for president. By the time George Washington could be notified of his election and make the trip to New York, so much time had elapsed that the inauguration had to be held on April 30, instead of March 4. The man who first set the precedent for a limit of two terms for a president served less than two full, four-year terms.

Washington selected a federalistic cabinet, for even Edmund Randolph had fought for ratification of the Constitution and Thomas Jefferson had favored it after the bill of rights was assured. All of the federal benches under the new judiciary act were filled by friends of the administration, and Washington soon proclaimed that no opponents of Federalist principles would receive appointment to office.

The Revolution and the War for Independence had succeeded largely through the efforts of small farmers, mechanics, and frontiersmen, while greater capitalists had stood aghast at the seeming triumph of democracy, which to them was synonymous with mobocracy. Now, six years after the war, by determined and concerted effort, men of business affairs were again in control, and for some years the movement for greater democracy was firmly suppressed.

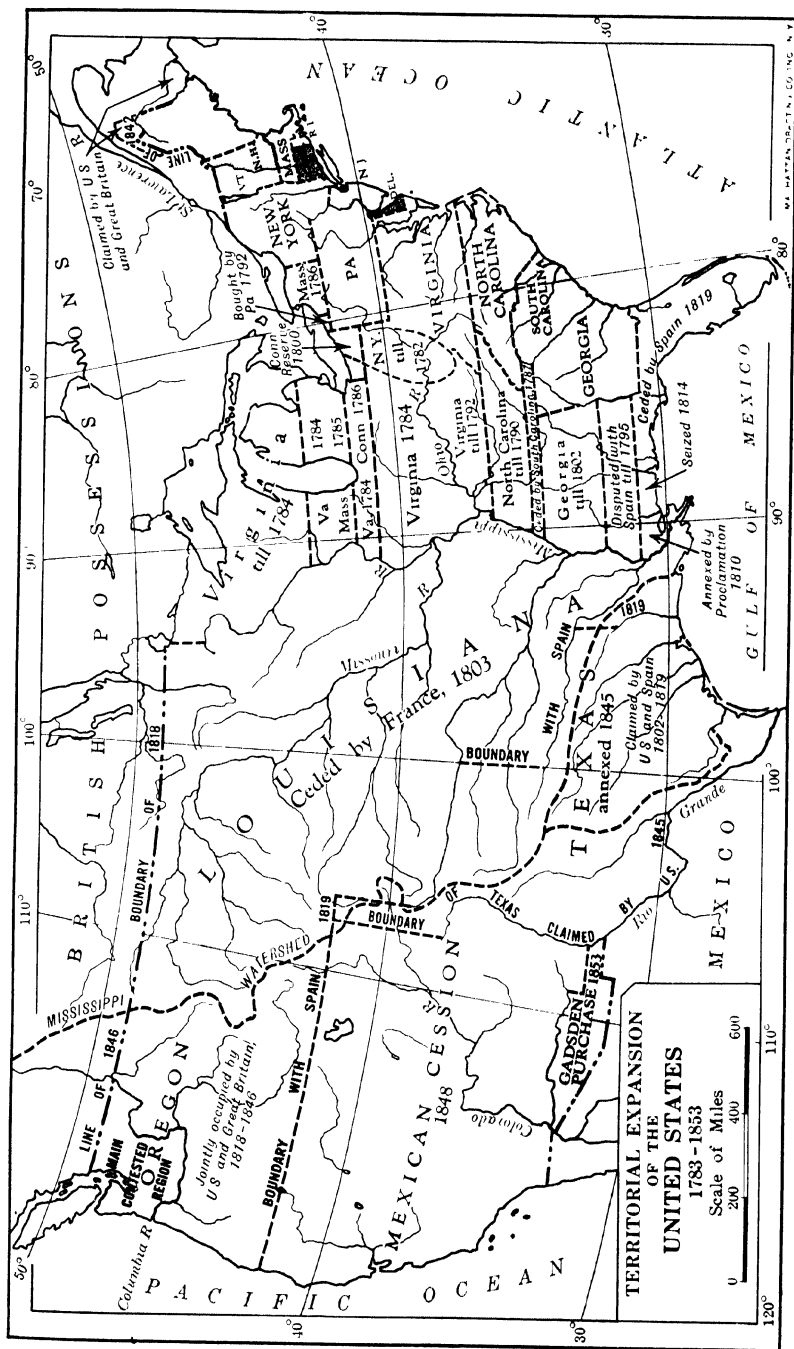
CHAPTER VII

WESTWARD EXPANSION, 1783-1853

Significance. One of the most significant facts in the history of the United States from the Revolution to the Civil War is the spread of Anglo-American civilization from the Appalachian highlands to the Pacific Ocean. Vast portions of the Western plains and mountain regions in 1860 were not occupied by settlers, but the whole territory had come under the domination of the United States. The unoccupied, seemingly waste land was crisscrossed by many trails followed by freight wagons and emigrant trains. Two states and a territory, with an area only slightly less than that of the whole 15 cis-Appalachian states, were thriving on the Pacific Coast, while California alone had a population larger than that of New York state in 1790. The cattle industry of the Western plains was getting a start, and even the cordilleras were being exploited by miners and prospectors. In the same years the population of the country had doubled every 23 years and, in 1860, of the more than 31,000,000 people in the country, nearly 18,000,000 resided in what had in 1790 been frontier or alien territory.¹ The development of the West is connected with about every major economic and political issue of the century. Consequently at least a bare outline of the process of westward expansion becomes a necessary prelude to a consideration of other problems.

French and Spanish in the West. In speaking of the spread of Anglo-American civilization it must be borne in mind that west of the Appalachians, as well as in Canada and Florida, the first European peoples were French or Spanish. Following the early explorations of the interior, these Latin races continued, the Spanish for three centuries and the French for nearly a century, to be the pathfinders and advance guard of civilization in its march westward. Permanent colonization of New Mexico was begun nine years before the settlement of Jamestown, while, at the other end of the British Colonial era, missions and towns were started in California. San Diego and Monterey being settled in 1769 and 1770, San Francisco in 1776, and

¹ This includes Georgia, Maine, and Vermont whose combined population in 1790 had been only about 265,000 but which had grown by 1860 to 2,000,000. In the same decades Kentucky had increased from 74,000 to 1,156,000 and Tennessee from 36,000 to 1,110,000. This is comparable to the growth of Georgia from 83,000 to 1,057,000. If Georgia, Maine, and Vermont be excluded from the reckoning of frontier growth, the population of the West in 1860 just about equaled that of the Atlantic seaboard.



smaller missions in between, the most populous Spanish-speaking colony within the present limits of the United States was being inaugurated at the same time that the British Colonies were severing their maternal connections.

Likewise the French, starting with Biloxi on the Gulf of Mexico in 1699 and Detroit on the Great Lakes two years later, established forts, missions, and trading posts up and down the Mississippi River and its tributaries, with Cahokia, Kaskaskia, and Fort Chartres on the Mississippi and Vincennes on the Wabash¹ occupying strategic central positions. These were permanent interior settlements. Kaskaskia had an academy for boys and Cahokia an Indian school. Slaves were brought in for furtherance of agriculture, and in 1746 the Illinois country sent 50 tons of flour down the river to New Orleans. Two years later corn, bacon, hams, and other cured meats both domestic and wild, myrtle-wax, cotton, tallow, leather, lead, and copper as well were sent to the delta metropolis. The bluegrass and white clover of Kentucky are of French importation, as also are some of the best varieties of orchard fruits such as apples, cherries, and pears. Along the lower Mississippi the French experimented with sugar cane as early as 1720 and, besides growing cotton, corn, rice, and tobacco, produced an improved variety of cotton and developed perique tobacco for smoking mixtures. Lead mines were opened in Missouri about 1720 and, in the next quarter of a century, 200 French miners and 500 Negroes were imported to exploit them.

That this Latin civilization could so readily be submerged by the onrush of English-speaking people is due solely to the scantiness of the earlier population. The Floridas under Spanish rule were never much more than a chain of military outposts and fur-trading stations. Loyalist *émigrés* by 1783 formed the dominant population of East Florida, and before many years filibusters were shaking the foundations of Spanish government in West Florida. In the Mississippi Valley a few old French settlements, such as Vincennes and those of the lower delta region, managed to retain a considerable amount of Gallic customs and traditions despite an early predominance of English-speaking neighbors. But the vast spaces between such sites became, within a remarkably short time, as Anglicized as though the French had never roamed the territory.

To a large degree the same generalization applies to the Spanish Southwest. Even in California the Spanish were a small minority within a few months after the discovery of gold in 1848. The recent tendency toward Spanish architecture, furniture, foods, and phrases

¹ Founded in 1699, 1700, 1720, and 1731 respectively. Vincennes was probably an itinerant missionary post as much as a decade or two earlier.

in the region of the Mexican cessions is due more to Mexican immigration and a recrudescence of romanticism among people of north-European ancestry than to any survival of Hispanic tradition among the descendants of the older Castilian patriarchs. Even the longhorn Texas cow gave way to the Hereford as rapidly as biologically possible, and the wild mustang has become a rarity.

Early English Settlements in Ohio Valley. While the French were completing their scattered occupation of the Illinois country, the Scotch-Irish were just beginning to penetrate the Shenandoah Valley. Five years after the French loss of the Mississippi Valley the people of New York were permitted by the Treaty of Fort Stanwix to move into a portion of the Iroquois lands. In the same year (1768) the Cherokee barrier was moved farther west by the Treaty of Hard Labour. These treaties were the beginning of a long series by means of which all Indians not citizens of the United States were ultimately herded into reservations in a semipauperized condition.

The most extensive movement into the Mississippi Valley during the Revolution and War for Independence was made through Watauga. For five years after 1772 the Watauga Association, under the leadership of James Robertson and John Sevier, was the sole government recognized in this North Carolinian outpost. With the organization of Washington County, in 1777, the pretense of independence was abandoned. Other colonies setting out from Watauga as a depot also developed notions of local sovereignty. As early as 1671 Henry Batts, as an agent of Abraham Wood, had explored the New River, but no incentive was yet present to cause migration to the Ohio River tributaries. In 1751 Thomas Walker of Virginia had crossed into Kentucky, returning by way of the Cumberland Gap. Following the latter route, several backwoodsmen made their way into Kentucky in 1767 and later years, and in 1775 Richard Henderson's vanguard under the leadership of Daniel Boone blazed the Wilderness Road from the Gap to the Kentucky River. James Harrod had already established Harrodsburg, but Henderson, by virtue of a treaty with the Cherokees, laid claim to the lands between the Cumberland and Kentucky rivers and set up the state of Transylvania. The pretense was maintained for nearly two years, but Harrod and others, objecting to the price set on land, made the venture largely fruitless, and Virginia induced the Continental Congress to deny a seat to the Transylvania delegate. When Virginia organized the county of Kentucky early in 1777 the Transylvania scheme collapsed, and Henderson was later compensated for his losses with other lands granted by Virginia and North Carolina.

Henderson next joined Robertson, who in 1779 had led a party to the Cumberland River, and in the following year they made the begin-

nings of Nashborough (Nashville). Here for three years another semi-independent state was nurtured, only to be absorbed by the new Davidson County of North Carolina. Yet another attempt at state making was launched in Tennessee. In 1784 North Carolina made a gesture at surrendering her Western claims to the Confederation, but Congress was dilatory about taking advantage of the grant. Consequently, John Sevier led the Tennesseans in establishment of the state of Franklin (1785). Congress refused recognition and, after 1786, when the citizens found their new government was going to tax them just like the old, North Carolina had no great difficulty in reestablishing its authority.

At the headwaters of the Ohio, also, there was a westward movement during the Revolution and war years. Expanding from Pittsburgh along the Monongahela and upper Ohio rivers, probably 25,000 families had settled by 1776. An effort for recognition of a state of Westsylvania, with western limits at the Scioto River, failed like all the rest. Thus, for years before American title to the Ohio Valley was secured by the Treaty of 1783, occupation was progressing as though there could be no question as to the ultimate destiny of the region. Incentive to migration was furnished by the land cessions promised by the claimant seaboard states in 1781. Though these promises were tardily kept, by 1786 all territory west of Pennsylvania and north of the Ohio River had been surrendered except a tract reserved by Virginia for military bounties and a strip south of Lake Erie, which Connecticut retained till 1800. She then gave up sovereignty but retained sale rights. South of the Ohio, cession came between 1787 and 1802 (see map facing p. 140).

The Organization of the Old Northwest. Before any of the Western land had actually become a part of the national domain, efforts were made by speculators in soldiers' bounty-land certificates to have a territory set aside for their satisfaction. Next came the Ordinance of 1784, which was the first active step toward organization of the Old Northwest. Jefferson proposed to Congress that this region be divided into 10 territories separated from each other by parallels and meridians, each province to be given statehood when its population should equal that of the smallest of the original 13. His initial report applied to the land south of the Ohio as well, and included 16 prospective states. Objections of the Southern states to an antislavery clause led to limitation of the area and omission of the prohibition. The most serious defects of the Ordinance of 1784 were lack of adequate provision for territorial government and omission of methods for the organization of states. This oversight was corrected in the Ordinance of 1787, passed in response to the clamorings of a group of land speculators led by

the newly organized Ohio Associates. Headed by Generals Rufus Putnam and Samuel H. Parsons and the Reverend Manasseh Cutler, this company had a scheme for buying 1,500,000 acres of land for \$1,000,000 to be paid in Continental certificates of indebtedness worth not more than 12¢ to the dollar. This price did not look attractive to Congress until the wily Cutler coupled with his plan a scheme to enrich a group of congressional delegates. These men, headed by William Duer and Andrew Craigie, formed a company of Scioto Associates, securing a grant of nearly 5,000,000 acres on the same terms as those proposed by the Ohio Company. When the rapacity of the venal members was satisfied in prospect, the Ordinance of 1787 was passed by a unanimous vote of the eight delegations present and only one dissenting voice from any state.

In order to make sure of early statehood in the Northwest Territory, three or five states were ultimately to be formed. As for government, immediate provision was made for a governor, a secretary, and three judges. On attaining a population of 5,000 adult, free, male citizens a subdivision could have a separate territorial government. Whenever the total population of a territory should reach 60,000, full statehood with equality in the Union was promised. A bill of rights rounded out the instrument, with many of the guarantees later included in the first eight amendments to the Constitution, plus a provision for the encouragement of schools and a prohibition against the extension of slavery. The slavery clause, except as to the amount of territory included was almost word for word as it appeared in Jefferson's first plan, and it was later written into the Constitution with only minor changes as the thirteenth amendment.

Though the ordinance had ignoble support, it was of virtuous ancestry and well deserves the fame which is attached to it. Its most important feature was the provision for ultimate statehood. The type of frontiersmen attracted to the region was capable of taking care of bills of rights. Slaveholders would not be attracted to the territory in large enough numbers to make their system of labor dominant. There is little to show that later educational development was greatly indebted to the ordinance. But if Congress had chosen to make permanent colonies out of the West and persisted in the design, secession and civil war must surely have come long before they did—war between East and West which might have ended far differently from the ultimate war between North and South. But land speculators wanted rapid growth of population; this could be furthered by hopes of statehood; and members of Congress were speculators. Thus a militant minority in Congress performed a noble deed without any such major intentions. Under the Constitution, Congress perpetuated the ordi-

nance, and from that time till 1898, possibly excepting Alaska, the policy prevailed of holding out the promise of statehood to each new acquisition. Only since the Spanish War has the United States become a colonial empire.

Another highly important act of the Confederation was the Ordinance of 1785, providing the rectangular system of land survey which has later been extended to all new territory acquired except Texas and a few old French settlements. It does not prevail in the territory of the original states nor in Kentucky and Tennessee. The career of the land office was made a much smoother affair than it might have been if the haphazard practices of some of the older states had prevailed.

Land Companies in the Old Northwest. No sooner was the Ordinance of 1787 adopted than the looting of the public domain began in Ohio. The Ohio Company got over 1,780,000 acres for its pittance, and in 1788 the first settlement was made at Marietta at the mouth of the Muskingum River. Financial difficulties ultimately led to cancellation of about half of the original grant. The Scioto Company fared worse than the Ohio Associates. They paid nothing down for their land, but quickly sold 3,000,000 acres to a French company before they had anything to dispose of. When 600 Frenchmen appeared on the scene in 1790, in response to siren calls, Duer hastily bought about 200,000 acres from the Ohio Company to satisfy their claims. Gallipolis was founded, but the settlers were left to their own devices in making a living and ultimately lost most of their land through faulty title. The Scioto Company failed, never having got possession of any land for itself.

The region between the Scioto and Little Miami rivers was reserved by the state of Virginia to satisfy claimants for military bounties, and a large plot in the middle of Ohio was set aside for bounties offered by the Continental Congress. Speculators in soldiers' scrip were the principal beneficiaries. In 1788 John Cleves Symmes secured a grant between the Great and Little Miami rivers and spreading fanwise northward, at the same rates provided for the Ohio Company. Ultimately securing title to about 250,000 acres, he set about immediately to establish the town of Cincinnati. Moses Cleaveland, representing the Connecticut Land Company which had bought most of the Connecticut reserve, in 1796 founded the town which, with modified spelling, still bears his name. For four more years the Western Reserve was to all intents and purposes an autonomous territory.

The bulk of the land was left to be sold at auction in 640-acre sections at a minimum price of a dollar an acre as provided by the Ordinance of 1785. Few men could raise \$640 or more in cash and, in

consequence, speculators had their own way at government auctions. Land south of the Ohio could be obtained on much more generous terms, and the Indians there were less bothersome. Therefore, the trend of migration till after 1800 was mostly into Kentucky and southward. Kentucky in 1800 had over 220,000 inhabitants, while the whole Northwest Territory could boast of only about 50,000. By this time many of the original speculators had been frozen out.

Indian Troubles in the Northwest. Indian troubles in the Northwest were more or less incessant for many years. In 1784, at the second Treaty of Fort Stanwix, Congress assumed Great Britain's earlier control over the Ohio Indians, and a year later other tribes, by a treaty signed at Fort McIntosh, surrendered claims in southern Ohio. White people had so little understanding of the authority of chiefs thus to sign away the lands, that the treaties were not so attested as to be binding upon the tribes in actual occupation of the country. Therefore, repeated reaffirmations had to be secured. Other trouble resulted from illegal occupation of forts south of the Great Lakes by British troops. Protected by these soldiers, Canadian fur traders used the military posts as bases for operations with the Northwestern Indian tribes, and, besides keeping the Indians supplied with munitions, taught them contempt for the government of the United States. Following the failure of Josiah Harmar in 1790 and Governor Arthur St. Clair in 1791 to quiet Indian uprisings, Anthony Wayne in 1794, at the Battle of Fallen Timbers (near the present Toledo), wreaked upon the Indians all the vengeance that had been storing up for five years. By the Treaty of Greenville, signed a year later, the Indians agreed to stay west and north of a line running from the mouth of the Kentucky River to Fort Recovery, eastward to the Muskingum, and along the Muskingum and Cuyahoga to Lake Erie.

Under the terms of the Jay Treaty of 1794 Great Britain finally kept her promise of 1783 and removed her soldiers from the soil of the United States. But hope of recovery of the lost fur trade lingered on among Canadian traders till the War of 1812. American settlers continued to encroach upon Indian lands, and numerous treaties of cession were wrung from reluctant savages. This continued till the great Shawnee leader Tecumseh, encouraged by British traders, roused the beleaguered tribes to something like national resistance. In 1811 he made a trip to the lower South to secure a general alliance of all the tribes. During his absence William Henry Harrison, Governor of Indiana Territory, brought on a battle with Tenskwatawa the Prophet, brother of Tecumseh. The battle was a draw, but the Indians later retired from the field, and Harrison became the hero of Tippecanoe.

Taking advantage of this situation, Western land speculators preached the doctrine that the West would never be secure till the British were deprived of Canada. Coupling with this idea the conquest of Florida, the Western people worked themselves up to a war fever, and it was this situation more than any other which produced the War of 1812. Conquest and freedom from Indians were the motives. After the War of 1812 there was no considerable Indian trouble till Black Hawk's futile resistance of 1832. Thereafter Indian troubles in the Northwest were ended. The admission into the Union of Ohio, 1803; Indiana, 1816; Illinois, 1818; Michigan, 1837; and Wisconsin, 1848, is at least a partial indication of the growth of the Northwest in the first half of the nineteenth century.

Settlement of Lower Southwest. Settlement in the lower Southwest was retarded for several years, largely because of difficulties with Spain coupled with actual occupation of the region south and west of the Tennessee River by the virile Indian tribes of Cherokees, Creeks, Choctaws, Chickasaws, and Seminoles. A gratifyingly large number of immigrants continued to come into Kentucky, and a few islands of settlement were made in central and eastern Tennessee. Elsewhere, doubt and uncertainty on the part of home seekers made their settlements of a tenuous nature.

Spain had been only lukewarm toward American independence, and after 1783 she resented American occupation of the West. She denied to Western settlers the use of the Mississippi River which the British seemed to think they had the authority to grant. Also, Spain claimed as the boundary of West Florida a line running eastward from the mouth of the Yazoo River to the Chattahoochee, though the final Treaty of Versailles had assured America of the 31st parallel. By occupation of Natchez and other fortified points north of the line of America's claim, the Spanish for a time were in a position to lend authority to their argument. In 1785 and 1786 John Jay was in negotiation with Don Diego de Gardoqui over these and other matters, and was nearly inveigled into countenancing the surrender of all American use of the Mississippi for 25 years. The proposal was so poorly supported by Congress that no treaty was signed. Nevertheless, the Westerners were justifiably enraged at what looked like an effort to sell them out in the interest of Eastern shipowners and merchants. There was talk of war, and the "State of Franklin" offered 1,500 men for the purpose of humbling Spain.

At the same time some of the frontier leaders were looking at the situation from another angle. In order to prevent actual hostilities, the Spanish governor at New Orleans was allowing favored traders to use the river and the port at its mouth. Other important men in

Kentucky and Tennessee, including the notorious James Wilkinson, were actually on the Spanish payroll. These persons were ready to draw the Southwest into secession and alliance with Spain in return for trading concessions and individual rewards. A promise of ultimate statehood to Kentucky put a stop to the dangers of such shady diplomacy, but other matters remained to be settled. Settlers in the Yazoo strip were angling for Spanish protection, but took warning from President Washington that they would get none from him if they got into trouble. Also the canny half-breed Creek, Alexander McGillivray, was acting as Spanish agent to incite the Indian tribes against the United States. McGillivray was bought off by the United States. But it took the old frontiersmen, Sevier and Robertson, to restore order. In 1793 and 1794 they made separate raids into the Cherokee country, burning and killing with savage ferocity until the Indians were ready to remain at peace. The mission of Edmond Charles Genêt from France to America (1791-1793) furnished another opportunity for trouble. Genêt wanted to take the Floridas and New Orleans from Spain and, when Washington refused to help, he secured the interest of such prominent Westerners as George Rogers Clark and Governor William Blount of Tennessee. The recall of Genêt (though he remained in America) and lack of funds for his enterprise prevented Clark from making any actual attempts against New Orleans, but the matter had gone far enough to alarm Spanish authorities.

If Spain persisted in her policies she was likely to lose more territory at the mouth of the Mississippi than she might relinquish by treaty. Also a diplomatic revolution had just occurred in Europe (1795) which brought Spain from alliance with Great Britain to a like relationship with France in the wars of the French Revolution. In view of the Jay Treaty just signed with Great Britain, it was conceivable that America might be too friendly with that country should the war be transferred to the Mississippi area.¹ Even if such fears were groundless, nothing could be lost by securing the friendship and neutrality of the United States. Consequently, in 1795, the Spanish factotum Manuel Godoy made important concessions to the United States in a treaty signed by himself and Thomas Pinckney at San Lorenzo el Real. Spain gave up her claims north of the 31st parallel, allowed Americans free use of the Mississippi River, and granted the right of deposit at New Orleans for a three-year period subject to renewal. This was only a partial victory for the West, and several matters remained unsettled. Yet, for a time, peace was restored and a new era of Western prosperity opened.

¹ Another theory is that Godoy thought the Jay Treaty would fail of ratification and the United States would engage in war with Great Britain. In this case Spain, by concessions in the West, could enter into direct alliance with the United States.

Problems of the Old Southwest. There were still other matters which were to affect the settlement of the Southwest for many years to come. Kentucky, in 1792, was admitted to statehood, immediately on severance of her connections with Virginia. Tennessee, together with the South Carolinian strip and the Yazoo lands, was given a territorial status in 1790, though federal authority south of 32° 28' was contested both by Spain and Georgia. In 1796 Tennessee formed a constitution, without congressional authorization, and asked admission to the Union. Certain elements in Congress were shocked by the temerity of the action, but the plea was granted. It was at this time that Andrew Jackson entered national politics as the first representative in Congress from Tennessee. The state immediately began to grow. In 1790 the population had been only 35,000. Ten years later it was over 105,000, and by 1830 Tennessee was running neck and neck with Kentucky, with an enumeration of nearly 682,000.

Georgia delayed cession of her Western lands till after she had involved herself in the worst land scandal of the era. In 1795 the Yazoo land companies, composed largely of state legislators, were granted by the legislature 50,000,000 acres of land in the Yazoo and Mississippi valleys at a cost of a cent and a half an acre. The next legislature nullified the grant because of its corrupt origin, but in the meantime much of the land had been resold to unsuspecting purchasers. A turmoil ensued for many years. In 1802 the federal government inherited the problem when it assumed control of the territory. It took a Supreme Court decision and an act of Congress, in 1810 and 1814 respectively, to settle the business¹ which already had resulted in life-long enmities between Yazoo and anti-Yazoo men in the federal government.

The occupation of what is now Alabama and Mississippi lagged far behind that of Kentucky and Tennessee. Indian claims were not readily quieted, and for several years after 1812 Indian irruptions into white settlements were common. The five leading tribes held much of the choice land of Georgia and westward. After the War of 1812 numerous treaties were made for moving these tribes little by little into new country west of the Mississippi. In 1802 the federal government had promised to evict them as part of the terms of Georgia's cession of Mississippi Territory. Before 1825 all but 9,000,000 acres of the Indian lands had been purchased and the natives dislodged. But the remaining Indians refused to make further agreements, and the

¹ In the case of *Fletcher vs. Peck*, John Marshall declared the act of the legislature in annulling the grant to be null and void because of a breach of contract. Though this may have been good legal interpretation, it raises serious question as to propriety in ignoring the fraudulent nature of the original deal. In 1814 Congress appropriated \$8,000,000 to satisfy the claims of injured persons in the Yazoo affair. The Supreme Court decision had been without avail.

Supreme Court upheld them in their opposition to Georgia's efforts to eject them by force. When President Jackson refused to coöperate with the Supreme Court in stopping this expulsion, the Indians were compelled to submit, sell out, and emigrate. This they did between the years 1832 and 1835, all but some of the Seminoles in Florida. The Seminole War, a desultory affair lasting till 1842, was the result. At the end of this time the hunted victims submitted, except for a few fugitives in the Everglades. Long before this time, Mississippi and Alabama had been granted statehood (1817 and 1819) and even Florida was in its last days of territorial organization (admitted in 1845).

The Louisiana Purchase. The Treaty of San Lorenzo was not a permanent settlement of the problem of control of the Mississippi. In 1800 Napoleon reached his imperial arm toward America, and for a time the future of the republic seemed to be trembling in the balance. Napoleon was looking forward to years of peace which he wished to enliven with a scheme of imperialism on a magnified mercantilist basis. France was to have extensive tropical and temperate-zone colonies, each corner of the triangle to supply the others with goods of their production. The empire should be made independent of foreign purchases. Santo Domingo would be a nucleus for the tropical colonies and Louisiana (the Western Mississippi Valley) would suffice in the temperate zone. Spain, by this time almost abjectly under Napoleon's domination, scarcely figured in the deal. Nevertheless, by the Treaty of San Ildefonso of 1800 the First Consul made a gesture toward paying Spain for the territory he was seizing. He would make the Duke of Parma—son-in-law of the king of Spain—king of Etruria, a promotion somewhat analogous to the elevation of a prosecuting attorney to the office of probate judge.

Before 1802 rumors of the transaction had reached America, causing President Jefferson to suffer from something verging upon hysteria. Well might he fear French possession of Louisiana and probably of the Floridas as well. Spain was a decadent country which the United States had no need to fear, but France was the greatest military power in the world. The Peace of Amiens (1802), which temporarily ended the European wars, was certain not to endure. If, in the future, Great Britain and France should decide to fight out their quarrels in America as they had so often in the past, the United States might easily be ground to pieces between the upper and nether mill stones.

Jefferson decided upon prompt and vigorous action. In his correspondence with Robert R. Livingston, minister at Paris, he included in April, 1802, the famous words: "The day that France takes possession of New Orleans fixes the sentence which is to restrain her forever within her low water mark. It seals the union of two nations who in conjunc-

tion can maintain exclusive possession of the ocean. From that moment we must marry ourselves to the British fleet and nation." These were strange words, coming from a life-long admirer of French ways and thought and perpetual doubter of British intentions and integrity. Only thirteen months earlier, in his inaugural address, he had urged "honest friendship with all nations, entangling alliances with none." Now he was advising permanent alliance with Great Britain so as to "make the first cannon which shall be fired in Europe the signal for tearing up any settlement she [France] may have made, and for holding the two continents of America in sequestration for the common purposes of the united British and American nations."

These were something more than idle words. When the right of deposit at New Orleans was removed in November, 1802, Jefferson secured a grant of \$2,000,000 from Congress and sent James Monroe to assist Livingston in negotiations. The ministers were to offer as much as \$10,000,000 for West Florida and the Isle of Orleans. If that much could not be obtained they were to negotiate for the Isle alone. Failing in this, they were to try to recover the right of deposit at New Orleans, keep peace with France till Congress should reconvene in December, 1803, and set about making a treaty of alliance with the British minister at Paris. At the same time Jefferson himself gave the British and French ministers at Washington ample opportunity to learn of his intentions.

Fortunately, it was just at this time that, for reasons totally foreign to American alarm, Napoleon lost interest in his mercantilist scheme. A Negro rebellion was in progress in Santo Domingo, and a French expeditionary force was being decimated by snipers and yellow fever. War was about to be renewed in Europe, in which the British navy would complete the liberation of Santo Domingo. The imperialist dream was shattered, so Napoleon no longer cared for Louisiana. Friendship with the United States was desirable in the coming war, so whatever America might pay for the territory would be clear profit from something that had cost him nothing. Consequently, the whole of Louisiana was thrown into the laps of the American ministers, who were so astonished as to lose their shrewdness and agree to pay 60% more than the minimum Napoleon was willing to accept. Thus, for about \$15,500,000, the area of the United States was more than doubled, even on the basis of later boundary adjustments, at a rate of less than 3¢ an acre. An almost unbelievably easy way was found out of what a few months before had seemed a hopeless situation.

The 875,000 square miles of territory finally confirmed by subsequent negotiations with Spain had a population of less than 50,000, but in 1802 the exports of sugar had been worth \$3,000,000 and cotton

\$1,000,000. Products from the United States going through New Orleans in the same year were valued at almost as much, exports from Kentucky and Tennessee alone being rated at \$1,600,000. As to other advantages coming from this sudden acquisition, little need be said. America could look forward in 1803 to what seemed to be unlimited expansion, barred by no nation to the westward except enfeebled Spain, and asking favors from none in developing transportation upon the greatest inland water system in the civilized world. Such prospects as these bewildered the delighted populace, but still there were snags in the way. Napoleon had promised Spain never to alienate Louisiana to a third country, and even the French constitution forbade such an act. But Americans felt no moral obligation to assist Napoleon toward honorable action. As to Spain, she dutifully acquiesced in the transfer when Napoleon demanded it.

Problems Created by Louisiana Purchase. More bothersome to Jefferson was the question of the constitutionality of the purchase. He had considered it proper to make a little adjustment at the mouth of the Mississippi—the thing had been done once before in 1795. But doubling the area of the United States was not correcting an old boundary. It was the establishment of an entirely new one. Nevertheless, when assured by Monroe that to wait for a constitutional amendment to legalize the purchase might mean loss of the opportunity, Jefferson decided to accept the advice of his friends concerning his treaty-making powers, and so he submitted the treaty to the Senate. Doubtless to his dying day he questioned the constitutionality of the proceeding, but it is not recorded that he ever regretted it.

In the Senate there was bitter opposition from Federalist members, but they were few in number and could not even delay ratification. These Federalists—loose constructionists of the Hamiltonian school—were as quick to apply strict construction against their Democratic enemies in power as these same Democrats were ready to assume the former loose-construction views of the Federalists. As representatives of the old land-owning and merchant aristocracies of the seaboard, the Federalists saw numerous dangers to come from Louisiana, aside from the glory to their opponents. So much new land would keep down real estate prices in the East, draw off surplus labor, and possibly increase wages. Free use of the Mississippi would divert trade to New Orleans which might otherwise go to Eastern ports. The admission of new states would diminish the control of the older ones over the federal government. Then, lastly, there was too much democracy in the West. Three states in that region had already been admitted to the Union with constitutions proclaiming manhood suffrage. What would the world come to if numerous states should follow this

Jacobin precedent? Federalist protest could not balk the treaty, but disconsolate leaders could plot disruption of the Union to safeguard New England against menace from the West and South. Timothy Pickering and others of the more intransigent element concocted a scheme to make a separate confederacy out of New England and New York. When Hamilton demurred at being the secessionist leader in New York, suspicion was quickly centered on Aaron Burr. Hamilton now accused the latter of complicity in the secessionist plot. This cost Burr the election to the governorship of New York, and the Burr-Hamilton duel was the result.

Burr, having earlier lost support of the Democratic organization, was, after the death of Hamilton, without political strength in either party. So, at the end of his term as vice president in 1805, he set out upon his obscure Western project, determined to recoup his fortunes in one way or another. His exact purpose, if he had any, has never come to light. Consequently, it was easy to bring accusations of treasonable conspiracy against him. Regardless of the political angles of his trial, his acquittal was probably just. Certainly Henry Clay and Andrew Jackson, both of whom were interested in the expedition, suspected nothing worse than a filibustering expedition against Spain or else the formation of a legitimate land company. The thing most in Burr's favor is that the accusation of treason came from James Wilkinson, whose name is associated with most of the shady dealings of the Old Southwest over a period of thirty years. The incident in quieter times might well have passed unnoticed.

Expeditions into the Far West. Something of the extent of the newly acquired province of Louisiana was soon learned. In 1804 Jefferson was in a position to satisfy a curiosity which for twenty years he had entertained about the trans-Mississippi West. An expedition had been planned before the purchase of the country, and now the journey was actively launched under the leadership of Captain Meriwether Lewis and Lieutenant William Clark, brother of the hero of Vincennes. Proceeding up the Missouri River, the party of some forty-five spent the first winter in what is now North Dakota. In 1805 they were guided to the headwaters of the Missouri, through the mountain passes, and down the Columbia River to the Pacific Ocean. Another winter was spent in the Oregon country, and the return trip was made in 1806. Many interesting things were recorded in the various journals kept by the party, but there was no great immediate consequence of the expedition. The discovery of extensive activities on the part of British fur traders on American soil made more apparent the desirability of fixing the Northern boundary, but this was not accomplished till a dozen years later. Also, the explora-

tion of the Columbia River Valley, added to the discovery of the mouth of the same river by Captain Robert Gray of Boston in 1793, gave the United States a claim to the Oregon country.

Two other expeditions of these years are noteworthy. In 1805-1806 Lieutenant Zebulon M. Pike explored the upper Mississippi River to one of its sources, revealing the fact that another boundary dispute was in prospect. The Mississippi rose somewhere south of the Lake of the Woods, and hence could not be reached by a line west from the lake as defined in the Treaty of 1783. Wilkinson had sent Pike on this journey and, on its completion, Pike was sent out again in the summer of 1806. This time the route was westward, across the present state of Kansas, toward the Spanish country. After reaching the Rio Grande River, he was arrested by the Spanish who treated him well but ushered him back to the soil of his own country with suggestions that he remain there. Because of his service with Wilkinson, the Spanish were apprehensive of some connection with the Burr affair. Before many years, regular trains of freight wagons were the agencies of commerce across the plains between the Missouri River and Santa Fé. Pike's expedition first revealed the possibilities of such a trade.

The Boundary Disputes. A final problem, and the most troublesome of all those growing out of the purchase of Louisiana, was that of determining the boundaries. The Gulf Coast limits as defined in the Treaty of San Ildefonso, and repeated in the Treaty of 1803, were so indefinite as to give America as much justification for claiming everything from the Rio Grande to the Perdido River (the present boundary between Florida and the southern tip of Alabama) as Spain had for limiting the southern line to a portion of the present Gulf Coast of the state of Louisiana. Jefferson and most others in America were more interested in the West Florida portion than in Texas. The President preferred diplomacy and offers of money settlement to force. This proving futile, nothing was decided for several years. In 1810 American settlers in the Baton Rouge region revolted against Spanish rule, and at their request President James Madison proclaimed annexation of all West Florida to the Perdido River. Actual occupation was limited to the region west of the Pearl River, and that stream in 1812 became the easternmost boundary of the state of Louisiana just entering the Union. In 1813 General James Wilkinson captured Mobile as an incident in the War of 1812, after which America's claim was not seriously contested.

This was as far eastward as the United States had any shadow of a claim based on the cession of Louisiana, but it was not long before opportunity was found to get the rest of the Floridas as well. Spain,

following 1814, was in a pitifully weak condition. The new king, Ferdinand VII, was a moral weakling who had spent six years of exile during the reign of Joseph in doing embroidery work instead of studying statecraft. After the restoration he could do nothing effective toward recovering the countries which were slipping from his grasp across the Atlantic. He had not even power to pay his army at home or keep it from annual revolt. The admiral of the Spanish navy had to put his sailors to the useful task of fishing in order to collect his salary. Naturally, Spain was in no condition to suppress Indian troubles in Florida, especially when the tribes were incited to raids on soil of the United States by renegade soldiers of fortune from Great Britain. These invasions led General Andrew Jackson to interpret somewhat liberally certain instructions he had received from President James Monroe. Early in 1818 he invaded Florida, put a final stop to the Indian uprisings, and executed two British subjects suspected of complicity. Great Britain's protest was quieted by assurances from Secretary of State John Quincy Adams that the men were deserving of all they got and had no business in Florida anyway.

Spain was not so easily mollified, but, after all, there was nothing she could do about it. Her empire in America was drawing to a close. Rather than lose everything and gain nothing Spain agreed to the Treaty of 1819. All of Florida went to the United States for \$5,000,000, to be paid to American claimants against the Spanish government. At the same time the United States surrendered all rights to Texas. The Spanish boundary in North America was fixed at a line following the Sabine River to its intersection with the 32d parallel; then north to the Red River and up the latter to the hundredth meridian; then north to the Arkansas River and up that stream to its source; and, finally, north from this point to the 42d parallel and westward on the latter line to the Pacific. This finally fixed the Spanish boundary of Louisiana and gave America Spain's claim to Oregon.

In some ways this treaty was a most unfortunate one. Texas, to part of which there was an excellent claim prior to that time, was renounced to a nation that could not take it. Revolution was already brewing in Mexico, and independence was declared in 1821, the same year in which the surrender of Texas took place. The trend was apparent in 1819, but President Monroe seemingly was blind to its significance. Adams thought he could retain Texas, and there is reason to believe that Spain was willing to yield a boundary as far west as the Colorado River in Texas. But, the opportunity being lost, Mexico, not Spain, got Texas. If Mexico had never possessed Texas she could not have felt its loss any more than that of Oregon.

The Texas Question. There were citizens of the United States residing west of the Sabine when Texas was turned over to alien control. These people protested against the action of Monroe, but for a time found no reason to complain against Mexican policies. Soon, they were joined by other immigrants led by Stephen F. Austin and encouraged by the Mexican government. Migration into Texas resembled the simultaneous movement into the region around the Missouri River and northward except that, being farther south, a larger number were slaveholders or of slaveholding sympathies. By 1827 there were about 15,000 Americans in Texas, with the number increasing at the rate of perhaps 2,000 a year. Then the Mexican government began to take stock of the situation and decided to check the movement. The motives were mixed, but the dominant idea of the governmental clique was to preserve for personal benefit a region not thought desirable until after its development by Austin and his followers. Consequently, a series of laws was passed to discourage further American occupation. In 1829 slavery, by unconstitutional mandate of the president, was declared abolished, though peonage, a still cheaper form of labor employed in the older Mexican territory, was left intact. Protests from the settlers led to a lapse of this discrimination, but in 1830 further immigration either of free men or slaves was banned. In spite of renewed opposition from persons who asked nothing more than to be recognized as law-abiding Mexican citizens, military occupation of the country was strengthened with the purpose of enforcing the law.

By combining Texas with the native Mexican state of Coahuila, the English-speaking inhabitants had long been outvoted in state policies. But in 1834 the climax came when a new president, Antonio López Santa Anna, in defiance of the constitution of the republic, inaugurated his centralist revolution. All state governments were set aside and all law should emanate from the dictator at Mexico City. Several states then revolted, and leaders of the opposition party talked of turning the whole nation over to the United States rather than submit to this tyranny. While Santa Anna was ruthlessly suppressing rebellion closer to the seat of government, Texas in 1835 drew up a state constitution in the obscure hope that it would be acceptable to the Mexican government. Meanwhile, the white men were ordered to disarm and were put at the mercy of an army made up of convicts and half-savage Indians. Still proclaiming loyalty to the Mexican state and constitution, the Texans were driven to a declaration of independence only after Santa Anna turned his army northward from Zacatecas, after bloody retaliation there, to wreak like vengeance upon the remoter state. The step was taken on March 2,

1836. Santa Anna repeated his acts of butchery at Goliad and the Alamo, but was captured and his army routed by Sam Houston at the Battle of San Jacinto in April. He then promised Texas independence as the price of his release. He later repudiated the promise because of its unconstitutionality, but, after all, it was as legal as anything else he had done in the preceding two years.

The new republic, numbering some 30,000 white inhabitants, claimed the Rio Grande as its boundary and asked admission as a state of the United States. The question of annexation of Texas was no new one. John Quincy Adams and Andrew Jackson had each made attempts at purchase of the territory before the revolution. But there was no collusion of the American government in the movement for independence. As to the great slave owners of the South, they were hostile to Texan independence and persistently opposed annexation of the new republic. They wanted no competition in the already cheap cotton market from the vast plains of Texas. It was the poorer white population of the South, persons who hoped sometime to become plantation owners, who favored annexation. Because of his rigid neutrality in preceding events, Jackson was in 1836 in a position honorably to consider acceptance of the Texan offer. But, anxious to keep peace alike with Mexico and the antislavery element of New England, he refused to consider the proposition. Even recognition of independence was postponed till the last day of his term in office. So, spurned in her offers, Texas established her own government, with Houston as president during most of the era of independence.

The Annexation of Texas. During the nine years of the Texan republic, Mexico was so busy trying to suppress rebellion in other states that she could do naught more than threaten the successful insurgent. Meanwhile, Texas was in a wretched financial condition and badly in need of support from a stronger power. Great Britain was willing to assume guardianship on conditions of free trade and abolition of slavery. Exaggerated reports of British activity convinced President John Tyler that the only way to keep Great Britain away from the southwestern border was for the United States to assume the part of suitor which Texas had at least temporarily dropped. Texas, though somewhat coy in her new rôle, assented to what she had so long desired, and on April 12, 1844, the treaty was signed. The Senate of the United States, by a vote of more than two to one, defeated ratification. The slave and free states each had at the time 26 votes in the Senate, yet from the country as a whole only 16 votes were cast in favor of the treaty. This is a significant comment on the alleged aggressiveness of the "slavocracy." Desire to prevent war with Mexico was a prominent motive for rejection.

The Texas question then entered national politics. Henry Clay of Kentucky, the Whig presidential candidate, wished to keep the Texas question out of politics so as not to offend voters of the Northeast. But the Democrats nominated James K. Polk of Tennessee, an ardent annexationist, and demanded "the reoccupation of Oregon and the reannexation of Texas." This platform plank appealed to the West and South alike, so Clay was forced to hedge on his earlier declaration of opposition. This shifting of his ground caused so many free-soil Whigs in New York to vote for the Liberty party candidates as to throw the state, and with it the electoral majority of the country, into the Democratic column. But it was Tyler, after all, who maneuvered the annexation of Texas. Fearing that the state was about to soothe her injured feelings by making the dread alliance with Great Britain, Tyler resorted to strategy. Certain of the impossibility of getting a two-thirds vote in the Senate for a treaty, he proposed a joint resolution for annexation. In response to the popular expression of approval in the election, both houses of Congress gave the necessary majorities by February 28, 1845, less than a week before Polk's inauguration. On December 29 of the same year Texas became a state in the Union.

The Mexican War. Mexico had declared that annexation would be an act of war and, from her point of view, war began with the passage of the joint resolution. In spite of nine years of independence under a stable if not always efficient government, and regardless of the recognition of Texas by the leading countries of Europe as well as the United States, Mexico still claimed the boundary line of 1819. Other grounds for quarrel existed, but those of a nonterritorial nature might have been patched up had not American imperialism been involved. Before this the United States had been patient in dealing with incompetent Mexican dictators, so much so that the military element of the latter state imputed motives of cowardice. It was not till the eve of the Texan revolution that Mexico recognized the settlement of 1819. Ten years were required to get a commercial treaty, and, when secured, the dictators obstructed its enforcement. After the centralist revolution, twenty-two American citizens were executed without trial for suspected participation in counter-revolutionary schemes. Then, repeatedly prior to 1845, Mexico had been induced to make treaties for settlement of damage claims of American citizens, but always the Mexican government had refused to abide by the agreements.

Polk tried diplomacy for over a year, but, since he included in his plan the purchase of additional Mexican territory to California and the Pacific, the Mexicans were thoroughly justified in ignoring the

adventures, though they might have treated the emissaries with more consideration. Balked in his effort to secure recognition of the Rio Grande as a boundary, and apparently losing his temper over the failure of the rest of his plans, Polk decided to settle the whole controversy by force. He ordered General Zachary Taylor to advance with his army from the Nueces River to the north bank of the Rio Grande. This brought Taylor within striking distance of the Mexican army which, on April 24, 1846, crossed the river and attacked. This gave Polk the excuse for stating that war existed "by the act of Mexico herself." The argument was somewhat specious, ignoring as it did the fact that Texas had never made good the extreme limits of her claims. Had Taylor's army been kept strictly within the bounds of the territory over which Texan authority had been maintained, it is hardly likely that the Mexicans would have attacked, regardless of their declarations of ownership of the whole of Texas. The dignity of the American nation would have been maintained had Polk waited for Mexico to perform the overt act.

The Mexican Cession of 1848. To understand the westward expansion of the country it is not necessary to refight the Mexican War. It is sufficient to note that California, long restive under Mexican rule, was easily persuaded to accept American control, and that before 1848 the American army, in occupation of the Mexican capital, was in a position to dictate terms of peace. The Treaty of Guadalupe-Hidalgo, completed on February 2, 1848, was more moderate in its terms than was desired by many chauvinists. The boundary of the two nations was fixed at the Rio Grande up to the southern limit of the Mexican state of New Mexico (which line was said to be north of El Paso). Then, tracing the border of New Mexico to the Gila River, the latter was followed to its mouth. The final portion was the existing boundary between Upper and Lower California. In return, the United States paid \$18,000,000, including \$3,000,000 of Mexican debts to American citizens. This was approximately equivalent to what Polk had considered a fair price before he abandoned diplomacy. Some comfort may be gleaned from the fact that it is a rare event in military annals when the conquering state pays anything for territory seized.

It is well that Polk did not go further and add by force a large unwilling Mexican population to the United States. As it was, some settlements along the Rio Grande were included. The transferred Indian population was scarcely harmed by the exchange. Fortunately for the United States, the discovery of gold in California was not known by the negotiators of the treaty. Regardless of other greed, acquisition of gold mines was not an objective in the Mexican War. Polk insisted on ratification of the treaty in spite of demands from all

sections of the country, and even from his own cabinet, that all of Mexico be annexed. The war was expensive enough as it was, with 12,000 men killed, \$100,000,000 spent, the reputation of the United States spotted, and Latin America left forever suspicious because of American violation of the Monroe Doctrine.

The Gadsden Purchase. An aftermath of the Mexican War was the Gadsden purchase of 1853. Stephen W. Kearny had followed the Gila River on his way to California in 1846, and later War Department surveys disclosed that this was a good route for a railroad to the Pacific if it could run part of the way south of the river. Also it was found that by Spanish maps the southern boundary of New Mexico lay south of El Paso instead of the way defined in the treaty. For these reasons James Gadsden was sent to secure a new treaty. The sum of \$10,000,000 was paid for a strip bounded by a line 100 miles long westward from the Rio Grande on the parallel $31^{\circ} 47'$; then south to $31^{\circ} 20'$; next, westward to the intersection with the 111th meridian; and, finally, a straight line to the Colorado River 20 miles below the mouth of the Gila. This was the highest price paid by the United States for territory to that time, averaging 34¢ an acre.

The Northeastern Boundary. During the same span of years in which the Southern and Southwestern boundaries were being fixed and expanded, there was an equally lengthy, though less exciting, discussion with Great Britain over the Northern boundary. Nearly all of the distance from the undefined St. Croix River to the impossible juncture with the Mississippi was left indefinite by the Treaty of 1783, though no great amount of territory was included between the disputed lines. After numerous attempts, the last of this difficulty was smoothed out by the Webster-Ashburton Treaty of 1842, and the Northeastern boundary was made permanent. Many years before the latter date the two countries had taken up the subject of the Northwestern line. In 1803 the Senate rejected a treaty proposing to run a survey direct from the Lake of the Woods to the source of the Mississippi. This was done just in time to save an embarrassing precedent over the future northern limit of the Louisiana Purchase. In 1818 a commission dropped a line from the northwesternmost corner of the Lake of the Woods to the 49th parallel and designated the latter as the boundary to the crest of the "Stony" Mountains. West of the Rockies lay Oregon, which by the same arrangement was to be occupied jointly by the two countries for a period of ten years.

The Oregon Question. Besides American claims due to the expeditions of Gray and Lewis and Clark, Great Britain in 1814 had surrendered Fort Astoria to American ownership, thus adding a new title of the United States to Oregon. Yet, Great Britain retained claim

to the soil, if not to the fur-trading post. In 1818, therefore, the United States got further recognition by the joint-occupation agreement. Both Spain and Russia at that time were also declaring ownership of rather indefinite portions of the region. But Spain retired by the Treaty of 1819, and Russia, in 1824, surrendered rights to anything south of $54^{\circ} 40'$ (the present southern tip of Alaska). Thus Oregon was for the first time delimited. In 1828 the remaining claimants renewed the joint-occupation agreement for an indefinite period, with the provision that either might abrogate the arrangement by giving a year's notice.

In point of fact, only a relatively small portion of the area was coveted by both nations. The Hudson's Bay Company of fur traders made use of the Columbia River but cared little for anything south thereof. On the other hand, American settlers, who began to trickle in in the wake of missionaries in 1832 and following, settled mostly south of the Columbia. Only a few hundred settlers arrived in the decade following 1832, but thereafter the Oregon craze began to take hold. Trails were opened up from Independence, Missouri, westward. Skeletons and wrecks of wagons became landmarks. Jim Bridger and his fort acquired fame and then took their place in the American library of legends. Incidentally, this migration convinced American politicians that the lower Columbia River should be taken by the United States in any division of territory that might follow. The simplest way to do this would be to run the 49th parallel westward to the Pacific. Great Britain also was willing to divide the territory, but wanted the stipulated parallel to be the boundary only to its intersection with the Columbia, and let the river itself divide the remaining country. Hence, only what is now the western half of the state of Washington was actually in dispute.

In 1824, and again two years later, Monroe and J. Q. Adams made offers of the 49th parallel, first without and next with free navigation of the Columbia River. Both offers were rejected by the British. In 1841 the Americans in the territory, numbering about 400, elected officers to administer the common law, without authorization from anyone—an old frontier custom. Two years later the laws of Iowa were temporarily adopted by the rapidly growing population. The Oregon question was by then acquiring national prominence. In May, 1844, over a thousand persons with nearly 2,000 farm animals set out from Independence, and shortly afterward the Democratic party joined the Oregon and Texas questions as a major issue in the presidential campaign. "Reoccupation of Oregon" was a delusive phrase, since the region had never been solely occupied, but it was about as accurate as "reannexation of Texas," and it made good campaign

thunder. "Fifty-four forty or fight" was the popular cry of the West. The populace meant it even if the politicians might wink at each other in secret.

Following his inauguration, Polk adopted the more sensible course of offering the 49th parallel as a boundary. This again was refused, so in April, 1846, just when war was beginning with Mexico, America abrogated the treaty of joint occupancy. The President was authorized to take military possession. Polk apparently was just as sincere in his efforts in one direction as the other, but the new British ministry headed by John Russell gave in, while Mexico refused. Thus war occurred on only one front instead of both. Russell offered the 49th parallel as a boundary to the Straits of San Juan de Fuca. This settlement being acceptable to Polk, the treaty was drawn up accordingly. The Hudson's Bay Company got free navigation of the river and \$650,000 for its lost posts, and all of Vancouver Island went to Great Britain. Out of America's share the states of Oregon, Washington, and Idaho, and parts of Montana and Wyoming were ultimately carved. British Oregon is today the southern half of British Columbia.

Population Movement. A bare outline of the expansion of the republic has now been traced, tending more and more toward the diplomatic end of the subject in the later decades. Economic phases of Western history must be deferred for later discussion, in connection with the larger national problems. After all, far the greater part of the trans-Mississippi West was not developed till after the Civil War, and before the war the country was more absorbed in acquiring title to the Western half of the country than in actually occupying it. Yet, the first tier of states west of the Mississippi, in addition to Texas and two states on the Pacific Coast had been admitted to the Union prior to secession.¹ Kansas was a lusty territory seeking premature statehood. The Mormons had made the "desert bloom as the rose" and were asking for admission of Utah. Gold had been discovered in the Colorado country and silver in New Mexico Territory, causing miners to flock in. The West was teeming with potential activity when war descended to disrupt all other enterprises.

Meanwhile, the first eight censuses of the United States showed great changes in the population and its distribution for the country at large. The following table of growth by sections, as defined in government statistics, will avoid the dragging of a confusing number

¹ Louisiana and Texas have already been mentioned. The dates for the remainder are: Missouri, 1821; Arkansas, 1836; Iowa, 1846; California, 1850; Minnesota, 1858; and Oregon, 1859. Vermont, not hitherto mentioned as a state, was the fourteenth, being admitted in 1791. It had maintained a position of independence from New York since 1777. Maine was admitted as a separate state in 1820, by permission of Massachusetts and an act of Congress.

of figures into the discussion. The first column under each geographic division is population to the nearest thousand, the second is the per cent. of the nation's total, while the third is the percentage of increase for the decade.

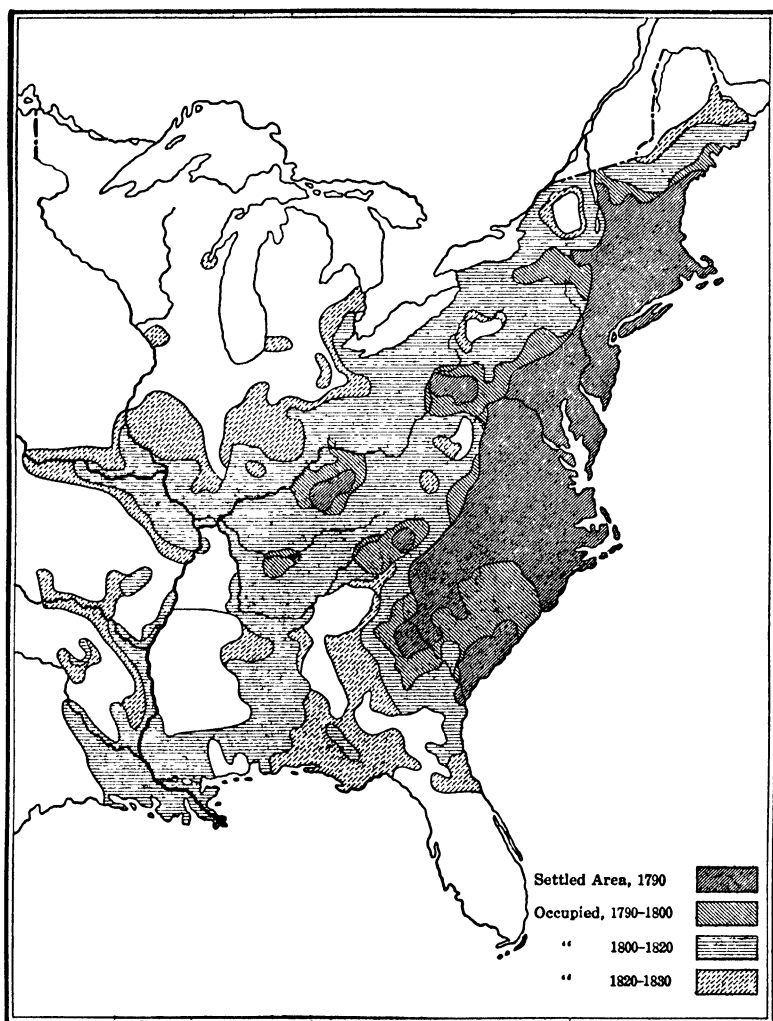
POPULATION GROWTH, 1790-1860

YEAR	NEW ENGLAND	MIDDLE ATLANTIC	EAST-NORTH-CENTRAL	WEST-NORTH-CENTRAL	SOUTH ATLANTIC
1790	1,009 26	959 24			1,852 47
1800	1,233 23 22	1,403 27 46	51 1		2,286 43 23
1810	1,472 20 19	2,015 28 44	272 4 434	20 a	2,675 37 17
1820	1,660 17 13	2,700 28 34	793 8 191	67 1 237	3,061 32 14
1830	1,955 15 18	3,588 28 33	1,470 11 85	140 1 111	3,646 28 19
1840	2,235 13 14	4,526 26 26	2,925 17 99	427 3 204	3,925 23 8
1850	2,728 12 22	5,899 25 30	4,523 19 55	880 4 106	4,679 20 19
1860	3,135 10 15	7,459 24 26	6,927 22 53	2,170 7 146	5,365 17 14
YEAR	EAST-SOUTH-CENTRAL	WEST-SOUTH-CENTRAL	MOUNTAIN	PACIFIC	UNITED STATES PER CENT. OF GROWTH
1790	109 3				3,929
1800	335 6 207				5,308 35
1810	709 10 111	78 1			7,240 36
1820	1,190 12 68	168 2 116			9,638 33
1830	1,816 14 53	246 2 47			12,866 33
1840	2,575 15 42	450 3 83			17,069 33
1850	3,363 15 31	940 5 109	73 a	106 a	23,192 36
1860	4,021 13 20	1,748 6 86	175 a 140	444 1 319	31,443 36

^a About 5% or less

For the country as a whole, the growth of population had maintained a remarkable degree of uniformity, increasing approximately a third each decade and doubling about every twenty-three years. Of the Atlantic Coast states the only section to equal this average was the middle group, which also was the only one to retain its proportion to the total population of the country. New England and the South Atlantic states about equaled each other in percentage increases by decades and exhibited about the same ratio of decline in proportion to the national aggregate. But the South Atlantic region, with nearly half the people of the country in 1790, had the most to lose by the shifting center of population. The newer portions of the country alone grew at a more rapid rate than that of the United States. The states south of the Ohio River surpassed New England soon after 1840, while those north of the same boundary exceeded the South Atlantic group in the early 1850's. The West-North-Central section included only Missouri till 1840, when returns from Iowa were included. A handful from Minnesota was added in 1850, but in the next decade growth

clear out to the Dakotas was so rapid that the population reached more than two-thirds that of New England. Likewise, the West-



SPREAD OF POPULATION, 1790-1830

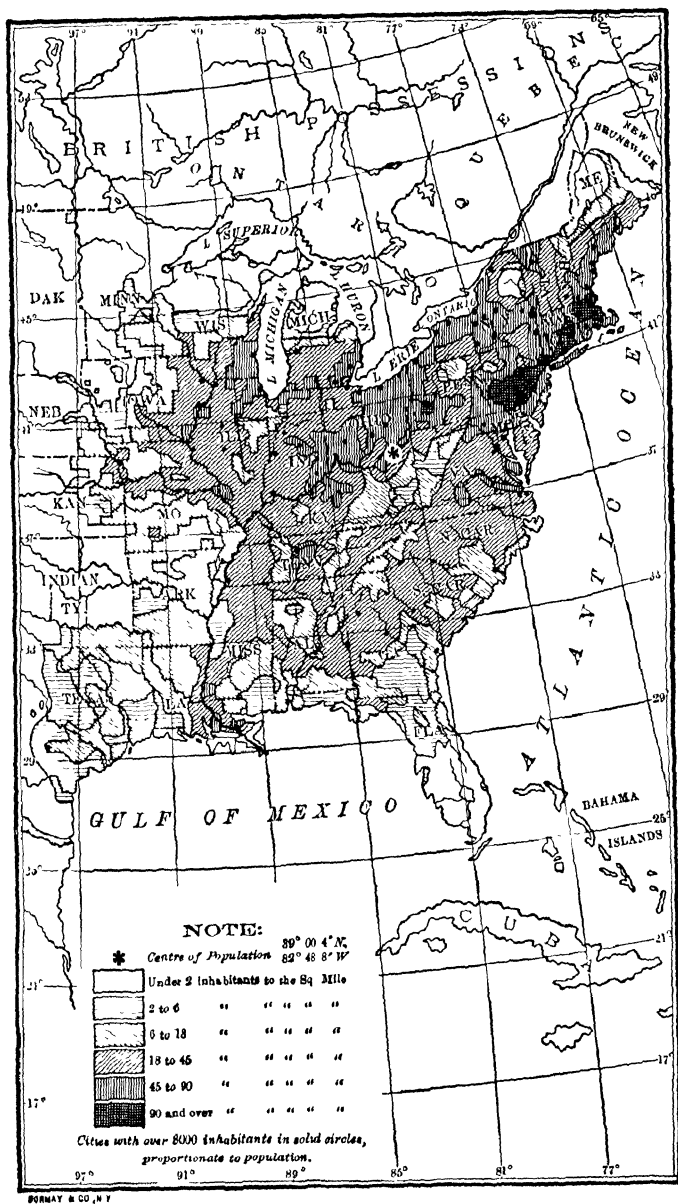
South-Central group contained only Louisiana and Arkansas till 1850. Then, with the addition of Texas and an astounding growth of all three states in the following ten years, the population at the opening of the Civil War was close to that north of the Missouri Com-

promise line. The Mountain and Pacific states, in spite of rapid progress in the 1850's, were still a negligible population factor in the country at large by 1860.

If the states are divided into Eastern and Western groups, including in the former the original 14 states (with Vermont) only, the ratio of 97 : 3 as seen in 1790 had by 1860 changed to 51 : 49. By dividing the states along the Mason and Dixon line, the Ohio River, and the parallel of 36° 30', the population of 1790 was almost equally divided. But by 1860 the ratio was 63 : 37 in favor of the North. More attention will be paid to this problem in connection with the discussion of the sectional struggle.

Despite the enormous acquisitions of territory in 1803 and 1845-1848, there were only temporary decreases in density of population per square mile. The rate of 4.5 in 1790 was reached again by 1811, and in 1860 the mark was 10.6. In 1800, when the density for the United States was 6.1, that of New England was 19.9, with Rhode Island at 64.8. The Middle Atlantic group stood at 14, while New Jersey had 28.1. The South Atlantic states averaged 8.6, whereas, excluding the District of Columbia, the densest state was Maryland with 34.4. West of the mountains nearly all the white population was in Kentucky, Tennessee, and Ohio. Kentucky, with an average of 5.5 per square mile, exceeded Maine, while Tennessee was ahead of and Ohio nearly equaled Georgia. In 1860 the densities of the sections were: New England, 50.6; Middle Atlantic, 74.6; East-North-Central, 28.2; West-North-Central, 3; South Atlantic, 19.9; East-South-Central, 22.4; West-South-Central, 4.9; Mountain, .3; and Pacific, 1. The leading states of the sections were: Rhode Island, 163.7; New Jersey, 89.4; Ohio, 57.4; Missouri, 17.2; Maryland, 69.1; Kentucky, 28.8; and Louisiana, 15.6.

Urbanization. A distinctive feature of population movement was an increasing degree of urbanization. By adopting the arbitrary number of 8,000, below which all places are classed as rural, 3.3% of the population in 1790 was urban. This number was barely doubled by 1830, but in 1860 it had reached 16.1. In 1790 only 6 centers in the United States were above 8,000, their total being about 131,000. All were along the Atlantic sea coast. By 1820 the number had grown to 13, with 475,000 inhabitants, while the Western sections were represented by New Orleans and Cincinnati. Pittsburgh also was close to the line. New York for over a decade had been leading Philadelphia, both being above 100,000 in population. A rapid growth in number of cities had set in by 1830, and the Census of 1860 showed 141 containing in all over 5,000,000 people. New York, including Brooklyn, was above a million while Philadelphia exceeded half as



DISTRIBUTION OF POPULATION, 1860

many and Baltimore stood at 212,000. Boston, Chicago, Cincinnati, New Orleans, and St. Louis each ranged between 100,000 and 200,000.

Until about 1850 the racial and ethnical elements of population were not greatly different from those of the eighteenth century, except that the number of Negroes had declined from about a fourth that of the whites to a sixth. The bulk of them remained in the Southern states. By the middle of the century a new wave of German and Irish immigrants ¹ had begun to rise. The former were stimulated by political repression and the latter by famine and hatred of British policies. The Germans gravitated more largely to the rural communities, especially in Wisconsin and Missouri, while the Irish, mainly because of their poverty, swelled the labor population of the cities. The immigration question will be considered at greater length in later chapters as needed to explain other economic problems.

¹ Some Chinese were coming into California following 1850, but they did not constitute a race problem till after the war.

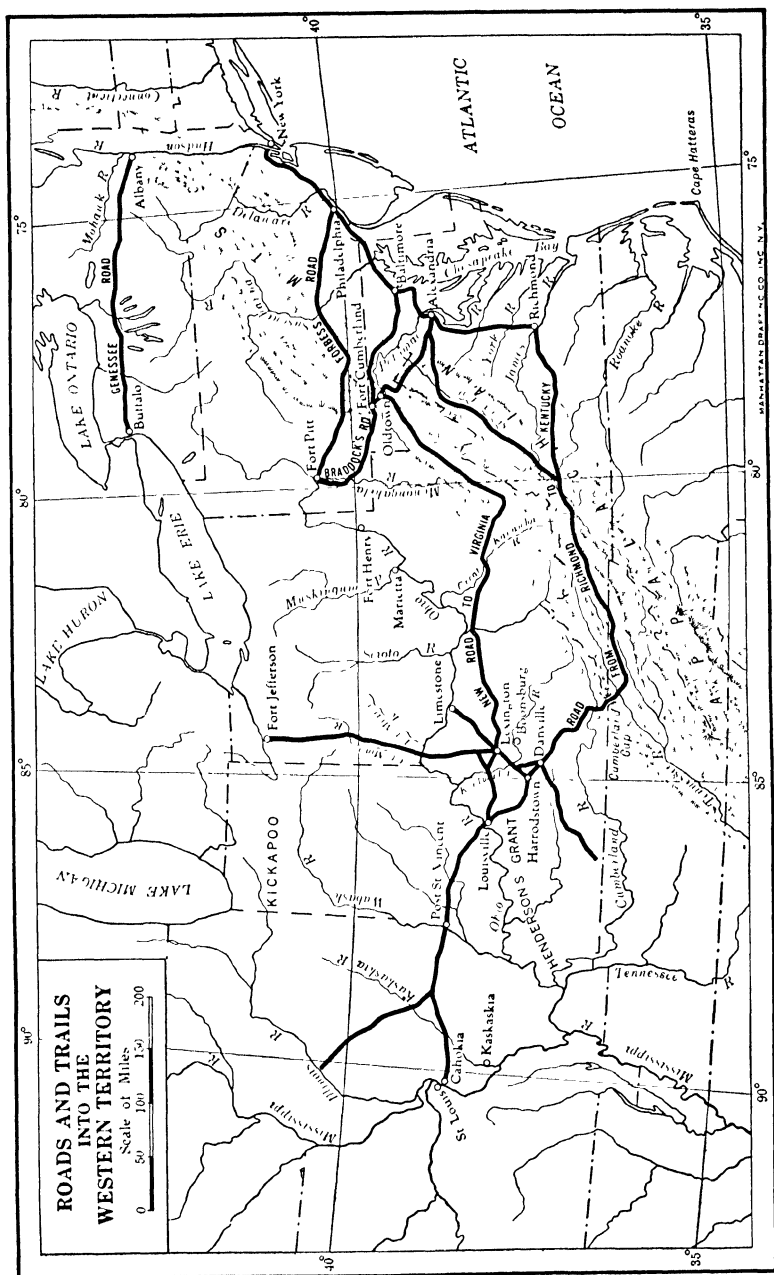
CHAPTER VIII

INTERNAL IMPROVEMENTS AND TRANSPORTATION, 1783-1860

Primary Considerations. Improved methods and facilities for transportation were of the utmost importance in the economic development of the country after the Revolution. The movement of population into new country was facilitated, areas unreached by navigable streams were made attractive for settlement, distance was rendered a less formidable factor in commerce, and provincialism of the Colonial type was restricted. The ease with which raw materials could be concentrated at favorable points made Western manufactures practicable, while declining freight costs rendered competition with Eastern industrial centers feasible. At the same time, the differences in transportation problems of the principal economic sections of the country had more than a little to do with the development of the theories of state sovereignty and secession.

The history of internal commerce in the ante-bellum days is very largely an account of the development of means of transportation. There was no distinct advance in the methods of wholesale and retail trade. Local commerce was carried on between producers, traders, shopkeepers, and townsmen in much the same way as in the Colonies and not far different from the methods of rural merchants and cattle buyers of recent times. The wholesale dealer was not much in evidence, except in a few of the larger cities, his place being taken very largely by speculative buyers who depended upon their knowledge of trade conditions to insure themselves profits in remote markets. Merchants and producers also assumed the functions of transportation agencies, dealing directly with commission houses at central points of distribution. Southern planters depended upon factors in much the same way as had their Colonial predecessors, and with consequences that will need special mention in their proper place. Banking facilities and currency difficulties—also important influences in commercial life—are discussed in a later chapter.

Primitive Roads. The inland farmer at the close of the Colonial era, when no natural waterway led him to the coastal markets, followed with his pack animals or driven livestock along the trails earlier beaten by Indians, buffaloes, elk, moose, or deer. These were true "highways," running along the ridges or watersheds between river



systems, where there was surer footing the year round and less chance of obstruction by snow, high water, mud, fallen timber, or leaves than would be encountered in lower regions. When Edward Braddock led his ill-fated expedition toward Fort Duquesne, in 1755, he cut a military road across the Alleghanies over approximately the same route as the later Cumberland road. When John Forbes set out three years later to accomplish the mission which Braddock had attempted, he completed road connections between Philadelphia and Pittsburgh. Settlers in the Greenbrier region of Virginia, when they moved down the Holston and Clinch rivers into Watauga, made pack-trail connections between the valley roads and the mountain passes. Daniel Boone, after following the Warriors' Path through the Cumberland Gap northward, blazed the third trail to the Ohio River just before the outbreak of the War for Independence. By 1795 Virginia and Kentucky were making of this route a passable wagon road. The Mohawk Trail in New York, followed from early days by traders and soldiers, furnished a route to the Genesee Valley and Lake Erie, while the old Chickasaw Trail of the Carolinian fur traders supplied a path for later migration in the lower South. Before the close of the Confederation period another road from Abingdon, Virginia, through Emery Gap to Nashville made connection with an older highway to Richmond over a distance of about 700 miles.

In 1789 it was possible to travel by land all the way from Maine to Georgia, but it could scarcely be done in less than four months and at such a cost as to make freight carrying prohibitive. Pittsburgh might be reached by three different roads, though connections by any of them were so poor that the town was doing all the manufacturing it possibly could for itself. Thirty-seven different manufactures were enumerated in 1790. Half a decade later Brownsville, Pennsylvania, had over a score of mills for lumber, grain, fulling, and oil, and one paper mill, besides boat yards for the Monongahela and Ohio river trade.

Bridges anywhere in the country were scarce and often insecure, the commonest kind being made of floating logs. Before 1800 a few noteworthy structures had been erected at strategic points in the East, but, for the most part, fords and ferries were the only resort. The only mode of propulsion for some ferry boats was that gained by slanting them against the current of the stream. State regulation was scanty and profits were known to reach fabulous proportions. One ferry across the New River in Virginia was said to have earned from \$10,000 to \$15,000 a year. Roads to the West were the poorest of all. Braddock had to make use of sailors with block and tackle in letting his wagons and artillery down the mountain sides, a form of assistance

which later teamsters did not have. Accidents on steep grades and the collapsing of floating corduroy across bogs took a disheartening toll of men and horses of those hardy enough to make the attempt to pass such roads. They were safe only when frozen deep and not too badly blocked by snow.

Pack-horse Trade. For such reasons most of the trans-Alleghany trade before 1790 was carried by pack-horse trains, freight costs being figured by hundredweights instead of tons. Two kegs of whiskey, with provisions, were an ample load for a horse on the eastward journey, two bushels of alum-salt, iron, or other goods, together with provender, making a load of nearly 200 pounds for the return trip. First Baltimore, then Hagerstown, and finally Fort Cumberland were the trading posts for the early Ohio Valley settlers. The effect of freight rates on Western values is reflected by the fact that a bushel of salt, before 1790, could be exchanged along the Monongahela River for a cow and a calf.

About the year 1783 Conestoga wagons, named for the valley of their origin in Pennsylvania, were coming into use and a few years later were displacing the pack trains. Before long these ponderous vehicles, carrying two or three tons and hauled by four, six, or even ten horses, were crossing the mountains in caravans sometimes miles in length. At about the same time, partly because of the hated excise on whiskey (see Chap. XV), Western farmers began to convert more of their crops into cattle and hogs, driving the animals across the mountains to Eastern markets. Before 1800, herds of many hundreds of cattle and droves of from 4,000 to 5,000 swine were common sights along the highways on the Alleghany plateau. It is estimated that from Kentucky alone 100,000 hogs annually were delivered in this fashion before 1812.

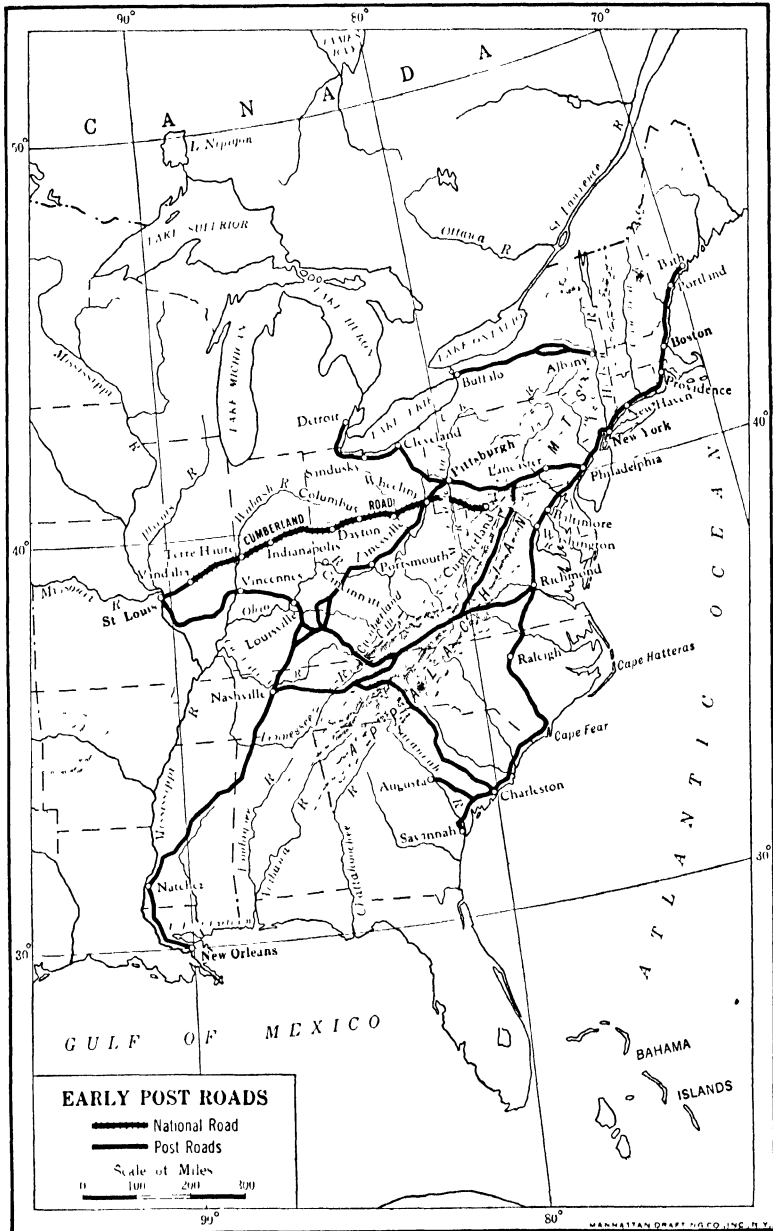
The Turnpike Era. George Washington was one of the first persons to advocate a thorough system of westward lines of traffic. Stimulated by his interest in Ohio Valley land speculation, in 1784 he proposed roads along routes later followed by the New York Central, Erie, Pennsylvania, Baltimore and Ohio, and Chesapeake and Ohio railroads. His proposals also included the development of Western rivers, the building of canals, and the encouragement of steamboat inventors. The immediate effect was authorization by the Virginia legislature for a canal company and roads from the James to the Kanawha and from Winchester to the Monongahela.

The building of hard-surfaced roads began with the chartering of the Philadelphia and Lancaster Turnpike Road Company in 1792. Within two years' time the project, 62 miles long and 24 feet wide exclusive of shoulders, was completed. The construction, of heavy

stone base and crushed stone surface, was not far different from the types which the Scotchmen Thomas Telford and John L. MacAdam were at the same time developing for the relief of mud-marooned Europe. Though the Lancaster "pike" cost \$465,000, the tribute collected at the nine toll gates paid as high as 15% a year on the investment. Many people fought the monopoly, preferring to plow through hub-deep mud rather than pay the tolls, but actual savings of money as well as time were welcomed by level-headed teamsters. The success of the company incited emulation from New England to Virginia and out into the West. Where stone or gravel were unobtainable or too expensive, dirt roads were improved by grading and drainage. Corduroy was still depended upon for swampy lands. In New York alone, from 1800 to 1807, some 88 companies with over \$8,000,000 of capital stock built above 3,000 miles of turnpikes. The activity continued unabated until about 1825, when the success of the Erie Canal turned the attention of state governments and speculators in another direction. For several years afterward, state and federal road building projects were continued.

Plank Roads. The plank road, popular for a twenty-year period following 1835, was for a time considered more practical than the railroad. Built of thick boards nailed crosswise to stringers, such highways were relatively inexpensive and very profitable. They could support loads heavier than any wagon could haul, and were proclaimed successful by passengers traveling at the exciting rate of nine miles an hour at a fare of two cents a mile. In 1848 the legislature of Michigan incorporated at least 50 plank-road companies, while thousands of miles were under construction in New York and other states. In Alabama a railroad company gave way entirely to a rival plank road. When worn out, not many of them were rebuilt. The railroad had proved its permanence, and highway building languished for a few generations until the transportation demands of a new era should compel the construction of roads such as were not dreamed of in the early days.

Early Bridges. The improvement of roads led logically to the building of more and better bridges, the principal contribution of the period being the suspension bridge. The first of these was erected near Uniontown, Pennsylvania, in 1796. Some of them are still in use. By 1808 New York had twenty toll bridges besides a few government owned ones. By 1820 great progress had been made in most of the older states, but the West and South lagged behind. Even at so strategic a point as Wheeling the main channel of the Ohio River was not bridged till 1849, but this was due mainly to the hostility of steamboat men acting at one time under the advice of Edward Stanton.



Such opposition, fanned also by the rivalry of steamboat towns, explains why the Baltimore and Ohio Railroad used barges at Parkersburg until 1871.

The Federal-aid Controversy. Taking the country as a whole, the most significant outcome of the turnpike era was the building of improved roads between the East and the West, and particularly the interest of the federal government in the first of these from Cumberland, Maryland, to Wheeling. Continually, since the early days of Washington's administration, the "general welfare" clause of the Constitution has furnished a lively subject for debate, and scarcely more so anywhere than in connection with projects for government aid in the construction of the paths of commerce. It was necessary in every case to show that any such activity was either for common defense or general welfare. Also there were numerous niceties of constitutional scruple about congressional appropriations for internal improvements within or between the states. The Tenth Amendment, with its reserved rights of the states, was frequently invoked, and there was much debate over the meaning of the clause authorizing Congress "to establish . . . post roads." Between strict and loose constructionists there were all shades of intermediate opinion. Hardly anybody of consequence opposed internal improvements as such, but many were hostile to government aid indiscriminately administered, especially where one section of the country might profit at the expense of another. Some, like Madison and Monroe, favored a constitutional amendment to make federal assistance possible. Jackson, generally hostile, would occasionally relax his vigilance and accept a bill concerning which there was at least a reasonable question as to the universality of welfare involved.

Some precedent for federal aid was made as early as 1796. Again, in 1802, Congress authorized the spending of 5% of the proceeds from land sales in Ohio for the building of a road to, across, and beyond the state, but the consent of Ohio was secured. Jefferson, in his Second Inaugural Address, favored the spending of surplus revenue for "canals, roads, arts, manufactures, education, and other great objects within each state." In 1808 Albert Gallatin, Secretary of the Treasury, recommended a thoroughgoing system of improvements along the coast and in the interior. Canals should be cut across the peninsulas from Cape Cod to Albemarle Sound to provide a safe ship channel for merchantmen and naval vessels. The East should be knit to the West by roads between the headwaters of Atlantic coastal rivers and Ohio River tributaries in the mountain valleys. Rivers in various parts of the country were to be improved. Numerous canals, including one from the Mohawk to Lake Ontario and another around Niagara

Falls, were proposed. Since some of these projects were already under way, he estimated that the federal government could do its part with the expenditure of \$20,000,000 over a period of ten years. Not much of the report was ever acted upon by Congress, but it probably had some influence in hastening the action taken by Congress on the Cumberland road project.

The Cumberland Road. In 1806 Congress authorized the appointment of a commission to select the route for the Cumberland road, but it was not till 1811, after permission had been secured from Maryland, Virginia, and Pennsylvania, that the first contracts were let for its construction. There was nothing niggardly about the way the road was built: four rods in width, with a roadbed of stone 15 inches deep and covered with gravel, it cost around \$13,000 a mile on the average for the 130 miles from Cumberland to Wheeling. By 1818 the work was completed,¹ though parts of the highway were opened for use still earlier. For about 20 years thereafter this was the greatest thoroughfare to the West. The state of Maryland already had a turnpike from Baltimore to Cumberland, thus giving the former city a decided advantage over Philadelphia and New York in the Ohio River trade.

It is difficult to estimate the amount of transportation on this road. In 1823 one of the five commission houses in Wheeling received about 2,000 tons of westward-bound freight, but this leaves out of consideration all of the wagon trade delivered directly to boatmen, the return traffic, and all of the immigrants and their goods of whom there was no reckoning. A picture of the life of the road is given by a journalist who spoke of lodging for the night at one of the numerous taverns, this one at the top of Negro Mountain, at a time when 30 six-horse teams, 100 mules, 1,000 cattle, and an equal number of hogs, in addition to their drivers were stopping for the night in the same locality. Freight and stage lines of national repute sprang into existence. Their drivers acquired a local fame for efficiency and courage, sometimes also for profanity and fighting, which made them fair forerunners of the later half-fabulous Jim Bridger. The Cumberland road soon had rivals to the southward, as well as canal competition to the northward. Of Southern roads, one of the most celebrated was the James River and Kanawha turnpike, completed to Guyandotte on the Ohio River in 1831. Another was the Northwestern turnpike from Winchester to

¹ After the construction of the Erie Canal, Congress again began periodical appropriations for continuing the road to Jefferson City, Missouri. It ran through Zanesville, Columbus, and Springfield in Ohio; Richmond, Indianapolis, and Terre Haute in Indiana; and was built as far west as Vandalia, Illinois. By the time the latter town was reached, state roads westward made farther extension unnecessary. The highway was often referred to as the "National Pike" or "National Road." It later became a part of U. S. Highway No. 40. In 1853 the federal government turned the road over to the states

Parkersburg, opened for use in 1838. The former was an important post road, much used by travelers and drovers. Over 60,000 hogs were driven over it in the fall of 1826, some years before it reached its terminus.

Tolls and Freight Costs. Aside from convenience and speed, the westward turnpikes effected a great saving in freight costs. In 1818 it was estimated that over \$18,000,000 of goods were sent from Philadelphia to Pittsburgh at a cost of \$160 a ton. Total freight costs on these valuable shipments amounted to about \$750,000. Before this time it took from 4 to 6 weeks and a cost of from \$120 to \$200 a ton to convey products from Baltimore to Wheeling. Over the Cumberland road both time and cost were cut at least a half. State governments took a lively interest in private roads as well as those of their own construction. Both types usually charged tolls which were subject to state regulation. The charges varied as widely as the degree of accommodation afforded, but it does not follow that the largest sums were in return for the greatest conveniences. The degree of monopoly possessed was a more important factor, the rule being to charge all that the traffic would bear or the legislature would permit. The crossing of a bridge or ferry sometimes cost a dollar or more for a man, wagon, and team. On the Schenectady and Utica turnpike $\frac{1}{2}$ ¢ a mile was collected for a horse and rider while the rate for a six-horse wagon with narrow tires was 20 times as much. One cent a score for driven sheep and 2¢ for the same number of cattle were customary mileage tolls. Where profits were government regulated the percentage usually ranged from 6 to 9 on capitalization, surpluses often going to the state to be applied toward public ownership. Here was precedent for later railroad regulation, the laws sometimes extending so far as to provide compensation for injured laborers.

Federal Projects. The federal government also continued to contribute to roadbuilding projects, though on a comparatively small scale. About \$35,000 were spent on other roads while the Cumberland "pike" was approaching Wheeling, though much more had been appropriated. Then, in 1817, a more determined attempt at a raid on federal funds was made. The "Nationalists" (see Chap. XV) sponsored a bill for diverting the \$1,500,000 bonus paid by the United States Bank, and future government dividends from the same, to the states for road building. Madison vetoed the bill on constitutional principles, and Monroe adhered to similar views. The latter obstructed federal appropriations except for small amounts where common defense or general welfare were obvious. John Quincy Adams was of a different mind, but found himself unsupported by the majority in Congress.

Andrew Jackson, with a hearty detestation of all monopolies, was generally hostile to government partnership in speculative enterprises, and also opposed federal aid to the states unless by constitutional amendment. This was early made manifest by his veto of a bill for purchase of stock in a road running from Maysville to Lexington, Kentucky. Henry Clay's supporters in Congress had made this bill a test to break the power of Jackson. Acceptance would cause alienation of presidential support in the South, while rejection was expected to have a similar effect in the West. But Jackson was a better judge of popular opinion than were his critics, and the veto met with hearty approval in the very section Clay had hoped to win over to his standard. As a test measure Clay would have done better to select a road more remote from Ashland. Other vetoes of like proposals followed. Nevertheless, Jackson showed himself a genuine friend of truly national projects. Of \$9,500,000 spent by the federal government on roads and canals from 1802 to 1835 two-thirds were disbursed in his administration. On top of all this came the Distribution Act of 1836, whereby a sum three times as great as all that had gone before was thrown into the whirlpool of state speculation.¹ The donation of the proceeds from the sale of public lands, from 1841 to 1842 (see Chap. X), was the last important effort at federal aid for internal improvements of a local character prior to the inauguration of a system of land grants to railroads in 1850.

Canals in the East. The digging of canals was the next significant movement in the development of commerce between the Atlantic and the Ohio Valley. Prior to 1800 several canals had been built in America, some of them being successful. Notable among these were the Santee and Potomac enterprises. The former was dug from Charleston to the Santee River between 1792 and 1800. By 1825, using rivers part of the way, it was extended to Abbeville in the western end of the state. After continuous and profitable use for half a century, railroad competition deprived it of its patronage and it was abandoned in 1858. A distinctive feature was the use of locks for a descent of 207 feet. The Potomac Company, chartered by Maryland and Virginia in 1785 with George Washington as its president, took up the task of conquering the falls of the lower Potomac and providing slack-water navigation for the remainder. By 1819 the company was bankrupt, but it had built locks for a descent of 113 feet in a very difficult region, part of it through solid rock, around the falls above Georgetown. In the same period the James River Company paralleled the falls at Richmond with a lock canal and improved the bed of the river up to Buchanan.

¹ See Chap. XV. To the present time the Treasury books carry an item of \$28,101,644 listed as unavailable funds.

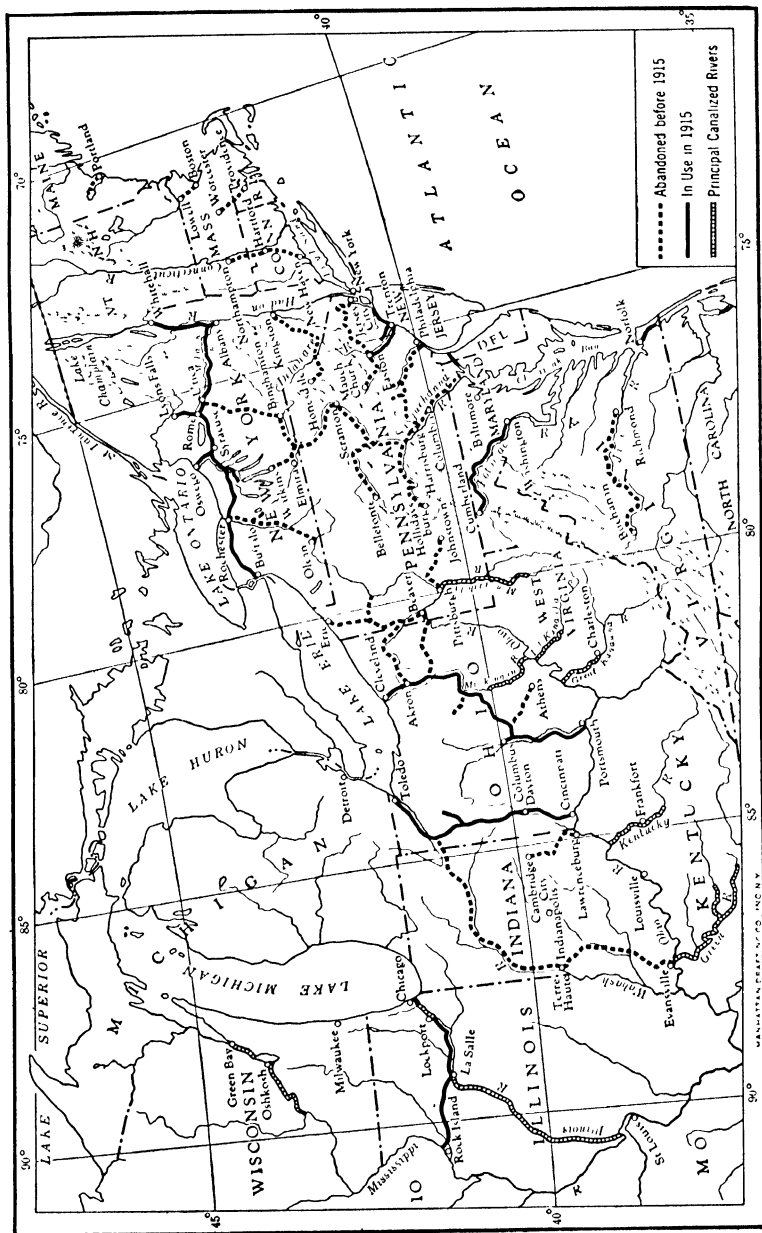
As early as 1762 a survey was made for a canal from the Schuylkill to the Susquehanna in Pennsylvania. Because of numerous delays this Union Canal was not completed till 1827.

Erie Canal. One of the earliest visions of complete water connections with the trans-Alleghany region was that of Alexander Spotswood in 1716, when he proposed a canal from the James River to the Great Kanawha, but that was the last of the idea for generations. The inception of the idea of the Erie Canal probably belongs to Gouverneur Morris in 1777.¹ Washington also toyed with the idea seven years later. But it was the agitation of Elkanah Watson from 1788 to 1792 which brought the practical result of a franchise for a company to connect the Mohawk River with Lake Ontario. It was hard to find capitalists willing to finance such a venture, but by 1795 enough of the project was completed so that tolls were coming in in gratifying amounts. By 1817 the company was earning 5.5% on its investment. As in so many other contemporary enterprises, canals were used only to get around falls and across portages. The Mohawk and Oswego rivers were used for the remainder of the distance. The locks, as in the later Erie Canal, were copied from those of the Potomac Canal.

The transportation needs of the state of New York and the commercial aspirations of the metropolis were not to be satisfied by such a meager achievement. The West also was eager for cheaper imports from the Coast, and in 1807 Jesse Hawley of Pittsburgh began publication of a series of articles calling for a canal to Lake Erie. By this time DeWitt Clinton had joined efforts with Morris, the result being that in 1808 the legislature called for a survey of a route and asked Congress for a grant of 4,000,000 acres of public land as a subsidy for the enterprise. At this juncture the West objected, insisting that if federal aid were granted it should be for a canal around Niagara Falls, giving an outlet by way of the St. Lawrence River, and another across Panama for the benefit of the Mississippi Valley trade.

Foreign difficulties hampered progress for the next several years, then, in the era of general enthusiasm following the War of 1812, the work was assumed by the state government and pushed to completion. In 1817 Clinton became governor and the work of construction was begun. A good part of the route was virgin forest, but means were found to combat this difficulty. The plow and scraper replaced the spade and wheelbarrow. A machine was invented for pulling up trees, while the matted roots were cut by a specially constructed plow. The canal was 40 feet wide at the top, 28 feet at the bottom, and carried 4 feet of water. Locks built of native stone overcame an ascent of

¹ In 1724 Cadwallader Colden, surveyor general of New York, had made suggestions as to the future greatness of internal navigation in the colony.



617 feet toward Lake Erie and a further descent of 62 feet. The Genesee River at Rochester was crossed by an aqueduct. The 363 miles of canal from Buffalo to Albany, including 3 hydrostatic weighing locks, cost a little over \$7,000,000.

The commissioners expected the canal to pay for itself in 10 years and then return enough money to the state to pay the cost of government and leave a surplus for the building of other roads and canals. The first hope was realized ahead of schedule. While the rest of the promoters' dreams were only partially fulfilled, their optimism was amply justified. Before 1830 most of the custom of the canal originated in New York, but year by year the proportion of Western trade increased. By 1838 more grain was coming to Buffalo than to New Orleans. In 1860 New York lake ports received the equivalent of 61,400,000 bushels of wheat.

Pennsylvania Canal. The success of this venture was apparent for some time before its completion, stimulating other states to stampede for their share of Western commerce as well as to reap the advantages of better and cheaper intrastate transportation. New York herself extended her canal system into a network of 803 miles by 1850, besides making continual improvements on the trunk canal. Pennsylvania was the first state to emulate the example, but there were years of internal disagreements and false starts before a genuine beginning was made. Turnpike, bridge, and ferry companies, tavern keepers, horse raisers, and growers of corn and hay fought the creation of a state canal system. There were sectional dissensions over the routes to be followed. But, finally, the commercial interests of Philadelphia won the day, and in 1826 an act was passed for the building, owning, and operation of a canal by the state. Starting with the Western terminus of the Union Canal, the route of the Susquehanna and Juniata rivers was followed to Hollidaysburg. West of the Alleghany Mountains the rivers were followed from Johnstown to Pittsburgh. This left thirty-six miles of mountain country with an elevation of over a thousand feet to be conquered. For lack of water supply at the crest, locks were out of the question. So canal boats were floated onto railroad trucks and pulled up and let down the mountain sides by stationary engines. At one point the railroad passed through a tunnel. The canal, 394 miles in length, was opened for use in 1834. Before 1840 Pennsylvania had the most extensive canal system in America, with a total of 954 miles.

The cost of the main line was nearly \$16,500,000, mostly procured by foreign loans. In spite of the great cost it was a financial success, its earnings in 1852 at the zenith of business being \$1,500,000. Though it did not approach the Erie Canal in volume of traffic, the Pennsylvania Canal was for twenty years the most important route from the

upper Ohio to the East. In a few years there were eight different companies owning as many as twenty packets, freighters, and mixed boats each. Some of the passenger carriers were almost as palatial as the steamboats of the gingerbread and tinsel age. Pittsburgh, which for some years had been suffering from the superior advantages first of Wheeling and then of Buffalo, began to revive. The amount of flour, meat products, wool, tobacco, and hemp sent from Pittsburgh to Philadelphia soon doubled in volume, as did also Pittsburgh's westward trade in textiles, household wares, groceries, drugs, and whiskey. For the first time it was possible for a keelboat to load at Philadelphia and unload at St. Louis without intermediate shifting of freight. In 1857 the Pennsylvania Railroad Company bought the main-line canal from the state. In 1864 the portion west of the mountains was abandoned, but for another forty years the eastern division was used for the hauling of coal and stone.

Other Eastern Canals. Baltimore and the towns of the lower Potomac also were incited to rivalry with the Erie Canal. In 1823 the Chesapeake and Ohio Canal Company was chartered by Virginia, but controversies between possible terminal points in the East delayed progress. Baltimore finally decided to drop the contest and foster a railroad project instead. By 1850 the canal reached Cumberland, and was long valuable in helping to carry on the coal trade, but it was the Baltimore and Ohio railroad which penetrated the West. The canal at least had the virtue of permanence. The Richmond merchants also coveted the Western trade, and in 1835 started a James River and Kanawha project which continued the work dropped in 1819. By 1856 the headwaters of the James, fifteen miles above Buchanan, were reached at a cost of over \$10,000,000. A later effort to continue the work was checked by the Civil War. About 1879 the federal government took a temporary interest in the matter, but the canal was bought by a railroad company in 1880 and all further notions of a waterway to the Ohio were abandoned. Efforts to sever the Atlantic peninsulas, according to Gallatin's plan, were also revived. In 1828 the Hudson and Delaware rivers were joined by a canal for the benefit of the coal mining industry. Two years later, Chesapeake Bay was brought in touch with Philadelphia by a canal which flourished for forty years. The movement for a federal-built coastal waterway has been revived and consummated only in very recent years.

Western Canals. It was only natural that the rage for canal building should extend to the Old Northwest. The northern portions of Ohio and Indiana could secure the greatest advantage from the Erie Canal only if artificial waterways should supplement the rivers flowing toward the lakes. Excellent wheat lands north of the watershed of

the states could be occupied only if Eastern markets were made available. Ohio River cities from Marietta to Evansville also desired canals so as to add further to the river traffic. Ohio, starting in 1825, built a more elaborate and successful network than any other state in the Union aside from New York and Pennsylvania.¹ By 1832 a canal paralleled the Scioto and Cuyahoga rivers from Portsmouth to Cleveland. Eight years later a branch was completed to Zanesville, thus serving Marietta by way of the Muskingum River. Another branch made connection with the Pennsylvania Canal. The Miami Canal reached from Cincinnati to Dayton by 1830 and Toledo in 1845. The rest of Ohio's system consisted of feeders.

Indiana's efforts were retarded by the Panic of 1837, but by 1840 the Wabash and Erie Canal was in use from Lafayette to Toledo. In 1851 Evansville was reached. The Whitewater Canal of southeastern Indiana, completed by private enterprise, was another product of this era. In 1836 Illinois responded to long agitation by an agreement to connect Chicago with the Illinois River at La Salle. Financial difficulties worse than those of Indiana postponed the completion of the task till 1848. Other important Western canals were the Welland, built around the Niagara Falls by Canada and completed in 1833, the Sault Ste. Marie, past the rapids between lakes Huron and Superior, accomplished by Michigan in 1855, and the Portland, paralleling the falls in the Ohio River at Louisville, built with federal aid by Kentucky and opened in 1828.

Effect of Canals on the West. An understanding of what the canals accomplished for the Ohio Valley region cannot be complete without a knowledge of earlier river transportation, a summary of which follows, but a few items will indicate the stimulus to agriculture and trade. Two factors made the down-river traffic in grain especially unsatisfactory. The falls at Louisville were impassable for large boats except at high stages of the river, causing congestion for weeks at a time. Then, the climate at New Orleans caused sweating in stored grain, and also the delta market was often swamped by spring arrivals, resulting in sacrifice prices. For reasons later to be explained the cost of floating goods down the rivers was not as low as it might seem, while the importation of products upstream was a Herculean task. Hence, whether buying or selling, the people of the West were at a tremendous disadvantage. For instance, in the typical years of 1818 and 1819 flour at Cincinnati was valued at \$3.50 a barrel while the price at New York was \$8. Other things being equal, but with freight reduced to the

¹ Of 3,698 miles of canals in the United States in 1850, the East, including the Potomac Canal, had 2,215 miles. Ohio had 792 miles and the rest of the United States 691 miles. The last figure includes 216 miles in Virginia, 214 in Indiana, 100 in Illinois, and the rest scattered among six Southern states.

later canal rates, the West would have gained \$2.80 a barrel, or over \$360,000 for the amount handled at Cincinnati alone.

The reduced spread in prices brought by canals was not wholly for the benefit of the West. The hope of greater profits led to extended production, a quickened westward migration, and the cultivation of much more land. Nevertheless, by 1830 wheat was bringing 25¢ more a bushel and flour a dollar a barrel more than the prices of a decade earlier, while salt, a prime necessity of the Ohio Valley, was reduced from 87¢ to 50¢ a bushel. In the first year of the completed Ohio Canal the wheat shipments from Cleveland increased from 1,000 to a quarter of a million bushels, besides corresponding growth for flour, butter, and lard. In a short time wheat was selling in central Ohio for more than it brought in the cereal regions of Pennsylvania. Lake traffic also was stimulated, one indication being the soaring population of lake cities from 1830 to 1860. Chicago grew from nothing to 109,000, Cleveland from 1,000 to 43,000, and Detroit from 2,000 to 45,000, but lake steamers and railroads were important contributing factors. In the 1850's much grain was being shipped from the Superior region through the Sault Ste. Marie Canal—copper and iron ore as yet being small items.

The Passing of the Canal Era. The irony of the canal era was that just as the systems were completed and reaching the point of greatest usefulness they were forced into disuse. Railroads were faster and better managed, and they could be used the year round. But railroad companies also often set about deliberately to crush competition by rate cutting and sometimes by purchase and closure of portions of canals. For instance, the Wabash and Erie Canal was scarcely in use to Evansville before its doom became apparent. Great trees growing from its bed and along the tow path attest the generations of disuse. Yet, for heavy freight, canal transportation has always been cheaper than by rail, and, for the movement of grain, waterways are speedy enough. Slower marketing has often been recommended as a means of relieving farmers from glutted markets.

Early River Trade. Prior to the advent of the steamboat, most of the commerce of the West was carried by flatboats, keelboats, batteaux, or even canoes. Flatboats were of various kinds, barges, arks, and broadhorns being frequently mentioned. They were steered by oars or sweeps, depended upon the current for motive power, and often had to be dragged across shallow places. On arrival at their destinations they were sold for their value as used lumber or were converted into houses by their immigrant owners. They varied in length from 30 to 120 feet and in width from 7 to 25 feet, the larger ones being as much as 5 feet in depth and carrying immense cargoes. Keelboats, from

30 to 75 feet in length, built upon the pattern of a ship's hull, and carrying from 15 to 40 tons, could be used in upstream traffic at a tremendous expense of muscular effort. Relays of men, locally known as "alligator horses," walked from stem to stern poling the boat along, then trotting to the end of the line again, thus traveling almost twice the length of the journey.

A year after Pittsburgh fell into English hands its population was 149, but growing rapidly. By 1765 boat yards were established and soon were teeming with activity. During the War for Independence the flatboat came into use, and in 1788 observers at Fort Harmar estimated that 12,000 immigrants passed that point. The million-dollar mark for down-river trade to New Orleans was reached in 1798, but in less than a decade the volume was five times as great, carried by about 2,000 flatboats and keelboats. Migrating families took houses, furniture, implements, and barnyards with them as they descended the streams. "Boat stores," peddled wares at wharves till after the Civil War.

There were numerous hazards in river transportation. River pirates were particularly vicious prior to 1794. Snags, sawyers, sandbars, and other obstructions were numerous and deadly, cropping up at the most unexpected times and places. The rivers, never the same on two successive trips, had to be studied constantly in order to assure a safe passage. Constant shifting of the bed and cutoffs in periods of high water were among the things to be reckoned with. One day a village might be on one side of the Mississippi and the next day on the other. The town of Delta was at one time three miles below Vicksburg, but cutoffs shifted its relative position to a like distance above. It has been said that if La Salle could follow his route of 1682 in the twentieth century he would travel by land most of the way, sometimes several miles from the river. Boatmen who learned from their trade the eccentricities of the Mississippi River were the tribe from which the later hardy race of steamboat pilots was to spring. A cost always to be reckoned in flatboating was the return of the crew upstream. Taking the shortest practicable route cross-country, hundreds of boatmen annually made their way on foot from New Orleans to Louisville, Cincinnati, or Pittsburgh. The gigantic feats of some of them at labor, fighting, and drinking became a part of the folklore of the old West, with Mike Fink occupying a position almost analogous to that of a Roland or Beowulf.

Before steamboat days there was relatively little upstream traffic. It took 30 men 3 months to pole a large keelboat from New Orleans to Cairo, the resulting cost being more than that of wagon freight from Philadelphia to Pittsburgh in 20 days. Scarcely a tenth as much goods

therefore went up the river as descended it. The steamboats overcame most of this difficulty, but, by the time they had reached large numbers, canal connections with the East furnished such competition that only about half as much goods came up the Ohio as went down it. Yet, Louisville was in 1789 designated as a port of entry, while other towns, even to Palmyra, Tennessee (on the Cumberland), soon became likewise dignified. By 1795 regular mail service was established between Pittsburgh and Cincinnati, the trip being 6 days down stream and twice as many up. During the War of 1812 the blockade of Eastern ports reversed the rule of river trade, some goods coming from New Orleans to Pittsburgh and then across the mountains to Eastern points.

The most stupendous feat of the flatboat age was the moving of coal from Pittsburgh. Some of the craft held as much as 1,000 tons each, and were guided down the river in pairs. By 1850 Pittsburgh was disposing of about 1,000,000 tons a year in this fashion, most of it going to points on the Lower Ohio. After a period of extended drought or flood as many as 2,000 men were needed to move the fleets. Sometimes there were accidents resulting in much loss of life and property. Yet the coal trade was very profitable at a time when the product was bringing from \$10 to \$12.50 a ton at its destination, and rivermen could be hired for \$75 for the trip to New Orleans. Steamboats ultimately took over this trade also. After 1856, flatboats were no longer counted by officials at New Orleans. The schooner-like barges of earlier days were becoming scarce by 1830, and before the end of another decade keelboats were left only on the upper reaches of the rivers. Meanwhile, flatboats and their kindred had made the towns which the steamboats were to serve. Cincinnati, by 1818, had a population of 10,000 and, because of her packing industry, was known as Porkopolis. By the same date Pittsburgh, numbering 7,000, was beginning to enter the lead among iron manufacturing centers. Louisville since 1795 had had government-inspected tobacco warehouses, and by 1818 the city was the nucleus of the Western tobacco trade. St. Louis, in 1820, with a population of 5,000, was noted for her traffic in furs from the far West and lead from the Galena district.

Ohio River Shipbuilding. A most interesting feature of Western river traffic is the development of shipbuilding along the Ohio River. Virtually everything needed for the industry was found or manufactured in the region. Elizabeth, Pennsylvania, had a shipyard before 1789, while four years later a schooner built there descended the rivers and later appeared at Philadelphia. In 1798 the federal government had two warships built at Pittsburgh for possible use against the Spanish in a controversy over the right of deposit at New Orleans.

Beginning in 1800 there was a lively decade of shipbuilding at various towns from Elizabeth to Louisville, and probably beyond in each direction. The vessels were of a capacity up to 450 tons, and were usually sold with their cargoes at American or European ports. Probably not less than \$1,000,000 worth of ships were built before the industry was stifled in the period of commercial difficulties just before the War of 1812. Beginning in 1844 the business was revived at Marietta and continued unabated till the Mississippi River was closed by the Civil War. Some of the vessels built at Marietta were suspected of being engaged in the illegal "blackbird" trade. Pittsburgh in this later period constructed some vessels with iron hulls. Cincinnati and Point Pleasant also participated.

Early Steamboats. The idea of steam navigation goes back hundreds of years. Blasco de Garay operated a steamboat of side-wheel design at Barcelona, Spain, in 1543, but the stories of its success are probably exaggerated. At any rate the experiment led to no important consequences. Jonathan Hull of Great Britain, in 1737, published a treatise on self-propelled boats, with a drawing resembling later steamboats. Between 1784 and 1800 at least a dozen Americans conducted valuable experiments. James Rumsey of Virginia, in 1784, interested George Washington in a steamboat propelled by setting poles after the pattern of keelboats. He got a ten-year monopoly in his own state and made several other efforts before his death in England in 1792. John Stevens of New Jersey, Oliver Evans of Pennsylvania, and John Fitch of Connecticut, later Pennsylvania, and finally Kentucky stand out prominently among other eighteenth-century steamboat builders. Fitch was preëminent of this group. In 1785 he launched a boat in Pennsylvania with paddles on an endless chain. His second boat had side wheels, while the third, a stern wheeler, in 1788 met with such success that it ran several trips between Philadelphia and Burlington, New Jersey. In 1790 it covered 1,000 miles as a regular packet. In 1796, following the ideas of Benjamin Tupper of Massachusetts, he tried a screw propeller. Several states, including New York, granted Fitch monopolies, but steam engines of the period were highly imperfect and Fitch was constantly beset by financial difficulties. He finally committed suicide in Kentucky while working on a model to be mounted on wheels and run on a submerged track, probably for use on canals. Meanwhile, nearly every other form of propulsion had been tried by one person or another, from the duck's foot paddle of Elijah Ormsbee to the pumping of water through the boat by Rumsey. In 1804 Stevens had a workable twin-screw propeller.

Beginnings of Western Steamboating. Robert Fulton had the successes and failures of all these predecessors to guide him. He had

especially the advice of Rumsey, the financial assistance of Robert R. Livingston, and the advantage of improved Boulton-Watt engines.¹ He also fell indirect heir to Fitch's monopoly in New York. Within two years after the success of the *Clermont* on the Hudson River in 1807, Fulton and Livingston sent the third partner, Nicholas J. Roosevelt, to the headwaters of the Ohio to exploit the Western rivers. The *Orleans*, built under Roosevelt's direction, was in 1811 the first steamboat to descend the rivers under its own power. This and two successors engaged successfully in the New Orleans-Natchez trade, but, being built too much like sailing vessels, they could not successfully combat the strong current higher up the river.

Foremost among the list of Western steamboat builders stands the name of Henry Shreve. He built the *G. Washington* at Wheeling in 1816, with a hull adapted to shallow rivers and with engine and cargo space above the water line. In 1817 this boat made the round trip between Louisville and New Orleans in forty-one days, the first time such a task had been accomplished at ordinary stages of the rivers. Within twenty years, boats of this pattern had a greater tonnage than all the ships of the Atlantic seaboard and the Great Lakes combined, and more than that of all Great Britain. Shreve was also the inventor of a snagboat which cleared the rivers for safer travel. At least equally memorable was his fight for freedom of navigation of the Mississippi. The state of Louisiana, contrary to the terms of its admission to the Union, had granted a monopoly on the lower river to the Fulton company. Shreve and other independent steamboat men ignored the prohibitions against them and found support in the state courts. By 1820 the Fulton company had virtually abandoned the fight. Four years later the United States Supreme Court, in the case of *Gibbons vs. Ogden* arising out of the New York monopoly, decided against the authority of a state to limit free use of navigable streams, but this question had been settled for the real steamboat country long before.

For a score of years after 1824 Congress made regular appropriations for removal of snags and improvement of the river beds. The Portland Canal also proved a boon to boatmen who were not too bull-headed to pay the tolls. But after 1844 federal grants dwindled to insignificance, thus renewing the hazards of steamboating just as the business was entering its greatest era of prosperity. Meanwhile, industry and trade had been stimulated on all navigable streams. By 1817 Cincinnati had a foundry for steam engines and was forging ahead as a meat-

¹ Fulton's early boats built in France were so imperfect that he would not even offer the idea to Napoleon for the moving of the Boulogne flotilla. At the same time he was experimenting with submarines, torpedoes, and torpedo boats.

packing center ¹ and depot for shipment of grain. Wheeling showed a decided increase in the manufacture of flour, glass, and paper, while Pittsburgh experienced a boom in the manufacture of iron and shipment of coal. In the early 1830's steamboats started the practice of towing barges of coal, later finding it more effective to push them instead. In 1854 the first tow of coal to New Orleans netted the owners of the *Crescent City* \$16,000. By this time barge building had become a leading industry of many river towns. In 1859 New Orleans received \$3,000,000 worth of coal while in 1865 the mines along the Monongahela alone were sending 2,000,000 tons to various points down the river. Smaller rivers, such as the Great Kanawha, Allegheny, Tennessee, Cumberland, Green, and Wabash were soon swarming with steamboats to the last possible limits of navigation. Much of the cotton of Tennessee and northern Alabama and Georgia was, by 1840, finding its way down the Cumberland and Tennessee to the Ohio and thence to New Orleans.

Though the Ohio and lower Mississippi rivers had far the greater traffic, the upper Mississippi and Missouri were not neglected. In 1823 Fort Snelling (Minneapolis) was reached by steamboat, and thereafter the trade was constant. By 1819 steamboat men had ascended the Missouri River to Council Bluffs in pursuit of the fur trade.² When British rivalry for the skins of the upper Missouri region became keen the American Fur Company had to abandon the use of keelboats and resort to steamboats. In 1832 the *Yellowstone* reached Fort Union and shortly later the mouth of the river for which it was named. St. Louis became the headquarters for the trade of the upper Mississippi system with New Orleans and the Atlantic Coast. Not enough wharf space could be found to accommodate all of the boats in adequate fashion.

The Santa Fé and Western Trade. As an accessory of the Missouri River traffic was the overland trade with Santa Fé and other points in the far West. From Franklin, Missouri (opposite the present Boonville), a town later washed away by the river, William Becknell in 1822 conducted a wagon train of merchandise to Santa Fé, following the pack-horse trail of still earlier days. In succeeding years dry goods were thus regularly exchanged for horses, mules, furs, wool, and silver. Following the American conquest of New Mexico, the trade averaged over a million dollars a year and in 1866 reached \$3,500,000. Independence, Missouri, became the principal river port for the teamsters.

¹ Before 1850, some 400,000 hogs a year were butchered at Cincinnati, but the city was trying to forget the democratic nickname of "Porkopolis" in favor of the more autocratic one of the "Queen City."

² For a decade or more before 1800 the fur trade of the upper Mississippi Valley had averaged above \$200,000 a year.

New Mexico also had an overland trade in sheep driven to California in exchange for gold, the latter being spent largely for goods coming in over the Santa Fé trails. (See map, Chap. XIX.)

After 1848 another large traffic sprang up with the Mormons, newly arrived in Utah. Dry goods, groceries, hardware, and drugs constituted the bulk of the westward consignments which in the days of the wagon trains reached as much as 12,000 tons a year. From Independence and Fort Leavenworth the routes converged upon the Platte River and went by way of the South Pass of the Rocky Mountains to Fort Bridger and Salt Lake City. From the latter point another road was soon followed to Sutter's Fort and San Francisco. From South Pass a still earlier route led by way of the Humboldt, Snake, and Columbia rivers into Oregon. It had been followed by explorers as early as the 1830's, and was pursued by great caravans of migrants in the next decade. The trails westward from the Rockies played but small part in overland commerce, ships rounding Cape Horn being the main reliance of the Pacific Coast. East of the Great Divide, contact with the Missouri River was more economical than with San Francisco. The discovery of gold in western Kansas Territory (later Colorado), in 1859, led to an extensive trade in tools and provisions. In the same year a stage line was opened from Leavenworth to Denver, later continued to the Mormon metropolis and the Golden Gate. Before the Civil War there was passenger service from coast to coast. By 1854, four-horse mail coaches were traveling from Independence to Salt Lake City in 30 days, but they could not make money hauling passengers that far for \$150 or to San Francisco for \$300. In winter, only heroic efforts brought the mails in two months' time from the Missouri River to Salt Lake City. The Overland Stage Company after 1858 prided itself on a ten-day trip from St. Joseph, Missouri, to the Utah capital, or 15 days for the 1,900-mile journey to San Francisco. The Pony Express, begun in 1860, established the phenomenal record of 9 days from St. Joseph to the Pacific. This was almost as remarkable at that day as 15 hours by airplane from coast to coast in 1933.

Freight rates across the plains were extremely high as compared with water or rail transportation. A rough-and-ready tribe of "bull whackers" piloted trains of "bull wagons" across the country. The "J. Murphy wagons" of the later years of the period carried as much as three tons, but in 1865 the federal government paid \$45 a ton each hundred miles for goods sent to Salt Lake City, or \$540 for the whole distance. The cost for a train of 25 wagons was above \$40,000 for goods that 20 years later could be shipped by rail for \$1,500 at rates that were considered excessively high. Meager as the volume of far-Western

trade might seem today, it was a significant contribution to steamboat traffic on the lower Missouri, and did much toward the development of St. Louis.

Steamboating at Its Best. Because of its strategic position, New Orleans profited most from the business of the rivers. From 1830 to 1840 it grew more rapidly in wealth and commerce than any other city in the country. Development continued during the next two decades, but not so favorably as compared with some Eastern ports. By 1843 the steamboat tonnage of New Orleans was over twice as great as the total ship tonnage of New York. Receipts of the city in outgoing trade increased from \$22,000,000 in 1830 to over \$185,000,000 in 1860, some 60% of the total at the latter date being cotton. In 1820 about 58% of the exports had come from the Northwest, but by 1860 the proportion had fallen to 23%. The total volume of such receipts had increased a little, but the old commercial ties between the Northwest and Southwest were breaking up. New means of communication, and particularly the railroad, were cementing the Northwest to the East, and political connections seemed to be following in the wake of commerce.

The golden age of the steamboat was from about 1835 to 1855, after which railroad competition caused retarded development. About 500 steamboats were in use in the Mississippi Valley by 1847, while for a decade before and following that date over a hundred were launched annually, with few exceptions. But the mortality rate was high, portions of the river beds being noted as steamboat graveyards. Great progress was made in the technique of boat building. The *Eclipse*, built at New Albany, Indiana, in 1852, was 363 feet long by 36 in width. Her engines had 36-inch cylinders with an 11-foot stroke and drove side wheels 41 feet in diameter with paddles 14 feet long and 26 inches wide. Few seagoing vessels were as large or as elegant. The *John Simonds*, built in the same year, had a cargo capacity of 1,100 tons, which was probably even greater than that of the *Eclipse*. The record of the *J. M. White* from New Orleans to St. Louis in 3 days, 23 hours, and 9 minutes, established in 1844, was not broken before 1870.¹ The profits on some boats ran from \$10,000 to \$20,000 for a single trip, this leading to ridiculous extravagance in decoration, equipment, and furnishings. From boiler room to texas (a "lone-star" stateroom for officers)² no money was spared in gratifying the vanity

¹ In a race between the *Natchez* and the *Robert E. Lee* in 1870 the latter established a new record of 3 days, 18 hours, and 14 minutes. At that date the river was about 82 miles shorter between the two cities than in 1844, when the distance was 1,300 miles.

² The cabins were originally named for the various states instead of being numbered, hence "state room."

of the owner in his efforts to outshine competitors. Durability was also an occasional consideration. Some iron-hulled boats were built (see Chap. XI) but did not become popular.

Steamboats had much to do with the settlement of the Western country, being a favorite means of travel even for many years after the success of railroads. In 1854 the number of homeseekers leaving Pittsburgh on St. Louis boats averaged 1,500 a day. Two years earlier a single boat in one trip carried 500 north from New Orleans. A total of 3,000,000 separate passages was recorded on Ohio River boats alone in 1855. After the latter date packet business on the Ohio declined, though there was no abatement of rafting and barge traffic. Whole lines of passenger packets went out of business or moved to more Western waters. On the Mississippi and Missouri there were several years more of prosperity. Ice, floods, panics, yellow fever, boiler explosions, and politics have been mentioned among causes for the relative decline of river shipping. But clever propagandizing of river disasters coupled with unfair methods of competition by railroads were among the leading causes.

Great Lakes Traffic. Steamboating on the Great Lakes was a distinct part of the development of the commerce of the West. There was slow but steady growth of this traffic from 1818 on, but as late as 1825 Henry Clay spoke of the proposed Sault Ste. Marie canal as being beyond the verge of civilization and as remote as the moon. The Ohio and Welland canals provided further stimulus which was followed by fifteen years of rapid growth of the fleets. Soon after 1840, screw-propellers were coming into use, while harbor improvements at Buffalo, Cleveland, Milwaukee, and Chicago attested the thriving business of the port cities. A national waterways convention at Chicago in 1846 was followed by new congressional appropriations for lighthouses, buoys, breakwaters, piers, and dredging. Lake tonnage grew from 7,000 in 1830 to over 393,000 in 1860. Grain products were the principal eastward cargo, both Illinois and Wisconsin exceeding Ohio in such exports before 1860. Meat, lumber, live animals, hides, wool, and copper also were prominent in the Western cargoes. After 1855 there was a beginning of the later important trade in iron ore to Cleveland and Pittsburgh, supplementing the supplies also coming from the lower Ohio and upper Cumberland rivers. West-bound lake traffic was more valuable but less bulky, consisting largely of the higher forms of manufactures necessary to new and growing communities. Despite enlargement of the Welland Canal in 1841, by the end of the decade it was too small for more than a fourth or a third of the lake boats in use.

Early Railroads and Locomotives. The beginning of railroads and steam locomotives, as in the case of steamboats, is difficult to establish.

This much is certain: first, that railroads and locomotives had separate origins, and second, that credit for the idea of steam-propelled vehicles on rails belongs to no one person or small number of inventors. The first railroads or tramways date back to fifteenth-century German mines and may have been known in ancient times. They were used in mines and mills and later as feeders for canals. Ordinary push cars or horse-drawn wagons were the rolling stock. Oftentimes there were no crossties to maintain the gauge and no flanges either on wheels or rails. Straight driving alone kept the cars on the tracks. In the eighteenth century some owners faced the wooden rails with strap iron, and flanges came into use—first on one or the other side of the rails and finally on the wheels. Some rails in 1767 were made of cast-iron plates with flanges. Before any locomotives were placed on them there were about 400 miles of these tramways in use in England and Wales, at least one of them being for public use. Private industries in America had experimented with these “dry canals” by 1800. There was warning at about the same date that such roads for public use should never become private property.

Apparently the first locomotive to run was tried on the highways of France by Nicholas Joseph Cugnot in 1769. Oliver Evans of Philadelphia in 1786 was laughed down by the legislature of his state when he asked permission to build a steam wagon for use on the public roads, but Maryland granted a similar petition with warning that he should hurt nobody with his contrivance. In 1802 he ran a five-horse-power carriage on the streets of Philadelphia without proving that competition with horses was as yet practicable. Two years later he mounted a steam scow on wheels and drove it under its own power along the streets. In this latter year (1804) Richard Trevithick of Wales put a locomotive (copied after William Murdock’s model of 1786) on a railroad, and by 1808 he had an improved locomotive which would make from 12 to 15 miles an hour. From that time on there were numerous other inventors in the field, and by 1829 George Stephenson and others in England had demonstrated the commercial worth of the new device. In 1830 Peter Cooper’s *Tom Thumb* made its first successful run on the Baltimore and Ohio railroad, but four years earlier John Stevens at Hoboken had probably the first locomotive on a track in America.

The First American Railroads. There were several “first” railroads in the United States, but, omitting some privately owned toy roads, three or four stand out with some prominence. The Carbondale and Honesdale, a short coal road in Pennsylvania, imported three English locomotives and tried them out in August, 1829. The rails proved too light to sustain the weight and the experiment was aban-

done, gravity and horse power then being depended on. More successful was the Charleston and Hamburg line in South Carolina. A part of this 160 miles was opened for use in 1830 with an American-made locomotive. This was the first permanent use of such a mode of traction. The Mohawk and Hudson railroad, later a part of the New York Central, was started in 1830 from Albany to Schenectady, operating with locomotives in fair weather and horses at other times. Its claim to priority seems to depend upon the early date of its charter, 1826. On the other hand, the Baltimore and Ohio, by beginning construction in 1828, was the first to lay any rails. It was opened for 11 miles in 1830.

There were naturally some features of the early railroads which would seem peculiar to the modern eye. Often, when the engines stopped, the passengers had to get off and push, though a later generation invented the pun about the "G O.P." roads. The Boston and Lowell road had granite rails to last through eternity, but they had to be replaced in short order when they wore out all the wheels. Strap iron on wooden rails sometimes pulled loose and curled up under a heavy load, causing accidents when they penetrated the too well ventilated floors of the converted stage coaches used as passenger cars. Several companies experimented with sails or horses on treadmills for motive power before using steam locomotives. One locomotive, instead of drive wheels, had a pair of mechanical legs fitted on behind so as to make sure that the machine could climb an ordinary grade. Cables and stationary engines were almost universally used in early years for hill climbing, and it was thought by some that even on level ground claws should protrude from the flanges of drive wheels so that, by digging into the ground, sufficient traction could be secured. A more permanent difficulty was the wide variation in opinion as to the proper gauge for the track. Some companies adopted the standard 56½-inch gauge originally used in Great Britain to accommodate wagons and carts. But others insisted on a narrower gauge, while a few tried widths up to six feet. Pennsylvania and Ohio had seven different gauges in use at the same time. Missouri in 1853 fixed 5½ feet as the rule for all state railroads, while Pennsylvania a year earlier, in order to keep the Erie railroad from entering the state, adopted a gauge which differed from that of New York. Not till after the Civil War did the standard gauge become universal.

There was also a certain amount of rather natural human prejudice to overcome. The most serious objections to railroads were offered by turnpike and bridge companies, stage lines, and canal owners. The legislature of New York in 1833 required a railroad to buy out a turnpike company at a good price as a condition of the charter. Farmers

feared the loss of markets for their horses, hay, and grain as well as increased danger from fires. Tavern keepers, also, were vociferous members of the dissenters. Some prophets, almost uncanny in their prescience, foretold an ultimate moral decay and loss of reason among the people in consequence of the impending din of the iron monsters.

Railroads to the West. The first decade of railroad building, to 1840, was confined mostly to the East. The 3,000 miles built furnished fairly good connections in southern New England and eastern Pennsylvania and Maryland. Except for a short gap in Virginia there was continuous service between New York and Wilmington. Charleston was almost in touch with Atlanta, while a line from Savannah was rapidly approaching Macon. Between Buffalo and Albany only two short sections remained to be completed. Most of the states, even of the trans-Appalachian region, had at least a few miles of isolated railroads. A rival to the Erie Canal was completed in 1842 when the last of the eight separate railroads of the later New York Central was finished between Albany, Buffalo, and Niagara Falls. Though operated separately, they were all of standard gauge and made physical connections. The Western railroad from Albany to Boston was completed in the same year, nearly a decade before the city of New York had like connections with the West.

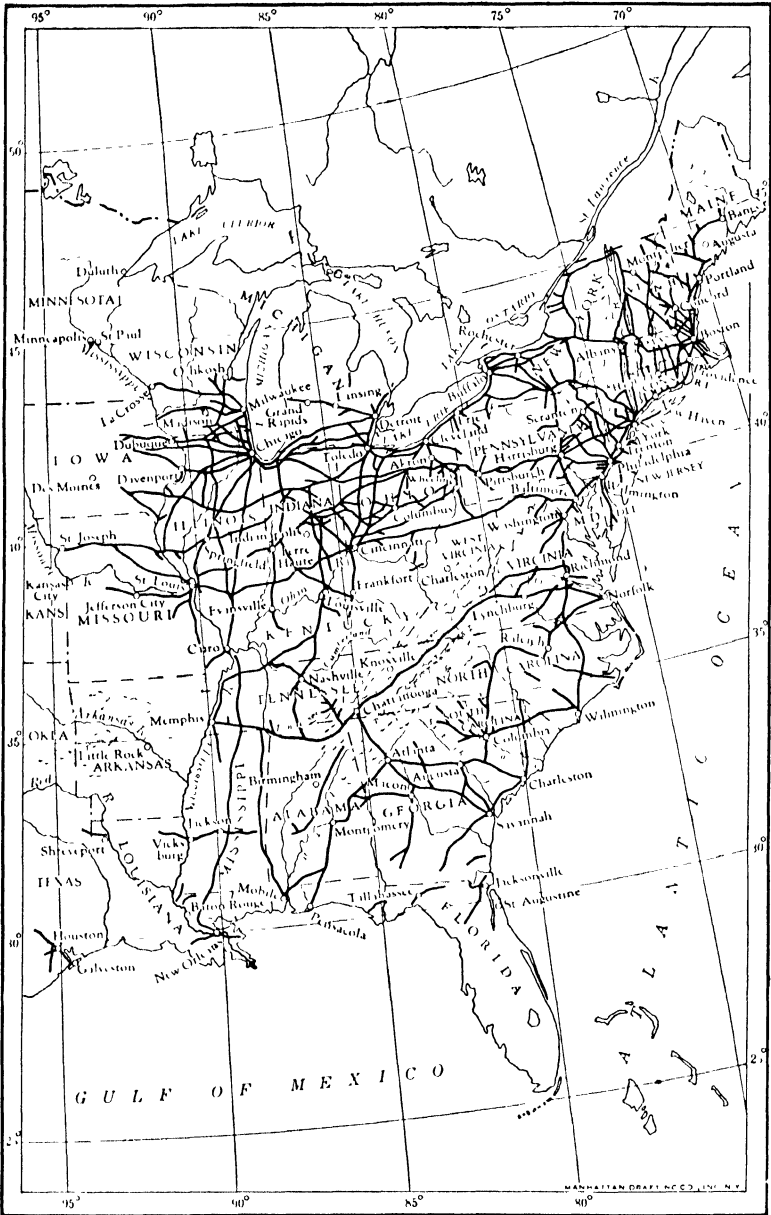
In 1851 the Hudson River railroad overcame New York's handicap, while in the same year the Erie line was finished to Dunkirk on Lake Erie. The Pennsylvania reached Pittsburgh in 1852, while in the following year the segments of the New York Central were united into a single trunk line. In 1853 the Baltimore and Ohio, after a most distressing series of difficulties, was completed to Wheeling. Prominent among the obstacles had been the stubbornness of the state of Pennsylvania which refused a right of way across its southwest corner. So a more tortuous path had to be followed to Fairmont, (West) Virginia, and then northward through the panhandle. The Pennsylvania Railroad Company, organized in 1846, made use of the state-owned Philadelphia and Columbia railroad and the portage road over the mountains until 1857 when the state sold out and abstained from further railroad operation. Before 1850 the South also had a western road. The railroads from Charleston and Savannah met at Atlanta, from which point another line extended through the more difficult portion of the mountains to Chattanooga. There was only one more mountain gap to pass before making connection with other projects to the Ohio and Mississippi rivers.

The West by 1850 had not completed any great systems of railroads, but several short lines had been built, many others were started, and several important rail junctures had been made. Lake Erie was

joined with the Ohio River by a railroad from Sandusky to Cincinnati, while Cleveland was just short of similar facilities by way of Columbus and Dayton. Rails stretched from Detroit to Lake Michigan just opposite Chicago. Indianapolis was united with Madison on the Ohio, Springfield with the Illinois River, and Jackson, Mississippi, with Vicksburg. A short railroad from Tusculumbia to Decatur, Alabama, supplied a detour around Muscle Shoals.

Railroads in the 1850's. By 1850 the total mileage of the country had reached 9,000. By the close of the next decade the number had passed 30,000. Mileage in the East, Northwest, and South by 1860 was fairly well apportioned according to population, but the Southern system was not equally well adapted according to commercial needs. The three great sections of the country in 1860 had in fact distinct and almost separate railroad networks. The Lake Shore line from Buffalo and Dunkirk, and other railroads entering Pittsburgh and Fairmont, furnished three points of connection between the Eastern and Northwestern systems. Louisville was the single contact between the Western and Southern lines, though a short gap only remained to be closed southward from Cairo. The numerous roads of the Southeast stopped at the Blue Ridge Mountains, though one long line down the valleys penetrated to the Southwestern railroads through Chattanooga. From Mobile and Pensacola branches joined to make another approach to the eastward through Montgomery. Baltimore was the only junction between Eastern and Southern lines. Too many Southern railroads were parts of state systems, leading to the sea or river ports and intended to serve local interests rather than to knit the section together by iron bonds. This motive was not far different from that of the East and Northwest, but the more abundant capital of the latter sections brought about closer networks regardless of initial, local self-interest.

The westward march of railroad building, though held in check for a time after the early arrival at Buffalo, paused hardly an instant after Dunkirk, Pittsburgh, and Wheeling were reached. Rails were already being rapidly laid in Ohio and Indiana. The Pennsylvania system was enabled to make through physical connections by way of these new lines to Indianapolis, Terre Haute, Evansville, and other Indiana points in 1853. In the same year Chicago, by way of the Illinois Central, Michigan Southern, and Lake Shore routes was brought in touch with the New York trunk lines. In 1854 the Pennsylvania system made connection with Chicago lines, and in a short time the Baltimore and Ohio did likewise. The building of a bridge at Rock Island in 1855 linked the trans-Mississippi West with Chicago by way of the Rock Island railroad, and thereby with the Atlantic



RAILROADS IN THE UNITED STATES IN OPERATION IN 1860

Ocean. St. Louis, except for a bridge, had like connections in the same year, while a railroad from Hannibal to St. Joseph in 1858 completed the first route to the Missouri River. Before 1860 several companies were competing for the first place in crossing Iowa, and a railroad from St. Louis to Kansas City was nearing completion.

Revolution in Transportation. A revolution in transportation attended the building of railroads, with consequences upon the realignment of sectional economic connections. The distance from Cincinnati to St. Louis was reduced to 327 miles as compared with 720 by water. This fact, coupled with the completion of the Parkersburg branch of the Baltimore and Ohio railroad in 1857, rapidly altered the trade connections of Cincinnati. Five times as much wheat and corn were sent from the city to Northern and Eastern points in 1857 as went south, and 100,000 fewer hogs were butchered there in that year than in 1854. Live animals by the later date were being shipped in cars superior in some respects to passenger coaches of a score of years earlier. In consequence of the opening of the prairie counties by the Illinois Central railroad, Illinois by 1860 had surpassed Tennessee as the greatest corn state. The flour-milling center of the country had shifted to the Old Northwest. The Erie Canal in 1860 still carried more goods than the four trunk lines to the trans-Alleghany region, but the goods were largely limited to forest products and grain, the railroads getting nearly all of the flour, livestock, and general merchandise. The center of the stock-raising industry was rapidly shifting from Ohio westward.

The South was possibly buying more Northern foodstuffs in 1860 than a decade earlier, but by no means so large a proportion of the Western output. Meanwhile, the canal and railroad trade to the eastward was making the South pay more for its purchases than before. The shortening of the distance to the grain markets of Europe deprived New Orleans of its old advantage of buying in a glutted market. The steamboat trade to New Orleans continued to grow at a slower pace, but *De Bow's Review* as early as 1851 was crying for more Southern railroads to recover the prestige of the city.

Costs of Transportation. Passenger fares and freight rates on early railroads were chiefly notable for their lack of uniformity. In general, charges were lowest where competition was greatest. The rates for 1848 are illustrative (see p. 198). At about the same time it was figured that it cost 27¢ a mile to haul one passenger coach and one baggage car, with 2¢ extra cost for each additional coach up to a maximum of 33¢ for four coaches and a baggage car. The expense of railroad construction ranged from \$35,000 to \$45,000 a mile, while wages were \$2 a day for conductors and \$1 for brakemen. Water

transportation was considerably cheaper than that by rail. In 1853 canal charges for freight varied from a cent a ton mile on the Ohio Canal to 2.4¢ on the Pennsylvania Canal. Lake shipping ranged from a half a cent to twice that, while river costs were from .7¢ to 1.2¢. But goods started by rail from noncompetitive points were denied water connections. Also the principal waterways were rapidly paralleled by railroads which did not hesitate to enter cutthroat competition.

PASSENGER FARES IN CENTS PER MILE

	AVERAGE FOR COUNTRY	LOWEST		HIGHEST	
		State	Rate	State	Rate
First class	3.6	Mass.	2.43	Miss.	5 35
Second class	3 21	N. Y.	1.5	Miss.	5 35
Local fares	3 7	Conn.	2 2	Miss.	6 0

FREIGHT IN CENTS PER TON MILE

First class	8.97	Vt.	4 0	Miss.	24 39
Second class	6 16	Md	3 12	Miss.	17.3

Rate Wars. Rate wars resulted in temporary advantages for the customers. In 1793 two stage-coach lines from Boston to Providence reached the point where they were carrying passengers free. Then one donated a dinner at the end of the journey, and the other responded by doing the same but adding a bottle of wine. The ultimate result was a rate agreement more advantageous to the erstwhile competitors than to the travelers. Such an extreme was probably never reached by railroad companies, but rate wars were numerous, and agreements were the customary outcome. In 1848 the New England Association of Railway Superintendents was formed. They soon had a blacklist for discharged employees and by 1850 were making serious efforts with meager success at rate agreements. In 1853 certain New York, Ohio, and Michigan railroads, together with the Lake Erie steamboat lines, formed an association fixing equal rates and regulating the speed of transportation. Fares and rates immediately advanced by 20%. Similar arrangements then were made by Western railroads.

Railroads and the Government. The relation of the railroad to its patrons was a problem for gradual solution, but some headway was made before 1860. A few lines, such as the Philadelphia and Columbia (the first state-built railroad), charged tolls for public use of the track, the state providing engines for use on the inclined planes. A little later, engineers with their own locomotives were hired by farmers to haul the cars owned by the latter. In 1835 the state furnished all the

power at fixed charges, but the cars were owned by companies and individuals. In 1832 Congress began to take notice of such problems, going no further than to republish a report made by a British commission. In 1835 and 1836 there was a movement in Congress to convert the Cumberland road into a government-owned railroad, but the idea was soon dropped. In 1838 all railroads were designated as post roads, though earlier the Baltimore and Ohio had been found less efficient than the older stage-coach lines. By 1836 there was agitation in Congress for checking the growth of railroad monopoly, and at that time maximum rates were fixed for the District of Columbia branch of the Baltimore and Ohio.

The right of states to regulate railroads, even to rates and liability for accidents, was early applied. New York, Massachusetts, Pennsylvania, and Ohio especially had laws or stipulations in railroad charters to this effect by 1850. Generally such provisions were honored mainly in the breach. There was also agitation to get Congress to take part both in aiding and regulating railroads. In 1847 a memorial to Congress lamented the growth of railroad combinations and monopoly. Many persons proposed that the army be put to some practical use by employing it to build a government railroad to the Mississippi River to compete with other lines and thus prevent excessive charges. Andrew Jackson, though favoring railroads for the mail service, was especially anxious for government regulation when they were so used. Congress at various times voted money for railroad surveys, especially in the South. The Baltimore and Ohio railroad tried for twenty years to get direct monetary aid, and other roads made similar efforts, but all to no avail. Refunded duties on railroad iron for the decade following 1832 was the nearest approach to immediate financial assistance.

Land Grants. In 1850 a new departure was begun. Land grants had been made in earlier days to assist in road and canal building of more than local importance. Now, for the first time, such subsidy was granted for a railroad. The state of Illinois was allowed alternate sections of land (checker-board fashion) in a strip six miles wide on each side of a survey from Cairo to Dunleith (opposite Dubuque, Iowa), with a branch line from Centralia to Chicago. Southern votes for the grant were secured by making a similar gift to the states of Alabama and Mississippi for the building of the Mobile and Ohio railroad. The East lent support because of the Chicago connection which would divert traffic to the Atlantic region. Stephen A. Douglas was chiefly responsible for getting the bill through Congress. The state turned this land over to the Illinois Central Railroad Company, with the reservation that 7% of the gross earnings of the corporation should go to the state. This cautious method of handling railroad

land grants was not followed in the period after the Civil War. For the approximately 700 miles of the right of way, the Illinois Central received over 2,500,000 acres of land, the government doubling the price of reserved sections to reimburse itself for the loss of the other half.

For several years before 1860 there was talk of a railroad to the Pacific Coast. In 1846 a treaty was made with New Granada (Colombia) permitting the building of a railroad across the Isthmus of Panama. Subsequently there was much agitation for federal aid in building a line either there or across Nicaragua or the Isthmus of Tehuantepec. Cornelius Vanderbilt already had a steamboat and stage-coach line from Greytown to San Juan del Sur, but his franchise was annulled after William Walker's filibustering expedition. A railroad was built in 1855, but such a transcontinental route was not satisfactory for general United States trade. Chicago wanted rail connections across Iowa and from Council Bluffs westward. St. Louis was clamorous for a route by way of Kansas City, and Memphis was logically situated for her claims to the priority of a southern route. Except for Jefferson Davis's survey along the southern route, little was done about the matter prior to the Civil War, but, as will be noted later, the Kansas-Nebraska Act of 1854 was largely the outcome of this Pacific railroad agitation. California in 1860 had 30 miles of railroad, but from St. Joseph westward there were only stage-coach lines to make connections with the East.

The beginnings of other modes of transportation and communication date from this period, but their influence as yet was so slight as to make an extended treatment of them here incongruous. Express companies, the telegraph, and street railways will be considered as they affect other phases of economic life and in connection with transportation problems of the postwar period.

CHAPTER IX

FOREIGN AND COASTWISE COMMERCE AND THE CARRYING TRADE, 1783-1860

For the first half of the period from the establishment of the republic to the Civil War the foreign commerce of the United States was overwhelmingly influenced by wars in which the nation was either a belligerent or the most prominent neutral. Following 1818 commerce had its ups and downs, produced by panics, changing tariff policy, and expansion—both territorial and industrial—but the later period showed a greater tendency toward healthy and permanent growth than did the earlier.

Effects of War for Independence. During the first years of the War for Independence trade was seriously interrupted, but, after 1778, assistance from European countries, directly and indirectly, coupled with the activities of privateers did much to restore the old-time trade relations by way of roundabout routes. American goods were exchanged for British manufactures at neutral ports in the West Indies and even at some of the British islands and Nova Scotia. Furthermore, for long periods of time in New York, Philadelphia, Charleston, Savannah, and other port towns which were held by the British armies, commerce went on almost without interruption.

After the war Great Britain still needed the raw materials from America, but the Privy Council was in a position to dictate the terms of future trade relations. The result was that, while the United States lost some of the old privileges as colonies, it still occupied a more favored position in British trade than did European countries or their colonies. Lumber and most other forest products were admitted to British ports free of duty. Various raw materials, including pig and bar iron, soap-ashes, indigo, and naval stores, as well as ship-rigging timbers, were assessed only such duties as were levied on similar goods from British colonies. Competing products, such as whale oil and fish, received no such favors. The carrying trade was limited to British and American vessels, as in Colonial days, the latter being free of alien tonnage duties. The worst privation suffered by American shipowners was exclusion from the British West India Trade.¹ Insular sugar planters as well as American shippers resented the restric-

¹ The Orders in Council of 1783, after being frequently renewed, were made permanent for over forty years by a British Navigation Act of 1788.

tion, though the policy was in strict accord with accepted mercantile principles. There was some evasion by means of false registry and indirect trade by way of the Dutch and Danish islands, but this was not of much importance prior to the Wars of the French Revolution.

In 1784 France and Spain likewise closed their West Indian ports to American vessels, though France soon heeded the protests of her sugar planters by relaxing vigilance. The net result of such prohibitions was that the freight payments on Colonial goods coming to American ports went to foreign merchants. The triangular trade with Africa was also hindered by the prohibitions against West Indian commerce, and for a time American merchants were left groping for a counterbalance to these losses. The remedy came not only in the new commerce with the Orient (see p. 131) but also by direct trade with Russia.

New Fields of Commerce. American efforts at retaliation were of no avail. Tariffs applied by most of the states sometimes discriminated against goods carried in British ships. After the Orders in Council of 1783, an unsuccessful effort was made to get an ordinance of Congress prohibiting foreign ships from trading in American ports unless they were from nations having treaties of commerce with the United States. Treaties were concluded with Sweden in 1783 and Prussia in 1785, in addition to the earlier ones with France and Holland, but these were not of much help, especially since the French concessions did not extend to the West Indies. Further development of commercial policy awaited the adoption of the Constitution.

It was widely supposed in America that with independence would come a shift in trade relations away from England and toward Continental Europe, but the fallacy was soon exposed. British manufacturers and merchants knew better than any on the continent how to cater to American needs and tastes. They had ample capital and were more ready than others to extend long credits. Great Britain being the center of distribution for several of the northern European states to which America could send no exports, it was cheaper to buy at the central emporium than to go empty-handed to the source of the goods. Then, just as bankrupt France was entering the throes of a revolution and wars which would sap her energies for a quarter of a century, England was turning from an agricultural to an industrial state and was beginning to need the agricultural imports which previously she had refused to admit. As trade flowed back into its customary channels America recovered from the Panic of 1785, and by the time the new Constitution was adopted the altered form of government was not necessary to insure prosperity among the people. It was in the "critical period" that some of the great merchant princes

laid the foundations of their fortunes. Elias Hasket Derby of Salem profited greatly from the early China trade. At his death in 1799 he left an estate of a million dollars or more. Stephen Girard of Philadelphia, a domestic trader and banker during part of his career, was from 1780 to 1812 mainly concerned in foreign commerce. His estate of \$9,000,000 in 1831 was largely the result of commercial endeavors, supplemented by privateering when war slackened ordinary trade.

For the first five years after the adoption of the Constitution the development of commerce merely kept pace with the trend from 1786 to 1789. By the latter date, American shipowners were again in trade with the British. The registered tonnage of the American fleet in 1790 was above 478,000, including a small percentage of fishing boats. Nearly three-fourths of the tonnage was engaged in the foreign trade of the United States and constituted 58.6% of the total shipping thus employed. In recovering this position American merchants labored under some disadvantages. Almost all marine insurance was written in England, where the underwriters were a little too patriotic in the matter of discriminative premiums. Other annoyances included higher port charges in England, in some cases greater for American vessels than for British. Retaliatory tonnage and import duties in the Tariff Act of 1789 gave only temporary relief, for Great Britain replied with laws effectually restoring to her vessels the carrying of fish and whale products, soap-ashes and much of the Southern staples. This monopoly, however, was effective only in times of peace, and such years were infrequent in the quarter-century following 1790.

Influence of European Wars, 1792-1807. The French Revolution, which began almost simultaneously with the inauguration of George Washington, led by the spring of 1792 to a war which ultimately involved nearly all of Europe and was not interrupted for a decade. The Peace of Amiens of 1802 was doomed from its inception, war recommencing in 1803 and continuing till 1815 except for the months of Napoleon's temporary exile in Elba. During these years the prosperity of American commerce depended almost solely upon the turn of affairs in Europe and American policies of retaliation against the belligerents. At no other time has foreign trade absorbed so much of the attention of the United States. Occasional crop failures in Europe increased an unprecedented demand for American foodstuffs, this reacting upon farm prices and attracting capital and labor to agriculture. Flour at Philadelphia from 1785 to 1793 sold at an average price of \$5.41 a barrel, but from then till 1807, excepting for the year of peace, the figure was \$9.12, while, after the postwar reaction, from 1820 to 1828 it dropped to \$5.46. For the same reasons, a large portion of the foreign carrying trade fell into the hands of American shippers,

this branch of commerce excelling all others in some years prior to 1808. For a time about all the trade of Holland, France, and Spain was carried in American bottoms, and after the Battle of Trafalgar (1805) even the bullion from Peru was taken to Spain by American vessels. The following table of imports and exports will illustrate the growth of commerce till the Embargo Act of 1807. The decline in the reëxport trade during the Peace of Amiens will be especially noted.

FOREIGN TRADE OF THE UNITED STATES, 1790-1807

DATE	IMPORTS		EXPORTS		
	For Consumption	Total	Domestic	Foreign	Total
Millions of Dollars					
1790	22.5	23 0	19.7	0.5	20.2
1794	28.1	34.6	26.5	6 5	23.0
1795	61 3	69 8	39.5	8.5	48.0
1800	52.1	91.2	31.8	39.1	71.0
1801	64.8	111.4	46.4	46.6	93.0
1802	40.5	76.3	36 2	35 8	72.0
1803	51 1	64.7	42 2	13.6	55 8
1804	48.8	85.0	41.5	36.2	77.7
1805	67.4	120.6	42.4	53.2	95.6
1806	69.1	129.4	41.3	60 3	101.5
1807	78 9	138 5	48.7	59.6	108.3

The growth of the merchant marine more than kept pace with the development of commerce. The percentage of domestic tonnage to the total engaged in American foreign trade increased from 54.4 in 1789 to 91.1 in 1795 and was 92.7 in 1807. The registered tonnage of the United States in foreign commerce multiplied in the same years from 127,000 to over a million. The profits from the carrying trade in the later years ranged from \$50,000,000 to \$70,000,000 annually, thus creating a favorable balance of trade without counting the large commissions and fixed charges on foreign goods or the increased amount of specie brought in from Latin-American countries and not listed in the custom house figures.

Conflict over Rights of Neutrals. The position of the United States as the principal neutral and carrier of commerce naturally involved the country deeply in European politics, though strenuous efforts were made to remain aloof. Great Britain looked upon France's permission for American vessels to participate in the French West India trade as the enlistment of the aid of a neutral in caring for a commerce that she could no longer protect. Consequently, the British Rule of 1756 (p. 38) was revived in 1793, and ships violating it were seized. At about the same time the British extended the impressment system of naval recruitment to the searching of American vessels for

deserters and other subjects, seizing them along with any contraband when found. This violation of neutral rights was especially annoying when insufficient care was taken to see that impressed sailors were of British birth. The warlike feeling aroused in the United States by these practices led Washington to send John Jay to England in 1794 to attempt a settlement not only of such matters but also of older questions such as a treaty of commerce and various problems growing out of the Treaty of 1783.

The only downright successful feature of the mission was that relating to the Western military posts (see p. 146). The impressment issue and the Rule of 1756 were left in abeyance. Such commercial concessions as were secured amounted to very little. Equal trading privileges in the British East Indies were offset by giving Great Britain a free hand in levying tonnage and tariff duties, while the United States was limited to such discrimination as already existed. The question of commerce with the British West Indies was dealt with in a surprising fashion. Article XII of the treaty permitted American vessels of not more than seventy tons to trade with the islands "provided always that the said American vessels do carry and land their cargoes in the United States only, it being expressly agreed and declared that the United States will prohibit and restrain the carrying of any molasses, sugar, coffee, cocoa or cotton in any American vessels, either from His Majesty's islands or from the United States. . . ." At that very time cotton was becoming the great staple crop of the South, Whitney's gin was already in use, and exports in two years' time had jumped from 138,000 pounds to 1,602,000 pounds. A crop four times the size of its predecessor was in prospect for 1795. Yet Jay would prohibit the exportation of cotton from the United States unless owners of British vessels should choose to come and get it on their own terms. Certainly, the majority of the Senate as well as the people of the country understood the significance of the stipulation. The treaty as a whole met with popular disapproval, some of its defenders being mobbed, but the twelfth article was particularly condemned. Even after the Senate struck this article out, a bare two-thirds majority for the remainder was secured. Great Britain accepted the amended treaty, but this left the whole question of the West India trade up in the air for another thirty-five years.¹

¹ The trade was not opened to American vessels by treaty till 1830. Jackson was able to secure this concession not on account of the superiority of his diplomacy but because by that time the United States was in an economic position to inflict measurable retaliation. By the Jay Treaty of 1794 Great Britain assumed responsibility for \$10,000,000 worth of confiscated American ships and merchandise, while the United States partially balanced this by the payment of nearly \$3,000,000 to the British creditors. Since the total value of the old "tobacco debts" amounted to

Despite the failure of diplomacy, Great Britain at times had to let Americans participate in her West Indian trade. Between 1795 and 1807 exports to the islands ranged from about two to ten million dollars annually while imports therefrom were from three to seven million dollars, most of the goods being carried in United States vessels. Such trade was contrary to the spirit of the Rule of 1756, but with Great Britain it was a question as to whose ox was being gored. Since 1793 France had been compelled by the exigencies of war to permit direct trade of American merchants with her West Indies, the exports to the United States in one year approaching \$16,000,000. After 1795 the Spanish West Indies, for the same reasons, became another boon to the American merchant marine. Most of this French and Spanish insular trade was in goods carried between the Continental powers and their colonies. In order to circumvent the Rule of 1756, merchants brought the goods into American ports, paid duties on them, and then delivered them to their final destination as American merchandise. The British objected to this subterfuge, especially since all duties were remitted on reexportation, but in 1800 an admiralty court upheld the American contention in the *Polly* decision. American skippers, taking advantage of this new sanction, thereafter made only the most perfunctory of stops in home ports before continuing their voyages. In 1805 goods valued at \$8,500,000 were thus delivered to the Spanish islands alone, while strictly American products sent to the same ports were worth less than \$2,400,000. But in this same year Great Britain was entering a decade's life and death struggle with Napoleon, and no longer could afford to be lenient. When the *Essex* was captured with a cargo from Spain to Havana, the British court of appeals decided that the old ruse did not constitute a continuous voyage and that the vessel should be confiscated.

The British navy then became active, capturing a large number of American ships which the admiralty courts promptly proceeded to condemn. As a means of retaliation, Congress passed a Nonimportation Act in April, 1806, but suspended its operation until diplomacy could be tried out. The consequence of the negotiations was a treaty which was so unsatisfactory to Jefferson that he refused even to submit it to the Senate. Soon afterward George Canning became the British Secretary of State for Foreign Affairs, and his contempt for Americans was such that further concessions would have been unlikely even if the danger to his country had been less.

Meanwhile the impressment issue was approaching a climax. Wages and living conditions in the British navy were such that seamen were

about \$20,000,000, of which Virginia alone owed \$8,500,000, a nasty piece of repudiation was settled cheaply enough for the United States.

often tempted, when the opportunity arose, to desert and enlist on American merchantmen. British naval officers preferred to settle such matters in their own way rather than to await the slow processes of diplomacy for the return of the fugitives. Not only was this method an indignity to the United States, but also it often happened that *bona fide* American citizens were impressed, either by error or because they looked like good blue-jacket material. Such mistakes were always courteously righted by the British courts, whenever in their routine of business they got around to them, and when the cases were proved the victims were released. But this afforded small comfort to American dignity, especially since the released sailor could so easily be replaced by another. Also it was easy to exaggerate the number of such violations of American citizenship, and the returned conscripts became all the more heroic for magnifying their sufferings. Another War of Jenkins's Ear was in prospect. The climax came in June, 1807, with the oft-described *Chesapeake* affair. The killing of three Americans, wounding of eighteen, and abduction of three others in a battle between war vessels of the two nations was an act well calculated to produce war, had there been a war party in America. But the Federalists were opposed to any policy which would interfere with commerce, and Jefferson, as leader of the Democrats, wished to try milder means. Though negotiations dragged out for four years the matter was not settled even when proper reparations were offered.

By this time impressment was a minor issue. Americans were jubilant over retaliation visited upon a British ship, and affected forgetfulness of the *Chesapeake* incident. Since Trafalgar, Great Britain had undisputed naval supremacy without the need of unlimited recruitment for her fleet. The American embargo and succeeding legislation had resulted in a plethora of hungry sailors, and conditions in the merchant fleet had grown so poor that British blue jackets of ordinary intelligence were not tempted to desert to American masters. Though impressment was mentioned as a major cause of the War of 1812, the issue was used principally as a smoke screen to disguise more mercenary motives.

The War of Decrees and Orders. Meanwhile, the determination of Great Britain and France to conquer each other by means of starvation was causing other complications for neutrals. The British minister Charles James Fox, while negotiating with the American ministers in 1806, had secured an order from the Privy Council placing a blockade on the coast of the French Empire from Brest to the Elbe River. As a concession to neutrals he let it be known to the envoys that enforcement would extend only from the Seine River to Ostend. By this clumsy means it was inferred that there would be portions of the coast

which would not be watched for violation of the Rule of 1756. Napoleon, merely waiting for an opportunity to inaugurate his Continental system, replied on November 21, 1806, with his Berlin Decree. He declared the British Isles in a state of blockade and, among other things, ordered the confiscation of any vessel violating the decree. The British replied with two Orders in Council, one on January 7, 1807, forbidding neutrals to trade in ports of France or her allies and the other on November 11, 1807, blockading the coast of Europe from Copenhagen to Trieste, but permitting neutral vessels to enter forbidden ports if they would first stop in Great Britain and pay duties on their cargoes. Napoleon then responded with his Milan Decree of December 17, 1807, ordering the seizure of any neutral ship entering any port under his control if it had been searched by a British ship or had cleared from Great Britain.

These orders and decrees presented an interesting dilemma to American shippers. Since France had no navy with which to enforce her blockade, an American vessel violating it had merely to refrain from falling into Napoleon's clutches by touching the European continent. French privateers ordinarily could be outrun. Moreover, about three times as much trade was carried on with Great Britain as with France and her allies. But much of the prosperity of the business depended upon exports to Continental Europe, and there the difficulty occurred. If the vessel sailed directly for its destination it might be captured by the British navy, but if it complied with the Orders in Council it was sure of seizure when entering a port where Napoleon's decrees were respected. On the whole the chances of eluding the British navy seemed superior to the likelihood of evading French customs officials. Consequently, since not all ships were equally skillful in dodging the British war vessels, English captures for a time loomed larger than those of France. From 1803 to 1807, though most of this period preceded the War of Decrees and Orders, Great Britain confiscated 528 American merchantmen and France 389.

American Retaliation. In spite of these losses the American merchants did not want Congress to adopt retaliatory legislation. The profits on exports to war-stricken Europe were so great that even if one ship out of every three or four was captured the returns from the others would amply cover the loss. There never had been an era of such prosperity for the American merchant marine. The orders and decrees, by making trade with the continent more difficult, simply enhanced the profits to be made from successful voyages, both because of higher prices in the belligerent nations and on account of semistagnant markets and lowered prices in America. The merchants, most of whom were Federalists, dominated their party's policy and demanded that

Jefferson and the Congress keep hands off the situation. But Jefferson was the product of American agrarianism and was not noted for tenderness of heart in listening to Federalist appeals. The farmers were demanding that they as well as the merchants be given a chance at the war-time prices in Europe. The profits from agriculture were not in proportion to those of the merchant marine, but freedom from unnatural restrictions placed by belligerents would reduce the spread in prices between Europe and America. Farmers were willing to submit for a time to countervailing legislation which ultimately would benefit them.

The Nonimportation Act of 1806, so mild that John Randolph called it a "dose of chicken broth," finally went into effect on December 14, 1807. But Jefferson demanded something more effective, and the Embargo Act of a week later was the result. Time enough had not elapsed for Americans to learn about the Milan Decree, but it was little more than a reiteration of the earlier Berlin Decree so far as the major point affecting Americans was concerned. The cumulation of outrages and rebuffs was warrant enough for a drastic policy, but Jefferson could not bring himself to the stage of demanding war, especially since it was difficult to see which country most deserved another enemy. The embargo was expected to accomplish the desired results with less serious consequences. All departures and arrivals of vessels of all countries were prohibited except under rare circumstances or in the case of heavily bonded coastwise shipping vessels, the hope being that in a few months one or the other or both belligerents would recede from their decrees or orders so as to reopen commercial connections.

This act was deserving of greater success than it received. The utmost efforts of federal agents were not sufficient to prevent violations and evasions. Even the bonded coastwise craft managed to be blown out of their course to the ultimate profit of their owners. Other ships, given special licenses for specific purposes, were operated in violation of the agreements. Much trade also was conducted by way of the Great Lakes and St. Lawrence River. The accepted figures show a decline of commerce in 1808 to a little less than a third that of 1807, but, as a consequence of the stimulus to surreptitious trade, it is likely that the total of imports and exports ranged closer to a half those of the banner year. Profits would show even less disparity than this because of the glutted condition of American ports and near famine conditions in England. Consequently, though even two-thirds of the American shipping was tied up at the wharves, the distress of the owners was not nearly so great as pictured. On the average they made something more than their expenses. The real hardships of the embargo

fell upon the seamen and farmers. With from a half to two-thirds of the former out of work, not only were they reduced to want and reliance upon charity but wages and living conditions for the ones remaining in the service were beaten down to degrading levels, further to the profit of the shipowners.

The farmers, having sold their crops of 1807 before the law was passed, were not seriously affected till a year later. It was hoped that hungry European nations would relent in time to secure free markets for the 1808 crops, but failure to achieve this result left the barns and granaries groaning with huge surpluses. When the spring of 1809 approached, with no sign of submission from either of the principal belligerents, Congress was forced to heed the demands of the disillusioned farmers. Three days before his retirement, Jefferson was impelled to accept a modification of his cherished policy. In spite of all violations the embargo might have succeeded had it not been for unforeseen circumstances. Chief of these was the revolt of Spanish America against a French king forced upon them by Napoleon. By assistance to the insurgents Great Britain secured entry to ports which had been closed to foreigners for centuries. Though the British were still cramped by need of cotton, the South American markets helped greatly in relieving the still greater demand for wheat.

The Nonintercourse Act of March 1, 1809, was expected to be a means of coercion less likely than the embargo to arouse bitterness. This law restored trade with all countries except Great Britain and France, while offering the same boon to either of them as soon as they should abandon their orders or decrees. Exports, both of domestic and foreign goods, rose sharply in 1809 (see table, p. 214), much of the goods being carried illegally to the belligerents. But continued American hostility to the remaining restrictions led on May 1, 1810, to a further change. Nathaniel Macon of North Carolina proposed a second nonintercourse measure, but, because of objections, replaced it with what is known as Macon's bill no. 2. This act was a peculiar, left-handed form of nonintercourse. Commercial relations were to be restored with all countries, but, as soon as either Great Britain or France should withdraw its restrictions, trade would be stopped with the other nation until it made a similar concession. This was equivalent to a promise that the American government would proceed to enforce the orders or decrees of the country which would abandon such enforcement herself. The promise was not altogether silly, since it was hoped that agreements with both nations would produce unrestricted commerce and prosperity for all classes in America. It was a desperate decision, the outcome of which must be either a complete success or a total failure.

The Drift into War. During the first three years of these American policies Napoleon followed a wily course. He welcomed the embargo, which promised distress to Great Britain but merely inconvenience to France, and he resented each modification which added to the comfort of his enemy. With the cunning of a provincial lawyer he issued a series of decrees in 1808 and 1810 for the confiscation and sale of all American vessels which entered ports controlled by France during the life of the embargo and nonintercourse acts—the former under the pretense that they must be British, since American ships were not allowed at sea, the latter as a reprisal for American threats against French violators of the law. Under the circumstances there was nothing the United States could do but demand ultimate remuneration. Napoleon also took the utmost advantage of the Macon bill. Great Britain had but little to gain from surrender to the American point of view, since her navy had little else to do except to continue the blockade. But Napoleon ultimately saw a loophole in the law. There might be a chance of forcing the United States into the war on his side. On November 2, 1810, he declared the revocation of the Berlin and Milan decrees, and called upon Madison to stop trade with Great Britain. He also stipulated that the United States should help him resist enforcement of the British Orders in Council. This was exceeding the promise of the Macon bill but, nevertheless, on March 2, 1811, Congress passed a new nonintercourse measure against Great Britain. A few days before this, direct diplomatic relations between the United States and England were severed.

So far as commercial affairs were concerned there was no particular reason why the United States should have drifted into the war on one side any more than on the other. Napoleon seemed incapable of straight dealing, going so far as even to tax much of the profits out of American imports at the same time that he withdrew the Berlin and Milan decrees. In the matter of confiscation he was ahead of his enemy from 1807 to 1812, he and his satellites having seized 469 vessels as compared with 389 for the British. But French sequestration occurred in such remote ports that the full significance was not so easily brought home to American minds. British ships, on the other hand, often made their captures immediately off the coast of the United States within sight of the assembled crowds. The sheer impudence of such attacks was such as to rouse the fighting spirit in persons who had no financial interests of any kind at stake. Then, too, many persons could still remember when France had befriended the United States during the War for Independence, and it was easier to hate the older enemy. Finally, the English and Americans spoke similar languages and could readily understand each other's taunts, thus making

it easier to quarrel. But this whole combination of circumstances could hardly have produced a war with England had not the war hawks of the West been seeking conquest in Canada and Florida (see p. 147). Taking advantage of agrarian discontent based on the uncertainty of European markets, these jingoes found it not too difficult to convince the farmers' representatives in Congress that the solution of their difficulties lay in a war for the freedom of the seas. The waning impressment issue furnished an excellent humanitarian battle cry. War came just as the Jeffersonian principles of peaceful coercion were on the verge of succeeding. Imminent starvation in England, as a consequence of the renewed Nonintercourse Act, had caused a new British ministry to take the first step toward rescinding the Orders in Council two days before the American declaration of war. But even if this action had occurred a month or more earlier it is doubtful whether, considering the agitated frame of mind in the United States, war would have been averted.

Effect of War of 1812 on Commerce. The merchant class and their legislative representatives almost to a man were opposed to the war. An address of thirty-four Federalist members of Congress, after the declaration, denounced the war as being unjustifiable. New England leaders for five years before the outbreak of hostilities had been conniving with British ministers to prevent concessions to the United States. Massachusetts and Connecticut especially refused to furnish men for the army, and only \$3,000,000 worth of war bonds were sold in New England as compared with \$35,000,000 from New York to Maryland. Finally, as the war continued and hard times for merchants grew unbearable, the Hartford Convention met on December 15, 1814, to plan a way out of the difficulty. Had not word of the Treaty of Ghent arrived when it did, the secession of Massachusetts, Connecticut, and Rhode Island would likely have occurred.

The effect of the war upon commerce was mainly due to the activities of American privateers and the British blockading fleet. Spectacular as were some of the naval duels, they were of very small consequence. But privateers took 1,344 prizes during the course of the war, while British ships seized about three-fourths as many American vessels. One privateer alone, the *Yankee*, garnered over \$5,000,000 in this way, retaining a fifth of the amount for the owners and crew. Here was one phase of the war in which Massachusetts would cooperate. Of 526 privateers commissioned, nearly 400 were from Massachusetts, New York, and Maryland. The greatest distress of the merchants came from the blockade which increased in effectiveness till 1814 when the British navy, freed from the French wars, bottled up every harbor along the coast. The effect is seen in the fact that foreign

commerce in 1814 was just a fourth what it had been in the embargo year of 1808.

By the middle of 1814 both countries were sick of the war and ready to recede somewhat from their earlier exaggerated notions of conquest. The war on land had resulted in a draw, thus rendering ridiculous any demands for annexation. Hard times and threatened disunion were sufficient additional reasons to compel the American commissioners to proceed with moderation. At the same time, the British merchants were despondent over the appallingly high insurance rates resulting from privateering. Furthermore, as in 1782, the merchants wanted to see American markets restored, and British manufacturers, more than ever before, wished to dispose of their surplus wares. Finally, the victors over Napoleon were at daggers' points with each other at the Congress of Vienna in their quarrel over the division of the spoils. If war resulted, Great Britain could not afford to have her attention divided by another conflict in America. Consequently, the Treaty of Ghent, signed December 28, 1814, merely restored the *status quo*. The United States lost nothing but the fishing rights in British waters, though she gained nothing except the validation of her claim to West Florida.

In a broader sense both nations lost: in life, property, good will, and mental balance. To call this a "Second War for Independence" is somewhat grotesque, even if economic independence is referred to. As will be shown later, even the spur to manufactures was of an unhealthy nature. In the postwar period of dumping the insecurely based industries lost about all they had gained. As to the freedom of the seas, Great Britain did not retreat from a single position. Freedom of commerce in the next generation was due purely to the fact that there was no great European war to disturb it. Perhaps the worst effect of the war, for America, was the placing in the political saddle of a group of hot-headed youngsters who were so intent upon arousing nationalism, in connection with pushing their own political and economic notions upon the country, that they finally resulted in driving the sections farther apart. State sovereignty and secession were the ultimate refuge of submerged sectional interests.

During the years of greatest trouble with Europe the reëxport trade suffered even more than did ordinary commerce. A comparison of figures in the following table will illustrate this point. Yet, it should be noted that for 1808 and 1812-1814 the figures of "foreign exports" represent only a part of the foreign carrying trade. This was because of the number of vessels remaining away from home during the embargo and blockade, but carrying on direct trade between foreign ports. Commerce in general was above normal limits. The profits

obtained from supplying the needs of warring nations not only stimulated the consumption of larger quantities of foreign luxuries, wherever obtainable, but also acted as a check upon the development of manufactures. The reaction toward manufacturing during blockades and periods of nonimportation was, after all, in part only a compensation for retarded development in years previous. British manufactures were always notably large in the list of imports whenever they could be obtained. Many German manufactures likewise were imported, at times rivaling the British wares in value. Other imports

FOREIGN TRADE OF THE UNITED STATES, 1807-1818

DATE	IMPORTS		EXPORTS		
	For Consumption	Total	Domestic	Foreign	Total
Millions of Dollars					
1807	78.9	138.5	48.7	59.6	108.3
1808	44.0	57.0	9.4	13.0	22.4
1809	38.6	59.4	31.4	20.8	52.2
1810	61.0	85.4	42.4	24.4	66.8
1811	37.4	53.4	45.3	16.0	61.3
1812	68.5	77.0	30.0	8.5	38.5
1813	19.2	22.0	25.0	2.8	27.9
1814	12.9	13.0	6.8	.1	6.9
1815	106.4	113.0	46.0	6.6	52.6
1816	130.0	147.1	64.8	17.1	81.9
1817	79.9	99.3	68.3	19.4	87.7
1818	102.4	121.8	73.9	19.4	93.3

were mainly luxuries from southern Europe, the West Indies, South America, and the Orient. Bullion came from Mexico, Peru, and the West Indies, while hides, coffee, and indigo were from South America. The West Indian trade lost its earlier leadership, but easily retained a rank next to that of Great Britain and Continental Europe.

Commodities of Commerce. Agricultural goods formed the bulk of all exports, being a good three-fourths of the total in 1807. Forest products amounted to a little over 11%, the fisheries contributed half as much, and manufactures less than a third as much. Even in New England, exports of farm goods finally exceeded those of the sea and forest. In the South rice retained a wide market, naval stores showed little advance, and indigo was almost a forgotten item. In 1803, for the first time, the exports of cotton exceeded those of tobacco. By 1807 New Orleans had outstripped Connecticut or Rhode Island in shipping, while Maryland and Virginia rated next to New York, Massachusetts, and Pennsylvania.

The Oriental trade of this period was a very significant part of the total. By 1789 there were forty-seven American vessels at one time

beyond the Cape of Good Hope, and the first tariff act especially favored this branch of commerce. Silk, fine leather, dyes, spices, coffee, and cheap cotton goods ranked next in order after tea as imports. Forest products, tobacco, flour, raw cotton, cotton goods, ginseng, and furs were among the domestic exports, while reexports of opium, textiles, and quicksilver were used for exchange. The balance of trade, as of old, favored Asia, the difference being paid in specie. China and the East Indian colonies of Great Britain and Holland were the chief trading centers, but by 1789 the sandalwood trade with Hawaii was begun and by 1790 a small exchange was being made as far north as Japan. In 1796 Elias Hasket Derby took on a cargo at Manila as a beginning of a continuous Philippine commerce from that time on. The statistics for the Oriental trade are not very complete till 1821, but it is noticeable that the imports for 1801, amounting to about \$14,500,000, were not equaled until 1837 and not again until 1852, by which time the population of the United States was between four and five times what it had been at the beginning of the century.

Abnormal Growth of Trade, 1815-1818. The abnormal soaring of commerce from 1815 to 1818 was purely a postwar phenomenon and bound to create trouble. Not only did British manufactures flood the American market, but goods from Continental Europe, India, and the West Indies helped to swell the tide. The minimum-valuation principle (see Chap. X) in the Tariff of 1816 was aimed primarily at the cheap cotton goods from India. Domestic exports in this same brief period excelled all previous efforts. Great quantities of agricultural and forest products had accumulated during the blockade and there was a crying need for them in war-stricken Europe. This was especially true of cotton. About 85% of the exports of 1818 were from the farm, and about half of this quantity was cotton. Over two-fifths of all goods went to Great Britain, but this was not nearly enough to balance imports from that country. A realignment of the states as leaders in the export business came also at this time. Louisiana was second only to New York, while South Carolina, Georgia, and Virginia in order preceded Massachusetts, Pennsylvania, and Maryland. The states of the Northeast retained the lead in imports which they were destined to maintain down to the Civil War and later. America's decline in relative importance in the carrying trade was only natural as a consequence of British readjustment to peace-time conditions, but a treaty of 1815 abolishing American discriminations against British ships was a contributing factor. The West Indian trade, now that the wars were over, was again monopolized by the British.

This period of overexpansion produced the first permanent common carriers in the foreign commerce of the country, the Black Ball Line

holding this distinction. Before 1815 the hazards of the carrying trade were so great that a shipmaster depending upon freight payments alone could not risk his vessel or meet insurance costs with assurance of profits. Only the extraordinary spread in prices between America and Europe made the loss of vessels so minor a consideration to the merchant carrier of the preceding score of years. In the succeeding period of security and safety, common carriers became a necessity to merchants who could see the advantages of specializing in trading alone and who had full cargo lots to ship from the same port at periodic intervals. Tramp, or chartered, vessels in time assumed an important part in the carrying trade, and regular packet lines became more and more frequent. But the merchant carrier retired only gradually from the business, some survivals remaining into the twentieth century.

Fluctuations of Trade, 1819-1830. The era of hectic speculation led to the usual reaction. Depression was felt in 1818 and a panic occurred in 1819. Thereafter, commerce receded and did not again reach such levels as those of 1816 and 1818 till 1835—in proportion to population not till 1860 if at all. This, however, should not be taken to indicate that the country was less prosperous. Road and canal building were working their revolution in domestic commerce, thus making exchange with foreign countries less imperative. American manufactures were on the upward trend, thus lessening dependence upon Great Britain. The rise of factory towns tended to create a home market for the surplus of farm produce. The tariff wall proved a hindrance to exportation as well as to importation. European countries preferred to buy where they could sell, and this reacted against American producers as well as merchants and carriers. Finally, the British corn laws after the Napoleonic wars became absurdly restrictive, and for a number of years after 1819 Great Britain discriminated against American cotton in an effort to encourage production in her own dominions.

For such reasons commerce fluctuated between fat and lean years, but until 1830 there was no average increase. Exports of flour and meat remained nearly stationary; wheat showed violent changes with no net growth; corn and meal declined in value by a third or more; and tobacco fell \$2,000,000, or 25% below the level of 1819. Cotton alone of farm exports showed any actual increase. But, while the volume of cotton shipments increased 3½-fold in the twelve years, the money return grew only 46%. The decline in imports was general except for iron, a few luxuries, and necessary raw materials, the greatest loss in trade being with Great Britain and her West Indian islands. Atlantic ports, except at New York, showed stagnation, while New Orleans

and Mobile, on account of the cotton trade, had some additional activity.

Renewed Growth of Trade. From 1831 to 1837 commerce inclined upward. The farms of the West were outgrowing the demands of the home market at a time when improved means of transportation made the surplus more profitably exportable. The country was in a speculative mood and people were less cautious in buying. After 1830 trade with the British West Indies was open on equal terms, and following 1832 tariff acts assumed something like reasonable proportions. Finally, Great Britain in spite of herself was bound to take all the cotton America could supply to feed her growing mills. The cotton trade made New Orleans the greatest exporting center of the United States for a decade beginning in 1834. In the same period the disparity between exports and direct imports in the South became greater than ever, the section becoming more and more dependent upon Northern shippers for imported necessities and paying dearly for the service. Tobacco exports also grew immensely in the early 1830's, while in other commodities the change was more moderate.

Effect of Panic of 1837. The Panic of 1837 disarranged this orderly development of commerce, as it disturbed about everything else. For the next decade the only certainty was that good and bad years would alternate, but in no year to 1846 did either exports or imports reach the level of 1836. Cotton growers were the greatest sufferers. They doubled their annual crop between 1836 and 1845 and more than doubled their exports, yet they received 40%, or \$20,000,000, less for the latter crop than for the earlier one. The crop for 1846 was then shortened by three-eighths, but the only result was to reduce the income another \$9,000,000. The tonnage of vessels clearing American ports had been doubled in the decade to handle the extra cotton, but planters were getting just about half as much money as formerly. Had the staple maintained its earlier price, this crop alone would have changed the whole trend of export values during those years.

Trade, 1846-1860. Following 1846 there was continuous, noticeable, and consistent growth in trade till the outbreak of the Civil War. Discoveries of gold in California, Australia, and the Rocky Mountains almost within a decade were partly responsible, because of the resulting rise in general price levels. The railroads, telegraph lines, and improved postal service played their parts in getting goods promptly to the proper places. A continued westward movement of agriculture, with consequent surplus production, was another factor, as also was the 88% increase in manufactures from 1850 to 1860. Furthermore, the Walker Tariff Act of 1846 tended to lend stability to commerce as well as to industry. This came about just as Great Britain, by the repeal

218 ECONOMIC HISTORY OF THE UNITED STATES

of her corn laws, was going on a free-trade basis. In 1860 exports ranged in about the following amounts:

Cotton	\$191,807,000
Flour	15,448,000
Wheat	4,077,000
Meat products	14,224,000
Corn and meal	3,312,000
Tobacco	19,290,000
Lumber	6,414,000
Naval stores	4,000,000
Manufactures	48,453,000
Miscellaneous	9,217,000
Total	\$316,242,000

Some estimates show foodstuffs alone for this time amounting to over \$50,000,000, but this sum, if accepted, would swell the total considerably above authentic figures. Yet, it seems rather certain that in 1857 exports of breadstuffs alone amounted to \$55,500,000.

FOREIGN TRADE OF THE UNITED STATES, 1818-1860

DATE	IMPORTS		EXPORTS		
	For Consumption	Total	Domestic	Foreign	Total
Millions of Dollars					
1818	102.4	121.8	73.9	19.4	93.3
1819	67.9	87.1	51.0	19.2	70.1
1820	56.5	74.5	51.7	18.0	69.7
1821	43.7	54.5	43.7	10.8	54.5
1825	66.4	90.2	66.9	23.8	90.7
1826	57.7	78.1	52.4	20.4	72.9
1830	49.6	62.7	58.5	13.1	71.7
1831	82.8	95.9	59.2	13.1	72.3
1833	83.4	101.2	70.0	17.6	87.5
1835	122.0	136.8	100.5	14.8	115.2
1836	158.8	176.6	106.6	17.8	124.3
1838	86.6	96.0	95.6	9.4	105.0
1839	145.9	156.5	101.6	10.6	112.3
1840	86.3	98.3	111.7	12.0	123.7
1841	114.8	123.0	103.6	8.2	111.8
1842	88.0	96.1	91.8	8.1	99.9
1845	105.6	113.2	98.5	7.6	106.0
1846	110.0	117.9	101.7	7.9	109.6
1850	164.0	173.5	134.9	9.5	144.4
1855	231.6	257.8	192.8	26.2	219.0
1860	336.3	353.6	316.2	17.3	333.6

By 1860 Great Britain had regained her earlier superior position as a purchaser of American goods, taking about six-tenths of all the

exports as compared with three-sixteenths for France, the nearest rival. It was cotton, which also constituted 60% of the foreign sales of the United States,¹ which formed the bulk of the British purchases and made of her so important a customer. The imports of the United States adhered very largely to earlier lines, except for a decline in the West Indian trade outside of Cuba and the British possessions. Because of a reciprocity arrangement with Canada, in 1854, there was a rather free flow of agricultural products from that quarter. The slave trade was still a surreptitious, though unmeasurable feature of import business. Great Britain's Opium War with China (1840-1842) and Matthew C. Perry's swashbuckling expedition to Japan, in 1854, resulted in freer trade in the Orient. In 1853 the United States began buying sugar from Hawaii, while two years earlier the gold rush to Australia turned the attention of merchants to that undeveloped region. A continuation of the preceding tables of commerce is shown on page 218 to illustrate development after 1818. Again, only the years showing significant changes are listed.

Changes in the Merchant Marine. The last quarter of a century before the Civil War witnessed the beginning of a revolution in the mechanics of the ocean carrying trade. This centered around the development of steamship packet lines. The most significant prelude to this development was the trans-Atlantic trip of the *Savannah* in 1819. It makes little difference that sails were used to supplement the engines—this ship demonstrated the possibility of steam navigation of the ocean. The Canadian *Royal William* in 1833 seems to have been the first to make the crossing under its own power alone, while the *Sirius* and *Great Western* five years later made record trips for speed. In 1840 the Cunard line from Liverpool to New York was established by the British, and in the same year William F. Harnden, founder of the American Express business, established an international branch of the service.² The federal government encouraged the organization of steamship lines by granting subsidies for the carrying of the mails far in excess of the actual cost involved. This system, authorized in 1845, was continued uninterruptedly till 1858 when hostility from the owners of sailing vessels and from the tax-burdened South caused its abandonment. Meanwhile, the total amount of the bonuses had reached \$14,500,000. The Collins line was for a few years the greatest American steamship concern, competing vigorously with the Cunard company from 1850 till its bankruptcy eight years later.

¹ Including tobacco, rice, and sugar, the total exports of the South were a good three-fourths of those for the whole country.

² After the failure of the Harnden company the American, United States, Wells-Fargo, and Adams companies handled most of the domestic and foreign express business.

Pronounced success for steamships had to await the era of cheap steel for construction. Not only the fire hazard, but also the question of fuel and boiler space were serious problems in the wooden vessel. Beyond a certain length and tonnage a wooden ship could not be built without absorbing cargo space for additional bracing. A steel vessel could conserve this room for fuel, boilers, and engines and still have ample stowage. Some iron steamships were in use in an experimental way before 1860 (see Chap. XI).

Another factor deterring the use of steam was the astounding success of clipper ships. These large, narrow, fast-sailing vessels came into common use about 1843 and dominated the seas from that time till the Civil War. They could outdistance any other sailing craft and most steamships. Three hundred miles in a day was considered no unusual feat for clippers to perform. Maybe they were too successful. Owners of them refused to recognize the possibilities for future superiority of steam propulsion, and held on to the idea till other countries had already changed to steam vessels of steel construction and superior performance.

The merchant marine went through an almost stationary period from 1807 to 1846, with an occasional tendency toward decline. Then came a decade and a half of rapid growth. From a tonnage of 943,000 for the fleet in 1846, the figure of 2,379,000 was reached in 1860, followed by a 5% increase for the first year of the war. Clearances from American ports in 1860 numbered over 17,000,000 tons, of which domestic vessels constituted 71% carrying 66.5% of the commerce. New York to the last was the busiest harbor, handling 70% of all imports while Massachusetts and Louisiana ranked second and third among the states. In the export business New Orleans continued as a worthy second to New York, Mobile exceeded any Atlantic port aside from New York, while even Texas and California were ahead of Pennsylvania.¹

The Coastwise Trade. The coastwise commerce of the country, from the establishment of the federal government, has been especially protected. The Act of 1789 fixing tonnage duties provided that fishing and coastwise trading vessels of American build and ownership should pay six cents a ton once a year, while foreign ships were assessed fifty cents a ton for each entry to an American port. This virtually excluded alien vessels from the coastwise trade. Only minor changes were made in the system till 1817, at which time all craft either wholly

¹ Marine insurance, beginning as an American venture at Philadelphia in 1794, reached its heyday in the score of years ending in 1860. Another noteworthy occurrence of these later years was the laying of the first Atlantic cable from Newfoundland to Ireland in 1858. Though it came apart in a few weeks, after about 200 messages had been sent, it was a definite promise of later success.

or partly owned by foreigners were totally excluded from the trade. Even on American shipping the fifty cent duty was assessed unless the masters and three-fourths of the crews were American citizens. This exclusion has been continued ever since, only the duties having been changed.

The embargo and War of 1812 hurt the coastwise branch of commerce the same as all other trade, though a great part of the violation of the embargo was by coastwise vessels. During the blockade, when wagon traffic alone could be depended upon as a substitute along the Atlantic Coast, flour at one time sold in Richmond at \$4.50 a barrel while at Boston the price was \$11.87. The decades of European wars before 1815 centered attention on foreign commerce to such an extent as to cause neglect of the coastwise business. But after the Panic of 1819, when people began to pay more attention to internal development, the domestic phase of the shipping trade began to flourish. Because the federal laws did not require the listing of the value of cargoes for purely home traffic at customhouses or elsewhere, there are no available figures for measuring the coastwise commerce except by registered tonnage. On this basis it is noticeable that in 1831, for the first time, the coastwise trade exceeded foreign commerce. Except for 1856-1857 the new situation prevailed thereafter.

Southern staples, especially cotton, formed the bulk of the northward-moving freight, but Western goods carried to New Orleans by the river boats also loomed large. In 1825 New York received 150,000 bales of cotton, mostly for redistribution, while nearly three times as many entries were made for coastwise as for transoceanic vessels. In another quarter of a century so much cotton came to New York that the port ranked next only to New Orleans and Mobile in the exports of that staple. Northern and European goods predominated in the southward-bound freight, the South, year by year and decade by decade, paying additional tolls for its purchases, because of this indirect commerce. An interesting development in the 1820's and following was the traffic in ice from Maine to Philadelphia, the vessels being laden with coal for the return trip.

For two decades before 1850, the main development was in volume. Products coming from the West over the improved roads and canals were further distributed along the coast, but the river freight to New Orleans was not lessened. It was not till after 1865 that north-and-south railroads began to cut into the coastwise shipping of cotton. An estimate for 1852 gives to the coastwise trade a value of \$2,665,000,000 while canals carried \$1,188,000,000, railroads \$1,081,500,000, and steamboats of the Western rivers and lakes \$654,000,000. The \$374,-425,000 of foreign trade in that year makes a pale contrast. The era of

prime dependence upon foreign countries was long since past. In this same year, seventeen steamers were engaged in the traffic between New York and the South, others being employed in different lines of the same business. The coastwise trade continued to grow steadily till the Civil War. In the later years the shipping of fresh fruits and vegetables from the South in the winter and early spring was an increasing though as yet relatively small part of the business.

Pacific-Coast and Intercoastal Trade. Another element of some importance after 1846 was the shipping carried on along the Pacific Coast and between the two coasts of the newly expanded country. Early trade with California and the Oregon country had been conducted by whalers or ships bound for the Orient. Mail carrying by way of the Isthmus of Panama was established as early as 1847. The events of 1848 made the trade voluminous, some 700 vessels rounding Cape Horn or operating by way of the Isthmus in 1849 as a consequence of the gold fever. A good number of large steamers were specially built for this business, twelve of them in the first year running between New York and Panama. This exceeded the number engaged between New York and the two ports of Liverpool and Havre combined. Besides gold, California exported wool, hides, wheat, and barley. A gold rush to Washington Territory in 1857, and discoveries of coal deposits in the same region, further stimulated commerce. This being a new and gold-mad country, there was a large profit in sending products of almost all kinds from the East. European vessels trading with Pacific ports about equaled those of domestic ownership, there being about 300 of each continuously employed after 1850.

CHAPTER X

THE TARIFF AND PROTECTION, 1789-1861

Early Tariffs. Some consideration of tariff policies is desirable as an additional commentary on the matter of foreign trade and as a prelude to a discussion of the rise of manufactures. Controversy over the issue of a tariff for revenue only or for incidental protection began with the first session of Congress under the new Constitution. Some of the states, particularly Pennsylvania and Massachusetts, already had protective tariffs which they wished to see continued by federal enactment. The Constitution permitted Congress "To lay and collect taxes, duties, imposts, and excises, to pay the debts and provide for the common defense and general welfare of the United States. . . ." Even the masters of dialectics could not affirm that this meant anything but that taxes could be collected for the three purposes mentioned and none other. Interests demanding protection seem to have been soundly convinced that any tax for their special good would also redound to the general welfare of the country.

Be this as it may, when Madison introduced a bill for duties on a series of noncompetitive products the measure was soon made over to include a number of protective items. Both specific and *ad valorem* rates were imposed upon the leading manufactures of the Northern states, with some incidental consideration for a limited group of farm products. In the interest of merchants engaged in the Oriental trade, discrimination was shown against foreign-owned vessels competing with them in the importation of tea and other goods from the East Indies or China. Most of the rates ranged from $7\frac{1}{2}$ to 15%, but, in order to miss no chance for revenue, 5% was levied on all unspecified commodities. On an *ad valorem* basis, the average rate for the act was $8\frac{1}{2}$ %. Thomas Fitzsimons of Pennsylvania assumed the leadership, in this act of 1789, which legislators from his state were to continue from that time forward.

The act was by no means satisfactory to all protected interests. Though based on an earlier Pennsylvania statute, the legislators from the keystone state did not relish the duties on rum, nails, and hemp. New England Congressmen agreed as to hemp, though joining the lower South in opposition to protection for crude iron. But the Carolinas hoped to revive their indigo industry, Pennsylvania would sacrifice something for duties on bar iron, and New England hoped

ardently for protection of her distilleries and nail makers. Other states had their own pet hobbies and aversions, the result being a log-rolling process which has been repeated in every major protective measure since that date. Few persons expected the original act to be permanent, Hamilton especially urging that definitive legislation be postponed till a thorough study of the subject could be made. Hence, the act was self-limited to June 1, 1796.

Nearly every session of Congress down to 1812 made changes in the rates, thirteen acts in all being passed, mostly for increasing duties in the specified group and putting raw materials on the free list. Though by this method protection was increased, the rates were always moderate and the average, distributed over all imports, was not greatly changed. Hamilton's report on manufactures in 1792 was intended as a basis for further tariff legislation, but very little use was made of it by Congress, its main importance being the information it contained for the use of later historians. There was not much consistency in the tariff views of the statesmen of the period. Madison and Jefferson, for instance, were both outspoken advocates of a tariff for revenue only, but in 1793, during the contest over American neutrality in the European wars, both supported protection against British manufactures with discriminative rates favoring France. At the same time, Fisher Ames, who until that time had talked protection, suddenly discovered, through his leanings toward Great Britain, that the whole protectionist dogma was a fallacy. Though adhering in the main to the revenue tariff theory, Madison and Jefferson in 1816 were again ready to protect infant industries for a moderate period of time.

It was the War of 1812 and the subsequent rage for national aggrandizement which produced the first era of high protection. For purposes of war revenue, all duties were doubled in 1812 for a period to lapse a year after the formal restoration of peace. The stoppage of trade with Great Britain, but more especially the blockade, defeated the purpose to increase the federal income, so the country emerged from the war with a new tariff problem. The per capita indebtedness had grown from \$5.89 in 1812 to \$14.78 in 1816, and the period of postwar deflation was near at hand, threatening to make payment increasingly difficult. If only to meet installments on the interest and principal of the debt, it seemed desirable to continue for a time some of the high tariff rates of the war period.

The "Infant-Industries" Argument. An incentive for increased protection was found in the infant-industries argument. Manufactures of cotton, wool, and iron had grown by leaps and bounds during the period of restriction on foreign trade following 1807. Until that

time the United States had been virtually independent of Europe so far as importation of pig iron was concerned, but this situation could not long continue unless American manufacturers adapted themselves to changing methods of production. The use of coke, of the steam engine for producing the blast, and of the puddling furnace and rolling mill was revolutionizing iron manufacture in England, while Russia and Sweden were finding superior advantages in the methods of making charcoal iron. There was an unnatural growth of the industry in America for several years following the embargo, leaving many marginal producers in 1815 who found themselves in no condition to meet competition from abroad.

As to the cotton mills, there had been a steady growth for twenty years before the embargo, but, as yet, the country supplied only a small fraction of the cotton goods it consumed. Therefore, during the war, while agriculture was stagnant and commerce languishing, there was a phenomenal shift of capital into the cotton manufacturing business, the tendency being for money to flow to the source of highest profits. But the war afforded too much protection. There was no need for the capitalists to develop efficient methods of manufacture and management, for market conditions were such that even lax methods were profitable. The consequence was that by 1815 most of the mills were so poorly equipped and controlled that they were in no condition to meet efficient competition. The woolen manufacture followed a somewhat similar course, except for the fact that the production of raw wool to meet the increased demands could not be so readily adjusted to market conditions as could the growing of cotton. So, while there was a striking growth in the woolen industry after 1807, it was of a healthy kind and the manufacturers were in 1815 in a better condition to face a congested market than the cotton and iron producers.

During these years England had been storing up her manufactures to pour out upon the world as soon as peace should be restored. In 1815 and 1816 American imports jumped to a record which was not surpassed for twenty years. Most of the goods came from England, whose speculators sent immense quantities to every possible market, often at a loss. This dumping process accomplished two things for British manufacturers. In the first place, it relieved the congested market of England. Henry Brougham revealed the other objective in a speech in Parliament when he said, "it is well worth while to incur a loss upon the first exportation, in order, by the glut, to stifle in the cradle those rising manufactures in the United States which the war had forced into existence, contrary to the natural course of things."¹

¹ Quoted in Albert S. Bolles, *The Financial History of the United States, from 1789 to 1860* (New York, 1891), pp. 359-360.

The last clause of this statement suggests the infant-industries argument, urged by American protectionists. This doctrine, briefly summarized, was as follows: 1. A given industry is certain ultimately to become self-sustaining because all the necessary conditions exist whereby it can maintain production in competition with foreign producers, whenever it becomes sufficiently established. 2. For the time being, certain artificial conditions are restraining the growth of the industry—infant disorders, lack of experience, and the difficulty of diverting capital into the necessary channels. 3. With protection against foreign competition, native producers can so establish themselves that in a few years they can meet competition without artificial assistance. There were two important inferences: 1, that no industry should be protected which showed no promise of ultimate self-sufficiency; and 2, that if in a reasonable length of time an adequately protected industry continued to languish, it should be set adrift. Perennial maintenance of protection for a perpetually failing industry would involve too great a public cost without promise of ultimate recompense, so the better policy would be to divert capital from it to more promising fields, even if some sacrifice was involved for capital already invested.

The Act of 1816. In 1816 it was contended that the cotton, woollen, and iron manufactures, especially, were deserving of such protection. President Madison and even the Sage of Monticello were ready to admit that the time had come when the country should encourage its manufactures as well as agriculture and commerce. The South, as yet, was undecided on the tariff question, while John C. Calhoun argued valiantly for a large national view, seeming to think that the section would benefit along with others through the extension of manufactures. American mills might furnish an additional market for cotton, and thus increase its price. On the other hand, the commercial interests of New England were inclined to resent protection as an unwarranted intrusion upon the prerogatives of merchants and ship-owners. Webster, especially, represented the interests of this group, and spoke with feeling against forcing the young men of the country "to close their eyes to heaven and earth, and open them in the dust and smoke of unwholesome factories."¹ John Randolph was quick to remind the people of the South that they would pay the costs of the tariff, while the East would reap the benefits, but the section, as usual, disregarded his warning.

It was another Pennsylvanian, A. J. Dallas, Secretary of the Treasury, who drafted the general outlines of the Act of 1816, but William Lowndes of South Carolina submitted the bill to Congress.

¹ As expressed in Allen Johnson, *Union and Democracy* (Boston, c. 1915), p. 237.

In final shape, the act placed duties of 25% on cotton and woolen goods, 20% on pig iron, and specific rates of 45¢ a hundredweight (112 pounds) on hammered bars and \$1.50 on rolled bars. Certain lesser manufactures received 30% and there was a duty of 3¢ a pound on sugar. In general, the rates were somewhat lower than under the war-time act, though it is not always easy to reduce specific duties to an *ad valorem* basis. The percentage varies inversely with changes in prices and, in any case, the average of all duties actually collected will change according as larger quantities of highly or lightly taxed commodities are imported. Thus, the duty on rolled bar iron, being equivalent to about 90%, was generally prohibitive. Therefore, it would scarcely figure in the average of duties collected. Yet, the general tendency can be seen from the fact that the average on all goods imported in 1811-1812 was around 18.5%; under the war measure, 32.7%; and in 1816-1818, 22%.

Actual protection is still more difficult to calculate. In 1816 nothing short of total exclusion of British goods would have helped much. Even *ad valorem* rates proved deceptive. The 25% on woollens was offset by a 15% rate on raw wool which reduced the net protection to about 17.5%.¹ The cotton schedule was still more illusory, for no goods were reckoned at less than 25¢ a yard for valuation purposes. This established a 6¼¢ minimum duty, which in time was equal to 75 or 80% on the cheaper grades. Dull market conditions led in 1818 to a continuation of the textile schedules and increases on pig iron and hammered bars to 50¢ and 75¢ a hundredweight. In spite of depressed markets the textile and iron manufacturers who survived the shock of 1816 experienced a healthy, if slow, growth of trade. In fact, the cotton and woolen industries before the tariff of 1824 were entirely out of the infant class, production in America being at least as cheap as in England. Iron manufacturers, for reasons presently to be explained, continued to lag in spite of protection and probably because of it.

The "Home Market" Argument. It was the Panic of 1819 which ushered into being the second significant movement for higher protection. Prices of manufactures had been so low for three or four years that the panic could not shake them permanently farther. But the sharp decline in prices of farm products, raw materials, wages, and rents was beneficial to manufacturers. The prices of manufactures were now relatively higher in proportion to the general trend, and

¹ Raw wool was estimated at about half the cost of the finished product. Hence, the tariff on raw wool would figure only half as much on the finished goods. For instance, a tariff of 3¢ on 20¢ raw wool and 10¢ on 40¢ cloth would leave a net protection of 7¢, or 17.5% of the total cost.

competition from foreign goods was, in consequence, more easily met. Good times merely awaited revived domestic purchasing power. At the same time, foreign markets for American agricultural products were on the decline. Even the English demand for cotton was abated during a period of financial readjustment. In this time of unrest, people with money to invest took notice of the future promise of manufactures and began to act accordingly.

The same conditions led to the first popular demand for protection. Hitherto, the tariff had been acquiesced in out of a sense of justice to young and deserving industries. Now the home-market argument began to be heard. The decline in European demand for farm products should be offset by fostering a large laboring class in the cities. This might be done by greater protection for manufactures. The argument was especially effective in the middle Atlantic and Western states, including Kentucky and Missouri. These sections were not only the great producers of food products, but also they grew wool, hemp, and flax in quantities insufficient to supply the country and therefore were easily susceptible to tariff protection. Even their grain crops, the leaders of farm thought contended, could be helped by duties on molasses, rum, and brandy, which competed with whiskey.

It was at this time that Henry Clay began to elaborate his "American system." He urged higher tariffs in the interest both of infant industries and the home market. Any surplus revenue which might be produced by the increased rates he would spend on internal improvements. This argument had a strong appeal to the West, whose producers were anxious to hasten the program of road and canal building which would create higher agricultural prices and lower costs for purchases. If imports along the Atlantic Coast became more expensive in consequence of the tariff, the West was unconcerned, because declining freight rates more than offset the difference. They wanted retaliation against restrictions in the foreign grain markets. The development of the home market offered more attractions than could be overcome by fear of further European tariff reprisal.

Bill of 1820. While this line of argument was in process of development, the tariff bill of 1820 was introduced, calling for decided increases in various schedules, but particularly on woolens, cotton goods, iron, and hemp. The bill is interesting chiefly because of the sectional lineup displayed by the arguments and votes in Congress. Bitter opposition was offered by the planting states of the South. Randolph had proved a better prophet than Calhoun, and the section was paying heavily for its mistake of 1816. The tariff had driven Great Britain to look elsewhere for some of her cotton, and the planter was getting less for his crop (but the cost of production had declined

also) while paying more for his needs. Calhoun and some others were not convinced, but the South in general was much more united than in 1816. New England was still in a divided state of mind. Connecticut and Rhode Island were fairly under the control of the manufacturing interests, so their legislators favored protection. But Massachusetts was more undecided. Hemp, flax, and iron duties were resented by shipbuilders, while the molasses tax was opposed by distillers and merchants, the latter especially since the product was still an important item of exchange in the West Indian trade. Moreover, duties on raw wool were abhorred by the textile men. Largely because of this uncertainty and division of support in New England, the bill failed of passage in the Senate by one vote.

Tariff of 1824. The protectionists kept up the fight. Bills were introduced in the two following years, but returning prosperity tended to curb enthusiasm for them. In 1824 the four leading candidates for the presidency, Jackson, John Quincy Adams, Clay, and even William H. Crawford of Georgia, were all advocates of protection, while Calhoun maintained a discreet silence. The desire of politicians in Congress to advance the interests of their favorite presidential aspirants, by showing their zeal for protection, seems to have been an important item in securing the passage of the act of that year. Otherwise, there was little excuse for the measure. Iron manufactures were still languishing, but chiefly because of too much protection. The prohibitive duties of 1816 on rolled bars had been levied ostensibly to protect consumers against an inferior product, but their effect was to encourage American manufacturers in lax and antiquated methods. The rates on pig and hammered bar iron made a continuation of charcoal smelting and heating possible, and there was no effort to utilize the the somewhat distant bituminous coal fields for their coke. Consequently, European iron was gaining in the American market in spite of the tariff and because of the inability of domestic producers to supply the needs.

The textile interests were not inclined to give up their doles simply because they were not needed. Instead, they demanded more. Also, the iron masters, totally ignoring their own obtuse practices, pleaded for a higher tariff to rescue their gasping business. Wool growers were asking for increased rates, and Kentucky was not unmindful of her hemp. The resulting act raised the minimum valuation of cotton goods to 30¢ while the woollens schedule was stepped up to 33½% by 1826.¹ Thus cheap cotton goods received about 100%, while a 30% duty on raw wool changed the net benefit of the woolen rate merely

¹ Woollens costing less than 33½¢ a yard were taxed at 25%. Such cloth was used mainly in clothing for slaves.

from $17\frac{1}{2}$ to $18\frac{1}{3}\%$,¹ a minimum valuation being denied. Hammered bars were further protected by a 90¢ tariff, other grades being unchanged. Hemp, glass, and lead were the principal other products benefited. Opposition to the bill followed lines somewhat similar to those of 1820, except that the South, exclusive of Kentucky and Tennessee, was almost unanimously in opposition and New England's vote was in a ratio of 3 to 2 against the measure. The Massachusetts, Maine, and New Hampshire delegations were equally united in opposition. Webster reached the climax of his antiprotectionism during this debate, Clay, as usual, being the leading protagonist. Robert Y. Hayne, in this period of Calhoun's silence, spoke for South Carolina, following Randolph's earlier stand, while the pride of Roanoke himself took glee in pointing out the absurdity of the West where "Men in hunting-shirts, with deerskin leggings and moccasins on their feet, want protection for manufactures!" The West and middle Atlantic states, with the partial support of New England, were barely able to pass the bill by majorities of five in the House and four in the Senate.

The Mallary Bill. The wool manufacturers were, of all, the most dissatisfied with the rates fixed in the Act of 1824, especially because of the British habit of undervaluing their wares at the customhouses. The manufacturers in Massachusetts forced upon Webster the embarrassing task of requesting more protection for woolens, and this within two years after his ardent free-trade speech of 1824. But Webster, seeing that the manufacturing interests were now in the ascendant in his state, and considering discretion the better part of valor, assumed responsibility for the abortive attempt of 1827. From that time on he was an able advocate of protection. The essence of the demand was for a complicated system of minimum valuations, the chief feature of which would be a duty of $83\frac{1}{3}\%$ a yard on goods from 40¢ to \$2.50 in value. Since the principal domestic woolens were worth about a dollar a yard, this would be equivalent to an *ad valorem* duty of from 80 to 85%. Even after subtracting the duty on raw wool of 16¢ a pound, the net protection would be in the neighborhood of 70%.² The Mallary bill (Rollin C. Mallary of Vermont) of 1827, containing this recommendation, was defeated only by the deciding vote of Vice-President Calhoun who at this time switched positions with Webster. Spurred on by the near success of the woolens men, manufacturers in general demanded the privilege of glutting themselves at

¹ See note 1, page 227.

² Since these values are expressed in terms of specific duties, the net protection is merely the difference between the duties on the finished and raw products, assuming that a pound of scoured wool would make at least a yard of cloth.

the federal feed trough, so the tariff question was thrown into the political campaign of the following year. Politicians felt that the clamor for protection was so great that any presidential candidate thought to be hostile would be certain of defeat in 1828.

The Tariff of 1828. The old Democratic-Republican organization of Jefferson's day was now breaking asunder. After 1816 it had swallowed the remnants of the Federalist party and, consequently, suffered from intestinal disorders. By 1828 the factional split was complete. So, dividing the old Jeffersonian garment in twain, the Jacksonians adopted the name of Democrats, while the Adams-Clay wing took the rest, calling themselves National Republicans. The latter party, adhering strongly to high-tariff principles and emphasizing the home-market argument, was expected to draw heavily upon the East and West alike. The Democratic party was not so certain. As the residuum of the old organization after the schism, it contained various diverse elements, unmolded to federal policies. On no point was there greater difference than on the tariff. The lower South was denouncing protection to the point of nullification talk, and this was a region where Jackson had great popular strength, however much he might be distrusted by the more aristocratic. But he also had multitudes of ardent supporters in the West, Pennsylvania, and New York where protection was a part of the political gospel. Something had to be done to sidetrack the tariff in such a way as to cause no ill feeling in either faction.

Since the National Republicans were determined to force the issue, the Democratic House hit upon the idea of rushing a bill to the Senate which the Northern Jackson men could support but which would be unsatisfactory to New England manufacturers and merchants. When the latter killed the measure the South would be satisfied, while high-tariff Democrats could lay the blame upon Yankee perversity. It was a rather stupid plan and unnecessary. Jackson's popularity in the West was underrated. He would very likely have carried the section even if known to be a free trader. Great masses of occasional voters were, after all, more interested in personal traits than in tariff views, and they were out to vote for the hero of New Orleans and the apostle of democracy.

The tariff bill of 1828, which was supposed to settle the tariff issue without enactment and elect a President in the bargain, was a monstrosity of rare proportions. The main idea was to give ample protection to iron manufacturers and wool and hemp growers but make odious the duties on raw materials and ship supplies needed by New England manufacturers and merchants. The iron interests asked for a cent a pound on hammered bars, and got it, but they also received

gratuities of \$12.50 a long ton on pigs and \$37 on rolled bars which they did not even know how to make use of. Hemp duties were to be increased from \$35 to \$60 a ton within three years. This was of no protective value, since the existing rates on dew-rotted hemp such as was produced in America were prohibitive, whereas the water-rotted hemp needed by the shipping interests came from abroad and would have to be imported whatever the duty. An equally high rate on flax had about the same effect, so far as American growers of the coarser varieties were concerned. As an additional aggravation to woolen manufacturers, raw wool was taxed 4¢ a pound and 40%, this being the first instance of double duties.

All of these rates were baneful to Yankees, but their measure of discontent overflowed at duties of 10¢ a gallon on molasses and from 40 to 50% on sailcloth, with no drawbacks for the amount necessary to carry on shipboard. In a specious attempt to satisfy the demands of the wool manufacturers, the minimum-valuation principle was applied, but not in the way wanted. A 50% tariff had been asked, with minimum valuations at 40¢, \$2.50, \$4, and \$6 a yard. This was a monstrous request, granting \$1.25 protection on the dollar grades which formed the bulk of the trade. Congress responded by inserting a dollar minimum¹ and compromising on a 45% duty. This granted only 45¢ on the popular grades besides inducing importers to save enormously by undervaluing more expensive cloth.

The contest in Congress need not be followed, but the sectional vote is significant. All the representatives from the West, except Missouri but including Kentucky and western Virginia, and all from the middle Atlantic states, omitting Maryland and the region around the city of New York, voted for the measure. The South, including Missouri and Maryland, was solid in opposition. The surprise came from New England, where only 7 of the 23 votes in the House, all of them from Maine and eastern Massachusetts, were in opposition. The favorable vote of 26-21 in the Senate was procured only because 6 of the New England Senators, headed by Webster, voted for the bill. This New England upset was a tribute to the power of the woolen interests, who, finding that the compromise rate allowed them about 3¢ a yard net more on the dollar grades of cloth than the Act of 1824, decided not to worry about the distress of merchants, shipowners, and distillers. If the 40% of the original bill had been kept, there would have been an actual reduction in duties, in which case Webster said he would have voted "nay." Others of his following would have done likewise. Along with this economic motive, however, it should be remembered that some of the New England Solons were powerfully moved by the fear lest a

¹ There were other less important changes in the proposed minimum valuations.

defeat of the tariff would lose Western votes for Adams. They were lost anyway, for even Clay's own state voted for Jackson.

Enemies of the act, both among protectionists and free traders, called it the "tariff of abominations." The South was especially bitter against this culmination of ante-bellum protection which perpetuated the high cost of so many necessities and affected foreign markets for cotton to such an extent as to act as a tax on exports. Yet, Southern men had helped frame the measure and prevent its amendment, so, after all, they could not blame the Westerners for voting for it. Hence, they vented all their wrath upon the eccentric Yankees, who would vote an abomination upon themselves in order to wreak a greater injury upon the South. South Carolinians increased their talk of nullification, but hoped that the influence of Calhoun as vice-president would result in a modification of the tariff. They were not easily driven to the unwelcome responsibility of forcible resistance to federal law.

The Act of 1832. Regardless of its defects, the act had its friends. Clay, in 1832, was willing to change its rates only in the purely revenue features, and, in order to retain the protective duties, expressed his willingness to "defy the South, the President, and the Devil." Yet, in spite of rhetoric, some changes were imperative. In 1830 a few abominations, including that on molasses, were modified. Meanwhile, the woolen interests were clamoring for changes in the minimum valuations. Finally, a threatened Treasury surplus led many people to feel that some tariff adjustment would have to be made.

The Act of 1832 was in response to these demands. After several failures by others, John Quincy Adams—now a representative from Massachusetts—brought in a bill which could be used as a basis for legislation. The finished product was not so much a new tariff as a modification of the older one. The minimum-valuation principle was removed from woolens and the duty was advanced to 50%. The rate on raw wool was unchanged except that very cheap grades were made free. The hemp duty was lowered a third and flax was put on the free list. Iron rates were restored to the 1824 level. There was much division within the sections in the vote on the bill. The West and Southwest were almost unanimously in favor, the middle Atlantic states took a similar stand by majorities of about 3 to 1, while as for New England and the Old South the votes in the House were equally divided. The greatest hostility came from South Carolina. The legislature of this state in 1825 had declared protection unconstitutional, and the number of nullificationists began to grow. Soon after his vote on the Mallary bill in 1827, Calhoun became the leader of the new movement. When extremists in 1828 began talk of secession, he took up his pen in

defense of the more moderate plan which might bring about Southern relief without endangering the Union for which he had a sincere affection. The result was the *South Carolina Exposition*, an elaboration of the long-sanctified compact theory of the Constitution, which was submitted to the legislature, without the author's name, as the report of a committee.

Nullification. The compact idea of government, dating back at least as far as the Scotch covenanters of the sixteenth century, was included or inferred in the Mayflower Compact, the Declaration of Independence, and the Articles of Confederation. Even the Tenth Amendment to the Constitution, by reserving "to the states or to the people" all "powers not delegated to the United States," was essentially an admission of the same principle. Since the states, or the people of the states, had made the Union and the Constitution, they retained sovereignty on all matters not expressly delegated to the Union. One power neither intrusted to the Union nor denied to the states was that of judging the constitutionality of the acts of Congress. On this basis the nullification theory was built. Since the Union is a compact between the states, the federal government is merely the agent of the contracting parties and is bound strictly by the instructions conveyed in the Constitution. Any violation of the instructions by the agent is naturally null and void, but it is left to the states to decide upon such unconstitutional acts and to provide the remedy. This theory, except for details concerning actual nullification, was at least as old as the Virginia and Kentucky resolutions of 1798. Even the defenders of the Alien and Sedition Acts had little to say against the theory of nullification as such. Hamilton himself, when working for the ratification of the Constitution, admitted regretfully that the federal government could not coerce a state. From that time on, the doctrine of state sovereignty had had its firm adherents. But now that nullification was about to become a reality, it was time for someone to pronounce a new dogma.

An effort of Eastern interests to limit the sale of Western land gave Hayne a chance to appeal to the West to join the South in nullification. This brought on the debate with Webster in which the latter (January, 1830) proclaimed that the Union was made by the same people who established the state governments, and that, therefore, the federal government could act independent of authority from the states. There were weaknesses in Webster's speech, both as to history and logic, but, at any rate, his doctrine gradually gained popular support in the North. For over thirty years following this debate the nature of the Union was a bone of contention between the sections, but it was not settled by argument. Even the Civil War could not

have decided the matter had it not been for the gradual elimination of state barriers brought about by the complex economic development of succeeding years.

Even before this debate, Jackson had found reasons to come to an open break with Calhoun. Coming from the Nashville region of Tennessee, Jackson had something of the attitude of that locality on the tariff. Not being a cotton region, violent free-trade agitation was absent, but the location was also a little too far south for active participation in the protectionist sentiment of the blue-grass country. Opinion, therefore, bordered on indifference, and that describes the attitude of Jackson. Like many others, he had once favored temporary protection of young industries, but he had taken no personal part in the tariff manipulation of 1828, and in 1832 he was ready to welcome a more reasonable arrangement. His acceptance of the revision of 1832 convinced the nullifiers that their hopes had been misplaced. Under the Act of 1824 the average annual collections on all dutiable products imported had ranged from 37 to 41%. The climax under the Act of 1828 came two years later when the average was just 49%. The Act of 1832 reduced this rate to 33%, with about a quarter of all imports being on the free list, as compared with a fifteenth for the preceding decade. But high protection seemed to be permanently established, and the nullifiers decided to wait no longer.

A convention called by legislative order met in South Carolina in November, 1832, and proceeded to declare the acts of 1828 and 1832 null and void. All state officials, except members of the legislature, were to be sworn to abide by the decision; appeal to the federal courts was denied; and secession was threatened if the federal government attempted coercion. The legislature immediately provided the machinery for carrying the ordinance into effect, and bellicose preparations were begun to forestall federal intervention. Hayne was now governor, and Calhoun resigned his position as vice-president to fill the vacancy in the Senate where he would be in a position to lead the fight against forcible measures.

The Compromise Tariff of 1833. Jackson was sympathetic with Southern discontent, but would not tolerate nullification. Consequently, he offered both compromise and force. He took measures to enforce collection of the duties at Charleston, made ready to send armed troops into the state, and then issued a proclamation against nullification, using the words "insurrection" and "treason." He then asked for a compromise tariff and a force act to give him unqualified power to deal with the situation in a military way. When a tariff bill introduced by Gulian C. Verplanck of New York was blocked in the House and the force bill met obstruction in the Senate, a deadlock

prevailed until Clay could work out a compromise with Calhoun. Clay arranged a tariff measure satisfactory to South Carolina and maneuvered it through the House, while Calhoun induced the nullifiers to absent themselves during the vote on the force bill in the Senate. As a result, both acts were passed on March 1, 1833, with John Tyler of Virginia casting the only Senate vote against the force bill. The South Carolina convention met again and rescinded the nullification ordinance, but made the futile gesture of nullifying the force act. Both sides were in a position to claim victory. Had not other federal problems deterred neighboring Southern states from attempting nullification, the success of the experiment might have been greater. The final collapse of the compromise turned Southern attention toward secession as the better remedy.

The compromise tariff dealt with the question in a simple, if unscientific, manner. Besides extending the free list, all duties above 20% were to be reduced gradually to that level by July 1, 1842. Beginning January 1, 1834, a tenth of the surplus was to be deducted biennially till 1840, leaving six-tenths of the excess in force up to 1842. After that date the 20% level should remain in force indefinitely. Clay expected the act to be supplanted by another before the 20% rates could become effective, but he missed his guess by just two months. There was no popular demand for increased protection in 1842. People were sated with the infant-industries argument and saw no such youngsters to nourish. The grain farmers of New York, Pennsylvania, and the Ohio Valley were losing interest in the home-market plea. Foreign markets had recovered wonderfully from the sag of the 1820's and early '30's, more wheat and flour being exported in 1840 than in any preceding year. Corn, meal, and meat likewise were recovering their earlier prestige, and in 1841 exports of meat as well as tobacco broke all records. There was no need to endanger foreign markets by efforts to stimulate home consumption.

The Wages Argument. Nevertheless, the government Treasury was indubitably empty and embarrassed by a deficit in consequence of hard times following the Panic of 1837; manufacturers were not opposed to a little more paternal care; and politicians were praying devoutly for an issue. So a tariff bill was passed, and motives were advanced afterward to justify it. For lack of other appeal, the wages argument was mainly used in the years following until the Civil War. In earlier days, free-traders had claimed that, because of higher wages in America, manufactures could not flourish without perpetual aid, and therefore it was unjust to the consumers to encourage them. Protectionists had minimized the difference in wages and, in order to make the infant-industries plea more appealing, had insisted that,

once fairly established, such differences as existed would be more than overcome by America's superior advantages in other respects. But after 1840 the opposing theorists began to trade grounds on the question. Protectionists asserted that the only way to save workers from the European level of wages was by greater assistance to the employer. A generation later they arrived at the absurdity that high tariffs in the beginning had made high wages. Free-traders then dwelt upon the increased cost of living caused by the tariff, and the consequent lowering of "real wages." High wages had called for protection, the latter nullified the former, then manufacturers called for greater boons to continue the status.

Tariff of 1842. It was Clay again who led the fight of the political fence makers of 1842 for the advanced rates, and President Tyler proved to be the stumbling block. Tyler was not essentially a nullifier or even a free trader. He was ready to help the Treasury, though at the cost of a little additional protection, but he refused to make political capital for Clay through complete consummation of the American system. In 1841 Clay had secured the passage of a provision to distribute the proceeds from land sales among the states, but Tyler had withheld approval until it was stipulated that the donation should cease if tariff rates were raised. Clay made two unsuccessful attempts in 1842 to increase the tariff while removing this restriction. But Tyler could see no justification for filling the Treasury with one hand while ladling it out with the other. So Clay had to surrender the distribution feature before Tyler would sign the third tariff bill which was hastily and inconsiderately passed during that session of Congress.

The new rates were, on the average, about equal to those of 1832, but were not distributed in the same way. Specific duties, since they operated somewhat on the principle of the sliding scale—affording relatively more protection when prices were lowest—were applied wherever practicable. Iron was especially favored in this way. Railroad iron, taxed at \$25, and pig iron at \$10 a ton had the equivalent of 77 and 72% protection respectively. Among the highest duties, with like translation, were sugar at 100% and window glass ranging from 65 to 165%.¹ From the 20% level of July and August, 1842, collections on taxed imports jumped to above 35% in 1844. But this is only a meager way of expressing the amount of protection. A number of duties were prohibitive, and hence do not figure in the customhouse reports. A restriction of the free list from nearly half of all imports in 1841 to less than a sixth by 1845 was another means of protection.

¹ The duty on rolled bar iron was \$25 and on hammered bars \$17 a ton. Wool duties were 3¢ and 30%, while woolens received 40%. The tariff on cotton goods was increased by grades.

Perhaps a better measure of the tariff is the cost to the country. From 1840 to 1844 the net revenue in proportion to the value of imports was just doubled. On the basis of the two low-tariff months of 1842 a still greater difference could be seen.

The Walker Act. The election of James K. Polk in 1844 led to a reopening of the question. The tariff had played only a hazy part in the campaign. Polk was known as a low-tariff man, but George M. Dallas of Pennsylvania had been given second place on the ticket in order to placate protectionists. Also, Polk tried to show that he was not opposed to incidental protection in the levying of revenue duties. Clay, having finally won a nomination from the Whigs, was equally cautious. Finding from experience that the tariff was supported in the South only by the conservative, large slaveholders, who would sacrifice much for Northern assistance in their opposition to democratic tendencies, he also realized that this group was a small minority. In order to gain greater popular strength, Clay went South and talked tariff moderation, intimating that rates were high enough and that the issue was obsolete. Expansion, not the tariff, was the shibboleth of the campaign.

Treasury surpluses in the next two years made tariff reduction feasible, and the vigorous leadership of the Secretary of the Treasury, Robert J. Walker of Mississippi, made it a reality. Walker, in a bill of less than 5,000 words which passed Congress almost as he recommended it, embodied much of his free-trade theory. He wanted just enough taxes to run the government on an economical basis, with no tariff duty higher than the lowest rate which would produce the greatest revenue. Luxuries should be assessed the highest, but the free list should be small in order to keep all other rates low. Specific duties and minimum valuations were abolished.

The Act of 1846 contained nine schedules, lettered from A to I. Schedule A, spirituous liquors and such like luxuries, carried a rate of 100%. Schedule B, at 40%, included spices, manufactures of tobacco, and other minor luxuries. Schedule C, containing wool, woolsens of the better grade, and iron, received 30%. Schedules D, E, and F listed most of the other common manufactures and taxed them at 25, 20, and 15% respectively. Schedule D included cotton goods and some woolsens, while woolen blankets were in schedule E. Diamonds, watches, building stone, and books came at 10% in schedule G. The lower grades of manufactures used as raw materials were in schedule H at 5%. Contrary to Walker's advice, a few luxuries, including tea and coffee, were on the free list of schedule I. The classification of diamonds and watches was especially hard to justify.

The other principal feature of the act is that it instituted the ware-

house system, which remained permanent. Prior to 1842 importers had been given credit for a limited time in paying the duties, but this resulted in much difficulty in collection. The Act of 1842 established a cash basis, which acted as a deterrent to the reexport business because of the large amount of capital tied up in temporary duties. The warehouse system permitted the storage of reexport goods for a limited time, without prepayment, in government warehouses. This system had the additional benefit of simplifying accounts in the customs offices. In order to terminate the undervaluation and inequalities of assessment that had been so prevalent, the Walker Act provided a system of valuation based on wholesale cost at the time and place of shipment, plus reasonable charges for commissions, packing, and transportation.

The average of duties under the act ranged remarkably close to 25% for the eleven years of its duration. None of the dire consequences which had been prophesied followed the adoption of the Walker Act. Business continued to flourish and manufacturers to prosper—in spite of the lowered rates, said the protectionists; because of them, replied the free-traders. The three principal industries showed conclusively their ability to exist with very moderate protection. Some textile men were willing to boast of their ability to compete with any portion of the globe. But the most interesting effect was seen in the iron industry. Under the preceding duties, manufacturers had been able to retain their old, costly charcoal furnaces and tilt hammers long after their English competitors had adopted coke, puddling mills, and rolling mills. The result was a retarding of other industries because of the high cost of iron. Railroad development to 1842 was largely due to a drawback of all duties on railroad iron during the preceding decade. The anthracite process was introduced in 1840, but the restoration of high duties two years later checked this progressive movement. Under the rate of 1846 the iron masters were compelled to abandon their antiquated processes, and from that time on they continued to progress. The indications are that if all the duty had been gradually removed the iron business would have continued to flourish. Meanwhile, the whole industrial development of the country was aided by cheaper iron.

Act of 1857. As a revenue measure, also, the Walker Act was a success. It was the enormous annual surpluses that led to further reduction of the schedules in the Act of 1857. Prosperity was again leading to reckless speculation and bad banking. The Pierce administration saw that there was a likelihood of reaction, but decided that the blow could be softened or checked by releasing the surplus in the Treasury. The act was merely a revision downward of the Walker

rates, with a few shifts of commodities to different classifications. Schedules A and B were each lowered to 30%, with cotton goods included; D, E, F, G, and H to 19, 15, 12, 8, and 4% respectively. Several raw materials, including wool, were reduced to lower schedules or put on the free list. For the next four years nearly a fourth of all imports entered without tax, the average on dutiable goods was 20% and on all imports 15.5%.

This was the most moderate tariff the country had seen since before 1800, and it was unfortunate that it did not have a fair chance. For that matter, it was a mischance that the act was passed at all at that time. It was too late to prevent or ameliorate the effect of the panic which immediately followed, but it was just in time to get all the blame. Later protectionists, notably James G. Blaine, tried to prove that the Walker tariff, by stimulating foreign buying, had led to such great exportations of specie that it, as well as the Act of 1857, was responsible for the panic. Of course, Blaine neglected to mention that this foreign buying was partially an evidence of the reckless habits of the gold-rush years, but more significant is his oversight of the fact that the per capita of circulating money increased from \$9.43 in 1846 to \$15.81 in 1857. A somewhat similar jump had preceded the Panic of 1837.

The panic was indeed serious. An Ohio life insurance company collapsed, leaving Eastern creditors in an insolvent condition. Banks suspended specie payments, manufactures were almost stopped, and several railroads failed, including the Erie, Illinois Central, and Michigan Central. Furthermore, the Treasury was embarrassed. Imports for 1858 fell off a fourth and duties a third, leaving a deficit of serious proportions for three years. Whether or not a higher tariff with consequent decreased importation would have helped the situation is, to say the least, highly problematical. At any rate, the condition of the Treasury led to a cry for more tariff, and hard times gave force to the renewed clamor for protection.

The Morrill Act. This situation was a great boon to the newly formed Republican party. In its first campaign of 1856 it had fallen just 35 votes short of an electoral majority. If the states of 1856 could be retained, and if Pennsylvania and either Indiana or Illinois could be added in 1860, success was assured. The tariff was expected to work the change in the East, while a combination of other issues was held out to the West. The Republicans already had a plurality in the House of Representatives, where in the session of 1859-1860 Justin S. Morrill of Vermont raised the tariff issue. His bill, presumably, was merely a return to the 1846 level, but the substitution of a number of specific rates actually offered higher protection. The

iron and wool duties were especially fixed to appeal to Pennsylvania. The bill passed the House but was shelved by the Senate. A few weeks later the issue was written into the Republican platform, and in the ensuing election Abraham Lincoln carried not only Pennsylvania but four out of the seven votes of New Jersey as well. Without these 31 votes Lincoln would have been short of a majority despite his gains in the West, and there was hardly a chance that he would have been chosen in a House election. The tariff issue was the strongest factor in switching these Eastern votes to Lincoln.

In the lame-duck session of Congress following the election, the secession of seven Southern states made possible the passage of the Morrill Act on March 2, 1861. It was during a Democratic administration, but James Buchanan was from Pennsylvania. Conjectures as to the probable effect of the act are useless, for war upsets all calculations. It was not the beginning of the modern tariff movement, but rather a reversion to the past. It was not a war-time measure, for it was not yet certain that hostilities would occur, and it was not drafted for war-time needs. The tariffs of the next three years and the economic revolution following the war produced the modern tariff problem.

CHAPTER XI

THE SEEDS OF MODERN INDUSTRIALISM

Conditions during the Revolution. At the close of the Colonial period certain industries were firmly established in America, but the processes of manufacture were essentially the same as had been practiced for ages. By 1860 power-driven machinery was characteristic of manufactures, the factory system was fully established in the basic industries, and an economic revolution was in gestation. The country at large was still primarily agricultural, but New England was already industrialized, with about 11% of the population employed in mills, shops, and factories. The middle Atlantic states had over half, the West a sixth, and the South a tenth as large a proportion of industrial labor as that of New England.¹ In 1780 John Adams had declared that America could not for a thousand years supply her own needs of manufactures, while somewhat earlier Franklin had prophesied that, in the several centuries necessary to settle the country out to the Mississippi River, the people would remain dependent on foreign factories. But by 1860 Kansas Territory alone was producing goods in shops and factories equal to over \$40 per capita of her population, while the average for the whole country was above \$60.

During the War for Independence the country had been able to supply most of its needs for iron and munitions, though for a time there was some trouble in furnishing a sufficient amount of powder. Gunsmiths were active in their shops from Massachusetts to North Carolina. After the war, many of the establishments were transformed for the manufacture of tools and hardware—Springfield and Waterbury getting a start in this way—while powder mills continued to expand to meet the demands of the frontier and for blasting. Following the treaty of peace, the English tried to encourage the former Colonies to concentrate on the more primitive type of manufactures, so as to perpetuate the old form of commercial relations. The Orders in Council of 1783 were especially designed for this purpose. Restrictions of European countries on the West Indian trade did not curb the activities of the New England distilleries. Freedom from other restraints helped Pennsylvania to compete with Great Britain as a source of manufactures for the Southern trade. On the other hand, British flooding led to a brief period of depression in all mills

¹ These estimates do not include persons engaged in household manufactures.

except those of the frontier which were not very extensive to begin with.

British Advantages in Manufactures. The English had some special advantages in competing with American manufacturers. With greater capital and better banking facilities they made greater savings in buying and held their goods for sale in the most favorable markets. They also were in a position to adopt the best of technical improvements, but did not always take advantage of the fact. All things considered, there was not much difference in wages, but the presence of a permanent class of mill operatives in England tended toward savings through a higher degree of skill. In America, the temporary closure of an establishment led to a dispersion of the labor force and necessity for training a new outfit on resumption of activities. The British method of selling in America gave them an unusual advantage. Their agents were given eighteen months' credit and did not have to pay the import duties for at least four months. This allowed them to sell and collect with almost no outlay of capital. Often they were mere auctioneers, depending purely upon commissions from cash sales, in which case they could operate with as much as 10% less cost than the regular importer. The result was to make competition by American manufacturers sometimes rather hazardous.

British Beginnings of Industrial Revolution. No other European factor had so great an effect upon the development of American manufactures as the industrial revolution, which inevitably involved the United States. A few words concerning the foreign beginnings of this movement are necessary to an understanding of its American phase. Until markets were created for more goods than could be supplied by household and guild labor, there was neither need nor opportunity for speeding up the processes of manufacture. The year's routine provided a time for farmers' families to supply most of their necessities, and any ingenuity which might have been expended upon improvement of the tools or machinery was needed in wresting sustenance from the soil. The guilds placed rigid prohibitions upon innovation, which lasted too long into the period when inventive genius meant progress instead of unfair competition. Before they awoke to the needs of expanding markets, a capitalist class had undermined their trades in the evolution of a new system of manufacturing. Had the guilds taken over the new processes, while retaining their democracy of organization, many of the later maladjustments of capital and labor might well have been avoided.

It was the commercial revolution which wrought the change. When merchant shipowners reached the stage where their markets could not be supplied with enough fabricated goods under the old order of

production, they turned to manufacturing as a supplementary interest. Thus the domestic, or putting-out, system was devised. A merchant bought raw materials and hired families to perform the various processes of labor in their homes. In the textile trade one family would specialize in cleaning and carding, another would spin, a third, like Silas Marner, would weave, while the work of fulling, sizing, dyeing, and printing was sometimes done in a special establishment under the direct supervision of the merchant or his agent. Under the prevailing piece-wage system, the income of a laborer depended not only on his own skill and perseverance but also on the readiness with which he could be supplied with material, and the ability of the worker performing the next task to keep up with him. If the spinners were too slow the weavers were made idle, and conversely. Such situations led the partially unemployed as well as the overrushed to conjecture on means to supplement their wages by improvements on existing machinery.

The spinners in England were already rushed to supply the weavers when, in 1733, John Kay invented a simple device, known as the fly shuttle, which released one or two shuttle throwers from each loom weaving wide cloth.¹ The surplus weavers then could run other looms. This device so greatly widened the breach between weavers and spinners that the Royal Society offered a prize for an equal improvement on the spinning wheel. Lewis Paul and John Wyatt by 1738 came near to winning the award, but their roller machine had imperfections which twenty years of later experimentation did not eradicate. But in 1764 James Hargreaves, a weaver, invented the spinning jenny which at first spun eight threads at a time, and, later, many more, in the fashion of the high spinning wheel. By 1767 Thomas Highs perfected the scheme of Paul and Wyatt, using fliers like those on the treadle spinning wheel for twisting the thread. Richard Arkwright copied this machine, adapted it to water power, named it the water frame, and patented it as his own invention in 1769. Thereafter he made or acquired many other improvements on the device. In 1779 Samuel Crompton combined the rollers of the water frame with the spindles of the jenny and, appropriately enough, named his hybrid the spinning mule. A cylinder carding machine, patented by Paul in 1748, supplemented the completed cycle of yarn making. After Hargreaves's contribution, spinners for many years were far in advance of weavers who, even by working long hours overtime, could not keep up. A power loom invented by Edmund Cartwright

¹ In 1760 Robert Kay patented a multiple shuttle box which made automatic the sorting and replacing of shuttles carrying different colors of wool for pattern weaving.

in 1787 proved to be little more effective than the older machines, so hand weavers continued to dominate the industry for over thirty years, by which time practical power looms began to replace them.

Few of these inventors were amply rewarded. Kay and Crompton were besieged by mobs of angry workmen, fearful of being driven from employment. Hargreaves on one occasion had to flee for his life, and Arkwright's first mill was burned down. Kay died a pauper, Hargreaves made little money, while Crompton's machine was patented by capitalists who refused him adequate compensation. Only Arkwright, the most unscrupulous of them all, got rich. Notwithstanding the opposition to the machines, they rapidly gained ascendancy. In a score of years there were 20,000 jennies in use in England, some of them with 80 spindles each. Before the close of the Napoleonic wars mules were operating possibly 5,000,000 spindles, though the water frame was still prominent in the cotton industry.

The innovations in textile manufactures were merely the beginning of what was soon to become a revolution in the whole scope of industry. As they were brought about by a changing order of world commerce, so in turn they called for change in other directions. Like an avalanche, new mass and momentum were gained with startling rapidity. An approaching exhaustion of water-power sites called for improvements in the steam engine. The multiplication of uses made necessary greater ingenuity and volume in the production of iron and steel. Tools had to be evolved for the making of machinery. Steam power and iron working laid too heavy a burden upon the forests, so coal mining was extended to meet the emergency. The greater volume of commerce made imperative better and faster means of transportation. Artificial power made household manufacturing unprofitable, driving laborers from their homes into the factories.¹ An increased demand led to more economical means of production, and cheaper goods multiplied consumption. The list of changes could be extended indefinitely, and has never reached a lull. It was not by accident that the movement started in England, but more European history would have to be recited than would be justifiable here to explain the reasons why.

American Contributions to Mechanical Revolution. In America, as in Great Britain, the course of industrial development in the nineteenth century was shaped by this revolution in organization and technique. Till 1845 the British government guarded its supposed

¹ Even under the domestic system some merchants had found it more convenient to assemble the laborers under one roof. But these manufactories lacked several of the characteristics of real factories. Jean val Jean, of Hugo's creation, is pictured as operating an old-style manufactory at "M-sur-M."

secrets, forbidding the exportation of any of the machines, plans, or models, and even restraining craftsmen skilled in their construction or use from emigrating. Yet, as early as 1775 a spinning jenny was brought to Philadelphia, and, a decade earlier, steam pumping engines were in use in New Jersey and Rhode Island. These were soon copied in various localities, and by 1790, even before Slater's mill was opened at Pawtucket, Rhode Island, a jenny mill at Worcester and another in South Carolina were, according to report, being run by water power. Rewards offered in America for the building of textile machines brought Samuel Slater to the country, and in 1790, at the age of twenty-two, he built the Arkwright mill at Pawtucket. There, in the following winter was spun the first cotton warp in America. Ultimately, British experts had to admit that their country had profited as much from American inventions as the United States had from theirs. Eli Whitney's cotton gin in 1793, made necessary by the demand for cheap raw material, was of incalculable benefit to British manufacturers.

A patent law was adopted by Congress in 1790 but, proving too strict, it was modified three years later. Under the new act almost anybody could get a patent for anything, leaving the courts to settle questions of infringement. The present system, including examination and proof of originality, dates from 1836 and was not materially altered till after 1860. The number of patents issued multiplied from 25 a year under the original act to over 2,500 a year in the 1850's. People of all ranks took an interest in invention, but especially laborers. Lawsuits over patent rights were plentiful, but, even under the influence of a sometimes rather lax system, industry profited greatly from the exercise of inventive genius.

Sources and Use of Power. Of fundamental significance in the growth of the factory system was the development of water and steam power. Steam was used in the United States to drive iron-working machinery as early as 1801, and thereafter it gained steady acceptance, but water power held supremacy at least till 1850. Large dams with canals and improved water wheels were employed in New England, and manufacturing towns sprang up in locations where only gristmills had existed before. In 1840 the Blackstone River between Worcester and Providence had 116 textile mills and 34 other power-operated establishments employing collectively some 10,000 laborers. Towns such as Lowell, Fall River, and Lawrence were located with reference to the best available water power, the former growing up around a dam built across the Merrimac about 1820. In two decades this dam was producing 5,000 horse power and operating nine large textile mills with 163,000 spindles and 4,000 looms in addition to

other factories and the largest machine shop in the country. Before 1860, the power and output of the same site was doubled.

Efficient use of water power resulted from a growing scarcity. The first significant improvement was the adoption of pitchback wheels turning toward the falls and operated more by the weight than the momentum of the water. Some of them were 75% efficient. Turbines, which had been used with doubtful success as early as 1790 in the United States and much earlier in France, by 1840 about equaled the best water wheels in effectiveness. The introduction of improved turbines at Fall River and Lowell in 1843 and 1844, some of them developing an efficiency of 88%, soon led to their substitution for the earlier forms of water wheels in most of the important mills. But the height of water-power conservation was not reached till after the nineteenth century.

The story of the steam engine from Hero of Alexandria to James Watt is too long, complicated, and foreign for this discussion. Between 1763 and 1785 the Scotchman Watt so improved upon the engines of the preceding two generations that they became practicable for the operation of spinning mills. Assisted by the financial backing and executive ability of Matthew Boulton, Watt made a commercial success of the enterprise. For some years the inadequacy of lathes and a lack of cylinder-boring tools hampered his work, some of his early cylinders varying as much as three-eighths of an inch in diameter from end to end. From first to last, Watt's engines were of the low-pressure type, because he discouraged his foreman, Murdock, in his experiments with high pressure. By 1800 Oliver Evans of Philadelphia and Richard Trevithick in Great Britain had perfected high-pressure engines. By this time the simple, single-expansion, reciprocating engine had taken on permanent form. In early American engines, wood was used in construction for nearly everything but the cylinders. Even boilers were wooden chests penetrated by the fire box and flues, such being used on some steamboats as late as 1817. Transmission was mainly by gears, belts not coming into general use till after 1830.

Evans's early engines ranged in size from 10 to 25 horse power and sold for as much as \$6,000. They were guaranteed to grind as high as 240 bushels of grain or saw 5,000 feet of lumber in 12 hours. By 1817 engines were being manufactured in the Ohio Valley, and five years later they were used in Louisiana sugar mills. Only where water power was scarce and fuel was inexpensive did steam power approach water in cheapness, but many localities had no alternative. The turbine principle was applied to the running of a newspaper press at Boston in 1841 and a sawmill in Tennessee in 1847. But turbines,

internal combustion engines, and the like were not extensively developed before 1860.

The use of steam, as well as the growing popularity of heating stoves and the development of the iron industry, so depleted the forests of many regions that coal mining began to take on greater activity. There was a noticeable growth in the fields around Richmond, Virginia, before 1789. A few years later a traveler reported mines near Dover as much as 120 feet in depth and employing collectively 500 Negro laborers. Before 1812 anthracite was used by some blacksmiths, and by 1820 other uses were being found. In 1837 soft coal was being burned in several Kentucky iron furnaces and experiments with anthracite for the same purpose were in progress in Pennsylvania. By 1840 the latter state had outstripped Virginia in coal production, though bituminous mines in western Virginia were already in operation. A fair notion of the growth of the industry can be had by comparison of the 50,000 tons mined in 1820 with the 14,000,000 tons of 1860. The latter exceeded in value the output of gold and silver in the western states and territories for any year up to that time.¹

Beginnings of a Factory System. In the seventy years following 1790 the factory system gained steady headway in the country, but its influence was not widely felt before 1820. According to the Census of the latter year two-thirds of all textiles, including 96% of the woolen cloth, were the product of household industry. For lack of efficient power looms, weaving remained a home task long after hand-spinning had become a rarity. Not till after 1850 did hand-loom weaving enter its final period of decay, and it has never died out entirely. The hand processes had a particular tenacity in the South, where the slave economy demanded tasks to occupy all seasons of the year. In fifteen years following 1830 a single Cincinnati firm sold 2,500 small machines which would take cotton in the seed and turn out six threads of spun yarn by the operation of a crank. Similar but larger apparatus were used in Alabama and Mississippi even in the 1850's. Ordinarily, however, yarn could be bought from spinning mills more cheaply than it could be made by hand even with slave labor. Weaving, therefore, became preëminently the plantation textile industry. Such arts as meat packing, canning, soap boiling, the making of butter and cheese, and even brewing and distilling were practiced in the household or barnyard, or under the slope of a wooded hill, to the end of the period. At the same time some of these, meat

¹ Gold production reached its peak in 1853 with a value of \$65,000,000. This mark was not passed till 1899, by which time its purchasing value had declined markedly. Production of silver was negligible till after 1860. Coal before the Civil War often sold for \$10 or more a ton at the place of market.

packing especially, were carried on extensively as centralized industries.

The domestic system also was to be found in some industries. Garment making as well as weaving was performed for wages in the home throughout the greater part of the era. The making of boots and shoes was one of the most extensive of the domestic tasks, the processes being followed without a division of labor. Cutting, pegging, and sewing machines in later years tended to break up this system, and the application of power machinery at the beginning of the war wrought its doom.

The factory system is, to date, the culmination of organization for manufacturing units. The terms "factory" and "mill" are often used interchangeably with no regard to the size, management, or type of work done. A spinning mill in one locality can be duplicated by a textile factory in another. A technical distinction is sometimes made by economists on the basis of equipment and organization, the assumption being that the factory will be dominated by machine processes involving a finely organized division and control of labor on standardized products, and that the owners, in whatever form organized, will specialize in technical and managerial problems instead of assuming the combined functions of manufacturer and merchant. No further effort will be made in these pages to discriminate between the higher forms of mill and lower types of factory production. The main purpose is to see how people were taken from the home and shop and herded together under the almost absolute control of employers, to handle machines which they could never hope to own or operate in their own separate establishments, and for the purpose of manufacturing products for the sole ownership and disposal of the employers. Besides the invention of labor-saving machinery, various factors entered into this change, sometimes as causes, again as results, but always with the effect of making the factory system more secure. Among these items were improvement of management, technical progress, including the development of the system of interchangeable parts, and the rise of the corporation form of ownership.

Factory Management. Manufacturing, before the days of monopolies and trusts, was a dog-eat-dog proposition, dominated by the desire for greater profits. The commercial revolution had widened and enlarged markets; power machinery provided the means for supplying them; and the change to factory organization led to competition for their control. The persons or companies making the best goods at a standard price or ordinary grades more cheaply, other things being equal, stood the greater chance of winning. One person's success compelled others to adopt his system, evolve a better one,

or go out of business. The shopkeeper had to keep one eye on his tools and the other on his customers. The factory operator had to be less of a technician and more of a manager. Workers needed careful supervision to get the most for the money. Obsolete machinery and processes must be replaced with more efficient at any ordinary sacrifice. The taste and styles which governed the market had to be studied and even anticipated. Marketing conditions both for raw materials and finished products needed the closest attention and scrutiny. These things the shopkeeper had neither the time nor capital to specialize in, hence he survived only as a purveyor to local customers or in such trades as that of the cobbler, where shoemaking gave way to repairing.

The influence of standardized interchangeable parts is well illustrated by the clock makers of Connecticut. The "whittling Yankees" in 1810 were making clocks with wooden works at from \$20 to \$50 each and a few brass clocks at a much higher price. Each clock was made as a unit, and no part of one would fit another. The development of metal-working machinery reduced the price of brass clocks to \$6 in 1840. Fifteen years later some sold for 75¢ and could be supplied with ready-made repairs in almost any part of the country. Similar instances could be selected in many other industries.

Sources of Capital. A major difficulty in the way of expansion was the accumulation of sufficient capital to maintain operation and keep up with technical changes. Sometimes shops grew into factories by turning the profits back into the business. Again a group of neighbors would form a joint-stock company. Merchants, in the period of transition from the domestic system, often furnished capital for a factory as a feeder of their trade. This was especially true during the War of 1812, when importation was at a low ebb. Philadelphia merchants invested in lead works, shipyards, and cordage factories in the West. A distillery at Cincinnati had a like origin in 1816, while even a few cotton mills in Georgia and Alabama were started by Easterners. In general the factories either created their own capital or borrowed in the open market. There were some instances where employees became stock owners in textile mills, but this is no indication of the prevailing status of labor. In the period just after the War of 1812 some persons advocated government-owned and -operated factories, while others proposed a far different system—government loans without interest to manufacturers. The War Department sometimes complied with the latter proposal by advancing money on munitions contracts.

Corporations. For large enterprises and speculative ventures the corporation was found most effective. Corporate control gave a permanence of organization which was impossible with partnerships, sole

proprietors, or joint-stock companies, where the death of a member called for a reorganization. The corporation, therefore, could plan far into the future, though it does not follow that such foresight was always present. The stockholder in a corporation was held liable in case of failure only to the extent of his investment, whereas each partner in other enterprises was responsible for the debts of all. Thus, it was easier for the corporation to attract subscribers. Finally, the corporation was treated before the law as an individual, thus further reducing private risk. The rule did not consistently hold that the corporation was limited to large ventures while the simpler organizations were confined to lesser enterprises. Yet, in the main, corporate control tended toward wider and more rapid expansion. *

In Colonial days, a distrust of inviolable royal charters prevented the rise of many corporations, but after independence the states began chartering them in large numbers with carefully defined powers. Most of the early corporations were for religious or charitable organizations or for road, bridge, canal, bank, and insurance companies. Massachusetts, in 1789, incorporated the Beverly Cotton Manufactory, while in the next decade several similar concerns were chartered in New England, New York, and New Jersey. Many more followed from 1807 to 1815. In all, from 1800 to 1823 some 557 manufacturing companies were incorporated in eight states, Massachusetts and New York being far in the lead. Collectively, they had an authorized capitalization of \$72,000,000, though it seems that not more than \$50,000,000 of this sum was actually subscribed. Before 1860 nearly all the states, except some in the South, had general incorporation statutes. In these years, long before the era of trusts, ominous warnings were heard of the possibility of monopolies.

Some of the tactics of the corporations were well calculated to excite such fears. Directors knew how to juggle stock so as to crowd out small holders. Proxies attached to dividend receipts enabled the owners of a minority of the stock to control the policy. Twenty men in Boston before 1860, it was said, ruled the destinies of most of the outstanding manufacturing corporations in Massachusetts, one man being president of eleven companies and a director in twenty-three. By loans and threatened foreclosures, they manipulated a \$500,000 life insurance company in such a way as to dominate corporations with ten times that capital. High salaries and unjustifiable commissions to hide profits were far from uncommon. Yet, the tendency toward monopoly was only slight before 1860. There were numerous mergers and consolidations, but only a few instances of attempted price fixing, and these were not very effective. The age of cutthroat competition was not yet ended, but lessons were being learned so that, under the ægis

of war and the moral inertia which followed it, the growth toward monopoly was guided along the most direct and thorough lines. State legislation before 1860 had little if any tendency toward direct encouragement or regulation of corporation control of industry.

Manufacturing capital from 1800 to 1860 multiplied by decades with almost the precision of geometric ratio. From 1820 to 1860 the growth was from \$50,000,000 to almost an even billion dollars. The output of factories grew even more rapidly than did investments, in some industries the annual gross production exceeding the total of capital involved.

Factory System in Textile Industries. The factory system developed earlier in the textile industries than elsewhere. Cotton was never the basis of an extensive household manufacture, since hand spinning wheels could not make good cotton warp and the fabric had to be mixed with wool or flax. Linen making, on the other hand, barely emerged from the household stage because of the rapid substitution of cotton for the more expensive fiber. The Boston Manufacturing Company (located at Waltham) was probably, according to technical definition, the first modern factory in America. From the time of its opening in 1815 it was operated by departments, with specialized labor, under a systematized method of accounting, buying, and selling, and maintained a standardized output. The first power looms of real effectiveness were used in this factory. From 1790 to 1815 the size of spinning mills had not changed appreciably, the average number of spindles to the mill being about 500. But in the next forty-five years the average grew ten times as great for the country and four times even in the South. The Merrimac Company in 1860 had a factory with 75,000 spindles. Soon before the Civil War the factory system was being extended to manufactures of wood and metal, while by 1850 watch making was introduced into the country on a factory basis in consequence of the development of interchangeable parts.

The profits made from these factories and mills are not easy to determine. Accounting methods often did not allow for separation of such items as managerial salaries, interest, and profit. The mills were frequently combined with mercantile enterprises on a one-profit system. Stock dividends seldom were counted among the gains, and, many times, legal rates of interest were not included in the statements of returns. Also, since most of the industries were clamoring for higher protective tariffs, there was a tendency to understate the profits made. Yet, it is certain that New England factories over long periods of time averaged 10% a year on their investments, in addition to salaries and other forms of revenue. Samuel Slater, starting from nearly nothing in 1790, accumulated a fortune of \$700,000 in the next forty years.

Roseate reports of profits in Southern cotton mills in the 1840's must be treated with skepticism, as part of a sectional home-market propaganda. Iron works in the 1850's were known to declare dividends ranging from 40 to 100%.¹

Certain lines of manufactures were so common in America as to deserve separate mention, while others, not especially prominent before 1860 but making their appearance by that time, are entitled to a fleeting glance because of their later importance. The former list should include at least manufactures from agricultural products, lumber and its uses, textiles as distinguished from other products of farm origin, and the metal industries.

Flour Milling. Flour milling was modernized at the very beginning of the national period. After a long series of minor improvements by others, Oliver Evans added to his number of brilliant achievements a process whereby every step in milling from cleaning the wheat to barreling the flour was accomplished mechanically and without interruption. The principal manual labor involved was in heading up the barrels. This was in 1780 and following. Six men in such a mill could handle 100,000 bushels of grain a year. Not until the introduction of the roller process following the Civil War was another improvement made of equal importance. As wheat growing advanced westward, milling followed. Between 1840 and 1850 the center of the wheat belt crossed the Alleghanies, and in the next decade the output of Western mills exceeded that of the East. By 1860 Ohio was the wheat and milling center of the West, but New York, Pennsylvania, and Virginia continued in a prominent position. Only 39% of the flour at the latter date was made east of the mountains. More efficient power and consequent larger mills were the only noticeable changes in the plants.

Alcoholic Beverages. The production of alcoholic liquors continued to furnish a supplementary market for grain crops. Rum was distilled in New England in undiminished quantities, but the palates of that hard-drinking age turned more and more to a liking for the whiskey of the West. The price of whiskey—a gallon for a bushel of corn—may have had something to do with its popularity. For some time following the "Whiskey Rebellion" (see Chap. XV) Pennsylvania retained her leadership in distilling, but, after 1810, first New York and then Ohio forged ahead. By 1850 Cincinnati was the greatest whiskey market of the world, one distillery alone having an annual capacity of 2,000,000 gallons. Early temperance workers urged the people to turn from whiskey to beer and other malt beverages, but not till after the wave

¹ Another item concerning the factory system needs to be related, namely, its effect upon labor and the family. This is reserved for special treatment in the following chapter.

of German immigration following 1848 did they achieve notable success. Home brewing was common from early days, when prepared malt and hops were not to be found in grocery stores. Village breweries with a purely local business were also numerous, specializing mostly in ale. Following 1810 there was a more rapid growth of commercial brewing, and in the next thirty years the annual output advanced about twice as fast as the population. It was not till 1860 that the product of the breweries equaled in value that of the distilleries. The largest breweries by that date reached a capacity of about 200,000 barrels a year. The center of the industry remained in the East, though lager was gaining prominence in the West. Hard cider and wine continued popular, but they did not emerge from the household stage of production.

Meat Packing. Meat packing continued along primitive lines, the principal products being the old-time salt and smoked provisions, and the main changes being in volume of output, centralization, and utilization of by-products. New England farmers sometimes killed poultry in early winter and packed it in snow for later marketing, but this was a far call from permanent refrigeration. Oysters and lobsters were pickled in vinegar for export. Sugar curing of hams and bacon was becoming known. Farmers in the early days found it easier to let the animals furnish their own transportation to market than to haul them over the primitive roads. But long drives made packing a relatively well centralized occupation. As the industry developed at Cincinnati the long drive over the mountains to Atlantic markets became less in evidence. Yet the East lost only in relative importance. Cincinnati from 1840 to 1850 did a fourth of the packing for the West, but Louisville, St. Louis, and Chicago were gaining. Ohio and Indiana at the end of the decade furnished half of the provisions for the whole country, but by 1860 Illinois and Kentucky each had surpassed the Hoosiers. The 352 packing houses as enumerated in the Eighth Census produced an output valued at \$30,000,000, or a dollar per capita for the country. Home and local butchering still were predominant. Slaughtering was usually done outside the towns, though New York was an exception, while the packing took place within corporation limits under the supervision of merchants. Butchers received the offals for their work. The packers usually were mere artisans who were paid stipulated fees by the merchants. In the East the salt wells of Virginia and New York supplied the needs of packers, while local wells were developed in the West.

As the by-products became more valuable butchers began to pay something for the privilege of doing the slaughtering. The blood was used for prussiate of potash, hoofs for glue, guts for casings and other

commercial uses, while candles, soap, and fertilizers were made from other trimmings. Bristles were in such demand for brushes that one Cincinnati firm alone employed 100 dressers. Steam rendering of lard was in use before 1850, while stearin and lard oil were also extracted for illuminants. The fattening of hogs and cattle on distillery slop formed a link between two otherwise dissimilar industries.

Canning. Canning, after a fashion, was known but not extensively practiced in the eighteenth century. After 1815 tin cans were used to some extent in New York for the preserving of meats and soups, the industry reaching a noticeable importance by 1840. An Arctic expedition of 1849 was partially provisioned with canned vegetables, and the California gold rush of the same year gave an added stimulus to the industry. In 1860 Maryland canned \$1,000,000 worth of oysters, while New York approached that value in fruits and pickles. There is some question as to how much of any of the products was permanently sealed.

Tobacco. Manufactures of tobacco were confined mainly to plugs, twists, fine-cut, snuff, and cigars. Richmond, Louisville, and St. Louis were leading in 1860, but the East had an extensive business in snuff and cigars. The veteran firm was the Lorillard company, started in New York about 1760. Cigars numbering about 400,000,000 were made in 1860, equaling about a third of all tobacco manufactures which in that year were sold at above \$30,000,000. Cigars of domestic tobacco at that time brought a wholesale price of 30¢ a hundred. As Victor S. Clark says, "with whiskey costing 25 cents a gallon and two cigars retailing for 1 cent, the convivial indulgences of the early Republic were easily purchased."¹

Sugar. Sugar refining in the country achieved a great stimulus from the purchase of Louisiana. In 1810 imports were three times the amount of the domestic product which was estimated at about 10,000,000 pounds each of maple and cane sugar. By 1850 domestic cane sugar had increased to 237,000,000 pounds and supplied half the market, while the maple product was about a third as great. Beet sugar was tried out in the 1830's, but with no particular success. In spite of attempts in nearly all the states of the lower South, no progress was made outside of Louisiana except in Texas. Within five years after steam grinding was introduced in 1822 a fourth of the plantations were using this form of power. Twenty years later some mills in Louisiana had cost over \$300,000 each and had a capacity of from 10 to 15 tons a day, but the average was nearer to 100 tons a year. After 1840 steam heating and vacuum pans were introduced, followed

¹ Victor S. Clark, *History of Manufactures in the United States* (Washington, 1916, 1928), Vol. I, p. 487.

by the triple effect and centrifugals, and by 1860 a few of the 1,300 sugar houses of the country were using bone black for filters. Molasses and rum were important by-products.

The higher processes of refining were conducted in separate establishments, of which the first preceded the Third Census. By 1820 there were refineries at Cincinnati, Louisville, and St. Louis besides those in the East. The craving for sweets now being more easily gratified, consumption of sugar increased after 1840 with much more rapidity than population and home production. The consequent increased importation had much to do with the development of refineries at New York, Boston, Philadelphia, and Baltimore. By 1860 about half of the sugar used in the country was refined at New York in establishments some of which were valued at nearly a million dollars.

Fishing and Whaling. Somewhat related in uses to the products mentioned above, were the catches of the fisheries and whalers. John Adams in 1782 knew how to wring some astonishing concessions from the British peace commissioners, and thus revived a languishing industry. Despite the status of West Indian trade for a few years the United States in 1790 exported more fish than in 1771. From that time on, except the years between 1807 and 1814, the industry prospered and expanded. A growth of the home market more than balanced any loss abroad, while federal bounties amply offset both the salt tax and donations made by other countries to their fisheries. New England in 1853 had over 18,000 men engaged in catching cod alone. But mackerel, herring, halibut, menhaden, oysters, and lobsters were coming to have a greater importance than the old staple. Halibut were often packed in ice and shipped fresh. Menhaden were utilized for oil and fertilizer. As late as 1815 oysters sold so cheaply that the raking of them was considered a degraded occupation, but after 1825 the shipment of raw oysters in cold weather added some value and dignity to the business. The development of canning after 1850 added still more respectability. Fishing, as well as oyster raking, was of local importance from early days south of New England, but in the eighteenth century it became a commercial occupation as well. In 1860 the states from New York to Virginia procured over \$1,000,000 worth of sea food, mostly oysters which were often planted in the river mouths for fattening. On the Pacific Coast salmon was the principal product, the industry being started in the neighborhood of Seattle in 1852. During the Civil War the canning of salmon was begun. Some seal hunting also was done, but not on a large scale till after the purchase of Alaska.

Whaling was for a long time after independence a precarious busi-

ness for Americans, and did not fully recover till after 1815. Then in 40 years following 1818 the tonnage of vessels engaged increased from about 17,000 to nearly 200,000. After that time the business declined in competition with petroleum. From 1835 to 1860 the fleet averaged 600 craft and the gross income was \$8,000,000, an amount greater than that of all the fisheries. In 1791 the first ventures were made around Cape Horn, but by 1821 the whalers were off the coast of Japan, and Hawaii soon became a marketing base for oil. By 1835 most of the catches were made in the Pacific, and in 1848 the Arctic Ocean was entered by way of Bering Strait. Whalers often returned to port by way of the Indian Ocean and the Cape of Good Hope, rounding out their cargoes on the way. After a two or three years' voyage they were almost strangers to their families, greeting toddling children of whose existence they had been in total ignorance. Nearly all the vessels set out from New England and New York. New Bedford after 1840 outstripped Nantucket and in 1857 had 329 vessels valued at \$12,000,000 and employing over 10,000 men. The discovery of petroleum in paying quantities near Titusville, Pennsylvania, in 1859 probably saved the whale from extinction.

Lumbering. In sawmilling the chief technical development was the introduction of circular and band saws from Europe about 1815. Stave-cutting machines, automatic planes, edgers, lathes, and grooving and mortising machines, coming into use a decade later, put the allied wood-working industries on a modern basis by 1860. New York and Pennsylvania produced the most lumber, but not enough for their needs. Maine had the largest export surplus, reaching 200,000,000 feet a year by 1850, most of which was utilized in the wood-working manufactures of other New England states. The West by 1840 was shipping much lumber over the Erie Canal and down the Mississippi. Wisconsin by 1860 was ahead of Maine, and Chicago shippers were handling about half a billion feet of lumber annually. The South still lagged behind, but the yellow pine of Alabama and the live oak of the Carolinas were in constant demand. California by 1860 ranked eighth among the states in the value of lumber produced, but the gold-rush prices prevailing there rendered strict comparison difficult. After 1840 the number of sawmills in the country decreased, but the average size and total output grew enormously, till in 1860 the 20,000 saw and planing mills produced lumber valued at \$100,000,000.

Products of Wood. Furniture was the most important higher manufacture of wood, chair making being a specialized industry by 1810. Rocking chairs, an American invention, became an important export to Spanish-speaking countries. Much imported mahogany was utilized in the furniture shipped to West Indian planters. Veneer

came into use soon after 1815, saws being perfected to make sixteen sheets from an inch of lumber. Factory production at cheapened cost led to rapidly changing styles and flimsy construction. Yet, even the shoddiest of the product so added to the attractiveness of the average home that the decline in workmanship was not a total loss. New York, with Pennsylvania and Massachusetts as close rivals, led the country in furniture making. Cincinnati set the pace for the West with an annual output second only to her machinery. Between 1840 and 1860 the total value for the country was multiplied by four to reach \$28,000,000.

Another important wood-working industry was the making of wagons and carriages. By the use of interchangeable parts, coach builders became mere assemblers of the products of other mills and factories. Carriages were the particular specialty of Connecticut and the middle Atlantic states, but wagon making was an important industry of Ohio and Missouri, while even California had an extensive industry of the same sort. The Studebaker brothers got their start by making wheelbarrows in California for miners in the gold-rush days. Wagons and carriages were made for export to Europe and South America in the later decades.

Shipbuilding. Shipbuilding to 1860 followed in general the lines and localization of the Colonial era. More Southern oak was used for timbers, and bending processes for irregular parts were substituted for the old practice of scouring the forests in search of crooked trees. Also, much more iron was used in bracing and for other purposes. Clipper ships were the outstanding achievement, one of them built in 1853 being of 4,000 tons and thoroughly braced with iron. In 1825 a steamboat with a sheet iron hull was built and later used with success on the Chesapeake Bay. Before 1860 some iron hulls had been constructed for ocean vessels, but most of them were of inferior quality and they were not widely adopted. Some, however, were turned out in Boston for South American buyers. In the making of steamships New York took first place by 1850, using the excellent marine engines of Eastern design. Boston, Philadelphia, New York, and Baltimore excelled in high-grade general shipbuilding, while the Southern yards entered an era of decline. Maine specialized in cheap sailing vessels, and for a generation before 1860 supplied from a quarter to a third of the new tonnage of the country, though the value of the product did not rank so high. On the Ohio and Mississippi rivers the trade was intermittent from about 1800 to 1860 (see p. 185). Buffalo, from 1828 on, had an established business in her lake shipyards. The trade in general was of less relative importance for several years after 1807 than earlier, but following 1840 there was a decided revival. In the decade following 1850 the tonnage sometimes was five times as

great as the 110,000 of 1807. By 1860 American river and ocean vessels exceeded those of Great Britain by half a million tons, not counting those sold abroad. Shipbuilding was again a great industry, ranking twelfth in value of product, and making possible several subsidiary occupations.

Textiles. The rapid development of the textile industries was partly due to the abundance of domestic raw materials. Yet, woolen manufactures far outstripped the native supply of raw wool, and the cotton mills were mostly remote from the source of the fiber. More important factors in the localization of the industries were the water power and coal of the East, its almost permanent class of skilled operatives, cheap immigrant labor which was constantly arriving at the ports from Philadelphia to Boston, and the surplus capital seeking an outlet. The South had none of these advantages, while pioneer conditions in the West resulted in such an unfixed social organization that almost anything might be expected in the way of industrial development in the course of time. But the interval from 1790 to 1860 was too short for supremacy to be snatched from the East in any industries except those which topography and plentiful raw materials of a bulky nature made most advantageous to the region. Consequently, the vast bulk of textile manufactures continued to be made in the East.

During the War for Independence there was such a shortage of woollens in the country that it was difficult to supply the army with uniforms, but the loss of foreign credit in the critical period following drove Americans to the patronage of their own mills, those at Philadelphia, Beverly, and Hartford especially showing much growth. After 1790, besides adopting every known form of European textile machinery, Americans made improvements of their own. The water frame was transformed in speed and fineness of work, and a workable power loom was invented by Francis Lowell for use at Waltham (1814). In 1824 Samuel Batchelder devised a loom for the weaving of seamless tubing and used it at Ipswich. The automatic weaving of pattern goods followed soon afterward, and by 1841 Erastus Bigelow of Massachusetts had a loom which could weave better ingrain carpets than any made by hand. Ten years before this American woolen looms were excelling the product of the best handicraftsmen of England. Knitting machines were known in England before she had colonies in America, but they were not adopted in the United States till in the nineteenth century. Some were operated by water power at Cohoes, New York, in 1832, and shortly thereafter knit underwear became popular. Hat- and felt-making machinery was in use in the 1840's and cylinder printing machines were coming into favor after a generation's

trial. For a decade before the Civil War American cloth patterns maintained so great a variety as to control the home market notwithstanding the cheapness of certain standard British goods. Power processes of carding and combing also gained favor, while the work of fulling remained about the same except that the steam engine extended the area where it could be done. Even methods of manufacturing shoddy were devised after 1850, much to the distress of Civil War soldiers. These innovations cheapened the costs of fabrication to from a fourth to a tenth of those prevailing in the preceding century, thus leading to vastly increased consumption. Frequent claims were advanced that the new machinery made poorer cloth than the old, but the same thing was said when the spinning wheel displaced the distaff.

Linen and Hemp. Linen, which had played so important a part in the period of homespun, made the least advance under the factory system. Its manufacture in the household continued, though usually mixed with wool or mill-spun cotton, but as a factory product flax was most used in the making of sailcloth. The number of commercial linen mills declined till 1860 when there were none of note outside of New York and Massachusetts. At this date the total output was valued at only \$700,000, while half a decade earlier Massachusetts alone had accounted for twice as much. Hemp, as a basis for cloth, was used mainly for cotton bagging. By 1850 Missouri was a worthy competitor of Kentucky in production of the raw fiber. The same states did about all of the manufacturing, which in 1860 amounted to 9,500,000 yards. Rope and cordage were the other hemp products.

Cotton Goods. Cotton mills for a decade after 1790 made only slight headway. Of many early enterprises, about eight were still in operation in 1800, all in lower New England. The next few years showed consistent growth, while from 1807 to 1814 there was an abnormal development. The deluge of British goods following the Treaty of Ghent brought a natural reaction. In the decade before 1815 cotton consumption had increased 180-fold, \$40,000,000 were invested in the industry, and the employees numbered about 100,000. Then, suddenly, nearly all of the New England mills closed, except those supplying the hand looms of the West and South. Of 169 around Providence hardly a dozen survived the crisis. The new mills, growing up more cautiously after 1816, performed all the operations of cloth manufacture and specialized in coarse white goods. In the new era, natural advantages and wiser management did more than minimum valuations in the tariff acts to put the business back on its feet. By 1820 general recovery was visible, while the mills at Paterson, Philadelphia, and Baltimore were flourishing. In the next ten years million-

dollar corporations arose in New England, using calico printing and fancy weaving to make a wider appeal to the home market. Yet, there was no tendency toward monopoly. The Tariff of 1828 provided an artificial stimulus to the industry, but this was followed by a period of stagnation.

Strange methods were used in those days to increase demand. A popular prejudice against American "domestics" led to the selling of them as "imported," while at the same time the British merchants, in order to discredit their competitors, sold the most inferior of their product under the label of "American" manufactures. Yet, by 1840 American production was a third that of Great Britain and greater than any other nation. In 1860 the five million spindles of the country used 423,000,000 pounds of cotton. The growth since 1790, even including the household manufactures of the earlier date, had been at least eight times as great as that of population.

The South (including Kentucky and Maryland) as late as 1860 manufactured a fourth less cotton than Lowell, Massachusetts, yet was in advance of the West. New Englanders, hit by the dumping tactics of 1815, established some small spinning mills in the Spartanburg region of South Carolina, utilizing the water power of the locality. Kentucky soon set the pace for the South and West, but the competitors were few. By 1840 large amounts of sheetings were made at Petersburg, Virginia, while works of local importance were situated at Fayetteville, North Carolina, and in the Augusta-Hamburg neighborhood on the Savannah River. The following table illustrates the volume and distribution of cotton manufactures in 1860.

THE COTTON-MILLING INDUSTRY IN 1860

SECTION	MILLS	COTTON USED, IN POUNDS	SPINDLES, NUMBER	VALUE OF PRODUCT
New England	570	283,700,000	3,800,000	\$79,400,000
Middle Atlantic	340	87,100,000	1,000,000	26,500,000
South	159	43,900,000	300,000	8,100,000
West	32	7,900,000	40,000	1,600,000
Total	1,101	422,600,000	5,200,000	\$115,600,000

Woolens. Woolens require a more complex process of manufacture than cotton goods, and therefore need a permanent supply of skilled labor. This was seldom available in America before 1860. Furthermore, there was never an adequate amount of home-grown raw material. For a while before 1830 about 94% of the wool used was domestic, but the ratio declined to two-thirds after 1850. Another adverse factor in the earlier years was that the cloth was used mainly

for the better grades of clothing, thus putting infant industries at a distinct disadvantage in competition with imported goods. Since the output of raw wool could not be so readily multiplied as cotton, there was a slower but healthier growth of the woolen than of the cotton industry during the War of 1812. In 1816 there was an estimated investment of \$12,000,000 in woolen mills with an annual output of \$19,000,000. Connecticut was the leading state, but even there the households were keeping even pace with the factories. In the course of the next decade the adoption of trousers as a part of men's wearing apparel led to a greater demand for woolens. The automatic weaving of Brussels and ingrain carpets began at about this time also.

The woolen industry was singularly independent of tariff influence. Under the Act of 1833, with its gradually declining rates, there was an interval of uniform prosperity, and again, notwithstanding the low duties of the Walker Act, a growth of two-thirds occurred from 1850 to 1860. In the latter year there were about 1,700 mills with 60,000 laborers, 640,000 spindles, 16,000 looms, and an output of \$80,000,000. It was the eighth industry in importance for the country. Even more than cotton manufacture, the woolen industry was centered in New England.

Silk. Silk spinning and weaving had a late period of development. When America finally abandoned the attempt to grow silkworms there was more encouragement for importation of the raw product. By 1840 China was becoming an outstanding source of supply. Not till after 1850 did the industry show encouraging growth, but in 1860 the product was valued at \$6,500,000, over half of which was thread.

Iron. In iron making the organization was widely different than in the textile industries. The owners were usually individuals or partners who had vast, almost feudal, land holdings as a source of all raw materials. If the laborers had possessed greater security of a continuous living they would have been virtually slaves. The proprietors furnished houses, stores, churches, schools, and other services which the laborers had to patronize. Money did not enter into the transactions and was seldom seen by the workers. Long credits made necessary the change of money in the company offices only about twice a year. Corporation control made some headway after 1830, but the patriarchal system still predominated. One of the companies in western Pennsylvania by 1858 had a capital of \$1,000,000 and housed 508 families of laborers. Other companies were close rivals, but hardly a Southern planter had as much control over as many slaves.

At the beginning of the War for Independence the furnaces from

New Hampshire to South Carolina produced as much iron as the country consumed, but during the war the output declined except for cast cannon and shells. Thereafter, smelting reverted to a local industry, the export trade not reviving in so large a proportion for another century. The furnaces of the country were distributed among the states with great impartiality, being developed in Kentucky before 1800, in Missouri a quarter of a century later, and in the republic of Texas about 1840. Before 1860 every state east of the Mississippi except Florida, Mississippi, and the bifurcated Louisiana had smelteries or forges.

Until 1825 no perceptible advance was made over Colonial methods of production. Some efforts at anthracite smelting were made as early as 1825, but not till the experiments of Frederick W. Geissenhainer in New York, 1830-1833, was the correct process discovered. Commercial application of the principle began in 1837, by which time coke also was being used with success. But not till 1855 did the amount of anthracite iron exceed that of the charcoal furnaces, and coke was not extensively used till after the Civil War. The hot-blast process, introduced from Scotland in 1834, tended, after a few years of hesitation on the part of the hide-bound iron masters, to make anthracite smelting more profitable. The production of pig iron grew, though somewhat erratically, from 54,000 tons in 1810 to 988,000 in 1860. Blooms in the latter year totaled 51,000 tons.

Some wrought iron till long after the Civil War was made directly from the ore in bloomeries and from pigs in refining forges by methods as old as the hills. Slitting mills multiplied rapidly after independence removed the restrictions of 1750, and nail rods were sold in country stores at least as late as 1860. The first rolling of puddled pigs was done in Pennsylvania in 1817, though the process had proved successful in England more than thirty years earlier. Not till 1835 was the example followed in New England. After 1840 a different furnace treatment—faintly similar to the open-hearth—and better squeezers and rollers resulted in as fine a grade of iron as could be obtained by any method, but it required the lower tariff rates of later years to force the expansion of puddling and rolling.

Railroad iron was the first great product of the new mills. Some U rails as well as the modern T rails were made in Maryland in 1844. By 1860 the annual volume of railroad iron was 200,000 tons, but the development of the industry had been so long delayed that demand still ran far ahead of the domestic supply. At Trenton in 1854 the first structural iron was rolled, though there had been some earlier cast-iron rafters. Before 1860 some I beams had been made. At that date there were 256 rolling mills in the United States producing half

a million tons of different shapes. Six were south of Virginia, one at Atlanta having an annual capacity of 18,000 tons. In eastern Pennsylvania some mills rolled round iron 12 inches in diameter and bars 25 feet long by 8 inches square. In the half century before 1860 the consumption of iron increased 5 times as fast as population, the per capita reaching about 120 pounds. All but about 15% of this in 1860 was smelted and manufactured in the country, and the value of the product was second only to that of flour.

Steel. From 1750 to the Revolution the number of steel furnaces in the Colonies was limited by Great Britain to the existing five, though Peter Hasenclever and others evaded the law by use of a forging process. During the war and afterward the business expanded slowly. There was not before 1850 much improvement in the processes followed, the cementation method (the blister steel of the Colonies) remaining predominant. Some cast steel made at Pittsburgh in the 1830's and crucible steel at Jersey City and Pittsburgh soon afterward were harbingers of later developments. Their lack of chemical knowledge made it difficult for American iron masters to turn out a uniform product from the diversified ores of the country, and, since they resented the "interference of theorists," improvement was not rapid. William Kelly of Kentucky in 1851 discovered a method of decarbonizing iron by forcing air through the molten mass, and in this way made boiler plate much like the Bessemer product of five years later. Neither Kelly nor Henry Bessemer of England could control the quality of their output, nor did either of them make actual steel. Meanwhile, wrought iron continued to be used in place of the later low-carbon steel. From 1790 to 1860 the total steel production of the country grew from 500 tons to only 12,000 tons, most of which was made in Pittsburgh and Philadelphia and the rest in New York and New Jersey.

Castings. The casting of iron had to keep pace with the demand for machinery and the comforts of life. After 1820 iron—first cast, then wrought, and finally steel—was substituted for wood for many machine parts. Iron pipe made water turbines practicable and added to the effectiveness of city water works and gas plants. Improved stoves made homes more comfortable and by 1860 added \$11,000,000 to the gross income of the founders—an amount nearly double that of a decade before. A growing popular desire for cleanliness gradually overcame the godliness of theological precepts, and cast-iron bath tubs found their place in the more luxurious domiciles. Lawn "ornaments," hydrants, lamp posts, and the like added more or less to the attractiveness of city life while affording an outlet for a rapidly expanding industry. Malleable-iron castings after 1850 began to take

the place of forgings for stoves, interchangeable parts in such things as sewing machines, and other minor uses. But the need of large castings for locomotives, especially the exacting qualifications for high-grade wheels, had more influence than anything else in the improvement of foundry technique.

Machinery. In the making of light machinery, such as that for textile mills, an immense amount of hand work was involved, even to the use of files and emery. But for heavy machines, like engines and locomotives, much more powerful tools were employed. Tilt hammers of four tons were in operation by 1835 and reached nearly twice that size a quarter of a century later. The giant hammers of the postwar period were not needed till cheaper steel was produced, large machine parts being built up by welding the wrought iron segments. The slide lathe, invented in America, and numerous other tools, either developed independently or introduced from abroad, resulted in a rapid advance in machine-shop practices before 1860, though more hand work was still done in America than in Great Britain.

Some enormous engine parts for the age were cast or forged in American plants. The steamship *Arctic*, about 1850, had an engine bed-plate of 60 tons cast in one piece, while the *Constitution* in 1861 had 23-ton shafts forged at Reading and a 65-ton bed-plate made at Philadelphia. Cylinders nine by fourteen feet in size as well as fly wheels 25 feet in diameter and weighing 32 tons were in use after 1850, while five-ton anchors were made a quarter of a century earlier. For ten years before the Civil War standard steam engines with interchangeable parts were made and sold by catalogues especially at Rochester and Cincinnati. Next to Oliver Evans, George H. Corliss was the greatest individual American improver of the steam engine. With the establishment of the Baldwin works in 1832 locomotive construction began to emerge from the experimental stage. Three years later the industry was begun in Pittsburgh and by 1850 spread to St. Louis. It took the Baldwin company thirty years to make its first thousand locomotives, but in the country at large 470 were produced in 1860 alone. A year before this the Erie railroad had tried out an all-iron passenger coach.

Similar progress was made with small machines and tools. By 1807 Eli Whitney had developed an excellent system of interchangeable parts for muskets, but of much more practical value was the sewing machine of which a crude type was invented by Elias Howe in 1846. Four years later the Singer company was selling improved machines, and soon had the competition of the Wheeler and Wilson and the Grover and Baker companies. In 1860 New York, Connecticut, and Massachusetts, the homes of the three rivals, made 70,000 out of a

total of 111,000 produced in that year. The rest came from 40 small factories in nine states, particularly Pennsylvania and Ohio.

At least equally revolutionary was the telegraph, which had been an object of experimentation by electricians since 1753. Samuel F. B. Morse, between 1835 and 1844, by proceeding beyond the ideas of others, not only invented the first practical instrument but also had it in operation between Baltimore and Washington. The federal government was offered a monopoly of the device but refused to accept for fear it might prove unprofitable. In less than a decade there were 50 telegraph companies in the United States. The development of wire-drawing machinery made these feats possible. In 1860 some 10,670 tons of wire were made in the United States, mostly in Massachusetts.

Minor Ferrous Products. Modern agricultural machinery also got a good start in the ante-bellum period (see pp. 299-302). Minor machines, tools, implements, and general hardware invented, developed, or produced in this era could be enumerated to the point of mental numbness. Cut nails, invented during the War for Independence, wire nails after 1850, and pins made and stuck in papers without being touched by hands show that small but necessary articles were not neglected in the period of evolution of the locomotive, threshing machine, and steamship.

Other Metals and Their Products. The use of nonferrous metals also expanded greatly, but in a less spectacular fashion. Most of the domestic lead was procured in the Galena, Illinois, region, the maximum of production being 27,000 tons refined in 1845 at a cost of less than 3¢ a pound. More of this metal was imported than was mined at home. The principal improvement in copper and brass working was the spinning process which began to replace hammering and casting after its invention at Waterbury in 1851. Gas fixtures, lamps, and chandeliers were among the leading manufactures of brass. Before 1860 the Michigan copper mines were showing promise of the nation's future supremacy in output. All the tin used was imported, the amount reaching \$5,000,000 annually.

The finest of American metal products were the work of the jewelers and goldsmiths. Electroplating, developed in Philadelphia around 1840, ushered in the era of cheap jewelry and utensiles, besides having other more valuable commercial potentialities. The discoveries of gold and silver also helped extend the use of solid plate, though silver came too late to be of much importance before 1860. After 1850 watches were made at Waltham equal to any but the most expensive from abroad. This was made possible, in spite of high labor costs, by the use of standardized machinery and parts.

New Comforts. Many other discoveries and inventions helped to dispel gloom and make life more enjoyable in the early decades of the nineteenth century. In this category street and house illumination deserve some special mention. Candles and lard oil long vied with whale oil for supremacy, Cincinnati alone producing about 2,500,000 pounds of the first and 1,200,000 gallons of the second annually by the middle of the century. The solar lamp for lard oil, patented in 1843, was the best home illuminator before the days of petroleum. Even cotton-seed oil was used for lighting purposes, reaching a value of \$750,000 by 1860. Castor oil, corn oil, and camphene—a mixture of rosin and turpentine—also had their advocates. The latter, often mixed with alcohol to form “spirit gas,” was dangerous but popular. In 1860 a million gallons of it were made at Philadelphia.

The craving for brighter homes was further satisfied by the discovery of petroleum. Soon after 1825 the oil was gathered from springs and salt wells and used for lubrication, patent medicine, and light in factories. A salt well drilled in Kentucky in 1829 turned out to be a temporary gusher producing 75 gallons a minute. The first regular supply of kerosene was obtained from distilling coal, and thus got the name of “coal oil.” Then, in 1859, permanent wells were drilled in Pennsylvania, since which time the oil business has continued to grow by leaps and bounds. The properties of gas were known to Jan Baptista van Helmont of Brussels as early as 1609, and a few years later natural gas was discovered in England. Coal gas was used for house lighting in England in 1792 and was first used in the United States at Richmond in 1803. A few cotton mills were lighted by gas in 1812, while Baltimore a few years later had a commercial plant. Natural gas was struck at Fredonia, New York, and near Pittsburgh in 1825, but was not greatly used for another 40 years. The demand for gas was great, despite the usual theological objections, and the price sometimes ran as high as \$15 a thousand cubic feet. In 1860 gas selling for \$12,000,000 was manufactured in the United States, equaling the combined value of all the petroleum and whale oil used.

The process of vulcanizing rubber, developed by Charles Goodyear between 1839 and 1844, was the beginning of another giant industry. Photography also was gradually evolved in the years following Louis J. M. Daguerre’s experiments in France in 1839. William T. G. Morton and Charles T. Jackson in the 1840’s independently discovered the anaesthetic properties of ether, thus revolutionizing surgery, though sterilization of incisions, except by red-hot irons, was as yet unknown. By 1860 chloroform also was in use and was first extensively tried out, sometimes mixed with ether, on wounded soldiers in the Civil War. Many a soldier with a slight gunshot wound owed the loss

of his arm or leg to the zeal of some surgeon in trying out the properties of anaesthetics.

To revert again to the more cheerful side of life, Richard Hoe's rotary printing press in 1847 made possible the production of an endless stream of newspapers, and the development of type-founding machinery soon afterward permitted compositors to keep pace with the press. Yet for generations longer the printer's devil in the office of the country editor remained oblivious of these changes. In 1860 the people of the United States spent about \$30,000,000, or a dollar per capita, for books and publications coming from American presses. At least a beginning was being made toward the age of greater reading.

Some other occupations, not so closely related to manufacturing, are reserved for the next chapter.

CHAPTER XII

BEGINNINGS OF THE LABOR MOVEMENT

Distribution of Wealth. While the manufacturing and related industries were making the rapid strides just traced, the distribution of wealth was becoming less equal. Though the laborer of 1860 may have been able to enjoy some comforts which wealthier persons in earlier generations could not buy, he had fallen far short of securing the share of goods of his own creation to which he was entitled. The machines which he had built, and which his fellows had invented, became the property of his employer. The latter, by enforcing minimum wages for subsistence, limited the home market for manufactures and was forced to look to less industrialized countries for disposal of the surplus. Thus the capitalist had built up stores of credit in the banks, which neither he nor his immediate descendants could use to the full, while the excess of the real fruits of American effort went to increase the comfort of people unconnected with their production. Domestic under-consumption, in addition to the temptation to speculate which was engendered by the balance sheets of credit, led to frenzied periods of activity which culminated in panics that wiped out the paper holdings of many. Then the process would begin all over again, but the salvage of each downward swing of the business cycle remained in the same group of hands, while the laborer was left in a more disadvantageous position than before. Scarcely half a dozen individual fortunes even by 1860 were rated at five million dollars or more, but directors of numerous corporations possessed lesser sums which in the aggregate did far more than the few great accumulations to withhold consuming power from the masses. On the farm the era of tenancy had not arrived, but few agriculturists gained more than a drab living. Southern planters as a class lived well but were hagridden by debts. The poor whites in general were in a worse situation than farmers elsewhere, while slaves were merely a sort of capital investment.

Rural Status of the Country. The great mass of the people of the nation lived on farms, hardly a sixth even in 1860 dwelling in towns and cities of 8,000 and upward. The condition of rural laborers was a problem separate from that of the city workers except that, whether independent producers or wage earners, their income depended largely upon the degree of well-being of mill and factory operatives, this being

a fact which they rarely considered. Another considerable group of wage earners were the white-collar employees—bookkeepers, clerks, bosses, civil servants, and the like—who, on meager salaries, strove to maintain a degree of respectability somewhat above that of the manual laborer. They, like the domestic servants and other menials, were not the sort to be readily influenced by organized labor movements.

Occupations and Professions. There was a small residue of professional and subprofessional people who ranged in living standards from high luxury to pinch-faced want. The ministry continued to maintain the dignity of its cloth, though the average of training declined somewhat from the Colonial level. Too many preachers, especially in frontier and poor communities, were mere exhorters whose shrinking from fagging toil was interpreted as a divine call. Yet, most of the rapidly increasing number of colleges and pseudo-universities were maintained by rival religious organizations mainly as training schools for the clergy. Theological seminaries for higher learning were created by some denominations, but their students were numbered in dozens only. While the mass of the clergy lived largely on donations from their congregations, their subsistence was usually assured so long as they cared to remain active.

Physicians and lawyers generally acquired their training by apprenticeship, but schools of medicine and law became of increasing importance. The will of Stephen Girard in 1831 left \$2,000,000 for the founding of a college for orphan boys in Philadelphia, from which, contrary to the usual trend, the clergy was rigidly barred. From many of the other institutions increasing numbers of graduates went forth to enter other professions than that to which the deans advised them. Physicians, even when poorly educated, directed their efforts to the whole range of human ailments and were especially proficient at pulling teeth. The borderline between medicine, dentistry, and pharmacy was hazily drawn, and many a physician also was adept at the compounding of simples. Yet, as previously noted, great advance was made, especially in the use of anaesthetics.

Requirements for the law were often of the meagerest. The constitution of Indiana, still unchanged, asked only that the practitioner be of good moral character and have the consent of the circuit judge. Recent legislation has made this consent more difficult to obtain. Probably the majority of lawyers chose the profession as a stepping stone to politics, a determination which has never greatly changed. Members of the bar followed the agents of the land office to each new frontier community, where there was certain to be an immediate flow of business.

The sprinkling of scientists in the country was of far greater impor-

tance than its numbers would signify. "Natural philosophy" still covered a multitude of budding branches, but there were a few men who were outstanding specialists. Among these might be mentioned John J. Audubon, the ornithologist; Louis J. R. Agassiz, the Swiss-American biologist; Joseph Henry, a physicist and the first head of the Smithsonian Institution; Benjamin Silliman of Yale, noted as a geologist; and Maria Mitchell of Vassar, perhaps the first woman astronomer to discover a comet. The founding of Rensselaer Polytechnic Institute at Troy, New York, and Franklin Institute at Philadelphia, each in 1824, is an indication of the increasing interest in scientific training. Through the munificence of James Smithson, an English chemist, the institution at Washington bearing his name was founded for the furtherance of scientific research in 1846, many years after his death.

Teaching remained well below the borderline of a well-defined profession, college faculties containing too large a proportion of broken-down or supernumerary ministers while the public schools were burdened with derelicts, unable to make a living at anything else, and temporary sojourners on the road to the learned professions. The persons of scholarly training and abiding interest were never in large enough numbers to establish professional standards for the group. The Hoosier school master of Edward Eggleston was far above the average of his day and community. By 1850 there were about 80,000 elementary and 6,000 secondary schools in the country with probably 100,000 teachers. More and more the income of the teachers was coming from the governmental units, but the terms of school were so short and the difference in salary between beginning and mature teachers was so small that the occupation had little to offer to individuals of ambition and initiative.

Of persons who made their living with their pens the names of so many of that period continue to be well known that it would be superfluous to repeat them. It should be noted that, while novelists, poets, and essayists were numerous, there were no playwrights of enduring merit. William H. Prescott and John L. Motley produced some very creditable history while George Bancroft glorified democracy under the name of the same muse. Jared Sparks as an editor, Peter Force as a compiler, and Lyman C. Draper as a collector of documents also made noteworthy contributions to historiography.

Little advance, but possibly some decline, could be noted in the fine arts. Gilbert Stuart scarcely excelled the example of his master Benjamin West, while his successors were of smaller merit. Charles L. Elliot and Washington Allston of Boston achieved some fame for their portraits, and Thomas Sully from England specialized in land-

scapes at Philadelphia. Hiram Powers, Thomas Crawford, and Horatio Greenough were typical of the best in American sculpture, the latter being also the designer of the Bunker Hill monument. Most of the sculptors drifted to Europe to find a wider outlet for their talent. Architecture sank far below the level of earlier days, though Jefferson set a good example in the buildings at the University of Virginia. But the hideous example of some of the government buildings at Washington, especially the State, War, and Navy Department structure, is more likely to be pointed out as indicative of the trend which continued till the close of the nineteenth century.

Americans made a few contributions to music, the principal ones being through the collection and adaptation of Negro folk tunes. In 1842 E. P. Christy had a troupe of blacked face singers of Negro melodies who toured the country in the style of the later minstrels. Stephen C. Foster got many of his ideas from the same source, but interpreted them in his own way. The writing of hymns was the most frequent method of expression of musical talent, Lowell Mason achieving especial distinction. Perhaps the greatest American musician of the time was Louis M. Gottschalk, pianist and composer, who spent most of his time abroad and did not demonstrate his powers in his own country till 1853. European talent was frequently displayed on the concert stage, none with more success than Jenny Lind who was brought from Sweden by the efforts of P. T. Barnum in 1850. Italian opera had its devotees at all times and was put on a permanent basis in New York in 1847. The theater continued to be considered, among the rurally minded people, as a device of the devil though the dramatization of *Uncle Tom's Cabin* gave it some saving grace in the North in the 1850's. Edwin Booth was one of America's most brilliant exponents of the Thespian art.

Capitalistic Administration of Labor. While the chosen few mentioned above helped to maintain or propagate culture in the land, the burden of improving material welfare fell upon the shoulders of a rapidly increasing number of wage laborers. Before the opening of the nineteenth century the administration of labor was undergoing alterations which in three decades completely changed the conditions of Colonial times. The skilled hand trades came under the domination of the merchant capitalist; the old household industries were subjected to the factory system; while heavy labor to a large extent was controlled by the truck system in the iron mills, coal mines, and construction gangs. The independent laborer still existed, but his freedom was a mere figure of speech rendered absurd by wages and hours determined by competition with strictly limited workers in other or similar fields.

The merchant capitalist, representing an advanced stage of the domestic system, bought and sold in large quantities, controlled transportation and markets, and thereby took the wholesale business from retail merchants. Since he could buy in the cheapest markets however far distant—even the products of poorhouse and prison labor—he forced employers to beat down wages in order to sell their products. Masters, receiving advance payments on contracts, had small financial stakes in their trades, thus becoming little more than sweatshop bosses. The old days of separate, shop bargains between masters and journeymen were gone, leaving industrial conflict as the natural outcome. This situation was thoroughly developed in the shoemaking trade by 1820 and was in progress in many others.

The factory system was particularly baleful in its influence on wages and hours of labor. Skill was supplanted by machinery, and pains-taking tasks were replaced by monotonous routine which could be entrusted to women, children, poorhouse inmates, homeless orphans, and baffled immigrants at pitifully low wages. Mathew Carey, a Philadelphia philanthropist, estimated in 1830 that 20,000 women in Boston, New York, Philadelphia, and Baltimore were employed for 16 hours a day at wages of no more than \$1.25 a week. By 1837 other figures showed women in the needle trades receiving less than \$60 a year for full time, or below \$36 if their attention was divided by the care of children. At the same time about 15,000 women employed in the shoe industry in Massachusetts got from eight to ten cents, or, in a few cases, from 40 to 50¢ a day. In the cotton mills the average was about \$2.50 a week.

Wages in the 1830's. Wages varied widely between the different sections of the country, usually being in inverse ratio to other costs of production. In New England, women and children recruited from the farms to work in the textile mills got more money wages than were paid for like tasks in the larger towns from New York state to Virginia, and received board and room in addition. In many cases the whole family would be employed in the same mill to make a bare living. Nearly three-fifths of the cotton mill operatives from New England to Virginia were women, and 7% were children under 12 years of age. In 1832 an estimate showed two-fifths of all employees in Massachusetts factories under 16 years, while many establishments exploited the inmates of almshouses. Men who operated spinning mules received as much as \$7.50 or \$8.50 a week before 1830, but the period of wage cutting had already begun.

Laborers at heavy tasks, even when paid in money instead of truck, got little more than starvation wages. Workers on the Pennsylvania Canal in 1831 were given bed and board and from \$10 to \$12 a month

except in the coldest months when they were lucky to get just their board and bunk. Carey calculated that such a laborer could by no means support a wife and two children. The wife might make \$26 a year in one of the needle trades, but if 8¢ a day was allowed for food for the wife and each child, with other necessities in proportion, the man would be \$30 in debt at the end of the year. Since no such laborer could get that much credit, he would have to cut the clothing allowance for the whole family from \$40 down to \$10 a year. But about half of the men so employed returned to their homes in the winter months, broken in health by malaria. City workers making 75¢ a day were hardly any better off. They lost on the average at least eight weeks a year for reasons beyond their control, leaving less than \$200 for the annual income. With food at the cost mentioned above, rent at 50¢ a week, and other needs in like proportion, a family of four might save as much as \$3 a year. Many Southern slaves had a larger money income. When such men struck for a living wage their disturbances were referred to as riots, and it was no uncommon thing in the middle 1830's for them to be quieted by a well-armed militia force.

Even skilled craftsmen were paid very little in proportion to the cost of living. Philadelphia shoemakers in 1835 were making only 94¢ a day after a successful strike, and had to pay for their tools and findings out of this sum. Carpenters in New York at the same time got \$1.37½ for a day of from 15 to 17 hours. Other wages and working conditions in the skilled trades will be mentioned later in connection with the development of labor unions.

Immigration. The great stream of immigrants in the 1840's and following (see p. 167) added much to the distress of the laboring classes. The number passed the 100,000 mark for the first time in 1842. After 1845 the volume soared to a total of 428,000 in 1854. The aliens, accustomed to hard conditions, were submissive under a régime of from 14 to 16 hours a day at almost any rate of pay they were offered. Many of them remained in the Eastern cities, helping to add to the distress of labor in general and causing the first organized protests of American workingmen against unrestricted immigration.

Living Conditions. Slum conditions were a natural result of the situation just depicted. An enumeration made by the chief of police of New York in 1850 showed 18,456 people, or a thirtieth of the total population, living underground in 8,141 cellars. Sometimes the "flop-house" system was found where a bedding of loose straw cost two cents a night or bare floor space one cent. In such places black and white people, men, women, and children, were "mixed in one dirty mass." Bedrooms were found "without air, without light, filled with damp vapour from the mildewed walls, and with vermin; they are the

most repulsive holes that ever a human being was forced to sleep in.”¹ In 1853, after a sharp increase in living costs without a corresponding advance in wages, a situation possibly even worse was found. Some tenements housing more than 500 people, often with more families than rooms, rented for from a third to a half of the value of the property annually. The conservative *New York Times*, figuring rent at \$100 and food at \$273 for a family of four, calculated that \$600 was the minimum annual wage for an adequate living. If this estimate is of any value, it can be seen how far most families had to live below a decent plane of existence. Small effect did the much-vaunted limitless expanse of cheap public land have upon improving the conditions of American laborers. They were not much better off than their European fellow men. Transportation charges to the regions of cheap land were heavy, the lifetime savings of a whole laboring family often not being enough to pay the cost, much less leaving a surplus of \$100 to buy 80 acres from the government.

Early Labor Organization. It was while such conditions were in process of development that labor began its movement of organization, alternately along economic and political lines, to achieve for itself a fair share of the products of its own toil. Near the end of the Colonial period a tendency toward less sympathy between the employers and laborers was beginning to be seen, journeymen questioning why they should improve their skill merely to have their wages cut in consequence. A temporary association of laborers, created to uphold wages against the opposition of the merchants and masters, was formed in the city of New York in 1785. It was composed of skilled trades only, and was copied elsewhere by will-o'-the-wisp organizations appearing for an immediate purpose and vanishing almost as rapidly. The first continuous combination was that of the Philadelphia shoemakers, first united in 1792 and revived in 1794 as the Federal Society of Journeymen Cordwainers. They held together till after the conspiracy trial of 1806. The Typographical Society of New York also appeared in 1794 and lasted for ten years. Unions in these two trades spread to cities in other states, reaching New Orleans in 1810, but no continuous organizations for other occupations existed prior to 1820. The first authentic strike occurred when the Philadelphia printers in 1786 were refused a wage of a dollar a day. The house carpenters of the same city struck for a ten-hour day in 1791, and the Baltimore sailors took like action for higher wages in 1795 and following. The first strike by a permanent union was that of the Philadelphia cordwainers (boot- and shoemakers) in 1799, lasting for about ten weeks with little effect.

¹ As quoted in John R. Commons and associates, *History of Labour in the United States* (New York, 1918), Vol. I, p. 490.

This also was the first sympathetic strike on record, the shoemakers walking out to reënforce the demands of the bootmakers. The New York shoemakers in 1805 created the first permanent strike fund, while the printers of the same city in 1800 drew up the first complete wage scale.

Some of the local unions of early days exercised much influence in fixing wages and hours as well as general working conditions. Without any national organization, they learned some lessons of coöperation both within and between the different trades. Class consciousness reached the point of expelling journeymen when they became masters. They were too weak, however, to withstand the Panic of 1819, all of them collapsing except those held together by insurance features. When business began to revive after 1820, new associations were formed, including for the first time factory workers, mostly women. At this time the word "union" first appeared in the names of the organizations, being used by the nailers and weavers of New York. A period of rapidly rising prices in 1824 and 1825 resulted in numerous strikes for stabilization of employment, higher wages, or restoration of wage cuts, several of them being successful. The victory of the New York stone cutters in their demand for \$2 a day was a noteworthy achievement. But before extensive results in economic persuasion could be wrought the unions were diverted by the first labor-party movement. In the meantime, however, they had developed the machinery and methods of coercion which were to be copied time and again in the future.

Labor Theories. The classical school of British economists had held that wages were purely the bounty of the capitalist, and that the smallest amount for subsistence was the largest an employer could pay. This theory offered no hope unless the laborer chose to seek comfort in the teachings of the church. But such precepts as, "Be good and you will be happy," and "Your reward is in Heaven" did not prevent the rise of a labor philosophy. Capital and raw materials being the product of labor and nature, and labor being the only agency for making capital profitable to its possessor, the more advanced thinkers began to argue that the worker should get all that he created. This doctrine never gained full credence among all labor leaders, but from early days they began to distinguish between fundamental and subordinate issues of practical importance. They knew the objects to be gained and the methods to use. The primary problems were control of wages, hours, and working conditions. These could most readily be obtained by mastery of the system of apprenticeship, limitation of the exploitation of woman and child labor, and protection from competition with half-trained, unorganized, pauper, prison, and contract

labor. The objective was a higher standard of living—more of the comforts of life, leisure for relaxation, entertainment, and intellectual improvement, a chance for equal education of their children, and a competency for old age or involuntary unemployment. These were to be gained by a close organization and collective bargaining.

Collective Bargaining. The first permanent unions used collective bargaining, a trade agreement being made between committees of the Philadelphia shoemakers and their employers in 1799. Repeated application of the principle in the next decade perfected the method of procedure, though until after 1827 the usual practice was to deal with each employer separately. When conferences failed and compromises could not be reached the strike was found to be the most effective alternative. Both primary and secondary strikes were common, most of the early ones being peaceable. A regular picketing system was developed in time, while walking delegates took the place of the earlier tramping committees for holding conferences with the employers and stiffening the resistance of laborers. Almost as effective as the strike, but, because of the hostility of the courts, even more dangerous to its users was the boycott. The name dates back not farther than 1880, but the practice was known from early days. At first the boycott was directed against boarding houses patronized by craftsmen who refused to join the union. Later it came to be an agreement to sever all dealings with persons or companies unfair or hostile to organized labor. The secondary boycott—refusal to trade with persons or concerns which themselves dealt with boycotted persons—did not become a prominent weapon of organized labor till after the Civil War.

The closed shop as a means of maintaining union standards dates back as far as 1794, though the name is relatively new. The same principle had been applied by the medieval guilds and is comparable to the methods used by professional men to protect themselves from irresponsible or untrained interlopers. No union can be effective so long as its members have to compete in the same shop with unorganized workers. The latter can take all the advantages gained by the influence of the union and then frustrate all of its plans in case of a strike. Knowledge of this fact led the early shoemakers' associations to use pressure upon all craftsmen in their trade to join the organization. If any proved obstinate they found it difficult to procure boarding-house accommodations. A Philadelphia employer at about the beginning of the nineteenth century was forced to leave town after a fight for eighteen months against the closed shop. Closely allied to the same problem was the matter of control of apprenticeship. The first unions fought continuously to restrict the number of beginners and regulate the term of their service as well as the nature of their training. The

printers, especially, objected to the rapid turning out of half-prepared journeymen to undercut their wages. Unrestricted immigration and the constant moving about of the journeymen made any enforcement of this rule very uncertain even where the principle was conceded.

The demand for minimum wages and shorter days was another device for protection against cheap labor. Scattered protests were made in the early 1820's against convict labor, Sunday work, and the ancient system of toil from sunrise to sunset. In 1825 the Boston house carpenters to the number of 600 struck for a ten-hour day. They failed when the customers formed a boycott against all masters and journeymen adhering to the demand, but they started a movement which was to prove successful before many years. The minimum wage was advocated in hope that masters compelled to pay it would hire the best man obtainable for the price. It took a strong union to accomplish such an aim, and very little was achieved before 1830.

Employers' Coercion. The masters were not long in reviving their own associations to combat these demands. The blacklist and iron-clad oath as engines of repression were of later origin, but the methods of the first half of the nineteenth century were ample for existing conditions. Trade agreements were made when labor was scarce, but at other times the aim was to stamp out the unions. Every demand of the employees was resisted. Cheap labor was advertised for; contracts for low wages were made wherever a surplus was found, even with prospective immigrants in Europe, the recruits being sent to regions of higher wages; convicts and paupers were rented from their avaricious keepers; and child labor was enforced to the point of firing the whole family if one small child was removed from the factory to be placed in school. But the favorite reliance of the employers' associations was the common law. The courts, as usual, were conservative and often reactionary. Also, in a day when industrial labor comprised only a small percentage of the population even in the East, it was not difficult to convince a jury that the public welfare was threatened by the tactics of unions or even by the act of combination. The employers felt that they were capable of handling questions of wages without help, but they were infuriated at efforts to control the number of apprentices and demands for minimum wages and the closed shop.

Conspiracy Trials. From 1806 to 1815 there were six separate trials of cordwainers in Philadelphia, New York, Baltimore, and Pittsburgh, criminal conspiracy being the charge in each instance. In at least two of the cases the masters raised large funds to assist in the prosecution. The political parties immediately took sides. The judges were all Federalists who adhered to the old English common law. Jefferson and the Democrats in general not only desired to purge the

judiciary but also were hostile to the common-law interpretation of conspiracy. Consequently, the cases were well aired in the party newspapers. Jared Ingersoll, later a Federalist vice-presidential candidate, led the prosecution in Philadelphia, while Caesar A. Rodney, America's foremost opponent of the common law, conducted the defense. The juries were made up largely of merchants and masters, while the judges openly sided with the defense and virtually instructed the juries to bring in verdicts of "guilty."

The arguments used sound astonishingly modern. The prosecutors told how the irresponsible culprits would drive manufactures from the cities and increase the cost of living for all, including the members of the juries. Much sympathy was poured forth upon the poor laborer who by the closed shop would be deprived of his livelihood unless he joined his persecutors. Liberty and equality were doomed unless the employers won the cases. The defense lawyers replied in similar language. Prosperity depends upon well-fed workingmen. Drive out labor and higher prices will result from its scarcity. Justice and the rights of humanity demand that the crafts be guaranteed the right to associate in their own interests.

The employers were successful, totally or partially, in each instance. The first decision held that combinations were illegal even for the purpose of increasing wages. The virulence of the attack on this declaration led the judges in succeeding cases to limit their opinions to a consideration of the use of unlawful means of coercion, but the results were the same. The second Pittsburgh case, in 1815, was based almost solely on the issue of the closed shop. The defense attorneys advanced the theory, later adopted by the British Parliament in 1906, that an act which is legal when performed by an individual is equally justifiable when adopted by a combination of persons. This view had no influence upon the court.

As a result of political fights engendered by these cases New York got some new judges more friendly to labor contentions, but the legal status of the unions continued to hang in the balance. In a new series of cases from 1821 to 1827 in Pittsburgh, New York, Buffalo, and Philadelphia a changed viewpoint was noticeable. The right of workers to combine to raise wages was carefully avoided by the jurists, attention being centered solely on the means employed. The efforts were futile. In the Pittsburgh case of 1821 it was the masters who were under indictment for a conspiracy to lower wages, but the court decided that the effort to restore the old or "natural level" was in the interest of the public and therefore not criminal. By 1827 it was understood that laborers had the right to combine but it was illegal for them to use any of the tactics which might make their unions of any benefit to

them in a contest with their employers. The hostility of the courts undoubtedly had something to do with the first efforts of trade organizations to form a labor party.

The First Political Labor Movement. A combination of the trade unions of Philadelphia, in 1827, into what was the first city central labor body in the world, was also the beginning of the first coherent labor movement in America. This Mechanics' Union of Trade Associations was organized on an economic basis, but in the following year it became political. The whole movement which followed in the next few years was a definite phase of the surge of Jacksonian democracy. With the West leading in the movement, a majority of the states by 1822 had extended the suffrage to all adult male citizens with few or no restrictions. But the franchise meant nothing if by it laborers could not achieve economic emancipation. The Eastern laborers were as enthusiastic as the farmers of the West and South for the candidacy of Andrew Jackson for president in 1828. Jackson could not have been elected without some of the support he received from New York and Pennsylvania. The 48 electoral votes he secured from those states were secured by the combined strength of laborers in the industrial regions and farmers in the trans-Alleghany portions.

But this election was only a beginning, and the new President a mere symbol of the ferment that was working in labor circles. A greater contest was brewing, not so much of labor against capital as of poor against rich, laborers against parasites, democrats against aristocrats. Workingmen wanted to curb the power of the banks and their insecure notes which had one value when received as wages and another when spent for necessities. Also, it seemed that a conspiracy existed between the legislatures which chartered the banks, the institutions themselves, and the masters and middlemen, the purpose being to keep the journeymen from becoming masters by denying them loans while extending this economic benefit to those masters who would do the most to oppress labor. Hence came the workingmen's readiness to help Jackson in his fight against the "Monster" and its progeny.

They wanted a ten-hour day, established by law; restriction of child labor, both for the sake of the youth and to stimulate higher wages for adults; a system of free public schools; the abolition of contract labor, imprisonment for debt, sweatshops, and garnishees; and laws for mechanics' liens to compel employers to pay wages when due. They also sometimes added numerous other demands, extending from woman suffrage to the abolition of capital punishment. Perhaps the mass of organized craftsmen had little understanding or sympathy with the idealistic motives of their leaders, but they had an enthusiastic interest in the practical objectives.

From Philadelphia the political movement extended to New York and Boston, and before it began to die out in 1831 local labor parties had been formed in at least 15 states. No less than 50 labor papers were established, prominent among them being the Philadelphia *Mechanics' Free Press*. Some effort was made to enlist the support of farmers and unskilled laborers, but to no effect. The attempt to interest factory workers in New England failed because of the preponderance of women and children. Several "intellectuals" volunteered their services. Robert Owen, coming from Great Britain a few years earlier, had bought out the Rappite settlement at New Harmony, Indiana, and there he was joined by his son Robert Dale Owen and by Frances Wright, one of America's first woman suffragists. After the failure of the New Harmony experiment both Miss Wright and Robert Dale Owen moved to New York, established newspapers, and espoused the labor movement. Frances Wright was a fluent and incessant speaker who could rouse either warm approbation or hot condemnation according to the prejudice of her audience. Both she and Owen, because of their communistic connections and unorthodox religious views, were able to make fundamentalists in business, religion, and politics froth at the mouth in the fervor of their denunciation. But Thomas Skidmore, also of New York, exceeded them both in his proposals for the equal division and transmission to descendants of all real and personal property. When some New York employers attempted to repudiate a newly established ten-hour schedule, the laborers made a gesture toward the Skidmore philosophy, thereby gaining the immediate objective but discrediting the party in consequence.

The leaders were anathematized as athiests and blasphemers, as "Lost to society, to earth and to heaven, godless and hopeless. . . ." ¹ It was a labor paper which used this unparliamentary language—an indication of the internal dissension over the teachings of these benevolent theorists which had so much to do with the ultimate wrecking of the New York labor party. Enemies outside the fold applied their execrations without stint or discrimination, the labor-party men being called about everything from "anarchist" to "communist." When all other malediction failed they were referred to as "Federalists in disguise!"

Labor Victories. Among the solid achievements of the parties were those now to be considered. The ten-hour day was established in some of the skilled trades as a direct outgrowth of this early agitation, though to the end of the century it did not reach all. Cities and states adopted the standard for their civil employees, and in 1840 President Van Buren rather tardily established the plan for the federal

¹ As quoted in Commons, *History of Labour*, Vol. I, p. 272.

civil service. Yet, in 1830 the employers condemned the proposal as being of foreign origin and un-American. They piously inveighed against it on moral grounds: it would cause idleness and vice, for "Satan hath some evil yet for idle hands to do." They painted an almost pastoral picture of the life of the laborers and explained how sixteen hours of toil a day would help save the workingman's soul.¹ Only among the strongest organizations was the objective gained in the 1830's.

Labor and the Schools. It was likewise the labor element in the Jacksonian uprising which leavened the movement for a free public school system. From the early part of the seventeenth century there had been a pretense at free schools in parts of New England, but even in Massachusetts there was little of educational opportunity except for the well-to-do. In New York and Pennsylvania there were some free schools, but they were purely of the pauper type which self-respecting laboring families shunned. As a consequence, illiteracy was widespread in the United States, while most of the literate could do little more than spell out words from a newspaper and do simple ciphering. From numerous figures of conditions in the 1830's it is sufficient to note that only 5% of the adults of New Jersey were able to read, while in the United States at large probably a million and a quarter of children from five to fifteen years of age, or about a third of the total, had never been inside a school. Boys from seven years of age upward worked in New England cotton mills from the break of dawn till eight o'clock in the evening, after which they could learn nothing even had there been anybody to teach them. There were some exceptions. In Lowell, child labor below twelve years was prohibited, and schools were provided by the corporations. In a few other factory towns conditions were comparable.

The educational monopoly was attacked with vigor by labor leaders and newspapers. The craftsmen of several cities established schools and libraries for apprentices. One of these, the Boston Mechanics Institution, was chartered in 1827 for "instruction in the sciences as connected with the mechanic arts," thus anticipating the later land-grant colleges under the Morrill Act. But of far more significance was the demand for free, tax-supported schools to be attended by children of families from all classes and where educational opportunities should be equal for all. Robert Dale Owen wanted them to be public boarding schools with uniform food and clothing, so as to

¹ It was at about this same time that British operators justified the putting of small boys into coal mines to work as being an act of mercy. Their backs could grow into a permanent curve so that the labor would be less arduous when they were men.

wipe out all class distinctions. Furthermore, all should get mechanical and agricultural training as well as scientific knowledge. Owen, who had studied in Switzerland under an associate of Johann Heinrich Pestalozzi, advocated his policy of state guardianship in order to overcome the lack of social training among the people which he had witnessed as a cause of the failure of the New Harmony experiment. He was ably assisted by Frances Wright, while Seth Luther was the great New England apostle of equal education as a form of attack upon the factory system. Vocational education, manual training schools, and preschools for infants were among the plans of these leaders which later educationists have revived and considered modern. It was inevitable that some zealots should be misled into feeling that all children should be trained along lines which would lead to the learned professions. But there was less of that notion in the 1830's than later, and it was certainly offset by another reaction against the prevailing system of female education which taught girls that toil was degrading.

Free education met with bellicose opposition from the capitalists. The Federalist party was dead, but its spirit still stalked the land. Nervous newspaper editors could make no distinction between Skidmore's agrarianism and the agitation for free schools. Either would take the rich man's money to spend on the poor. Then, anyway, education for the masses was a bad thing, for peasants must labor that intelligent men may have time to think. Agrarianism was as great a bugaboo as communism became a century later, and it was easy to condemn any forward-looking policy by suggesting a taint of the hated heresy. Yet, the agitation started by these early leaders would not be downed even when the labor parties ceased to exist. Horace Mann, Henry Barnard, and others succeeded later only because the way had already been prepared. Free public schools devoid of the pauper stigma were started in Pennsylvania in 1834 and in the city of New York eight years later. Industrial education ultimately found a champion in as federalistically inclined a person as Justin S. Morrill, while within more recent decades other radical demands of 1830 have become commonplace realities.

Other Achievements. The abolition of debtors' prisons was another accomplishment traceable to the agitation of the labor parties. A philanthropic society in 1829 estimated that about 75,000 persons a year were imprisoned in the United States for debts which generally were of only a few dollars. As extremes, they pointed to a case where a blind man with a family was imprisoned for \$6, and one in Providence of a man who had lost his life saving another's property, after which the widow of the hero was incarcerated by the beneficiary for a

debt of 68¢. The conditions in these jails were essentially as bad as those pictured by Charles Dickens in England. Within a few years after the exposures of the 1830's the system was virtually ended in the United States.

Other achievements were the abolition of compulsory militia service and the enactment of various mechanics' lien laws and ordinances. The lack of the latter alone in 1830 was costing workers from \$3,000,000 to \$4,000,000 a year. The agitation of labor leaders had much to do with the shaping of later social legislation. Their warnings against wild-cat banking, if heeded, would have helped to soften the crash in 1837. Pioneer work was started in the direction of factory codes and maximum-hour laws. Also worthy of mention is the Massachusetts Child-Labor Act of 1836, inadequate though it was.

As to the labor parties themselves, they barely lasted five years after their inception in 1827. Their hopes, too high at the start, were too easily quenched. Also, they did not know how to deal with the capitalists and politicians who sometimes hired ruffians to break up their meetings. They disintegrated, as labor parties in the United States since that time have always done, because of declining interest in a period of renewed prosperity, dissensions incited by division of counsel and subtle infiltration by enemies, ruthless attacks of other ill-wishers in open warfare, the inexperience of the leaders, and the absorption of their principles by older parties. Meanwhile the trade-union machinery was broken down and the whole edifice constructed before 1827 was undermined. The factory system had made rapid strides during the period of political action, using women and untrained men to set the standard of wages. By 1837 about a hundred occupations were familiar to women. The time had come to drift back to economic persuasion.

Second Labor-union Movement. The second trade-union movement was much more extensive and of far more rapid growth than the first. Starting with the remnants of the earlier period, Philadelphia in 1837 had sixty-one unions while other Eastern cities were worthy rivals and the principal towns on the Ohio River were showing comparable zeal. It was estimated that by 1836 the industrial centers of the Atlantic Coast had no less than 300,000 union laborers. Women in several industries were organized either separately or with the men. One women's local at Lynn had about a thousand members. In the boom period before the panic, organization reached a high level. Union wage scales were frequently accepted by the employers; dues, fees, and fines were systematized; but the employers' associations found it possible to keep more than even pace. City labor federations were formed in New York and elsewhere in 1833 and following, some

being as far west as Cincinnati and Louisville. The New York organization had a daily and a weekly newspaper. Economic pressure alone was used, indulgence in politics stopping with the support of candidates and parties most friendly to the cause. Elaborate theories like those of Owen and Skidmore were avoided, but there was constant agitation for fewer hours and more pay. Boycotts were extended to nonunion goods as well as scabs, the union label being used to make this distinction possible.

A more elaborate organization was the New England Association of Farmers, Mechanics, and Other Working Men, partly an outgrowth of the political era but partaking of the economic in its mode of approach. In its three years' existence following 1831 it concentrated largely on memorialization of legislatures and agitation for the ten-hour day. The structure of the combination was pyramidal, based upon unions of mixed crafts after the manner of the later Knights of Labor. Factory workers were already so crushed by the system under which they existed that they had not the courage to defy their employers by affiliation with the new association. Eloquent appeals were issued to the laboring families, stressing the evil effects of underpaid and overworked children and women, but little headway was made. The proprietors not only cowed their own employees, but they pooled their efforts to check the ten-hour movement in the skilled trades. By all means, such radical notions must be suppressed before they reached the factory and threatened the venerated dawn-to-dark system.

A still more worthy attempt was made by the city federation of New York, in 1834, to form a National Trades' Union of all the crafts. Ely Moore of the New York organization was the chief organizer and president of the national body at its three annual meetings in 1834, 1835, and 1837. About all that ever has been said for and against economic and political action was uttered in modern terms at the first convention before the economic line of attack was determined upon. The Union helped Jackson in his fight against the Bank of the United States. Also in 1837 it gained control of Tammany Hall, and for twenty years thereafter that organization was more idealistic than ever before in its career. The Union might have proved permanent had it not been for the panic which came just as it was beginning to be taken seriously.

The same era of wild-cat prosperity saw the creation of national unions of individual trades. The National Coöperative Association of Journeymen Cordwainers, organized in 1836, was the first of the group. The comb makers, carpenters, and hand-loom weavers held conventions for a like purpose. The competition of nonunion goods

in strike areas and the development of manufactures in new regions made this movement necessary. The National Typographical Society is of special interest because of its origin in the unfair tactics toward union labor used by Duff Green of the *United States Telegraph*. Fourteen local typographical unions, located from New York to New Orleans and Cincinnati, were combined in the national organization.

A Period of Strikes and Conspiracy Cases. The period from 1833 to 1837 was one of frequent strikes, no less than 173 being recorded, most of them in two years. Nearly three-fourths of them were for higher pay or to restore wage cuts, some of the latter no doubt being lockouts instead of true strikes. About a seventh were for the ten-hour day while others were to prevent increasing hours and four were for the closed shop. Of the 140 walkouts in 1835-1836, 109 were aggressive. Some were carefully planned while others were hastily called, stampeded by the general movement. Factory girls were striking at Dover, New Hampshire, as early as 1828. In the same year at Paterson, New Jersey, was the first instance of the use of the militia to quell strike disturbances. In 1834 wide attention was called to the Lowell textile mills where 800 girls walked out and made a determined stand against a 15% wage cut, but "puritanism" was shocked at such an unwomanly display and the movement failed. One of the larger strikes was at Paterson in 1835 when 2,000 laborers remained out for two weeks for an eleven-hour day and then accepted a compromise. The general ten-hour movement was begun at Baltimore by a combination of seventeen trades in 1833. The contest spread throughout the East. Even the unskilled laborers joined in the effort, and funds were collected from far and near. Though not all succeeded in the attempt, this series of strikes at last made the demand for a ten-hour day respectable.

The power of the masters' associations again acted as a counter-check against aggression by the unions. By 1836 they were found in nearly every organized trade, and Philadelphia had a loose combination of several associations. From 1829 on they waged a determined campaign to abolish the unions entirely. In spite of venerable laws concerning apprentices, the masters jeopardized the whole system by encouraging runaways, but kept within the law by offering one-cent rewards for their capture and return. Women, girls, untrained apprentices, and prison labor were used as strike breakers. But conspiracy trials continued to be a foremost method of attack. In the eight cases from 1829 to 1842 the outcome was somewhat different than in earlier prosecutions. Only two convictions were secured, while the other cases were either thrown out of court or else ended in acquittals. The case of *Commonwealth vs. Hunt* in the Supreme

Court of Massachusetts in 1842 settled such disputes for forty years. The prosecution grew out of a shoemakers' strike for the closed shop. Here, for the first time, the court definitely declared unions to be legal, holding individuals rather than the organizations responsible for any direct violation of law. It also upheld strikes for the closed shop, a point more advanced than some recent courts have been willing to concede. This case being held as a precedent for later decisions, the unions at least till after 1860 were sure of their legal footing. As early as 1836 there had been an example of prosecution of laborers as individuals instead of as a combination.

The Panic of 1837 and the hard times following it brought the unions—local, city assemblies, and national—down in one common crash. The only survivors were a few scattered locals having strong popular support. Crop failures caused high living costs at the same time that factories were closing and wages were being cut. Forced to accept lower pay, become paupers, or starve, the laborers chose their alternative which in any case meant the death of the unions. Their newspapers suspended publication, leaving the records of the labor movement scarce for a few years following.

Coöperative Efforts. Universal distress when free labor was at its lowest ebb led to a return to political action and coöperative schemes. On various occasions, from 1791 onward, dissatisfied crafts had established their own shops for the manufacture and sale of their wares, but none of them attracted wide attention or proved very successful. Producers' cooperatives were functioning among the tailors of Cincinnati, Louisville, and St. Louis, and on a wider scale under the Trades' Union of Philadelphia when the Panic of 1837 came, wiping most of them out. Following some unsuccessful strikes in the 1840's, the iron workers of Cincinnati and Pittsburgh revived the idea with sufficient success to stimulate the movement in the next decade. German immigrants after 1848, and the communist William Weitling in particular, added much persistence to these attempts. Consumers' cooperatives seem to have been started at Philadelphia in 1829, various other enterprises of evanescent character springing up here and there till 1845. A period of labor depression for two or three years, beginning in 1846, acted as a great stimulus to the movement, especially in New England, though the idea was dallied with as far as the Mississippi River. The New England Protective Union, founded under a different name in 1845, was one of the most successful of these efforts. Just before a schism in 1853 there were 403 units in the organization, the reports from 167 of which showed a capital of \$240,000 and annual sales of about \$1,700,000. The seceding division alone in 1859 claimed to have done a business of over \$9,000,000 in seven

years. The organization might have proved permanent had not the industrial disturbances attending the outbreak of the war between the states resulted in its being taken over by private capitalists. It resembled the British coöperatives in form of membership, voting, united buying, and cash sales, but like other American efforts it differed by selling near to cost instead of at the market prices.

Josiah Warren, pioneer American anarchist and a native of Boston, developed a different idea concerning cooperative production and buying. Beginning at Cincinnati in 1827, he opened a "time store" where products were exchanged by craftsmen according to labor values as attested by certificates. A small monthly fee was paid by the members for rent and upkeep, but the proprietor's time was also paid for in kind. This plan was gradually shifted to the more customary basis. Of the three stores established, the one at Cincinnati became so prosperous that it had to be enlarged to accommodate its business. In the 1840's Warren was mainly interested, aside from his music and inventions of typographical machinery, in planting colonies for coöperative living. Another successful example was a cabinet makers' store in Philadelphia which had a larger business than any of its independent competitors.

Return to Political Action. Direct political action after 1837 was centered in anti-alienism, Utopian socialism, the public land question, and attacks upon monopolies and banks. The employers' practice of paying wages in personal notes which were discounted at the banks helped laborers to keep alive their hostility to banks along with corporations in general. Transportation monopolies were especially detested. The Loco Focoes, a New York labor party, by using the bank and monopoly question helped to force the dependence of Tammany on the workingmen's vote.

The temporary sympathy on the part of labor groups with the Native American movement resulted from the great era of Irish immigration from 1847 to 1854. In these years 1,187,000 Irish reached America out of a total of 2,676,000 immigrants from a score or more of countries. In 1851 alone there were 221,000 arrivals from the one source. This rapid growth of alien, and especially Catholic, population led to some fear for the safety of the newly established public school system. Before the Know Nothing party reached the height of its success in the campaign of 1856 it had already ceased to represent labor sympathies, and the whole episode had little permanent influence on the labor movement.

The intellectual leadership of the second period of political action was furnished by Utopian socialists (disciples of F. M. C. Fourier) and transcendentalists. Albert Brisbane of New York was the leading

American exponent of the theories of the great French socialist, but he was warmly supported by Horace Greeley, Charles A. Dana, John G. Whittier, George W. Curtis, and the three Channings—William E., William F., and William H. In 1842 Greeley allowed Brisbane a column in his newly established *Tribune* for an exposition of Fourierism—the doctrine of “association.” This was the era of Brook Farm and numerous other communistic experiments. There was no lack of a Moses to lead the children of toil out of bondage, but there was no Aaron to conduct them beyond the wilderness. The associationists denied the theory of class conflict as later expounded by the Marxian school. They would retain the capitalist, but by scientific methods would so increase production that the share due to capital might not be missed in a fair distribution with labor. The workers should be put at tasks of their own choosing and labor would become both dignified and profitable. The substitution of communal life for the home was recommended to preserve or restore the purity of society.

Transcendentalism entered the field in a dreamy, speculative way. Henry D. Thoreau was the exponent of aesthetic individualism or pure anarchy; Ralph W. Emerson, of intellectual individualism; and William H. Channing, of cooperative individualism. The strange Orestes A. Brownson, in one phase of his mental peregrinations from Congregationalism to atheism and back to Roman Catholicism, was the advocate of destructive individualism—a sort of idealized humanitarianism. With all these bewildering isms confronting them, the labor organizations were finally driven back to the materialistic principles of economic bargaining with their employers. They became suspicious of doubtful experiments and even lost interest in cooperative enterprises. Yet, there were numerous disputes over the various theories before the leaders planted their feet firmly on the ground for the next period of active trade unionism.

The New Agrarianism. One theory was retained out of the welter of alternatives offered. This was the new agrarianism as explained by the New York labor leader, George Henry Evans, in his history of the New York labor party (1840) and advocated in the *Working Men's Advocate* which he revived in 1844. Evans had been an associate of Skidmore, but his policy was less frightening to the gentry than the earlier one. He argued that man has a right to live and to possess the natural necessities of life which are light, air, water, and land. Capital, being the product of labor, is only an acquired right and therefore not subject to forcible division. But landholdings should be equal, individual, and inalienable. Therefore, the government should quit giving land to monopolies or selling it in large tracts, but instead should give a quarter-section in perpetuity to each prospective

settler whose honest purpose was to make a living from it. Eastern wage earners should be given initial equipment and transportation to the land, this being cheaper than to spend the money for poor relief. Towns would spring up in the new country and, thus, a choice would be given between farm and craft occupations which would help wages and conditions of work in all parts of the country. The land should be forever free from seizure for debt. In some ways Evans's policy was less extreme than that even of Owen or Brisbane, yet it has been considered more revolutionary since it proposed class revolt against capitalists. In this respect Evans was more the forerunner of modern American socialism than was its patron saint Brisbane.

By 1850 the new agrarianism was championed by about 600 of the 2,000 newspapers in the United States. The *New York Tribune* joined the ranks as a pioneer in 1845. Tammany threw its support to the movement in 1851. In 1845 Andrew Johnson of Tennessee introduced the first homestead bill into Congress, and in 1848 free land was made one of the four cardinal principles of the newly formed Free Soil party. Eastern capitalists resisted the movement because of its possible effect upon the labor market. Settled landowners in the East could not get enthusiastic about a plan to glut farm markets and keep down land prices. Land speculators were hostile for evident reasons. And finally, those persons in the South who expected some day to sell out their small farms to neighboring planters, move west, and start plantations of their own were opposed. Inalienable homesteads would block their plans, and even if the land could be bought it would be cheaper to get it from the government at \$1.25 an acre than to buy out homesteaders. Southern secession removed an important obstacle to the legislation, and concessions from the East, to secure Western Republican support for the tariff, knocked down another barrier. Consequently, as one of the products of war-time enthusiasm, a Homestead Act was finally adopted in 1862. Evans's whole plan was not incorporated. Land grants to railroads were perpetuated in the same year, the strict limitation of the size of grants was not achieved, and inalienability was omitted. One concession was made: that the land should not be confiscated for prior debts. Also, in later years most states have exempted homesteads from debt seizures. Further consideration of the act is reserved for a later chapter (see Chap. XVII).

A New Unionism. Trade unionism was renewed at the same time that these political issues were seething. A revival of prosperity shortly before 1850 turned men's minds from Utopian speculations and led to a new scramble for immediate economic advantage. Local unions surviving the Panic of 1837 were reinvigorated and new ones

were started. National organizations of greater effectiveness than the group of the 1830's were started: the Typographical Union, 1850; the Stone Cutters' Union, 1853; the hat finishers in 1854; and the Molders' International Union as well as the National Union of Machinists and Blacksmiths in 1857. Native Americanism was rejected and men of all nationalities were welcomed to the ranks. The hard times from 1855 to 1862, and particularly the Panic of 1857, were a severe blow to the new combinations, but the movement was not thoroughly crushed.

Striking was prevalent in this period, the years 1853-1854 alone accounting for about 400. Many of these were for the ten-hour day as well as for higher wages, and some were sympathetic. The state of New York adopted a ten-hour act in 1847, but contracts for longer days were permissible, thus allowing employers to compel adherence to the old dawn-to-dark principle. Pennsylvania and Maine in 1848, Ohio in 1852, and Connecticut in 1855 each adopted modified ten-hour laws, but other states made no concessions before the war. The wage demands were for increases of from 20 to 25% so as to allow skilled workmen from \$1.25 to \$2 a day. Some unions achieved their objectives while a few established rates of from \$2.50 to \$3 and sign painters got as high as \$5. Wages in California would appear still greater except for the unnaturally high cost of living. In general, even the wages of skilled labor in the 1850's did not keep pace with increasing prices. The hostility to unions was as great as ever, though conspiracy trials were not so conspicuous. Marxian socialism made feeble beginnings under the leadership of Joseph Weydemeyer, but at a time when the trade unions were at their height in 1852-1853 and when enthusiasm for political action was at its ebb.

In general, after seventy years of effort, the labor movement in 1860 was just reaching a point where a united front against capital was becoming a possibility. The movement was becoming almost respectable. Important issues were gaining headway, but the fundamental demands for a decent living wage and the ten-hour day were remote of fulfillment for most workers. The mass of unskilled laborers still received less than a dollar a day. It is hardly an exaggeration to say that a system of wage slavery existed in the North, scarcely as benevolent as Negro slavery in the South. Many a Northern employer who talked piously against the Southern system was himself the first to oppose a movement to raise his own employees to an economic plane appreciably above that of the Negro.

CHAPTER XIII

EXPANSION OF AGRICULTURE IN THE NORTH

A New Era Beginning. While the ferment of organized action was working among the industrial laborers, the far larger class of farmers remained strictly individualistic, proud of its supposed independence, and unmindful of the effect upon it of underpaid city dwellers. The same people who so blindly grasped for the bait of Clay's home-market delusion were inclined to grumble at the good fortune of the few skilled mechanics who could earn \$2 a day and to resent the fact that they might have to pay more for farm labor in consequence. Yet, the rapidly moving agricultural frontier was such as to leave farming in an unsettled condition such as would tend to exaggerate rather than ameliorate this spirit of isolation.

The period from 1783 to 1860 was one of westward extension of farming, the development of specialization in place of self-sufficient economy in the older regions, and the adoption of methods and machinery calculated to produce the largest returns per capita at the lowest cost. European observers, accustomed to plentiful labor, scarce land, and the necessity of getting the utmost from each acre even at a great expense, could not understand the seemingly careless methods of Americans who scratched so hastily over a great number of acres with little or no attempt to preserve soil fertility. What the critics failed to notice was that, with plentiful land, little capital, and a scant labor supply, the American system was best adapted to the procurement of immediate profits, and that the returns per capita were greater than those of Europe.

State Land Grants. The westward movement of agriculture was most influenced by the government's land policy, unrestricted immigration, improved means of transportation, and the expansion of markets. Both the state and federal governments were interested in land sales. The original territory of the United States, Kentucky, Tennessee, and Texas never were a part of the federal domain, all public land sales being made by the state or territorial governments. Even in the Atlantic Coast states not all available land had been acquired by Colonial speculators. New York in one year following 1791 sold 5,500,000 acres to a few individuals, one company getting over three-fifths of the total at 16¢ an acre. Massachusetts in a like manner disposed of much of the soil of Maine, more than 2,000,000

acres in 1792 alone at a price of about $12\frac{1}{2}$ ¢ an acre. The same state had secured 6,000,000 acres in New York from the boundary settlement of 1786 and seven years later sold it to monopolies, one of which got 2,500,000 acres. Pennsylvania and other states had like experiences. The speculative land companies, by offers of low prices and long credits, lured settlers to their grants, knowing that other people would be most attracted to a region where civilization already existed. But the surveys were often carelessly made; high transportation costs reduced profits and caused deferred payments; attempts at eviction resulted in clashes; and sometimes actual land wars resulted, especially in the Kennebec region of Maine.

Federal Land Policy. The promise of statehood to the Western territories, freedom from tariff barriers under the Constitution, and repeated removal of the Indians to more remote lands were incentives to settlement in the West. The first sales by the United States were made under the provisions of the Ordinance of 1785. The land could be sold only at auction in tracts of not less than a section for a minimum price of a dollar an acre. Though speculators like the Ohio Company and John Cleves Symmes were not held to these terms, actual settlers were required to pay the full amount in cash within three months after receiving their grants. Few ordinary persons, at the prevailing rates of wages, could ever save or even borrow \$640 in addition to the surplus funds that the pioneer would need to make a start. Yet, in 1796 the terms were made still more exclusive. The minimum tract was left unchanged but the price was raised to \$2 an acre, full payment to be made within a year. The Federalists were far more interested in securing revenue than in hastening settlement of the West. Thus it was that the common man, who in ten years' time could not clear 80 acres of land and get it under cultivation, had to depend upon the speculator for the purchase of a small tract on credit.

Because the Act of 1796 failed to produce enough revenue it had to be amended in 1800. The minimum sale was reduced to 320 acres (160 acres after 1804) but the bottom price remained at \$2 payable in installments extending over a five-year period before a possible foreclosure. There was an immediate rush to meet the new terms. All land-hungry persons who could raise the initial \$160 and other funds necessary for making a meager start bought land, trusting to luck that they might be able to meet the later payments. Little more than an ax, hoe, plow, team of cattle, and a robust wife was necessary for a beginning. If future installments could not be paid there was still the likelihood of having the use of the land for five years, or of selling at a profit and making a new start with the surplus. Virtually every purchaser of a half section was a potential speculator. Many farmers,

instead of improving the land they already occupied, used their savings to make the initial payments on other tracts. Others, because of their isolation and the high cost of freight, could not pay for their grants on time and had to ask for clemency. Jefferson and his successors could not, as declared friends of the common man, evict the settlers, and so the affairs of the land office got in a perpetual tangle of deferred payments.

Before the next important change in the land laws about 19,500,000 acres were sold, more than half of it in Ohio and Indiana. Then in 1820 Congress adopted the scheme long before urged by Gallatin, of selling in small tracts for cash. Under the new plan as little as 80 acres could be bought, \$1.25 an acre being the lowest acceptable bid. Since, by agreement among the purchasers, the minimum price often became the maximum, this act made it possible for a man to buy a farm for \$100 in cash, a sum within the dream of attainment of persons who never before had hoped to buy land from the government. Under this first effort to couple the interest of settlers with the revenue needs of the government, sales within a few years exceeded all previous anticipations.

Before this, and to a large degree afterward as well, the favorite method of obtaining the use of land was to become a squatter. Too poor to buy from the government and too independent to haggle with speculators, prospective farmers went beyond the existing surveys, cleared land, and made homes. True pioneers though they were, affording society and advice for later settlers, yet they were considered as criminals and were, in fact, lawbreakers. More than once in 1787 and following Congress authorized the use of troops to disperse squatters from the public lands, but each time they returned as soon as the soldiers departed. In 1789 Congress was petitioned for a pre-emption law, permitting actual settlers to have the first right to purchase at the minimum price the land they had improved, but this move was blocked on advice from Alexander Hamilton. Ten years later a similar measure was adopted in behalf of persons to whom Symmes had sold land to which he had no title. This and later special acts were intended merely to reduce friction on the frontier. It was worth more than the purchase price to clear an acre of timber or break an acre of prairie land. Squatters thus developing their holdings did not take kindly to the idea of having them sold to newcomers who would refuse to pay for the improvements. Ordinarily they took such matters in their own hands, sending a committee to suggest to the purchaser what was expected of him. If one man carried a rope, expecting to lead back a stray calf, no direct mention was necessary as to its possible alternative use. Where the purchaser proved obstinate frontier law

took its course. In order to check the practices of squatters' protective associations, Congress from 1803 on frequently allowed preemption rights to previous settlers when a new area was opened for sale.

A series of acts beginning in 1830 extended forgiveness to squatters in general on payment to the government for their holdings. Meanwhile, speculators as well as *bona fide* settlers took advantage of the possible extension of such clemency by hiring impoverished persons to take up claims for them. But the Panic of 1837 retarded these practices to such an extent that when the general Preemption Act of 1841 was passed it was taken advantage of mainly by settlers. This law legalized what had hitherto been merely condoned. From that time on people were encouraged to go anywhere into the unappropriated lands and farm free from interference until the land was opened for sale. Clay fought the adoption of this act, fearing an inundation of foreigners in consequence, but finally agreed to it when the provision was added for the distribution of the proceeds from land sales among the states (see p. 237). By this time the movement for a homestead act was already started, but free land was not attained prior to the Civil War.

Farming in Western Timberland. Pioneer farming in the West, until the prairies were reached, was a repetition of what Americans had experienced during the two previous centuries. The first year's work was to clear from one to three acres of land by girdling and grubbing and grow a half acre each of garden and corn. Meanwhile, the families lived largely on the wild game and other products of the forest. As more land was cleared it would be planted to corn, with possibly an acre of wheat as a cash crop for the procurement of other necessities. Even with the careless methods of cultivation followed, the virgin forest soil would yield from 50 to 60 and rarely 100 bushels of corn or 30 bushels of wheat to the acre. Corn was planted with a hoe and cultivated two or three times with a single-shovel plow. Some farmers got an immediate cash crop by cutting and burning the trees for potash, instead of leaving them to rot standing. This often resulted in burning much of the humus out of the soil, but little attention was paid to the fact. Maple sugar was another important source of money income in certain parts of the country.

A log house of one or two rooms was sufficient for any family for a few years, while the livestock were left to find their own shelter as well as much of their food in the woods. After four or five years, if all the debts were paid off, the farmer could begin to talk about building a better house or start the construction of a barn. Corn cribs of some sort would already be built, but hay would still be stacked in the fields. For lack of sufficient grass, livestock in early years often went farrow or starved, but after this fault was remedied nearly every family had

enough cattle for home and farm use. They also usually had a few sheep and a great many hogs and poultry. The livestock, earmarked and running at large, ordinarily degenerated in size, but the cost of raising them was so small that the farmers very likely made more from them than they would from finer animals grown at a greater expense. The rangy products of the woods were excellently adapted for driving to market, and this was the most essential matter.

By 1830 Ohio was emerging from the pioneer stages of agriculture, the same being true of Indiana and Illinois a few years later. The *Ohio Farmer* in 1835 estimated that a group of 58 cattlemen had a total of 11,800 cattle among them, there being occasional herds of as many as 1,000 each. One farmer in an off year of the same decade made \$1,700 clear on his 150-acre farm by buying, feeding for seven months, and selling a herd of 400 cattle. In a better year he made \$6,240 in similar fashion on land which, devoid of buildings, would sell for less than \$5 an acre. Hog raising was reaching large proportions in Indiana at the same time, some droves reaching as many as a thousand. The farmers were still largely self-sustaining, but usually they had some wheat, corn, whiskey, or animals to sell for cash or trade for necessities. No longer could they ignore market conditions and transportation problems. In the region around Cincinnati, the blue-grass country, and parts of Missouri, for example, commercial agriculture was conducted on a large scale. Cheese, wool, and tobacco were coming to be important market products in Ohio in the 1830's and following, this state barely exceeding Missouri in tobacco growing as late as 1860. Tennessee in 1840 was the leading corn state but by 1850 the supremacy had shifted to Ohio, with Kentucky, Illinois, and Indiana following. In 1860 Illinois was ahead, with Ohio, Missouri, and Indiana next in order. In these same years the leadership in wheat production shifted from New York to Pennsylvania and then to Illinois. By 1840 Iowa was beginning to show promise as a corn state, while Michigan and Wisconsin were pioneering with wheat.

Farming on the Prairies. There were some large treeless regions in Ohio, while part of Indiana, much of Illinois, and most of the land westward to the Rocky Mountains was prairie. For some years settlers shunned these nude spaces, thinking that the land was not rich enough to support trees and therefore was too poor for any use except pasturage. Some land which for a time would not sell at 25¢ an acre, a few years later was bringing \$10. Meanwhile the farmers grubbed roots on the very verge of a clearing rather than risk a failing crop on the grass land. The clear spaces were of immense help in the feeding of livestock in the early years, but they were avoided for other uses so long as timber land was available.

There were better reasons than ignorance or prejudice for this hesitancy. Long after the clearings of Ohio and southern Michigan had proved valuable, settlement lagged in central Illinois and Iowa. Wood for buildings, fuel, and fences was lacking; rivers for transportation were rare; water for man and beast was scarce; there was no shelter for animals; and roads proved bottomless in bad weather. Wooden and cast-iron plows would not scour in the prairie soil, while steel plows were not yet on the market. It took from three to seven yoke of cattle with an enormous plow to break the sod, after which there would be two or three seasons of lean crops until the grass roots rotted. Along the edge of the prairie was an excellent place to live, but persons a few miles from timber, rivers, or respectable roads were in bad luck even if they could grow three or four times as much to the acre as they might farther east. It took more than the value of the crop to get it to market, and not many had the capital for stock raising on a scale adequate for ample returns.

On the other hand, the abundant forage grasses and clovers of the prairies offered a constant temptation to any who had the money or courage to make the venture. Later migrants to the semiarid plains of Kansas and Nebraska solved the housing problem by building dugouts covered with sod, some of which are still in use. But even this comfort was rarely practicable east of the Missouri River where rainfall was more plentiful. Higher prices for farm products after 1845, together with labor-saving devices, such as the reaper, steel plow, and well-drilling machines, made prairie farming more attractive. Then, with the coming of railroads after 1850, the tendency developed to pass up wooded land for the open plains. The organization of territories out to Kansas and Nebraska and the admission of states throughout the whole first tier west of the Mississippi before 1860 attest the rapid extension of farming in the prairie and plains country.

The ax was almost as much of a necessity to the plainsman in the first year on his farm as it was to the woodsman. About the only way to plant a crop was to split a hole with an ax through the overturned sod and drop in a few kernels of "sod corn" or a potato cutting. Hardly anything else could be made to struggle for existence through the thick-matted grass roots. After a few acres had been thus planted, the remainder of the first summer was spent in breaking more land for an ultimate wheat crop and in cutting prairie hay. The winter was spent in building fences, if material was available, and in erecting the most necessary outbuildings. A covering of prairie hay over a framework of poles from the nearest creek bottom was the ordinary shelter for livestock, when any at all was provided. The construction of fences sufficiently high for sheep and tight enough for hogs was an especially

difficult problem. Sod walls, wire, and Osage hedge were all tried. The land was as rich as any, and, when once made tractable, was exploited to the limit. The race for bigger acreages led to shallow plowing, scant cultivation, and little manuring, the future generations being left to worry about soil rehabilitation.

Cattle growing soon came to be an important part of prairie economy, the animals being herded on the range by day and corralled by night. The cost for such care was about \$100 for each 500 through the summer. In winter the cattle could dig grass out of the snow or nibble at the leeward side of a straw stack, resistance to the cold being furnished by additional feedings of corn. The local supply of prairie cattle led to the early development of Chicago as a packing center, but before 1860 this market was getting part of its supply from Texas. There is an authentic record of the driving of cattle from Texas to Ohio in 1846, while four years later the drives were begun to California, and by 1860 they were regularly driven to eastern Iowa and sent from there to Chicago by rail. In 1850 Texas was the eighteenth and California twenty-second among cattle-growing states, but by 1860 they had become first and sixth respectively.

Development of Markets. The growing of market crops in the Northwest was greatly stimulated by the building of canals to the Great Lakes. In 1835 Ohio was the only state with a grain trade on the lakes, the first shipment from Lake Michigan being in the next year. In 1838 Chicago contributed her first mite, Wisconsin following three years later. The building of the Illinois Central railroad made agriculture profitable on the prairies. Chicago in 1858 exported goods to the amount of \$1,000,000 by canal, \$21,000,000 by lake vessels, and \$60,000,000 by railroad. At this time a few individual farmers were raising as much as 6,000 bushels of wheat, while many more did from a fourth to a half that well.

The foreign market for American foodstuffs showed fluctuations from 1791 to 1840, but the total of exports remained about stationary in proportion to the growth of rural population. In the next two decades there was a decided increase, but the development of the home market far exceeded the foreign. The rise of industrial towns and cities coupled with the increasing specialization in cotton growing in the South were the main reasons for the growth of domestic demand. From Maine to eastern New York the population jumped from 1,858,000 in 1790 to 5,484,000 in 1840, nearly all of the increase being in the manufacturing and commercial regions. By 1860 a score of cities included a combined population as large as that of the whole country in 1790 (cf. figures of population, p. 165). If to the sixth of the population residing in the larger towns in 1860 there be added the

people living in the smaller places, nonproductive in an agricultural way, the size of the urban market for farm goods becomes apparent. Then, the plantation states, not being self-sustaining, took much of the Northern surplus. For 20 years before 1845 the lower South had averaged \$45,000,000 a year in purchases of livestock, hay, farm implements, and clothing from the North and border states, all of which added directly or indirectly to the expansion of Northern agriculture. This situation wrought profound changes in rural life, the farmers depending more and more on the markets for disposal of their crops and for the purchase of goods earlier made at home or done without.

Farming in the East. The westward extension of agriculture together with improving means of transportation had a definite effect upon farming in the East. As will be shown in later tables, from 1840 to 1860 the East increased both the total amount of land under cultivation and the acreage of such crops as corn, oats, barley, and hay, as well as the number of dairy cattle. There was more or less of a decrease in the potato crop and in the number of sheep and hogs, while other commodities remained about stationary. Even state bounties paid by Massachusetts and Maine could not check the decline in wheat production in New England, though it had been small to start with. That section had to adjust itself to competition from the cheaper and richer land of the West, doing so by a larger production of hay, tobacco, hops, broomcorn, and fullers' teasels. The cultivated acreage did not change much in New England, but a larger capital outlay for machinery and fertilizers added to the volume of crops, while dairying, lumbering, and the making of maple sugar contributed to the farmers' profits. The drift of women and children to the factories partially compensated for the decline of household manufactures, but it further aggravated the shortage of farm labor. Market gardening was especially profitable in the neighborhood of industrial centers, some land used for this purpose near Boston selling for \$300 an acre. Poor land had to be abandoned in competition with better, thus explaining the large number of deserted farms.

Farm Machinery. Improvements in agricultural machinery extended to so many lines in the half century preceding 1860 that a veritable agricultural revolution was in perceptible motion before the outbreak of war between the states. Thomas Jefferson before 1800 had solved the mathematics of the moldboard, thus taking plow making out of the realm of empiricism and making possible large-scale manufacture on a standardized pattern. In the same period Charles Newbold of New Jersey patented a cast-iron plow which was defective because the moldboard, share, and landside were all in one piece. The patents of Jethro Wood of New York in 1814 and 1819 introduced

interchangeable parts into plow making. But the prairies needed a different implement from any of these to take the place of the huge monsters in use. John Deere of Illinois solved this problem in 1837 by making a moldboard out of a steel saw. By 1858 he was making 13,000 steel plows a year at Moline. In the next year the Fawkes steam plow, a large tractor drawing a gang of six shares, received a \$3,000 prize offered by the Illinois Central Railroad Company. But it did not prove to be a practical success. After 1820 the improved implements rapidly supplanted the old bull plows, with a resultant great saving in labor for both man and beast. One man with two horses could plow an acre and a half or more in one day in much better fashion than had earlier been done with two men and three or four cattle in a smaller area. By 1840 plow making was coming to be a factory industry. In 1855 twenty-two Massachusetts establishments alone turned out 152,000 plows.¹

Other soil-working machines, and seed planters as well, were developed in these same years. Moses Pennock of Pennsylvania, by 1847, had a drill which would sow and cover as much as 15 acres of small grain in a day, but the competition of good broadcasters delayed its extensive use. Hand corn planters were taking the place of the ax and hoe by 1840, while in the 1850's various horse-drawn corn drills were becoming popular. Most noted among these were the Billings drill which sowed fertilizer along with the corn, and the Brown machine which planted two rows at a time and could be used as a check rower. The latter, by using an extra man and horse could plant from 12 to 20 acres in a day, whereas a man with a hoe was limited to about an acre. Harrows and cultivators showed like improvement. Between 1820 and 1840 regular cultivators were driving hoes and shovel plows from the fields wherever the soil was sufficiently clear of stumps, roots, and stones for their use. By 1860 the straddle-row cultivator was receiving favorable attention, and steel shovels were replacing the older ones of cast iron.

Particularly notable were the advances made in reaping and mowing machinery. Before the close of the eighteenth century the scythe for hay and the cradle for grain were beginning to straighten the backs of mowers. Though they were arduous enough to handle, in skilled hands they could do the work of several sickles. But as late as 1840, when greatly improved cradles were in use, many farmers still clung to the implement of their ancestors. Between 1786 and 1831 no less than 58 mowing machines or reapers were invented in Europe and America. By the latter date they were evolving into a fairly modern

¹ It was a Vermont plow maker, Thaddeus Fairbanks, who in 1830 invented platform scales.

appearance, though still somewhat unreliable. William Manning of Philadelphia, in 1831, patented the best American machine to that date. In 1833 Obed Hussey, while living near Cincinnati, patented a reaper with a cutting bar which was operated on principles maintained to the present time. In the following year Cyrus McCormick of Rock Bridge County, Virginia, received a patent on the machine which he had first tried out in 1831. The McCormick reaper was more complicated and less substantial than Hussey's, but it was possessed of a reel and side delivery, thus making it possible for the machine to remain at any convenient distance ahead of the binders. The Hussey implement, which would mow as much as 15 acres in a day, was almost without competitors till 1840, at which date McCormick had not yet sold a single reaper.

McCormick's advantage was in seeing the need of reapers in the prairies. Within four years after he set up his factory in Chicago (1848) he was selling a thousand machines a year. Numerous other inventions followed those of the 1830's. In 1844 George Esterly of Wisconsin made a header much like the modern machine except that the barge was attached to it. Not until the wheat belt reached the Western plains where wheat would not mold in the stack did the use of headers become practical. Harvesters, with men riding the machine to do the binding, appeared in the late 1850's but were not yet a proved success. In 1855 it was demonstrated near Paris that American reapers were three times as effective as their nearest competitors from England and Algeria. By this date, when wheat was bringing \$1.80 at New York, farmers bought reapers as fast as they could be manufactured.

Mowing machines by 1860 saved about four-fifths of the labor and two-thirds of the cost of hand mowing. Old men, women, and boys could handle them, thus effecting the saving of much of the crop when labor was scarce. Horse-drawn rakes, doing the work of eight or ten men, appeared in the same years. Modern sulky rakes, tedders, clover hullers, mechanical hay forks, and hay balers were also common before 1860. The cost of horse power for all these machines was negligible, for plow animals, hitherto idle during the harvest season had to be fed anyway.

Hand- and horse-power threshing machines were known as early as 1780 and were used in America soon after 1800, but they choked up and got out of repair easily and few persons knew how to fix them. Following 1820 numerous threshers were advertised, the best one for some years being the invention of Hiram and John Pitt of Maine in 1836. This machine threshed and separated the grain in a continuous series of operations and left it ready for bagging. It cost \$200 for the

larger size, was operated by two horses, and could run on a twelve-foot floor. Custom threshing became a common practice after 1850 when an enlarged model, using six or eight horses, could thresh 300 bushels of wheat in a day. A significant development in the making of threshing machines was the establishment of Jerome I. Case's factory at Racine, Wisconsin, in 1844. A decade later American machines were demonstrated to be about twice as efficient as any others. The flail and the cattle threshing floor were becoming obsolete by 1860. Farming was still a laborious task, but the output per capita was at least doubled by 1840 and increased again by a half in the next twenty years. The farmer could sit down and ride at several of his tasks, but repair work on his clothing was as yet mainly confined to the shoe soles.¹

Scientific Efforts. The growth of agricultural markets led to continuous efforts at scientific improvement which were advocated or practiced by dirt farmers, theorists, and habitual reformers. Before 1800 farmers were jacks of all trades and masters of several, but more from necessity than because of temperament. For example, a Connecticut preacher in the 1790's was paid \$100 a year, mostly in produce, and was given the use of 100 acres of land. In 21 months he spent \$116, mostly for such items as pots, pans, and other utensils, hardware, seven yards of cloth, three pounds of sugar and ten of iron, some salt, a gallon each of rum and molasses, seven pipes, a yard of tobacco, and a few other things. His sales were mostly of cheese. Otherwise he was self-sustaining.

But before this time changing agricultural practices were beginning to alter such conditions. Rotation of crops was being substituted for fallowing, while the latter process was reduced in time. Laws for the eradication of barberry bushes prevailed in spite of the skepticism of learned theorists. The Hessian fly, appearing first on Long Island during the War for Independence and soon spreading throughout the country, taught the farmers that fertilizer and deep tilling not only made wheat more resistant but also led to larger crops. Competition from better soil compelled other farmers to take greater care of their manure piles. After 1800 powdered gypsum was found to double the productivity of sandy or gravelly meadow land. A decline in cost of this mineral from \$30 or \$40 a ton in 1812 to less than a tenth as much in the 1830's led to a much wider use. Marl and lime were used in the Eastern states by 1820, and some guano was imported a decade later. By 1840 a New York firm was selling another valuable

¹ In 1860 farm machinery and implements valued at \$21,000,000 and carriages and wagons worth \$36,000,000 were manufactured. Over half of the farm machinery was made in the West.

product called "poudrette," the makers of which anticipated Victor Hugo's disquisition concerning the possible utilization of the sewage of Paris.

Care in stock breeding was another matter receiving sporadic attention. The older breeds of American cattle by 1800 were decidedly nondescript in ancestry and of deteriorated size and quality. Yet, English cattle were driven to Kentucky as early as 1795 and short-horns were brought to Ohio by 1817. In 1834 the Ohio Company for Importing English Cattle was formed, and systematic shipments were in progress within a few years. Dairy cattle also were greatly improved, the output of butter and cheese per cow being more than doubled in certain Massachusetts and New York communities by 1830. A few years later the average for Massachusetts was 1,500 quarts of milk a year, from which 166 pounds of butter or 375 pounds of cheese could be made, but some farmers did much better than this. Still greater improvements were made in swine. Timothy Pickering bred some exceptionally fine English hogs which at a year or 18 months of age matured at from 400 to 700 pounds. In the West and South the self-supporting razorbacks of earlier generations were the mainstay till 1860.

Horses and mules only gradually displaced oxen for draft purposes. The breeding of thoroughbreds was an early industry in Kentucky, while that state together with Missouri and Tennessee later had a profitable trade in horses and mules driven to the lower South. The use of labor-saving machinery had much to do with the adoption of horses in all parts of the country. Oxen were too slow and uncertain for the effective operation of treadmills and other horse-power contrivances, while reapers and mowing machines would operate well only when driven at a fair rate of speed.

The improvement of sheep was endemic and recurrent. From 1808 to 1814, when commercial difficulties were stimulating the woolen industry, there was a merino craze, importations being mostly from Spain. David Humphreys of Connecticut and Robert Livingston of New York were outstanding in this movement. In 1810, when pure-bred merino wool sold at \$2 a pound while common grades were bringing only 40¢, Humphreys sold two pairs of his sheep for a total of \$3,000. In 1814 merino wool was \$2.75 a pound at Steubenville, Ohio, but the mania for importation was inhibited by the blockade. Two years later, when the price was down to 68¢ and going lower, the disgusted farmers drove their merinos to the butchers. A later revival of high wool prices led to an interest in Saxony sheep which lasted till the next period of falling prices. These outbursts of activity had little effect on the keeping up of good breeds, but dispersal of the stock

led to a general improvement of the older varieties. Some interest was aroused by 1820 in mutton breeds, especially the Leicester type.

Agricultural Societies. Intellectual interest in farming was expressed mainly through the medium of agricultural societies, one of the earliest being organized at Philadelphia in 1785. The membership was made up of men of all professions, whose main concern was the gathering and dissemination of information. The publications of the societies, one of the most complete of which was the *Massachusetts Agricultural Repository and Journal* (10 vols., 1798-1832), are a worthy monument to the zeal and earnestness of the organizations. They had, however, very little effect on common farmers, who were more interested in making a living than in going to excessive costs to raise a prize heifer. Often the awards were not claimed at all or else went to the gentlemen farmers who had plenty of money to squander on their fancies.

Elkanah Watson after 1810 was the sponsor of a more practical type of organization, his Berkshire Agricultural Society being widely copied in many parts of the country. The appeal was more to the emotions than to the intellect of the members, and the instinct of rivalry was especially cultivated. Many a man who would not compete with a Humphreys or a Livingston for a prize would do his best to beat a neighbor in a contest. When the farmers' wives and the preachers got interested in the movement the men had to capitulate. The exhibition of animals and implements at fairs sponsored by the societies helped break down prejudices against innovations. The meetings were deluged with florid oratory, full of classical allusions, but this was easily forgiven though seldom understood. Recommendations to grow silk worms in New York or wheat in New Hampshire did no harm, for they were not heeded. The social features and recreation afforded by the societies probably were as important as any other accomplishment, through breaking down isolation and self-centered moroseness.

State Aid. In a sense these organizations were a part of the general reform movement of the day. America, as Alexis de Tocqueville observed, had associations for everything. After 1817 first one state government and then another began contributing funds for assisting the efforts of the county societies. This aid stimulated expansion beyond the comprehension of the dirt farmer members. Their hopes were elevated to excessive heights, then disappointment led to disillusionment, disgust, and exit. After 1825 the movement declined rapidly, having never extended with virility beyond Ohio. There were later efforts at revival in some Eastern states, but too much of

the endeavor was misdirected, especially in the offering of bounties to stimulate exotic production.

The Agricultural Press. In 1819 and following several weekly and monthly agricultural periodicals were started. *The American Farmer*, 1819; *The New England Farmer*, 1822; *The New York Farmer*, 1826; *The Genesee Farmer*, 1831; *The Cultivator*, 1834; *The Maine Farmer*, 1835; and *The Prairie Farmer*, 1840, were especially prominent. By 1840 there were about 30 in all, with a combined subscription of around 100,000. *The Country Gentleman*, added to the list in 1853, was destined to a long and prosperous career. Like many other contemporary efforts, these journals contained too much about beautifying the farm and not enough on the practical side of agriculture to suit a great mass of readers. Yet, in the long run, the impractical side of the offerings was probably of most lasting importance. The systematic printing of market news and other current information was especially appreciated.

Federal Aid. A federal appropriation of \$1,000 in 1839 for the gathering of statistics, distribution of free seeds, and other minor purposes was the first act of the general government in aid of agriculture. Henry L. Ellsworth, commissioner of patents, was chiefly responsible for this grant. It was followed by the creation of a bureau of agriculture which remained under the control of the patent office till 1862 when the Department of Agriculture was created with sub-cabinet rank. Agricultural reports from the patent office reached a volume of 1,376 pages in 1845 and a distribution of 268,000 copies in 1855. The first census of agriculture was conducted in 1840, thus making possible greater statistical information for the period following.

Agricultural education received but little attention, though some gestures were made. Columbia College in 1792 had a chair, partly supported by the state legislature, for the teaching of natural history, chemistry, and agriculture. In 1822 the Gardiner Lyceum, solely devoted to agriculture, was founded in Maine. It received state aid till 1831 and then lost its purely agriculture character. Other schools were started or attempted in various parts of the East, New York talking of an agricultural college as early as 1833. But not till 1857 was any state college of the kind actually opened, this one being in Michigan. The influence of such schools and chairs of agriculture as existed was very small before 1860.

Farm Labor. Farm labor continued to be scarce in all parts of the country. In the West the possibility of squatting on the public domain could be weighed, even by almost penniless laborers, against the prospect of working for hire. In the East the possibility of year-round labor in the factories, even at the prevailing low wages, often

looked better than seasonal work on the farm, while the attractions of city life offset the certainty of three square meals and a feather bed in the country. When once settled in the factory rut it was not an easy matter to extricate one's self again, especially where the truck system of wages was maintained. The pay of hired labor on the farms

PRODUCTION OF SELECTED

1840

GEOGRAPHIC REGION	IMPROVED LAND 1,000 ACRES		WHEAT 1,000 BUSHELS		CORN 1,000 BUSHELS		OATS 1,000 BUSHELS		RYE 1,000 BUSHELS	
		% OF TOTAL		% OF TOTAL		% OF TOTAL		% OF TOTAL		% OF TOTAL
New England			2,014	2 4	6,993	1 9	7,540	6 0	1,985	10 6
Middle Atlantic			26,274	31 0	29,574	7 8	44,401	36 1	11,259	60 4
Old Northwest			26,326	31 0	87,115	23 1	27,883	22 7	1,068	5 7
Trans-Mississippi			1,192	1 4	18,739	5 0	2,451	2 0	72	.4
Mountain										
Pacific										
South			29,017	34 2	235,111	62 2	40,793	33 2	4,262	22 9
Total			84,823	100 0	377,532	100 0	123,071	100 0	18,646	100 0

1850

New England	11,151	9 9	1,091	1 1	10,176	1 7	8,101	5 5	1,571	11 1
Middle Atlantic	22,806	20 2	30,096	29 9	46,453	7 8	51,469	35 1	10,209	72 0
Old Northwest	22,912	20 3	39,328	39 1	177,320	29 9	35,496	24 2	775	5 5
Trans-Mississippi	3,768	3 3	4,514	4 5	44,888	7 6	6,833	4 7	63	.4
Mountain	183	2	304	3	375	1	11			
Pacific	165	1	229	2	15		61			
South	52,048	46 0	24,930	24 9	312,844	52 9	44,613	30 5	1,571	11 0
Total	113,033	100 0	100,486	100 0	592,071	100 0	146,584	100 0	14,189	100 0

1860

New England	12,216	7 5	1,083	6	9,165	1 1	10,895	6 3	1,426	6 8
Middle Atlantic	26,766	16 4	23,486	13 6	87,981	6 9	67,101	38 9	11,701	55 5
Old Northwest	41,186	25 2	79,798	46 1	280,269	33 4	51,043	29 6	3,501	16 6
Trans-Mississippi	11,122	6 8	15,277	8 9	125,898	15 0	11,910	6 9	605	2 9
Mountain	241	1	823	5	800	1	72		2	
Pacific	3,446	2 1	6,841	4 0	592	.1	2,063	1 2	55	.3
South	68,134	41 9	45,867	26 4	364,088	43 4	29,559	17 1	3,811	17 9
Total	163,111	100 0	173,105	100 0	838,793	100 0	172,643	100 0	21,101	100 0

did not vary widely from year to year nor differ greatly from that of the mill and factory workers. There was occasionally a wide difference between the standards of different Eastern localities but not between the general averages of the East and West. In 1849 yearly wages ranged between \$50 and \$150, with board and room, but the standard, both East and West, was above \$100. Occasional day labor was paid

EXPANSION OF AGRICULTURE IN THE NORTH 307

from 50¢ to \$1.50, the latter being for skilled mowers and cradlers. Board and room was estimated at \$1.50 a week. This was about the same scale that had existed, except for some peaks and depressions, for 50 years. In the 1850's the money wage increased perceptibly, but not in proportion to the higher cost of living. The scarcity of labor

COMMODITIES, 1840, 1850, 1860

1840

BARLEY 1,000 BUSHELS	% OF TOTAL	HAY 1,000 TONS	% OF TOTAL	BEEF CATTLE 1,000 HEAD	% OF TOTAL	DAIRY COWS 1,000 HEAD	% OF TOTAL	HOGS 1,000 HEAD	% OF TOTAL	SHEEP 1,000 HEAD	% OF TOTAL	HORSES AND MULES 1,000 HEAD	% OF TOTAL
797	19.2	3,084	30.1	1,545	10.3			749	2.8	3,820	19.8	270	6.2
2,742	65.9	4,774	46.6	3,304	22.1			3,665	13.9	7,106	36.8	910	21.0
462	11.1	1,527	14.9	2,680	17.9			5,566	21.2	3,203	16.6	907	20.9
11	3	67	7	472	3.2			1,376	5.2	363	1.9	207	4.8
150	3.5	796	7.7	6,971	46.5			14,945	56.9	4,819	24.9	2,042	47.1
4,162	100.0	10,248	100.0	14,972	100.0			26,301	100.0	19,311	100.0	4,336	100.0

1850

414	8.0	3,464	25.0	1,469	8.3	608	9.5	361	1.2	2,258	10.4	213	4.3
3,757	72.7	6,008	43.4	3,243	18.2	1,580	24.7	2,309	7.6	5,436	25.0	869	17.7
796	15.4	3,129	22.6	3,444	19.4	1,288	20.2	6,510	21.4	6,831	31.4	1,155	23.6
36	7	208	1.5	930	5.2	276	4.3	2,027	6.7	913	4.2	307	6.3
2		5		46	3	15	2	8		381	1.8	16	3
10	2	2		304	1.7	14	2	33	1	33	2	32	7
152	3.0	1,023	7.5	8,343	46.9	2,604	40.9	19,106	63.0	5,871	27.0	2,304	47.1
5,167	100.0	13,839	100.0	17,779	100.0	6,385	100.0	30,354	100.0	21,723	100.0	4,896	100.0

1860

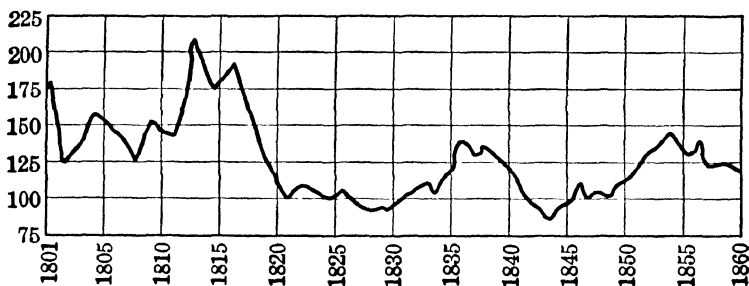
1,199	7.6	3,869	20.3	1,573	6.1	680	7.9	326	1.0	1,780	7.9	259	3.5
4,742	30.0	6,319	33.1	3,631	14.2	1,936	22.5	2,178	6.5	4,385	19.5	1,038	14.0
4,098	25.9	5,585	29.3	5,290	20.6	1,945	22.7	8,560	25.5	6,912	30.8	2,039	27.6
811	5.1	1,475	7.7	1,960	7.6	611	7.1	3,554	10.6	1,230	5.5	668	9.0
18	1	23	1	128	5	47	6	21	1	868	3.9	27	.4
4,446	28.1	338	1.8	1,363	5.3	268	3.1	544	1.6	1,184	5.3	207	2.8
512	3.2	1,475	7.7	11,675	54.3	3,099	36.1	18,330	54.3	6,112	27.1	3,162	42.7
15,826	100.0	19,084	100.0	25,620	100.0	8,586	100.0	33,513	100.0	22,471	100.0	7,400	100.0

in this decade has been attributed to the growth of factories, the gold rush, and the use of 400,000 men almost constantly in railroad construction gangs. But the immigration figures for the same years more than offset all these calculations. The rapid development of the West, resulting from the Preëemption Act and the railroads, must be included in any complete explanation.

Some slave labor was employed in the southern counties of Illinois and Indiana, especially before 1830, but the system was so hidden by the use of indentures that the number of such workers cannot well be determined. Slavery also lingered in New York, Pennsylvania, and New Jersey, in the latter state nearly down to the Civil War, but the relative importance of such labor was always negligible. Exception should, of course, be taken for Missouri, but that state, so typically Western in other respects, also depended mainly upon white labor. In most parts of the free and border states the whole family had to be recruited for tasks in the field in rush seasons, but that is no novelty in any generation. There was, however, this difference after 1850: the use of labor-saving machinery made the work of each member of the family more profitable and farm life in general more attractive.

Prices. Prices of farm products are illustrated in the following graph. The index number of 100 is about that for the middle of the period and the prices are those prevailing in Eastern ports. The curve

INDEX OF FARM PRICES, 1801-1860



represents arithmetical averages of the most important products. The curve of prices for the West would be difficult to plot, because of a wide variation between localities which resulted from the ever-changing costs of transportation. In general, Western prices were far lower than those in the East, wheat at 25¢ and corn at 8¢ a bushel to the farmer having been known in 1824. In some places grain was not worth the freight charges. In 1845 corn was quoted in New York at 48¢ while it was bringing 20¢ on the Wabash River. Two years earlier hogs at Cincinnati were \$2.04 a hundredweight while the value in New York was \$4.33.

The total production of certain selected commodities as well as the drift in supremacy from one section to another are illustrated in the table of census figures from 1840 to 1860 on pp. 306-307. Missouri is the only slave state included, while the trans-Mississippi group also

includes the first tier of territories west of the states as they were in 1860. Figures for all the slave states except Missouri are lumped together under the designation of the "South." This is not altogether fair from the point of view of the border states versus the lower South or the distinctions that should be made between the old and new South and the like, but it is hoped that the following chapter will make this distinction clearer.

CHAPTER XIV

THE PLANTATION AND SLAVERY

Agricultural Areas. The greatest changes in Southern agriculture following the War for Independence were due to the increased demand for cotton and the opening up of new land in the Southwest where both the soil and climate were unsurpassed for the growing of this staple. In spite of direct trade with Europe following independence, tobacco for half a century was not a very profitable crop in the older states, though it increased in importance in the border states of the West. Rice was still produced in undiminished quantities, but because of the narrowly restricted area where it could be grown it decreased steadily in relative importance. Hemp and flax in time came to be of some value to planters and farmers of Kentucky and Missouri, but, compared with other crops, the output was always negligible. Sugar in Louisiana, along the Brazos River in Texas, and in a few other select localities became an important crop for planters rich enough to equip themselves for its production. But cotton was king.

Cotton Growing. Sea island cotton for a number of years took the place of the defunct indigo industry of the rice coast, but it could not be grown successfully elsewhere. Its long fiber was easily removed from the smooth seeds by the roller gins of earlier days. An acre of land would scarcely yield 200 pounds, and each laborer could tend only three or four acres, yet, at the prices of 50¢ or 75¢ a pound or more which prevailed on the plantations before 1800, its cultivation was greatly stimulated. In the 1820's the average yearly exports were 11,000,000 pounds, after which there was a decline till the crop seemed trivial when compared with that of the upland short-staple cotton. The latter product was slow of development because of the difficulties in separating the short fiber from the rough seeds. But high prices caused by the demand of the English cotton mills led to earnest efforts to remove this last obstacle. Prizes were offered for a successful gin, causing many persons to compete. In 1792 possibly 3,000,000 pounds of cotton were gathered in expectation of some successful experiment, and in this hope the growers were not disappointed. The story of Eli Whitney's success in 1793 is familiar to all. He tried to get a monopoly for the manufacture and operation of the machines, charging a toll for their use. This idea has later been applied, especially to shoemaking machinery, but Whitney was not

so fortunate. Rival patents of superior design appeared and Whitney was lucky enough to get a grant of \$50,000 from South Carolina and smaller sums from North Carolina and Tennessee to dissolve his monopoly. He later achieved additional fame as an inventor and manufacturer of fire arms in Connecticut.

The growing of upland cotton then advanced by leaps and bounds. The crop required less capital than rice, indigo, or sugar. The small farmer could compete with the wealthier planter to the extent of his labor force, which included the whole family in the picking season. In 1801 the crop of 40,000,000 pounds sold at 44¢ a pound and the piedmont was being settled rapidly. The Negro population of the upland counties, which in 1790 had been only a fifth of the total, reached a half of a much larger number by 1830. Before long, new lands were needed for cotton growing and a new westward movement began. Small farmers who could not increase their existing holdings sold out and moved to the region of cheaper land.

POPULATION GROWTH OF SOUTH, BY SECTION AND STATE

YEAR	SOUTH ATLANTIC					SOUTHWEST				WESTERN BORDER		
	Md	Va	N C	S C	Ga	Ala	Miss	La	Ark	Ky	Tenn	Mo
1810	381	975	556	415	252		40	77	1	407	262	20
1820	407	1065	639	503	341	128	75	153	14	564	423	67
1830	447	1211	738	581	517	310	137	216	30	688	682	140
1840	470	1240	753	594	619	591	376	352	98	780	829	384
1850	583	1422	869	669	906	772	607	518	210	982	1003	682
1860	687	1596	993	704	1057	964	791	708	435	1156	1110	1182

Cotton and the Westward Movement. Southern migration before 1800 had been mainly to Kentucky, Tennessee, and Missouri. The mountain valleys and foothills were occupied by persons who were content to raise wheat and other familiar farm crops. Others pushed on into the blue-grass country and specialized in horses, or into the region to the south of this where hemp raising was engaged in on a plantation basis. Western Kentucky proved unsurpassable for the growing of tobacco, while western Tennessee was a good cotton country. Missouri was settled partly by Kentucky planters but mostly by general farmers who in later years included a great number of Germans. Small farms predominated in all these regions, their chief function being the growing of grain and animals for the lower South. The new rush into Alabama, Mississippi, and Louisiana was facilitated by the federal government's Indian policy following 1814 (see p. 149). The actual and relative growth of the various states and sections of the South in the ensuing years can be gathered from the above table of census figures. The population in each case is listed

to the nearest thousand. Texas, not included, grew from 213,000 in 1850 to 604,000 in 1860.¹

Though the Gulf states and Arkansas, even in 1860, had only a slightly larger population than the Western border group and but 70% as much as the south Atlantic, yet in 1820 they were growing a third, by 1830 a half, and in 1860 three-fourths of the cotton of the whole country. The best cotton lands lay in the Mississippi delta from Tennessee to the Gulf and a strip from south-central Alabama to northeastern Mississippi. This region, both because of the darkness of its soil, which attracted planters with their slaves, and on account of the consequent large Negro population, earned the name that was given it—the black belt. The first permanent settlers in the Southwest were small farmers. Those who by mischance or poor judgment got the less fertile acres remained there, they and their descendants continuing as struggling farmers. Others, settling in the choicer regions could by accretion become planters, or might sell out to neighbors or newcomers for several times the cost of their land and move farther west. In the new location they could buy a thousand acres and a family or two of good slaves for the price of the old farm, whereupon economic advancement was likely to be rapid. If not too far from the Mississippi River, they could buy corn and pork from the North almost as cheaply in proportion to Eastern values as they could buy land. Low river-transportation costs in addition to these other advantages made the cost of producing cotton and getting it to the market much less than in the old piedmont country. Consequently, wealth in the Southeast grew even more slowly than population. The unequal contest with the Gulf states compelled a greater attention to scientific methods of farming and to projects for stimulating manufactures.

Cotton Plantation Methods. The equipment for the production of cotton was not extensive, complicated, nor costly, the gin house and baling press being the only items not to be found on a Northern farm. Since a laborer could plant and tend twice as much cotton as he could pick, the acreage of other crops was equal to or greater than that of cotton. In 1820 the usual allotment to each hand was six acres of cotton and eight of corn, but the improved methods of later years increased the amount to ten of each. There were also some patches of such things as sweet potatoes, peanuts, cowpeas, small grain, and garden truck. Nearly every plantation had a drove of hogs, some cattle, and plenty of poultry, while some also supported a few sheep. Small farms had about the same arrangement on a lesser scale.

¹ Delaware and Florida had such small populations, the former being only 112,216 and the latter 140,424 in 1860, that they also are omitted from the tables.

The year's labor began as soon as the last of the preceding season's crop was baled. The picking was usually over by Christmas or New Year's Day, any cotton left in the field after that time usually being of such poor quality as not to be worth its garnering. After a holiday season preparations were begun for the next crop. The cutting of wood for the open fireplaces, so numerous and insatiable in every plantation house as well as in the Negro quarters, clearing of land, splitting rails, building or mending fences, cleaning up the débris from the fields, and plowing left only a few nights with spirits high enough for a 'coon or 'possum hunt. The corn was planted in March and cotton in April. Thinning, replanting, and cultivation of cotton went on till midsummer, when the bolls began to set on, and then the field was laid by till the picking season. The corn and other crops were tended in periods when the cotton was not needing attention. By the middle of July a space of a few weeks was free for general farm or plantation work, with possibly a short vacation.

By September, at the latest, the picking season began, each field being covered repeatedly to escape the constant menaces of wind, rain, and mildew. Skill and endurance being greater assets than mere strength, the old and young of both sexes and races were kept in the field as long as necessary, though a few men were reserved to do the ginning and baling. An expert picker, keeping both hands flying at the task, could clean a whole boll of its contents at a single grasp. An ordinary worker could easily gather from 60 to 100 pounds in the seed in a day,¹ while an exceptional record for 1859 showed the best hands getting 300 pounds, with the average for 51 men, women, and children being 157 pounds. Everything for the gin house and the press,² with the exception of the gins themselves and the screw for the press, could be manufactured on the plantation. Even the small farmer could be independent of outside mechanical aid.

Marginal lands helped to regulate the volume and price of the crop, growers of other staples switching to cotton and back again according to the prevailing markets. Cotton was always beset by many enemies, ranging from bad plowing and adverse weather to bollworms, caterpillars, and rot. Regardless of the early promise of a field, no profits were certain till the last of the crop was baled and sold. The piedmont planters, who after 1815 were always marginal producers, sometimes felt that these plagues were actual blessings, inasmuch as they tended to check overproduction and low prices. But in profitable years they usually forgot such talk. Even to remain in the marginal class, the

¹ Three or four pounds in the seed yielded a pound of fiber.

² See Ulrich B. Phillips, *Life and Labor in the Old South* (Boston, 1929), facing p. 116, for illustrations.

piedmont planters had to pay much more attention to agricultural economy than did those of the Gulf states. Cotton seed was being utilized by 1830—for fertilizer when rotted, the oil for lighting and paint mixing, and the meal for cattle feed. Following 1850 much of the oil was sold by merchants as olive oil, but this ruse was most extensively employed in a later period. By 1845 Peruvian guano was being imported at \$50 a ton, sometimes being distributed at a loss by the railroads because of the greater cotton freight resulting. In some cases guano made land three times as productive. There were also periodic crazes for buying fancy seed, guaranteed to produce as much as 3,000 pounds of cotton to the acre. Gullible planters paid as much as 50¢ apiece or \$160 a bushel for these seeds.

Notwithstanding periods of depression, the constantly growing demands of British and American factories led to an equally steady expansion of cotton growing. The crop in 1810 was 85,000,000 pounds, which sum was doubled in 1820, quadrupled in 1830, and multiplied to 830,000,000 pounds in 1840. Constant low prices in the next decade limited the increase to a total of a billion pounds in 1850, but the next decade saw the geometric progression repeated, with a crop of 2,300,000,000 pounds in 1860. In the latter year the United States was growing three-fourths of the world's cotton, this staple comprising two-thirds of all the exports of the country. Seventy-five per cent. of all plantation labor, including the families of thousands of white farmers, were employed in the cotton fields. The following table of cotton exports, with amounts expressed to the nearest thousand of

COTTON PRICES IN SELECTED YEARS, 1816-1860

YEAR	AMOUNT	PRICE CENTS	VALUE	YEAR	AMOUNT	PRICE CENTS	VALUE
1816	86,947	29.4	24,106	1840	743,941	8.5	63,870
1818	94,471	33.1	31,334	1843	792,297	6.2	49,120
1820	127,860	17.4	22,308	1845	892,906	5.9	51,740
1823	173,723	11.7	20,446	1847	527,220	10.1	53,416
1825	176,450	20.8	36,847	1849	1,026,602	6.4	66,397
1827	294,310	9.9	29,360	1850	635,382	11.3	71,985
1832	322,215	9.0	31,725	1852	1,093,231	8.0	87,966
1834	384,718	10.2	49,448	1856	1,351,432	9.4	128,382
1835	387,359	16.7	64,961	1857	1,048,282	12.5	131,576
1838	595,952	13.3	61,567	1860	1,767,686	10.8	191,807

pounds and dollars, will show the great disparity which often existed between the size and value of the crops, as also the tendency toward expansion in periods of high prices and contraction in times of depression. For instance, the figures for 1834 may be compared with those for 1843

when the exports were more than doubled but the proceeds were a little less than for the former year. Years of little change are omitted.

The Census of 1850 showed 74,031 farms and plantations producing five or more bales of cotton each. The average unit had six full-time laborers and grew 30 bales.¹ Since it was not economical to employ over 60 laborers on one estate, it is found that where individual planters sold from 2,000 to 4,000 bales this was the product of several plantations. In spite of numerous efforts of Great Britain and France to stimulate cotton growing in their colonies, they had little success. America had the ideal climate for cotton, even to the frosty winters needed for killing off the pests.

Sugar Growing. The next greatest market crop of the lower South was sugar. This was developed by the French-speaking inhabitants of Louisiana, known among themselves as "Creoles" except for the transplanted Acadians who were referred to as "Cajuns." Outside the merchant metropolis of New Orleans the early inhabitants lived mostly from hunting, fishing, fur trading, and mixed farming. Some cattle were grown, and there were futile experiments with cotton and indigo. After earlier failures by others, the first real success in the sugar business was achieved by Etienne de Boré in 1794-1795. Following his experiments, sugar soon became an important crop, and in a few years the French-speaking population was doubled by refugees from the Negro insurrection in Santo Domingo. After 1803 English-speaking people were slow to enter the territory, except in the Baton Rouge region and eastward. They resented what they considered the superior attitude of the Creoles, and, furthermore, few of them had sufficient capital to set up as sugar planters. Higher prices for cotton for a few years beginning in 1815 brought numerous farmers and planters into the state, but the depressing effect of later tariff acts led many to adopt the crop of the Frenchmen.

The peculiar topography of the country limited sugar growing to a relatively narrow strip along the principal rivers. These streams, flowing through deltas of their own construction, have built the land up highest next to their own beds. Any overflow or rainfall runs back into the woods where it remains in swamps till evaporated. Consequently, the sugar planter cleared land flush with the river bank and as far back as the swamp would permit. The fields were then ditched deep in gridiron fashion for drainage. Only gradually could the forest be cleared and the swamp be evaporated farther back from the river

¹ The bale to 1820 was only about 250 pounds, but improvements in the press in succeeding years increased the size to 400 pounds. Since the Civil War the standard has been 500 pounds. The latter sum is the one most used when cotton is referred to by number of bales.

front. The wet new fields in more recent years have been planted to rice. Sugar cane, growing from the joints of plants buried in trenches, will spring up for two or three seasons from the stubble of the preceding year, thus making replanting only occasional. Early frosts and hard winter freezes had to be anticipated, so it was desirable to cultivate a type of cane which would mature before much damage could result.

The making even of raw sugar was almost as much a mechanical as an agricultural process. The grinding machinery, evaporating pans, centrifugals, steam engines, and vacuum pans were very expensive, thus tending to concentrate the industry into large holdings. In 1827 there were 308 sugar plantations employing 21,000 slaves valued with their families at \$34,000,000. A sudden transition from cotton to sugar growing increased the number of estates three years later to 691 with 36,000 laborers worth \$50,000,000. Many of the newer recruits were operating on a smaller scale than their predecessors. The product of 1830 was 75,000 hogsheads of 1,000 pounds each and from 40 to 50 gallons of molasses for each cask of sugar. Improved processes in later years made the molasses less sirupy, thus decreasing its proportion to that of the sugar.

The introduction of steam power, lowered sugar tariffs in 1832, and higher cotton prices in succeeding years prevented an increase in the number of sugar plantations, but those already in existence expanded rapidly. By 1842 the 688 in Louisiana were using 50,700 able-bodied slaves and producing 140,000 hogsheads of sugar. Then came a seven-year period of low cotton prices accompanied by the usual change to sugar growing, until in 1849 there were over 1,500 sugar estates with slaves numbering above 100,000 of all ages. The use of more expensive machinery in the next decade led to further consolidation of the industry. On the eve of the Civil War there were about 1,300 plantations, over three-fourths of which used steam power for their machinery. The banner year, with the largest crop of any time till near the end of the century, was 1853, when 450,000 hogsheads of sugar were produced. This was at least double the ordinary crop.

An idea of the scale of operations on a sugar plantation can be obtained from a consideration of one of the better of them in 1852. This estate included 15,000 acres, of which 800 were in cane, 300 in corn, and 150 in slave crops. The rest was swamp, producing thousands of cords of wood for heating purposes and to feed the steam engines and vacuum pans. There were 215 slaves of all ages, valued at \$170,000. The land was worth \$360,000, buildings \$100,000, machinery \$60,000, and livestock, including 64 mules, \$11,000. From this capital investment of over \$700,000 a crop of 1,300,000 pounds

of sugar at 6¢ a pound and 60,000 gallons of molasses at 36¢ a gallon brought returns of nearly \$100,000, or about 14% gross, which was not by any means all clear profit. Some sugar plantations were operated by partnerships and corporations on almost a Northern factory basis.

The plantation house of fiction fortunately had few replicas in actual existence, though occasionally a sugar planter with more money than judgment would equip a home in as palatial splendor as a *de luxe* steamboat. Joseph Acklen of Louisiana, in 1859, started the construction of an imitation Gothic castle with 50 rooms aside from the central hall, closets, and bathrooms. The cost, together with furnishings, was estimated at \$275,000. Instances such as this are generally examples more of outward display than of real prosperity. Ordinarily the houses, like plantations, were neither elaborate nor run down. A superabundance in the matter of food merely resulted in delicacies for the slaves, the husband of the cook being an especially fortunate man. Prolonged visits of poor relatives were a constant drain, but hospitality forbade cutting down the duration of such sojourns, which often ran into years.

The Abolition Movement. As a prelude to the discussion of plantation labor, some attention should be paid to the movement which after 1776 gradually limited slavery to the South. "Inherent liberty" was more than a cant expression in revolutionary days, and Jefferson's statement about all men being created equal was taken by himself and many others to include the black race. Patrick Henry and Edmund Randolph, like Jefferson, were among those who were touchy in their sentiments about their ownership of slaves. Negro service in the Continental army was encouraged in some places and permitted elsewhere. An unsuccessful effort was made by Congress to provide for the enlistment of 3,000 Southern slaves on the basis of compensated emancipation. As a part of the same movement Vermont in its Constitution of 1777 prohibited slavery—there were probably not a dozen slaves in the state anyway—while Virginia in 1776 and Massachusetts and New Hampshire in 1780 put inherent-liberty clauses into their bills of rights. But it was easier to make these declarations effective in New England than in the Old Dominion, where so many social problems were raised by the question of freeing a large black population. Consequently, the Virginia clause remained merely a piece of rhetoric while Massachusetts and New Hampshire within a few years were rid of slavery.

Pennsylvania in 1780, Rhode Island and Connecticut in 1784, New York in 1799, and New Jersey in 1804 adopted gradual-emancipation laws. Persons already slaves should remain so at the will of their owners, but all children born in the future should be free upon reaching

a designated age, ranging from 18 to 28 years. It was also sometimes provided that aged slaves should not be freed by persons wishing to avoid their support, and there was additional restraint upon selling slaves South to circumvent the emancipation laws. New York in 1817 provided for the termination of all slavery at the end of 10 years. The system probably lingered longest in New Jersey, though after 1846 the remnant of slaves were usually designated as apprentices. The institution in the North died of inanition, the laws being largely in the way of obsequies.

Manumission in the South. Far more slaves were freed in the South than ever were in the North, but this was by private manumission instead of legislation. Only in Delaware and Maryland was there an actual decline in the number of slaves from 1790 to 1860. These two states, together with Virginia, had two-thirds of the free Negroes of the South in 1860, while the slave states as a group contained 53% of the 448,000 of the whole country. These figures, however, understate the case, for many Negroes freed in the South were sent out of the states and colonized in the North. Otherwise the preponderance of Southern residence among free Negroes would have been still greater.

Gradual emancipation by legislative action was talked about in the South for two generations after the Declaration of Independence. A fierce contest, waged over this issue in the legislature of Virginia as late as 1832, was lost by the emancipationists largely because of resentment against the interference of Northern abolitionists and terror over the Nat Turner insurrection of the preceding year. Had the result been different the effect upon the border states, where slavery at best was of questionable value, may well be imagined. By too militant action the abolitionists themselves did much to perpetuate slavery in the northern group of the Southern states. So far as the lower South is concerned, the continuation of slavery was based not only on a fear of the social consequences of emancipation, but even more on the fact that cotton growing revived the economic value of what for a time had been an institution of doubtful worth.

Until after 1800 the South was quiescent or even favorable to the movement to limit slavery. The only congressional vote against the antislavery clause in the Ordinance of 1787 was cast by a delegate from New York. The South was not interested in the occupation of the Old Northwest and did not consider the Ordinance as a precedent. State rivalry rather than the question of slavery *per se* was responsible for the contest in the Federal Convention over the counting of slaves for the purposes of representation and direct taxation. The inclusion of a fugitive-slave provision in the Constitution and the Act of 1793 virtually ended the slavery question in federal politics for many years.

Even the permissive clause of the Constitution for the abolition of the importation of slaves after 1807 did not provoke sectional hostility. At the time of its adoption the traffic was legal only in Georgia and a few Northern states, and Georgia abolished it in 1798. At that time the South had several reasons for wishing to see the trade stopped—an excess of Negro population, depreciation in the value of slaves already possessed, and possible overproduction of crops accompanied by ruinous prices being especially feared.

A Renewed Interest in Slavery. As 1808 approached, the rapid extension of cotton growing tended to make the South more dubious about the wisdom of total exclusion. South Carolina, having abandoned her restrictions, imported 39,000 Negroes in the last five years before the federal law took effect. The Act of 1807 provided for the confiscation of slaves illegally imported, but the individual states were permitted to dispose of them, the result being that they were often sold at auction. The extent of violation of the law is uncertain, but even if the most exaggerated figures are accepted only a tenth of the increase of Negro population in the next 50 years can be accounted for, thus attesting a fair degree of enforcement. If the trade had not been interfered with it is likely that the markets would have been glutted to such an extent in prosperous times that in succeeding depressions slaves would be nearly valueless. In such a case, owners might have been tempted to free them to escape the responsibility for their support. But, on the other hand, this would merely have aggravated the race problem and might have resulted in a still worse labor system, that of serfdom.

An immediate result of the stoppage of the foreign slave trade was a continuous increase in the price of slaves in America. This resulted in a greater degree of interest in the welfare of such property, but at the same time it lessened the chances of emancipation even by private manumission. The act also greatly stimulated the interstate trade. The natural increase in Negro population was hardly enough to meet the labor needs even of the older states of the lower South, while the demand in the rapidly growing Southwest was insatiable. On the other hand, Maryland, Virginia, Kentucky, and Missouri grew more slaves than they could use. Without the market which the nonimportation measure created in the Gulf states, the burden of the slave system would surely have become unbearable to the borderland owners.

The Slave Trade. About half of the migration of slaves within the country can be accounted for by the movement of the masters to the more desirable Western lands. Some exceptional servants were sent out to find their own purchasers, while others were put up at lottery. Gradually a class of professional slave traders grew up, to whom the masters

were inclined to trust only the less desirable of their chattels. The undue proportion of shiftless and criminally inclined slaves in the traders' retinues did much to bring out the worst characteristics of the drivers. Partly for this reason, no doubt, the slave dealers were held in low social esteem, though they often had silent partners among the most respectable of business and professional men. Their ostracism as well as the risks of the business kept the number of traders relatively small, thus adding more to the profits of those who knew how to make a success of the business. Good field hands or mechanics and, among the women, those skilled in the household arts or attractive enough to make personal servants brought the best prices, especially if between 10 and 30 years of age.

The tendency was to sell families as units, if for no other reason to keep the slaves contented. The gangs in transit were usually a cheerful lot, though the presence of a number of the more vicious type sometimes made it necessary for them all to go in chains. At the other extreme, when the Central of Georgia railroad company in 1858 equipped a Negro sleeping car to assist in the slave trade it set a standard not always maintained in a later generation. When on the block, the slave was as likely to hinder as to help in his sale. Some, out of a vain conceit in bringing a high price, would boast of their physical prowess, in which case an unwary purchaser was likely to be cheated. Others would malingering, because of a grudge against owners or traders or in order to bring a low price and be put at less tiring labor. Dealers, also, adopted the tricks of horse traders to make their merchandise more attractive—the greasiest Negro was generally considered the healthiest.

The selling of slaves was not all profit to the border states. Unmarketable Negroes increased in proportion as the better ones were sacrificed to hard times, thus accentuating the race problem. Periods of depression caused excessive sales, after which there would be too few laborers to restore profits in better times. As to the slave himself, since his status was permanently fixed anyway, removal to a locality where his work was more profitable merely added to the esteem in which he was held, and, consequently, to his physical welfare.

Management of Slaves. In the management of slave labor the gang system predominated. The great majority of owners, having at the most only one or two families of Negroes, had to work alongside their slaves and set the pace for them. Slavery did not make white labor unrespectable, but merely inefficient. The slave had a deliberateness of motion which no amount of supervision could quicken. If the owner got ahead of the gang they all would shirk behind his back. The possessor of a dozen or more field hands could give all his energy to superintendence, while the wealthier planters had hired foremen for each

gang of about twenty. The rare individual who had several estates and a steward to look after the labor could devote his whole time to management, literary pursuits, politics, or, till ruin overcame him, to idleness. Along the rice coast the task system prevailed. Each slave was allotted five acres, his daily task being fixed by custom. When the stint was properly completed he had the remainder of the day, if any, for rest or recreation. It was useless to try to vary the tradition by larger tasks. Even the overseers, who had to stay at the job till the last worker finished, had an interest in the *status quo*.

Though plantations were as nearly self-supporting as staple production would permit, the South was increasingly dependent upon outside sources for food and manufactures. It required painstaking management to support the costly labor system and make profits without exhausting the soil. A careful rotation of crops helped in many instances, but the practice was far from being universal. Samuel Hairston, one of the most successful of tobacco planters, so managed his numerous estates in the piedmont of Virginia and North Carolina that in 1854 all of his 1,600 slaves were fed and clothed with products of the plantations. An output of 6½ tons of pork was the record of a Georgia plantation in an earlier year. It was no unusual thing for the labor force to be divided into specialized groups of field hands, craftsmen, household manufacturers, and domestic servants. Many slaves were accomplished carpenters, blacksmiths, or even iron founders. Slave food, even if monotonous, was plentiful. Corn bread and bacon were the mainstays, with plenty of fruit and vegetables in season. In hog-killing time, countenances were unusually greasy. Clothing also was on the par with that of the poorer white people and no less adequate in proportion to the climate than that of Northern laborers. If the pickaninnies ran naked it was generally from choice, and when the white boys had to put on shoes and go away to school they were likely to envy the freedom of their colored playmates. The color line began to appear at about that time.

Treatment of Slaves. The instructions of planters to overseers almost universally emphasized the care to be given to slaves, firmness without brutality, and justice unaccompanied by indulgence being emphasized. Increased production should not be at the expense of sullen and rebellious slaves. Cleanliness was insisted upon even to the point of the forcible scrubbing of a Negro with too much local atmosphere. Whiskey was administered only at occasional celebrations or in sickness, malingering being carefully guarded against. Many slaves were allowed to sell produce from their own truck patches. Where this practice led to pilfering from the masters' stores, small gifts of money were substituted. Pregnant and nursing mothers were given special

attention, with just enough work to benefit them. In addition to humane impulses, the need of guarding the health of the mother was enough to enforce this precaution even when there was no economic urge to increase slave numbers.

The stories of systematic breeding of slaves must be largely discounted. Growth in population was almost universally left to unregulated nature. Enormous slave families are sometimes mentioned, such as that of the pregnant woman 41 years of age who, including numerous twins, already had 41 children. Such multiplication would certainly have been discouraged by a master trying to breed a superior stock of slaves. Moderate sized families were the rule, but parents had no worries about the care of numerous children—the expense belonged to the owners. It was the death rate which required the greatest precautions. As a guard against epidemics of cholera and smallpox—yellow fever being more the white people's scourge—costly medical attention was looked upon as a matter of economy. Some sugar planters employed squads of Irishmen or other immigrants for ditching and like work involving danger to health or life. An incapacitated alien cost no capital outlay. In famine times the owners could, as they did in Alabama in 1828 and 1855, borrow money with the slaves as security to provide food for them—a form of social insurance not available to the free laborer.

Excessive toil occurred only where the masters or overseers were feeble witted as well as brutal. A persistent rumor among abolitionists was that sugar planters followed a policy of working slaves to death in seven years as a matter of economy. The persons spreading such reports were as ignorant of Negro nature as they were of conditions in the sugar mills. Furthermore, they overrated the ability of the masters to know how to kill a slave in the given time instead of leaving him a broken-down burden to the plantation. When they set out to prove the accusation they returned with no evidence, but convinced that the practice existed in some obscure region which they had not succeeded in ferreting out. Harriet Martineau, after watching slaves go through the motions of work without tiring themselves, considered the planters as models of patience and observed that new slave owners from Europe or the North were prone to be the most severe. Numerous observers, of various shades of opinion on slavery, agreed that brutality was no more common in the black belt than among free labor elsewhere, and that the slave owners were the worst victims of the system.

Exceptions might be mentioned to all these generalizations. Not all overseers obeyed implicitly their benevolent instructions, but the worst conditions were found on the plantations of absentee owners,

some of whom lived in the North. In 1830, when there were 2,000,000 slaves in the country, the census showed that less than 2.5% of them lived on 2,683 plantations or estates under absentee ownership. The numbers in the various states ranged from seven in New Jersey to 19,590 in South Carolina. To avoid exploitation by overseers, most of the masters in the nineteenth century paid them stated salaries instead of a portion of the crops, the sums ranging from \$600 to \$1,000 a year. At least as numerous as the cases of barbarity are the instances of extreme indulgence. Jefferson Davis practiced profit sharing with his Negroes, and even allowed them to sit in judgment upon members of their own race. About the only interference with the decrees of the sable courts was to ameliorate extreme sentences. This practice was continued until the Union soldiers broke up the order of his Mississippi plantation in 1862.

As to the intimacy of relations between the owners and their chattels, not only did Negro "mammies" suckle the children of their masters, but it was no disgrace for the mistress to act as wet nurse for a suddenly orphaned pickaninny. Negro concubinage has been noted at all periods, both in slavery and freedom. Mulattoes were not usually the result of intermarriage of the races. Outdoor sports and amusements were often indulged in by mixed racial groups. Negro weddings were attended by white people who joined in the celebration. If the marriages were of a rather impermanent nature, that fact was frequently considered as "one of the blessings of slavery." At church and camp meetings the Negroes, in their own section of the building or tabernacle, enjoyed the experiences immensely. They could shout without restraint, while the masters, in order to preserve their dignity, had to repress their emotions. It made little difference if religion was thrown off soon after the camp meeting dissolved—backsliding was pleasant, and there was always a chance to get intoxicatingly converted again.

The worst offenses of slaves against the white men's code were rebellion and running away. Drunkenness, stealing, hiding out from work, personal filthiness, carelessness of property, fighting, and general brutality had various positions in the scale of misdemeanors. Negro preachers often bred discontent by their unnecessary restraint upon pleasure, and, if itinerants, had to be watched closely for abolitionist or seditious doctrines. Running away was an especially heinous offense, not only because of the loss of the slave but even more on account of the moral effect upon others. Habitual runaways, therefore, were severely whipped, sold, or sometimes more barbarously treated. Whipping, even for this offense, was usually limited by law to 100 lashes, which surely was a sufficient number.

Slave Conspiracies. The constant fear of slave rebellion made life in the South a nightmare, especially in regions where conspiracies were of frequent occurrence. The extermination of white civilization in Santo Domingo was followed in the nineteenth century by several other bloody outbursts in the West Indies which never failed to cause ominous forebodings in America. In Colonial days there had been several uprisings where white people lost their lives. An especially ferocious penalty was inflicted in New York in 1712 when a culprit was roasted in a slow fire for eight or ten hours before he lost consciousness. In 1720 there were some hangings and burnings in South Carolina in consequence of a conspiracy, and in 1739 another revolt in the same colony cost the lives of 21 whites and 44 Negroes. Gabriel's insurrection near Richmond in 1800 led to the execution of 24 blacks and the deportation of 10 more.

In the nineteenth century, conspiracies headed by George Boxley and Denmark Vesey in South Carolina (1816 and 1822), and the Nat Turner insurrection in Virginia in 1831 were the outstanding examples. Boxley, a Negro with a sort of John Brown intelligence, escaped while six of his followers were executed. The Vesey plot, prematurely revealed, resulted in 130 arrests which culminated in the hanging of 35, deportation of nearly as many, and imprisonment of 4 white participants. Nat Turner, a mystic type of Baptist preacher, set out to annihilate white civilization, and succeeded to the extent of 10 men, 14 women, and 31 children. He was finally hanged with several of his followers, but the after effects of the uprising were deplorable. The abolitionists, whether rightly or wrongly, were blamed for the outrage, and thereafter it was hard to convince Southerners that even the most harmless of abolitionists were not in sympathy with such tactics. William Lloyd Garrison's declarations in the *Liberator* that, "whenever commenced, I cannot but wish success to all slave insurrections," and "Rather than see men wearing their chains in a cowardly and servile spirit, I would, as an advocate of peace, much rather see them breaking the heads of the tyrant with their chains,"¹ were cited in justification of this exaggerated notion. The black codes were usually strengthened and more rigidly enforced after a slave outbreak or plot than at other times. But it would not be fair to judge the enforcement of the laws by their statute provisions. The codes were made severe enough to meet the worst conceivable emergencies, but these seldom arose. In practice, most of the masters handled their own difficulties in patriarchal fashion.

Free Negroes. The free Negro had rather more opportunity for economic advancement in the South than in the North. The South-

¹ See Jesse Macy, *The Anti-Slavery Crusade* (New Haven, 1919), p. 59.

erner was bothered by the race problem but knew how to handle the individual Negro, while the Northerner professed a benign interest in the race so long as its members were as remote as possible. Neither section was willing to grant equal rights in education, suffrage, or legal standing, while many states of all sections had laws prohibiting the immigration of free Negroes. Abraham Lincoln could not have maintained his standing in the Republican party had he not been a staunch supporter of the Illinois exclusion law and a firm opponent of political and social equality. It was most difficult for a Negro to get a job in the North, except at the most loathsome of tasks. Some Negroes, having been freed and sent to any Northern state which would receive them, became so miserable as to solicit a return to slavery.

Except in a few large places such as New Orleans and Charleston, there was no great amount of white labor for hire in the South, and, therefore, no such prejudices existed against the employment of free Negroes. Though the white mechanics of the towns resented competition with Negro labor whether slave or free, such feeling was not widespread, for the great bulk of the blacks as well as of the nonslaveholding whites lived in the country, worked on their own land, and had more important things to worry about than race rivalry. Many of the Negroes, especially in Louisiana, Virginia, South Carolina, and Maryland, were well-to-do or rich, some had plantations, and thousands of them were owners of slaves. The table on pages 326 and 327 ¹ illustrates as completely as the census data will show, the ownership and distribution of slaves owned by Negroes in 1830. Other accounts tell of a South Carolina Negro in 1790 who owned 200 slaves and had a white wife and son-in-law. Near the end of the slave era Cyprien Richard, a Louisiana Negro, bought a plantation and 91 slaves for about a quarter of a million dollars. Thomas Lafon, a colored merchant of New Orleans, died after the Civil War leaving an estate of about \$500,000 when few people in the South were really rich. In Louisiana, especially, most of the wealthier colored people were mulattoes who had been given an economic start by their white fathers, not all of whom enslaved their children.

Private manumission continued with abated frequency even after the rise of Northern abolition societies. John Randolph, just two years after the Nat Turner insurrection, willed freedom to all of his nearly 400 slaves, but, like Washington and Jefferson, he had no children of record to leave them to. Sometimes the freedmen relapsed into slavery either because of their own wish, by kidnapping, or as a punishment for crimes. One free Negro who was contemplating giving

¹ Compiled from Carter G. Woodson, *Free Negro Owners of Slaves in the United States in 1830* (Washington, c. 1924).

FREE NEGRO OWNERS OF SLAVES IN 1830: RESIDENCE OF OF SLAVES

	ALA	ARK	CONN	DEL	D C	FLA	GA	ILL	KY	LA.	ME	MD.
Number of owners	48	1	1	9	133	15	61	7	120	965	1	653
Number of slaves	197	3	1	21	243	92	207	11	271	4276	1	1575
Largest number held by any owner	27	3	1	6	9	39	25	3	9	75	1	39
Number of persons owning:												
1 slave	20		1	5	91	4	18	4	55	302	1	333
2 slaves	10			1	15	1	14	2	26	179		123
3 "	3	1		1	8	4	10	1	17	130		81
4 "	5				9	1	5		13	114		36
5 "	1			1	3		1		1	62		32
6 "	3			1	5	2	6		3	45		16
7 "						1	4		3	21		10
8 "					1		1		3	24		8
9 "					1		1		1	13		3
10 "	1									15		1
11 "										7		2
12 "						1				3		
13 "										10		2
14 "	2									1		
15 "										1		1
16 "	1									3		
17 "										4		3
18 "										5		
19 "										1		
20 "										2		
21 "										1		
22 "												
23 "												
24 "	1											
25 "							1			1		
27 "	1									1		
28 "												
29 "												1
30 "										1		
32 "										1		
33 "										1		
35 "										1		
36 "												
38 "										2		
39 "						1						1
40 "										1		
41 "												
44 "										2		
45 "												
46 "										1		
47 "												
49 "										1		
52 "										2		
54 "										2		
59 "										1		
60 "										1		
69 "										1		
70 "										1		
71 "												
75 "										1		
84 "												

OWNERS, NUMBER OF OWNERS IN EACH STATE, AND NUMBER
PER OWNER

Miss	Mo	N H	N J	N. Y	N C	OHIO	PA	R I	S C	TENN	VA	GRAND TOTALS	
												Owners	Slaves
17 74	4 6	3 3	16 22	21 41	192 624	1 6	23 50	3 3	464 2791	69 153	948 2336	3,775	12,907
17	3	1	3	4	44	6	5	1	84	11	71		
6 2 2 1 3 1 													

freedom to his slave wife changed his mind and sold her to another master to pay some court costs she piled upon him in an attempt to elope with another slave.¹ Free males often married slave women, thereby escaping the responsibility of caring for their children. The surplus of free women frequently became prostitutes or concubines of white men. Neither the state of Liberia nor the offer of free land in Haiti tempted many of the freedmen to leave America. Negro lodges, stressing burial ceremonies, got a big start in this period, for, as Phillips says, "A negro burial was as sociable as an Irish wake."²

Economics of Slavery. The economic value of slavery was often in dispute, especially in periods of depression, but it was not till after 1830 that a militant defense of the system became popular. Thomas R. Dew, a professor and later president of William and Mary's College, was largely influential through his statistics and reasoning in preventing an emancipation program by the Virginia legislature in 1832. He argued that slavery was profitable and a blessing to both races. The problems created by blacks and whites living in proximity to each other could be solved in no other way. From this time on, the Jeffersonian principles on the subject were rejected as fallacious by the mass of Southern people. In 1852 Dew's *Essay* was reprinted along with other writings, including those of William Harper and James H. Hammond, under the title of *The Pro Slavery Argument*. Among the fieriest of crusaders was George Fitzhugh, who in his *Cannibals All* and *Sociology for the South* went a little beyond the logical extreme of militant language. Much more reasonable in its approach was Edmund Ruffin's *Political Economy of Slavery* (Richmond, 1857), the last important contribution on the subject.

The philosophy of the slaveholders was mainly a counteroffensive against the attacks of abolitionists. It was partly inspired to quiet their own doubts. The most dangerous of the abolitionists were those who pointed out the evil effects of slavery upon white people. Planters who were getting constantly deeper in debt to Northern merchants and bankers wished to be convinced that the commercial bondage of the section, rather than an expensive labor system, lay at the bottom of the problem. In fact the economic value of the slave system could not be calculated by a formula that would apply equally or even approximately to all parts of the South or to all planters. The same high price of slaves which rendered piedmont cotton land unprofitable was a boon to the border planters who had a surplus for sale. The frontiersmen who argued for a reopening of the African slave trade were opposed by the established owners of more expensive land who

¹ *Ibid*, p. vi.

² Phillips, *American Negro Slavery*, p. 452.

had much capital tied up in labor. The latter could see nothing but calamity to come from a policy which would shrink the value of their investments and cause overproduction of cotton. Some planters, by wise management of large estates with numerous slaves, could keep from going to the wall or might even prosper on a small margin of profit. But yeoman farmers and small slaveholders found the total receipts from small profits insufficient to meet running expenses. Yet, the lure of westward extension held such a promise to the latter classes that they joined the greater planters in defense of the system which might yet make their fortunes. The nonslaveholders, who constituted 80% of the white population of the South, were not easily influenced by abolitionist arguments.

In calculating the economic value of slavery the prime factors were the cost of labor, its efficiency, and the market price of staples. The relative cost of immigrant labor was of little consequence, for Europeans disliked Negroes and therefore shunned the South both before and after the abolition of slavery. The question then resolved itself into a comparison of the value of Negro laborers as slaves or as free men. The cost of a slave included amortization of capital, insurance against death, sickness, escape, old age, and disability, taxes, supervision, food, clothing, housing, and incidental items. In an era when free laborers could exist only by the wages of the whole family, it is difficult to see how a slaveowner could profit by supplying all the essential physical wants of his force and at the same time carry the risk of so much capital tied up in them. The initial cost of prime field hands increased from \$500-\$900 in 1810 to \$1,200-\$1,800, and sometimes even \$2,000, in 1860. There was no corresponding growth in the price of staples for the same period, though there was some development toward more efficient management. If a planter in 1860 could have sold a slave for \$1,500, invested the money at 5%, and used the interest to pay the wages of an equally competent free man, that laborer would have got as much in proportion to his efficiency as a farm employee in the North, while the employer would have been saved the additional expense of slavery. But this was an impossibility for most owners, and, anyway, would not reduce slavery. Fully compensated emancipation was out of the question.

This seemingly hopeless situation was by 1860 approaching a solution which was not allowed to materialize. The limits of slavery expansion either by purchase or conquest had been reached. The natural increase of slave population in a few decades would have checked the opportunities for profitable sale. It seems futile to believe otherwise than that, before the end of the century, the diminishing returns from slave ownership would have driven slave prices so low

that, in self-defense, owners would have made tenants of their laborers, thrown them upon their own resources, and placed dependence upon rentals for profits. It likewise seems reasonable to believe that by this solution the Negro might have escaped the revulsion of feeling against him that resulted from forcible emancipation and the carpet-bag régime. But one guess is as good as another.

CHAPTER XV

FEDERAL FINANCES AND BANKING, 1789-1860

Hamiltonian Policies. Since the outstanding problems of Washington's first administration were financial, the Secretary of the Treasury was, next to the President himself, the center of political attention. Congress debated the advisability of centering so much authority in one individual, and Elbridge Gerry of Massachusetts particularly advocated a board of commissioners instead. But the lessons of the Confederation period were still fresh in mind, especially the superiority of Robert Morris, as superintendent of finance, over any fiscal board. Consequently, Congress provided for an individual head of the Treasury Department, assigning him the duty of preparing financial plans for presentation to Congress, but withholding authorization to present and argue his recommendations in person. Any one of several men might have developed into a notable first Secretary of the Treasury. Tench Coxe in particular seems to have had an unusual training in financial matters. But Alexander Hamilton had the special confidence of Washington and also was highly recommended by Robert Morris. Though only thirty-two years of age and trained more in military than fiscal affairs, the new secretary had already achieved distinction in the latter field. He now applied himself assiduously to the study of financial problems on a wider scale, particularly according to the British pattern. The results were embodied in a long series of reports from 1790 to 1795, chief of which were five dealing with the public debts, a proposed bank, establishment of a mint, and a "Report on Manufactures." These papers were comprehensive, painstaking, and profound, each conforming to the most conservative of Federalist principles.

Having provided for revenue, by the Tariff Act of July 4, 1789, the next congressional step was to establish public credit, which was done in accordance with Hamilton's first report. The bonded debt with accrued interest to January, 1790, as estimated by the secretary, included nearly \$12,000,000 owed to foreign nations and over \$40,000,000 due to individuals, mostly residents of the United States, besides \$2,000,000 in current obligations. The states also owed debts incurred in consequence of the war, generously estimated by Hamilton at \$25,000,000. The Continental currency was ignored.

Funding the Federal Debt. Among numerous opinions as to the proper way to handle the debt question, there was but one point of general agreement—the foreign debt to former allies should be dealt with strictly according to the terms of the contracts. Hence, the proposal to sell “stock” to meet this obligation was readily accepted. But the domestic debt was another proposition. It represented mainly the cost of war-time supplies, sold at inflated prices in an era of depreciated paper money, or loans negotiated at rates far below par by an almost helpless Congress. Furthermore, most of the bonds had fallen into the hands of speculators who in some cases had paid not more than 10 or 15% of the face value. Consequently, a minority suggested that the old bonds be redeemed by new ones at the rate prevailing just before the presentation of Hamilton’s report. Because of a rising market in preceding months, even speculators would lose nothing by such an arrangement while original holders would profit more than for some years they had expected. Others, including Madison, wanted original holders to receive par, reserving market value redemption only for speculators.

Neither scheme, if adopted, would have involved more than a small fraction as much repudiation as had already taken place in connection with the Continental currency, and it is notable that even Hamilton did not recommend assumption of specie payment for paper money. Other nations had been known to scale down their debts and yet recover their credit. But another very practical point was involved. Anything short of complete refunding of the old bonds to the existing holders would mean loss of additional profits to speculators, and at least a majority of the members of Congress voting were owners of public securities. There is no way of ascertaining just how much influence this fact had in convincing Congress that the financial integrity of the country depended upon the Hamiltonian theory of funding the debt. There should be no insinuation of dishonesty because the members voted according to their economic interests. For that matter, some of those voting against the measure may have been former owners of bonds who would have profited by Madison’s alternative. But this fact goes without argument: votes were distributed very largely according to the economic interests of the districts which Congressmen represented.

The most regrettable feature of the proceeding was that Hamilton kept his plan secret from the general public, while by some unknown means speculators received foreknowledge. Even before Congress assembled to hear the report, these financiers were scurrying to the remote regions of the country to buy up the securities at from 10 to 25% of the valuation they were to possess before the end of the sum-

mer. By the time the people were fully apprised of the Hamiltonian plan, they had already lost the fruits of years of waiting, and the bulk of the bonds was concentrated into relatively few hands along the Northern seaboard.

Assumption of State Debts. Not content to stop with the federal debt, Hamilton and his majority in Congress insisted on assumption of the war debts of the states. This plan was the least justifiable of the whole funding procedure, and was rushed through without sufficient knowledge even of the actual amount of the obligations. The Southern states in general were less indebted in proportion to population than were the Northern, though South Carolina, along with Massachusetts, was one of the most heavily burdened. Federal assumption would cause Virginia, and other states which had already cleared up most of their war debts, to be taxed for the benefit of tardier states. Furthermore, debits and credits for requisitions and advances of Congress during the Confederation period were not sufficiently taken into account.

Opposition to the plan was so bitter that it was once defeated in the House of Representatives, but shortly afterward two votes from Virginia were switched and assumption was assured. Meanwhile a little logrolling had been indulged in. The permanent capital of the United States after 1800 should be on the banks of the Potomac River as a reward to the South for finding the necessary votes for reconsideration. Jefferson, who had just returned from France and was not greatly familiar with the problem, later considered himself duped by his bargain with Hamilton to influence the Virginia representatives. One point which Jefferson did not emphasize in his complaint was that nearly a sixth of the assumption bonds authorized went to Virginia, thus wiping out not only her remaining war debt but most of her other debts as well. Virginia profited as much as any state by the transaction. Excessive haste in legislation led Congress to assume about \$8,000,000 more indebtedness than could have been considered due the states for war-time expenses. Ultimately over \$18,000,000 of the state debts were assumed, this making a welcome addition to the \$54,000,000 already engrossed by speculators.

Debt Policy. All features of funding were embodied in a single act passed on August 4, 1790. It provided that bondholders could exchange their certificates dollar for dollar with accrued interest for new bonds of the federal government. Essentially, interest on the principal was to be 4% till 1800 and 6% thereafter. The rate on bonds representing accrued interest was 3%. A somewhat similar scheme was provided for the state debts assumed. This was a much simpler method than had prevailed before, when each bond issue

was for any rate of interest that seemed most feasible at the date negotiated.

Hamilton seems to have had only vague notions about actual payment of the debt. His main consideration was to reestablish the credit of the country and maintain bonds at par. Foreign investors would have been satisfied with lower rates of interest, but since domestic ownership was preferred this saving was not effected. Hamilton's theory apparently was that possession of the securities by American capitalists would build up a very powerful small class of bondholders whose influence would be in favor of maintaining the existing form of government and party control. From this point of view a large, permanent government debt would constitute a security against revolution and a blessing to the Federalist party. A provision in the act that not more than 2% of the face of any bond could be paid off in any one year seems to indicate a determination to make the debt permanent. However, others argued that this could be applied so as to make a payment of \$8 on each hundred every year and thus pay off the whole debt by 1818. However this may be, the fact remains that the total debt by 1800 had grown instead of diminishing.

The Excise Tax. Increase of revenue was the next problem attacked. New interest payments and the mounting costs of government made the meager tariff rates of 1789 insufficient. Consequently, Hamilton recommended higher import duties and an excise on distilled liquors. Congress, in March, 1791, responded with a tax of from 11 to 30¢ a gallon on rum and from 9 to 25¢ on whiskey. This measure was fought bitterly both in Congress and in the country at large. New England rum was made in large distilleries with quick sales, and the tax was therefore passed immediately on to the merchants and consumers. The more popular spirituous drink at the time was whiskey, which was produced mainly in the mountain and Ohio Valley regions from Pennsylvania to North Carolina. Corn and rye were converted into whiskey on the farm, and the product was carried on horseback to the Eastern markets. With two eight-gallon kegs for each pack animal, whiskey worth 50¢ a gallon in the neighborhood of Pittsburgh could be carried to regions where it would sell for double that price. Spanish control of the Mississippi made this procedure imperative to a people who had no other effective means of marketing their farm surplus. Western Pennsylvania alone had no less than 5,000 distilleries in 1791.

The excise was to be paid at the stills, which would involve the most odious form of tax collection—periodic inspection of households for hidden liquor. Farmers not having the ready money to pay the excise would have to abandon their business, to the greater benefit of

capitalistic distillers who were already beginning to make their appearance. Consequently, the latter favored the excise while the former began holding indignation meetings where talk of violent resistance was indulged in. Why should poor farmers raise the money which was to be paid in interest to war-time profiteers and speculators? To quell the opposition Congress, fourteen months later, exempted the smallest stills from the operations of the law, thus soothing the disaffected element everywhere except in Pennsylvania where most of the country stills remained of taxable size. Furthermore, capitalistic distillers were so favored by a loophole in the amendment that their tax became only a small fraction of that paid by the occasional operator.

Resistance becoming more violent in 1794, Hamilton induced the President to call out the militia to suppress a "rebellion" which in reality was only a sporadic outburst. With a force of 15,000 (as large as any army in the field during the War for Independence) Washington, with Hamilton second in command, like Don Quixote and Sancho Panza, set out to joust with the windmills. The net result was the conviction and pardon of two rioters. Of more wide-reaching consequence was the storm of opposition in the United States against what seemed to many like a deliberate attempt to establish a military autocracy.

The excise on spirits was not productive of a large amount of income, being only about 7% of the total in 1793. Since the expenses of government were greater than receipts, it was deemed necessary to extend the system of taxation. Consequently, occasional additions were made to the tariff, and in 1794 the excise was expanded to include duties on other alcoholic beverages, carriages, snuff, sugar, and auction sales. The carriage tax, especially, was looked upon as a direct levy and therefore unconstitutional, because not apportioned according to the population of the different states. This fact is chiefly notable because it gave rise to the Supreme Court decision in the case of *United States vs. Hylton*, in 1796, upholding the constitutionality of the provision, and thus establishing one of the early precedents for judicial review of acts of Congress. Poll and land taxes were defined as the only direct assessments referred to in the Constitution. Excises were further extended in 1797, and in the following year the first direct tax, for \$2,000,000, was assessed upon the states. Three years later only 80% of the latter had been collected. By 1800 the budget was balanced. In the next year the Democrats came into power for an uninterrupted period of forty years, and with them came different ideas as to the public debt and taxation.

The First United States Bank. Next to the Funding Act and the excise, the most important piece of financial legislation for which

Hamilton stood sponsor was the act establishing the United States Bank, passed on February 25, 1791. The idea was not altogether a new one. As early as the seventeenth century there had been in the Colonies some sporadic attempts at rudimentary banking on the part of persons wishing to take advantage of the perennial shortage of currency. The sole function of such bankers was to issue notes, with little or no backing, in the form of loans. There were some similar efforts in the eighteenth century, and in 1722 the province of Pennsylvania established a public loan bank which did much to put a stop to unregulated note issues and to drive usurers into legitimate business.

In 1781 Robert Morris induced Congress to incorporate the Bank of North America at Philadelphia, with an authorized capitalization of \$10,000,000. In spite of all efforts of the government and private subscribers, only a fifth of the stock had been sold three years later. Doubt of the legality of the congressional authorization led to reincorporation by the state of Pennsylvania. With all of its weaknesses the bank had been of real service to the Confederation. The Massachusetts Bank and the Bank of New York also originated in the same era. Hamilton had had an important part in the founding of the latter in 1784.

The idea of 1791 was to create a privately owned bank, but operating under a federal charter and handling the government's business, with the government itself as a minor partner. This would be a financial monopoly with power to dictate federal fiscal policies, but from the Federalist point of view there was no objection, since the rich and "well born" were the natural agents of government anyway. Also, there was the British precedent of almost a century's success, and Hamilton was not one to deviate far from English practices. As chartered, the bank was to have a capital stock of \$10,000,000, the government to supply a fifth and be limited to a like proportion of the directors. Of the private capital, three-fourths could be in government bonds. The charter was to run for twenty years with no federally authorized competitor, during which time the Treasury Department could demand periodical statements. Note issues were not to exceed the amount of capital and deposits.

Debate in Congress centered upon the dangers of monopoly and the question of constitutionality. Beneficiaries of the Funding Act would control the bank, and their bonds, as security for stock, would constitute a basis for additional interest on note issues. Hamilton defended the measure by use of the "necessary and proper" clause of the Constitution. It was both necessary and proper for Congress to delegate its control over money matters to private capitalists. Jeffer-

son, as the chief authority for the opposition, contended that it was totally unnecessary and highly improper for Congress to relinquish this power. Washington, as usual, followed the suggestions of Hamilton rather than Jefferson, and signed the bill. The final vote in the House of Representatives had been on an almost purely sectional basis. Northward from Maryland all votes but one were affirmative. To the southward all but three votes were negative. The commercial states had far more prospective profit from the act than the planting states.

Before the end of the year the bank was in operation in Philadelphia. Thomas Willing, formerly president of the Bank of North America, became the first head of the new bank. Eight branches, with 43% of the capital stock divided between them, were ultimately established in the principal commercial cities from Boston to New Orleans. Without question the bank was a valuable aid to the Treasury Department: in handling deposits and disbursements, regulating the currency, and making loans—but any of these functions could have been as well performed through a purely governmental agency. Opposition to the bank continued unabated after its establishment. With the advent of Jeffersonian democracy the government gradually withdrew its connection. By 1802 the federal stock was sold to private interests at an average profit of over 33%, and as much as 45% on the last sale. In time, government deposits were being made in nearly a dozen local banks as well as in the United States Bank and its branches. Finally, in 1811, when the charter of the bank expired, Congress refused to reincorporate it. Albert Gallatin, as Secretary of the Treasury, could not convince the legislators of the advisability of continuing the old connections. The state banks, which had increased to eighty-eight in number and \$42,600,000 in capitalization, had zealous friends in Congress. Also it was noted that 72% of the stock of the United States Bank was owned by residents of foreign countries. Alien influence was feared even though the European stockholders had no voting power. For the next few years the government depended solely on state banks for handling its funds.

A System of Coinage. Another Hamiltonian measure worthy of note is the Mint Act of April 2, 1792. Gouverneur Morris in 1782 had proposed a system of coinage based upon silver as a standard, but the intricacies of his scheme of monetary units seemed to his contemporaries to be unnecessarily confusing. Jefferson's recommendation of a bimetallic standard and a decimal system based upon the dollar as a unit was accepted instead, but nothing except a few small coins was minted prior to the adoption of the Constitution. The act of 1792 was essentially a replica of Jefferson's earlier plan. The existing

market ratio of fifteen to one between the two metals was adopted for the coins, the silver dollar to contain 371.25 grains of pure silver. The fact that the quarter-eagle was the smallest gold coin authorized led some persons of a later generation to argue that the silver dollar alone was the standard of 1792. Very little coin of any kind was minted for several years, and this under protest from individuals who insisted upon private manufacture by contract. Opposition to government activity in competition with private business, either actual or prospective, was already a long-established practice.

Effect of Hamiltonian Policies. There is no question as to the business-like way in which the Federalists handled financial policies. All rubbish had been cleared away by the adoption of the Constitution. Fresh straw was at hand for the making of bricks, the architect was capable, and the craftsmen were willing. A sturdy financial edifice could scarcely have failed of construction under such favorable circumstances. But there is another view of the matter. The whole structure rested upon the forced contributions and labor of a people the mass of whom had no electoral choice. Whatever bondholders and bank-stock owners derived from the government was paid through regressive taxation, bearing more heavily in proportion upon poorer people than upon those who received the benefits. Some steps in opposition were taken from the beginning. Hamilton's financial policies, operating in behalf of commercial classes, were fought by Jefferson and his followers who represented agrarian interests. The alignment of political parties was the first result. On account of Federalist hostility to popular government, the Democrats (originally known as Democratic-Republicans) benefited most from the enlarged suffrage which ensued upon the revival of prosperity following the postwar depression. Though many factors entered into the permanent overthrow of the Federalist party in 1800, not the least of these was popular revolt against undemocratic legislation.

Jeffersonian Changes. Since Jefferson's agrarianism embraced features desired by great masses of unrepresented people, there was popular approval of the changes in financial policy following his election. The essence of the reforms was a transfer of the benefits of government from the official and security-holding classes to the taxpayers. Under Hamilton, Oliver Wolcott, and Samuel Dexter the Treasury Department had been very lax in the demand for strict accountability for money spent. Congress had voted bulk sums to the various departments of government, to be used at the discretion of their respective heads. The consequence was extravagance, waste, and vague accounting. Little actual corruption was found, but the cost of government was mounting without corresponding benefits.

Annual expenditures had increased from \$3,000,000 in 1791 to \$11,000,000 in 1800. Over half of the latter sum was spent to maintain a greatly increased military and naval establishment brought about by the French war scare of 1798. Additional interest on a growing national debt and an overly packed civil service were contributing causes. Federalist spoilsman practices were climaxed by acts passed in the closing days of Adams's administration to provide puddles for the lame ducks and their ducklings.

This whole situation Jefferson and his party set out to correct. Some offices were abolished, at least temporarily, and appointments to others were withdrawn before they could be confirmed. In 1802 the excise taxes, with their intricate, expensive, and hated system of collection, were repealed. Four years later the almost equally detested salt tax of 1789 was abandoned, the two excisions costing the government over a million dollars annually in revenue. Despite this curtailment, the whole federal debt was to be paid off. This was a hard problem to handle, but Albert Gallatin, the new Secretary of the Treasury, was equal to the occasion. Born and reared in Geneva, Switzerland, he had come to America as a young man in "pursuit of Liberty," had taken part in the War for Independence, taught French at Harvard, resided in Virginia, and settled in southwestern Pennsylvania. In the latter place he had opposed the excise in the days of the "rebellion," had thereafter been elected to the House of Representatives, and had fought there continuously for economy in government and a budgetary system of expenditures. Now, as a member of the triumvirate with Jefferson and Madison, he had the opportunity to put his theories into practice.

Work of Gallatin. Gallatin, a master of the minutiae of government, created adequate machinery of administration in the Treasury Department—a matter which his predecessors had not attempted. In broad outline, the department remained as Gallatin made it. He rendered periodical and voluntary reports to Congress and arranged careful budgets of government needs. By abandoning the construction of a number of war vessels and reducing the army to a basis corresponding to that of earlier years, Congress effected notable savings. Interest on the public debt could not be reduced till the principal was diminished, but other expenses were cut almost in half in three years' time. The resultant savings were applied toward the extinction of the debt, a feat which Gallatin expected, barring unforeseen difficulties, to see accomplished by 1817. In effecting this program there were plenty of unexpected happenings both on the debit and credit side. In five years following 1803 the annual customs duties increased nearly \$6,000,000, but retaliatory legislation against the belligerents

in the Napoleonic wars in two years' time reduced this sum to half the \$16,363,000 of 1808. The next most important source of revenue was the sale of public lands, which increased from about half a million dollars in 1803 to twice that in 1811.

On the other hand, a desultory war with Tripoli, growing out of trouble over piracy, was conducted from 1801 to 1805 and prevented any drastic curtailment of the naval establishment, while calling for a temporary increase in tariff and tonnage duties. The purchase of Louisiana further complicated the debt question. But in spite of these costs, in addition to extravagance of other departments of the government, the total indebtedness was cut from the \$83,000,000 of 1801 to little more than half by 1812. With the corresponding reduction in interest payments, it seemed that Gallatin's goal might be reached even earlier than expected, provided only that the activities of the already noisy War Hawks should not lead the President and Congress into war.

In 1809 and 1810, when customs receipts were at a low ebb and the Navy and War departments were increasing expenditures in anticipation of war, the Treasury came close to requiring a loan to tide it over. When war with Great Britain was declared in June, 1812, the whole financial machinery of the government was strained to meet the emergency. Sappers within the Democratic organization were trying to undermine Gallatin's influence with the administration. No effective agency had been created to take the place of the United States Bank. New England, disaffected because of the advent of hostilities, refused to furnish either men or money in proportion to her means. It was only with some bitterness of feeling that Democrats could resort to excises or imposts even in the fighting of a war. Consequently, there was more or less confusion in finances for a period of three or four years. With his influence tottering, Gallatin early in 1813 virtually abdicated the Treasury Department, resigning outright a year later to head the Peace Commission at Ghent. For a time thereafter the department was badly managed, but shortly before the treaty of peace Alexander J. Dallas was appointed to fill the office, and proved to be a capable official. By this time, however, it was too late to be of any help except in a reconstructive way.

War Financing, 1812-1814. Loans, rather than taxation, were the chief reliance in war financing. Several were negotiated before 1816 at 6 and 8% interest, and even at these rates some bonds sold far below par, the payments being made in depreciated currency. One loan for \$84,000,000 brought only \$34,000,000 to the Treasury. Interest-bearing Treasury notes and legal-tender notes like the greenbacks of the Civil War were emitted to the extent of nearly \$37,000,000

Retirement of a part of these obligations left the public debt in 1816 about \$85,000,000 larger than at the beginning of the war, but there was a surplus of over \$13,000,000 in the Treasury to offset a part of the loans. Other millions came in during the year from bonds which had been tardily marketed. Taxes also were augmented, albeit reluctantly. But doubled tariff rates and enlarged tonnage duties were offset by the British blockade which cut receipts below the level of 1811. Direct taxes amounting to \$12,000,000 were levied, with a large degree of success. By 1814 even the West was ready to accept an excise in order to end the war, and much of the Hamiltonian program returned. Whiskey again bore the greatest burden with a tax on the distiller, the product, and the retailer. Sales and manufactures in other lines also paid their tribute. By 1817 over \$15,000,000 had been received from such sources, and some collections were still outstanding. All these additional taxes were repealed by 1818.

Paying the Public Debt. A sharp postwar influx of foreign goods brought the government over \$62,000,000 in duties in 1816 and 1817, while other receipts brought the total revenue to \$70,000,000. From surpluses thus created the public debt was quickly scaled from above \$127,000,000 in 1816 to less than \$100,000,000 before the end of 1818. Thereafter for a few years there was a reversal of conditions. Glutted markets checked imports and income from customs duties. The Panic of 1819, created by postwar readjustment in manufacturing, commerce, and banking, caused further embarrassment. The revenue fell so low that deficits were incurred in 1820 and 1821, and loans had to be negotiated. But the premiums paid for the new bonds reflected a restored confidence in the financial integrity of the country. By 1822 the crisis was past. Gradual growth of commerce and occasional tariff increases resulted in enlarged customs and tonnage duties, growing at the rate of a million dollars a year till 1833. Thereafter there was a decline for a few years, but mounting revenue from land sales in this period of speculation more than offset the loss. Receipts from the latter source had averaged between one and two million dollars a year from 1816 to 1829, but in the next seven years there was such unprecedented buying that the revenue for 1836 approached \$25,000,000.

Such income as this was far in excess of expenditures. From 1822 to 1836 inclusive a surplus of \$139,000,000 had accrued and been applied mainly to payment of the debt. In consequence, the last cent was paid off in January, 1835, and for the first and last time in the history of the country there was a surplus in the treasury with no debt to apply it to. The excess in January, 1837, was \$37,000,000, and already had proved too tempting a morsel for partisan politicians.

Gallatin lived to see his ideal of a debt-free country realized, but he had long since retired from politics.

Plans of the Nationalists. In 1811, and following, a new group of leaders came into control of federal affairs. Men like John C. Calhoun, Henry Clay, and Langdon Cheves, who had incurred the epithet of "War Hawks" because of their chauvinism in 1812, now became the "Nationalists," and championed a series of laws tending toward a degree of federal centralization more in keeping with Hamiltonian practices than Jeffersonian principles. They craved power and saw in their policies a means of extending their authority, as leaders of the majority, even over states controlled by factions or party groups representing the minority. Their measures, going beyond the willingness of minority sections to tolerate, drove the latter ultimately to the extremes of state-rights assertiveness expressed in nullification and secession. In 1816 Calhoun, the later high priest of sectional interests, and Clay, ultimately to become the champion of compromise, fought side by side for a system which was to cause an undue share of the intersectional strife which harried both of them to their graves.

A larger army and navy for common defense; a revived and enlarged United States Bank to bring about uniformity in financial affairs; protective tariffs to foster American manufactures and render the country independent of foreign nations in time of war; and a system of federal aid to internal improvements so as to knit the country together by a network of roads, canals, and improved rivers comprised the policy of the feverish young leaders. The underlying motives of their program were mentioned only by their critics. The Federalist party was dead, but its principles were held by the conservative wing of the Democratic organization, many of whose members had once adhered to the Hamiltonian party, and this faction was now in control. The chief difference between the Federalists and the Nationalists is that the latter sought popular approval for their acts.

Expanding Costs of Government. The new leaders were largely successful in their program. Playing upon the feelings of a people still in the grip of the war psychosis, they succeeded in keeping up a fair share of the war-time establishment of the army and navy. From 1817 to 1833 the expenditures of the War and Navy departments ranged about three times as high as the average for Jefferson's administration. Indian wars and a growing navy then raised the average between 1834 and 1845 to about \$14,000,000. The Mexican War brought another resurgence of military zeal which reached its climax in 1858. Expenditures were almost double those of the preceding decade. Just as militarism began to decline the Civil War broke out, whereupon the

succeeding expenditures made even the high tide of ante-bellum costs shrink by comparison into insignificance. The total cost of government followed somewhat similar proportions, the figures for 1837-1860 in later tables being sufficiently illustrative. War and conquest, the natural outcome of the teachings of manifest destiny, wrought the chief additions to federal expense. Miscellaneous costs of government (all those items not included in war, navy, Indian, pension, and interest appropriations) scarcely kept pace with the growth of population till 1845. From \$6,000,000 in that year the amount was doubled in 1848 and quadrupled in 1854. In 1856 nearly \$32,000,000 was reached, after which for a quadrennium there was a slight decline. The gain in population from 1845 to 1860 was 50% while government costs grew from six to eight times as fast. Territorial expansion and paternalism played their part in this period between the Mexican and Civil wars.

Banking Problems. More provocative of discussion and discord than the question of public defense were the problems of the tariff, internal improvements, and the United States Bank. The first two of these are discussed elsewhere. Because of its close connection with general fiscal policy the bank problem will be considered here. Upon the expiration of the charter of the first United States Bank, the number of state and local banks grew from 88 in 1811 to 246 in 1816, while their note circulation expanded from \$45,000,000 in 1812 to \$100,000,000 in 1817. Both merchants and land buyers were in need of credit, and so long as bank notes were backed by specie reserves they furnished an acceptable substitute for money. The lack of a central institution accentuated the demand for private banks. States were liberal and even careless in the granting of charters, while information as to the stability of distant banks spread slowly. These circumstances, added to the war-time necessity of the government for loans, encouraged the rapid growth of relatively unregulated banking. Since New England furnished scant help to the United States in the War of 1812, banks in that section, refraining from excessive note issues, remained sound when those in the remainder of the country suspended specie payment following the British capture of Washington in 1814. The dire need of the government for money caused the Treasury Department to accept at par the depreciated paper of the weaker institutions in taxes and for bonds. The government thereby lost at least \$5,000,000, while the bonds furnished a basis for future bank-note inflation.

The Second United States Bank. The experiences of the war induced Dallas to recommend the reestablishment of a United States bank. Congress responded with a bill which Madison vetoed, and it was over a year later before the act of April 10, 1816, was adopted.

This measure was the work of many persons besides the Secretary of the Treasury, among them being Calhoun, Clay, and Daniel Webster. Clay, on questions of constitutionality and because of the political activities of the institution, had assisted at the obsequies of the first bank. The first scruple he had now overcome. Of the second he later made a virtue when the bank rallied to his own standard. Calhoun excused his advocacy as a choice of the lesser of two evils. State banks, which for so long a time had been bleeding the country and the government, would by competition with the larger institution be forced to resume specie payments or else close their doors. Webster warned that the bank would be no panacea and favored a strictly regulated institution. John Randolph of Virginia, with his usual political acumen, pointed out all the objections which were to be paraded against the bank in the years to follow.

To all intents and purposes the Second Bank of the United States was merely a magnified replica of the first. The duration of the charter and proportion of government stock and directors were the same, but the authorized capital was \$35,000,000. Of the private holdings three-fourths might be subscribed in government bonds. The bank could handle government deposits without paying interest and was not to be taxed. A bonus of \$1,500,000 was to be paid to the federal Treasury in partial return for these privileges. The Secretary of the Treasury might deposit funds elsewhere, but if he did so he was to inform Congress of his reasons. To protect the country from immoderate inflation, the bank was restrained from issuing notes in excess of its capital stock, and if specie payments should be suspended the notes were to be taxed at the rate of 12%. Congress also hastened to provide that the government would accept as its dues only specie, Treasury notes, United States Bank notes, and notes of such other banks as were on a specie basis. Since this resolution ended the partial-legal-tender value of notes of nonspecie-paying banks, the evils of their extensive circulation were for a time largely curbed.

The United States Bank for the first few years was under the management of William Jones. Jones, who had already revealed his incapacity as acting Secretary of the Treasury in the later months of Gallatin's administration, now showed inability to manage the bank. Instead of cooperating with honest independent banks, Jones and his underlings set about to persecute them. Provisions of the charter were openly violated. Less than a third of the specie called for from private investors was paid in, while personal notes were accepted in lieu of four-sevenths of the required government bonds. Jones himself speculated in the bank stock and permitted others to do the same, the bank becoming merely a medium for the personal enrichment of its directors

and favorites. Branch banks indulged in excessive note issues, in plain disregard of law, and, in a short time, when retrenchment was attempted the Baltimore branch failed with losses of \$3,000,000. The whole institution was on the verge of bankruptcy and Congress was preparing to exercise its prerogative of revoking the charter when Langdon Cheves was put in charge in place of Jones and a general house cleaning saved the bank from ruin.

Meanwhile, the calling in of loans in the West and South spread consternation and ruin among indebted farmers. The Panic of 1819 was, with at least partial justice, laid at the door of the bank, and a heritage of hatred continued in the debtor sections of the West and South so long as the bank existed or efforts to restore it were made. Several states tried to ruin the branch banks by taxation, and, even after John Marshall, in the case of *McCulloch vs. Maryland* in 1819, declared such acts unconstitutional, other states found roundabout ways of hampering their efficiency. Soup houses, bankruptcies, the army of the unemployed, and the imprisoned debtors of 1819 were vividly remembered a decade later in the administration of Jackson.

For four years Cheves, "The Rock of the Bank," remained in control and, when he turned the institution over to Nicholas Biddle of Philadelphia in 1823, its finances were well established, though along conservative lines. Biddle set about to expand the business of the bank, especially its note circulation, though even here he kept well within the legal limits. The \$20,000,000 of United States Bank notes in 1832 constituted approximately a third of the total amount of money in circulation, exclusive of state bank notes which almost equaled all the rest in volume. The United States Bank could at will contract the legal-tender currency of the country a third and reëxpand it a half. Biddle was of Federalist extraction, aristocratic, and domineering. Every official of the bank and its 29 branches was subject to his slightest whim. He had no faith in popular government and considered President Jackson with condescension or contempt. In 1833 he even refused to allow the five government directors to attend the meetings of the board.

By 1833 the number of state banks had grown to 502, all but 88 of which were located in the East from Baltimore northward. Banking capital in New York amounted to \$28,000,000 and in Massachusetts three-fourths as much. The per capita circulating medium of the East was \$9 as compared with \$2 in the West. The United States Bank was little inclined to compete with the strong state banks of the East. Instead, its chief circulation was in the West and South where it dominated financial affairs and whence it carried millions of dollars in interest to Philadelphia. Three-fourths of the circulation of the bank

in 1832 was in the West and South, most of the rest being in the middle Atlantic states, and very little in New England. Meanwhile the Supreme Court, under Marshall's leadership in the years 1824, 1829, and 1830, had rendered a series of decisions limiting the scope of banks owned and operated by the states of Georgia, Kentucky, and Missouri. Such conditions as these tended to intensify the hatred of the remoter sections against the United States Bank.

Jackson and the Bank. In 1828 Andrew Jackson, representative of the Western interests, was elected President of the United States by the Democratic party which, however united upon a candidate, contained factions which sharply disagreed on issues of public policy. There being more unanimity on the bank question than on other problems, Jackson chose to make it the major point of attack in his message to Congress in 1829. The charter of the bank had seven years yet to run, but he felt that the evils of the institution were so great that the matter should be agitated in order to make later rechartering impossible. In place of a private institution for handling federal finances he ultimately proposed a purely government-owned bank as a branch of the Treasury, handling public funds but doing no regular banking business. As finally evolved, Jackson's charges against the bank were, in substance, that it was a dangerous monopoly because of the following characteristics. It was under the control of a section which it favored. It played a partisan rôle in politics, using its immense funds and government credit to influence politicians and newspapers. It could cause financial depression or good times at will through manipulation of bank notes and credit. The bank was in a position to dictate to the government. Finally, it was unconstitutional anyway.

Since Biddle and two of the directors controlled a majority of the stock, there could be little doubt of sectional domination. As to the second charge, there was some indication that the president of the New Hampshire branch had tried to hinder Jackson's election. The constitutionality of the bank was an old issue and one generally decided in accordance with the individual's prejudices for or against the institution. As to the other two points, they were largely the result of mental speculation, though the experiences of 1819 were pointed to as an example.

Since Jackson's congressional support was less than he had expected and Biddle was anxious to placate the chief executive, the two opponents entered into a truce in 1831. Jackson was to give up his attack upon the bank and Biddle was to refrain from asking for a new charter until after the election of 1832. Jackson adhered to his agreement and Biddle probably would have done likewise, notwithstanding his con-

temptuous references to Jackson as the "old Indian scalper," if Clay had not revived the question. Clay was running as presidential candidate of the new National Republican party, heir to the traditions of federalism and particularly strong in the East and among conservative elements in the West and border states. Considering the status of other issues, Clay saw in the bank question the surest way to defeat Jackson in the coming election. Congress was by a liberal majority in favor of the bank as were even Calhoun and George McDuffie of South Carolina, both ready to take extreme measures to wreck the Jacksonian régime. Even some members of Jackson's cabinet were among the probank forces.

Clay convinced Biddle of the desirability of violating his promise. The resulting bill for recharter of the bank, promptly passed, was vetoed by Jackson in July, 1832. Congress could not override the veto, so the matter became the major issue of the campaign. By use of loans on liberal terms Biddle won several prominent politicians and newspapers, hitherto backing Jackson, over to the cause of Clay and the bank, thereby giving credence to another of Jackson's charges. The people responded by giving Jackson an electoral majority of 219 to 49. Clay saved his own state and a few votes in Delaware and Maryland, but lost all the rest of the West, South, and middle Atlantic group, dividing even New England with his opponent. It was nearly a century before another presidential candidate received as large a proportion of the popular vote as did Jackson in 1832.

"Biddle's Panic." Biddle might have commanded a two-thirds' majority in the following lame-duck session had it not been that nullification was absorbing the attention of Congress. Having too slender a majority in his favor in the new Congress, Biddle tried a new tack. The people might swing to his support in 1834 if the pending doom of the bank should seem to produce financial stringency. So, on August 1, 1833, he ordered retrenchment throughout the system, cutting off loans and calling in others just at a time when expanded credit was needed to move the cotton and grain crops. The consequences were doubly grave in the West and South where federal banking policy had retarded the development of local banks. "Biddle's panic" was in full swing. Farmers failed right and left, their land and crops being sold at bankruptcy auctions. State banks also were forced to protect themselves by caution.

Removal of the Deposits. Two months after the beginning of Biddle's coercive attempt Jackson succeeded in getting a Secretary of the Treasury, Roger B. Taney of Maryland, who would remove the government deposits from the United States Bank. Within a few months the \$10,000,000 held by the "Monster," as Jackson called it,

were spent and a like sum was reposing in the vaults of selected state banks. The means adopted, though of questionable propriety, were legal under the terms of the Charter Act of 1816, but nevertheless the Senate censured Jackson for the action. Now, having a more convincing excuse for laying the blame for curtailment of credit upon Jackson, Biddle proceeded in his tactics till even the East began to feel the hot breath of panic. Factories were closed, unemployed men walked the streets, and petitions poured in upon Jackson to surrender to the money power. This he refused to do, but held out until Clay and Webster began urging Biddle to relent. The fight had been carried on into the summer of 1834, the circulating medium of the country had been cut a third, and interest rates even in New York were up to 24%. Finally, even Biddle became alarmed and capitulated. Almost as by magic, business began to pick up, and soon the financial horizon was as clear as before. But the public was convinced, regardless of Jackson's own obstinacy, that Biddle was the one responsible for the depression and that another of the chief magistrate's charges had been justified.

The Bank Deposed. As a final step in his own overthrow, Biddle, in 1833, again played into the President's hands. France had made a belated agreement to pay the United States for damages to shipping inflicted during the Napoleonic wars. When the Parliament refused to abide by the settlement, Jackson asked the bank to present a draft for delayed payments to the sum of about \$900,000. When the French treasury refused to honor it, Biddle asked \$170,000 of the American government as protest charges because of the damage done to the credit of the bank. While the demand was of probable legality, it was an inopportune time to press it. Jackson refused payment and Biddle deducted the sum from dividends at that time due to the government on its stock. This convinced the electorate that Jackson was right in another accusation. The congressional election of 1834 was a thoroughgoing triumph for his advocates, and three years later the Senate expunged the earlier censure against the President. There now being no longer any hope of renewing the charter before its expiration, the bank began rapidly to decline in importance.

The "Pet Banks." The state-bank repositories of government funds were selected with great care and subjected to the most rigid conditions. Ample security, weekly reports, frequent examinations, and efficient methods of collecting and disbursing public money were imposed. An act of June, 1836, required that they remain on a specie-paying basis and pay 2% interest on all Treasury deposits above an amount equal to a fourth of their capital. The deluge of receipts from the land office resulted by November, 1836, in deposits of

\$49,378,000 in 89 banks. It was natural that there should be jealousy over the selection of the government agencies and that charges of favoritism should arise. Jackson's "pet banks" were violently discussed in political campaigns, and the designation became permanent.

Distribution of the Surplus. Pork-barrel legislation was the natural outcome of the accumulation of a large Treasury surplus. As early as 1826 a bill was introduced to distribute \$5,000,000 a year among the states for a quadrennium, but this was abandoned for fear of perpetuating the system of protective tariffs. Jackson dallied with the idea in 1829 and then proposed as an alternative a lowering of the tariff in order to stem the tide of revenue. In 1832 he further urged that public lands be disposed of on virtually a homestead basis to actual settlers, both for their benefit and to solve the Treasury problem. In the same year he vetoed a distribution bill sponsored by Clay. The Compromise Tariff of 1833, being a covenant between the sections, could not be altered without flagrant breach of faith, so relief through a more rapid reduction of customs duties was out of the question. Finally, a modified form of Clay's scheme was adopted. A bill was passed in June, 1836, providing that the surplus on January 1 of the following year should be set aside for deposit with the various states in proportion to their electoral vote, and in four equal quarterly installments. This "loan" was without security or interest, and most people realized that it was in fact a gift so disguised as to overcome constitutional objections. Jackson did not approve of the bill, but he was a victim of excessive loyalty to his friend Martin Van Buren whose chances in the presidential election seemed at stake. Consequently he accepted the measure.

The sum for distribution was \$37,000,000, of which \$28,000,000 was disposed before the Panic of 1837 tied up the remainder. The act was a mistake from several points of view. It was not entirely to the taste of the Whigs, who desired an outright gift. It was resented by free-trade Southern states which accepted their doles under protest and only to prevent the North from securing additional sums in the form of extravagant appropriation bills. It weakened the pet banks on the eve of a great crisis, and it led to litigation on the part of states desiring the unpaid portion of the deposits as late as 1883. None of the money was ever called back by the Treasury. Some of the states divided up their quotas among the political subdivisions, Maine distributed hers among the people, a few states put the money into permanent funds for prescribed purposes such as education. But the Western states in particular squandered their portions in speculative internal improvements.

Wild-cat Banking. Federal regulations concerning the acceptance of state-bank notes were not consistently enforced. Eastern banks were subject to rather effective state legislation, and in the main were sound institutions. Elsewhere state legislatures were so anxious to attract capital and foster competition with the United States Bank that they provided rather lax regulation. The state banks of 1833 had only half as much specie in their vaults in proportion to capital, loans, and note circulation as in 1815. Evidently the restraining hand of the United States Bank had not been as effective as had been anticipated. In the 1830's there was a rapid increase in banking in every line of activity. This was primarily due to the extraordinary prosperity prevailing in the country. Roads and canals between the East and the West were lowering transportation charges and tempting immigrants and speculators into the interior. Steamboat navigation of Western waters was entering into its first era of great prosperity. Demand for land in settled regions led to speculative purchases on the frontiers. At the same time, increased internal commerce and the development of manufactures led to an even greater economic activity in the East. Banks, to advance capital for these multifold projects, sprang into existence. From 1829 to 1834 their number grew over a half, with the bulk of the newer institutions in the East. By the latter date the doom of the United States Bank was apparent, and numerous banks, largely in the West and generally of smaller size, arose to absorb the business of the declining monopoly. The following table illustrates the comparative development of banking in the years immediately preceding and following the decisive year. Money values are expressed in thousands of dollars.

GROWTH OF BANKING, 1829-1837

DATE	BANKS		CAPITAL		CIRCULATION		LOANS	
	Number	Increase	Amount	Increase	Amount	Increase	Amount	Increase
1829	329		\$110,200		\$ 48,200		\$137,000	
1834	506	54%	200,000	81%	94,800	97%	324,100	137%
1837	788	56%	290,800	45%	149,200	57%	525,100	62%

Westerners, familiar with the habits of wild cats, purring peaceably one moment and clawing madly the next, called the more doubtful institutions wild-cat banks. With very little capital actually paid in, these banks would accept deposits and issue loans in the form of notes for almost any sort of enterprise. This currency, not being legal tender, was the bane of farmers, small dealers, and debtors in general. An excess of legal-tender paper would drive prices up, helping farmers to clear their lands of debt. But state-bank notes did not have to be

accepted at their face value. Dealers and bankers in the towns, who had access to the latest financial quotations, had all the advantage in transactions with ordinary traders. If a farmer sold a load of corn worth \$20 in specie, he might receive in payment bills with a face value of \$25. But when he spent the same for provisions the next dealer might rate the bills at only \$15. The likelihood in such a case would be that each merchant short-changed the farmer \$2.50. It was often necessary to underrate the value of paper when receiving it, in order to guard against further depreciation. State bank examiners tried to prevent abuses in excessive loans and note issues, but the bankers were too shrewd for them. The evils of wild-cat banking were well under way before Jackson started a determined attack upon the United States Bank. The extension thereafter was no more rapid than before. The whole situation was a part of the reckless speculation of the day.

Coinage Acts. Jackson and Senator Thomas Hart Benton were especially anxious to force gold and silver money into circulation so as to help alleviate the tangled financial situation of the country. The coinage ratio of 1792 soon proved so unfavorable to gold, that down to 1834 less than \$12,000,000 in that metal had been coined, much of which did not remain at home. As late as 1804 only about 1,400,000 silver dollars had been minted. These, being lighter in weight than Spanish dollars, were used in foreign trade while the Spanish coin was favored in domestic use. Jefferson then stopped silver coinage, an order which was not reversed for 30 years. After a number of failures to establish a parity between silver and gold a new Coinage Act was sponsored by Benton in 1834, fixing the ratio at approximately 16 to 1. In consequence, it was prophesied, gold would flow into the United States to supplant the spurious paper. During the next three years over \$10,000,000 in gold was coined, but thereafter till 1843 there was a decline and the money situation was not greatly helped. The new ratio proved an undervaluation of silver, and what little was minted in succeeding years soon went out of circulation. Even fractional silver coins found their way into the melting pot until a new ratio for small currency was adopted in 1853.

Specie Circular. Efforts were also made to limit excessive note issues of the banks. In 1835 and early in 1836 the Treasury took steps which should have been sufficient warning to banks to take stock of their financial standing. Then on July 11, 1836, Jackson issued the specie circular declaring that after the middle of August only gold and silver would be received by the Treasury in payment for public lands. Some exceptions were made in behalf of genuine settlers, the purpose of the decree being as much to protect these against speculators as to coerce the banks. Had the circular been issued a half dozen years

earlier it might have done much to check the spirit of recklessness that was sweeping the country. But in 1836 it was already too late to remedy the situation. Speculators found loopholes for evasion. Holders of bank notes hurried to demand specie from the banks, which then had to call in loans. Before long, financial stringency was felt throughout the country.

Panic of 1837. The Panic of 1837 resulted from a number of causes, chief of which was speculation in roads, canals, land, and industry. Crop failures in 1835 contributed, and the situation was further aggravated by repetition in 1837 and 1838. Like all other major panics that of 1837 was also a phase of international economic collapse. The London stock exchange was at this time forced to unload American securities on the market. For many years commercial balances due to British citizens had been invested in American enterprises. In seven years the balance against the United States had amounted to \$140,000,000, but instead of bullion leaving the country net imports of specie in the same years were \$44,700,000. These two sums represent foreign investment and speculation in America in that interval. The dumping of large amounts of the stock thus held was bound to have its effect. The country was ripe for a panic and must have suffered it sooner or later even without any acts of the government. Clay's Distribution Act and Jackson's specie circular merely hastened the event.

The Distribution Act struck a severe blow at the strongest banks of the country. Most of the money had been deposited in the less populous states, while the bulk of it was to be sent to the larger ones in accordance with their congressional representation. Millions of dollars became mere freight in transit to the graveyard of distribution, while "the business from which the money was withdrawn gasped for breath in its struggle with a fearfully stringent money market."¹ The pet banks had to call upon lesser institutions with whom they had accounts at the time that the wild-cat banks collapsed owing the same middle group. The banking business of the country was like a tight-rope walker struck on the head and shins simultaneously by a pair of clowns. The whole body came crashing down with the stricken members. On May 10, 1837, the New York banks were forced to suspend specie payments, and they were followed by banks all over the country.

Van Buren, as Vice President, had had very little part in the hectic domestic affairs of the preceding four years, yet, since he was President when the panic came, he received the blame for the misery which accompanied it. Critics, even Daniel Webster, argued that he could relieve distress as rapidly as Biddle had done in 1834 if he would

¹ Carl Schurz, *Life of Henry Clay* (Boston, 1887), Vol. II, p. 123.

but rescind the specie circular. A committee from New York informed the President that their city had suffered \$60,000,000 loss in real estate, railroads, and canals; there had been 250 failures, a decline of 30% in merchandise values, and 20,000 men made idle. Would not Van Buren reverse all this by withdrawing the circular? His response was to treat the committee with his usual politeness and promise to think it over. As a result of his study he prepared a message to Congress which showed a thorough mastery of the causes of distress and proposed sound means of recovery. Suspension of the specie circular would merely revive wild-cat banking and speculation, bringing on a crash worse than that at hand. Economy, temporary loans, moderate inflation, and leniency to the pet banks were his ensuing policies. Congress responded by authorizing \$10,000,000 in Treasury notes to tide over both the government and business needs of the country. By the end of 1839 the banks had refunded to the government all but about a million dollars of deposits, including the last installment of the whilom surplus whose payment to the states had been canceled.

The income and expenditures of the government in the ensuing decade are illustrated in the following table. Amounts are expressed to the nearest tenth of a million dollars.¹ Miscellaneous revenue is included in the total. Treasury notes in addition to those already

FEDERAL BALANCE SHEET, 1837-1846

YEAR	INCOME			EXPENDITURES	SURPLUS	DEFICIT	BONDED DEBT
	Customs Duties	Land Sales	Total				
1837	11.2	6.8	25.0	37.2		12.2	.3
1838	16.2	3.7	26.3	33.9		7.6	3.3
1839	23.1	7.4	31.5	26.9	4.6		10.4
1840	13.5	3.4	19.5	24.3		4.8	3.6
1841	14.5	1.4	16.7	26.5		9.8	5.3
1842	18.2	1.3	20.0	25.1		5.1	13.6
1843	7.0	.9	8.2	11.8		3.6	20.2
1844	26.2	2.1	29.3	22.5	6.8		23.5
1845	27.5	2.1	30.0	23.0	7.0		15.9
1846	26.7	2.7	29.7	27.3	2.4		15.6

mentioned were a constant reliance till the end of the period of annual deficits.

The Independent Treasury. Another measure for which Van Buren worked indefatigably was the creation of the Independent Treasury concerning which Jackson had talked but not acted. Perhaps it was just as well that the plan was not adopted till after 1837, for it could

¹ In 1843 the beginning of the government fiscal year was changed from January 1 to July 1. The sums for 1843, therefore, are for half the year only.

not have averted the panic but might easily have been blamed for it. In that case, no doubt, it would have been abandoned entirely. As it was, the weaknesses of the state banks as depositories were revealed and the sentiment for an independent treasury was strengthened thereby. A contest of nearly three years was waged before a bill was adopted, July 4, 1840. Clay especially attacked the plan because of governmental assumption of a business that could be handled by private interests. Advocates of a central bank and of state institutions led in the opposition, but, though they bemoaned the dire evils of leaving politicians to handle the government funds and the tyranny to result from "the perilous union of the purse and the sword," in the long run they failed to convince Congress that such calamities would be quite so bad as what the people had already endured at the hands of private bankers.

Van Buren's victory was short lived. The independent treasury system was adopted at the beginning of a presidential campaign in which the incumbent had to stand for reelection against insuperable odds. The real issue was hard times. Though conditions were improving, all the opponents had to do was to show how much less prosperity there was than before the panic. The Whigs, in this their first well organized campaign, differed so widely among themselves on all the important issues of the day that they dared not espouse anything in particular except opposition to Van Burenism, whatever that was. But they did not need an issue, or even a statesman-like figure to head the ticket. Their platform was economic discontent and the military record of their candidate, William Henry Harrison. Torch-light parades, log cabins, 'coon skins, and hard cider, cries of "Tippecanoe and Tyler too," and "Van, Van is a used up man" were sufficient. The voters in 1840, just as in 1828, marched to the polls feeling that they were casting their ballots for the principles of democracy and against those of plutocracy. Harrison and John Tyler of Virginia were chosen by an electoral vote of 234 to 60.

Bank Contest under Tyler. Before the spoils of office were well divided Harrison was dead, and Clay, who had expected to be the power behind the administration, found himself pitted against a man whom he could not control. Because Tyler stood by the principles of Southern Whigs, Clay branded him as a traitor to the party. On one point only did they agree. Neither was an advocate of the Independent Treasury, so it was summarily abandoned by an act in August, 1841. Then the two men parted company. Tyler vetoed a bill to charter a third United States bank, whereupon Clay made a few alterations, renaming his brain child the "Fiscal Corporation of the United States." Tyler was not fooled, and the second bill met the same fate as the first.

The President then proposed a modified independent treasury, somewhat more liberal on matters such as government credit to state-bank notes than the Van Buren instrument had been. Webster championed the plan, but Congress would give no more heed to it than Tyler had granted theirs. The upshot was that the Whigs let the matter drift to the end of the administration, in the meantime reverting to the use of state banks.

A New Independent Treasury. After Polk's election, the Independent Treasury was revived by an act of August, 1846. Vaults in the

FEDERAL BALANCE SHEET, 1847-1860

YEAR	INCOME			EXPEND- ITURES	SURPLUS	DEFICIT	BONDED DEBT
	Customs Duties	Land Sales	Total				
1847	23.7	2.5	26.5	54.9		28.4	38.8
1848	31.8	3.3	35.6	47.6		12.0	47.0
1849	28.3	1.7	30.7	43.5		12.8	63.1
1850	39.7	1.9	43.6	40.9	2.7		63.5
1851	49.0	2.4	52.6	47.8	4.8		68.3
1852	47.3	2.0	49.8	44.4	5.4		66.2
1853	58.9	1.7	61.6	47.7	13.9		59.8
1854	64.2	8.5	73.8	55.0	18.8		42.2
1855	53.0	11.5	65.4	58.6	6.8		35.6
1856	64.0	8.9	74.1	68.7	5.4		32.0
1857	63.9	3.9	69.0	67.6	1.4		28.7
1858	41.8	3.5	46.7	74.0		27.3	44.9
1859	49.6	1.8	52.8	69.0		16.2	58.5
1860	53.0	1.8	56.1	63.0		7.1	64.8

Treasury building at Washington and at the customhouses and mints in New York, Philadelphia, Charleston, New Orleans, and St. Louis were made the chief repositories. In 1853 the number of subtreasuries was increased to twenty-three. After a short period of difficulty in administration the system proved its worth. The financing of the Mexican War was admirably handled, in striking contrast to the situation in preceding crises. State banks were restrained from excessive inflation, because of refusal of the government to receive their notes. During the Panic of 1857, while state finances were in a muddle because of reliance upon private banking, the federal government was devoid of such embarrassments. The Independent Treasury was established on a permanent basis, undergoing no fundamental changes till merged with the Federal Reserve System in 1913. In achieving this stability the names of Robert J. Walker and James Guthrie, Secretaries of the Treasury under Polk and Franklin Pierce respectively, deserve particular mention, Walker for the ability with which he planned and developed the

agency in its early days, Guthrie for the masterly management which made it unassailable.

Federal Finances, 1847-1860. The financial status of the federal government in the period following the Mexican War is revealed in the preceding table, amounts being expressed to the nearest tenth of a million dollars. The effect of the Mexican War and the Panic of 1857 on Treasury balances will be noted. The increase in debt during the last few years of the period is also attributable in part to governmental aid to internal improvement projects.

State Banks after 1837. State banks, considering the severity of the Panic of 1837, recovered rapidly. Late in 1838 specie payments were resumed by the better ones, especially in states applying rigid regulation. Philadelphia banks, however, delayed until 1842. Rhode Island, New Jersey, the West, and the South lagged behind the better Eastern institutions. In the meantime, several state governments were on the verge of bankruptcy. Mississippi in 1838 involved itself to the extent of \$5,000,000 in a bank which failed, causing the state to repudiate the debt. Florida Territory went through a similar experience, while Michigan, Indiana, Illinois, Pennsylvania, and Maryland suspended payments on their debts. The following table is illustrative of the banking business from the panic to the Civil War. The years selected are those when changes in volume of banking reached high and low points, when rapid expansion or contraction were in progress, with some attention to five-year intervals. Amounts of money are expressed to the nearest million dollars.

BANKING STATISTICS, 1838-1860

YEAR	NUMBER	CAPITAL	DEPOSITS	LOANS AND DISCOUNTS	NOTES IN CIRCULATION
1838	829	318	85	486	116
1839	840	327	90	492	135
1840	901	358	76	463	107
1843	691	229	56	255	59
1845	707	206	88	289	90
1850	824	217	110	364	131
1853	893	227	148	442	157
1854	1208	301	188	557	205
1857	1416	371	230	684	215
1858	1422	395	186	583	155
1860	1562	422	254	692	207

The curse of banking in this period was the laxity and lack of uniformity in state banking laws. Massachusetts was the model of the states. From 1837 to 1844 only one bank in the state failed to redeem its notes, and in the next eleven years, though two banks failed, note

holders lost nothing. New York was not so well favored. Under a law becoming effective in 1839, thirty banks failed in five years and ultimately another thirty. As a result of these experiences, the state inaugurated the system of requiring deposits of securities with the state as a backing for notes. The plan was later copied by the federal government for its national bank system.

In the West bad banking was general, with Michigan setting the worst example. It was in this state that bank examiners were deceived by counting the same sack of gold in every bank they surveyed. In Indiana fifty-one banks failed with great loss to creditors in a five-year period following 1852. At the same time the bank selected by the state of Indiana as its own fiscal agent was a perfectly sound and model institution. Repeated eras of great commercial and industrial expansion during the period produced such a mania for speculation that serious strain was put on the best of banking systems. Where lax supervision prevailed the situation was nearly hopeless. Yet public confidence was sustained. The number of depositors in savings banks grew steadily and without intermission even in panic years from 60,000 in 1835 to nearly 694,000 in 1860, with deposits increasing from \$10,600,000 to \$149,300,000.

CHAPTER XVI

ECONOMIC SECTIONALISM AND SECESSION

Sectionalism an Outgrowth of Economic Inferiority. The economic inferiority of the South, which can be traced through the preceding chapters, was of overwhelming importance in bringing about the economic sectionalism which led to secession and war between the states. Conflicting social, cultural, political, and even racial points of view played a conspicuous part. But these matters might have resulted in nothing more serious than sectional snobbery had it not been for basic economic differences which touched the rawest nerve of the American public. The slavery issue, which toward the last overshadowed the conflict, was only incidental until dragged forth as a camouflage for more fundamental sectional interests. In the end, it was a national hysteria which brought on the war, but it requires an analysis of a tangle of events extending over many years to explain this psychosis.

Sectional revolt was in 1860 no new thing in American history. The Revolution was a secession movement of thirteen slaveholding states against the economic imperial policy of a dominating free nation. Slavery did not happen to be a central theme of discussion, but it might easily have become such had an alteration of this system been included in the British program. Jefferson accused King George of attempting to stir the slaves into rebellion against their masters. The secession movements in New England from 1800 to 1814 were admittedly in protest against the Virginia dynasty. Had circumstances made it feasible for the lower South to join South Carolina in the Nullification movement, Jackson's Force bill might easily have led to a civil war. There was a respectable if small secession element in the East again in 1860 perfectly willing to wreck the Constitution and Union if their abolition principles, which contained more than a little of economic domination, failed to prevail.

The economic inferiority of the South was an outcome of faulty organization, financial bondage to other sections, and federal policy. The three complications were so intertwined as to be almost inseparable, yet there were features of each standing out so conspicuously as to be unmistakable. For one thing, the planters had fallen heir to the factor system of marketing which had contributed so much to indebtedness in the Colonial days. The factors now lived in the commercial

towns of the South from Baltimore around the coast and up the rivers to Louisville and St. Louis. They were friends of the planters and each trusted the other, but business considerations were not overlooked in their relations. Having once got into debt to the factor the planter found it hard to emerge. Unnecessary display and extravagance, whether personal or in plantation management, had much to do in starting and perpetuating the arrangement, but crop failures and low prices could subdue the most cautious of planters.

Disadvantages in Marketing Staples. The factor system prevailed in the marketing of all the staples, and especially cotton. In order to meet current expenses until the crop was gathered, planters and farmers had to have loans. These were provided by factors at interest rates of from 8 to 12%, and were repaid in cotton at the prevailing local price, any surplus beyond the debt being sold through the factor. The latter also deducted a brokerage fee of from .5 to 2.5%, a commission of from 2.5 to 4% for selling the surplus, as well as other charges for hauling, storage, freight, inspection, weighing, and insurance. Also, to protect himself against loss, he stipulated the minimum number of bales which must be delivered to him by the close of the season, and assessed a penalty of as much as \$4 a bale for any shortage. In order to avoid such forfeitures the producers were inclined to overplant, and thereby made it possible for the agent to require the increased number of bales as the minimum for the next year. Thus, overproduction became perennial, except for years of crop failure, when the piling up of penalties made the chance of clearing up debts almost hopeless. Dreams of huge crops coupled with high prices, which would wipe out all obligations and create free marketing conditions, were seldom realized. When a planter did accumulate a money surplus his tendency was to enlarge his establishment in order to pyramid his profits, the customary result being merely to recommence the debt cycle. Speculators from New York bought some cotton, but they offered no better terms than those of the factors.

Dependence on Distant Banks. Distant banking and long-term credits furnished another drain upon the South. The factors, selling through other commission merchants in New York or Liverpool, could use the stored crops as security in discounting the planters' notes. But the cotton, tobacco, or sugar, when sold, had to pay an additional middleman's profit, while interest charges flowed northward. Southern merchants and bankers never had a chance to acquire capital enough to extend the 12 and 18 months' credit needed by the planters. The Eastern creditors, forced to protect themselves because of the uncertainty of ultimate payment, charged exceptionally high

rates of interest or else weighted the price of goods sold. In order to meet the bills when due, the planters had to rush their staples to market in a month or two after their garnering, this having another depressing effect upon the prices received. The dependence upon the banks was especially noticeable when the crops were moving on to the market. Payment was in four-month New York drafts or, for the bulk of the cotton, 60-day sterling bills of exchange. These were discounted in Southern banks and sent to New York to settle balances. Sometimes the exchange rates favored the South, on which occasions money accumulated in the port towns, only to flow northward again before the next crop movement. More often the situation was the reverse and another toll was taken from the staples. As an extreme example, in 1857 sterling bills were selling above 109 in New York and cotton started on the market at $16\frac{1}{2}\text{¢}$. Then the panic struck, exchange dropped to $92\frac{1}{2}$, and finally was not accepted at all. The buying of cotton slackened, the bulk of the crop finally going at greatly reduced prices. The average for the year was $12\frac{1}{2}\text{¢}$ and was still lower in 1858, in spite of a short crop.

The South had done nothing to bring on the panic, which was so largely the result of speculation in railroads. Southern construction, largely for lack of credit, had been sanely managed. If the local banks had been in a position to discount the bills, the factors and planters would not have been confronted with a spread of prices amounting to as much as 90% between the port towns and London. It was hoped that this experience would ultimately prove a blessing to the section by encouraging direct trade with Europe, but there was not time enough to test the soundness of this supposition before the war came. According to Senator James H. Hammond of South Carolina the panic cost cotton growers alone \$35,000,000, whereas New York merchants and bankers eased the tension there by credit obtained from moving the crop.

Indirect Buying. In buying, as much as in selling, the South was at a disadvantage. For this situation the section has received more criticism than it deserved. It was not particularly to the discredit of the states that they did not have extensive manufactures or a self-sufficient agricultural system. They had facilities second to none for the making of cotton goods and lumber, and it might have been well if more capital had gone into those industries. This might have brought greater profits, checked overproduction, and helped staple prices. It might have furnished labor for a large number of struggling farmers, diminished the number of marginal producers, and lessened poor relief. But it is not at all certain that any enhancement of cotton prices resulting therefrom would not merely have tempted North-

erners and Europeans to migrate to the frontier lands, start plantations, and begin overproduction anew. There were plenty of planters of such origin in the early nineteenth century, coming in during periods of high prices, to support this contention. Furthermore, it does not follow that cheaper costs of manufacturing, where possible in the South, would have led to lower charges to planters and farmers. Prospering factories and tenant farmers are often found in the same locality. Agricultural specialization and dependence on outside sources for extra food were also natural and, except for untoward circumstances, good economy. The South was preëminently fitted for the growing of cotton, as were other sections for wheat and wool. In such cases free exchange is the better policy.

The great trouble was that, in addition to selling in roundabout fashion, the planter was also compelled to buy indirectly, through too many middlemen, and subject to burdensome tariffs. The ships which carried cotton from Southern ports did not bring imports in exchange. Goods not originally coming from the North were entered at Northern ports and distributed southward by the coastwise trade, thus creating additional freight charges and unnecessary commissions. A temporary class of Northern merchants and laborers occupied the port towns while the cotton was being shipped, moving northward thereafter, while during the greater part of the year the factors acted as importing agents. Native merchants got no encouragement from the banks, and local jobbers were shunned by the retail dealers because of the additional middlemen's profits to be paid. What the situation demanded was direct trade with Europe, shorn of tariff barriers. If this could have been established it would have made little difference whether the bulk of imports came from Europe or the Northern states. The South would have an opportunity to buy in the best markets, and the North would have to do some real competing. The agriculturist as well as the merchant would have benefited.

The cure for this ailment was not as simple as its diagnosis. It needed a thorough financial reorganization for a beginning. The freight on cotton was high because the ships were compelled to arrive with empty bottoms. In the remainder of the year there were no return cargoes to tempt direct importation. If the planters could once rid themselves of debt to such an extent as to permit them to hold their cotton for better prices, and then sell directly, not only would this bring immediate profit but also it would provide a steady, year-round stream of outgoing products. This, instead of fostering a migratory mercantile group, would create a permanent if smaller merchant class with an interest in the distribution of imports. Furthermore, it would make practicable the bringing in of cargoes to

exchange for cotton, thus ameliorating freight rates in both directions. Other obstacles to direct trade have been mentioned, such as yellow fever and the inadequateness of Southern harbors. But, since cotton ships and coastwise trading vessels overcame these disadvantages, it could not be demonstrated that there would be much interference with direct importation.

Effect of the Tariff. It was no mere fancy that protective tariffs were harmful to the section. The increased cost of necessities was unquestionable. Also, prior to 1846, Great Britain was inclined to retaliate. The fall in the price of cotton from 33¢ in 1818 to 17.4¢ in 1820 was largely due to a temporary increase in production in India brought about by British encouragement. Most of the drop occurred in a year when American exports were diminishing. Following 1815 the supply of cotton rarely exceeded the demand, but Liverpool, which fixed the price, had its own trade balance to consider. The South, quick to learn this lesson, was clamoring for a reversal of the tariff policy long before Calhoun's tardy conversion. The Southern Whigs after 1836, courting the support of the Northern members of the party to check the Jacksonian movement toward popular government, were willing to make numerous concessions, even in the direction of protection. Some of them professed a hope that a high tariff might stimulate Southern manufactures and thus be a help to the section. The hemp and sugar planters and the mining interests of Virginia and Maryland had always favored protection. But the lesser slaveholders and yeoman farmers who constituted the bulk of the Southern Democracy had no reason for such subserviency to Northern doctrine, and they generally were in control of the state governments. The legislature of South Carolina denounced the Tariff of 1842 and, when the succeeding Congress failed to modify it, talk of nullification was heard again. The Acts of 1846 and 1857 were generally satisfactory, though some people wanted actual free trade and the substitution of direct taxes which would bear more heavily upon the North than did the tariff. Even the Southern Whigs in time gave in to their inclinations and acquiesced in the Walker Act. After fourteen years of comparatively low tariffs there was real consternation in the South over the election of a Republican with high tariff views as President, totally aside from the fact that the victor and his party were pledged to the restriction of slavery.

Other federal doles to private industries, such as the fishing bounties and subsidies to steamships engaged in carrying the mails or in the coastwise service, came in for their share of attack. Yet, it was not so much the acts themselves that the South opposed as protection benefiting mainly the North. The planting states were not getting

the return of a due share of the money they paid in federal taxes. As a means of retaliation Virginia in 1840 and South Carolina and Alabama in later years tried sales taxes on all manufactures originating outside their boundaries. Such efforts were of questionable constitutionality, the taxes were light, and the effect was negligible. When in 1850 some of the Northern states began obstructing the enforcement of the Fugitive-Slave Act, "Southern Rights Associations" were formed in a few Virginia counties, pledged to a boycott of the offenders. The same expedient was tried in Alabama, while in Georgia there was an effort to adopt a sales tax. The legislature of North Carolina, abandoning party lines, declared in favor of state as opposed to federal protection. Even the Southern Whig members of Congress helped prevent increases in the tariff on iron demanded by Pennsylvania. After the Harper's Ferry episode the nonintercourse movement gained headway, orders for Northern goods were canceled, Northern travel declined, and in some places Yankee school teachers were driven out.

The Agitation for Manufactures. Persons advocating Southern manufactures as a means of financial redress could generally get a respectful hearing but not much capital. Open opposition to the movement was sometimes offered by persons who feared the effect on protectionist sentiment. But, following the Walker Act, the Democrats began to look with more favor upon the matter of Southern factories. It was felt that the section had such superior natural advantages that, under a free-trade régime, their manufactures would prosper at the expense of the North. Such arguments were voiced most freely when cotton prices were lowest.

There were several reasons why the achievements in this direction, though progressive, lagged ever farther behind those of the North. The most important fact was that Southern capital was tied up in agriculture while Northerners and Europeans still had profitable sources for investment closer home. The labor situation was another obstacle. It was feared that the poor whites would become more class conscious if put in factories. Since they were already beginning to insist that Negroes should be confined to agriculture, there was a foreboding in capitalistic circles that a factory system might make abolitionists of them. Considering the hostility of Northern laborers to proposals of emancipation, the apprehension seems groundless. Slave labor was tried in some South Carolina cotton mills with roseate reports of success, but when comparison showed that white operatives were superior the enthusiasm waned. Another drawback was the lack of competent managers, and inability to pay sufficient salaries to tempt such talent from the North. The factories were often badly

located, poorly constructed, and equipped with obsolete machinery. Steam power proved too costly and dam sites were not plentiful in the regions most interested. Northern factories extended longer credits to merchants than could be endured by the Southern competitors, thus making it hard to capture local markets. Also, the Southern people preferred the Northern label and shunned goods made near at home. This situation was further aggravated by the unscrupulous tactics of the Northern manufacturers, who sent the shoddiest of their goods into the South under the name of Southern products.

Shortly before the Civil War there was a revived interest in manufacturing industries. The output of Southern mills was almost doubled in the 1850's, but this was not quite even keeping pace with growth in the North. There was by 1860 a beginning toward the investment of outside capital in Southern ventures. Whether this movement would have continued and developed into an industrial revolution, had not the war intervened, cannot be said. At any rate, the South had many lessons in the prewar period to guide the capitalists in the later era of industrialization. By 1860 the South contributed only 8% of the country's \$1,886,000,000 of manufactures; employed a like proportion of the 1,311,000 laborers; and furnished less than a tenth of the capital of \$1,009,856,000. Flour, meal, lumber, tobacco, and turpentine comprised half of the Southern manufactures, while cotton goods accounted for about 8%.

Agitation for Direct Foreign Trade. More persistent than the efforts to foster industries was the agitation for direct trade with Europe. Following the Panic of 1837 a series of direct trade conventions met in Georgia, South Carolina, and Virginia. Since the Northern emporiums were hit harder than the Southern, it was thought that this was an opportune moment to get rid of the old commercial connections. A thorough understanding of the problem was shown in the discussions, but the one thing most necessary for the accomplishment of the plan—financial ability to retard the marketing of staples—was lacking. In the 1840's, when the price of cotton remained constantly at extremely low levels, the hope of direct trade faded into the background, but with the beginning of better times in 1850 the movement was renewed. There were efforts to induce the federal government to subsidize a Southern mail steamship line. Virginia actually began a small amount of direct trade with Rio de Janeiro, Charleston bought a steamship which was too large to cross the bar of her harbor, and Alabama made some efforts toward coaxing a shipping company into existence. Nearly all of the states took some step or other, ranging from ship subsidies to exemption of all direct

imports from state and local taxation. There also was widespread talk of acts of reprisal against Northern commerce.

Internal Improvements. In all the discussion of Southern trade development, internal improvements, especially waterways and railroads, occupied a prominent position. South Carolina and Georgia were about as early as any Northern states in the building of canals and railroads. Every other state of the South in time lent aid to some such projects, Virginia almost becoming bankrupt through her zeal. After 1852 Tennessee donated \$8,000 for each mile of railroad constructed in the state with the approval of the legislature. Georgia built, owned, and operated a railroad from Atlanta to the Tennessee border near Chattanooga. North Carolina, Louisiana, Mississippi, and Texas were especially liberal, while Charleston and Mobile were the most generous of Southern cities in grants to railroad builders. The 9,000 miles of railroads of the South in 1860 had been constructed at a cost of about \$237,000,000, almost all of which was raised without outside assistance. There was much cheap and flimsy construction, but the prospects for the future were bright just before the outbreak of the war. Machine and repair shops, rolling mills, and locomotive works followed in the wake of the railroads.

Opposition to federal aid for internal improvements was based on the conviction that the South paid most of the taxes while the North got most of the benefit. For this reason Virginia for 20 years before 1854 refused to accept any federal appropriations for river and harbor improvements. After that date the Southern Democrats succeeded in blocking all bills for such work, but not until the Carolinas had received small appropriations for altering the bars at Charleston and Wilmington. Yet, the numerous waterways and commercial conventions for 15 years before the war showed that the South was by no means solidly opposed to such assistance. At a convention at Memphis in 1845 the occasional state-rights advocate John C. Calhoun estimated the need of 44,000 steamboats and other craft and 16,680 ocean vessels to handle the Mississippi Valley trade as it would develop in the next 40 years. Hence he proposed that the federal government construct a Lakes-to-Gulf waterway. The convention also dealt with the problem of an east-and-west Southern railroad, and prepared the way for the rivers-and-harbors convention held at Chicago two years later. In 1849 a Pacific railroad convention met at Memphis, followed by similar meetings at New Orleans in 1851 and 1852.

The Commercial Convention. These transportation conferences led to the establishment of the Southern Commercial Convention which held several meetings at different places between 1852 and 1859. Most of the Southern states and, once or twice, Illinois and

Indiana were represented at these conferences, the membership including many able and prominent men. The first session, at Baltimore, turned out to be mainly an effort of the host to monopolize Southern commerce. The second assembly, at Memphis in 1853, hinged about demands for federal appropriations for rivers, harbors, and flood control, resolutions for direct trade and steamship lines, proposals for railroads from St. Paul to New Orleans and from the Mississippi River to the Pacific, and talk about boycotting Northern universities and textbooks. The zenith of enthusiasm was reached at Charleston in 1854. All phases of economic activity were discussed, but especially plans for a Pacific railroad to be built by Southern states, territories, and cities. Interest waned at New Orleans in 1855, largely because the "Crescent City" could rouse no fervor for a general commercial development which would likely be at her expense. The Richmond meeting in 1856 reflected the nadir of zeal, but the narrow escape from a Republican national victory in that year called out a large attendance at the Savannah session in the following December.

From that time on political rather than economic action was the focus of discussion, the "fire eaters" being numerous and clamorous. At Knoxville, Montgomery, and Vicksburg in the next three years the secessionist element had control. The abolition of tariffs, substitution of direct taxation, revival of the African slave trade, and demands for federal aid were the main constructive proposals. Henry W. Hilliard and William L. Yancey held the center of the stage at Montgomery as Robert Toombs had at Savannah. After the Vicksburg session, attended only by the fussiest of disunionists, the convention flickered out. In these later years some progress was made toward the establishment of direct trade with Europe, Charleston improving her harbor to the point of receiving 1,000-ton ships. But such efforts did not check the gain that was being made by coastwise vessels from Northern ports. In 1860 the commercial supremacy of the Northeast was firmer than ever before.

The Secession Movement. For a generation before the war there were theoretical secessionists who argued that disunion was the only way to throw off economic "bondage" to the North. From the time that Calhoun gave up his feeble adherence to the Whig party his wing of the Democratic organization held to the theory that an extravagant federal government was enriching the North at the expense of the South. Let the South keep what it produced and the people would prosper. These arguments appeared frequently in the congressional debates. George McDuffie of South Carolina declared in the Senate in 1844 that if the United States should be divided into three confederacies, the South would be the most prosperous one. Since the

West would have to depend upon the free-trade ports of the South for its merchandise, the East, thrown upon its own resources for maintenance, would languish. Muscoe R. H. Garnett of Virginia calculated that up to 1845 the United States had collected \$927,000,000 in tariff duties of which the South had paid seven-ninths while the North had received a like proportion of the benefits. The amount of Southern taxes apparently was greatly exaggerated, the rest of the estimate being more nearly correct, but the whole set of figures sounded plausible to a goodly portion of the debt-ridden people of the South. John Forsyth of Georgia estimated in 1850 that by disunion the section could save four-fifths of the \$50,000,000 it was paying to the government at Washington, and build all the factories it needed with the salvage. An additional profit would result from the direct importation of goods fostered by free trade.

The Nashville convention, meeting to consider the territorial problem of 1850, was an outgrowth of Southern economic discontent fed by a determination that Congress should not aggravate the situation by giving the free-state element a still greater advantage. Many of the delegates from the nine states represented were of secessionist views, but the compromising attitude of Congress limited the action of the convention to threats. In the congressional elections of that and the following year the right of secession as an alternative to the compromise was an issue in South Carolina, Georgia, Alabama, and Mississippi. A South Carolina convention in 1851 declared that expediency alone kept the state from justifiable secession.

Opposed to this point of view was the unionist element, heirs to the Southern Whig party. They argued that the Union had not harmed the South much and that probably some benefit had accrued. Most of them felt that, so long as the federal government or Northern states made no direct attack against the slave system, it was best to seek amelioration of other evils while remaining in the Union. But the Southern-rights men, or secessionists, pointed with telling effect to \$87,000,000 in unnecessary profits drained northward¹ in addition to excess taxes, nearly all of which could be saved by disunion. In this eventuality the North would be driven to direct taxation which would tend all the more to drive manufacturing to the South. Edmund Ruffin was a particularly optimistic prophet of the ease with which the South could capture all of the Eastern prosperity. The West, it was considered, would ultimately be led to join economic forces with the South.

¹ Made up of coastwise shipping freights, \$40,000,000; profits from imports for the South, \$9,000,000; on manufactures, \$22,000,000; on Mississippi River trade to the South, \$10,000,000; and on capital invested in the South, \$6,000,000.

While all these prognostications were unduly roseate, that of Western alliance was the least justifiable. Railroad connections between the East and West after 1853 upset all previous calculations as to the natural channels of Western trade, and political affiliations soon followed the new economic ties. The two Northern sections were already in harmony on the tariff, the Pacific railroad question, immigration, internal improvement policies, and slavery, while the East was ready to make concessions to the West in the matter of a home-stead act. There were too many prophets in the South, and hence a reckless attitude. As time went on, the secessionists began to gain recruits from unionist ranks. By 1856 hopes of direct trade and Southern factories began to fade and unionists to lose hope. The political events of the next quadrennium were sufficient to drive the unionist element of the lower South into the ranks of the secessionists.

Yet, there was some tendency toward economic recovery in the 1850's. The cotton crop, 56% larger than in the previous decade, sold at better prices, the tobacco and sugar planters were fairly prosperous, and recovery from the Panic of 1857 was rapid. Southern banks in 1858 held more of the country's specie than at any earlier date. A beginning was being made toward freedom of marketing. But, after so many years of adversity, this prospect of better times made the election of a Republican President, pledged to a protective tariff and restriction of slavery, seem all the more ominous. Now that the South was ready to taste of the first real prosperity in a long generation its people could not bear to wade again the slough of despond.

The Slavery Question. The South was by no means a unit in its attitude on many of these perplexing issues, yet each subsection and group had its own grievances needing only a common cause to knit them together. The bond was supplied by attacks upon slavery. Whether the Southern white man owned slaves or merely hoped to, he resented outside criticism or attempts to meddle with the institution. Even the poor whites, who had no hope of anything but day labor, cherished the system which prevented the mass of Negroes from becoming their free competitors. So it was presumably in defense of the South's "peculiar institution" that the secessionists of 1860 united, but border-state writers opined that commercial supremacy was the real goal and that the agitators really wanted Lincoln to be elected so as to furnish an excuse for disunion.

Be that as it may, the slavery question was so injected into the controversy as to make a consideration of it imperative. The industrial, commercial, and banking centers of the East certainly had no desire to drive the South into secession, or even to bring about the abolition of slavery. They wanted cheap cotton and no competition

from Southern factories, merchants, or banks. Why tamper with an institution which seemed to perpetuate the existing relations between the sections? But a peculiar notion prevailed that all slave states had common economic interests for which they would stand together in Congress, the idea persisting in spite of continued opposition of border-state Congressmen to cotton-state proposals. So Eastern politicians of the more capitalistic persuasion angled for Western support on economic problems and opposed any increase in Southern political strength that might be obtained from slavery extension into the territories.

The West also was mainly free-soil in tendency, but for different reasons. The inhabitants expected for themselves or their sons the opportunity of going out into the territories, whenever the time became ripe, to carve out homesteads. But they wanted no competition from Negroes or great landowners. Therefore, they wanted slavery banned from the Northern territories but were willing to see it continued south of the parallel $36^{\circ} 30'$, since this would keep down the number of free Negro competitors. The coming of the railroads, coupled with Eastern surrender on the land question, ended an era of political wavering.

Even in the South there was a difference of opinion concerning slavery extension. Many great slaveholders could sympathize with prospective frontier planters and the slave sellers only when refusal of their opportunity came from the Northern states, couched in such a fashion as to cast a slur upon the institution itself. But, since each effort to limit expansion was accompanied by a fresh outburst of abolitionist agitation, in time the two forms of attack came to be considered as one. So nearly all classes of white people, and the more prosperous free Negroes as well, came to resent such interference. The lower South was fairly well united in its sentiment. Even the great planter did not want the value of his human property to be depressed by excessive territorial restrictions. The poor white saw in westward expansion a greater surety against Negro competition. Increasing market demands for cotton tended to allay fears of over-production. Finally, the South, realizing the uncertainty of Western political support, wanted at least to preserve a veto power in the Senate. The idea of an aggressive slavocracy, demanding control of the Union as an alternative to secession, was merely an abolitionist chimera. The South, obsessed like other sections with the political-slave-state fallacy, thought it could keep its relative position only by maintaining a parity in the Senate.

The border slave states had most to lose and least to gain in case of a sectional war. In institutions and social connections they were a part

of the South. But Delaware and Maryland were almost as much a part of the Eastern industrial and commercial group as were New Jersey and Pennsylvania. Missouri and Kentucky prized the Southern markets for their livestock, food, and surplus slaves, but in their general trade connections they were bound to the North. Western Virginia was in a situation somewhat similar to that of Kentucky, depending largely upon the Ohio River and Baltimore and Ohio railroad trade for their livelihood. To most planters of this group the slave question was of prime importance. They favored slavery expansion and opposed the reopening of the African trade because of the effect on the price of their surplus. Because of their proximity to free states and territories they were especially interested in the Fugitive-Slave Act. In case of secession and civil war the border states would be in a sorry predicament. In the Union they would be a small slave-holding group with Southern markets cut off and slavery doomed. In the Confederacy they would be a protectionist minority in a free-trade republic, with Northern economic connections severed and the fugitive-slave problem worse than ever before. In any case they would furnish the battlefield if war occurred. They had ample reason for their strong Union stand. It was not by accident that Henry Clay was a great compromiser.

Finer distinctions might be made by dividing the four sections into minor groups. The problems of Maryland were different from those of Missouri. The mountain people of the South were certainly less enthusiastic for slavery than were the rest. The seaboard slave states had interests differing from those of Mississippi as the latter also were distinguishable from those of Texas. The Ohio River portion of the Old Northwest was separate and distinct from the Lake region, while the attitude on expansion differed between Ohio and Iowa. Even the industrialized East was not a unit, for alongside the cautious capitalists were a small but vehement group of extreme abolitionists and a larger but less influential element of day laborers harboring a bitter hostility to Negroes. It is not necessary to depict the situation in all of its complexity in order to explain what is to follow.

The Contest for the Territories. The contest for a balance of free and slave states began in 1819. Prior to that time the constitutional right of a territory to permit or exclude slavery in the formation of its state constitution was not seriously questioned even for the territories north of the Ohio. Then Missouri asked for admission to the Union at a time when the number of slave states just balanced those committed to freedom. The territory overlapped or lay in the same latitude as eight other existing or future slave states, and was culturally an extension of Kentucky. But it reared its head above the mouth of the

Ohio River, seemed to encroach upon the West, and therefore was a target for free-soil lances. So precedents were upset, the slave question was injected into federal politics, and Missouri with her slave constitution was admitted only after the system was banned in all the remaining territory of the United States north of $36^{\circ} 30'$. This qualified admission of a state stretched constitutional interpretation to the limit and raised a problem which prominent Southerners of the time declared could result in nothing but strife and bloodshed. Yet, without some Southern support the Missouri Compromise of 1820 could not have been adopted. The wiser thing for Southern Congressmen to have done was to let the North keep Missouri out of the Union until a reaction should set in against what even Abraham Lincoln in 1858 recognized as a clear violation of constitutional principles. As will be seen later, the compromise gave the North no advantage which it did not already possess and denied the South nothing of material benefit. But it cast a slur upon the South and set a precedent for future interference. To say that the ensuing conflict was "irrepressible" smacks too much of predestination. Wiser counsels existed in the country than those which at times, partly by chance, prevailed.

The Texas Question. The next contest arose over the admission of Texas. Even as ardent a free-soiler as William H. Seward of New York wanted Texas—he wanted all of North America if he could get it free from slavery. Without Texas the South would be limited to its existing dimensions while the North had enough territory to make a dozen free states. Yet, the South divided politically and it was the land-hungry elements of all sections which combined on the Texas-Oregon issue. Texas entered the Union with a provision in the enabling act permitting an ultimate division into as many as five states, but there never was any likelihood of such a partition. The greater part of its western country was too arid and distant from transportation facilities for cotton growing, while south of the Nueces River Mexican labor was so cheap and the opportunity for the escape of slaves so great that slavery could not prosper. Those in power in the commonwealth knew better than to divide it into states the majority of which were likely to be free.

The Mexican Cession and the Compromise of 1850. Despite their opposition to the Mexican War, the free-soilers got all the advantage in the consequent cession of territory. Well informed men in the South were opposed to any annexation south of $36^{\circ} 30'$, not only so as to avoid sectional controversy over its organization but also to prevent the creation of free states west of Texas. In 1848, for the second consecutive time, a small third party hostile to slavery held the balance of power in a national election, this time throwing the presidency to

Zachary Taylor, a great slaveholder from Louisiana. The short session of Congress following the election fumbled the territorial issue and a year's consideration was allowed before the question came up again. Four possibilities faced the Thirty-first Congress when it convened. One was to accept David Wilmot's earlier suggestion and forbid slavery in the territories. The opposite point of view was presented by Calhoun, who would provide federal protection to slaveholders in the ceded lands. The situation did not call for either of these extreme demands which would serve no purpose except to alarm or anger their opponents. But the majority even of Southern Democrats were ready to follow the plan of Lewis Cass of Michigan, their standard bearer in 1848, and leave the question for the settlers in the territories to decide. This was the doctrine championed by Stephen A. Douglas and called popular sovereignty, or, by its enemies, squatter sovereignty. A fourth proposal, to run the Missouri Compromise line westward to the Pacific, was almost as distasteful to the South as was the Wilmot Proviso.

The debate over the rival plans was bitter, and for a time pointed toward secession as the final outcome. Then, mainly as a result of the work of Douglas, assisted by Clay and Webster, five acts were passed: one to admit California as a free state; another to limit Texas, with compensation, to her present dimensions and organize the territory of New Mexico, extending from Texas to California; a third, to create the territory of Utah out of the remainder of the land; a fourth, to abolish the slave trade in the District of Columbia; and, finally, a new Fugitive-Slave Act more satisfactory to the South than that of 1793. By the New Mexico and Utah acts the slavery question was removed from the authority of Congress. Since "slavery does not exist by law and is not likely to be introduced. . . ." there, the New Mexico act said, Congress should neither prohibit nor encourage it, and the territories should handle the problem for themselves when they formed their state constitutions. Under these provisions the courts, apparently, would be left to adjudicate any disputes arising during the territorial period.

The advantage to the free states in this settlement is obvious. California broke the slave-state balance in the Senate beyond repair. Utah certainly and New Mexico most likely were dedicated to freedom. The auctioneers' blocks were removed from the constant view of foreign diplomats, and, as it ultimately turned out, even the Fugitive-Slave Act was doomed to nullification in fact if not officially. The South had just one solace—congressional dictation on the slave question in the territories was withheld even more effectively than it had been two years earlier when the territory of Oregon was organized.

It was plainly to be seen that the South was hopelessly outdistanced in population, wealth, and political power. The best thing was to admit defeat on the expansion issue and concentrate attention on economic improvement, but it was asking too much of human nature to hope that this would be the outcome. Yet, for a time, the South was reconciled to the compromise. Secession made no headway, and in 1852 the country at large, with the exception of four states, expressed its preference for Franklin Pierce of New Hampshire, the Democratic candidate for the presidency, because he seemed to stand more firmly by the Compromise of 1850 than did his opponent Winfield Scott.

The Kansas Brawl. Only one act now remained to restore the old-time federal aloofness from the question. That was to repeal the Missouri Compromise. Many honest and earnest men believed that such an act would not only do justice to the South but also restrict controversy to the localities immediately concerned. Had the mass of the people been better informed on their geography this inference would have been sound. Kansas was not the sort of country that slaveholders as individuals really wanted. It took a man of ample wealth or scanty wits to carry slaves through counties in Missouri which experience had shown to be unprofitable for their use, into the Flint Hills or semi-arid plains to the westward, where any slave with spirit could easily escape or occupy the whole attention of another man to watch him. It is doubtful whether Kansas could have been made into a slave state even if Congress had passed a law compelling slave owners to move their property to the territory. There were some squatters who took a slave or two each into the territory, but it is not a matter of record that any of them profited from the experiment. The slave question in Kansas was purely political—dragged forth by politicians as a camouflage for other issues and fanned into flame by office seekers desiring popularity in other states.

The slave owners of Missouri were particularly anxious to have a government in Kansas friendly to their interests, in order to mitigate the fugitive-slave problem. But it was the question of a Pacific railroad which brought the issue to the front. Douglas was interested in a proposed line to make connections with Chicago, but before it could be built a territorial government was needed for Nebraska. But the people of Missouri and southern Illinois were much more interested in a terminus at St. Louis. Good political judgment therefore dictated that Douglas say none too much about his hopes until the way was cleared for actual railroad construction. The Missouri leaders were ready to concede the northern line, provided that the territory to their west was made available for slavery. Since Douglas was an early advocate of popular sovereignty anyway, he was glad to include in his

bill a provision for the repeal of the Missouri Compromise. This gave him the chance to make democracy the issue, while at the same time he was convinced that Kansas would become free regardless of the legislation. Consequently the Kansas-Nebraska Act of 1854 was passed as a final step in removing slavery from national politics.

If Kansas had possessed a larger squatter population it could have adopted antislavery legislation and popular sovereignty would have triumphed quietly. The North would have been satisfied, the South could have preserved its dignity, while Missouri alone would have any reason for querulousness. But, instead of this peaceable solution, a group of New England land speculators chose to cloak their activities under the guise of an antislavery crusade, while at the same time an organization of militant Missourians, dominated by a turbulent element, decided to regulate Kansas elections in the interest of Missouri slaveholders. There is no need to assess the blame between the two disorderly elements. It is profitless even to discuss the ancient question of whether John Brown was a saint or a common horse thief. There is ample evidence to support either contention. A few other matters are more significant. For one thing, slaveholders were chiefly notable for their scarcity even after they were given a legal right to carry their property into the territory. Second, the bleeding of Kansas was never nearly so bad as self-seeking politicians in the East succeeded in portraying it. Third, Governor John W. Geary had restored order in the territory and the hemorrhage was stanching before the election of 1856. Finally, the actual disorders and magnified reports of them added much to the voting strength of the Republican party, newly formed in protest against the Kansas-Nebraska Act.

The Dred Scott Decision. With the restoration of law and order in Kansas and the apparent certainty of an early free-state constitution, the new party of crusaders bade fair to lose its main source of political strength. As the year 1857 dawned the omens were auspicious for Douglas to become the next President of the United States. But the day was saved for the Republican party, and the preeminence of Douglas in the North was doomed by the action of three members of the Supreme Court. Benjamin R. Curtis, a former slave-catching lawyer from Massachusetts, and John McLean, a perpetual seeker after the presidency from Ohio, decided to make political capital out of the case of an inconspicuous Negro from Missouri seeking in the federal courts for his freedom. Curtis, wishing to rehabilitate himself in Massachusetts before resigning from the court to practice law, and McLean, angling for a presidential nomination by the Republicans, declared to other members of the court their intention to drag into their opinions in the Dred Scott case a defense of the principle of legislative

interference in the matter of slavery in the territories. Chief Justice Roger B. Taney of Maryland, though strongly desiring to avoid such a political contention, was never one to retreat in the face of battle, so, following the precedent so long practiced by John Marshall, he included in his opinion an *obiter dictum* against the power of Congress or a territorial legislature to enact laws against slavery in the territories.

The effect was galvanic. The dying Republican party was resuscitated and Douglas was struck a telling blow. Popular sovereignty was outlawed and the average voter mistakenly supposed that this would make slave states out of all the territories. Since Douglas merely promised evasion while Lincoln proposed reversal of the decision by a packed Supreme Court, the free-soil element of the West, both Whig and Democrat, swung back into the Republican fold more unanimously than in 1856. With this and other popular Republican issues, they threw enough states into the Republican column, added to the Eastern gains (see p. 241), to elect Lincoln in 1860. If all the votes for the three opposing candidates had been cast for one (considering such a situation possible) Lincoln's electoral majority would still have been ample, though he received nearly a million fewer popular votes than his combined opposition.

The Final Contest. The rapid building of railroads into the West undoubtedly had much to do in precipitating the conflict which followed the election. They brought cheap land within the grasp of a far greater number of emigrants than could have reached it without this method of transportation, and thus hastened the contest for the control of the territories. But the publication of *Uncle Tom's Cabin* in book form by Harriet Beecher Stowe in 1852 had as much if not a greater influence. To most adults this was just another of the sentimental novels of the period, which roused moral indignation until forgotten in the midst of the next thriller. But boys in their early 'teens would read and reread it, smoldering in resentment against the system portrayed. These boys in 1860 were ready to cast their first vote, and it is worth stopping to wonder just how many of them marched to the polls to register their hatred against Simon Legree.

A series of events just prior to 1860 made a Republican victory especially obnoxious to the South. In 1857 Hinton R. Helper, a small farmer of North Carolina, published anonymously *The Impending Crisis of the South*, in which he urged nonslaveholders to vote the Republican ticket in order to throw off the domination of the slaveholding class. Only about 300,000 families owned slaves, and not more than 10,000 of these had them in large numbers. If the great majority who constituted the remainder of the white population could be stirred up by such writings as this the slave system was doomed without ex-

terior attack. Southerners who could do nothing but laugh at Mrs. Stowe's portrayal might much more readily be influenced by one of themselves—so the ruling class reasoned. Even in the North the book caused trouble for Republicans too quick to praise it. Most Republicans were not abolitionists, and they feared being labeled as such. In 1859 they had to pass by some of their strongest leaders in a contest for the speakership of the House of Representatives because of their indorsement of Helper. In that day the *Congressional Globe* was widely read, and the debates, carrying references to abolition and secession, merely strengthened people's prejudices.

Lincoln himself was only a little less objectionable to the South than if he were a rank abolitionist. In his keynote speech of 1858 he had declared that "A house divided against itself cannot stand," and proceeded to declare that the contest must go on until the nation was all slave or all free. The South took this to be a declaration of war to the finish upon the slave system, and in spite of all modifications of the statement in later speeches the impression remained. Then, in the fall of 1859, came John Brown's attack upon the Harper's Ferry arsenal, a prelude to his proposed campaign to set the slaves in insurrection against their masters. Prior to his hanging in December the first revulsion of feeling against Brown in the North passed away, and to many he became a hero. It mattered little to the South that the majority in the North had no sympathy for such tactics. Imaginations were already too much inflamed for sober judgment. Just as a large part of the voters in the North were ready to believe that all slave owners were Simon Legrees, so in the South it was easy to imagine that all Republicans were abolitionists and all abolitionists were John Browns. With this state of mind prevailing, almost anything could happen.

The business interests of the North were bound to suffer in case of secession. But they had heard talk of disunion for a generation and nothing had come of it. Lincoln had declared repeatedly that he would neither do nor countenance anything toward disturbing slavery where it already existed. Feeling, then, that the Union was safe, the North went confidently to the polls to vote for the tariff, free land, and the Wilmot Proviso. The opposition, hopelessly divided between three candidates, hoped at the most to throw the election into the House of Representatives where Lincoln would be eliminated.

Secession. The remnant of Southern unionists repeatedly pointed out that Lincoln would be opposed by a majority in each house of Congress, that he could not pack the Supreme Court, and that his appointments would be rigidly scrutinized by the Senate. The legislatures were urged to withhold calling conventions till by some overt

act of the administration the Republicans should clearly put themselves in the wrong. But counsels of moderation were useless, and the secessionists quickly won the day. Why wait for an overt act? In 1850, they argued, had been the proper time for secession. Each year since that time the North had increased in relative population and economic power, while the chances of the South were becoming less. To delay longer was to invite ultimate subjection. The election of Lincoln with his "house divided" heresy, by a section lauding the name of Hinton Helper and singing the praises of John Brown was omen enough of what the future held in store. The preservation of Southern institutions and future prosperity depended upon immediate dissolution of the Union. With arguments such as these, seven states seceded and formed a provisional government for the Confederate States of America before the end of the following February.

Eight slave states still remained in the Union, but in all of them except Maryland and Delaware secession sentiment was strong. President James Buchanan was sympathetic with the South but not with secession, yet he saw no constitutional way in which the Union could coerce a state. Furthermore, the situation was not of his creation, and any act he might perform would only cause more trouble for his successor. He refused to surrender the federal forts which were not seized at the outset by the seceded states, but he pinned his faith upon compromise as the one way of restoring the Union. John Crittenden of Kentucky was already proposing a constitutional amendment to extend the Missouri Compromise principle to all the territories. Such a settlement would certainly have been unacceptable to the more ardent secessionists, but it might have held back the movement in all but a few of the states, and they alone could not have succeeded as a permanent Confederacy. Lincoln's influence with the Senate Republicans was sufficient to prevent the submission of the proposal to the states, and the failure of this compromise doomed all others. To accept would have been a retreat from Republican principles, though not more so than to the extent that is customary among political parties. It is also possible that the Southern states would have rejected the plan if submitted to them, in which case the responsibility for the consequences would have been definite. But by the refusal to submit the compromise, the war guilt was divided. The South preferred secession to Northern domination, and Lincoln chose war rather than conciliation.

For six weeks after his inauguration Lincoln pursued essentially the watchful waiting policy of Buchanan, expecting the South to take the step which would permit him to call for military aid. When this excuse was offered, by the firing on Fort Sumter, he called upon all states still in the Union to unite in furnishing 75,000 militiamen "to

suppress insurrection." None of the eight slave states responded with men, while the replies of most of their governors bristled with hostility against what Governor Beriah Magoffin of Kentucky called "the wicked purpose of subduing . . . sister Southern States." Virginia, North Carolina, Tennessee, and Arkansas promptly seceded. In the other four states the Union element triumphed, though the contests were hot in Kentucky and Missouri. Governor Claiborn F. Jackson of Missouri sided with the Confederacy, though failing to carry the state with him. Kentucky assumed the position of neutrality till an invasion of Confederate forces gave Lincoln an excuse to follow the example. A fifth border state of West Virginia was created by means that would not bear constitutional scrutiny. These western counties were not yet knit to the Old Dominion by the Chesapeake and Ohio railroad, and without some such bond they were economically tied to Maryland, Kentucky, and Ohio. The cast of states was now complete and the stage was set for the conflict.

CHAPTER XVII

THE CIVIL WAR YEARS

IN THE UNION

Superior Resources. The South entered the war at a tremendous disadvantage in all material ways. Its inferiority in manufactures, transportation, trade connections with the outside world, food production, and banking facilities has already been noted. The Confederacy had a little over five of the 16 billion dollars of real and personal property as enumerated in 1860, but about half of this was in the form of labor, whereas the free states did not have to include such assets. Of \$3,736,000,000 of wealth produced in the United States in 1859, less than a fourth was in the eleven states which seceded. The potential man power of the Confederacy was in an even smaller proportion. Including West Virginia and the territories, the Union claimed 22,700,000 of the population as counted in 1860, while the Confederacy, after deducting 3,500,000 slaves and 140,000 free Negroes, had a white population of only 5,100,000 of whom certainly not more than 1,300,000 could have been males between 18 and 60 years of age, including those of all degrees of decrepitude. The North, which could make use of all races and nationalities, had on the same basis about 5,700,000 men to draw from, not including later immigrants. Though the Confederacy depended to some extent upon the loyal border states, the federal government more than offset such gains by the 153,474 recruits, two-thirds of whom were Negroes, obtained from the seceded states. The 16 slave states and the District of Columbia supplied a total of 445,869 out of the 2,865,028 separate enlistments in the Union army. This number is at least half as large as the total enlistments of the Confederacy from the same region, a fact which justifies the term "Civil War" even though the Confederacy was a separate nation.

Federal Dalliance. Having all this advantage, coupled with the possession of a navy to cut the South off from effective contact with the rest of the world, the North probably could have ended the war before the end of the year 1862 if it had made as vigorous use of its opportunity as did the Confederacy. Lincoln knew that he would start a war if the South took an aggressive stand, yet he took none of the precautions that the Confederacy was adopting, declined the generous offers of the state governments of some 300,000 volunteers for the duration of the war, and even delayed the meeting of Congress till July 4,

1861. The first recruiting fever was neglected, a puny militia force was rushed unprepared into the unnecessary battle of Bull Run, and the nation, professedly at war, was left till the fall of the year without an army. Meanwhile, the governors of the states had got a start in the recruiting and officering of the militia, a prerogative which they managed to retain in the handling of volunteers as provided by the fundamental army act of July 22, 1861. This led to much of the inefficiency and blundering which continued throughout the war. The commissioning of 2,537 generals in four years' time is merely an item in the extravagance which ensued. Of 421,625 desertions from the Union army during the war, 260,339 were from the ranks, with incompetent officers largely to blame.

Mismanagement. For a time the War Department was competing with a score or more of governors in the business of supplying the army, thus lending assistance to a system of profiteering and swindling which not only robbed the civilians but caused privations to the soldiers. Clothing which would dissolve in a heavy rainstorm, sugar which would not dissolve in boiling coffee, meat so tough it had to be swallowed in lumps, and shoes of less wear-resisting material were served to the first year's recruits. Muzzle-loading guns, many of them the useless refuse of European armies, were purchased at outlandish prices, though highly effective repeating rifles which could be fired 14 times a minute were available. Even the Gatling gun, firing 250 shots a minute with frightful precision, was rejected after experts had attested to its superiority over any other weapon known to man. In the Southwest, where some of the repeating rifles were issued in the closing months of the war, the weapons proved invincible, one report being that the astonished Confederates "were saying that the Yankees now had a gun that they loaded on Sundays and fired all the week."

Instead of using such guns to increase its firing power, the government relied upon continuous increases in the size of the army. Here again the least effective and most expensive methods were employed. The Confederate method of conscription was not copied till March 3, 1863, and then in such a diluted form that any man might escape who would furnish a substitute or pay the government \$300. The only purpose was to stimulate the states to secure volunteers in order to avoid the stigma of a draft. As a result there arose a disgraceful competition between states and localities to buy soldiers at rates ranging from \$300 to \$1,500 apiece. Besides draining off the man power of the poorer sections, this stimulated the rise of a crew of bounty brokers, who made a practice of buying and selling recruits, and of bounty jumpers who collected all they could, deserted, and reënlisted for another bonus. If one such deserter's confes-

sion can be relied upon, he collected bounty 32 times before he was apprehended.

Prolonged consideration merely strengthens the conviction that the Union navy, through the blockade, had more to do with the winning of the war than did any of the activities of the War Department. Perhaps, had the Confederacy been able to break up the blockade, the federal government would have been compelled to adopt better tactics in the management of the army and the outcome, by mere numerical superiority, would have been the same.

Finances. In the handling of federal finances there was also much left to be desired. Salmon P. Chase of Ohio was appointed Secretary of the Treasury purely for political reasons. He had immense energy, unquestioned honesty, and a great deal of ability, but the latter was more of the judicial than the administrative sort. For various reasons, including insubordination, he was permitted to resign in June, 1864, being succeeded by William Pitt Fessenden of Maine, a man of no greater training and coming too late to alter materially the established policies. The chief criticism leveled at Chase was his failure to assume the leadership in formulating tax measures at a time when the people were willing to pay heavily to restore the Union, his spineless attitude on the greenback question, and his careless attention to fiscal conditions in negotiating loans.

The main reliance of the government was upon borrowing. Twelve major loans were arranged, half of them for long and the rest for short terms, the interest rates ranging from 5 to 7.3%. The net increase of indebtedness in bonds and notes, which were of approximately equal volume, was almost two billion dollars at the close of the war. Including noninterest-bearing notes and some temporary loans, the debt burden of 1865 was more than \$2,600,000,000 greater than that of 1860. There was until January, 1863, some difficulty in marketing the bonds. Since they could be purchased with greenbacks they seldom rose above par, and Chase refused to sell them at lower rates. Consequently, the speculators would not buy them in large quantities. Thereafter, legislation provided that bonds could be sold for whatever the market would bring. By that time the greenbacks had so declined in value as to make their conversion attractive, and the National Bank Act of 1863 provided another inducement for bond purchases. At this time also Jay Cooke was employed as a government broker, getting $\frac{3}{8}\%$ commission for most of his sales which in the next two years amounted to nearly half a billion dollars.

A worthy feature of Chase's policy was to fix the redemption period of bonds at an indeterminate number of years, such as 5 to 20 or 10 to 40. This made it possible to refund the debt at lower rates of

interest soon after the war, but it also caused some uncertainty among prospective purchasers, thus making the sales more difficult.

Legal-tender Paper Money. Another method of war financing, less extensive than direct loans but more disturbing to the country, was the issuing of legal-tender paper money. This practice began with the loan acts of July and August, 1861, but the \$60,000,000 thus emitted were retired as they returned to the Treasury. A more significant step was taken on February 25, 1862, by an act which authorized the dissemination of \$150,000,000 in United States notes which were to be "legal tender at . . . face value for all debts public and private except duties on imports and interest on the public debt." This piece of inflation met with popular approval but was scathingly condemned by the bankers. John Sherman of Ohio was one of the Senators who aided in the enactment. Chase presumably was not friendly to the idea, though he had stretched the precedent act beyond its original scope. The mounting costs of the war and a desire to stimulate bond sales led to a doubling of the volume of greenbacks on July 11, 1863, while by acts of January 17 and March 3, 1863, a total of \$450,000,000 was reached, bills as low as a dollar in value being authorized.

These notes, not being secured by any funds in the Treasury, were fiat money. The stipulation that they were not receivable for duties on imports was a recognition of the fact that they were likely to depreciate. Since imports were assessed on a gold valuation, payment of the duties in shrunken paper money would decrease both revenue and protection to American manufacturers. The exception concerning interest on the public debt was a special inducement to the buying of bonds. In 1864 an investor could do the equivalent of changing \$400 in gold for \$1,000 in greenbacks, then exchange the latter for a thousand dollar bond which would pay him \$60 interest a year in gold, or 15% on his investment. Since the notes were reissuable, all of them but the last third, which were not convertible, formed an endless chain for the purchase of bonds. With some fluctuations, the gold value of the greenbacks shrank steadily from the first issue till in July, 1864, they reached 35¢ on the dollar. In general their worth was in direct proportion to the fortunes of the army in the field. The termination of the war brought the value up to 74¢ in May, 1865, but subsequent business readjustments caused another decline to 68¢ by the close of the year. This abandonment of the metallic standard not only added much to the cost of the war, to be paid later in gold, but also gave a false appearance of general prosperity, as will be seen.

The fractional currency, as well as larger coins, was out of circulation long before the middle of 1862, and the making of small change

became a difficult problem. For a time, beer checks, omnibus tickets, street-car tokens, personal notes—anything convenient that had a standard local value—were used. Then, on July 14, 1862, Congress authorized the use of postage stamps instead. Since these sticky, flimsy things were a nuisance to handle, gumless notes with designs of stamps on them were soon substituted. As a final relief Congress, on March 3, 1863, permitted the issuance of as much as \$50,000,000 in notes of from three to fifty cents each as a substitute for the earlier devices. In common parlance all the makeshifts for fractional currency came to be known as “shinplasters.” Their use had been frequent since Colonial days, and at worst they were a welcome relief from private memorandums of small-change obligations.

Taxation. Only about a fifth of the government’s revenue for the fiscal years of 1861–1865, a sum of \$667,163,247, was secured by means of taxation. A much larger proportion of the war-time obligations could have been met in this way had it not been for an early refusal to recognize the magnitude of the conflict. The sole reliance of the government for decades had been the tariff, and even that since 1846 had been mainly on luxuries so far as high rates were concerned. Then in 1861 a popular demand for the restoration of the Union reached the surprising climax of a clamor for adequate taxation. The only response made by Congress in the first year was an act of August 5, 1861, fixing a direct tax averaging 22¢ per capita and a levy of 3% on all incomes in excess of \$800 a year. Neither was applied till the middle of 1862, and it was not till 1864 that any income taxes worth mentioning were collected. In 1862 and 1865 the rates on incomes were raised and graduated, the exemption being lowered to \$600 and the tax ranging from 5 to 10%, the latter being on incomes in excess of \$5,000. The exemptions were increased in 1866 and 1867, while in 1872 the measure was repealed outright. The total revenue obtained was about \$347,000,000, over five-sixths of which came in after the war. Relatively few people were reached by the tax, the largest number being 460,170 in 1866.

Internal revenue duties were revived by an act of July 1, 1862, and the rates were increased two years later. The principle applied was to reach as many objects as possible instead of levying extremely high duties on a few articles. Manufactures were assessed at various stages of production in addition to a tax on the finished products. The idea as expressed by David A. Wells, special commissioner of revenue 1866–1870, was “Wherever you find an article, a product, a trade, a profession, or a source of income, tax it.”¹ Among the highest

¹ Quoted in Davis R. Dewey, *Financial History of the United States* (8th ed., New York, 1922), p. 301.

rates were \$2 a gallon on spirits and 4¢ each on the most expensive grades of cigars. In 1864, for the first time, the returns from internal revenue, including the income tax, exceeded the customs duties. The climax of internal revenue prior to 1911 was reached in 1866. In order to compensate American producers for the excise the tariff rates were raised July 14, 1862, to an average of 37.2% on dutiable commodities, following the general lines of the Morrill Act. But on June 30, 1864, a frankly protectionist measure was adopted at an average rate of 47%. This act remained the basis of further tariff legislation for 19 years.

War Costs. It is impossible to say with any degree of exactness just how much of a redistribution of wealth resulted from the war, or, in less exact terms, how much the war ultimately cost. It was all paid for at the time by surplus production and diminished civil consumption. But, for two generations or more following, one part of the public paid out money in taxes to be given in interest and principal on the debt, pensions, and miscellaneous things to other portions of the population. The loans, legal-tender notes, and taxes noted above amounted to about \$3,289,000,000, but this is only a minor item of the ultimate bill. Pensions alone to 1900 reached \$2,500,000,000, while interest on the debt totaled over \$2,800,000,000. Thus, at the close of the century a cost of more than \$8,600,000,000 was reached, while by 1917 the amount could not have been less than \$10,000,000,000. Even then, the state war debts, losses incurred in the financial crisis of 1861, Confederate war costs, the destruction of property by armies, the loss of title in 4,000,000 slaves, and the desolation wrought by reconstruction have not been accounted for. All these items would likely increase the total to \$20,000,000,000, in addition to the cost in suffering and ill feeling between the states. The unleashing of brutal forces during the war had much to do with the moral decadence which followed it, during which period of national torpor the government was prostituted to private gain, monopolies gained a strangle hold on business, and labor progress was retarded by half a century.

Business Activity. Business affairs in the North were closely associated with the fortunes and misfortunes of war. The repudiation of Southern debts at the time of secession, though probably to an extent less than the estimated \$300,000,000, was enough to precipitate a sharp financial panic in 1861, only a little less severe than that of 1857. Hard times continued till about March, 1862, after which time the appearance of greenbacks and profits from war contracts reduced the number of bankruptcies during the remainder of the war below normal.

Banking. Banking conditions in 1861 were about as bad as they ever had been. Many banks had notes two and three times in excess of their capital which, as they varied in value, were known as money, stumptail, wild cat, yellow dog, red dog, and the like. The suspension of specie payment, which began late in 1860, was complete for all the banks and the federal government a year later. Many outright failures occurred in Illinois, Wisconsin, Indiana, and Missouri, those institutions which had invested in Tennessee, Virginia, and other weak state bonds being the first to go under. Following the general suspension, it was more difficult than before to distinguish between poor banks and worse ones. Those of the middle Atlantic states expanded their note issues over 50% in two years. It was especially hard to tell what notes were of any value and how much. There were still in circulation the notes of over 800 broken or discredited banks, which, in addition to the half a dozen or more denominations and designs for each of the 1,600 operating institutions made about 12,000 kinds of notes to be scrutinized. About a third of these were of less than red-dog (60%) grade. About half of the total number of designs were counterfeited by 1863, the volume having been doubled in seven years. This situation caused endless scrutiny of money and a painful slowness in business transactions. Numerous *Counterfeit Detectors* and other journals were published to aid in the culling process. One such periodical had a circulation of 100,000.

Federal law, in addition to the efforts of state governments and bankers' associations, was needed to remedy this situation. Chase recommended a national banking act in 1861, but it was not till February 25, 1863, that Congress complied with his request. Any bank which chose to accept federal regulation was permitted to deposit government bonds with the United States Treasury and to issue in lieu thereof national bank notes up to 90% of their market value so long as this was not more than a like per cent. of the face value. The notes were legal tender only between banks, but each was required to redeem them on demand. An amendment of June 3, 1864, permitted federal deposits in national banks of any revenue except custom duties, with like security. The right of the federal and state governments to tax the banks was recognized. The act of 1863 was not necessary to encourage the banks to buy bonds, for the greenback situation had already made them heavy purchasers, but the double-interest feature involved permitted a national bank to make 20% or more on a greenback investment. The principal weakness of the system was its inverted elasticity. In times of depression the premium on bonds would induce the banks to sell and deflate the currency when a little inflation was most needed. In prosperous times the re-

verse would happen when deflation was desirable. This situation was not remedied till 1913, and then by no means thoroughly.

The better Eastern banks were inclined to resent the change as an intrusion upon their prerogatives. They were issuing their own notes, with government bonds as security, and felt that they had nothing to gain from federal regulation. The larger cities of the West led the way for the adoption of the national bank plan. When the banks and merchants of Chicago began discounting all paper money except greenbacks and national bank notes, and sent all state bank notes home for redemption, the West in general fell into line. Finally, on March 3, 1865, Congress imposed a 10% annual tax on all state bank notes, thus causing a stampede to the new system. Between 1863 and 1866 the number of state banks diminished from 1,466 to 297, while the national banks mounted to 1,634. The volume of national bank notes rose to \$276,000,000, which, with the greenbacks and shinplasters, was virtually the sole circulating money of the country. If for no other reason than the simplification of business transactions, the taxing of state bank notes out of existence had justified itself.

Agriculture. After the crisis of 1861 agriculture, along with other industries, recovered quickly, though the total farm output remained about stationary and in some branches even declined. Corn and tobacco growing in the Union fell off remarkably till after the restoration of peace, while there was a gratifying, but not astonishing, increase in the amount of wheat. Even federal aid to cotton culture had no effect in the Ohio River counties or California. There was an effort to substitute flax in the cotton mills, but the machines could not handle it. Sorghum and maple sugar were substituted for the Louisiana staple, beets being tried out with disappointing results. In spite of heavy importations, sugar remained scarce. The number of sheep was doubled and the wool crop nearly quadrupled, yet textiles remained scarce and high in price. Hogs stayed about stationary, but the number sent to packing plants showed a decided growth. Cattle packing continued to be of relatively small importance.

The loss of Southern markets was partially offset by wasteful consumption in the army, but more so by crop failures in Great Britain in 1860 and the next two years and a general European shortage in one of these years. But the United Kingdom was back to its old level of production in 1863, set a new record in 1864, and was paying less than prewar prices during the last two years of the American conflict. The supposition that Great Britain may have refrained from recognizing the Confederacy because she needed Northern wheat more than Southern cotton has not stood the scrutiny of a more extended analysis. The British cotton market in 1861 was glutted and the manufacturers

welcomed the first two years of the war as a means of profiteering on existing supplies. After the lapse of that time the British were no longer dependent on American wheat, while there were other local and imperial problems which tended to allay their demand for American cotton. The suffering of unenfranchised factory laborers was of minor consequence to a still undemocratic government, even had the laborers desired recognition of the Confederacy.

The service of a million men in the army almost constantly from 1862 to 1865 took an extremely large toll of farm labor, especially since the bounty system drew off the supply from rural regions to the industrial centers where the mercenary inducements were greater. Another large number of men migrated to the mining camps of the Rocky Mountains as a means of avoiding the draft. About 600,000 immigrants arrived during the war, but, even figuring that half of these were men, there were scarcely more than enough to replace the number hiding out to avoid conscription. There were over 359,000 deaths in the Union army and very likely a still larger number of total disabilities. If all the immigrants had been men there would not have been enough to have filled the gaps in the ranks of labor caused by the replacement of casualties.

Another factor shortening the labor supply was the increase in number of farms. On May 20, 1862, Congress passed the belated Homestead Act providing that any citizen or alien having filed intention papers, if 21 years of age, the head of a family, or a former United States soldier or naval recruit of 14 days' service, might on payment of a \$10 fee take up a grant of as much as 160 acres of hitherto unappropriated public land. Ex-Confederates and their sympathizers were excluded. After having "resided upon or cultivated the same for the term of five years immediately succeeding the time of filing the" claim, "if at that time a citizen of the United States," the applicant could receive a patent for the land, guaranteed against seizure for previous debts. In the course of the next $2\frac{1}{2}$ years about 20,000 claims were filed. While this act for many years did not add greatly to the farm population, the numbers were swelled somewhat by purchases from the state and federal governments and from railroad companies. Frontier growth was largely at the expense of the border states, from which emigrants flocked to avoid the bushwhackers and invading armies. Illinois, Wisconsin, Minnesota, and Iowa together increased about 788,000 in population from all sources in the war years. But not much of this accession went to enlarge the labor force on established farms. Most of it was on new lands or in the rapidly growing towns.

The shortage of farm hands was made up by women, children, aged

people, and labor-saving machinery. Persons physically incapable of the old-time tasks could learn to operate the new machines which had been derided in earlier years. The number of mowing machines manufactured mounted from about 20,000 in 1861 to 70,000 in 1864, and other devices sold in like proportions. Thus was the Southern advantage in a permanent supply of slaves largely set at naught.

Such prosperity as was visible in rural life was only temporary and largely illusory because of the fictitious values created by paper money. The rising price of everything but land made it possible for farmers to pay off their obligations if they wanted to. But the tendency was to stimulate speculative investments on long-term credit to be paid off in a later era of deflation and low prices. The war permanently increased taxes and burdened agriculture with a tariff policy never since revoked. Even when the profits from army provisions and trade with the famine stricken portions of Europe are counted, the country as a whole, including the South, suffered a severe diminution of agricultural wealth as a consequence of the war.

Extractive Industries and Manufactures. The mining industries showed little more than ordinary progress, the only striking increases being in petroleum, silver, and Lake Superior iron ore, all of which were discovered so soon before 1861 as to void comparison except for succeeding years. The first oil boom, accompanied by iron tank cars and steamers as well as local pipe lines, was under way before the beginning of hostilities. Coal oil lamps came into common use during the next four years. But the great era of petroleum was after 1865, and the war itself in no way stimulated its production. The Comstock Lode, struck in Nevada in 1859, accounted for most of the silver produced for several years, and Virginia City for a time had a larger population even than Reno in the recent era of "gold diggers." The Gregory Lode in Colorado Territory had produced \$20,000,000 of gold by 1865, while the gold and silver deposits of the later territories of Idaho and Montana contributed probably \$14,000,000 in the last three years of the war. Colorado and Nebraska territories so increased in population that they were offered statehood, but postponed it rather than assume the additional costs of government.

The government-contract business revived manufactures before the close of 1861. Then paper-money inflation added its artificial stimulus, and the Tariff of 1864 gave all the protection which could reasonably be hoped for. The "shoddy aristocracy" flourished most. In one year the country used 213,000,000 pounds of stuff called woollens, about a third of which was for the army, though in peace time 85 million pounds had been the maximum. New England factories often declared dividends of from 10 to 40% on watered stock,

while the soldiers were picking chicken feathers out of their woolen overcoats. The National Association of Wool Manufacturers, later so effective in tariff lobbying, was founded in 1865. The cotton mills were never entirely without raw material, and no permanently unemployed class was created. By 1862 the mills were reduced to little more than quarter-time operation, and thereafter found something to do, since cotton trickled northward as a result of legal and illegal trading between the belligerent lines and seizures from abandoned plantations and captured warehouses. Straw, wood pulp, and corn husks were substituted for cotton in the manufacture of paper while paper itself was frequently used for leather in the making of shoes.

Clothing factories were well established before the war, having nearly doubled their output of \$48,000,000 in the last decade. By 1860, some 116,000 sewing machines were in use in homes and factories. Four years later two alone of the 10 firms paying royalty to Howe manufactured 63,000 machines. In 1858 Lyman R. Blake patented a machine for sewing shoe soles to uppers about 100 times as fast as the older processes. Gordon McKay, who bought this patent, made \$750,000 annually in royalty from machines selling at \$500 each. But other improvements were necessary before sewed soles were comfortable enough to become popular.

Iron manufacturers fattened on government contracts despite federal competition in the casting of ordnance and production of other war supplies. The making of pipes, derricks, barrels, lamps and chimneys, was stimulated by the petroleum industry. Lumbering showed decided gains especially in New York, Maine, Wisconsin, and Michigan. Chicago constructed her 300 acres of Union Stock Yards at a cost of \$1,500,000, and continued to dump her packing-house sewage into the lake near the source of the city's water supply. As yet, however, the slaughterhouses in the heart of the city of New York continued to outstrip the Western competitor. Distilling became highly centralized in consequence of the large excise tax. By bribery and other means, each increase was made to apply only to future manufactures, some \$50,000,000 in excess profits thus being made on whiskey stored up for the occasion. Cigar makers resorted to similar tactics. One of the effects of the excise was to lead to a more extensive use of malt liquors instead of so much whiskey.

The sales taxes tended toward the consolidation of manufacturing processes in the same factory. The textile maker who could buy raw cotton and turn out finished cloth avoided a tax of 6¢ a pound on cotton yarn and 6% paid by both the dyer and weaver. Thus he could engross the market against less favored competitors. The existence of large personal fortunes, newly created, made possible this sort of

industrial combination. In 1863 hundreds of New Yorkers alone had from one to twenty million dollars each, while three were paying income taxes on from one to two million dollars annually.¹ Manufacturers' associations were becoming commonplace both for lobbying purposes and, at least in one case, to make price agreements.²

Railroads. The closing of the Mississippi River permitted some Western railroads to operate at full capacity and other Eastern roads to pay dividends for the first time. Stock dividends then became frequent as a means of disguising profits. It is scarcely too much to say that the West was held loyal to federal administration measures by the existence of through connections to Eastern ports. Railroads competing with the Great Lakes and Erie Canal traffic had to lower their rates notwithstanding greenback inflation, while elsewhere freight charges kept pace with the general level of prices. Chicago continued to forge ahead as a railroad center, handling twice as much farm produce as in any prewar year. Railroad construction slowed down remarkably during the quadrennium, though Portland, Maine, was made an Eastern terminus of the Canadian Grand Trunk line and New York made a new connection with Cincinnati by way of the Atlantic and Great Western—later a part of the Erie. This latter was the greatest single railroad venture completed during the war. It also gave New York a single gauge of track for a thousand miles westward, thus conferring another advantage over Boston, Philadelphia, and Baltimore which had still to contend with the shifting of freight. St. Louis financed the completion of the line to Kansas City, while various other rail centers were granting like subsidies. But by 1864 over 90 trains a day were arriving at and leaving Chicago without any such inducement.

Other improvements included bridges over the larger rivers, double tracking, and a more extended application of the standard gauge. A few primitive sleeping cars were used and the future diner was presaged by lunch counters in the smoking cars. Work on the Hoosac Tunnel was continued, but its $4\frac{3}{4}$ miles were not completed till 1874, after 19 years of effort. Both the roadbeds and rolling stock of the railroads were neglected to such an extent that before 1865 accidents were becoming alarmingly frequent. When the mind is diverted for a time from profits, and centered on a comparison with progress

¹ These were Alexander T. Stewart, \$1,843,637 made from selling dry goods, and Cornelius Vanderbilt and William Astor with incomes only slightly less.

² Public improvements in the cities scarcely kept pace with industrial activity. From 139 city water works in 1860 the number grew to 218 by 1865. Gas lighting was extended to 27 new cities. There was some advance in the use of horse street cars, while a few cities were experimenting with cable cars. Sewers and other sanitary precautions were so badly neglected that epidemics were frequent.

before and after the war, the conviction becomes inevitable that the wartime period of the railroads was one of retarded development.

There were several evidences of a continued growth toward monopoly. The Camden and Amboy railroad between New York and Philadelphia lost its exclusive character only after congressional interference in 1866. It required the vigorous vetoes of Governor John Curtin to prevent a rapid increase in the number of Pennsylvania charters giving railroad companies control of the coal fields. One of the most important consolidations was the acquisition of the Pittsburgh, Fort Wayne, and Chicago line by the Pennsylvania system, thus completing the first trunk connection between Lake Michigan and the Atlantic Coast. The act of the federal government in taking over some 2,000 miles of track in the border states, in 1862, was purely for military purposes and was not considered as a precedent for peace-time practices. Street railway monopolies got a good start while public attention was centered on the war (see p. 521). Some of the tactics tended to reawaken the old-time hostility to monopolies in general, but not among enough people to form an effective fighting unit. A virtual monopoly was created in the telegraph business by 1866. Between 1851 and 1856 the Western Union had absorbed 11 of the earlier 50 companies. By the close of the war there were only two worthy competitors left, the three doing most of the business of the country, charging monopoly rates, and indulging in frequent stock waterings. In 1866 the Western Union absorbed the United States and American companies, giving it control of 70,000 miles of wire. The 40 or 50 small companies left were hardly worth taking over.

Merchant Marine. The war struck a damaging blow at the American carrying trade on the high seas. Some 5,000 vessels went into foreign registry in five years' time. The *Alabama*, *Shenandoah*, *Sumter*, and a score of other Confederate privateers captured 284 vessels, with a loss to Northern merchants of \$25,000,000. At the same time, manufacturing was offering a more attractive inducement to capital. A few clippers continued their struggle against European steamers after the war, but the coastwise vessels remained the only considerable part of the merchant fleet. Marine insurance companies prospered notwithstanding the depredations, paying dividends as high as 40%. Life insurance companies also thrived, the New York concerns increasing in number from 17 to 30 and multiplying their business by more than six. Accident insurance companies were started, and fire insurance became so popular that some companies were able to reduce their premiums in spite of paper money.

Labor Conditions. While some lines of business flourished and others merely seemed to, the laborers and salaried men were really

hard hit. Though money wages increased 43.1%, the buying power of the laborer in 1865 was hardly two-thirds what it had been just before the war. Women's wages were especially depressed, the seamstresses being in the worst condition. Having a justifiable prejudice against entering domestic service, their labor was sweated by army contractors. In 1861 the government was paying $17\frac{1}{2}\text{¢}$ for making shirts, and in 1864 the wage in comparative values was 6¢, while the contractors were paying only half as much. The government was appealed to for relief, but it was too much absorbed in freeing Negro slaves to pay attention to the complaints of persons blessed with freedom. These women, numbering a fourth or more of the total industrial labor, received an average wage of \$1.54 a week in greenbacks, in 1865, when employed by contract.

There have been various efforts to demonstrate that labor was in a fair degree of prosperity, despite low pay, because of the wages and bounties sent home by the soldiers. The total for these two items is indeed rather imposing, amounting to about a billion and a half of dollars. But after the proportion grasped by bounty-brokers, sutlers, gamblers, and other camp followers is deducted, it is doubtful whether a third of this sum ever reached home. An average of \$50 a year in greenbacks was no godsend to the family of a crippled or otherwise incapacitated soldier. The savings banks showed an increase in number of depositors from 693,870 in 1860 to 980,844 in 1865, with deposits growing from \$149,278,000 to \$242,619,000. But, if the latter sum is reduced to its 1860 value, the actual accretion was only about 12¢ per capita for each year, and no reckoning has been made of the proportion of industrial laborers to temporarily prosperous farmers and small merchants among the depositors.

Whatever few gains were made by skilled workers were the results of collective bargaining. But the unions were fought savagely, union rules were abrogated wherever the employers found it possible, and the federal government openly encouraged the importation of foreign contract laborers to break strikes. Union generals sometimes dispersed strikers by military force, while elsewhere legal permission was obtained to employ prison labor at wages as low as 20¢ a day. Yet, new unions were formed and national organizations evolved.

IN THE CONFEDERACY

The misfortunes of the Confederacy can be attributed to several facts in addition to the superior numbers of the Union army. Among these are the blockade, failure to receive foreign recognition, dissension between state and Confederate governments, and muddled

finances. The lack of industrial development would have been of small moment had the blockade been broken up by active foreign intervention. But France could not intervene without the support of Great Britain, because of the unfriendly attitude of Russia toward such action. The British, for reasons partly explained above, were willing to let matters drift. Even the financial difficulties of the South were largely due to the impossibility of procuring sufficient specie from abroad, and hence are traceable to the blockade. Lacking these economic handicaps it is even likely that the state-rights dissensions might have been smoothed out.

The Blockade. The blockade was fairly effective from the outset. The exports of cotton in 1861 were only about 17% in volume and value of those in 1860. For the next four years combined only 2% of the 1860 quantity went abroad, fetching about an eighth as much as the crop of the last prewar year. The best ports for blockade runners were Charleston, Wilmington, and Mobile. The surrender of New Orleans early in 1862 put a stop to leaks there except as illegally permitted by General Benjamin F. Butler. Some cotton continually went from Texas by way of Mexico. Little of the profits from blockade running went to the beleaguered republic. In gold values the country netted only about \$3,000,000 from its tobacco and cotton in 1863, and little more in 1864 though cotton was bringing 82.5¢ a pound abroad. The blockade runners, operating from Nassau, Havana, and Bermuda and belonging to foreign nations, made enormous profits both on the cotton and the fire arms and luxuries which they imported. The Confederate and some state governments participated in the business, the Congress early in 1864 forbidding any exportation of staples except as regulated by the Treasury Department, but the results were trivial. Some persons took the "Pollyanna" attitude that the blockade would prove a blessing by bringing both the United States and Great Britain to terms, but citizens so deprived of necessities that they had to use persimmon seeds for buttons got little comfort from such a thought.

Military Preparations. In the matter of military preparations the Confederate States were forehanded, providing for an army of 100,000 with terms of enlistment of from three to five years a month before Lincoln even called out the militia. In certain other respects Southern conditions were somewhat similar to those in the North, only generally worse. The problem of supplying the army was more difficult in every way, while complete records would likely show at least as large a proportion of profiteering and bribery. Many deficiencies were expiated by a conscription act passed on April 16, 1862, more rigorous than any adopted at Washington. This measure, like the occasional exer-

cise of martial law, suspension of the writ of habeas corpus, and the impressment of capital and provisions, was a serious infringement upon the constitutional rights of the states. It was hotly contested by governors Zebulon B. Vance and Joseph E. Brown of North Carolina and Georgia as well as by other loyal governors who insisted upon state action of equal effectiveness. The culmination of military legislation was an act of March 13, 1865, for the enrollment of Negroes, both slave and free, in the army. This was the last desperate measure of an already defeated nation.

Finances. In finances, the South resorted to the traditional American method of taxation last. Charles G. Memminger was Secretary of the Treasury till June 15, 1864, when he was succeeded by George A. Trenholm, both being from South Carolina. Memminger, with no more training than Chase, did a far worse job than the Northern secretary, though it is unlikely that anyone could have done much better under the circumstances. A small start was made by the seizure of over a million dollars from the mint, subtreasuries, and custom-houses in the South. State loans and private gifts helped a little. An effort to produce an enormous income from a tax of 8¢ a hundred pounds on exported cotton netted only about \$6,000 in gold values in four years. In March and May, 1861, a purely revenue tariff was adopted which brought in about \$2,750,000 in currency—possibly as much as \$1,000,000 in gold—by September 30, 1864. After that date no authentic information is available. Toward the end of the war there was some talk of protection.

On August 19, 1861, a direct tax of .5% was laid on nearly all property. This yielded about \$18,000,000 in paper in a little over two years. Not until April 24, 1863, was another tax measure adopted. This act assessed 8% against several manufactures and all agricultural products, a heavy license on various occupations, an excise of \$2 a gallon on whiskey, a graduated income tax ranging from 2 to 15% on amounts above \$1,000 and \$10,000 respectively, a 10% tax on wholesalers' profits, and a levy in kind of one-tenth of all agricultural products. Though the act was unconstitutional and provocative of a new outburst of state-rights controversy, its rates were increased at various times till April 1, 1865, when, on the last day of the Congress, a tax of 25% in kind was levied on all precious metals. These measures produced over \$100,000,000 in paper by October, 1864, but Confederate currency depreciated so rapidly after the middle of 1863 that the gold value was not over a twentieth as great. The produce levy netted about \$7,000,000 in specie equivalent. From all sources, less than \$20,000,000 on a gold basis can be authentically accounted for. It is unlikely that the last six months of the conflict swelled this

total above a fourth. This sum, at the rate of Northern expenditure, would not have financed the war for two weeks.

Both bonds and forced loans in the form of Treasury notes, with or without interest, were emitted at frequent intervals. The first bond issue of \$15,000,000 in "five-tens" at 8% was authorized February 28, 1861. Because of a sinking-fund provision and regular payment of interest these securities sold higher than any later ones, being quoted at 6 or 7% of par early in 1865. This was the only domestic loan which produced much specie, and that left the country for the purchase of army supplies. Later in 1861 produce loans in 20 year 8% bonds, amounting to \$150,000,000, brought in 400,000 bales of cotton, large quantities of tobacco, sugar, molasses, rice, wheat, bacon, and other goods, and \$1,000,000 in Treasury and bank notes. A practical method of supplying the army in a moneyless country had been provided. Other similar loans followed, and in March, 1865, the government was trying to raise \$30,000,000 in specie. One feature of the produce loans was the substitution of Treasury notes for a part of the bonds. This made it possible for planters to sell their staples to the government, exchange the bonds for notes, and use the latter for money.

Only one foreign loan was attempted. On January 28, 1863, negotiations were completed with Erlanger and Company of France for the sale of \$15,000,000 in bonds secured by cotton. The agent was to pay 77% of the face value of the bonds and keep all the profit in addition to a 5% commission, the government to get its share as the bonds were sold. Ultimately, the Confederate States got credit for \$6,250,000 while the European investors lost about \$9,750,000. About \$5,000,000 of the proceeds were invested in cruisers and rams which in the exigencies of war were never delivered. But the *Alabama* should in itself have been consolation enough for the losses incurred.

Paper money inflation was begun by an act of March 9, 1861, authorizing \$1,000,000 in Treasury notes paying 3.65% interest and not a legal tender. Thereafter nearly every piece of fiscal legislation passed contained a provision for further issues, some with interest and others without. By the end of the year over \$100,000,000, many of the notes being of small denominations, were in circulation. In 1863 fractional currency was emitted to stem the flood of private shinplasters. States, cities, private corporations, and railroad companies also issued notes in quantities which cannot even be estimated. State issues alone before the war was half over amounted to more than \$20,000,000. Anything which looked like money was eagerly accepted, Northern greenbacks selling at a premium. Counterfeit

notes emanated even from the military prisons at Richmond, while they were printed in great masses in the North and sold cheaply to soldiers who passed them off in the South. Probably the stories of the use of patent medicine labels are slightly exaggerated. Before the close of 1863 the currency was so badly deranged that many regions had resorted to barter, yet before the end of the war Texas managed to bring in gold, repudiated paper entirely, and was on a specie basis..

By October 1, 1864, it seems that the Confederate indebtedness amounted to \$1,371,000,000, of which not less than a billion and a quarter was in notes of one kind or another. At that time it took \$26 in Confederate currency to buy a dollar in gold, while by March, 1865, the ratio had sunk to 61 to one. Before the end of the war the soldiers were six months in arrears in their wages, though if paid they would have been but little better off. Both the Union and Confederate soldiers received \$11 a month at the beginning of the conflict. In the North the sum was advanced in two increments to \$16 by June 20, 1864, while the Southern soldier in the same month was raised to \$18. But in actual values the Union soldier was fighting for \$6.40 and the Confederate for 90¢ a month. Eight months later the latter was earning a cent a day.

The Confederate finances, were further complicated by a series of acts sponsored by Memminger, beginning in October, 1862, whereby a systematic method of repudiation was inaugurated. First the interest rates and redemption periods of bonds were shortened and then the people were told to redeem their currency in bonds or else the notes would be repudiated entirely. The result was to drive down the value both of the currency and the bonds, though the orders were rarely obeyed. Instead, the notes were spent as rapidly as possible to prevent loss by holding them. The states again followed the example of the Confederate government by adopting repudiation measures.

Money Shortage and Prices. Largely because of the excessive inflation there was a constant complaint of a scarcity of money. Each merchant wished to sell his goods at a higher price than he would have to pay for the next supply, and, since the wholesale prices were rising rapidly for similar reasons, an unusual margin of profit was demanded as a matter of protection. This was an endless-chain process which kept the amount of currency, however great, insufficient for present needs. Prices in general were far higher at any time than the premium on gold would warrant. In January, 1865, when a dollar in gold was worth \$53 in paper the values of products were multiplied above the level of 1861 by the following coefficients: coffee, 196; salt, 114; nails, 91; candles, 54; sugar and molasses, 157; meat products, 63; cereals and vegetables, 40; and cotton, 21. In the last winter of

the war, when beef sold at \$6 a pound, flour \$1,000 a barrel, and wood, in one instance when the temperature was down to zero, at \$5 a stick, the conditions of the days of the Continental Congress were repeated.

Banking in general remained on a sounder basis than the Confederate finances. A fair proportion of the banking coin of the old Union, about \$26,000,000, was in the South at the beginning of the war. To protect this, specie payments were suspended, New Orleans succumbing last in September, 1861. In return for large loans several states legalized this action, while some also permitted excessive bank-note issues. Yet, bank notes generally passed at a premium as compared with the Confederate currency, being quoted at about four to one with gold in 1864. When the Union forces occupied New Orleans the bankers rushed their specie inside the Confederate lines only to have much of it confiscated by the military. Notwithstanding such raids and gold loans, a few banks had coin left at the end of the war, but few had enough to stand the collapse of the Confederacy and the later inroads of military despotism.

Confiscation Acts. Southern planters might have profited by a short decisive war ending in independence. The cancellation of debts to the North would have given them an unencumbered start for direct trade with Europe. Yet, it was absurd to suppose that the war could be so brief as to be profitable or so decisive that repudiation could be dictated as terms of peace. On May 21, 1861, the Confederate congress passed a sequestration act ordering debts owed to the North to be paid to the Confederate government instead. On August 6 the federal Congress provided for the confiscation of such Southern property in the North as might otherwise be used in aid of the Confederacy. The Southern congress then retaliated, on August 30, by ordering the seizure of all property held in the South by alien enemies, with exemptions aimed at the preservation of neutrality in the border states. There were later confiscation acts in both nations, the Southern always being the most drastic, but none of them were of any great benefit to the perpetrators. A few citizens bought Confederate bonds and sent them to the North in settlement of debts, but most planters preferred to owe the North rather than pay the South. New Orleans merchants were especially honest in settling their obligations to New York bankers. Stay laws, suspending judgment in suits for debts till after the war and exempting soldiers from legal action, were passed by several of the Southern states. Loans of state treasury notes secured by cotton were another form of agricultural relief.

Agriculture. The greatest economic change in the Confederacy was the shift from cotton to food growing, made necessary by the blockade. Though people did not get all of some things that they

desired, there was enough at any time in the war for all to eat if it could only be properly distributed. But wheat farmers tended to hoard their grain to prevent its seizure by the Richmond government at confiscatory prices. Currency difficulties and the deterioration of transportation facilities had much to do with the chronic food shortage in the army. Wherever the Union armies advanced they left destruction in their wake. General William T. Sherman had no inclination to suppress the vandalism of his soldiers in Georgia and South Carolina. Philip H. Sheridan purposely laid waste to the Shenandoah Valley, it being his boast that a crow could not fly across it afterward without carrying its own provisions. But, in spite of such barbarous actions, there was more food left in the states than they usually produced.

A great surplus of cotton was grown despite the fact that from 1862 to 1865 the combined crops equaled only three-fourths of the 4,000,000 bales of 1861. Some people were ingenuous enough to believe that, at the high prices prevailing outside the South, they could pay for the war, after they had won it, with the stored-up cotton. But great quantities were spoiled through faulty storage, while much was destroyed to prevent its seizure by the Northern troops. A large amount was captured, regardless of such precautions, while many bales were used to stop cannon balls on the lines of fortification. Never before 1859 did the exports of cotton bring such large returns as for any year from 1866 onward, but the additional profits of the next dozen years were not enough to offset the calamity of reconstruction.

Manufactures. Manufactures in general were stimulated by the war, though the movement was hindered by the inability to create ample machine shops. The iron works were converted into munitions factories, while government armories were started with the machinery captured at Harper's Ferry. Heavy ordnance was cast at several of the old foundries. The Tredegar works at Richmond, formerly noted for locomotives, took first place in the making of cannon, shells, and armor plate. A number of powder mills were established and saltpeter caves, long abandoned, were reopened. Augusta, Georgia, and San Antonio, Texas, were the principal centers of powder manufacture. The needs of the ordinary market as well as of the army stimulated the production of textiles, leather, shoes, and saddles. New mills were established for the manufacture of paper, "hats, blankets, hosiery, candles, printer's ink, lamp black, glass, matches, pottery, and even cutlery, copperas, woolens, tinware, silver plate, stoves, oil-cloth, pianos, and sewing machines."¹ For lack of machinery, experi-

¹ John Christopher Schwab, *The Confederate States of America* (New York, 1904), pp. 271-272.

ence, and skilled labor, many of these new industries never amounted to much. Yet, Virginia in 1863 taxed profits of \$3,000,000 earned by 120 establishments. One cotton mill alone cleared \$335,000 in a year, a woolen mill made \$530,000 on a capital of \$200,000, a paper mill returned 575% in profits, while another factory reached 645%. These infant industries were unable to stand the postwar shock.

Salt making was one of the most vital and perplexing of tasks. It was no easy matter to make good salt by evaporating sea water, since the port towns with adequate rail facilities were the special target of both the Union army and navy. Small works were started at salt springs and wells in a few localities, the most important being around Saltville in extreme western Virginia where there was no interference from federal troops. Distilling was another industry engaged in extensively both by individuals and the Confederate government. The latter, anxious to secure the internal revenue, often disregarded the efforts of states to conserve the grain supply.

Transportation. Southern railroads suffered particularly from the war. Of 9,283 miles of track in the Confederacy, about a third was seized by the Northern armies. Sometimes, as in Sherman's Georgia campaign, many miles of track were torn up, the ties burned, the rails heated red hot and bent around trees or telegraph poles. The poles were then cut down and destroyed, while the wires furnished repairs for anything from suspenders to gun carriages. In other regions the railroads made large profits from hauling troops and government supplies. There was a good deal of state and congressional aid to the railroads, especially in their construction, this being a cause of further state-rights dissention. The great trouble was in finding materials to keep the roads in repair. Both rails and rolling stock were worn down to junk by the close of the War, and it took years to restore even the earlier efficiency.

CHAPTER XVIII

THE REBUILDING OF THE SOUTH

A New Union. As a result of the Civil War a new Union was created but the old one was not restored. The reconstruction leaders in Congress recognized this fact and were the first to take advantage of it. Some, like Charles Sumner of Massachusetts, looked upon the Southern states as having committed suicide, and proposed that the South be considered merely as unorganized territory. New states might in the future be created at the will of Congress, either following the old boundaries or not as suited the convenience of the statesmen at Washington, and thus for a generation or more the Northern states would dominate the government. Others, such as Thaddeus Stevens of Pennsylvania, were logical to the extreme. Accepting the Southern point of view that the Confederacy had been an independent nation, they now looked upon its ruins as a conquered province. As such, the Constitution of the United States would not apply further than Congress and the federal courts might deem expedient. Even military government could be applied as permanently as the conqueror desired.

Granted the validity of the Confederate argument for the constitutionality of secession and the four years' duration of independence, there was no logic in the assumption of Southern leaders that the mere acts of surrender and revocation of the ordinances of secession automatically restored the states to the old Union. The policy adopted by Lincoln and followed with minor changes by Johnson was a mere subterfuge based upon the theory that the loyal element in the South constituted the states; that the deeds of the majorities were mere insurrectionary activities; and that as soon as the loyal element was placed in control the states would resume their old condition. Yet, there was more logic in this stand than in that of the submissive portion of the Southern leaders and more mercy than in the brutal proposals of Stevens or the refined sophistries of Sumner, and forbearance at this time was more needed than dialectic nicety.

In the working out of reconstruction, Congress, throwing to the winds all theories, logic, and constitutional procedure, set about to enact the sort of legislation best calculated to supplant the old political leadership of the South with a group subservient to a new set of Northern interests. The reactionaries in control of Congress wanted to perpetuate the war-time tariffs in aid of manufactures, continue

the donation of public lands to railroad companies, and adopt constitutional guarantees for the monopolies already beginning to raise their heads. Thus would preparations be made for any future contests over property rights between big business and the state governments, consumers, or labor organizations. The leaders of the Republican caucuses, who were trying to make over the party into a business aid society realized the difficulty of succeeding by Northern votes alone. But if the South could be put under the control of Northern carpet-baggers and Southern scalawags, smelling for spoils, the support of an ignorant Negro electorate backed by military force would solve the problem. Congressional reconstruction as evolved from 1866 to 1872 and maintained in part for another five years was the materialization of this scheme.

The election of 1868 showed the precarious hold of the Republicans upon the presidency. The superficiality of the electoral college landslide for Ulysses S. Grant is shown by the fact that his popular plurality amounted only to 2.6%. If free elections had been permitted in the South and border states, Horatio Seymour would have more than reversed the popular vote and had a clear electoral majority. If the states of the former Confederacy had been excluded entirely and West Virginia and Missouri had permitted the constitutional guarantees of suffrage, the switching of 26,000 votes in Ohio, Indiana, and California would have changed the outcome of the election. The situation even in the eight reconstructed states was far from satisfactory to the congressional extremists. In spite of all manipulation, Georgia and Louisiana went Democratic by so large a margin as to offset the combined Republican majorities of five other states, with 25,000 to spare.

Here was a signal for Congress to take firm steps to prevent a Democratic landslide in 1872. If the South could be made solidly Republican, then Democratic gains in the North would not make so much difference. So the Fifteenth Amendment, as well as the Fourteenth, was forced through with cavalier disregard of constitutional procedure; laws were passed to provide military protection for Negroes at elections; secret societies aiming at white supremacy were suppressed; and in some districts the writ of habeas corpus was suspended. The South was put under a military rule from which some states did not emerge till 1877. By that time the Republicans had regained their strength in the North, big business was firmly entrenched, and the course which government was to take for the remainder of the century was firmly fixed.

The foregoing is not intended as a substitute for an account of political reconstruction, but merely as an explanation of the initial statement that "a new Union was created but the old one was not

restored." The first Union had been voluntary and respected even when the sections quarreled most bitterly. Most reluctantly was the South convinced that it should be abandoned. The new Union was produced by force, maintained through fear, and oppressed by a sense of hopelessness on the part of the subdued minority. Not till Grover Cleveland's administration was the South permitted to feel that it was in any sense a partner in the Union, and this interlude was too short to offset twelve years of military reconstruction. The mellowing influence of many years and long-continued teaching of nationalism in the schools have so softened the memories of the past that many Southerners of recent years have declared it a good thing that the Confederacy lost its cause. But there are others, and not merely of the older generation, who still stoutly maintain with more than a little of logic that had the Southern war for independence succeeded the Confederacy now would be in a far better economic condition than the conquered states experience after nearly seven decades of reunion—that the advantage from the war continues to be all to the North.

Consequences of War and Reconstruction. Southern conditions were bad enough before congressional reconstruction began. The carpetbag governments, in spite of their malignancy, merely retarded recovery. Considerable portions of the South in 1865 lay in ruins somewhat comparable to the devastated parts of Germany at the close of the Thirty Years' War. Apart from the countryside wasted by armies, foragers, and "bummers," many of the larger towns such as Richmond, Charleston, Columbia, Jackson, Atlanta, and Mobile were partially destroyed by conflagration and battles. Most of the surviving railroads were hopelessly bankrupt. Roads and bridges were almost impassable. Banks and insurance companies were ruined, factories were closed indefinitely, and merchants were without either stocks of goods or credit sufficient to refurnish their shelves. The commonest of necessities, such as pins, needles, and tableware, were lacking even in the homes of formerly wealthy people.

Agriculture was in an especially bad way. The landowners with a disrupted labor system were also without capital, credit, or marketing facilities. Much land once valued at \$50 an acre would bring only from \$3 to \$5 in the market, while the poorer acres could not be sold at all. Buildings were run down, implements and machinery were worn out, and in some states, such as Georgia and Louisiana, the number of livestock was diminished to half what it had been in 1860. All money invested in government bonds, the value of the produce loans, and Confederate currency on hand were a total loss. If personal property had to be sold to meet current debts the proceeds were subject to a

25% sales tax to the federal government, a shipping tax, and an internal revenue duty on movable property. The excise on cotton alone, from two to three cents a pound, amounted in three years to \$68,000,000. All taxes surrendered to the federal government by 1868 far exceeded the cost of reconstruction and the sums spent by public and private agencies for the relief of suffering. The South paid dearly for all the supposed charity it received. After May, 1865, the 25% tax was levied only on goods that had been produced by slave labor, while from 1866 on cotton alone of new crops was taxed, but the burden was still great enough. The agents of the Treasury Department who were charged with the confiscation and sale of contraband goods were guilty of such extensive frauds that even Hugh McCulloch, the Secretary of the Treasury, doubted whether many of them who were honest in the beginning remained so after they went South. The lucrative-ness of the business is seen in the fact that one agent is known to have sold an assistantship for \$25,000, paid for, of course, by the producers.¹

Agricultural ruin was completed by a severe drought in 1865 followed by another crop failure in 1867, while prices remained only about half as high as expected. In December, 1865, it was estimated that in Alabama, Mississippi, and Georgia alone half a million white people were destitute. In the ensuing winter many of them died of starvation. High officers of the Confederate army and government eked out a living by peddling pies and cakes of their wives' baking or fish and oysters they themselves had caught. The greatest humiliation was that the purchasers were federal soldiers stationed there to make sure their political submission. Sometimes the peddlers sold wares to their former slaves. A few observers mentioned men and women hitched to plows.

Relief for the stricken areas came both from the South and the North. State governments, before the reconstruction acts, collected supplies in the black belt and distributed them in the hill country where suffering was worst. The Freedmen's Bureau, established by the federal Congress in 1865 for the relief of Negroes, issued 6,000,000 rations to white people as well as 15,000,000 to the blacks in the next four years. Northern charitable organizations also contributed. After 1867, the worst of physical distress being over, few reports were heard of actual starvation. A crime wave, featuring highway robbery, cattle and horse stealing, accompanied the years of acute want. In the dark years just after the close of the war it seemed that the only people of

¹ The minority report of the Ku Klux committee of Congress stated that the agents confiscated 3,000,000 bales of cotton, of which the government got only 114,000. The former figure probably included large stores of cotton deliberately burned in 1864-1865.

the South not impoverished were the profiteers of the preceding four years.

Problem of the Freedmen. The mortality among Negroes was about twice that of the whites in the early months of readjustment. Tens of thousands of dusky soldiers mustered out of the Union army had no immediate means of support. Camps of noncombatant refugees were broken up and the inhabitants scattered. Former slave families often were improvident enough to move off the old plantation without knowing where else to go, in which case they fell easy prey to disease and their own helplessness. Probably as many of them died in 1865-1866 as the Southern whites had lost by the war, and for several years later the mortality rate among them was out of all proportion to that of the white population.

Too many Negroes had not the least conception of the responsibilities of freedom. A large portion of them, it is true, remained on the old plantations and gradually became adjusted to working for wages or shares of the crops. But many others had the notion that freedom meant numerous holidays, hunting, fishing, and living without work. Stealing from white people they considered merely as "spiling de Gypsians." They were not altogether responsible for this attitude. Slavery had not been conducive to the development of initiative. Then there were numerous unprincipled carpetbaggers, officials of the Freedmen's Bureau, and other scoundrels ready to lead them into mischief or fleece them of any money they might possess. Stories were circulated that on January 1, 1866, Uncle Sam was going to give each Negro family 40 acres of land and a mule. Then the carpetbaggers came among them with red, white, and blue pegs for sale at a dollar each. The Negro, told that he could take four of these, stake out 40 acres of the old plantation, and the tract would be his, was likely to begin figuring where he could get possession of four dollars by fair means or foul. Other rascals played upon their vanity and feeling of race inferiority by selling them preparations to bleach their skins and straighten their hair.

The state governments, before their disruption by the reconstruction acts, began dealing with the new race problem by an extension of the old black codes. The new laws in the main were fair and reasonable, giving to the Negroes as much civil liberty as they were prepared to make use of. The general tendency was to treat black and white alike except for a few matters where the Negro sense of responsibility was especially weak. Since the Negro had little regard for contracts, white men's morals, the sanctity of marriage, or self-sustaining labor, in these matters they were dealt with differently than were white people. The penalties for infractions were also divergent but on the

average no more severe. In some states the distinctions extended merely to racial intermarriage, and here the penalty was as great for the white as for the black. In six of the states Negroes were permitted to act as witnesses in the courts. The Jim Crow idea was applied wherever Negro education was attempted, the distinction being found elsewhere as well. But the North heard mainly about the vagrancy laws of Mississippi and South Carolina. Idle Negroes without means of support were to be apprenticed to plantation owners, preferably their former masters. As compared with similar laws for the white race in the North these acts were not particularly severe, but they roused fear that an effort was being made to reestablish slavery. Because of the Northern protest, most states repealed the objectionable laws. Elsewhere they were nullified by the Freedmen's Bureau and superseded by the Civil Rights Act of April 6, 1866, later made constitutional by the Fourteenth Amendment.

The Freedmen's Bureau was continued in some of its activities till June 20, 1872. The heads of this organization were generally well intentioned, but the officers were often mere fanatics when not actually dishonest. They deluded the Negroes into an expectancy of a general division of land and property and fed them on moral philosophy far beyond their comprehension. They infuriated the white people by sermons on the superiority of Northern civilization. But from 1866 on the bureau was chiefly concerned in making good Republicans out of the freedmen. The officials organized Union Leagues into which the Negroes were inducted by midnight ceremonies and grotesque rituals designed to overawe undeveloped minds. The neophytes were taught that the Southern whites were their enemies—sometimes crimes were plotted. This provoked retaliation by the whites. The Ku Klux Klan, the Knights of the White Camellia, and other secret orders, as ridiculous in some of their mummeries as the Negro lodges, were created with the purpose of driving the freedmen from politics and into habits of industry. By 1870 the Negro Leagues became inoperative, but by the same time the Ku Klux and its like had become so lawless as to cause the officers to order disbandment, and to evoke drastic, unconstitutional legislation from Congress. Perhaps the worst effect of the Klan was to call forth laudatory and fictitious literature, thus furnishing the basis for ludicrous imitations in the future when no justification was present.

Friction developing between the rival secret societies sometimes led to serious race disturbances. As early as July 30, 1866, before the day of Ku Klux activity or the policing of the hated Negro militia, a riot at Memphis resulted in the death of nearly 200 Negroes and their sympathizers and a handful of white police. A similar occurrence at

New Orleans led many Northerners to believe that the Southern whites were bent on extermination of the black race. Consequently, popular sympathy was roused for the extreme reconstruction laws which followed. In general the races got along best together in the black belt, where the old relation of master and servant was not so thoroughly broken down. In the towns, villages, and other regions where the economic status of the whites and blacks was about the same the disturbances were worst. The apologists for congressional policies in the South quoted a Tennessee man as saying: "If you take away the military from Tennessee, the buzzards can't eat up the niggers as fast as we'll kill them." The new breed of carpetbag landowners usually had more trouble with the Negroes than did the older planters. After the freedmen realized that there was not going to be any free distribution of land, and that they would have to earn all they got, the troubles began to subside. Following 1866 the problem would have shrunk to insignificance had it not been for the meddlesomeness of the Freedmen's Bureau which in the long run reacted more against the Negroes than in their favor.

The Carpetbaggers. The crowning indignity to the South was furnished by the carpetbag governments. The new state constitutions, framed under the reconstruction acts by the least responsible persons of the section, made it easy for adventurers to gain control of the governments, while the support of the federal army kept them in power. The seven states readmitted in 1868 elected four governors, 10 senators, and 20 out of 35 representatives from the ranks of the carpetbaggers. The legislature of South Carolina contained 99 Negroes and 56 white men. Negroes were elected to all offices up to and including that of lieutenant governor.

Having achieved power, the carpetbaggers proceeded to profit from it. The selling of charters to corporations was one of the means by which two successive governors of Louisiana became rich. F. J. Moses, later governor of South Carolina, as speaker of the lower house of the legislature took \$15,000 for his vote on a single bill. In some states Negro Solons had fixed scales of bribes, \$600 being the usual sum to buy a Louisiana state senator. Contracts were let for legislative supplies including many strange articles, such as whiskey, bustles, horses, and household furniture. In four years South Carolina paid over \$200,000 for refurnishing the state house with such things as \$600 clocks and \$60 spittoons, after which the building contained less than \$18,000 worth of movable material. In eight years the cost of state printing amounted to over twice the total sum spent from 1790 to 1868, yet there was little to show for the expenditure. In Arkansas the cost of government was multiplied by 15, this situation being

duplicated elsewhere. The tax rates increased all the way from four-fold in Alabama to fourteen-fold in Mississippi.

Frauds could be found at the same time in the Northern states from New York to Kansas, sometimes on a still larger scale, but the South was in no position to afford such a luxury, especially when superimposed by an outside power. In proportion to wealth the reconstructed states suffered the heaviest taxes ever imposed in the United States, and the strain was more than they could stand. In Mississippi alone 6,000,000 acres of land, an area equal to that of Massachusetts and Rhode Island combined, was sold for taxes. Land values fell as much as 65 and 75% in Alabama and Louisiana, and to a half in several other states. Railroads appraised at \$26,000,000 in 1871 depreciated to \$9,500,000 by 1875. In 1876 the state debts were about \$140,000,000 above normal levels, but this did not stand as a permanent burden. The governments, after the restoration of home rule, taking their cue from the Fourteenth Amendment, repudiated most of the bonded indebtedness enforced upon them by Negro and carpet-bag rule and some of the honestly incurred prewar obligations as well. Something like \$138,000,000 was defaulted by nine states, Mississippi and Texas alone remaining aloof. The largest sum was about \$36,000,000 in Louisiana.¹ Since most of the reconstruction bonds had sold originally at a small part of their face value, the investors did not lose nearly as much as they claimed. Nevertheless, for many years the credit of the states was injured.

Changed Landownership. Neither the war nor reconstruction caused a general breakup of great landholdings. Though large areas were sold in 1865, and there were frequent sales for taxes and foreclosure of mortgages, the change was mainly in ownership. A good number of planters took Northern partners or sold half a plantation for money to operate the rest, while others sold their entire holdings as units. Among the new owners were merchants who had held the mortgages, Jewish speculators, and the more enterprising of the Negroes. The number of agricultural holdings in Tennessee, South Carolina, Mississippi, and Louisiana increased a half or more between 1860 and 1870. In the same decade the average size of farms diminished in Louisiana from 536 acres to 247 and in North Carolina from 316 to 212. But these changes do not indicate so great a subdivision of large estates as might be inferred. Both the number and the average size of farms were influenced more by the addition of many very small holdings, a good part of which were on land previously uncultivated.

¹ See Holland Thompson, *The New South* (New Haven, 1919), pp. 227-233. The action of Virginia was least excusable, since it, like Texas, had escaped Negro and carpetbag domination.

Arkansas, Texas, Louisiana, Georgia, and Florida had millions of acres each of idle land which could be paid for by two or three good crops. North Carolina as late as 1878 had new cotton land as cheap as \$5 an acre. The number of large holdings increased along with the small.

The Farm Labor Problem. It was only on the greater estates that the labor problem was serious. The South has always had more white men than Negroes working on farms, but since the war, more than ever before, the economic destiny of the section has been dependent upon white labor. Most of the destruction wrought by the Civil War was in the region closest to the Union and where the number of white farmers greatly exceeded the slaves. The black belt was the least injured of the whole South. Yet, it was on the poorer lands which had been spurned by slaveholders that agricultural recovery was most rapid, this being merely because the Negro in freedom proved less efficient than in slavery, while his white competitor was redoubling his efforts to get ahead. Whether working for wages or on shares, the free Negro demanded the continuation of the "privileges of slavery." With a truck patch, pasture for a pig or other animals, the right to hunt and fish, a family of small wants could eke out an existence without strenuous efforts in the raising of staples or other farm crops. While white farmers were using fertilizers and improved farming methods to increase their income, the former slaves were letting their holdings deteriorate. The Negroes in the black belt occupied the best land in the South, yet, by 1870 the poor whites on very inferior land were prospering by comparison and were laying by enough money to encroach gradually upon the better areas. "Negroes, fertile soil, and poor crops went together. . . . The Black Belt has never again reached the level of production it had in 1860."¹ Even the more energetic Negroes were a prey to predatory fellows and sponging relatives.

Since most of the white farmers owned their own land, however small the area, Negroes remained the principal source of labor for the larger estates. The landless whites tended to shift into Texas or to the industrial centers, while the former unionists were not barred from Western homesteads. Thus, for 40 years or more, the Negroes were without serious competition for hired or tenant labor on the farm. In the states where free Negroes had been most numerous in proportion to the number of slaves in ante-bellum days, no serious difficulty was encountered in adapting the freedmen to the new system. Within a year after the war the transition from slavery to the wage

¹ Walter Lynwood Fleming, *The Sequel of Appomattox* (New Haven, 1919), p. 272, note.

or tenant system was in rapid progress, especially in Louisiana which had had the most prosperous free Negro population in the earlier days. But in South Carolina, Georgia, Alabama, and Mississippi, where the slave population had been largest, the readjustment of labor relations proved most difficult. Though few landowners had ready cash, the Negroes at first refused to work on shares. They wanted their wages paid at frequent intervals, then were disinclined to work again till their money was all gone. Northern speculators in Southern land were for a time about the only ones who could pay wages, and their inability to make effective use of the hired labor ultimately brought nearly three-fourths of them to bankruptcy.

Several plans of labor adjustment were tried out before the share-tenancy system was widely adopted. One method was quite similar to serfdom, the tenant getting a small patch for his own use, along with other perquisites, and repaying the landlord by four or five days' work a week. Other planters tried paying for the season's labor when the crop was marketed, an idea which had very little appeal to the Negroes. Some allowed the tenants to pay a predetermined money or produce rental when the crops were sold. But, sooner or later, most landlords were compelled to fall back upon share tenancy, however much they regretted the inefficiency involved. Among the occasional white tenants the division of the crop was in thirds: one for labor, another for rent, and the remainder for implements, draft animals, seed, fertilizer, and the like. If these latter items were shared equally between the owner and tenant, each got half of the crop. If either furnished all but the land or labor he got two-thirds.

Negro tenants, being a necessity but too unreliable to depend upon otherwise, generally got more favorable terms than their white competitors. The Negro was allowed the use of a cabin and an acre or two for a garden and truck patch. The landlord furnished the draft animals, implements, and seed. The two jointly supplied the fertilizer and the expenses of ginning, baling, or other costs of preparing the crops for the market. Then the proceeds were divided equally. With various modifications, this system still exists. The owner generally would prefer to pay wages, but if he did he might find just at a critical point of the season that his laborers had collected their current pay and wandered off never to return.

Under the crop system any tenant could and many did save money and buy their land. Though this was the best opportunity in the United States for Negroes to become independent, most of them remained poor. There was no conspiracy against them, but like all other unwary or ignorant persons they were individually subject to swindling. As an illustration of the effect of this solution of the labor

question upon farm ownership and tenantry of the two races the following table is presented. All the old slave territory except Missouri, but including Oklahoma, is covered. A comparison with earlier census years shows a steady though slow increase in the number of Negro

NUMBER OF FARMS IN THE SOUTH: BY COLOR AND
TENURE OF OPERATOR, 1930

	OWNERS		MANAGERS	TENANTS		
	Full	Part		Cash	Croppers	Other
White	1,050,187	183,469	16,529	140,112	383,381	568,451
Colored	140,496	41,523	829	97,920	392,897	208,022

owners, a decided tendency away from cropping, and a rapid increase in the number of white tenants. The next table, of acreage, should be compared with the preceding, noting also that the area of improved land is less than half of the total. The figures for 1930 are somewhat lower than for 1920. In 1910 65% of the cultivated land was worked

ACREAGE OF FARMS IN THE SOUTH: BY COLOR AND
TENURE OF OPERATOR, 1930

(All figures in thousands of acres)

	OWNERS		MANAGERS	TENANTS		
	Full	Part		Cash	Croppers	Other
White	136,194	42,427	27,296	23,066	19,635	56,663
Colored	9,010	2,467	267	4,095	11,970	9,995

by owners, of whom 4.4% were Negroes. In 1920 a little less than 60% of the land was farmed by owners, but the percentage of Negro ownership had increased slightly—to 4.7. In the latter year Negroes cultivated a little less than 13% out of the two-fifths of all land farmed by tenants. Few farms in the first quarter of the twentieth century were mortgaged or seized for debt, the South being freer of such trouble than any other section of the United States except the Rocky Mountain region. But following 1925 the situation was changed, sheriffs' sales having become the order of the day before 1933 (see Chap. XXXIV).

The Credit System. The curse of Southern agriculture since the Civil War had been that not many white tenants and still fewer Negroes had money enough to carry them through a season. Many even of the landowners were hampered in the same way. The credit formerly extended by factors was largely taken over by the country merchants. A contract was made with the farmer to supply the latter

with his needs on credit until the crop was ready to market. For security the merchant took a lien on the crop and sometimes a chattel mortgage as well. He then charged prices which amounted to an interest on the bill of from 40 to 100% a year. When the crop was gathered it had to be sold to the merchant, who offered less than could be had in a free market. After the dealer subtracted his bill from the amount due, the balance was paid to the tenant. When the crop was small or the farmer shiftless there was likely to be no money income at all. Sometimes, where the tenant was ignorant as well, merely clever bookkeeping could prevent the appearance of a balance. Under such conditions there was little for the victim to do but accept a new advance and start another crop, hoping for better results. This was about as near to a system of peonage as American laws would permit.

The most damaging effect of the crop-lien system for many years was its tendency to create a more complete one-crop system than ever was experienced before the war. The merchant demanded staples, such as cotton or tobacco, because there was a sure market for them, the returns were rather certain, and there was no chance to steal them before they were matured. He opposed the raising of much grain or many hogs because he wanted to sell flour, meal, and bacon to the debtors. Though many a plantation before the war was almost self-sustaining, forty years after Appomattox corn was almost unknown in some sections. Curious observers have been known to throw an ear of corn to a cow and see the brute nose around over it and walk back to munch at its pile of cotton-seed hulls. From 1865 to 1890 all the states of the old Confederacy except Texas declined in the amount of corn and wheat grown, though the population had increased seven-tenths.

Despite the seeming hard-heartedness of the country merchants, few of them became rich. Crop failures or abandonment of farms left the creditors short after the tenants had received and consumed the goods. On many occasions both the landlords and merchants were compelled to hire labor at a high cost to retrieve an abandoned crop.

Agricultural Advance. The South has continued to present a variety of local economic situations which defy expression by a single formula. Much of the area escaped the worst hardships of reconstruction. Since then, though the black belt has not flourished as its geographic superiority should have made possible, other regions have shown remarkable improvement. The small farmers of upland Georgia, who before 1860 were noted for their poverty, were by 1876 experiencing a degree of prosperity which made them the envy of their former economic superiors. The number of small farms in Texas nearly

tripled in the 1870's, while the population of the state about doubled. A corresponding change occurred in the once backward state of Arkansas. North Carolina, which in the prewar days was a half-populated poverty-stricken commonwealth, has recently been setting the pace for the whole South.

Even before the carpetbag governments were all removed, the section was beginning to show distinct signs of recovery. In 1878 for the first time the banner cotton crop of 1859 was exceeded, with a total of 4,745,000 bales averaging 500 pounds each. After that year the crop has always been higher, reaching nearly 18 million bales exclusive of linters in 1928. This was at least four times the record of any year before 1860. World War prices for cotton, reaching 35.6¢ a pound in 1919, led to a new expansion which was one of the factors in reducing the price to a new low of 5¢ in the early 1930's. The 1919 crop brought over two billion dollars, while only once from then to 1928 did it fall below a billion. No crop before the Civil War ever brought a quarter of a billion dollars to the producers. Yet, it must not be assumed that this increase was a sure sign of prosperity except possibly for the war years. The cotton acreage increased from 8,810,000 before 1875 to over 47,000,000 in 1926, while the number of growers multiplied in almost a like proportion. When the whole proceeds were divided up in the 1920's there was only enough to keep comparatively few of the producers out of debt. As a by-product, cotton seed alone since 1900 has brought larger annual returns than the whole cotton crop before the Civil War.

Except for sugar, the other old staples have shown a growth comparable to that of cotton. Since 1879 the tobacco yield has constantly exceeded the record of 1860. In 1929 over two million acres were planted, making a crop of over 1½ billion pounds valued on the farm at \$282,764,000. This was a peace-time record for value, over ten times the average before 1875. Rice growing languished for half a century following the peak of 1849, then advanced rapidly to a mark of over 1.2 billion pounds in 1927—nearly six times that of the antebellum maximum. Meanwhile, Louisiana superseded the old rice coast, with Arkansas, Texas, and California following. The crop of South Carolina diminished to small proportions. Cane sugar, which in 1854 yielded half a billion pounds, remained below that figure till 1894. Thereafter there was a great deal of fluctuation, the maximum being about 830,000,000 pounds in 1904 and 1908. Since then the annual crop, nearly all of which comes from Louisiana, has dropped to a half or less of the maximum. Unusually low prices following 1929 caused a great decrease in acreage.

Since 1890 the South has paid more attention to diversification and

scientific agriculture. About 1892 it was noticed that the boll weevil had invaded Texas from Mexico. It then spread gradually as far eastward as Alabama. Because of its ravages the growing of cotton in the Western belt was seriously affected, the crop in some states being cut in half, though that of the whole country was not diminished. In more recent years rather successful methods for combating the pest have been developed. In 1903 Seaman A. Knapp of the United States Department of Agriculture attacked the problem in Texas. Since then he and his son Bradford, by means of children's clubs and demonstration farms, have done much to help other crop yields. In 1913 a boy in Alabama raised the startling amount of 233 bushels of corn on one acre, while many grew more than 100 bushels. In 1928 the South had a third of the acreage, a fourth of the crop, and three-tenths of the sale value of all corn produced in the United States. The receipts were nearly half as much as for cotton, while, with tobacco and hay, the great staple was equaled. Too much attention, probably, is still paid to cotton and tobacco, but, in the prolonged period of general agricultural depression following the World War, it is doubtful whether the section could have benefited much by a change. All farmers cannot enrich themselves by turning to dairy cows and orchards. That the South, as compared with the rest of the nation, is no better off agriculturally than before the Civil War is shown by the fact that in 1928 the section, while containing about three-tenths of the population of the country, yet received only two-tenths of the gross income derived from farms.

Cotton Manufacturing. Manufacturing, like agriculture, has made giant strides since 1865, yet the gain on the North has been painfully slow and is still relatively small. Were it not for the cotton mills, the South would still be on the same comparative level as in 1860. In this one branch the section has become preëminent. It was not till after 1880 that any gain was made on New England. Then in ten years the number of spindles tripled, a feat which was duplicated in the next decade. This growth continued without abatement to 1930, though the output of the country at large declined steadily after 1920. Some of the lessons of the prewar period were useful to the later pioneers. Yet, many new mistakes were made, such as the buying of obsolete Northern machinery because it was cheap. The overseers, brought ir from New England, for a long time were at a loss to know how to dea with the heavy-handed farm labor at their disposal.

Funds for the building of mills accrued from the high price of cottor to 1880, while the sale of stock in small blocks on installments as low as 50¢ a week added a useful increment. Northern machine shops in order to increase their sales, allowed long credits and gave good

advice to the new mill operators. Banks and commission houses bought stock, while Northern merchants, such as Marshall Field and Company, built several mills for their own trade. But most of the capital was subscribed by Southerners, the stock of many companies being widely distributed among small holders.

The rising industry had to create markets with goods sometimes of an inferior grade. But, with the growth of managerial ability, there was a specialization in the heavier grades of white goods which were not subject to sudden changes of fashion. Nearly every cost of manufacturing was less in the South, even to taxes. Low wages were a special inducement. The mills being located in the upland country of the Carolinas, Georgia, and Alabama, with some development in the corresponding regions of Virginia and Tennessee, the labor of the poorer white people was found available. These persons, starved for companionship and coveting the sure if small returns from factory work, were easily induced to thin out the surplus labor on their unproductive farms for service in the neighboring mill towns. Their wages were incredibly small as measured by Northern standards, and often were paid merely in scrip on the company stores. Yet, having always lived on the verge of want and sometimes over the edge, they found even these wages a welcome addition to the family income. Not till the region became industrialized, the cost of living advanced, and mill servitude had become fixed did they realize how easily they had become the victims of a not altogether intentional exploitation.

As Southern coarse yarns began to capture the market, Northern operators took alarm. Some built factories in the South, while others adopted defensive measures. They financed attempts to unionize Southern labor, agitated for labor legislation, and furnished propaganda concerning the use of child labor in Southern mills. In later years the advantages of the South became somewhat smaller. But just as it seemed that the encroachment of the South upon the old monopoly of New England was about to be held in check, the potential hydro-electric power of the piedmont rivers was harnessed by the efforts of James B. Duke of North Carolina and others. This made it possible to establish mills in towns and villages remote from other sources of power, where new reserves of labor were ready to go to work at the prevailing Southern standard of wages. Multitudes of small towns in the back country of the Carolinas had a cotton or furniture factory each, running at partial capacity during the active seasons on the farm and picking up in output when agricultural labor was less in demand. North Carolina, the most industrialized state of the South, has no city of as much as 100,000 population, but it has mill

villages from one end to the other. Some textile makers in the last few decades have turned to the making of very fine cloth. This is especially true in South Carolina. The following figures will show the growth of cotton manufacturing in the South as compared with that of the country at large.

GROWTH OF COTTON MANUFACTURING

YEAR	SPINDLES IN USE		BALES OF COTTON CONSUMED	
	Total, U S	South	Total, U S	South
1860	5,236,000	324,000	845,000	94,000
1870	7,132,000	328,000	797,000	69,000
1880	10,653,000	561,000	1,570,000	189,000
1890	14,384,000	1,570,000	2,518,000	539,000
1900	19,472,000	4,368,000	3,873,000	1,523,000
1910	28,267,000	10,494,000	4,622,000	2,234,000
1920	35,481,000	15,231,000	6,420,000	3,583,000
1930	31,245,000	18,586,000	6,106,000	4,749,000

After 1920 the South maintained a steady lead over all other sections in this one industry, but the future remained in doubt. The tendency toward scantiness in women's clothing, whether permanent or not, had its effect upon the output of the mills. The increasing use of rayon and other substitutes was a more serious threat. The South for several years endured the depression in the industry more easily than New England, but such affairs as the disturbances in the Gastonia region of North Carolina in 1929 indicated the approach of the time when Southern mill owners would have to pay wages more nearly commensurate with those of other sections.

The manufacture of cotton-seed products has become of high importance in recent years. The high point was reached in 1929 when the value of the oil, meal, cake, hulls, and linters reached a value of \$265,247,000, of which about a half was for oil alone. About 40 million dollars was added to the worth of the raw material. The meal and cake, rich in nitrogen, are good both as fertilizer and cow feed. They have even been experimented with as a base for food for people. The oil, formerly used mainly as an unheralded substitute for olive oil, came to be employed for the same purpose on its own merits as well as in oleomargarine, lard compounds, soap, and various other products. Cotton seed, along with the phosphate deposits of the South Atlantic states, gave the section a distinct lead in the manufacture of fertilizer. Georgia assumed first place, with Maryland second, while no Northern state ranked higher than seventh.

Other Manufactures. In lumbering and tobacco manufacturing, the South has managed to maintain an important place. Of 44½

billion feet of lumber produced in the United States in 1909, the states of the old Confederacy sawed 47%. The national record of that year has not since been duplicated. In 1929 the product was a little under 37 billion feet, of which the same 11 states supplied about 41%. In the manufactures of tobacco the South specialized in cigarettes, plugs, smoking mixtures, and snuff, leaving Pennsylvania far ahead in cigar making. In 1929 North Carolina and Virginia alone made 99 billion cigarettes of the total of 122 billion for the whole country, while North Carolina itself produced a third of the plugs, smoking tobacco, and snuff.

Though the Birmingham iron region has attracted considerable attention because of its rapid growth, the South as a whole has produced but a small and declining fraction of the iron manufactured in the United States (see Chap. XXX). Virginia and Tennessee also made pig iron, but their total output remained far below that of Alabama. Coal mining reached some importance in Alabama and a notable development in Tennessee and Virginia. But the border states of West Virginia and Kentucky continued much more important.

The following table of all manufactures in 1929 for the United States, the South as listed in the Census, and the states of the old Confederacy is presented for purposes of comparison. The relative

SOUTHERN MANUFACTURES IN 1929

STATE OR REGION	NUMBER OF ESTABLISHMENTS	AVERAGE NUMBER OF LABORERS	TOTAL WAGES	COST OF MATERIALS, FUEL, ETC	VALUE OF PRODUCTS	HORSE POWER
In Thousands of Dollars						
U. S.	210,710	8,807,536	11,649,537	38,293,534	70,137,459	42,798,911
South	41,224	1,576,798	1,479,525	5,578,739	9,995,556	8,150,251
Old Con.	31,626	1,220,394	1,043,812	4,082,295	7,196,602	6,090,358
Va.	3,274	118,399	116,847	358,749	727,606	644,187
N. C.	3,792	208,068	159,795	614,140	1,301,319	903,811
S. C.	1,658	108,600	73,232	227,103	385,339	525,064
Ga.	4,178	158,280	109,552	430,027	718,603	643,283
Fla.	2,214	64,936	54,662	97,103	232,912	193,526
Tenn.	2,846	126,921	114,078	387,621	706,054	602,647
Ala.	2,848	120,064	102,040	299,519	560,975	784,255
Miss.	1,912	52,039	42,508	113,093	220,590	252,597
Ark.	1,731	44,073	39,221	115,030	208,897	221,637
La.	1,986	87,511	83,990	441,980	684,886	488,507
Tex.	5,187	131,503	147,888	997,932	1,449,802	830,844

growth of Southern manufactures since 1860, as compared with the total for the United States, is about as follows.

RATIO OF SOUTHERN MANUFACTURES TO TOTAL FOR
UNITED STATES, 1860 AND 1927

	CAPITAL INVESTED	NUMBFR OF LABORERS	VALUE OF PRODUCT
1860	9.5%	8.4%	8.25%
1927	10.0%	18.0%	14.0 %

Railroads. The South rapidly recovered its prewar ratio of railroad building. The lines operated by the federal War Department were later turned over to civilian control under "loyal" directors. For a time there was little freight to ship and few persons could afford to travel. Yet, five years after the close of the Civil War there were 2,500 more miles of railroad in the reconstructed states than in the old Confederacy. By 1880 the railroad mileage for the whole United States was three times that of 1860 while that of the South had merely doubled. In the following decades the situation was reversed, the increase in growth of Southern mileage being proportionally greater than that of the Union at large for each decade to 1920. Before 1930 the "Southern" states as listed in government statistics had a third and the old Confederate states a little over a fourth of the mileage of first track in the country, while the per capita amount was greater than that of the nation.

Industrial Labor. The Southern labor problem is inextricably mingled with the race question. Of the 11,891,143 Negroes counted in the Census of 1930 all but $2\frac{1}{2}$ million were in the South, while 8,407,397 were in the reconstructed states. This was about 29% of the total population of the latter group, whereas in 1860 the ratio was a little above 40%. Largely because of a high mortality rate, the Negro population has not grown as rapidly in freedom as in slavery. Only in Mississippi, by 1930, did the Negroes outnumber the whites. Contrary to many opinions of the prewar period, the emancipation of the slaves did not increase the percentage of immigration to the South. Shortly before 1920 there was a rush of European peoples into Texas, the total of foreign-born whites reaching over 360,000, but this was nearly half of the total for all of the former slave states. While the foreign-born population of the United States was 14.5% of the total, that of the South was only 3.5%. In the reconstructed states it was 3.3%, and, exclusive of Texas, only 1.5%. The ratio had been over twice this latter figure for the same territory in 1860. The effect of America's immigration policy since 1920 has wrought a still more deleterious effect. While the foreign-born portion of the population of the country fell to 12.3% in the next decade, that of the South, counting only the whites, dropped to 1.4%. The number of Europeans fell off more than

300,000. But nearly 700,000 Mexicans came in to take their place, thus very greatly aggravating the race question, especially in Texas, where most of them came. The Mexicans in the latter state were rapidly approaching the Negroes in number. It seems clear that the free Negro has repelled white immigration in an even greater degree than did the slave.

Whether for this reason or for others, the wages of white labor have remained low. In 1929, when workers on federal road projects were being paid 39¢ an hour as an average for the whole country, the rate in the South was 28¢. As a rule, Southern labor in nearly every other line got a third less an hour than in any other section of the Union. This necessitated longer days and the employment of more members of the family to round out a living wage. The South also lagged behind the rest of the country in child-labor legislation. But exaggerated stories of labor conditions merely put Southern employers on the defensive and tended to perpetuate what was at best a bad situation. In addition to the influence of Negro competition, it must be remembered that industrialism in the South is new and still in the experimental stage. As the factories grew in number and capacity, the white families made themselves dupes of a low wage scale. In the years of agricultural depression prior to 1900 many farmers saw but few dollars in a whole year's labor, the proceeds of a season's cotton going to pay the store bill. If the whole family together could earn from \$15 to \$24 a week in a cotton mill, this sum looked like a windfall. Rent, fuel, and food costs were low. If the men were too horny handed to make effective textile workers, there were the women and children who were not thus handicapped in earning the family living. The people could return to the farm if they wanted to, but most of them had no such desires. Parents often insisted that their children be given jobs, and the children themselves generally preferred the work to going to school or returning to the farm.

This situation made correction slow. The week's work was from 72 to 75 hours, the wages being paid in scrip. Yet, the charges for groceries and supplies were no higher than what the laborers had been accustomed to as tenant farmers trading with the rural merchants on a crop-lien basis. For some years also the Southern operative was less efficient than his competitor in the Northern cotton mills, thus making it more difficult to secure higher wages. Unionization was slow, but the fault was not solely that of the laborers. Just as had happened earlier in the North, the factory owners bitterly opposed organization. Here again the worker was a victim of his illiteracy or scanty education. In the Gastonia strikes of 1929 preachers in the pay of mill owners were known to oust parishioners from the churches if they joined a union. The poor victims, sincerely believing that their souls were in danger

because of the excommunication, cringingly gave up their unions to recover a place in the fold of the faithful. Perhaps this was an extreme situation, but, considering the attitude of Southern legislatures on religious questions and the popular approval of their medieval edicts, the hope of progress remained dim.

Despite such conditions, some improvement has taken place. States have passed maximum-hour laws for women and children, night work being eliminated. Compulsory attendance laws for school children have been passed. Still other labor regulations were in progress when the federal courts began to take notice of such attempts and to restore the unlimited authority of the capitalists. Mill operators themselves have either grown more humane or have seen the economic desirability of having contented labor forces. The result has been to add somewhat to the social and intellectual life of the workers. Perhaps also it has added to their discontent, making them realize the possibilities of still greater advantages through combination with their fellows. Even the Supreme Court of the United States has on rare occasions intervened in behalf of the laborer, as in 1911 when it set aside the contract-labor law of Alabama.

The color line has applied only partially to labor. Negroes work not only at many of the same tasks as white people, but even alongside them. The only restriction has been that for indoor work Negro men cannot be employed in the same rooms with white women, except in a menial capacity. Negroes may operate restaurants, barber shops, and other establishments for whites or Negroes only. They may even run factories or mercantile establishments and receive white patronage, but in the learned professions they can get only Negro clients. Colored women are being employed as nurses in increasing numbers, but this occupation like that of cook, housemaid, barber, or waiter is looked upon as menial. Some of the more intellectual Negroes, particularly if mulattoes, resent these distinctions and especially the Jim Crow legislation. Yet, it is certain that race friction is minimized by reason of the enforcement of such regulations. The situation has remained relatively unchanged to 1934.

It is perhaps not safe to draw too many conclusions from the facts here presented. The theoretical secessionists of the Old South were undoubtedly too optimistic as to what the Confederacy might accomplish through separate existence. No guess would be of any avail as to the probable advance of the section if slavery had been left for economic forces to settle and the war had been avoided. But this much seems certain: the material progress of the South as compared with that of the country at large has scarcely reached the level in the new Union that in 1860 it was promising in the old.

CHAPTER XIX

THE SETTLING OF THE FAR WEST

The Unoccupied Regions. A vast portion of the trans-Missouri West at the outbreak of the Civil War was almost uninhabited. Indefinitely organized territories contained over two-fifths of the area but only seven-tenths of one per cent. of the population of the United States. By including the four states which lay in the same longitude, it is seen that three-fifths of the area contained 3.6% of the population. But by far the greater part of Texas and much of Kansas were unsettled, while the people of California were compacted into narrowly restricted areas. As for Oregon, if statehood had been withheld till the legal ratio for a representative in Congress was reached, admission to the Union would have been postponed till 1880. If the frontier portions of these states be added to the territories, half the area of the country would be found containing 1% of the population. The development of this region is shown by the fact that in 1890, by which date the open frontier is conceded to have come to an end, the territories of 1860 contained 5.4% and the whole trans-Missouri West 14%¹ of a doubled United States population.

Early Stages of Frontier Advance. Some understanding of the development of this Western half of the United States is essential to a consideration of the general economic problems of the era. By popular conception in 1860 the whole region from central Kansas to the Western cordilleras was a "Great American Desert." Many people knew better than this, but their knowledge had very little effect on the general opinion. New Mexico Territory had 61,500 people when organized in 1850, and a decade later, before a new reapportionment act was passed, had surpassed the ratio for a representative in Congress. Farther north, the fur traders had been the first pioneers, followed by explorers such as Lewis and Clark, Pike, and their successors. Then came the freight wagons and emigrant caravans of other decades before the Civil War. Though nearly all of these people had been transients, they passed up vast areas of attractive country merely because greater allurements called them either onward to the Pacific Coast or back to the limits of the older civilization. The Mormons had a thriving if small common-

¹ By the Census of 1930 these ratios were changed to 7.7% and 19.3%. Indians on reservations, included in the count for the first time in 1890, change the ratios only a fraction of 1%.

wealth in Utah, while paths of commerce crossed the plains and mountain passes in many directions.

The gold of Colorado Territory and the silver of Nevada attracted a roving tribe of miners and prospectors during the war, thus helping to produce the fiction that Nevada was ready for statehood in 1864. Of all the scores of thousands who swarmed to the mountains in search of gold or to evade the military drafts only a small fraction remained. In 1870 Nevada had dwindled to 42,500 and Colorado Territory to still less. Sixty years later the former had but little over twice the numbers of 1870. Gold seekers in Colorado were disillusioned by a quartz ore which required expensive machinery to reduce. Men with more hopes than experience or money crossed the plains, their prairie schooners blazoned with inscriptions such as "Pike's Peak or Bust." But the dejected owners, after months of expensive and futile efforts, were forced to return, retaining just enough bravado to add a brief postscript to the outgoing caption: "Busted, by Gosh!" They had not even found the demand for highly paid labor which a decade earlier had attended the rush to California. Some remained to continue their fruitless search; others moved on into the territories of Idaho and Montana, straining their ears for each new rumor of discoveries of the precious metals. A favored few got rich; stock salesmen amassed their unearned hoards; but little was done for the permanent improvement of the country. The wealth of the Comstock Lode enabled the silver magnates to live in Oriental luxury, but most of the proceeds went to California, whence the capital had come. By 1880 the deposit was worked out, and stock which five years earlier had been valued at \$393,000,000 was quoted at less than \$7,000,000.

The territories of Idaho and Montana in 1866 had populations of about 30 and 40 thousand respectively, but the census takers four years later found only about half as many. The mining operations had declined, leaving behind a remnant of farmers to be pestered by grasshoppers and Indians. But the next wave of settlement was more permanent. The Anaconda copper mine, opened in 1881, made fortunes for William A. Clark and others. By the same time the Pacific railroads were all well on the way to completion, providing a stimulus for future growth. Meanwhile, the mining centers had established a reputation for wickedness scarcely to be rivaled by the railroad construction camps or the Kansas cow towns. Incidentally, the world had learned something more about the West.

The Cow Country. The next stage of advance was dominated by the cattlemen, whose brief reign was brought to a close by the same force which had made it possible—the railroads. During the war years, for lack of markets, the Texas herds became unusually large, and the

ranches were overstocked. By 1867 the Kansas Pacific railroad reached Abilene, in which year about 35,000 cattle were driven north of the Red River, across the Indian Territory, the Arkansas River, and its tributaries to the cow town on the Smoky Hill River. Ellsworth, farther west on the Kansas Pacific, Newton and Dodge City on the Santa Fé, and Baxter Springs on the Frisco were later marketing points.

In the spring of 1867 it was discovered that some cattle abandoned on the plains in the previous winter had not only survived but even put on weight from the buffalo grass dug up from the snow. From this time on the cattle industry of the northern portion of the Great Plains began to develop. When Texas cattle were driven to the vicinity of one of the cow towns they were often bought by Northern feeders who turned them out to fatten for another season or two. The drives were then renewed under new crews of "punchers." As the summer season advanced the herds would be allowed to drift northwestward into the fresher pasture land of Nebraska, Colorado, and the territories, to be marketed finally from towns such as Ogallala, Nebraska, and Miles City, Montana, on the main lines of the Union Pacific and Northern Pacific. In the late years of the open range they were driven as far as Saskatchewan and then shipped on the Canadian Pacific from Moose Jaw and Regina.

Though there was nothing astonishingly new in the methods of handling cattle in the West, the open range developed a distinctive and most picturesque phase of the industry. Some of the practices were as old as cow herding itself, but the adaptation of the business to the treeless and semiarid plains was copied from the Mexicans or developed as needed. As a sole source of livelihood, in the intensity of operations, and for hazards and uncertainties there was nothing in the earlier history of the United States to compare with the situation existing in the West in the 1870's and shortly following.

The breed of cattle had first to be improved. Though about equal in quality to much of the beef grown on Eastern farms, the Texas longhorns, degenerated from earlier Spanish cattle, were nothing to wax enthusiastic about. But the importation of Hereford, Angus, Galloway, and shorthorn bulls so rapidly improved the quality of the stock that Western beef was soon put at a premium. The cost of growing the cattle was not great. Comparatively little land need be owned outright. The cattleman might start out on a quarter-section procured under the Homestead Act or purchased from the state of Texas. Other choice spots, especially those containing water holes, could be acquired cheaply under other acts of Congress passed subsequent to the Civil War. Cow hands were induced to acquire home-

steads, to be forfeited later to their employers, though this practice was somewhat wide of the intent of the law. The men who controlled the watering sites dominated the vast stretches of government property on the range. The first cattlemen on a given area of land determined among themselves when enough animals were grazing in the region, and newcomers were summarily dealt with if they insisted on encroachment.

For the greater part of the year the Texas cattleman was chiefly concerned in the cooperative work of riding the range to turn stragglers back toward the herds and guard against marauders or unwelcome intruders. In the spring, generally May, all the available men were needed to surround the herds and drive them into the center of a ring at some convenient camp. After the roundup the yearling steers were segregated for marketing, calves were branded with the mark of the mothers, mavericks were divided *pro rata* among the several owners, and the surplus young bulls were castrated. The yearlings were then driven northward to the railroads or for sale to Northern cattlemen. The long drive was the test of the cowboy, for the animals must be delivered in better condition than at the beginning of the trip. Some cattle were marketed at closer points, but most of them were driven in herds ranging from a few hundred to 10,000 or more to the cow towns of Kansas, Nebraska, and northward. The peak of the industry in Texas was reached by 1870 or shortly afterward, when calves could be bought cheaply, fattened on the plains, and sold for four or five times the cost. In 1871 over 600,000 were driven northward. In the decade of 1869-1879, the era of the long drive, about 4,000,000 cattle were driven to the railroad towns.

When Northern feeders shipped their stock at the close of the season, they frequently glutted the markets at Chicago, Kansas City, and Milwaukee and were left at the mercy of the packers for the price received. Consequently, they began to develop ranches for the purpose of holding the cattle till conditions were more favorable. In the interim another year or two might elapse before shipment, during which time the cattle would be improving in condition.

By 1885 the open range was so narrowed down that the long drive, which had been diminishing in importance for half a dozen years, was brought to a close. The Pacific railroads, free land, and barbed wire at a low price were the principal agents of the change. Homesteaders took up and fenced in the water holes, and no amount of warring against the "nesters" could stem the tide of their advance. Irrigation ditches were another means of depleting the water supply on the range. But the cattlemen themselves made use of barbed wire to the detriment of other hopeful users of free grass. The absolute in-

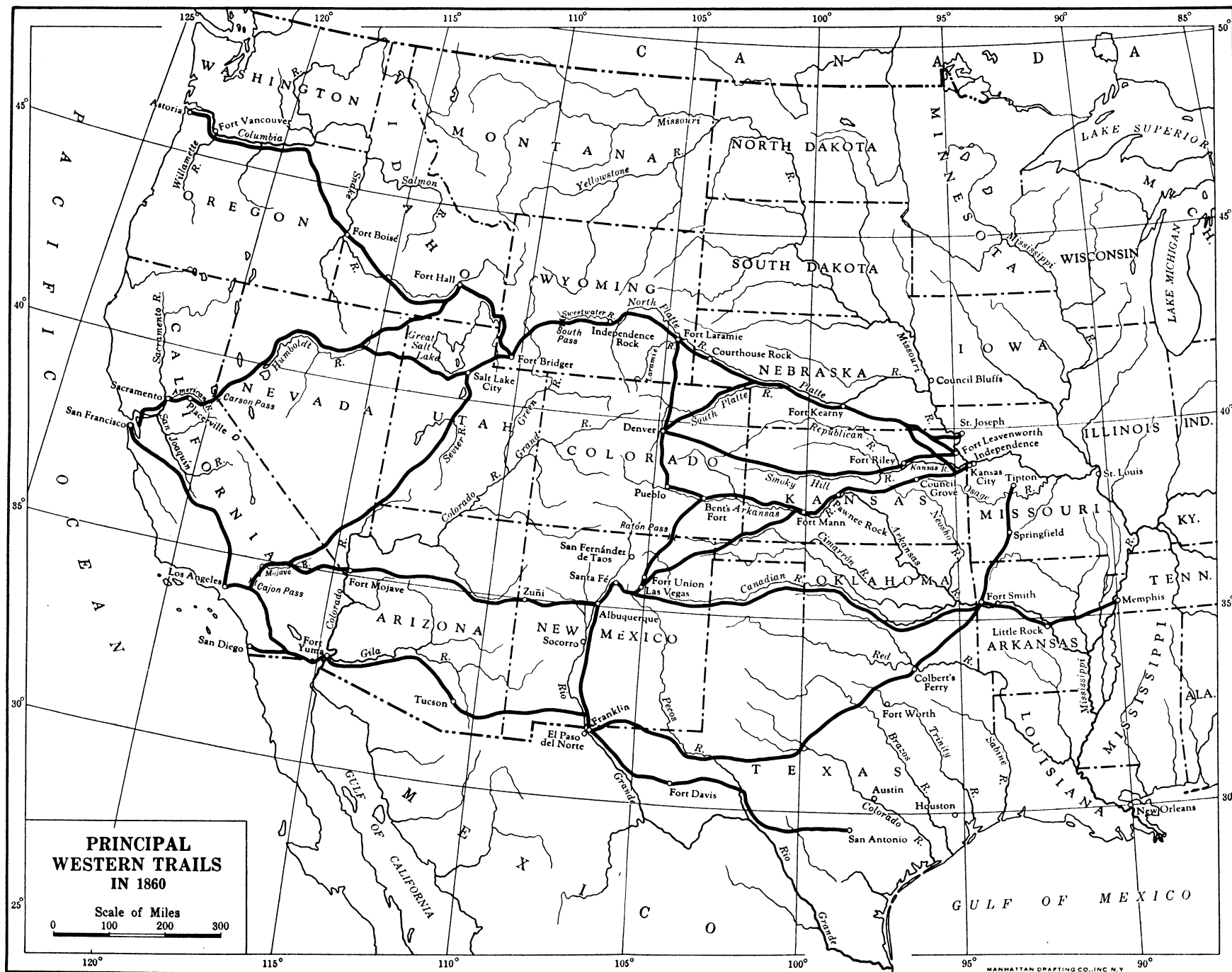
closure of government land was forbidden by the courts, even when the fences were entirely on privately owned ground. But drift fences could be built so nearly all the way around a tract that free transit was impractical. To use the gaps in such a fence for ingress to the government sections was merely to court homicidal consequences.

There were other troubles, as well, to add to the uncertainties of the business. Cattle wars occurred, for instance that of John Chisholm of New Mexico against the supply firm of Murphy and Dolan in the 1870's. After about a third of the population of the territory got involved in the fracas, General W. T. Sherman was sent out with federal troops to restore order. Sheep men were another annoyance, since no cow would graze over land where sheep had preceded it. This caused a constant hostility between the rival masters of animal husbandry. Difficulties over the use of Indian reservation land led to further bickering and litigation as well as occasional forceful action. Rustlers—cattlemen in the making who had not yet achieved respectability—were all too skillful in altering brands and marking mavericks. Sometimes desperadoes like William Bonney, "Billie the Kid," who engaged upon careers of killing for the fun of it, had to be rounded up and shot like coyotes.

Arbitrary rates fixed by the railroads and prices established by the packers often took the last cent of profit from a herd that could no longer be withheld from the market. Foreign governments, angered at American tariffs or alarmed at the flooding in of American beef and cattle, passed retaliatory legislation. Even the states provided quarantine inspection of "foreign" cattle. Nature itself sometimes seemed against the herdsman. When the winter was especially severe and the snowfalls heavy, multitudes of cattle perished in the attempt to uncover enough grass. But at this point there was some relief. The beasts were sold by book count, and a herd always looked larger than an actual enumeration would disclose. When the blizzard whistled loudest and the cattlemen, congregated in the saloon, looked gloomiest, the bartender could usually spread cheer and sell another round of drinks with the announcement that, no matter what else might happen, the books would not freeze up.

In spite of its effect upon the long drive, the inclosure of land resulted in no decline of the cattle business. The Census of 1880 showed 27,233,000 beef cattle in the United States, a number which was nearly doubled by 1900. Thereafter there was some decline and recovery, leaving nearly 47 million in 1920. In the period of agricultural depression since 1920 the numbers diminished steadily, ranging between 34 and 37 million from 1926 to 1930. But even with these reduced numbers there were far more cattle in the Western states than ever

1



before 1890. In recent years more Texas cattle are shipped annually for feeding on the blue-stem grass of the Flint Hills in eastern Kansas than were ever driven to the cow towns in a like time in the earlier period.

Western Railroads. The final step in the extinguishing of the frontier was its occupation by farmers. The main factors making this possible were the building of the Western railroads, the corralling of the Indians, and a lavish government land policy. The eastern half of the United States was settled, with some exceptions, before the coming of the railroads, but the process had been two and a half centuries in fulfillment. By use of the railroads, in a single generation after the Civil War an area about equally large was occupied. Natural waterways were not so bountiful west of the ninety-fifth meridian as to the east thereof. The eastward-flowing streams of the Great Plains, dropping as much as 3,000 feet in altitude in 300 miles of longitude, presented nothing but dry beds during long seasons of the year. At best they were unsatisfactory as arteries of commerce. Light-draft steamboats under favorable conditions made their way as far as Fort Benton, near the foot of the Rocky Mountains. But, while this was an assistance to travelers to and from the Pacific Coast, it was of no great benefit in settling the larger part of the plains. In spite of an abundance of homestead land, farmers could not hope to prosper in a region dependent upon hundreds of miles of uncertain wagon trails, with freight rates prohibitive except for the most imperative of necessities. Nothing but religious zeal, amounting almost to fanaticism, and the tireless leadership of Brigham Young built up the nearly self-sustaining community in Utah prior to the completion of the Union Pacific railroad. The relatively large population of New Mexico was mainly due to contiguity with Mexico and an outlet by way of the Rio Grande River.

Various other methods of transit were applied to the West before the railroads were started. In 1856 Congress even spent \$30,000 to import 75 camels for use on the Great American Desert. During the war Ben Holladay had a virtual monopoly of the stage business from the Missouri River to Salt Lake City, but his otherwise effective organization was constantly being disrupted by Indian attacks. In 1865 his passenger and freight system covered 3,300 miles of routes, representing an investment of \$2,000,000. The stages were crowded with passengers paying \$175 from Kansas City to Denver, \$350 to Salt Lake City, and \$500 to California. In the following year Holladay sold the lines to the Wells-Fargo Express Company at a profit of half a million dollars. But the latter company was too confident. The Union Pacific was completed several years earlier than was expected,

and the stage lines were given an insufficient time to pay for themselves.

Union and Central Pacific. The first charters for the Union and Central Pacific railroads (1862) provided for their meeting at the eastern border of California, building from Council Bluffs and Sacramento respectively. Each line was promised alternate sections of land on both sides of the right of way, in checkerboard fashion, amounting to ten square miles for each mile of road in addition to first-mortgage loans of \$16,000 a mile in the plains, \$32,000 between the mountain ranges, and \$48,000 in the mountains. When this inducement failed to attract capital for a railroad whose future earning power was uncertain, Congress in 1864 doubled the land grant, took a second mortgage for its own loans, and allowed equal borrowings of private capital on first-mortgage bonds. In the long run this amounted to the donation of nearly 20 million acres of land, worth at least \$2.50 an acre, and \$61,000,000 in government bonds. Ultimately the point of junction was abandoned by Congress, and the two companies began a race to see which could build the greatest number of miles so as to get the larger appropriations of the government bounty.

The more crooked the road the longer the track and the bigger the bonus would be. Hence, it proved more attractive to follow the configuration of the land than to shorten the distance by the construction of expensive grades and cuts. Much of the track involved little more work than laying the ties on the ground and spiking down the rails. No effort was made to see that the rail joints rested on the ties, though in those days this was the only means of making safe connections. For 16 months in 1868-1869 the road was built at the rate of $2\frac{1}{2}$ miles a day, the Central Pacific employing more than 10,000 Chinese coolies and the Union Pacific about 12,000 ex-soldiers and Irish laborers. The two lines met at Promontory Point near Ogden, Utah, on May 10, 1869, and there, when Irishman met Chinaman, the Chinese problem in America may be said to have begun. Because of the nature of the country traversed, the Central Pacific had to be better constructed than its rival, containing 15 tunnels in one 60-mile stretch. Theodore D. Judah was the engineer of the Central Pacific and Grenville M. Dodge of the Union Pacific. The former built 689 and the latter 1,086 miles of road.

The companies, chiefly interested in making money for themselves, had little regard for the rights either of the federal government or of their security holders. The directors of the Union Pacific organized a construction company made up of its own members and called the *Crédit Mobilier*. Virtually all the money contributed by the government and private investors, in addition to the proceeds from bonds

based on the land grants, was turned over to the construction company. By the most conservative estimate the *Crédit Mobilier* received \$73,000,000 for a \$50,000,000 job, the surplus being thereby diverted from legitimate channels to the private coffers of the directors. The earnings on each share of *Crédit Mobilier* stock of \$100 par value amounted in 1868 to \$60 in cash, \$230 in first-mortgage bonds, and \$515 in Union Pacific stock. Later on the profits were further distended. Since this form of disposal of the railroad stock was contrary to the terms of the charter, a congressional investigation was begun. In order to block this governmental impertinence Oakes Ames, who was a member both of the *Crédit Mobilier* and of the House of Representatives, in 1867 distributed 343 shares of the stock of the construction company among the more influential members of Congress. This of course was not bribery, for the stock was "sold" at par and on credit, the cost to be subtracted from the first year's dividends. Among those involved in the deal were a future president and two vice-presidents of the United States—James A. Garfield, Schuyler Colfax, and Henry Wilson.

The Central Pacific officials, headed by Leland Stanford, Collis P. Huntington, Charles Crocker, and Mark Hopkins, surpassed even those of the Union Pacific in their profiteering. A replica of the *Crédit Mobilier* was formed from railroad officials. This Charles Crocker and Company was paid nearly \$121,000,000 for a job worth \$58,000,000, most of the profits going to the officers above named. These same four persons in the next fifteen years pocketed the greater part of the \$61,500,000 of net operating profits earned by the railroad. At their deaths none of them left a fortune of less than \$40,000,000.

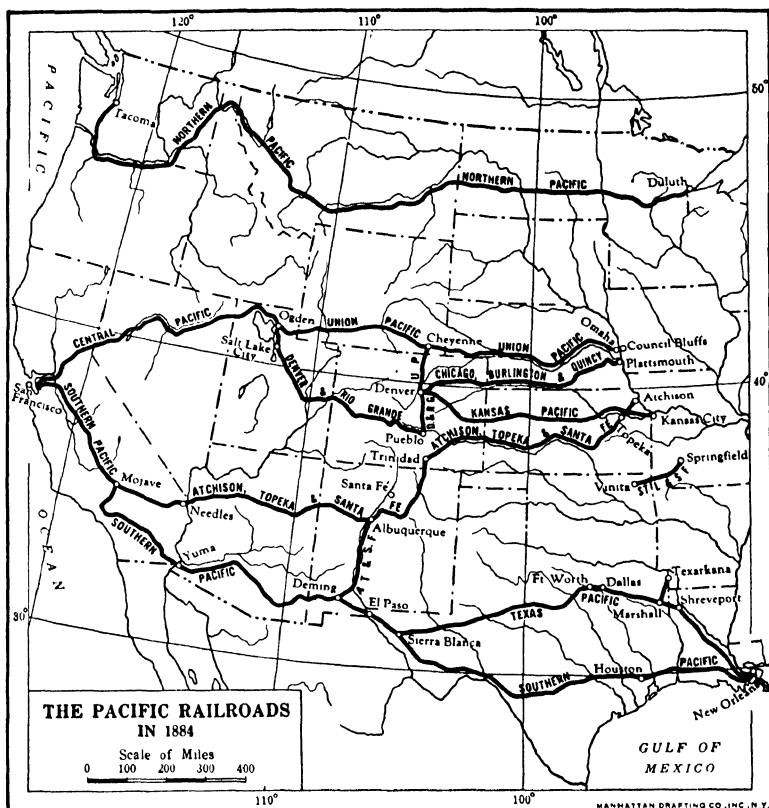
The building of the railroads was a gigantic and even romantic task. Nearly all the materials had to be carried from distant points, some for the Central Pacific going around Cape Horn. The laborers lived a wild life in construction camps of temporary duration. At times each man had to be armed with a gun in anticipation of Indian attacks. Even allowing for a great deal of shoddy construction, a worthy task was completed. But the government paid dearly for its indulgence. Congress donated more than the actual cost of construction of the entire road, and had nothing in return. The profits, instead of being applied to paying off the government loans, were diverted to the building of branch lines or to personal uses. The Central Pacific, between 1899 and 1909 paid off the principal of its debt.

Other Pacific Railroads. Other railroads westward through the public domain were under way before the Union and Central Pacific were terminated. The Kansas division of the Union Pacific, known

as the Kansas Pacific, was completed from Kansas City to Denver in 1870, and shortly thereafter made connection with the main line at Cheyenne. A bridge across the Missouri River at Council Bluffs in 1873 made good the charter claim of that town as the eastern terminus of the Union Pacific. Since 1867 there had been railroad connections with Chicago. By 1884 the Rocky Mountains could be reached along seven different lines starting from Duluth, Council Bluffs, Plattsmouth, Atchison, Kansas City, and New Orleans, two lines running from the latter city to the western edge of Texas. Beyond the continental divide five rail lines carried the traffic westward, one of these terminating at Ogden and another at Mojave, California. Tacoma and San Francisco, the latter with two railroads, received the residue. All but one of these routes, the Chicago, Burlington, and Quincy, had received land grants either from the United States or from the states through which they ran.

The Northern Pacific was chartered in 1864 to run from Duluth to Tacoma along the easiest route for railway building to the Western coast. The financing of the line was slow until Jay Cooke took over the problem in 1869. Cooke's name at that time was enough to give financial standing to any sort of a project. In 1873, the rails having been laid to Bismarck, Cooke went bankrupt, helping to precipitate a disastrous panic. Thereafter, not only the Northern Pacific but most other railroads as well ceased building for several years. The route was finally completed in 1883 by the buccaneering tactics of Henry Villard. The Atlantic and Pacific, chartered in 1866, had reached only from Springfield, Missouri, to Vinita, Indian Territory, when the panic came. Emerging a few years later under the name of the St. Louis and San Francisco, it was built on toward Albuquerque, which town it never reached. At its terminus it was merged with the Atchison, Topeka, and Santa Fé. The Texas and Pacific, originally intended to run from Marshall, Texas, to San Diego, was chartered in 1871. At El Paso it stopped, being met by the Southern Pacific which itself was a combination of three earlier projects running through the Gadsden Purchase and terminating at San Francisco. From Albuquerque the Santa Fé continued over the grant of the Atlantic and Pacific to the California line, where it was met by a branch of the Southern Pacific. Another line of the Southern Pacific, running through southern Texas, by 1883 was competing with the Texas and Pacific for the trade between New Orleans and Sierra Blanca, near El Paso.

All of these railroads except the Santa Fé had received direct land grants from Congress, and even the latter got an indirect subsidy through the state of Kansas as well as its inheritance from the Atlantic



ONLY THE MAIN LINES OF THE RAILROADS ARE INCLUDED IN THE MAP. ALL EXCEPT THE CHICAGO, BURLINGTON, AND QUINCY RECEIVED LAND GRANTS (See Text)

and Pacific. The new Pacific roads got no direct money aid from the federal government, but they got a double portion of public land, or 40 sections to the mile through the territories and 20 through the states except in Texas. The Santa Fé, beginning at Atchison in 1868, had reached the mountains before stopped by the panic. As finally completed it was without land grants only from eastern Colorado to Albuquerque. The Chicago, Burlington, and Quincy, penetrating the trans-Missouri region at Plattsmouth, Nebraska, in 1869, reached Denver in 1882. At that point it made connection with the Denver and Rio Grande to Ogden, thus furnishing some real and salutary competition for the Union Pacific. Until this time it had cost \$126

a ton to ship flour from San Francisco to Chicago, while the competition between railroads east of Chicago made the rate on into New York only \$12. Tea, which could be shipped all the way from China to New York for 2¢ a pound, was charged 13¢ when sent from San Francisco by rail to the same destination.

Other shorter roads and branches of the four great Pacific systems were being projected and built in the same period. By 1884 the Canadian Pacific furnished another route of use also to the people of the United States, especially to the Northern cattlemen. Besides "letting in the population" these railroads hastened the extermination of the buffalo and the subjugation of the Indian tribes, thus changing forever the superficial characteristics of the West.

Extermination of the Buffalo. It has been estimated that before the building of the Union Pacific railroad there were not less than 15,000,000 buffalo in the United States, a single herd being reckoned at 4,000,000. The settlers on the plains of Kansas and Nebraska heated their sod houses (built half in the ground) and cooked their meals (often of Buffalo meat) with fires made of buffalo "chips" gathered from the prairies. To the Indian tribes not already reduced to semipauperization on the reservations, the buffalo was the mainstay of existence. But the exploits of Buffalo Bill in feeding the construction gangs of the Kansas Pacific stirred the imaginations of professional hunters and amateur "sportsmen," thus beginning a rapid extermination of the herds. The screeching of the iron monsters over the tracks of the Union Pacific seemed to intimidate the beasts so that thereafter they tended to remain in separated herds north and south of the right of way. In three years' time after 1871 about 5½ million were slaughtered. Soon afterward the Southern herds were scattered, while, after 1880, the westward extension of the Northern Pacific resulted in the extermination of the Northern herds. Very little of the meat was utilized, the animals being killed merely for their skins or the fun of seeing them kick. The hides for a time sold for as low as 65¢ each. At such prices it was hardly worth while to flay the carcasses, so from 70 to 80% of the beasts were allowed to lie where they dropped, undisturbed except by coyotes and buzzards. Only the establishment of game reserves and national parks in relatively recent years has saved the remnants of the once mighty herds from as total an extinction as that of the passenger pigeons.

Indian Problem. The Indians were not exterminated, but merely harassed, rounded up, corralled, and cowed. The estimates for 1865 showed around 300,000 Indians in the United States, while in 1930 there were a little over 340,000, including probably three-tenths of mixed breeds. The intervening censuses and estimates show great

variations in numbers, hard to explain except on the basis of incomplete returns or disagreement over the counting of those with a large amount of white blood.

From 1862 to 1886 there was almost constant conflict and warfare, except for an interlude of mere scattering outbursts from 1867 to 1875. This is the greatest period of Indian warfare in the history of the United States. The reasons are not hard to find. The Indians were undesirable neighbors at the best, though neither so diabolical as Francis Parkman considered them nor so innocent as pictured by Helen Hunt Jackson. In 1865 about 225,000 of the total lived in the regions known as "west of the Missouri River." Of these, about 78,000 were civilized and 125,000 were at the best only semicivilized. Yet, the federal administration continued to deal with them through treaties as though they were independent nations with governments capable of enforcing the stipulations. The chiefs, often from questionable motives, signed treaties purporting to bind the entire tribe though many of its branches were either opposed or not consulted. The efforts of the federal government to enforce such agreements upon the intransigent groups were usually sufficient to invoke reprisals, a short war being the almost unfailing result.

Indian agents, under the control of the Department of the Interior, were subject to the spoils system and too often intent upon acquiring a competency while the opportunity existed. By failing to issue supplies or holding them for illegal sale at exorbitant prices, they often reduced the Indians to the desperation of hunger and exposure. By the unlawful sale of whiskey and firearms they rendered their wards dangerous. When maddened by the cheap "barrel-house" whiskey of the traders the Indians were all too ready to make lethal use of their fine new guns (about the only first-rate wares supplied by many of the agents), and after a murder or two was committed a general outbreak was the usual consequence. One post trader at Fort Sill, Indian Territory, paid Secretary of War William W. Belknap, his family, and friends from \$6,000 to \$12,000 a year from 1870 to 1876 in order to retain his privilege. When the situation was disclosed the trader lost his post, but President Grant came to the defense of Belknap, allowing him to resign in order to escape impeachment.

Even when the agents and traders were honest the conditions were often very little better. When prospectors, railroad companies, or homesteaders wished to have a choice bit of territory opened for settlement, treaties were wrung from reluctant tribes who were then moved to some place not desired by white men and not capable of supporting the Indians. For instance, in order to make the Black Hills available for mining companies, the warlike Sioux were given

the rich lands of the peaceful Ponca tribe, the latter being settled on the red, uninviting clay of Indian Territory to starve or be beaten to submission when trying to escape. Then, by one of the rare ironies of fate, a generation later petroleum was discovered on the Ponca reservation. The remnant of the tribe was left rolling in wealth but incapable of retaining it when in contact with shrewder white men. More often, when planted on the new reservations, the Indians would be left with insufficient appropriations, and the most capable of agents were left without the means of supplying even the most urgent of the needs. Under such conditions even the Indians who had abandoned the petty stealing and attacks against white settlements, as practiced by their ancestors, reverted to savagery and sometimes engaged in massacres without care as to the guilt or innocence of their victims.

The War Department also had much to do in provoking the troubles. Even the most capable and proudest of the Indian leaders were treated by army officers with hauteur and contempt. The soldiers were allowed too much freedom in their dealings. Too often the officers would punish a tribe on mere report of an offense, and investigate afterward. Again, the soldiers were scattered about, a few here and less there at widely separated army posts, just small enough in numbers to invite an attack but seldom sufficiently numerous to repulse it in proper fashion. Finally, while the Indian agents provided their charges with the most improved type of rifles for purposes of hunting, the War Department in characteristic fashion denied weapons of equal merit to the soldiers. It would not have been difficult for the government either to give justice to the Indians by planting them on adequate and desirable territory and making them stay there or to exterminate them outright. But, neither policy being followed consistently, a generation of warfare was the result.

Though the Indian wars started early in the Civil War period there is no evidence to support the contention that the red men were incited by the activities of Confederate agents. There were ample reasons for the outbreaks without any such interference. The "five civilized nations" of Indian Territory (Creek, Cherokee, Choctaw, Chickasaw, and Seminole) fell under the control of the Confederate States. Though they were not the main source of trouble for the United States, after the Civil War they were deprived of their western ranges (the later Oklahoma Territory) as a punishment for their defection.

The first real trouble began among the Mississippi River Sioux in Minnesota. After the usual amount of dissatisfaction lasting over a period of years, the chief Little Crow let a series of murders develop into the worst of all massacres in the neighborhood of New Ulm, in

August, 1862. After 737 white persons had been killed Henry H. Sibley retaliated with an able body of soldiers. He took about 2,000 prisoners and released 227 women and children held by the Indians as hostages. The resulting trials led to 303 death sentences, most of which were commuted as a result of Lincoln's intervention. But the hanging of 38 Sioux on one big gallows put an end to further trouble in that quarter. In 1863 the Minnesota Sioux were deprived of their reservation and moved westward into the territories.

The scene then shifted to the Arapaho and Cheyenne tribes in Colorado Territory. These Indians had remained peaceable notwithstanding a cavalier seizure of their old reservation to make way for mining prospectors in 1861. Then, in 1864, some isolated groups committed a number of depredations upon Holladay's coaches, becoming bolder when no prompt action was taken in way of reprisal. Black Kettle, chief of the Cheyenne tribe, kept most of his people quiet on their new Sand River reservation, trying all the time to arrange a peaceable settlement. But the Colorado settlers, growing panicky, decided to fight in the Indian fashion. Colonel J. M. Chivington with nearly 1,000 men fell upon Black Kettle's village and massacred over 500 of the inhabitants, mostly women and children. The scalping of Indians was the order of the day: "the men used their knives, ripped open women, clubbed little children, knocked them in the head with their guns, beat their brains out, mutilated their bodies in every sense of the word."¹ The chastened tribes were then forced to surrender their new reservation, being given nothing definite in return. Though the massacre had been according to the approved method of Indian fighting, outside of the frontier settlements public opinion was bitter against the adoption of such tactics by white soldiers.

Largely as a result of this affair, Congress created a joint committee on Indian affairs which started an investigation in March, 1865. Before any definite action was taken the Plains Sioux went on the warpath in December, 1866, beginning with the ambushing and slaughter of 79 soldiers and officers near Fort Philip Kearny in Montana Territory. The attack grew out of an effort to make the Sioux conform to a treaty they had never accepted. Here for the first time the Indians made use of the improved rifles recently issued to them. Shortly afterward the federal troops retaliated with such vigor that the Sioux were quelled for several years.

A report of the committee on Indian affairs was made in 1867, after which a peace commission succeeded in getting the Kiowa,

¹ As quoted in Frederic L. Paxson, *The Last American Frontier* (New York, 1910), p. 261.

Comanche, Apache, Arapaho, and Cheyenne tribes to accept reservations in the alkaline stretches of the later Oklahoma Territory. The Plains Sioux were provided for in Montana Territory, much to the disgust of the white settlers. Other agreements were reached with the lesser tribes, thus clearing the way for the completion of the first Pacific railroad. Small groups, however, refused to be pacified. Trying to quell these, George A. Custer, late in 1868, fell upon a Cheyenne village headed by Black Kettle, who had escaped the Sand Creek massacre. Custer followed Chivington's methods, over 100 Indians of both sexes and all ages falling before his ferocity. Black Kettle this time met the same fate as his followers. By such tactics a degree of peace was maintained for some years.

In 1876 another desultory contest of ten years' duration was begun. The arrival of the Northern Pacific into Dakota Territory and the greed of mining men in the Black Hills caused Sitting Bull to lead the Plains Sioux in another uprising. Surrounding Custer and his 264 men at the Little Big Horn River, they exterminated the whole command. Failing in his later efforts, Sitting Bull fled to Canada. In the following year the Nez Percés of the Snake River Valley were in revolt. These Indians had been friendly with the white men since the days of the Lewis and Clark expedition. But friction over the compulsory cession of lands led to a war of several weeks' duration, at the end of which Oliver O. Howard had the Indians in flight. Chief Joseph and his followers retreated 1,321 miles, fighting as they ran until they were headed off and captured by Nelson A. Miles. Though Joseph had fought skillfully and according to the white men's rules, thus putting to shame the tactics of Chivington and Custer, he and his people were sent to inferior lands in Indian Territory where they soon fell victims to malaria.

Further troubles occurred with the Modocs of California under Modoc Jack and Scar-Faced Charley, and with the Apaches in Arizona and New Mexico territories led by Victorio and Geronimo, but no such protracted conflicts as those before 1868 took place after 1875. The frontier, pushed forward by the railroads, was closing in upon the tribes, making their resistance futile. Yet, the complexity of the situation is shown by the fact that over 100 pages of a government document are devoted to a mere list of skirmishes in the years from 1868 to 1882. Meanwhile, a new Indian policy was adopted by the government. Between 1784 and 1871 a total of 370 treaties had been ratified with Indian tribes in addition to those which had not been acceptable to the Senate. In the latter year the fiction of government by treaty was abandoned, nothing of merit being lost by the change.

In Rutherford B. Hayes's administration some attention was paid

to the encouragement of education and reduction of pauperization among Indians. But it was left for Grover Cleveland to inaugurate the movement for transforming the aborigines into citizens. This had been permitted by special treaties as early as 1817, but the Dawes Severalty Act of 1887 made the practice general. Whenever the President saw fit, he was empowered to divide up the land of a reservation among the inhabitants, 160 acres to each head of a family and lesser amounts to dependents. Any surplus was to be bought by the government and added to the public domain. The Indians became citizens as soon as the division occurred, but could not sell or mortgage their holdings for 25 years. This act was later amended to give each member of a family 80 acres, while in 1906 the Burke Act corrected other faults in the original measure. The period of qualified ownership was made indefinite, so that any Indian could get full control of his land as soon as he proved his fitness, but he did not acquire citizenship till the disabilities were removed. This tended to encourage thrift and self-improvement, and also made the sale of whiskey to the Indians illegal until they were adjudged qualified to handle their own affairs.¹ Other acts were passed from time to time to encourage Indian education. Though some justifiable complaint still remained as to the administration of the laws, it is generally admitted that since 1887 the purpose has been to treat the wards fairly. In 1880 there were 241,800 square miles in Indian reservations. This amount was reduced three years after the Dawes Act to 163,000 and in 1930 to a little over 50,000. These figures fairly represent the attainment of citizenship by Indians.

Disposal of Public Lands. As the Indian was gradually restricted from the open plains to the reservation or his individual holding, and as the cow and sheep men were driven from the limitless range to the ranch, so in time the farmer reached the end of his opportunity to go out to the public domain and preëempt a desirable homestead. The total land area of the United States is 2,973,776 square miles or 1,903,216,640 acres, more or less according to government survey. The public domain had included about three-fourths of this, or 1,442,200,320 acres. By 1860 the government had sold or given away 394,088,712 acres, leaving something over a billion acres still unappropriated. Though a good portion of this has never been suitable for agriculture, by 1890 nearly half of the domain of 1860 had either been disposed of by gift and sale or reserved for government purposes.

In 1785 the policy was begun of donating part of the land to the territories in which it lay for public schools. Before 1860 grants of swamp land were made to the states while other areas were given as subsidies for the construction of internal improvements, for the es-

¹ In 1934 a movement was under way to restore tribal ownership of land.

tablishment of state universities, and for other purposes. Then in 1862 came the Morrill donation for agricultural colleges, participated in by every state then in the Union or admitted later, including the reconstructed states and the territory of Alaska.¹ To June 30, 1930, the following amounts were disposed of to the states for the purposes named.

LAND GRANTS OF THE UNITED STATES (RAILROADS
NOT INCLUDED)

PURPOSE	NUMBER OF ACRES
Common schools	99,188,946
Universities and agricultural education	13,622,437
Other educational purposes	3,192,800
Miscellaneous institutions	3,321,890
Internal improvements	11,469,245
Swamp land	64,805,649
All other purposes except as listed later	7,326,813
Total	202,927,779

Furthermore, from 1850 to 1871, either through grants to the states or directly, about 214,000,000 acres, or an area about equal to all of Texas and Oklahoma, was donated to railroad companies. Some of the corporations, the Texas and Pacific for example, failed to live up to their charter stipulations and their lands reverted to the government. In Cleveland's administration alone 51,000,000 acres were thus reclaimed. Down to 1930 the number of acres certified or patented under railroad and wagon grants is as follows:

LAND GRANTS TO RAILROADS

DISPOSED OF AS	NUMBER OF ACRES
State grants	38,204,784
Grants directly to railroad companies	93,968,521
Grants to wagon road companies	3,296,658
Total	135,469,963

Of the direct donations the Union and Central Pacific system including consolidations with other lines got 30,264,536, the Northern Pacific 39,033,711, the Santa Fé (Atlantic and Pacific) 11,468,546, and the Southern Pacific 6,876,832 acres respectively. The largest subsidy by a state to a single railroad was that of 2,944,788 acres by Kansas to the Santa Fé, which is in addition to the direct contribution before mentioned. A somewhat larger amount was given by Minnesota to a

¹ Alaska also received grants for other educational purposes. Vermont, Maine and West Virginia, as parts of the original states, were outside the federal domain and received only the Morrill Grant.

combination of three companies. Of the 2,595,133 acres received by the Illinois Central, all but about a tenth had been sold by 1871 at an average of \$10.61 an acre. The mean price brought by all railroad land sold to 1881 was \$4.76 an acre, an income even greater than had been originally expected by the grantees.

Homestead and Other Grants to Individuals. With the passage of the Homestead Act it was intended to put a stop to the acquisition of large areas of land from the government for speculative purposes. The Preemption Act, remaining in force till 1891, permitted a person already owning a homestead to acquire title to another quarter section at the minimum price of \$1.25 an acre. The Timber Culture Act of 1873 allowed the same person, or others, an additional 160 acres provided a portion of it be redeemed from its prairie status by the setting out of trees. The Desert Land Act of 1877 granted an entire section of arid land to anyone who would attempt its irrigation. Finally, the Timber and Stone Act of 1878 authorized the sale of quarter-sections of land unsuited for agriculture but valuable for timber and minerals at \$2.50 an acre. The five acts together permitted one person to secure two entire sections from the government, each adult member of a family being entitled to qualify. Presumably the land was to be for the use of the grantee only, but cattlemen and others found little interference when they set about building up huge estates. Thus, in the 1870's at least one 70,000-acre farm was amassed in Illinois, one of 50,000 acres in Minnesota, and another of 40,000 acres in Dakota Territory. In 1871 a select group of 120 Californians held 5,347,000 acres in tracts of from 20,000 to 335,000 acres each, while 231 others had areas of from 5,000 to 10,000 acres. Some of the estates were based on old Spanish grants. Great possessions outside the federal domain in Texas were common.

A glance at the figures of the amount of homestead land upon which the entries were perfected in the first 20 years of operation of the Homestead Act might easily provoke astonishment by its smallness. Not till 1873 were full titles to as many as a million acres taken out in one year, and not till 1885 was the 3,000,000 mark passed. The total number of acres granted to 1883 was only 25,917,412—the equivalent of 161,984 quarter-section farms. With an average family of six persons to each farm, this land would have supported less than one million out of the 20,000,000 increase in population of the United States in that score of years. Of 608,677 claims taken up, only 213,486 titles had been issued, many for less than 160 acres. A small portion of the remaining homesteaders were still wrestling with adversity in trying to perfect their claims. But by far the majority of the hopeful emigrants had grown tired of "starving to death on a government

claim" and had gone elsewhere, many returning East to live with their "wives' folks."

Even to the year 1900 only 80,104,059 acres of claims had been perfected, or just over half a million farms if each had been of the maximum size. These homesteads might have supported from $2\frac{1}{2}$ to 3 million of the nation's 44,000,000 increase in population since 1862. Quite obviously it was not the Homestead Act which relieved congested population and saved the factory laborer from servility to his employer prior to the twentieth century. Not till 1901 were as many as 5,000,000 acres patented in one year, this figure not being equaled again till 1913 when it was about doubled. In every year following that for a decade the record of 1901 was exceeded. Since 1924 the decline has been rapid, but of the 233,630,253 acres deeded to settlers to June 30, 1930, over half had been secured in the last 20 years. These figures are exclusive of 21,214,139 acres of stock-raising homesteads granted since 1919.¹

After all, the slowness of the American public to avail itself of the opportunity to secure free land need excite no astonishment. Along the route of any of the land-grant railroads a settler had to go back from 20 to 40 miles from the tracks to get homesteads, for even the government sections in the railroad strips were reserved for sale at double the usual price instead of for free distribution. Generally it was preferable to pay \$400 or more for a quarter-section close to a railroad rather than go back into the hinterland and haul everything great distances over the worst of roads. In the 70 years prior to 1860 the total receipts of the government land office were \$174,910,000. This sum was exceeded by the sales from 1866 to 1909, while in the 70 years from 1861 to 1930 the receipts totaled \$220,785,000. From 1862 to 1890 the government sold considerably more land than it gave away as homesteads. In the same years in such states as Minnesota, Iowa, and Kansas, where the land was virtually monopolized by the railroads, the purchase of farm sites from these corporations was the principal mode of settlement. While the number of farms in the United States more than doubled from 1860 to 1890 and tripled by 1910, the principal reasons were purchases from the government and from land monopolies and a diminution in the average size of holdings.²

By 1890, through gift, sale, and setting aside into forest, military, national park, and other reserves, the public domain was reduced to

¹ The Reclamation Act of 1902, to be discussed in a later chapter, and the doubling of homestead grants in arid regions in 1909 help explain the great increase in homesteading in recent years.

² The number of farms for the three dates were 2,044,077, 4,564,641, and 6,361,502. The average size of farms was 199.2 acres in 1860, 133.7 acres in 1880, 146.2 acres in 1900, and 138.1 acres in 1910.

586,216,861 acres. Since that time almost as much land has been disposed of as in the preceding 30 years. In 1930 only 190,031,722 acres, much of which will very likely never be suited to agriculture, were left unappropriated and unreserved. Government reserves for all purposes, except for reclamation and a few small items but including Indian reservations, at the latter date amounted to about 234,000,000 acres.

Population Growth and Statehood. To judge the growth of population in the West by the order of admission of states would involve serious error. A reasonable interpretation of the Constitution (Art. I, sec. 1, par. 3 and Art. IV, sec. 3) would hold that no territory should be admitted to the Union as a state until it had a sufficient population to entitle it to a representative in Congress at the existing ratio. Until 1859 this rule was adhered to strictly, while Ohio, Louisiana, and Mississippi were withheld from admission from three to nine years after they acquired the necessary quota. Congress was balked in its plan of premature admission of Kansas, but made up for it with interest by admitting Oregon in 1859. Nevada was the only other state hastened in before its time prior to 1865.

Before noticing the vagaries in organization of states after the Civil War, a few words are necessary concerning the creation of territories. Colorado in 1861 was carved out of Kansas, Nebraska, Utah, and New Mexico. In the same year Nevada was lopped from western Utah, the line to be pushed farther eastward and encroach upon Arizona when statehood was granted in 1864. The organization of Arizona was in 1863, while in the following year the boundary lines south of the forty-second parallel became permanent except for the Oklahoma country. North of that line the creation of Dakota in 1861 and Idaho in 1863 absorbed the portions of Minnesota and Oregon cut off when those states were admitted, and limited the territories of Nebraska and Washington (the latter first organized in 1853) approximately to their present boundaries. Dakota Territory included both of the present Dakotas and for a few years a small portion of Nebraska north of the Niobrara River. Idaho Territory was further subdivided in 1864 and 1868 by the organization of the territories of Montana and Wyoming. By the latter date there were only slight changes to be made in the outline of the territories—the separation of the Dakotas and two alterations in the regions erroneously known as Indian Territory and No Man's Land.

Nebraska, in 1867, was the first state to be admitted after the Civil War. Though three years later its population was still below the congressional ratio of 1860, in the next decade the number of inhabitants was almost quadrupled, thus correcting any prematurity of

admission. Colorado entered in 1876 with just about the requisite size, its three electoral votes helping to seat Hayes in the White House. The Democrats controlled the House of Representatives at the time, and, could they have seen the outcome, might have saved the election of Samuel J. Tilden and prevented the whole disgraceful scramble for the presidency which followed the disputed count. Thereafter they were not caught napping again. Retaining their leadership in the House from 1875 to 1881 and from 1883 to 1889, they succeeded in preventing the admission of any more premature states prior to the first inauguration of Cleveland.

By 1885 the territories of New Mexico, Washington, and Dakota had sufficient population for statehood according to the last preceding reapportionment act. But now it was the turn of the Republicans, who controlled the Senate, to hedge for genuine postponement. New Mexico was almost sure to become Democratic, and there were fearsome doubts about the other territories. But in 1888 the balance of power between the two parties in the federal government was broken for the first time in 14 years except for the interval of 1881-1883. Since the Republicans were to have the presidency and both houses of Congress after March 4, 1889, they could afford to be generous about the organization of states, and the Democrats had nothing to lose by a willingness to help. Consequently, the omnibus bill enabling the admission of Washington, Montana, and the two Dakotas was passed and signed by Cleveland on February 22, 1889. Before the year was ended these four states had completed their entry. A few weeks later, early in 1890, Wyoming and Idaho were admitted, to add two votes to the small Republican majority in the House. All of these states except Idaho and Wyoming had either reached the congressional quota or else were close to it. Idaho did not catch up for a decade, while Wyoming, like Nevada, has always remained behind.¹ New Mexico, because of its Democratic complexion, was excluded when these others were admitted.

Utah had been a perpetual candidate for statehood since the first organization of the territory in 1850, but until after 1880 it could always validly be denied entrance because of an insufficient population. The real reason for delay was the matter of polygamy as practiced by the Mormons. After the territorial courts, by methods of doubtful constitutionality, had broken up the system, and when the Mormon leaders got a new revelation, absolving the faithful from the

¹ Before the Reapportionment Act of 1930 Wyoming was ahead of the ratio for 1910. But had the Congress performed its duty in 1920 the ratio would still have kept ahead of population. Delaware since 1850 has been constantly a little below the mark.

necessity of sustaining the economic burden of a plurality of wives, the state was finally given a half-hearted welcome into the Union in 1896.

After all the other territories had been organized there still remained the region between Kansas and Texas, without government except that of the Indian tribes, and for lack of a better name called Indian Territory. There was also the strip between the Texas panhandle and Kansas, known as No Man's Land and without any government except such as was spontaneously erected by the cattlemen. Following the separation of the Western ranges from the "five nations" several desirable portions of the country were left unallotted as other tribes were moved in. From Hayes to Cleveland the presidents of the United States had difficulty in preventing squatters from preempting these regions. Sometimes they had to be removed by force. After the government began to purchase the surplus lands of reservations under the terms of the Dawes Act, the available area for homesteading was greatly increased. In 1889, just before the end of his term, Cleveland signed a bill permitting the opening of these lands to settlement. Benjamin Harrison was left to administer the law. On April 22, 1889, thousands of home seekers as well as plunderers, lined up along the borders, were allowed to start their race for land, while some "sooners" got in still earlier. In 1893, when another strip was opened, the last great concerted rush into the territory was staged on the same pattern as the former one. In 1890 the territory of Oklahoma was organized west of the "five nations" and including No Man's Land. Before 1900 the number of inhabitants, excluding "Indians not taxed," well exceeded the requisite number for statehood, but it was not till 1907 that, with Indian Territory added, the state of Oklahoma was admitted to the Union.

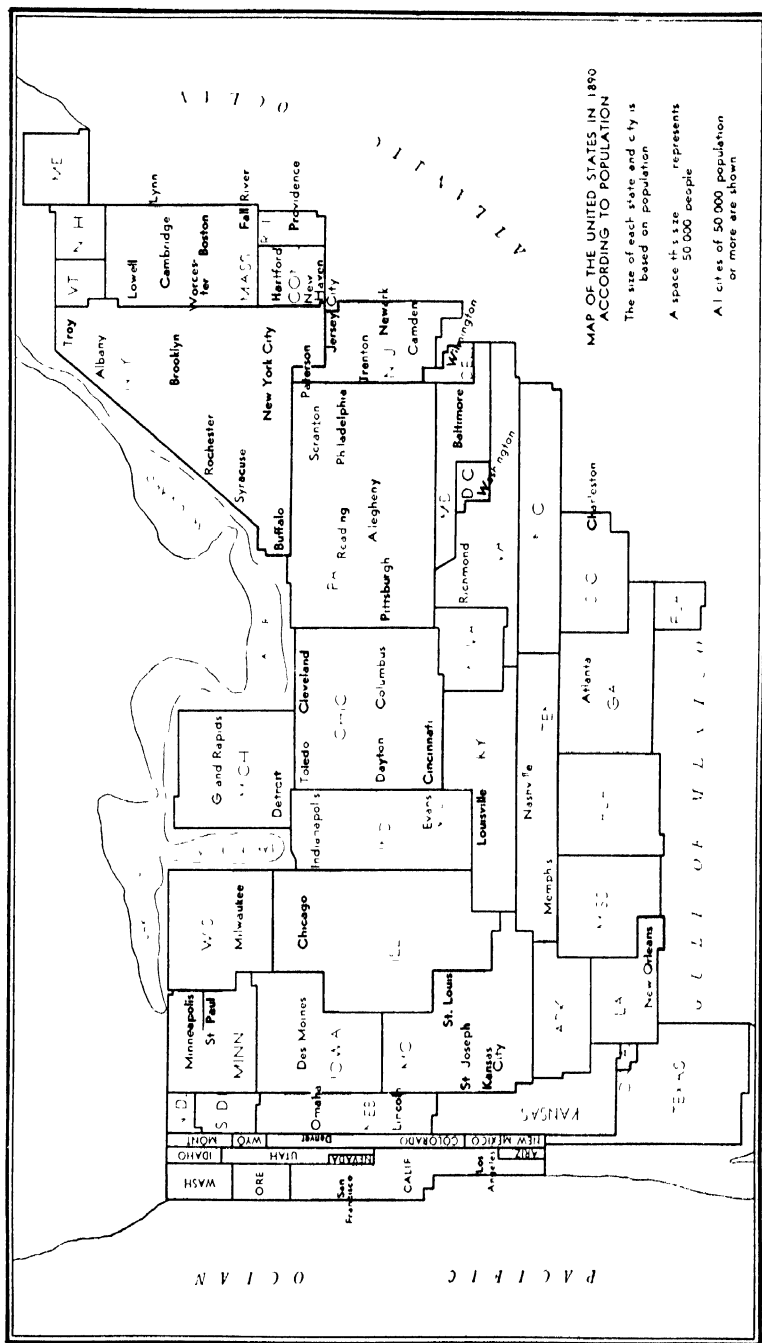
Meanwhile, New Mexico and Arizona were still outside the fold. The Reapportionment Act of 1860 had put New Mexico below the congressional ratio, from which status it did not reemerge until between 1880 and 1890. The refusal to admit the territory along with the omnibus states was followed by another reapportionment act with a ratio just slightly above the population of the territory. By 1900 New Mexico, despite another readjustment, was clearly ahead of all restrictions except political maneuvering. A fear of adding to Democratic strength was the main reason for postponing statehood for another dozen years. At one time it was even proposed to admit a united New Mexico and Arizona in order to lessen this danger. But by 1912 Democrats and insurgent Republicans controlled both houses of Congress, and the injustice to the territory was finally ended. Arizona also by that time had a sufficient population, so was admitted

in the same year. At last the West as a separate problem of government had ceased to exist, but the West in politics was just entering a new incarnation.

Population Changes of the United States. In the years when the South was being rebuilt and the frontier was being drawn to a close in the far West, life was anything but static in the more populous regions of the country. While the density of population of the United States was growing from 10.6 per square mile in 1860 to 25.6 in 1900, that of the states in the northeastern quarter was more than keeping equal pace. The growth in Illinois was from 30.6 to 86.1; in Massachusetts from 153.1 to 349; in New Jersey from 89.4 to 250.7; in New York from 81.4 to 152.5; in Pennsylvania from 64.8 to 140.6; and in Rhode Island from 163.7 to 401.6. In the same period Washington had multiplied by 45, Minnesota by 10, Texas by 5, Nevada by 6, California by 4, and Iowa by $3\frac{1}{2}$, but the combined population of these six states in 1900 was a little less than that of New York and New Jersey.

The center of population had moved westward in the four decades, but only from the neighborhood of Chillicothe, Ohio, to that of Columbus, Indiana, a distance of about 165 miles. Though some restless laborers from the East were seeking release on the wide expanse of the West, while Germans, Scandinavians, Danes, and Bohemians were attracted to the new land of Canaan in Minnesota, Iowa, and the nearer regions of the trans-Missouri West, other hordes were pouring into the cities and towns of the East and the Old Northwest. They came from the farms, attracted by the urban lure, and they swarmed in from the countries of Europe, the numbers from the eastern and southern nations becoming particularly noticeable after 1880. The Irish, Italians, and Jews from Poland and Russia were seen in great numbers in the cities, though in St. Louis, Chicago, and Milwaukee the Germans remained more conspicuous.

The number of towns and cities of 8,000 population and upward increased from 141 in 1860 to 547 in 1900, the combined population growing from 5 to 25 million. The latter number was about a third the total enumeration of the country, or twice the ratio of 1860. Of the 77 cities in the United States with a population of 50,000 or more in 1900 there were 39 in the East, 21 in the North Central states, 5 each in the South Atlantic and South Central portions, and 7 in the West from Denver to the Pacific. The urbanization of the Middle West was shown by the rapid growth in size as well as number of its cities. In the 1880's Chicago doubled its numbers, reaching above a million, while Minneapolis and St. Paul tripled, and several other cities increased by more than a half. It was becoming apparent that



the days of Jeffersonian rural simplicity were at an end. The city was coming to dominate national life. At the same time new problems were being created by this rapid congestion of industrial centers—problems of housing, feeding, sanitation, transportation, as well as of mental and moral enlightenment, some of which must be considered at length in these chapters.

CHAPTER XX

SPECIALIZATION ON THE FARM

The disappearance of the frontier brought to a close the pioneering stages of agriculture.¹ Before 1900 the adaptabilities of each region of the far West had been rather thoroughly tried out, leaving to late comers all the advantages of the older settlements so far as freedom from the necessity of trial and error was concerned. Stability was reached in the long-changing boundaries of farm specialization; the development of machinery was approaching the intricacy and effectiveness of that of the factory; agricultural education was emerging from the kindergarten period and attaining respectability; scientific research had reached the stage of justifying government subsidy. The per capita production of some of the principal crops, and the total output of others, had reached levels from which they were to recede in the succeeding generation.

Reclamation Work. As the farmers moved out onto the new lands of the far West, inasmuch as they understood the facts they sought the regions of sufficient rainfall to insure regular crops. Numerous mistakes in judgment were made, especially in that portion of the Great Plains west of the hundredth meridian, but the Mormons learned to make "the desert bloom as the rose" after deliberate choice of a region deemed by others to be unfit for human habitation. Irrigation was an ancient practice in the Old World and was used by some North American Indians at the time of the discovery of the continent. It was also employed by Spanish Jesuits in the West early in the eighteenth century. Some settlers of the later periods, borrowing from their knowledge of the past, learned to turn aside mountain streams and utilize the melting snow which rested on the higher peaks till well into the summer season, but the regions where this could be effectively done were relatively scarce. Also, certain forms of dry farming were of ancient usage. But irrigation of the modern kind, so far as the United States is concerned, started in the Gadsden Purchase in 1867, most of that region being reclaimed in the ensuing twenty years.

The interest of the federal government in irrigation dates from the Desert Land Act of 1877 (see p. 437). But this measure benefited only sheep and cattle men or fraudulent irrigation companies which

¹ The complexities of economic life in this period have made it necessary to consider various phases of agricultural life in chapters XVIII, XIX, and XXI.

erected unsubstantial works, sold the land at cheap prices, and then charged extortionate prices for insufficient water. The Carey Act of 1894 rectified this error by making water rights an inalienable part of land title. Any arid state was permitted to appropriate as much as a million acres of desert land and provide for private construction of irrigation works, state commissions to be created to control the water companies and their rates. The land was sold to settlers at 50¢ an acre, title being granted after 30 days of residence. Water rights cost from \$30 to \$40 an acre, according to the expense involved, payable in 10 annual installments. When the fees were all paid the ownership of the irrigation works passed to the water users. Several states took advantage of the terms of this act, but only in the most fertile regions and those easiest to irrigate. There were several drawbacks to the arrangement: interstate action was not provided for, conservation was not considered, and the inability of farmers to reconstruct dams after disastrous floods was not taken into consideration. The correction of these shortcomings, along with other forms of reclamation work, had to await the coming of the twentieth century.

Farm Growth. The eagerness of pioneers to take up Western land, even that requiring such extensive development as just mentioned, is only one of many evidences of the increasing shortage of desirable land. Throughout the country, at least till 1890, there was a tendency toward smaller farms and more intensive cultivation. In the latter half of the century the number of farms grew from less than a million and a half to about four times that number while the average holding declined from 202.6 acres to 146.2 acres, reaching as low as 136.5 in 1890. In the same decades the percentage of rural population to the total declined from 87.5 to 67.1, though these figures must be taken lightly in view of the strange supposition of the Census Bureau that all towns of less than 8,000 were essentially rural. In 1850 only 15.6% of the land area of the country was in farms, while in 1900 the percentage was 44.1. Hardly more than a third of this amount at either date was in crops, the area of pasture and waste land usually being far the greater. Farm values in the same period had been multiplied by five, implements and machinery in the same ratio, while the worth of livestock had advanced about six-fold.

Farm Machinery. Farm life in the period was being revolutionized by the use of machinery, though to 1900 very little of it was designed to lighten the labor of the housewives. While European countries continued to point to their increasing output per acre, the American farmer could still boast of his far greater product per laborer resulting from his adoption of the prolific flow of mechanical improvements.

The Marsh Brothers' harvester of 1858 was the favorite reaping

machine for small grain till 1874 when Charles B. Withington of Janesville, Wisconsin, patented an effective wire binder. The fault of the latter was that the wire had to be clipped and removed from each bundle before it was dropped into the threshing machine. But, this labor being much quicker than hand binding, the Withington device, manufactured by the McCormick company, had a decade of favor. John F. Appleby invented a twine knotter in 1859 but neglected to patent it till 1875. Since a binder equipped with this improvement dispensed with the clipping of bundles, it soon gained great popularity.

Cyrus McCormick was more business man than inventor. About 12,000 patents on harvesting machines had been issued in the half century following 1830, while over 200 companies competed for the market. McCormick, considering each of these rivals a robber, set about to create a harvester monopoly. One of the fiercest of all fights for the control of an industry followed. McCormick, after his removal to Chicago, started selling on the installment plan, from two to four annual payments being required, each at the end of the harvest period. Agents were sent out over the United States, canvassing the farmers and approaching each immigrant as he settled in a new community. Usually there was a testing of rival machines in any locality before the victor was announced.

McCormick's sons carried on the work after his death in 1884, and by 1900 their company was making about a third of all the binders sold in the world. A combination of some of the rivals was effected in 1890 by the formation of the American Harvester Company with \$35,000,000 capital. But the big trust, the International Harvester Company, was formed in 1902 as a combination of the five greatest competitors. A rolling mill was acquired solely for the manufacture of parts. In spite of a virtual monopoly in the harvester business there remained numerous competitors for new devices and specialties.

Other improvements in farm machinery kept pace with those in reaping. As early as 1860 steam engines were used in threshing, and later were universally adopted. Improved windmills, put on the market right after the Civil War, sold as cheaply as \$25. James Oliver began making chilled iron mold boards at South Bend, Indiana, in 1869, thus greatly lessening the draft of plows. Later improvements included sulky and gang plows, plows combined with harrows and seed drills, listers, steam gangs with harrow and seeder, and various specialties such as plows for hillsides, vineyards, beet digging, and subsoiling. Such implements reduced the time for preparing the ground, sowing, and covering for a bushel of wheat from a test average of 32.8 minutes in 1830 to 2.2 minutes in 1900. Animal labor was cut from 57

minutes to $1\frac{1}{2}$ minutes, and the cost of human and animal labor was reduced from 4¢ to 1¢.

In the planting of corn, advance was made from the hoe and hand planter to a double check-rowing machine which required a previously marked field and hand tripping of the seeding mechanism at each hill. The substitution of a knotted rope or wire, stretched across the field, for the hand lever next released another man from the machine. Check-rowers were in common use before 1880, while drills which dropped the seed with or without fertilizer were numerous. The lister, a plow which throws two furrows in opposite directions so that corn can be planted deep in the trench, was a special device for making corn growing possible in the semi-arid regions.

Cultivators, harrows, corn huskers, harvesters, and shellers were patented by the thousands. The patent office on November 17, 1899, reported that to that date 65,898 patents had been issued for plows, harvesters, seeders, planters, harrows, diggers, threshers, fences, dairy implements, devices for the care of livestock, implements for the culture of trees, plants, flowers, and bees, fertilizers, and vegetable cutters and crushers. The largest number was 12,652 for plows, while harvester patents were only a few less and the last item of the list above was least, with 701 patents. Farm implements and machinery manufactured in 1850 were valued at \$6,843,000, while by 1870 the sum had increased to \$42,654,000 in gold. In 1899 the factory value of such machinery was \$101,000,000.

Specialization Belts. In order to make clear the development of specialization which characterized this period it is well to include some tabular data for the decades following as well as preceding 1900 for purposes of comparison. An agricultural map of the United States for 1914 would show rather definite dairy and mixed farming, corn, and wheat belts—that is, regions where these products predominated and where the bulk for the United States was grown, but having nowhere the degree of monopoly held by the cotton belt. North and east of a line drawn from the mouth of the Chesapeake Bay to the northwest corner of Iowa dairy products, vegetables, and fruit, mainly for the domestic market, prevailed. South and west of this line to the Ohio River, including most of Iowa, Missouri, and parts of the border states, was the corn belt which also specialized in meat products mainly for the domestic market but with an export surplus of about 15% of its pork. West and north thereof, extending to the western portions of the Kansas-North Dakota tier of states, and including a large part of Minnesota, was the wheat belt, supplying most of the home demand and having a surplus for export of about a fifth. The cotton region was much as in the ante-bellum days except for extensions to the Southwest

and to reclaimed lands in the Great Basin. The semi-arid portions of the Great Plains and Mountain states remained the stronghold of the range and ranch cattle and sheep business; citrus fruits were the monopoly of California, Florida, and a strip along the Rio Grande in Texas and New Mexico; peaches, strawberries, and other fruits were distributed from Georgia to Utah, with especially fine apples in Washington and Oregon and grapes, prunes, and nuts in California. Forage crops were found in most regions of the country, especially in the stock-growing sections. This division was not greatly different from that of 1900 and was not materially altered in 1934.

Farm Production. Preparatory to a discussion of the movement of these belts to almost stationary positions a brief tabular survey of production of the principal crops since 1860 will be given. First come six of the principal food and raw-material commodities.

THE PRODUCTION OF SIX PRINCIPAL CROPS, 1860-1930

YEAR	CORN 1000, BU	WHEAT 1,000 BU	RICE 1,000 LB	SUGAR		COTTON 1,000 500 LB BALES	WOOL 1,000 LB
				Beet 1,000 Lb	Cane 1,000 Lb.		
1860	838,793	173,105	106,279		274,725	3,841	60,265
1870	1,094,255	235,885	54,889	896	178,304	4,025	162,000
1880	1,717,435	498,550	111,869	1,120	285,302	6,357	232,500
1890	1,460,406	378,097	136,800	7,784	497,170	8,562	276,000
1900	2,505,148	602,708	253,139	172,164	623,772	10,123	288,637
1910	2,886,260	635,121	680,839	1,020,344	710,080	11,609	321,363
1915	2,994,793	1,025,801	804,090	1,748,440	277,240	11,192	285,726
1919	2,811,302	967,979	1,166,259	1,452,902	244,250	11,421	298,258
1920	3,208,584	833,027	1,446,289	2,178,000	352,228	13,440	287,079
1925	2,916,106	676,765	924,000	1,826,000	278,763	16,104	292,362
1929	2,614,132	809,176	1,124,000	2,036,000	399,217	14,828	365,061
1930	2,081,048	850,965	1,149,000	2,416,000	369,387	13,932	397,907

The next table, of numbers and value of domestic animals on farms, like the preceding, is based upon census figures. The decline in both

FARM ANIMALS, 1880-1930

YEAR	HORSES THOU- SANDS	MULES THOU- SANDS	DAIRY COWS THOU- SANDS	OTHER CATTLE THOU- SANDS	SHEEP THOU- SANDS	HOGS THOU- SANDS	TOTAL VALUE THOUSANDS OF DOLLARS
1880	10,357	1,813	12,443	27,232	42,192	49,773	
1890	15,266	2,252	16,512	41,137	40,876	57,427	
1900	18,267	3,265	17,136	50,584	61,504	62,868	2,970,121
1910	19,833	4,210	20,625	41,178	52,448	58,186	4,740,684
1920	19,767	5,432	19,675	46,964	35,034	59,346	7,596,877
1925	16,401	5,681	17,645	43,115	35,590	50,854	4,439,966
1930	13,511	5,375	24,256	35,535	50,503	56,295	5,888,000

cases since 1930 is omitted because too alien to the present discussion.

The geographic distribution of these animals at the latest census well illustrates the relation of the corn belt, grazing lands, climate, and dependence upon animal labor to livestock growing. The North-Central states alone contained 72% of the hogs, 58% of the horses, and 52% of the dairy cows of the whole country. Together with the West-South-Central region, 64% of all cattle were accounted for, while the North-Central portion alone had 48%. The South predominated in mules alone, with 78% of the total rather equally divided between the three subdivisions. The far West excelled in sheep, with 56% of the nation's aggregate, about $\frac{3}{4}$ of this number being in the Mountain states.

The Wheat Belt. Since the middle of the nineteenth century the wheat belt has moved steadily westward. In 1849 the center was about 57 miles east-northeast of Columbus, Ohio. In the next fifty years it moved 99 miles north and 680 miles west to a point 70 miles west of Des Moines, Iowa. In 1929, while the center had not been definitely established, it was apparently somewhere west of the Missouri River in Nebraska or Kansas. The shift from the East-North-Central to the West-North-Central states is shown by the following percentages of the total crops by decades, omitting 1919 because of the abnormal wartime conditions.

CENTRAL STATES' WHEAT PRODUCTION (PER CENT. OF
TOTAL FOR U. S.), 1859-1929

YEAR	EAST NORTH-CENTRAL	WEST-NORTH-CENTRAL
1859	46.1%	8.8%
1869	44.3	23.4
1879	44.5	27.1
1889	31.4	37.4
1899	20.5	46.6
1909	17.7	56.2
1929	14.3	45.5

The decline of the West-North-Central group after 1909, like that of the East-North-Central group before then and the middle Atlantic states and Virginia still earlier, was not the result of an actual falling off in production but, rather, of greatly increased wheat crops in newer regions. The eight Mountain states in 1929 produced nearly as much as the East-North-Central, while for several years before they had exceeded the latter. Oklahoma, Texas, and Arkansas, closely approached by Washington, Oregon, and California, were, as two separate groups, each only a little behind the Mountain states, and on occasions before 1929 had also each exceeded the East-North-Central region. The

newer wheat country of the West and Southwest in 1929 grew 32.6% of the nation's crop. At the same time the East-North-Central states were showing improvement over a retardation of a few years earlier.

During these same decades, shifting groups of six states at any one time grew half or more of the wheat of the country. The following columns show the census year, the per cent. of the crop produced by the selected states, and the states in the order of their importance. A closer scrutiny of the agricultural conditions within these various states

THE SIX LEADING WHEAT STATES (AND PERCENTAGES) BY
DECADES, 1859-1929

1859 56 4%	1869 55 7%	1879 53 4%	1889 50 2%	1899 49%	1909 54 9%	1929 52 1%
Ill.	Ill.	Ill.	Minn.	Minn.	N. Dak.	Kans.
Ind.	Iowa	Ind.	Calif.	N. Dak.	Kans.	N. Dak.
Wis.	Ohio	Ohio	Ill.	Ohio	Minn.	Neb.
Ohio	Ind.	Mich.	Ind.	S. Dak.	Neb.	Wash.
Va.	Wis.	Minn.	Ohio	Kans.	S. Dak.	Okla.
Penn.	Penn.	Iowa	Kans.	Calif.	Wash.	Mont.

shows that the diminishing importance of wheat growing in each case is indicative of an emergence from pioneer conditions. The wheat belt has always clung close to the cattle lands of the frontier. Not till after the Civil War was a trans-Mississippi state represented among the leaders, while 25 years later three of the Old Northwest group were still holding on to their rapidly declining positions. At the close of the century Ohio alone remained to represent the region east of the Mississippi. California, by the same time, was revealing her retreat from the pioneer status. Ten years later Minnesota was dropping into the background, her flour mills depending more upon the product from the Dakotas than upon the home supply. In 1929 Kansas alone exceeded any single group of states outside its own West-North-Central division. Minnesota had declined to fifteenth place, being surpassed by Texas, Illinois, Ohio, South Dakota, Indiana, Idaho, Oregon, and even Pennsylvania in order, in addition to the leaders listed above. Minnesota's output was only a seventh that of Kansas. A consideration of this shift of the wheat belt has led farm economists to feel that when the supremacy leaves the United States entirely it will mark an advance in agriculture rather than a decline. The old wheat-growing regions of the East have not lessened their annual crop since the center has moved westward. In like manner, it is not thought that the United States as a whole is likely to produce less wheat, but merely that the country will outgrow its supply and become an importer (drastic crop reduction as in 1933-1934 can scarcely be made permanent).

The declining exportable surplus of recent years is an indication of this trend. The largest export years, omitting periods of war-time production, have been 1878, 1879, 1893, and 1900, the percentage of shipments abroad being 35.8, 40.2, 41.5, and 41.4 of the crop for the respective years. These were exceptionally high points even for that era. In 1904 the ratio dropped to 8%, and in the ensuing decade the average was about 15%. Following very high exports during the World War and the first few years afterward, the net of exports above imports in 1929 was only 8.8% of the crop. But even this much of excess output was enough to cause distress in a period of world overproduction.

While the center of wheat growing was shifting west by north, that of corn moved almost due west, but neither so rapidly nor so far. At the time of the first agricultural census in 1840 Tennessee, Kentucky, Virginia, Ohio, Indiana, North Carolina, Illinois, Alabama, Georgia, and Missouri in order of importance produced 77% of the corn of the country, the six Southern states alone accounting for 50%. In 1850 the center of production was in Ohio, 86 miles east-southeast of Columbus, and ten years later it was 47 miles west-southwest of New Albany, Indiana. By 1890 it had reached a point 55 miles southwest of Springfield, Illinois, after which it remained nearly stationary. The shifting alignment of the principal states by decades, and their percentage of the total crop, can well be presented in parallel columns.

THE TEN LEADING CORN STATES (AND PERCENTAGES)
BY DECADES, 1849-1929

1849 75 1%	1859 70 8%	1869 72%	1879 78 9%	1889 80 7%	1899 75 5%	1909 73 3%	1929 67%
Ohio	Ill.	Ill.	Ill.	Iowa	Ill.	Ill.	Iowa
Ken.	Ohio	Iowa	Iowa	Ill.	Iowa	Iowa	Ill.
Ill.	Mo.	Ohio	Mo.	Kans.	Kans.	Ind.	Neb.
Ind.	Ind.	Mo.	Ind.	Neb.	Neb.	Mo.	Ind.
Tenn.	Ken.	Ind.	Ohio	Mo.	Mo.	Neb.	Ohio
Mo.	Tenn.	Ken.	Kans.	Ohio	Ind.	Ohio	Mo.
Va.	Iowa	Tenn.	Ken.	Ind.	Ohio	Kans.	S. Dak.
Ga.	Va.	Penn.	Neb.	Ken.	Texas	Okla.	Kans.
Ala.	Ala.	Texas	Tenn.	Texas	Ken.	Ken.	Texas
N. C.	Ga.	Ala.	Penn.	Tenn.	Okla.	Texas	Ken.

By 1869 five states in the North-Central group were growing half of the crop. In 1879 seven states of the same group grew 68.5%, while a decade later they set a new mark of 70.7%. In the former decade the eastern three produced 31.6% and the western four 36.9%, but in the latter year the western group had made further gains to the

ratio of 24.2 : 46.5. In 1899 there was a partial crop failure west of the Mississippi which reduced the percentage of the seven states to 66 while changing the ratio of the eastern and western groups to 27.3 : 38.7. In 1909, without such an excuse, the same leaders dropped to 63.3%, while the standing of the eastern three was increased to 29.2 : 34.1. The static conditions in general distribution is shown by the fact that in 1929 the same seven North-Central states as in 1879 were among the leading ten, with South Dakota added. This group still produced 60% of the whole crop, the ratio between the three eastern and the five western states of the section still remaining as close to the older figure as 22 : 38.¹

Stock Raising. Though hogs have been grown in fair numbers in all sections of the country, the corn belt has had them in overwhelming proportion. This is only natural and is in accord with the practice of at least two centuries. Beef cattle likewise have existed in reasonable numbers in all sections, but predominantly in the North-Central, West-South-Central, and Mountain states. They also have centered in the regions where feed is most easily grown—the corn belt and the grazing lands. The principal improvements in the growing of the food animals have been in methods of breeding for finer and heavier types, and processes of hurried feeding so as to get them on the market younger and in better condition. Sheep growing has become overwhelmingly centered in the Mountain states. While sheep were numerous in the far Southwest in Spanish days, and were rivals for the open range in the heyday of the cowboy, it has been largely since the 1890's that the Eastern states have declined greatly in proportion. In 1895 sheep got so cheap that Eastern growers were denied sales at three for a dollar. For five years after 1894 there was a partial recovery, but wool growing in the East was ended as a big proposition. The packing and grading of raw wool in America was faulty as compared with foreign countries, and for years nothing was done to remedy the situation. Hence the domestic fiber was bought at a discount which tended to depress the business.

Poultry raising as a specialty has developed in all parts of the country, much greater care being taken since 1900 in proper housing and feeding. Improved incubators and brooders have been employed to lengthen the annual egg-laying period of the hen, while campaigns to

¹ Analytic discussions of the grain belt are Louis Bernard Schmidt, "The Internal Grain Trade of the United States, 1860-1890," in *The Iowa Journal of History and Politics*, Vol. XIX (April, 1921), pp. 196-245 and "The Westward Movement of the Corn Growing Industry in the United States," in *idem*, Vol. XXI (January, 1923), pp. 117-141. These articles, with some condensation and revision are reprinted in L. B. Schmidt and Earle Dudley Ross, eds., *Readings in the Economic History of American Agriculture* (New York, 1925), pp. 370-389.

"swat the rooster" have been waged in an effort to keep down the expense of feed as well as unwanted incubation of eggs. Greater care has been taken in the selection of fowls for meat, egg-laying, and general purposes. The bulk of poultry products continues to come from the general farmyard. Even in 1932 when eggs at 7¢ a dozen provoked the editorial comment that they were "not worth the wear and tear on the hens" it was noticed that, feed also being cheap, about the only household money on many farms came from the proceeds of the poultry yard.

Dairying. Dairy management on a commercial scale, till long after 1860, was looked upon as being purely endemic—limited by climate and soil to scattered regions consisting of about a third of the territory between the forty-first and forty-fifth parallels from the Atlantic Coast to the Missouri River. A family cow might be kept elsewhere, but nobody would be rash enough to attempt competition even locally with the superior dairying regions. But, as the matter of single-crop specialization led to overproduction with low prices in various other parts of the country and as agricultural experiment stations tested out the situation, it was found that butter could be made wherever beef could be grown—that the natural advantages of one region could be substituted for elsewhere.

Prior to 1850 parts of New York, Pennsylvania, and Ohio were noted for their cheese, the product being made by factory processes in New York before 1860. By 1869 there were over a thousand cheese factories in America along a belt extending from New York to Iowa. The first commercial creamery was started in Orange County, New York, in 1861, the milk from 365 cows being collected and brought in daily from the neighboring farms.¹

The factory process of cheese making was introduced from New York to Fond du Lac County, Wisconsin, in 1864. The idea was rapidly copied, the state having 30 establishments by the close of the war and a hundred five years later. In 1873 about 10,000,000 pounds of cheese were made in Wisconsin, an amount over nine times as great as the total home-made product in 1860. For a long time the badger-state dairymen would not copy the example of Illinois, where the creamery business at Elgin began growing about 1870. Instead, they stuck to cheese, leaving butter making to the home. Much of the household product was collected by hucksters from the local stores and sent to Eastern markets, where it had such evil repute as to be quoted on the exchanges as "Western grease." For that matter, in the early days when the notion prevailed that good cheese could not be made outside the old centers, the competing product from Wisconsin

¹ See Chap. XXX for condensed milk.

sin could be sold only under disguised names. But before the end of the 1870's Wisconsin dairymen were winning Eastern prizes under their own labels, and in time they took a permanent lead of the whole country in cheese making. In 1929, of over half a billion pounds of cheese coming from American factories, Wisconsin accounted for nearly three-fifths, while New York and California ranked second and third with about a fifth and a tenth as much respectively. About half of the states in the Union manufactured cheese in considerable quantities.

Early cheese and butter factories were coöperative concerns, the extension of the industries into new regions generally following the same form of organization. The American Dairymen's Association was created in the East in 1863, the Illinois and Wisconsin Dairymen's Association following four years later. In 1869 the latter was broadened into the Northwestern Dairymen's Association, and soon there were various Western state organizations as well. These affiliations did much to standardize products and combat the subversive influence of renovating factories which bought up putrid, fly-infested "marble butter," skimmed and pasteurized it to some extent, and sold their output as "creamery butter." Before 1906 the innocent purchaser never knew whether he would be pleased or nauseated at the first taste of a new brand.

Shorthorns were long a favorite base stock in the dairy country, but in later days Ayrshires, Holstein-Friesians, Jerseys, and Guernseys began to take their place. Pure-bred dairy strains did not become numerous, but widespread mixtures of the better breeds were being seen before 1900. Between 1852 and 1863 Zadok Pratt of Greene County, New York, increased the butter output of his herd from an average of 130 pounds to 225 pounds and established an annual milk average of 4,710 pounds for each cow. These records looked small in later decades, but they were a stimulus to the industry in his day. His methods, copied and improved by others, made dairying one of the most profitable of farm industries.

Between 1850 and 1875 there was an era of mechanization of the dairy, though many of the appliances then in use would have been unrecognizable a half century later. Centrifugal cream separators were used in the United States in 1879—in Europe a little earlier. By 1900 they were becoming popular, over 40,000 being in use in the country. Twenty years later only the poorest of farmers attempted to skim cream for sale by any other machine or method. Butter making on the farm was becoming a lost art as well as, in many cases, an abandoned nuisance. The invention of a centrifugal cream tester by S. M. Babcock of the New York and Wisconsin experiment sta-

tions, not only disposed of the need of experienced chemists but also ultimately gave confidence to the farmer that he was not being cheated by the buyers. Myriads of improved churns and other dairy apparatus added profit to the industry and removed dairying from the realm of empiricism. In 1924 over two billion pounds of butter were made in the United States, less than a third of which was of household manufacture. Five years later creamery butter alone was 1,613,061,000 pounds, Minnesota, Iowa, Wisconsin, Nebraska, and Ohio together producing 52.4%. If Missouri, the Dakotas, and Kansas be substituted for Wisconsin and Ohio, the West-North-Central states alone will be seen to have exceeded a half of the product of the country. Of over nine billion gallons of milk accounted for in 1929, the farmers sold 29% for direct consumption. New York, Wisconsin, Pennsylvania, Illinois, Ohio, and Michigan—states close to the great urban centers—led in this form of dairying. Pennsylvania alone sold more than all the farmers of the sixteen states of the South, while New York farmers sold over twice as much.

The Government and Agriculture. Since the Civil War the leadership in the science of agriculture has been assumed by the federal and state governments. Before the war, in addition to agricultural societies, there had been some state boards of agriculture, only semipublic in character and with rather vague powers. The first genuine state department of agriculture was established in Georgia in 1874. Its head was a commissioner, popularly elected and a member of the state cabinet. Subordinate officials included a chemist, entomologist, geologist, and a group forming a pure-food bureau. Tennessee in the following year had a more centralized department, the commissioner being appointed by the governor and selecting his own assistants. North Carolina in 1877, Virginia and Alabama in 1888, Florida and North Dakota in 1889, and Kentucky in 1892 provided departments similar to one or the other of the first two. New York in 1884 created the office of dairy and food commissioner and in 1893 expanded this to a regular department of agriculture. Pennsylvania joined the movement in 1895, Maine in 1901, Mississippi in 1907, and Vermont in 1908. By the latter date all of the states but three in the region west of Pennsylvania and New York still adhered to the old form of semipublic boards, but since that date the tendency toward centralized departments has become rather general.

Experiment station and extension work have been best done by the agricultural colleges, while the state departments have especially stressed regulation. The latter first looked into the adulteration of food products and the unheralded substitution of such things as oleomargarine for butter. The first oleomargarine factory in the

United States was opened in the city of New York in 1873. It experienced no difficulty in disposing of its wares, for in that day of strange butter flavors the product could pass as at least of average quality. Till the establishment of the office of dairy and food commissioner, legal action against such false substitutions was left to the prosecuting attorneys. Later, the departments attended to adulterations of many kinds, even of fertilizers. Quarantines were often placed to prevent the spread of diseases among animals and pests among plants. Border patrols were established by states to stop the migration of cattle afflicted with hoof-and-mouth disease. In 1929, when efforts were under way to check the advance of the corn borer, patrolmen stopped all passing tourists to see whether they were carrying corn with them, sometimes causing consternation till it was explained that green and not liquid corn was the contraband. In the same year the Mediterranean fruit fly began to spread devastation. A quarantine inspection established by California a short time later was often as bothersome as customs inspection at a port of entry.

The United States Department of Agriculture was an outgrowth of the work of Henry L. Ellsworth (see p. 305) and agitation by the United States Agricultural Society, organized in 1852 under the presidency of Marshall P. Wilder of Boston. The society, including many well-known men, even presidents and ex-presidents of the United States, was for a decade the principal agency for directing attention to farm problems. The Act of May 15, 1862, establishing the Department of Agriculture, along with the Morrill and Homestead acts of the same year, was ample evidence of the temporary allegiance of the Republican party to the farmers. The head of the department was labeled "commissioner" and was not a member of the cabinet. Objections were offered for many years against elevating the department to ministerial rank on the plea that the advisers of the President should not include representatives of special interests. But on February 9, 1889, an act was passed providing for the change. Two days later Cleveland appointed the existing commissioner to the post of Secretary of Agriculture.

Along with this promotion came an appropriation of \$80,000 for the succeeding year's work, an amount which was increased annually thereafter. The duties of the department were primarily along the lines of investigation and education, but some other activities were included, among them being police power. Research work concerning plant and animal diseases and pests was supplemented in 1884 by the establishment of a special Bureau of Animal Husbandry. This gave the departments of Agriculture and the Treasury joint power to prevent interstate or foreign shipment of livestock having communi-

cable diseases. In 1903 this function was delegated solely to the Department of Agriculture. In 1890, as a retaliation against foreign quarantine laws as well as for protection, the Secretary of Agriculture was authorized to provide inspection of imported livestock and exclude all diseased animals. Numerous other acts were passed to protect livestock in transit on railroads and boats, to fix plant quarantines, to prevent the misbranding of insecticides, to stop the importation of adulterated seed, and for other like matters. The Migratory-Bird Act, meat inspection, and the Pure Food and Drugs Act were left for the Secretary of Agriculture to administer. The Cotton Futures Acts of 1914 and 1917, which included even some taxing features, were put under the same supervision. Forestry work, begun in 1876 by the Department of the Interior was on February 1, 1905, transferred to the Department of Agriculture. For some occult reason even the Federal-Aid Road Act of July 11, 1916, was delegated to the same department for administration.

Agricultural Colleges. Justin S. Morrill's first bill for the creation of agricultural colleges was presented in December, 1857, but no such measure got through Congress and past a presidential veto until July 2, 1862. The act allowed to each state 30,000 acres of public land for each Representative and Senator in Congress provided that within five years the recipient should establish at least one college which was "without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts. . . ." ¹ When any of the land was sold only the interest was to be used, and any depletion of the funds should be made up by legislative appropriation. Investments were to be in securities bringing at least 5% interest. Unfortunately, no minimum sale value was fixed, the result being that most of the states sold for \$1.25 an acre or a little more, in competition with land sold under the Preemption Act. New states and those admitted later got only 90,000 acres each while New York received 990,000. Ezra Cornell handled the sale of New York's western allotment in such a fashion that the university named for him received an endowment of about 5½ million dollars. In 1889 the law was amended so that future grants could not be sold for less than \$10 an acre. Areas which would not bring that price were usually leased.

The agricultural colleges for some years were crippled by need of more money, the hostility of older colleges and universities, and

¹ It will be noted that the act by no means required that military tactics be made compulsory upon the students. Furthermore, the classics were given as much sanction in the curriculum as military tactics. Yet, in several instances Latin and Greek have been totally excluded while whole courses in military training, and not merely tactics, have been made compulsory.

inability to get trained teachers for agricultural subjects. Morrill and George F. Hoar tried in 1872 to get the proceeds from all public land sales diverted to school use, \$50,000 a year for the college fund and the rest for common schools, but the plan was defeated. Agricultural experiment stations were a tardy accompaniment of the new movement. One was started in Connecticut in 1875, but funds for the work of this and later stations were small till 1887. Then the Hatch Act was passed, providing \$15,000 a year for this kind of activity in each state. The Department of Agriculture was given the power of direction over the stations but no real control. Periodical bulletins of research accomplishments were required of each station. An act sponsored by Henry C. Adams in 1906 doubled the annual appropriation for experimental work.

The second Morrill Act of August 30, 1890, provided for appropriations of \$15,000 the first year and ten equal annual increases to a maximum of \$25,000 annually to each state for instruction in the practical phases of agriculture, the mechanic arts, English, mathematics, the sciences, and economics. The Secretary of the Interior was given supervision of the distribution of this fund, while the money was to come from the proceeds of land sales. In 1898 it was further provided that any deficiency of such funds should be made up from other sources. Another amendment in 1907 authorized an annual increase of \$5,000 till the maximum of \$50,000 should be reached. These various acts, coupled with state appropriations, attracted to the agricultural departments of the land-grant colleges men of the highest training available. Their salaries, often double those of persons of equivalent scholarship in nontechnical subjects, were sufficient to keep them permanently located.

The Smith-Lever Act of May 8, 1914, provided for agricultural extension work to be carried directly to the farming communities through county agents and farmers' institutes. In February, 1917, the Smith-Hughes Act authorized federal subsidization of the teaching of vocational agriculture and home economics in the high schools, thus providing another outlet for the agricultural college alumni. The latter by this time were learning to be ashamed of the "agricultural" or, as locally called, "cow college" label they bore, and were insisting that their institutions receive new names in which the words "agriculture and mechanic arts" should be omitted. Though some of these acts were passed following the period directly under discussion, they were merely a continuation of the ideals of Morrill and the other pioneers.

Situation in 1900. By 1900 the farmer was beginning to emerge from the economic inferiority under which he had labored for a long

generation. He also was elevating himself from the provincialism and social isolation which for a still longer time had held him in intellectual bondage. Several years of relative prosperity were ahead before a new period of depression was to re-create the old feeling of despair in a more malign form. There were, already, visible but scantily viewed evidences of a world situation which would ultimately force reliance upon the domestic market, restriction of output, self sufficiency, and coöperation. But rising prices, following a new upward curve in the world's supply of gold, obscured the vision of future troubles, leaving the agriculturist a few more years of intense individualism before he would be forced to view his problem as one for common action. In this point of view he was in thorough accord with the nation at large.

CHAPTER XXI

AGRARIAN AND MONETARY PROBLEMS

Causes of Agrarian Unrest. Rural discontent played a prominent rôle on the political stage from 1865 to 1900, the center of the plot being currency problems. Occasional support was furnished by the activities of labor parties. From the agricultural point of view there was a redundancy of villians, the parts being played by capitalistic interests and especially by railroad corporations, industrial monopolies, and national banks. Buffoons and zanies were not lacking to furnish comedy relief.

Agrarian unrest centered especially in the Middle West and South, growing out of low farm prices coupled with uncertain markets and extortion practiced by corporations, particularly railroad companies. Farmers had gone into debt during the war in order to buy expensive machinery and thus reap the greenback profits from enlarged crops. Others had bought railroad lands on the installment plan, while many had preempted government land with insufficient money to pay the full price, taking out mortgages to supply the remainder. These persons depended upon continued paper-money prices to get them speedily out of debt, hoping for a millennium of low freight rates in consequence of the rapid westward extension of railroads. In fact, those who could afford it had bought railroad stocks and bonds in high anticipation of large dividends, and many had voted taxes upon themselves in order that local governmental units could hasten the coming of the railroads by subsidization. They had even favored the huge railroad land grants, hoping for benefits to be derived for themselves.

Deflation. One of the first evidences of misplaced confidence was an increasing shortage of money. From 1865 to 1870 the circulating medium was diminished from about a billion dollars to three-fourths that amount, the per capita sum declining from \$31.18 to \$20.10. This deflation ¹ carried with it a drop in the general base-price index from 132 to 87, while farm quotations suffered even worse than the general average. Farm prices continued on a general downward trend till they

¹ Accounted for by the retirement of \$75,000,000 in greenbacks, \$234,000,000 in short-term Treasury notes, \$140,000,000 in state bank notes, and an increase of \$26,000,000 in the Treasury surplus. But the total of these items was partially offset by an increase of \$153,000,000 in national bank notes, \$13,000,000 in fractional currency, and \$1,000,000 in gold and small silver.

reached bottom in 1896 at 39.6, this weight dragging down the average of all commodities to 46.5. The per capita amount of money in circulation sank below \$19 in 1875 and hovered around that mark or in the lower twenties till 1897 before a steady upward climb was noted. In the meantime the demands of commerce outstripped the supply, thus contributing to the downward trend of prices. The situation in the West and South was worse than that of the country at large, thus giving rise to the sectional demand for inflation.

Activities of Railroads. Aside from the sudden postwar monetary deflation, the farmers suffered from their gullibility in placing too much dependence upon the railroads. There was some justification for higher rates in the West, where population and business were small, but when in 1869 it cost 20¢ a bushel to ship grain from Dubuque to Chicago the only economic law involved was that of charging all the traffic would bear. From Dubuque to the Atlantic Coast at the same time the rate was 52½¢. This charge was barely endurable with wheat in the East at \$1.45 a bushel, but was prohibitive in the following year when the price fell to 76¢. From Chicago to New York, competition with lake and canal traffic kept railroad rates somewhat within reason, but west of Chicago the farmers had to be so situated as to take advantage of a rate war before they could enjoy reasonable charges, and by 1870 railway pools began to eliminate even this occasional boon. The difference in freight costs alone explained the fact that in 1873, when corn was worth 60¢ and wheat \$1.32 in the East, the prices in Iowa and Nebraska were 30¢, or less, and 90¢. Furthermore, the railroad companies curried favor with government officials—state and federal, great and small—so long as they had any influence which might be used for or against the common carriers. Free passes were issued, stock was sold below the market value, and oftentimes bribery without such concealment was used. Occasionally the railroads were able to send their own men, like William B. Allison of Iowa, to Congress.

Secure in their governmental influence, the transportation companies were able to manipulate stocks and rates to suit themselves. Rate wars to the knife in regions of competition could be compensated for by excessive charges wherever monopoly existed. Most farmers lived nearest to noncompetitive points and consequently had to pay more for a haul of a hundred miles than others were charged for five times the distance. Stock was watered to the saturation point to hide enormous dividends. Twenty-eight of the prominent railroads of 1869 had an average of 40% of overcapitalization upon which the farmers had to pay excess dividends.

Finally, so far as their grudge against the railroads was concerned, the farmers and their local governmental units were, as small stock-

holders, squeezed out of their securities. Conscienceless pirates like Jay Gould, Daniel Drew, and Cornelius Vanderbilt manipulated the stocks in such a way as to leave themselves further enriched, the railroads impoverished, small stockholders bilked, and unfavored shippers robbed by unfair rates. Even when, for lack of sufficient cash to buy government land, the farmer was forced to accept the terms offered by the railroads he was compelled to pay far more than the difference between cash and credit sales warranted.

Middlemen's Profits. Middlemen also thrived at the expense of the agricultural class. The manufacture of farm machinery was virtually in the grip of a monopoly which deprived middlemen of their contracts if they were found guilty of cutting prices. Farmers were usually compelled to buy their implements and supplies on credit, under conditions obligating them to sell their produce to the creditors at the latter's terms. It was estimated before 1870 that producers west of the Mississippi paid 50¢ out of every dollar to the middlemen for grain sent to the Atlantic ports. Since very little could be left under these conditions, after the freight cost was subtracted, a good proportion of the grain growers were forced to revert to the old self-sufficing system of economy.

Overexpansion. Of course, rapid expansion had something to do with rural depression. But the score of years following 1850 had been burdened with numerous wars in Europe as well as the major tragedy in America. These conflicts had put such a demand upon productive lands as to justify otherwise inordinate farm extension. Then came a change. The completion of the Suez Canal in 1869, the establishment of a long period of peace with the close of the Franco-Prussian War, and the penetration of the Ukrainian wheat fields by railroads had a burdensome influence upon European demand for American goods, though so far as foodstuffs were concerned there was no actual decline till about 1885. Prior to the Civil War the largest value of wheat exported in any one year was \$22,240,857 in 1857, this commodity having always been one of most uncertain foreign demand. Following the record war years there was a short ebb succeeded by a fairly consistent increase in demand from about \$30,000,000 in 1868 to over \$190,000,000 in 1880. Then came a steady falling off to less than \$42,000,000 in 1889. Not till the World War was the record of 1880 exceeded or equaled. On the other hand, while the foreign consumption of cotton grew from about 650 million pounds in 1866 to nearly six times that amount in 1898, the value of the export remained almost stationary, the latter crop bringing only \$230,000,000 or about \$51,000,000 less than the former. The cotton grower, not the wheat farmer, was the real victim of overexpansion. The latter had ample

reason to lay most of the blame for his condition on forces out of his control.

Panic of 1873. Though depression had been descending upon Western and Southern farmers steadily since 1865, it was the panic of 1873 which finally roused them to fury. This crash, like its predecessors, was the result of years of mounting speculation, especially in railroad securities, since 1865. Over a billion dollars had been invested in railroads alone in these few years in addition to vast sums in industrial concerns. American enterprises from 1861 to 1868 had absorbed a billion and a half of dollars of foreign capital, causing about \$80,000,000 a year to go abroad in interest payments. This was in addition to an adverse balance of trade and other drains upon American gold. Meanwhile, the national banks were on none too secure a basis, their loans in the five years before 1873 increasing almost seven times as much as the \$43,000,000 growth in deposits. The Chicago fire of 1871 put a strain of \$200,000,000 on the insurance companies, and the Boston fire of the next year added \$73,000,000 to this burden of concerns which were poorly regulated at best. Europe also was riding to a fall which was precipitated in May, 1873, by a severe panic on the Vienna Bourse. European creditors were forced to unload vast American holdings on Wall Street, the strain proving too much by September, 1873. Disturbing failures began early in the month, and on the eighteenth the firm of Jay Cooke and Company was forced to the wall. Prior to this time Cooke's credit had been good even when the United States Treasury was shaky. So unbelievable was the failure of this Gibraltar of American finance that an overly zealous policeman is said to have arrested a newsboy for shouting the headlines: "All about the Failure of Jay Cooke."

With this shock for a starter the whole investing public became panicky and there was a rush of liquidation. Indications of the coming crash might have been read in the 18,717 failures in the years from 1867 to 1872. Their liabilities had amounted to over half a billion dollars. But in 1873 alone the blow to capital was almost half as hard, while for five more years conditions got constantly worse. For the six years including 1878 the number of bankruptcies reached 47,195 with losses in excess of \$1,200,000,000. For a time, over three million men were thrown out of work, the hard times being worse in industrial regions than on the farms. The average of wholesale prices, which had reached a condition of stability by 1870, entered into a new period of decline, falling by 1879 to 30% below the level of 1870-1873. Wheat alone dropped 40¢ a bushel, causing Western growers to operate at a loss. Cotton, which was bringing nearly 20¢ a pound in 1872, declined by 1879 to a little less than 10¢.

Political Corruption. Conditions such as these drove the farmers into organized efforts at economic and political action for relief. Before this for a long time they had been without much power or influence. Of the population in 1870, 47% were engaged in agriculture, but only 7% of the members of Congress had any direct connection with the soil. In the state governments the situation was not far different, while throughout the nation those in power had made a sorry mess of the business. The whole eight years of Grant's administration were riddled with corruption on the part of his subordinates, his own private secretary and at least two members of the cabinet being involved. Grant himself accepted valuable presents from the Whiskey Ring at St. Louis, but biographers have been merciful in their analysis of his motives. Corruption in Congress included the *Crédit Mobilier* scandal and a "salary grab" act. The Tweed Ring in New York, with its stealing of \$200,000,000 or more of public funds, was matched by equally grave but less spectacular thievery on the part of the Republican machine at Philadelphia, while the state governments at Albany and Harrisburg were engaged in wholesale corruption. A minister to Great Britain became involved in a mining swindle at the expense of the English people. Even in rural Kansas a United States Senator tried bribery in the legislature to secure reelection, and nearly succeeded. Such conditions spread disgust throughout a country already beginning to react against carpetbag outrages in the South and putridity in public life at Washington.

Granger Movement. Farmers' clubs sprang up in different localities to take the matter into their own hands through political action. As early as 1867 farm organizations in Illinois were responsible for the enactment of a law compelling railroad companies to handle grain in elevators and warehouses of private ownership. Penalties were now fixed for refusal to receive grain of other than their own storage. But the activities of nonsecret, political farmers' clubs were soon overshadowed by a new organization known as the Patrons of Husbandry.

This secret society, patterned roughly after the Masonic order, was the creation of Oliver H. Kelley and other government clerks at Washington. Kelley was born in Boston of Brahmin connections but had moved to Iowa and later to Minnesota, from whence, being in a low financial status, he entered the government service at Washington. In 1866 he had been sent to the South by Andrew Johnson to gather statistical information. This trip crystallized a hitherto amorphous opinion that the farmers were handicapped mainly by their lack of gregarious habits. They were stuck in a rut, worn deep through the centuries, and were mentally too much like the conventional idea of the stage "rube"—portrayed with trousers stuffed into boot tops and

timothy hay projecting from forward-thrust whiskers. The men were set in their ways, unprogressive, unchanging, praying for the seasons to smile on their own fields and scowl at their neighbors'. Their only means of social intercourse was in an occasional trip to the nearest store or a semi-annual visit at the barber shop. It was irreverent to use the church for social purposes. The women had even less social life than the men, this being before the day of the party-line telephone under which a maiden aunt could sit and broadcast to the rest of the family the tidings of the township.

Determined to remedy this situation, Kelley and his associates in 1867 drew up the ritual and organized the first American secret society to admit men and women to the same degrees. The purpose was purely for social, intellectual, moral, and economic improvement of the rural classes, the constitution strictly forbidding the use of the organization as a political party. Resigning his government job, Kelley set out to try to collect a salary of \$2,000 a year from the fees paid by local lodges or "granges" which he should establish. For some time he found the farmers unresponsive when not even hostile to his efforts. Ever since the Antimasonic movement of 40 years before, rural clergymen had denounced secret societies in general as instruments of the Devil, and the preachings had been taken seriously. For a year or more Kelley could not even make traveling expenses. At the close of 1869 only 37 granges had been established in Minnesota where he had centered his efforts.

But the economic burdens of the next two or three years caused farmers to flock into the new order in hope that it could be used as an instrument for their betterment. Three dollars for an initiation fee was pretty large, but by the thousands they began to take the gamble. Women paid only 50¢, so it was easier to take them along than to endure nagging about having secrets not shared in the bosom of the family. The Panic of 1873 broke down the remaining barriers. Farm mortgages, whose interest rates had ranged as high as 15 and 20%, could no longer be renewed on any terms, and foreclosures began. Even short-term loans for crop production could not be procured. So, by the close of the year charters could hardly be issued fast enough to the new granges. The society had penetrated all but four of the states, 32 of which had state organizations. In the same year the control of the order passed into more vigorous hands and a beginning was made toward political action.

The Grangers in Politics. Rules against political activity were evaded by the formation of farmers' parties "outside the gate." Known by such names as Independent, Reform, Anti-Monopoly, and Farmers', they were organized in 11 states by 1874. In commonwealths

like Minnesota, Iowa, Illinois, and Wisconsin, where the Grange was especially strong, that society dominated the parties, but elsewhere the rival farmers' clubs were the more active force. In some instances the Democratic organizations joined their forces to add strength in their resistance to Republican control. In 1874 a Declaration of Purposes or "Farmers' Declaration of Independence" was drafted, advocating numerous reforms, denouncing the credit system, changing fashions, and other forces leading to extravagance, assaulting the abuses of taxation, tariff, usury, and monopolies, and supporting cooperative enterprises.

The farmers' parties attacked especially the abuses of railroad companies. Corn at 15¢ a bushel in Iowa when it sold at a dollar in the East approximately justified all accusations made. Illinois, Wisconsin, Minnesota, and Iowa, the great wheat-growing states of the time, led in the movement. Not only were the grangers more fully organized there, but also the state constitutions permitted railroad regulation or else there were regulation clauses in the corporation charters. Illinois took the start. The Warehouse Act of 1867 was followed in 1870 by a provision in a new constitution permitting control of common carriers. In 1871 a scale of maximum rates was enacted for both freight and passenger service. When the railroad officials refused to comply with the law some of the bolder farmers got the habit of boarding trains, offering the legal fares, and giving the conductors the choice of accepting or attempting to eject them by force. Such tactics did not succeed, for in 1873 the state Supreme Court declared the law unconstitutional. The legislature immediately responded with a more carefully drawn but much more drastic act which finally weathered all the storms of legal attack. Minnesota in 1871, Iowa and Wisconsin in 1874, also adopted rate regulation laws which remained in force for a few years before being repealed.

The railroads fought these attempts at control from the inception to the finish. Failing to prevail upon the electorate, the legislatures, or the governors, they refused to obey the acts and compelled shippers to carry cases to the courts. Most of the patrons were timid about bringing suit for fear the railroads would refuse to haul their consignments or allow them to be carried astray. Consequently, very few appeals were carried through to the United States Supreme Court. Meanwhile, the railroads limited passes to those officeholders who favored them on the questions in dispute, and sometimes even found loopholes in the laws permitting them to apply the maximum for any schedule as the minimum for all. In this way they made the acts obnoxious even to those who had advocated them. In Wisconsin, train service was reduced to such an extent as to secure a repeal.

In October, 1876, decisions were handed down by the Supreme Court in eight cases originating in the four states mentioned. The fundamental issue was the "right of a State to regulate a business that is public in nature though privately owned and managed."¹ This point had been settled in favor of the states many years before so far as turnpikes and other public works were concerned, and in 1872 the court had affirmed the public nature of the railroad business. In the granger cases, as they were called, the carriers invoked the Fourteenth Amendment. No person should be deprived of property "without due process of law." According to the contention of the appellants a corporation was a person, rates were property, but legislative acts were not due process of law. The first decision was in the case of *Munn vs. Illinois*, in which the court upheld an Illinois Warehouse Act of 1871 which fixed the rates that might be charged for the storage of grain in elevators owned by railroad companies. So long as these rates were not confiscatory or in violation of charter rights they were legal. The principle of legislative interference being thus affirmed, the decisions in the remaining cases elaborated further upon the right of states to regulate rates charged for freight and passenger service. Here also the laws were upheld. In *Peik vs. Chicago and Northwestern Railroad* the court went so far as to declare that the state of Wisconsin was justified in fixing rates not only for intrastate traffic but also for interstate shipments originating within the state. Though this latter point was reversed ten years later in the *Wabash* case, the general right of a state to regulate rates in a reasonable fashion for purely intrastate business still stands, though seriously curbed by federal supervision since the World War. In view of the victory of the farmers in these cases, states which had repealed their laws later reenacted them on a more scientific basis and other states copied the acts, especially the Illinois code.

Granger Coöperative Efforts. In its economic program the Grange was not so successful as the farmers' parties were in politics. By the spring of 1874 there were at least 1,500,000 members of the order in about 15,000 granges. By the close of the next year there were 6,400 granges in the South alone. Meanwhile, the coöperative fever was spreading in every section of strong grangerism except the South. Commission men and local merchants had too great a hold on rural credit in that quarter. When they began foreclosing on farmers who patronized coöperative enterprises there was little else for the debtors to do but submit to their exploiters. Various kinds of coöperation were tried on the Pacific Coast, even to banking. But Iowa led all the states in the number and extent of experiments. Besides the usual elevators

¹ Solon J. Buck, *The Agrarian Crusade* (New Haven, 1920), p. 56.

and stores, the State Grange in 1872 established a central purchasing and selling agency at Des Moines. When this organization failed to get contracts for harvesting machinery from the McCormick monopoly the State Grange decided in 1873 to attempt the manufacture of its own machines. The Werner harvester plant was purchased and in the following year about 250 harvesters were sold at about half the usual market price. Three plow works were taken over at Des Moines and an equal number of other factories were secured in other parts of the state. About 30 elevators also were operated.

The seeming success of the Iowa experiment led the National Grange to put its surplus of \$250,000 into factories in various parts of the country. Then, in 1875, the Iowa plants failed. Their trouble was not only bad management, but also unfair methods employed by the independent competitors. Soon the whole Grange capital invested in such enterprises in the country was swept out of the society's control. Many granges suddenly disbanded to prevent action for collection of debts.

Decline of Grangerism. These failures were the main reason for the sudden decline of the granger movement. But there were other contributing causes. The society had grown too rapidly, not enough care being taken to restrict membership to persons properly qualified. When commission men and grain dealers in the city of New York—persons whose main interest was to buy grain as cheaply as possible—organized a grange and secured a charter, a general wave of disgust swept through the rural regions. Too many local lodges already were dominated by persons bent upon making profits at the expense of farmers. The Grange did not at any time have any great appeal to Eastern agriculturists, who saw a positive advantage in high railroad rates which prevented Western goods from flooding their markets. Also, adversity came before the Western members had really learned the lessons of mutual self-help. Not only were the cooperatives jealously watched, but the state and national officers were not trusted. Finally, the success of the program of railroad regulation led to the break-up of the farmers' parties which alone had held many grangers together. In 1874 the parties had carried the legislatures of several states, elected a governor in Wisconsin, and very nearly got another in the person of the picturesque Ignatius Donnelly of Minnesota. By 1876 most of the insurgent voters were back in the ranks of the old parties, firmly convinced that the stability of the nation depended upon the election of Hayes or Tilden. Some had been won over to the greenback standard.

In 1880 the Grange counted hardly a fifth of the number of local organizations it had boasted in 1874. Yet the movement was far

from being a total failure. The old provincialism of the agricultural population had received such a shaking up that it never again sank quite to the old level. In addition to the transportation victory, farmers had won enduring concessions from manufacturers and middlemen. The latter no longer could charge what they pleased in smug assurance that the farmers would stop with mere grumbling. The failure of the coöperatives had some effect in teaching the farmers more appreciation of the services provided by the established agencies of manufacture and merchandise. New lessons also were learned for the benefit of future mutual enterprises. The Grange stores and factories had been run on a price-cutting basis, thus inviting competition from capitalists better able to stand the strain. Future efforts, especially in the East and South, were modeled on the Rochdale plan, division of profits rather than price cutting being the basis. Mail-order houses, catering to rural trade, were another outcome, Montgomery Ward and Company starting business at Chicago in 1872 especially to sell to grangers. Finally, the social benefits of the Grange were not lost. After 1876, with diminished membership, the order returned to its initial program of rural uplift, continuing along that line ever afterward, though mainly in the states where activity was least in the 1870's.

Greenbackism. The failure of grangerism to restore prosperity to agriculture led many farmers to fall back upon the old-time panacea—the demand for a more liberal issuance of legal-tender paper money. Short-term Treasury notes were not adapted to permanent expansion of the currency. The state banks, because of the insecure value of their circulation in earlier years, had not won the confidence of the agricultural classes. Consequently, there was not much demand for removal of the penalty on their notes. There were two other kinds of paper money in circulation, greenbacks and national bank notes, and the inflationists had no respect for the latter.

In 1865 the volume of state-bank notes had about equaled that of the national bank currency, but the 10% tax on the bank issues in 1866 and following soon drove all banks desiring their own notes into the national system. By 1876 there were 2,089 national banks with a capital stock of over half a billion dollars, after which for some years there was a decline. The circulation of the national banks reached an apex in 1873 with a total of \$339,000,000 secured by over \$388,000,000 in government bonds. These figures were cut to less than half by 1891 and did not surpass the level of 1873 till after 1900. The instability of volume of these notes was the first feature to incur the displeasure of the inflationists. Though the bonded indebtedness of the United States increased \$115,000,000 in the six years following

the Panic of 1873, the bank circulation showed a decided decline, in 1876 being \$47,600,000 below the earlier level.

Another criticism involved the geographic distribution of notes. In 1869 Massachusetts, Rhode Island, Connecticut, and New York had over half of the total while the West and South were especially deficient. An act of 1870 for refunding the public debt allowed an expansion of about a sixth above the original maximum of \$300,000,000, and provided for redistribution of \$25,000,000 of the notes already in circulation. The latter transaction was not effectively accomplished. In general, interest rates were so high in the West and South that banks were not much interested in note issues. Even when the Resumption Act of 1875 removed the limits for total circulation the debtor sections of the country were not benefited by the privilege.

Again, there was objection to the double interest allowed to the national banks for the money they had invested in bonds. Another piece of favoritism was seen in the annual government deposits, averaging over \$220,000,000 from 1864 to 1878. On this sum the national banks paid interest at a rate of only .5% a year, while they could use it at high rates of profit for call loans. The critics were inclined to overlook the fact that not all this income was profit. The national banks not only paid the usual state taxes but also .5% to the federal government on the average of annual deposits and on all capital stock not invested in government bonds. Yet, as late as 1880 the total taxes paid by the national banks amounted to but 3.5% on their capital, or scarcely as much as the interest on their investment in bonds. This left the equivalent of the interest on all circulation and deposits to be devoted solely to operating expenses and profit, an advantage not enjoyed by banks outside the national bank system. When, after 1877, most of the bonds on deposit for notes were refunded at 4% the banks were willing to accept the change. The new issues ran for 30 years, thus lending greater stability to the amount of note circulation.

A final objection of inflationists to the national banks centered about the old hostility to monopolies and the Eastern "money power." Bankers were accused of constant plotting against the general welfare. Soft-money men argued in favor of government money instead of private notes as a cure for this evil. Even among officials of the Department of the Treasury there was a factional difference between advocates of greenbacks and national bank notes as a basis for paper currency.

Resumption of Specie Payments. In one way or another questions concerning the greenbacks occupied a considerable portion of political

discussion for nearly 20 years after the close of the Civil War. Few interested persons in 1865 were willing to let the question rest as it was, yet there were nearly as many different prescriptions for cures as there were currency physicians. One group insisted on curtailing the volume of the notes as the only way to restore a parity with gold, but its adherents differed among themselves as to how this might be done. Hugh McCulloch, Secretary of the Treasury, urged the sale of gold bonds to create a fund for the purchase and retirement of greenbacks. David A. Wells, special Commissioner of Revenue, 1866-1870, proposed the "cremation process" whereby at least \$500,000 in greenbacks should be burned each week until the premium on gold ceased to exist. The flow of revenue into the Treasury would supply the fuel. Other persons proposed partial repudiation by buying the notes at 90¢ on the dollar in gold and then destroying them. This group was somewhat hazy about where the gold was to come from or how the process would ever make a greenback dollar worth more than 90¢.

Others argued in favor of resuming specie payments to holders of the paper on demand. Chase, Sumner, and Greeley talked of resuming by merely resuming, without consideration as to the source of the funds to work this miracle. Many Eastern bankers talked of building up a gold reserve for the purpose, though the balance of trade was adverse and little gold was to be had except by purchase. John Sherman, a senator from Ohio and the watchdog of the Treasury, was the chief advocate of the policy of letting the matter rest till an expansion of population and business should absorb the paper. As trade relations became better gold would come back into the country, whereupon the government's promise to pay could be kept on demand.

Another constantly increasing number of people demanded an outright expansion of the volume of greenbacks and their substitution for all other forms of notes. In time this idea developed into the greenback philosophy of making United States notes the sole money of the nation, without any security except the fiat of the government, public confidence, and heavy penalties for counterfeiting. Such a currency could be expanded or contracted as necessity demanded.

In fifteen years' time several of these plans were tried out in part, but none in entirety. Shortly after the Act of June 30, 1864, the volume of greenbacks was reduced from \$431,000,000 to the new maximum of \$400,000,000. On April 12, 1866, a funding act provided for converting the short-term Treasury notes into bonds, and also included an approximation of the cremation process. In six months \$10,000,000 in greenbacks were to be withdrawn from circulation, and thereafter the retirement should be at the rate of \$4,000,000 a month. But

poor crops, increased government expenses, and a panic in Great Britain, as well as the deflation itself resulted in a sharp depression in American business. In consequence, on February 4, 1868, Congress repealed the act after \$44,000,000 had been retired. In addition, at least \$100,000,000 in compound-interest Treasury notes, mostly held by the banks, were canceled.

A new turn was given the currency question when the "Ohio idea" was injected into the presidential campaign of 1868. This was a proposal to pay the principal of government bonds in greenbacks, except where the contracts read otherwise. Now that many of the war-time five-twenties were falling due, many persons resented the payment of the principal in gold, especially since the bonds had been bought with depreciated greenbacks. The holders would make a 100% capital profit in addition to their five years' magnified interest. As hard-headed a politician as Thaddeus Stevens of Pennsylvania advocated greenback payment. Even John Sherman gave feeble support to the idea. But George H. Pendleton of Ohio was the man who got the plank into the Democratic platform. He had been the candidate for the vice-presidency in 1864 and was angling for the presidency in 1868. The convention smothered Pendleton's ambitions by nominating Horatio Seymour of New York, who immediately sidestepped the currency question. Nevertheless, the slogan of "the same currency for the bondholder as for the plowholder" was heard often during the campaign, having something to do with the closeness of the popular vote. Grant's election was followed by the passage of the public credit resolution of March 18, 1869, demanding the payment of all bonded indebtedness in gold. The bloated war-time debt, based on the extortions of profiteers, was to be paid in gold, but when a Kansas farmer sold his hay or corn to the quartermaster at Fort Riley the price received was further diminished by payment in depreciated greenbacks.

Indignation over the public credit resolution was intensified by court decisions preventing the states from taxing government bonds. The hostility was not alleviated by acts of July 14, 1870, and January 20, 1871, providing for refunding the debt: \$500,000,000 for 10 years at 5%, \$300,000,000 for 15 years at 4.5%, and \$1,000,000,000 for 30 years at 4%, exempting the bonds from all taxation and making them payable in coin only. Long before the 30-year bonds fell due the government was in a position to borrow at 2.5% or less and the bonds rose to a 25% premium. This created an even greater hatred against the "bloated bondholders" and particularly the national banks.

Since the Funding Act of 1866 did not specifically prohibit such action, in 1871 and 1872 George S. Boutwell, Secretary of the Treas-

ury, reissued over \$6,000,000 in greenbacks and later retired them for no known reason unless to benefit persons speculating on the stock exchange. Then, to relieve conditions preceding and following the panic, Secretary William A. Richardson reissued \$26,000,000 between March, 1873, and January of the following year.¹ In April, 1874, only a presidential veto prevented Congress from restoring the \$400,000,000 greenback level of 1864, but a later act of that year legalized the \$382,000,000 mark set by Richardson.

In the election of 1874 the Republicans lost control of Congress. So, in the lame-duck session following, they hurried to settle the greenback question before control shifted to the Democrats. The Resumption Act of January 14, 1875, therefore, was called by its opponents "a death-bed repentance." This act dealt with several other matters, but especially with the greenback question. The volume was to be reduced gradually to \$300,000,000, but to prevent rapid deflation national bank notes were to be issued to the amount of five-fourths of the value of the greenbacks retired. A gold surplus was to be accumulated in the Treasury, by the sale of bonds if necessary, to serve as a reserve for notes left in circulation. Then on January 1, 1879, the Secretary of the Treasury was to begin paying gold for greenbacks on demand, the notes thereafter to be put back and kept in circulation. There was very little virtue in the act except for the fixing of a date, however remote, for actual resumption. No specific reserve was provided solely for the redemption of greenbacks. Any surplus saved up for that purpose could at any time of Treasury shortage be used for current expenses. Not till 1882 was there any legal reference to the amount of the reserve. Then an act suggested that \$100,000,000 in gold should be kept as a security, but provided no definite or effective way of maintaining such a standard.

Greenback Parties. Inflationists roundly denounced the resumption measure, and especially the proposed substitution of \$102,500,000 in national bank notes for \$82,000,000 in greenbacks. It was readily seen that as the public debt was paid off the notes would go out of circulation—that deflation would merely be postponed and not prevented. Meanwhile, a greenback party had been created, taking as its central plank a proposal of the National Labor Reform party of 1872. All currency should be United States notes redeemable in government bonds paying 3.65% interest, or a cent a day on each \$100. The bonds were reconvertible into greenbacks which were also to be the medium of interest payments. To the skeptical this sounded like lifting one's self over a fence by his boot straps. The Greenback

¹ Less than five months later Richardson was forced to resign from Grant's cabinet as a result of complicity in a tax-collection swindle.

party had presidential tickets in each national election from 1876 to 1884, the candidates not being such as to inspire any great amount of confidence. The vote of the party was never large. Yet, by securing the balance of power in the Illinois legislature in 1876 they were the determining factor in sending David Davis from the Supreme Court to the Senate, thus probably deciding the outcome of the Hayes-Tilden election.

In 1878 the Greenbackers reached the apex of their strength. The depression following the panic was at its worst. Industrial unrest, as expressed in the railroad strikes of 1877, had added its force to agrarian discontent and the disgust of the majority of the voters at the action of the electoral commission of 1877. On May 31, 1878, Congress repealed the portion of the Resumption Act requiring the cancellation of greenbacks. At that time the amount left for circulation was \$346,681,016, which sum has ever since been the book value of the greenback debt. Three months earlier the inflationists had shown their strength by the passage of the Bland-Allison Act. In the congressional elections of that year the Greenback party polled about a million votes, two thirds of them in the Middle West, and sent fifteen members to the House of Representatives. Two years later there was a coalition of various disgruntled elements in the party, Susan B. Anthony and woman suffrage being included in the fold, but the effort was futile. Democrats and Republicans were fighting for vindication over the preceding presidential election. Farm prices were better and crops were larger than usual, thus adding to the defection from the ranks. James B. Weaver got less than a third as many votes as were cast for Greenback candidates in 1878. Though the party held on for four more years, it did not require the dismal defeat of Ben Butler in 1884 to show that the movement was ended.

Two other incidents complete the story of the greenbacks. John Sherman, as Secretary of the Treasury under Hayes, accumulated a gold reserve of \$133,000,000 before the close of 1878. The greenbacks had appreciated from 50¢ on the dollar in 1865 to 80¢ in 1870, and remained in the eighties till 1877. Then, as the reserve grew, the notes approached a parity with gold, reaching that status two weeks before the date set for resumption. On the stipulated date gold was offered to all who wished it in exchange for greenbacks. But now that it was available few wanted gold, and for 14 years the reserve was secure against any raid. The other incident had to do with the constitutionality of making United States notes a legal tender. Supreme Court decisions in 1868-1869 gave them only a limited legal-tender value. But a realignment of the court in 1871 resulted in establishing definitely the constitutionality of the war-time measures. In 1884

the court, in the case of *Juillard vs. Greenman*, decided that the reissues under the Act of 1878 were also valid, thus ending all controversy.

Free-silver Movement. Long before the Greenback party was dead, for that matter even before it was well organized, the demand for free coinage of silver was coming to be a political issue. Many persons who felt that there was something dishonest about issuing fiat paper money looked upon free silver as a thoroughly proper way of dealing with the country's monetary problem. The event which created this demand went almost unnoticed at the time of its happening. In January, 1873, Congress passed a new minting act repealing all previous measures and omitting the standard silver dollar from the list of authorized coins.¹ So little attention was paid to the act at the time that President Grant did not even remember he had signed it. Nine months later he was wondering why silver was not coming to the mint to relieve the money shortage created by adverse trade balances during the panic. The reason for the general oversight was that since the Coinage Act of 1834, which had undervalued silver, that metal had been too costly to coin. Such silver money as existed had gone to the melting pot for commercial uses. In 1873 it took about \$1.02 worth of silver to make a dollar at the existing ratio of 15.625 to one with gold. Since no dollars were being manufactured, no immediate notice was taken of demonetization.

But a change came suddenly. Within a short time the bullion value of the dollar dropped below the ratio, reaching 96.1¢ in 1875, 88.6¢ in 1880, 82.4¢ in 1885, and 72.3¢ in 1889.² Much lower levels were to be attained in the next decade. There were two principal reasons for the decline in value. One was the fact that several European countries dumped their silver coins on the market as a part of their transference to the single metallic standard in 1871-1873. The action of these states alone was enough to depress the market, but the overproduction of silver in America was possibly an even greater factor. Between 1792 and 1870 the country had produced less than 79,000,000 ounces of silver, 99% of which had been in the last decade. But from 1871 to 1880 the output jumped to 278,764,000 ounces, in the next ten years to 414,660,000, and in the decade ending in 1900 to 566,601,000.³

As soon as it was seen that the value of silver was below the old coinage ratio and still dropping, silver mine owners began to denounce the Act of 1873 as a fraud and a conspiracy. The refrain was taken

¹ There was a provision for the coinage of "trade dollars" of a greater weight than the usual coin for use solely in settling commercial balances with the Orient.

² These figures are the averages for the years mentioned.

³ After 1892 there was a decline, the record of 63,500,000 ounces for that year not being equaled again for two decades.

up by Western and Southern debtors who saw in silver a solution for their woes. People began to talk of the "crime of '73," a battle cry which stirred passions for over a quarter of a century. In fact the Act of 1873 was not slipped through by stealth, the matter having been talked of in Congress from time to time for three years before its passage. Yet, it is quite likely that the sponsors of the measure read the signs of the times better than did the somnolent multitudes—that they had a deliberate purpose in mind.

The inflationists, in demanding an immediate return to free and unlimited coinage of silver at the ratio of 16 to 1 with gold, were asking nothing new. They were merely protesting in favor of the standard which had prevailed for centuries. Before 1870 the world's output of the two metals had maintained a parity which would permit the coinage of both with only an occasional slight change in the ratios. But after 1870 silver production for a few decades so outstripped that of gold that no sort of ratio could be maintained without an agreement among the leading countries of the world, a degree of concord which could not be obtained. The free-silver program in a day when the commercial ratio was 20 to 1 and constantly getting worse would attract all of the world's available silver to the American mints. The possessors would receive a dollar for every $371\frac{1}{4}$ grains of pure silver presented, regardless of its market value, and pay nothing for the metamorphosis. Though economists were correct in asserting that this would drive gold from the country, disturb the foreign exchanges, and put America on a purely silver basis, most of the resulting horrors they conjured up were largely imaginary. The situation could hardly have been made worse than under the greenback régime in 1864, and probably not so bad. Democracies are noted for changeable actions. If free silver had been adopted with unsatisfactory results, it is rather certain that the system would soon have been repealed, with the inflationists thoroughly discredited.

The Bland-Allison Act. Richard P. Bland, a representative in Congress from Missouri, was for 20 years the most active leader of the free-silver cause. As a youth he had worked in the silver mines of Nevada. As chairman of the committee on mines and mining in the House of Representatives, he repeatedly offered free-silver bills, one of which, after decided modification under the Senate leadership of William B. Allison of Iowa, finally overcame a presidential veto in 1878. The Bland-Allison Act, while not providing free coinage, authorized the Secretary of the Treasury to buy at the market price not less than \$2,000,000 and not more than \$4,000,000 worth of silver bullion each month, to be coined into dollars. Silver certificates in

denominations of \$10 and upward could be issued for convenience in place of part of the money. Also, the President was authorized to call a world monetary conference for the establishment of a common ratio for international free coinage of silver. This assembly, represented by 14 countries, met at Paris in 1881 but came to no conclusions.

At work, the Bland-Allison Act both disappointed its friends and failed to effect the dismal results foretold by its enemies. It was in operation for 12 years during which time there were five Presidents, each a gold-standard man. Consequently only the minimum amount of silver was bought each month. In all, silver to the value of \$308,279,000 was bought and transformed into 378,166,000 dollars. Under free coinage the seigniorage of nearly \$70,000,000 would have gone to the mine owners, but under the Bland-Allison Act it was retained by the government. Because people objected to carrying around pockets full of heavy "cart wheels," certificates of one, two, and five dollar denominations were authorized in 1886.

There was really no inflation under the act. From 1882 to 1890 national bank notes were diminished in volume to the extent of \$173,000,000, while \$18,000,000 more were withdrawn in the next year. During this time also there was a constant Treasury surplus of from \$100,000,000 to over twice as much, in addition to the gold reserve which lessened the circulating medium accordingly. The actual increase of money during these years was in gold, which grew from \$213,200,000 in 1878 to \$695,563,000 in 1890, having surpassed the latter mark by \$10,000,000 in 1888. The per capita of money had crept up from \$18.97 in 1875 to \$22.82 in 1890. The increasing demands of commerce more than nullified this slight change.

The Second Movement for Free Silver. The failure of the Bland-Allison Act to bring relief to the stricken sections or to stabilize the price of silver led in the late 1880's to a new and more vigorous demand for free coinage of silver. From 1886 to 1895 cotton averaged 7.7¢ a pound or nearly 1.5¢ less than in the preceding decade. Corn at 36.7¢ was 3¢ lower and wheat at 67.3¢ was 25¢ below the average of 1876-1885. Prices on the farm being well below these quotations, debts were piling up in hopeless fashion. The registries of deeds in Kansas for the middle eighties show page after page in succession where three-fourths or more of the transfers of property were by mortgage or tax deeds. The New England Loan and Trust Company, for instance, is cited a dozen times to the page as taking quarter sections for debts. In 1890 over 35% of the total value of all farms in the United States which were operated by the owners was covered by mortgages. Farmers who had survived the grasshopper visitations

of 1874¹ and following, the droughts, and hailstorms now succumbed to the loan broker and the county treasurer. Freeholders became tenants on their former lands or else abandoned all, wandering eastward to swell the ranks of industrial labor.

This situation led to the spontaneous growth of farmers' clubs, which in time organized themselves into alliances. Some of these dated back to the granger period, there being continuous alliances in Texas from 1874 or 1875. In 1887 the Grand State Alliance of Texas joined with the Farmers' Union of Louisiana to form the National Farmers Alliance and Coöperative Union of America. Under the leadership of C. W. Macune this organization, after a rapid growth, was in 1888 amalgamated with the Agricultural Wheel, which had been formed in Arkansas six years earlier. The new combination took the name of National Farmers' Alliance and Industrial Union, the change in title indicating the desire to appeal to city laborers as well as farmers. Contemporary with this Southern Alliance, as it was generally called, there grew up the Northwestern Alliance which had an extensive organization as early as 1880. The latter in 1887 adopted a platform calling for free silver, the building of government railroads to compete with private lines, government ownership of telegraph lines, popular election of Senators, and various social and intellectual reforms such as restriction of the liquor traffic and the reëlevation of agricultural colleges to their original high purpose.

All efforts to unite the two societies into one were unavailing. A serious attempt was made at St. Louis in 1889, but there were fundamental issues upon which they could not agree. The Southern Alliance wanted to retain its secret character and exclude Negroes from membership except as an auxiliary body. Besides disagreeing on these points, the Northwestern Alliance insisted upon federal laws against the sale of substitutes for hog lard. This, very naturally, was enough to make the cotton grower see red. The Southern Alliance strongly advocated a subtreasury scheme whereby the federal government would accept deposits of nonperishable farm goods, issue warehouse receipts therefor, and loan to the holders 80% of the current value of their deposits, such loans to bear only 1% interest. The receipts under such conditions would have the value of money and might pass as such. Since grain crops were more perishable and subject to greater market changes than cotton, the northwestern farmers had little interest in such a scheme. Instead, they proposed a federal farm loan bureau with \$100,000,000 or more of greenbacks at its disposal for loans upon farms up to 50% of their value at 2% a year

¹ Old settlers no longer expect persons who have had no personal experience to believe even the truthful stories of the great grasshopper year.

interest. Seeing that they could not agree on an economic program, the alliances drifted toward political organization. But in 1890, before the organizations showed perceptible disintegration, their voices were so plainly heard at Washington that Congress was induced to take action.

The Republican party for the first time in years was in full and complete control of both houses of Congress and the presidency. In response to the demand of Eastern industrialists William McKinley of Ohio was urging the passage of a new tariff measure for increased protection. But Western farmers were dubious while the Southerners were downright hostile to the proposal. In order to win the Western contingent over to the idea the McKinley bill included nominal increases on certain agricultural products, while the Sherman silver purchase bill was offered as additional bait. Enough Eastern support was found for the passage of the Sherman bill in return for Western acceptance of the McKinley bill. The admission of six Western states to the Union in 1889 and 1890 added strongly to free-silver sentiment in the Senate, thus making the acceptance of the measures all the more certain.

Sherman Silver Purchase Act. The Sherman Act of July 14, 1890, was a purely partisan affair—no Democrat voted for and no Republican against it. The act was a compromise on the silver issue, providing at least temporarily for larger silver purchases than under the Bland-Allison Act. A fixed amount of silver, 4,500,000 ounces, was to be purchased by the Treasury each month so long as the market price of the amount necessary to coin a dollar was not greater than a dollar. The silver was to be stored in the Treasury vaults as bullion, its final disposal left for future legislation. Only the cost of the metal was to go into circulation,¹ in the form of Treasury notes in denominations from one to a thousand dollars. The act took effect on August 14.

In operation this measure affected inflation in inverse ratio to the effect of the Bland-Allison Act. Under the earlier law, silver being bought by dollars' worth, as the metal became cheaper more of it could be purchased for \$2,000,000. From the greater bulk more dollars could be coined for immediate circulation. Thus, a falling silver market would be checked by heavier purchases, while at the same time the inflationary effect would be stimulated. Under the Sherman Act the same amount of bullion would be secured regardless of the price. The cheaper silver got the less it would cost to buy 4,500,000 ounces and the fewer Treasury notes would be issued. At

¹ For 11 months 2,000,000 ounces were to be coined each month to form a reserve for the redemption of Treasury notes. Thereafter, only enough was to be minted to redeem such notes as should actually be exchanged for silver.

the market price in 1890 more money went into circulation in a month than if the maximum purchase had been made under the Bland-Allison Act. But two years later, assuming that the price would be the same under either measure, it was possible for the Bland-Allison principle to result in the greater inflation. In 1894, granted that the same price for silver would have prevailed had either act been in effect, even the minimum under the Bland-Allison Act would have supplied 41% more money than the Sherman Act. The following table of silver prices and the effect each measure would have on monthly inflation will illustrate the different operation of the two acts.

SILVER ACTS OF 1878 AND 1890: ILLUSTRATION OF
PRINCIPLE OF THEIR OPERATION

YEAR	AVERAGE COST OF 371½ GR	INFLATION BY MINIMUM BLAND-ALLISON PRINCIPLE	INFLATION BY MAXIMUM BLAND-ALLISON PRINCIPLE	AVERAGE COST OF AN OUNCE	INFLATION BY SHERMAN PRINCIPLE
1880	88.6¢	\$2,257,336	\$4,514,672	113.9¢	\$5,125,500
1889	72.3	2,766,251	5,532,502	93.6	4,212,000
1890	80.9	2,472,188	4,944,376	105.3	4,738,500
1892	67.4	2,967,359	5,934,718	87.6	3,942,000
1893	60.4	3,311,258	6,622,516	78.2	3,519,000
1894	49.1	4,073,319	8,146,638	64 0	2,880,000

The Populist Movement. Alliance men who had helped in the passage of the Sherman bill and "rolled logs" for the McKinley bill were disgusted with both when they saw them in operation. This dissatisfaction, coupled with such things as 14¢ corn, 5¢ cotton, and 10% interest played a big part in the congressional campaign of 1890. The alliance men got control of the Democratic organization in some of the Southern states, while in the West they worked alone under such names as People's, Independent, or Industrial parties. As a result of the campaign they got control of the legislatures of five states, elected three governors, 44 representatives, and two senators. In that year the gifted and cultured Mary E. Lease proclaimed from 160 Kansas platforms the sound economic doctrine so shocking to Eastern ears that Kansas should raise less corn and more hell. Her eloquence had much to do with the election of an alliance legislature which unseated the redoubtable Senator John J. Ingalls and put "Whiskers" Peffer in his place. Later she seemed to rue the selection. In the same campaign "Sockless" Jerry Simpson, dignified looking from the collar upward but slovenly below that line, worsted his "silk stockinged" rival James J. Hallowell. Such events led the pious editor of the *New York Evening Post* to express the hope that no more states should be admitted to the Union till Kansas could be civilized.

Encouraged by the successes of 1890, the alliance men met with the Knights of Labor at Cincinnati in May, 1891, to form a new political party. The organization, perfected at Omaha a year later, was named the People's party but was usually called Populist. It adopted a platform demanding a circulating medium of \$50 per capita to be obtained by free silver, the subtreasury system, a graduated income tax, postal savings banks, government ownership and control of railroad and telegraph lines, abolition of land monopolies, the initiative and referendum, a single term for the President, and direct election of Senators. As an attraction to the labor vote the platform favored such things as the eight-hour day and the abolition of the Pinkerton detective system of spying upon laborers and fomenting troubles. The candidates heading the national ticket had but little appeal to the voters. In the South the Populists combined forces with the Republicans, but could not calm the fear of Negro rule should they win. In the West the fusion was mostly with Democrats. In this way they carried Colorado, Idaho, Nevada, Kansas, and North Dakota, with 22 electoral votes—the first time since 1860 that a third party had invaded the electoral field. The popular vote was above a million, being about 9% of the total. Both of the old parties straddled the silver issue, each asking for another free-silver conference with Europe. It was the tariff issue which determined the election of 1892 in favor of Grover Cleveland.

Panic of 1893. Hardly had the new President taken the oath of office when the country was swept by another panic. Speculation in railroad and industrial concerns, coupled with depression in Europe since 1889, were the principal causes of the crash. Foreign investors were liquidating their American holdings, thus putting a drain on the domestic gold supply. At the same time the rising tide of Populism caused the fear that free silver would come, driving gold from the country. As in earlier financial collapses, for several years previous there had been a steadily mounting number of commercial failures, reaching 12,273 with liabilities of \$189,869,000 in 1891 alone. The situation was superficially a little better in 1892, during a short breathing space before the greater crash.

The Panic of 1893 started with the failure of the Philadelphia and Reading Railroad Company, followed by a general break in the stock market. During the year 573 banks and other loan companies, including 158 national banks, closed their doors. Commercial failures reached 15,242 with liabilities of \$346,780,000. For the next five years the situation remained bad, reaching another low level in 1899. In 1894 there were 156 railroads with 39,000 miles of track in receivership, including the Erie, Northern Pacific, and Union Pacific. They represented a

valuation of $2\frac{1}{2}$ billion dollars, or a fourth of the total railroad capital of the country. Basic industries showed a great decline in output, the production of pig iron falling off a third. All this involved widespread unemployment, reduction in wages, strikes, lockouts, and social distress in general. Farm prices plunged to new low levels, and Populism gained converts.

Repeal of Silver Purchase. More specifically, so far as the silver issue was concerned, the panic led to a raid on the gold reserve. In 1891 there had been over \$190,000,000 in the fund besides other gold retained for general purposes. But before the end of Harrison's administration the once-annoying Treasury surplus was spent and the gold reserve was being encroached upon to pay the running expenses of government. The customs duties had fallen off from nearly \$230,000,000 in 1890 to \$177,000,000 in 1892, thanks to the excessive rates of the McKinley Act. Harrison's practice of accepting legal-tender paper money in place of gold for payment of import duties had made the effect upon the Treasury still worse. Harrison also had sanctioned the retirement of bonds by purchasing them in the open market at excessive premiums. A dependent pensions act and other pork-barrel legislation of the same period added their effect toward driving the Treasury into a deficit. Then, in consequence of the panic, the balance of trade for the first half of 1893 was nearly \$69,000,000 against the country, causing importers to withdraw gold from the Treasury by presentation of greenbacks and Treasury notes for redemption. The greenbacks formed an endless chain for this purpose, while the emission of about \$3,500,000 in Treasury notes each month added to the drain.

Bond Sales. Cleveland had two plans for keeping the gold reserve intact: to secure the repeal of the purchase clause of the Sherman Act and to buy gold through the issuance of bonds. In order to accomplish the first object the President almost wrecked his administration. Though elected on a tariff-reform platform, he had to sacrifice this as well as his principles on the civil service system by distributing patronage in the Senate in an effort to break up a filibuster against the repeal measure. In the long run he succeeded (October 30, 1893) by the combined help of gold-standard men of both parties and spoils-men, but thereafter his legislative program went on the rocks as the result of a divided party support. He stopped the emission of about \$40,000,000 in Treasury notes annually, but the bigger drain on the gold reserve, that of the greenbacks, remained. He might have paid silver in redeeming the Treasury notes, but, considering this a step toward repudiation of the gold standard, he would not yield. He, at least, seemed to consider the victory worth the cost.

The gold reserve, meanwhile and following, was fortified by loans. On two occasions \$50,000,000 sales were made with but scant effect. Most of the gold procured was first withdrawn from the reserve by the presentation of legal-tender currency and then returned to its original resting place in return for 5% bonds. After each transaction the Treasury was in as bad a condition as before. Then, by contracts with the banking houses of J. P. Morgan and August Belmont, \$65,000,000 more were secured with the understanding that the bankers would protect the reserve against another raid. The net result was that the financiers made an immediate profit of at least \$7,000,000 without effort, while the government lost prestige because of the bargain which was driven, and the gold reserve still needed bolstering. By this time Cleveland had learned a lesson in finance. The next loan of \$100,000,000 was offered to the general public in small amounts and was oversubscribed several times at a premium of 11%. Even this loan of December, 1895, did not prevent the continuation of the onslaught on the Treasury. But by July, 1896, the bankers began to take thought. Another bond sale would likely result in an overwhelming victory for the free-silver forces in the coming election. Consequently, there was a real effort to protect the reserve by exchanging gold for greenbacks. Returning prosperity in time made another bond sale unnecessary.

Hard Times, 1894. Cleveland's policies added much to the strength of the free-silver argument. In 1894 there was about \$300,000,000 worth of silver bullion locked up in the Treasury vaults which might have been coined to replace the Treasury notes, had it not been for a presidential veto of a bill to that effect. In the midst of hard times such as had not been seen for many years, farmers pondered hard upon financial matters. They could not understand how, with only \$1,429,000,000 of circulating money in the country,¹ the national banks alone could be lending \$1,934,000,000, the state banks nearly a billion, while untold amounts were handled by private banks and individuals. How could the 8,188 banks and loan companies have as much capital and surplus as the total of the nation's money, resources of \$6,350,000,000, and deposits of \$4,070,000,000? Something was wrong with the financial system somewhere, the farmer argued, when he could not even borrow enough money to market a crop without paying usurious rates of interest.

At this time William H. Harvey, in a little paper-backed book called *Coin's Financial School*, supplied an answer sufficient to satisfy the average voter. The book purported to be the lectures of a remarkable financier named Coin, who by his arguments won all and

¹ The figures are for 1890.

sundry who listened to him to the cause of free silver as a cure for the nation's ills. Published in 1894, the book early in the following year was selling at the rate of 100,000 or more a month to persons who thought that Coin was an actual person. If this "smooth little financier" could convert even the professors of political economy and the barons of Wall Street to the cause of free silver, why should his arguments not be sufficient for the farmer?

Industrial labor also was up in arms. Men like Jacob M. Coxey of Massillon, Ohio, L. C. Frye of Los Angeles, and C. T. Kelly of San Francisco had no difficulty in inducing thousands of unemployed men, including some whose greatest fear was that of finding jobs, to march toward Washington with the purpose of petitioning the government to consider their plight. If a President could issue bonds to bolster up a useless gold reserve, why could he not make like provision to give employment on public works to the hungry multitudes? Let the nation restore prosperity by giving the consumer a chance to buy his necessities. The debt could be paid off in more prosperous times. These ideas, called "crazy" in those days, years later became orthodox principles of the major political parties, talked of during political campaigns and forgotten thereafter. Not till 1933 was any serious effort made to put them into practice, then only in an experimental way. Not more than 1,200 of the army of the unemployed of 1894 reached Washington, and there they were spurned as a nuisance. Coxey was arrested for walking on the grass where thousands had trod before unmolested. The harried remnant of the army then soon dispersed.¹ The unfairness with which Coxey's petitioners were treated was apparent to all who considered the worthy motives behind the industrial-army movement. The time was ripe for laborers and farmers to unite their forces in a concerted political movement. But were the prophets of the new era capable of holding the discontented elements all in the same camp?

The Climax of the Free-silver Movement. Though in 1894 the Populists increased their vote to about 1,500,000, the Republicans regained control in several Western states. Wherever Populist victories were secured they usually were through fusion with Democrats, as in South Carolina where Ben Tillman was sent to the Senate, verbal pitchfork and all. The free-silver movement transcended all party boundaries, embracing Democrats and Republicans alike, except in the East where the Democrats were as strong for the gold

¹ For years afterward a song was sung in derision:

Tramp, tramp, tramp, the tramps are tramping;
Weary and tired along they go.
Coxey went to a hotel, let his army go to—well
I will never march with Coxey any mo'.

standard as any Republicans. In 1895 a free-silver bill could have passed both houses of Congress, but, knowing that Cleveland would veto the measure, the silver men withheld their fire till the expected presidential victory of 1896 should be won. In the campaign year there was a strong element of the Populist party favoring national fusion with the Democrats, though opposed by such vehement leaders as Donnelly, Coxey, and Peffer. The "middle-of-the-road" element who opposed fusion were fearful of losing too many of the old alliance principles through compromise with the older party, and they were not at all certain that free silver was the most important of the tenets. In the South, where insistence upon the subtreasury was strongest, the middle-of-the-road Populists were especially numerous.

The story of the campaign of 1896 has been too often told to need detailed repetition. The Democrats, by abandoning the old leadership and following the youthful William Jennings Bryan with his cross-of-gold doctrine, made the greatest popular showing in their history, while still falling short of a majority. The Populists, faced with the fear of losing free silver by dividing its adherents, sacrificed their identity by indorsing the Democratic candidate. The Republicans, flirting with international free silver to delude the unwary Westerner but assuring the East of firm adherence to the gold standard, placed William McKinley in the White House. McKinley, the well-meaning but spineless tool of the industrial buccaneer Mark Hanna, had long been an advocate of free silver by international agreement. In order to retain the aura of mystery which hung about him, he was kept at home, reading speeches (carefully scanned by others to exclude his old-time references to free silver) to visiting delegations of politicians. Bryan, in a whirlwind of oratory, was a fair forerunner of the later national radio hookup. This in itself may have hurt him, for a political leader seen and heard too much soon loses his god-like proportions. Perhaps the greatest issue of the campaign, but submerged under the coinage question, was the contest between militant industrialism and the rights of the masses. Hanna, as the high priest of the new order raised a campaign fund of three or four million dollars. By shrewd advertising and intimidation of laborers, he elected his candidate, then demanded as his reward the seat of the veteran John Sherman in the Senate. The gold standard was triumphant, largely because of a confusion of issues, and an era of business control of government was inaugurated.

There was not much that could be done about the coinage question aside from reaffirming what had already been accomplished by Cleveland. McKinley, deciding that his election was an authorization to increase tariff rates, acted accordingly. The Senate, continuing for a

time with a free-silver majority, forced further consideration of inflation into a war-time revenue act of June 13, 1898. This act provided that the mints should coin at least 1,500,000 silver dollars each month until all the bullion purchased under the Sherman Act should be exhausted. Under this provision and an amendment of two years later, the stores of silver were gone by about 1910. In 1900 the coinage exceeded \$36,000,000, or more than in any one year under the Bland Allison Act.

Gold-standard Act. On March 14, 1900, the Gold-standard Act was passed. Silver dollars were made a legal tender, but the gold dollar of 25.8 grains nine-tenths fine was made the standard for all money. Treasury notes were to be redeemed only in gold, the reserve being increased to \$150,000,000 and set aside as a separate fund to guarantee this purpose. Silver certificates in small denominations were to replace the Treasury notes as fast as the silver was coined while part of the cheaper metal could be used for subsidiary coinage. Under this provision, within a few years all the Treasury notes were retired except those which were held as curiosities by collectors. When they were all called in there was still the "seigniorage" to add to inflation beyond the original intention of the Sherman Act. There were other provisions in the Gold-standard Act for refunding a part of the public debt at lower rates of interest. The note circulation of national banks was extended to the full value of bonds on deposit instead of the earlier 90% basis. Further concessions to Eastern banking interests were prevented by the free-silver element in Congress.

Decline of the Silver Issue. For a short time after the election of 1896 agriculture sank to its lowest level. Until 1900 corn averaged 28.1¢, wheat 65.7¢ a bushel, and cotton 7.1¢ a pound in the greater markets, each item being well below that of any previous half decade since 1866. But the upward trend was seen before the last year of the century. Gradually, agriculture along with industry in general began to prosper. In 1900 Bryan saw fit to make anti-imperialism rather than free silver the chief plank in his presidential campaign. By 1904 the old issue was abandoned, not to appear again for a generation. The Populist party waged a feeble effort at recovery till 1908 and then gave up the ghost.

Silver at a market ratio of 35-1 in 1898 had reached a position of stability in relation to gold which it managed to retain till 1919, except for the World War years when for a time it reached the level of 18-1.¹ But there was no longer any great demand for free coinage.

¹ In 1930, largely in consequence of demonetization in India, the ratio jumped to about 54:1. In 1932 silver was selling at 25¢ an ounce, the dollar being worth about 19¢.

The reason lay not in the triumph of any political party or economic principle, but rather in the fact that inflation was being secured by other means. While McKinley and Bryan were fighting their "battle of the standards" the cyanide process of reducing gold from cheap ores was perfected and new gold deposits were discovered in Alaska, Australia, and South Africa. The world's annual output of gold from 1860 to 1890 had averaged only from five to six million ounces, but by 1896 it reached 9,800,000. Then from 11,400,000 ounces in 1897 it increased to over 22,000,000 in 1910, and remained close to that mark thereafter. The United States and her possessions alone from 1905 to 1917 produced annually in excess of four million ounces and occasionally approached five million. Never in the days of the California gold rush had such figures been approximated.

In the period of their wildest demands the Populists had never asked more than \$50 per capita as the circulating medium of the country. By 1918 the mark of \$35 had been passed, and in 1920 the Populist demand had been exceeded, with \$51.38 as the climax. Yet none of the prophesied calamities materialized. The deflation of later years is another story. At least until 1914 the prosperity of farmers and other producers followed closely the upward curve of the nation's gold supply. Under such circumstances, the demand for free silver

REPRESENTATIVE FARM CROP PRICES, 1866-1915

YEARS	CORN CENTS A BUSHEL	WHEAT CENTS A BUSHEL	COTTON CENTS A POUND
1866-75	46.9	105.3	9.1
1876-85	39.5	92.0	9.1
1886-95	36.7	67.3	7.7
1896-00	28.2	65.7	7.1
1901-05	44.1	71.6	9.0
1906-10	51.0	85.9	11.3
1911-15	59.7	87.5	10.2

could easily be forgotten. The foregoing table of average prices for corn, wheat, and cotton, taken as representative of farm crops in general, shows the change in agricultural conditions before and after the upward swing of the gold curve.

CHAPTER XXII

THE RISE OF GREAT MONOPOLIES

Aids to Monopoly Growth. The generation of rural submergence was accompanied by a period of industrial prosperity tending steadily toward the monopoly form of control. By 1860 the setting was already well under way for the emergence of large-scale business combination. Tendencies toward monopoly were observable in various directions, though not as yet in the major industries. Various railroad consolidations had taken place, notably along the New York Central route, pools among manufacturing companies had been tried out with some degree of success, and the corporation was gaining rapid headway.

Effect of the Civil War. The Civil War tended more to alter the course of industry than to speed its processes. A sudden demand for shoes, uniforms, munitions, and supplies led to a rapid growth of factories for their production. Most of these were easily transformed for later peace-time demands. Also, the inordinate profits from army contracts built up several huge fortunes and laid the basis for more. These supplies of surplus capital were available for further industrial development. Yet, there is nothing to indicate that the war led to any ultimate increase in manufactures beyond what would have occurred if peace had been maintained. The first great burst of speed in manufacturing, as in railroad building, had taken place in the 1850's. As the following table will show, no decade of the latter part of the nineteenth century revealed a relative increase in manufactures equal to that immediately preceding the war.

YEAR	TOTAL OF MANUFACTURES	INCREASE OVER PREVIOUS DECADE	PER CENT OF INCREASE
1849	\$ 1,019,000,000		
1859	1,886,000,000	867,000,000	85
1869	3,386,000,000	1,500,000,000	80
1879	5,370,000,000	1,984,000,000	59
1889	9,372,000,000	4,002,000,000	75
1899	13,000,000,000	3,628,000,000	39

The part played by the war in the evolution of big business was to give a sinister twist to the factors already operating. The war profiteers were quick to realize the advantages of the corporate form of organization: permanence, limited liability of stockholders, legal

recognition of the business unit as an individual, and the opportunity of directors and officials who subscribed a relatively small fraction of the capital to manipulate the stock and handle accounts so as to confuse the public and deprive small stockholders of their proportional share of the profits. Accustomed to gains measured in integral multiples rather than fractional parts of invested capital, these war contractors and their hopeful imitators determined upon wide-scale production and possible monopoly. Big business is not necessarily more efficient than small—often the contrary—but in many lines a large unit of production can eliminate waste, reduce overhead expense, and utilize by-products better than smaller concerns. If monopoly is secured, the elimination of duplicating sales forces, control of the market for raw materials, pressure upon transportation companies concerning freight rates, the abolishing of cross freights, monopoly profits, and other advantages give the monopoly, rather than the consumer, most of the savings from such a form of organization. Monopoly was the target at which the shafts of business leadership were aimed.

Governmental Favors. Special favors from governments—federal, state, and local—were considered as the inherent right of big business organizations. The European doctrine of *laissez faire* was invoked in a distorted fashion. Governments should do nothing to hinder, but everything possible to aid business. Ten years of railroad land grants prior to the war furnished ample precedent for lavish and reckless donations from 1862 onward. Class legislation, in the form of protective tariffs, supplied an excellent barricade against foreign competition while monopolies were being formed. Some trusts, such as the American Tin-Plate Company, were direct products of tariff protection. Other trusts and monopolies, which might have been formed even under free-trade conditions, were permitted monopoly profits only because of the trade barriers. On the other hand, the Standard Oil Company was in no way benefited by the tariff in the years of its greatest power. Its monopoly was secured as a result of the restricted source of raw material, the favoritism of railroad companies, and the ruthlessness as well as business genius of the company's officers. Other governmental favors to business came from the laxity of state laws, from court interpretations of the common law concerning restraint of trade, and from the Fifth and Fourteenth Amendments to the Constitution of the United States—the former denying to the federal government and the latter to the states the power to deprive persons of "life, liberty, or property without due process of law."¹

¹ While the Fourteenth Amendment was presumably intended merely to protect the rights of former slaves and their descendants, it was mainly shaped for its effect on partisan politics, and was also intended as a protection for business against strong regulation by state governments.

Public Apathy. One of the worst effects of the Civil War on the industrial movement which followed it was that it left the people with deadened moral sensibilities concerning public affairs. Patriotism, chauvinism, and blood lust maintained at high pitch for a quadrennium left the masses sapped of the energy needed to maintain an intelligent interest in the equally important but less noisy issues of peace time. The people were content to let politicians and machines run the government, while business men controlled the politicians, so long as the evil effects of such neglect did not obtrude too uncomfortably upon individual prosperity. It was a decade before the resultant scandalous conditions could rouse an adequate public protest. Meanwhile, the government had sunk to the nadir of disgrace, while the most ruthless of business leaders in the prominent industries had their more scrupulous or weaker competitors pushed to the wall.

Business Geniuses. Few men of outstanding ability ventured far into politics in those days. It was almost 20 years after the war before a President of statesman-like proportions was elected. Many a politician was popularly hailed as a Pericles, Solon, or Demosthenes, a "plumed knight" or an "old Roman," but most of their names are now confined to footnotes in compendious histories. Men of greater ability pitted their strength against each other in the arena of business. The names of Rockefeller, Morgan, Vanderbilt, Gould, Carnegie, and numerous others almost equally familiar, none of which were of public renown before 1860, were a decade or so later almost universally known, frequently respected, and often feared. These leaders were popularly characterized with titles of nobility—kings, barons, or princes of their industries. But it was a feudal nobility, worthy of the days of King Stephen. The tactics were those of barbarian chieftains—combining foresight, boldness, courage, driving force, and executive ability with greed, avarice, cruelty, trickery, and ruthlessness. The fight for mastery was a rough-and-tumble affair where no holds were barred and any form of mayhem was considered proper.

RAILROAD MONOPOLIES

Tactics of Leaders. Cornelius Vanderbilt, typical of the class, built up the first colossal American fortune largely by the reorganization of railroads and manipulation of their stock. Born in 1794, he got his start in life by running a ferry between Staten and Manhattan islands. Later he built up a fleet of steamships valued in 1865 at \$10,000,000. Then, when past 70 years of age, he acquired in the railroad business the fame which still endures. He has been described as harsh, uncouth, uneducated, and immensely vain. He wanted a monument erected jointly to himself and George Washington. Failing

in this, he placed a large statue of himself on his Hudson River railroad station. Of the eleven children who survived him most were hardly on speaking terms with him. He was deeply superstitious, on one occasion, like Saul, getting a witch of Endor to call up the "spirit" of his former rival Jim Fisk to advise him on a business deal. Yet, he was hard-headed to the extreme, holding public opinion and restraining laws in contempt. When questioned concerning the legality of one of his operations he shouted, "Law! What do I care about law? Hain't I got the power?" To his son William H. was credited the equally cynical slogan, "The public be damned."

Vanderbilt's main constructive work was in improving train service between New York and Chicago. In 1867 he took over the New York Central road from Albany to Buffalo. Six years later he got control of the Hudson River route and leased the Lake Shore and Michigan Southern lines to make connections with Chicago. In order to do this he resorted to any underhanded means which promised results, including the bribing of legislatures and courts, but in so doing he formed a usable trunk line which cut down the time of passenger service from 50 to 24 hours, and he made the road pay. In 1853 it had been necessary for passengers to change trains 17 times on this trip.

When Vanderbilt in 1868 tried to wrest control of the Erie railroad from Daniel Drew, Jay Gould, and Fisk, he started an industrial war which for corruption and double dealing dwarfed anything which preceded it and showed the depths these captains of finance were willing to plumb for personal profit. Gould, who had served as a farmer and country store clerk, had, by the use of tactics peculiar to himself, advanced to a position of eminence in the railroad business. As a picturesque writer of a generation ago characterized him, "Gould was one of the most sinister figures that have ever flitted, bat-like, across the vision of the American people. Merciless, cold-blooded, secretive, apparently without one redeeming trait, this man for many years had been the incarnation of unscrupulous greed. . . . Jay Gould, even at the present day, typifies so vividly all that is base and foul, as to cause even the mention of his name to induce the shudderings of moral nausea."¹ Drew, who as a cattle driver had learned at the banks of the Harlem River to water stock for immediate sale, from 1851 on had been showing the world how the old drovers' trick could be applied to Erie railroad securities. Fisk, a one-time Vermont peddler, circus manager, and stock gambler, could be relied on to delve in filth to turn tricks too petty for the mightier Gould, but gratifying to his own vulgar nature.

¹ Harry Thurston Peck, *Twenty Years of the Republic, 1885-1905* (New York, 1906), p. 47.

This being a combination too adroit for Vanderbilt to bring down, Gould and Fisk came out of the Erie war in control of the railroad. But in order to do so they issued bales of new stock without legal warrant and paid the legislature of New York handsomely to legitimize the action. Ordinary assemblymen got \$15,000 each, the governor sold out cheaply at \$20,000. At the same time Vanderbilt was paying similar sums to get votes against the measure. One legislator who was first bought by Vanderbilt for \$75,000, next sold out to Gould for \$100,000.

Having thus taught Vanderbilt a \$7,000,000 lesson in high finance, Gould and Fisk proceeded systematically to rob Drew of his last cent, loot the Erie system, milk the stockholders, and bring the nation to the verge of financial panic. From 1868 to 1874 they watered the stock to the extent of \$71,000,000 on top of an original valuation of \$17,000,000. They made a fine art of stock juggling. In 1868 they threw \$10,000,000 of Erie stock on the market while the price was high, meaning to beat it down, buy back at a low figure, and pocket the profits. When the price did not fall rapidly enough they waited till the bank reserves were low in the crop-moving season and then called for the payment of \$15,000,000 in greenbacks which had been planted for that purpose. Since greenbacks were the only form of bank reserves before the Resumption Act was passed, in order to keep the reserves at 25% of the circulation the banks had to call in \$45,000,000 of national bank notes to meet the emergency. Thousands of borrowers were ruined or financially pinched, but Gould and Fisk reaped their profit by thus forcing the price of Erie stock still lower before rebuying it. At the same time the sudden demand for greenbacks caused a relative decline in the gold premium, which led the partners to start buying gold and removing it from circulation in order to reap additional profit at this angle of the game.

In order to go unscathed through such deals as this the judiciary as well as the legislature had to be bought, and there were enough venal judges for the purpose. The boldest scheme of this pair was their attempt in 1869 to corner the gold supply of the country, after insuring themselves against the sale of gold by the United States Department of the Treasury by bribing the President's brother-in-law and stupefying Grant himself by lavish entertainment. The President came out of his trance in time to prevent the full culmination of the scheme, thus creating the "Black Friday" of September 24, 1869. The partners had already run the price of gold up to 162. Then, while Fisk continued to bid, Gould sold his holdings, leaving his associate temporarily in the lurch. Three years later Fisk was killed by a rival in amatory affairs. Drew, before the Erie war, had made his

peace with heaven by endowing a theological seminary. Gould remained a power in finance and politics for many years. But by 1875 the Erie railroad was in a receiver's hands and remained in trouble for a quarter of a century.

By no means were all early railroad leaders as bad as the group just mentioned, George B. McClellan and the younger Charles Francis Adams, for example, being of a far different type. But the former is far better known as a soldier and the latter as a historian than is either as a railroad president. The methods followed in the above account are a fair sample of business and political ethics of the day. So long as wholesale pillage of stockholders could be upheld by corrupt legislatures and courts, it is easy to understand the difficulties encountered by the customers of the roads in their quest for justice. The relations of the railroads to the public, to government, and to industrial monopolies were such as to necessitate a brief consideration of their business organization at this point.

Railroad Development: Trunk Lines. The first postwar era of railroad development was concluded about 1880 when, in all essential particulars, the lines were genuinely modernized in mechanical ways and trunk lines had been completed between all important shipping centers. The Pennsylvania system, under the leadership of J. Edgar Thomson, was in the vanguard of the movement toward consolidation, the methods used being on a considerably higher plane than those of Vanderbilt, Drew, and Gould. In 1860 the Pennsylvania merely had a line from Philadelphia to Pittsburgh, with a minimum of feeders. But by 1869 the mileage in the state alone was almost a thousand, other branches extended northward, and there was as yet no rival for through connections to Chicago.

To meet the growing competition for Western trade, Thomson in 1870 organized the Pennsylvania Company for the purpose of holding stock in and controlling the affairs of subsidiaries. This seems to have been the first of all holding companies. Through this agency, Cleveland, Cincinnati, and St. Louis were brought into the system before Thomson surrendered control in 1874. In the same period the Pennsylvania was leading in the matter of physical improvement. Even in the years of severe competition which followed, the stockholders were dealt with honestly, though the company was engaged in the prevailing practices of cutthroat competition and rebates.

The New York Central was not far behind in the race. After making the Chicago connection in 1873, Detroit and Toronto were reached. By 1885, under the direction of William H. Vanderbilt, the Big Four system was acquired with its interconnections between Cleveland, Cincinnati, Chicago, and St. Louis. By 1875 three other lines—the

Erie, Baltimore and Ohio, and Grand Trunk—had through service from the Atlantic Coast to Chicago. Other trunks from Omaha and Kansas City to Chicago and St. Louis connected the Eastern roads with those to the Pacific. In the South as well, reorganization and consolidation were going on apace under the leadership of Albert Fink of the L. & N.

Rate Wars, Rebates, Passes. The building of so many trunk lines and budding networks, frequently paralleling each other, led naturally to vicious rate wars, discrimination between shippers for the bulk of their trade, and systematic robbery at noncompetitive points. In 1869, and annually from 1874 to 1876, particularly violent rate wars were waged between the lines operating from Chicago to the Atlantic Ocean. In 1874 the rivals between Chicago and New York cut passenger fares from \$22 to as low as \$12. In 1876 a person could travel from Cleveland to Boston for \$6.50 or ship cattle from Chicago to New York for a dollar a carload. A year or two later some 20 railroads and combinations of railroads were competing for the business between St. Louis and Atlanta, though the distance varied from 526 to 1,058 miles. In order to get the business of particularly powerful shippers, such as the Standard Oil Company, the railroads offered them astonishingly large rebates, to the ruinous disadvantage of their competitors. The railroad companies also owned mines or held large blocks of stock in other industrial enterprises whose goods they hauled without entering the charges on their books. At the same time, legislation and public opinion were influenced by the granting of annual or perennial passes to legislators, governors, judges, politicians, editors, and preachers.

Long-and-short Haul. Since all these things cost the railroads heavily, they devised means to offset the losses. Free passes or reduced passenger rates to the favored classes were made up by higher fares for all others. Rebates were covered by increased charges to the less fortunate competitors. Cut rates between competing points were offset by exceedingly high charges to shippers at places served by only one railroad. Oftentimes the freight costs between two stations relatively close together were much higher than for competing cities far apart. The classic example of this long-and-short-haul evil was over the Pennsylvania line from Pittsburgh to Philadelphia. Here a monopoly existed, making freight so high that the shippers could float their goods down the Ohio River to Cincinnati, from which point there was competition, and then send them back over the B. & O. or even on the Pennsylvania right through Pittsburgh to Philadelphia, and save money by the process. As a single example, a merchant of Montgomery, Alabama, saved \$75 in freight on two carloads of fruit jars from

Crawfordsville, Indiana, by having them hauled 350 miles out of their way through Montgomery, down to Mobile, and back again. When the long-and-short-haul device thus defeated its own ends, the rates were soon readjusted just enough to stop the subterfuge, but the essential features of the practice still remained. In the almost total absence of either state or federal regulation, each railroad company considered its business purely its own affair. The sovereign rule for all was to "charge all the traffic will bear." To this one principle, at least, they were loyal.

Pooling. Even with such schemes for bolstering up their revenues, the railroads could do nothing but lose money in a prolonged rate war. Consequently there were early and frequent attempts at rate agreements. But it was almost impossible to hold rivals of long-standing and implacable hatreds by such arrangements. One or another of the group was certain to break up the practice by secret rebates. Pooling, having already proved practical in certain lines of manufacturing, was next tried out with striking success by the railroad companies. The first rail pool of consequence was entered into by the Chicago and Northwestern, Rock Island, and Burlington lines for the through traffic between Chicago and Omaha. Half of the earnings from such business was retained by the respective companies, while the remainder was put into a pool to be divided equally. Each company by this arrangement was kept on the alert for business to build up the half retained, but none was anxious to get an undue share from which the other roads would profit in the pool. Consequently, there was a tendency to maintain uniform rates and divide up the traffic. This arrangement, agreed to in 1870, was maintained for 14 years, at the end of which time the Western Freight Association was formed to replace it. Other companies followed this example. One of the outstanding pools among Eastern railroads was that of the Erie, New York Central, Pennsylvania, and Baltimore and Ohio, in 1877, for prorating the west-bound traffic from New York to Chicago. All the proceeds went into the common fund which was divided in the proportions of 33, 33, 25, and 9% respectively for the different systems.

Building of Railroad Systems. No pool was stronger than the determination of any member to abide by the agreement. Yet, in one form or another, in the guise of gentlemen's agreements or traffic associations, they were continually formed and reorganized for many years after the practice was outlawed by both state and federal statutes. For that matter, pooling was illegal under the common law before any statute enactment. But after 1880, and especially following an adverse Supreme Court decision in 1897 affecting traffic associations, the tendency was more toward the consolidation of the lines

of a given region into networks or systems, thus eliminating the element of competition. Histories of transportation are replete with details of such combinations. By 1900 or shortly following, the 1,500 railroads of 1880, in addition to the still greater mileage which had been constructed following that date, were reduced to less than 800 lines, 40 of which commanded over half the mileage of the country. Seven or eight groups of capitalists, including the Vanderbilt, James J. Hill, J. Pierpont Morgan, Pennsylvania, Edward H. Harriman, and Rockefeller interests, really controlled all of the greater systems, including 130,000 miles of first track. The holdings ranged downward from 20,000 miles to each group. Sales, leases, mergers, holding company operations, and the construction of new lines resulted in a continual shifting of control between these various groups. But interlocking directorates and understandings between the coterie of railroad magnates had resulted by 1900 in a genuine railroad monopoly of such a magnitude as those who had shouted against the danger in 1850 could scarcely have dreamed.

While this march was in progress there were numerous persons who foresaw the goal and fought against the consequences. Defrauded stockholders were among the first to set up the hue and cry. But their concern was relatively small as compared with that of the mass of the people who depended upon the railroads for travel and freight shipments. In the East the loudest outcry was against discrimination between shippers. In the West and Southwest the protest was mainly concerning excessive rates and the long-and-short-haul nuisance. Everywhere the tendency toward monopoly was viewed as a movement to perpetuate discrimination and extortionate rates.

Movement for Federal Regulation. By any reasonable interpretation of law, governments had a perfect right to regulate common carriers. This was all the more true in the case of railroads, which by the right of eminent domain had got their rights of way and in so many cases had been so lavishly assisted by government grants of land, money, or both. The government could scarcely be expected to agree with the point of view of Cornelius Vanderbilt in his plaintive question: "Can't I do what I want with my own?" Even before the Civil War the states had exerted their authority in the regulation of some details.

At the same time that the Grangers were inaugurating their attacks upon rates in the midwestern states (see pp. 466-467) Congress was beginning to consider the matter as a national problem. In 1872 an act was passed dealing with abuses in the transportation of livestock, while there had been an earlier attempt to override certain petty local interference to through traffic. It was also in 1872 that the Senate

appointed a committee headed by William Windom of Minnesota to study and report upon railroad abuses. The report of the Windom committee two years later recommended federal competition by means of further development of internal waterways and the building of government railroads, including one from the Mississippi River to the Atlantic Coast. A bureau of commerce was advocated, with powers to stop such abuses as the long-and-short-haul discrimination, stock watering, and secrecy of rates.

John H. Reagan of Texas, from 1877 on, was the author of repeated bills for the regulation of railroads, bills which after passing the House were pigeonholed in the Senate. Then in 1884 and 1886 the upper house passed bills, presented by Shelby M. Cullom of Illinois, providing for a permanent interstate commerce commission but permitting less drastic interference with the railroad business than that proposed by the Reagan bills. Since neither house would budge from its position, a deadlock ensued. Meanwhile the Granger laws had been upheld by the courts. The ensuing state regulation, mechanical improvements, revived business after 1879, and economies in operation sufficed in a few years to bring down the general average of rates to what seemed to be a more reasonable level. But discriminations between persons, places, and commodities remained untouched.

The Interstate Commerce Act. The Wabash decision (see p. 467) made a final compromise between the two branches of Congress imperative. Since the states could no longer regulate interstate rates, it was not politic for Congress to shirk its responsibility. The resulting Interstate Commerce Act of 1887, though a mere makeshift, was better than nothing at all. It prohibited most of the old evils, such as unjust and unreasonable charges, rebates or other personal discrimination of any kind, favoritism between places, pooling, and traffic agreements. The charges for long and short hauls were subjected to scrutiny and close supervision to prevent abuses. All rates and fares were to be printed, published, and placed on file with the government, but these might be changed on ten days' notice. For violation of any of these terms, fines of not more than \$5,000 were provided for each offense. Two years later imprisonment was authorized as an additional penalty for those responsible for breaches of the law. In order to enforce these provisions an Interstate Commerce Commission was created, the members to be appointed by the President for terms of six years. No commissioner could be an officer or security holder of a railroad company. Finally, the powers of the commission were defined. It could gather information, demanding access to the corporation records for this purpose, but was dependent upon the courts for the enforcement of this power. Upon complaint of injured customers the

commission could investigate and report, but again had to depend upon the courts for final settlement. Railroad companies were required to make annual reports to the commission concerning aspects of their business vital to public interest. Nowhere did the law provide for any government rate fixing of a general character.

For two or three years the act operated with fair success. A number of pools in the West were disbanded, some long-and-short-haul abuses were corrected, and a number of uniform-rate schedules were effected. But in 1890, when the commission began to attack the worst abuse, rebating, the act and the power of the commission began to crumble. The chief reasons for the failure were defects in the act itself, ingenious methods of evasion, and a seemingly positive determination on the part of the courts to interpret the act out of existence. The legal defects were partially remedied by amendments in 1889, 1891, and 1893, but these were not enough to forestall later court decisions. In fact, by making both the shipper and carrier liable to imprisonment for rebating, the shippers, as the sole witnesses in cases of prosecution, were driven to taking refuge behind their constitutional prerogatives by refusing to incriminate themselves. Not till 1896 was full immunity given and the principle upheld that witnesses should testify in full. It was not till 1894 that the courts established the right of the commission to demand reports and compel witnesses to appear. As to evasion of the act, almost as soon as pools were abandoned traffic associations took their place. When in 1897 the latter were declared in violation of the Antitrust Act, they were transmuted into gentlemen's agreements which perpetuated the old abuses. In other ways as well the commission was foiled. Rebates were concealed by clever methods of accounting. Rates were suddenly lowered and then raised so soon afterward that only those having inside information could take advantage of the situation. By relying on intentional proof-reader's errors, one shipper could take advantage of a printed rate while others would be confronted with the correction.

Judicial Interpretations. As to interpretations, by 1897 the courts had reduced the Interstate Commerce Commission to a state of impotence. Unnecessary delays were granted in appealing cases. Then, having presented all its evidence in the original trial, the commission was helpless before a defense permitted to present new evidence in the review. The Chattanooga case, decided in 1892, was reopened in 1904. The courts even refused to accept the commission's findings as *prima facie* evidence. Of the first 43 proceedings instituted to enforce the commission's orders as to rates, 32 decisions were appealed in which the commission was sustained only twice. The 30 railroad victories were based mainly on technicalities. Of 16 appeals to the

Supreme Court to 1905 the railroads were upheld 15 times. Some of these cases represented grave abuses to domestic shippers through favors to imported goods. On one occasion the rate on a certain product from Liverpool to New Orleans and thence to San Francisco was \$1.07 per cwt., whereas the charge to New Orleans shippers for similar products merely over the rail end of the trip was \$2.88. An excuse might be found in the presumption that British shippers could get the former rate by an all-water route. But in another instance tin plate was sent from Liverpool by way of New York to Chicago for 24¢ per cwt., while the rate from New York was 26¢. The Pennsylvania railroad got 16¢ of the former and all of the latter charge. Not at all seasons of the year, anyway, could an all-water route to Chicago be found as an excuse. Yet, these rates were upheld by the Supreme Court by bare majority decisions.

In the Social Circle case (involving rates from Cincinnati to Social Circle, Georgia) and the maximum freight-rate case, both in 1896, the rate-fixing powers of the commission were broken beyond repair. Then in 1897 the long-and-short-haul section of the Interstate Commerce Act was practically nullified. At that time Associate Justice John M. Harlan, who had been a persistent dissenter from the majority of the court, declared that the decisions had made the "commission a useless body for all practical purposes. . . ." The act and its amendments, he said, were defeated, and the commission was "shorn, by judicial interpretation, of authority to do anything of an effective character." By 1901 appeals to the Interstate Commerce Commission had nearly ceased. Yet, some beneficial results had been obtained. The right of governmental interference was established; some simplification had been effected in the complexity of freight rates; and there was still a nucleus for regulation from which later legislation could develop something worth while.

MONOPOLIES IN MANUFACTURING LINES

Monopolies in the extractive and manufacturing industries went through a series of changes somewhat analogous to that of the railroads, but escaped a large measure of the regulation to which the latter were subjected. The stages of short competing lines, rate wars, rate agreements, pooling, and consolidation in the railroad business were paralleled in the other industries by small competing companies, price wars, price agreements, pools, and trusts or other forms of monopolies.

Price Wars and Agreements. In 1865, though there were some corporations, small proprietors and copartnerships dominated business. Even the big textile and iron mills of the East were usually the posses-

sions of individual proprietors. During the Civil War the iron industry began falling under corporate control, while large-scale production of sewing machines, firearms, and agricultural implements was begun. But free-for-all competition prevailed in the 1860's. There were thousands of independent oil drillers in the Pennsylvania fields and over 200 refineries in the country. The Eastern coal fields had some 450 major operators. About 200 separate companies were making harvesting machinery, there being 75 in the state of New York alone. The Comstock Lode boasted over 100 proprietors, while in Michigan there were something like 50 operators each in the salt and copper mining industries. In fact, in nearly every industry the number of companies or individual venturers was limited only by the law of supply and demand. Marginal producers were ever ready to enter the field when prices were high. But when demand was low in proportion to output, the competition for control of markets led to ruinous price cutting.

Though this sort of arrangement was eminently satisfactory to the consumers, the producers too often for their own comfort were either driven from business or reduced to lean and profitless years. The result was a number of efforts to end the chaos by price agreements or pools. Price agreements usually proved as ineffective as railroad rate agreements. Too many parties to the contract looked to the rest to maintain prices while they secretly violated the schedule in hope of extending their business. Even when good faith could be depended upon, in very few lines of business could enough competitors be led to abandon their rivalry, hatred, or suspicion of each other to maintain prices against the competitors who remained outside.

Pools. There were some industries of such regional character or requiring so much capital for successful operation that the number of competitors was relatively small. Among these the failure of price agreements led to the organization of pools. The cordage manufacturers had a pool as early as 1860, while in 1868 the Michigan Salt Association was organized around an agreement for the purchase of the total output of the big producers of the Saginaw Valley. Between 1880 and 1890 the manufacturers of cotton-bagging entered into various arrangements whereby they controlled two-thirds of the output of their industry. But the strongest and best known pool of the era was formed by the whiskey distillers in 1882, or possibly earlier. This Western Exporters' Association was fostered by the federal revenue laws which bore so heavily upon small distillers as to drive them either into "moonshining" or to abandon the business. Only those distillers with sufficient capital to command large markets could hope to prosper, and they could do still better by combination. The whiskey pool

ascertained the capacity of each still of the organization, and then prorated the profitable consuming volume of the nation. At times only 28% of the capacity of the stills was utilized, and seldom over 40%. By this device more profits were made than when all of the stills were running at full time.

Trusts. Despite their advantages to producers, pools had inherent weaknesses which led to a search for more effective forms of combination. They involved more restraint of trade than the courts, applying the common law, could consider reasonable. This made the agreements unenforceable. In times of better prices they generally broke down, victims of suspicion, individual greed, and resulting violation of agreements. The next form of consolidation worked out was the trust, an invention of the Standard Oil Company. This monopoly, because of its early origin, once formidable power, ruthless methods of stifling competition, and frequent governmental investigation, is the best known of the nineteenth-century trusts. A somewhat extended account of its career will serve as an introduction to the methods of the era.

Standard Oil Company. John D. Rockefeller, the leading genius and financier of the organization, had an early rise from obscurity and relative poverty to riches which reads like the story of an Alger hero. In the mid-1850's, at the age of 16 years, he started out as a clerk and bookkeeper at 50¢ a day. It is not recorded how he accumulated the capital from this salary, but in 1858, when 19 years of age, he became a partner in a produce commission company which did half a million dollars worth of business in the first year. In the early months of the Civil War he made a comfortable fortune from army contracts. Then in 1862, when a beginning was made toward closer governmental scrutiny of the contract business, he switched his attention to another line of work. He became the financial backer of Samuel Andrews, an English mechanical genius especially adept at refining petroleum. In 1865 the refining company of Rockefeller and Andrews was formed at Cleveland, Ohio. Rockefeller handled the financial end of the business, showing especial ability in driving bargains, saving, utilizing by-products, and eliminating middlemen. Expanding markets led in 1870 to the incorporation of the Standard Oil Company with \$1,000,000 of capital, Rockefeller, his brother William, Andrews, Henry M. Flagler, and Stephen V. Harkness being the stockholders.

Part of this rapid expansion was due to rebates from railroads received before 1870. Cleveland was the best located of any refining center for control of Western markets either by rail or water, so the next step of the Rockefeller interests was to secure a monopoly of the Cleveland business. For this purpose the vaguely phrased charter of an extinct corporation called the South Improvement Company was

bought in 1872 by 13 men representing the New York Central, Lake Shore, and Erie railroads, including Rockefeller and other affiliated oil men. The Pennsylvania system soon became another partner. The agreement was to increase freight rates on all oil, whether crude or refined, and then split the profits among the refiners. In this way the South Improvement group, representing only a tenth of the oil output of the country, would get rebates amounting to 40 or 50% on all crude and 25% on all refined oil hauled by the railroads, whether shipped by South Improvement men or their competitors. It was expected that the refiners would make \$6,000,000 a year from their rivals' freights while the railroads would reap an additional \$1,500,000 in revenue—provided, of course, that the competitors could remain in the business with their existing volume of traffic. It was realized, however, that the alternative result would occur. With competition crushed, the refiners of the victor group would receive their reward from monopoly prices, while the railroads would make as much money as before with the additional benefit of using the oil shipments as eveners of traffic.

Armed with this agreement, in three months' time Rockefeller compelled 21 of the 26 refiners of Cleveland to sell out or merge with the Standard Oil Company. As soon as the nature of the arrangement became known, general hostility caused it to be abandoned. But it had already done its work. The Standard Oil Company had a fifth of the oil business of the country. Next it secured a rebate of a sixth of the freight paid to the New York Central railroad, and thus was in a favorable position to start the next round of the fight. Before the end of 1872 Rockefeller created the National Refiners' Association, a pool which controlled four-fifths of the product of the country, and then waged a brief and successful contest for control of the price of crude oil in the Pennsylvania district which at the time was the only oil field in the United States. By 1875 the monopoly was extended to New York, Philadelphia, Pittsburgh, and Baltimore. By the same sweep Henry H. Rogers, one of the New York refiners, was taken into the organization and became one of its most valuable members. Then John D. Archbold, by playing the Judas rôle in the Titusville region, turned over the independents of the home of petroleum to the monopoly. Thus, by 1878 about 90% of the refining business of the nation was in the hands of the Standard Oil Company and its associates.

Nothing then remained but to drive out the small competitors. Rockefeller had already adopted as his motto: "The coal-oil business belongs to us," evidently believing that some sort of divine right was involved. An extremely efficient and economical system was evolved.

Information concerning the business of other concerns was obtained through railroad agents, stool pigeons, and bribery. Then every move of the competitor could be forestalled. Prices were cut below the cost of production in competing markets and the losses were recovered with interest elsewhere. Agents of the company were ordered to get control of the markets in their districts by any means they found most effective. Nearly every method was employed except arson, while accusations were made even on that score. The rewards for success were liberal, but failure meant dismissal.

In these same years the Standard Oil Company eliminated all middlemen, made its own barrels and acids, handled its own by-products, secured warehouses and terminals for ocean shipment, and finally got control of the means of transportation. Independent refiners built pipe lines only to find the monopoly in control of the stock when they were completed. In 1879 the first pipe line from the oil fields to the sea was finished, but two years later this also became a Standard Oil property. This made control over railroad rates more effective than ever before. By 1878 the Standard Oil Company was getting rebates on shipments of competitors just as in the South Improvement days. The power of the monopoly was nowhere better shown than in its control over the price of crude petroleum. It was frequently noted by 1878 that every time Rockefeller gave a large sum of money for some philanthropic purpose, either the price of crude oil went down or that of coal oil went up.

Such steam-roller methods, as a matter of course, ultimately called forth efforts at legal restraint. In 1878 the federal government began examining charges of restraint of trade through rebating. In the following year a Pennsylvania grand jury returned indictments against the principal officers of the Standard Oil Company for conspiracy. The latter charge checked the federal investigation by making the witnesses wary about self-incrimination. Also, the company got repeated postponements and raised obstacles against the extradition of the officials from New York. There must have been real fear of honest legal prosecution to lead Rockefeller in 1880 to declare under oath, and despite hidden documentary evidence to the contrary, that numerous refineries and transportation facilities subsidiary to the Standard Oil Company had no connections with it. Other officials were most impudent in their attitude toward the investigators. The upshot of the whole affair was a compromise in 1880 by which the monopoly agreed to give up its special privileges in return for abandonment of the conspiracy charges. This fiasco broke the last remnant of power of a vigorous Producers' Union, while rebates and other discriminatory practices were soon resumed.

After 1880 the fight against the Standard Oil Company was continued by a few courageous independent refiners. One of the stoutest of the contests was the Buffalo case, starting in 1879 and continuing for ten years. The Vacuum Oil Company of Rochester, a Standard Oil subsidiary, was determined to absorb the Buffalo Lubricating Oil Company, an independent. By threats and bribery the Buffalo manager was induced to ruin his oil by overheating, with danger to life and property. In 1885 five of the conspirators, including Rogers and Archbold, were indicted, but a year later when the case was tried only two were found guilty (H. B. and C. M. Everest). After a three-year stay of sentence, they escaped with a fine of \$250 each and jail sentences of a year which were suspended. A damage suit was next brought, but, through the interference of a judge under Standard Oil influence, the damages as finally awarded in 1889 were only \$85,000. For many years afterward the Standard had its own way in spite of investigations, legislation, prosecution, and farcical dissolutions.

In 1882, in order to evade state laws curbing the activities of corporations, the Standard Oil Trust was formed. Nine years earlier the capital stock had been expanded to \$3,500,000, certificates being exchanged for the stock of the newly acquired New York and Philadelphia refineries. The new property was then held in trust for the benefit of all. Other moves were made toward the trust form of organization in 1879, but there was no further expansion of stock till 1882. At that time about 50 persons managed 39 corporations, all operating under the control of the Standard Oil Company. These men turned all of their stock over to a group of nine trustees including the Rockefellers, Archbold, Rogers, and Flagler. In exchange for the stock, \$70,000,000 in trust certificates were issued *pro rata*. The trustees thereafter acted as the officers of each of the subsidiaries and managed the business in the way best calculated to make money for the trust. Former stockholders looked to the trust for profits and lost concern in the corporations they had created. The trust, operating in secret without a charter, could do as it pleased. Since the trust had not, like a corporation, a legal existence, there was a feeling of security against conspiracy charges. So secret were the proceedings that the officials corresponded with each other under assumed names, and Rockefeller cautioned them especially against transmitting any information to their wives. With this sort of management the trust continued to pay 10% dividends in spite of costly price wars and in addition to the expense of constant expansion. In 1886 the trust certificates were quoted at 200.

In order to perpetuate its power the trust entered politics. Though

most of its members were Republicans it acted with Democrats in Democratic states. Thus Oliver H. Payne of Ohio, treasurer of the Standard Oil Company, so lubricated the Ohio legislature in 1884 as to get his aged father Henry B. elected to the Senate as the special representative of the trust. This case comes nearest to proof of rumors concerning corrupted state governments, but charges of shady dealings in Pennsylvania were perennial.

Such activities merely hastened the day for governmental interference. The creation of the Distillers' and Cattle Feeders' Trust and the Sugar Trust, both in 1887, did much to rouse public opinion. Fear was felt that all the principal industries of the country would soon be controlled by monopolies. This forced the state legislatures and the United States House of Representatives to institute investigations in 1888. Before the New York Senate, Rockefeller denied that he had ever been connected with the South Improvement Company, that the Standard Oil Company had received rebates or other favors from the railroads, or that independent refiners had ever been fought by any other weapons than the approved ones of free competition. But before the United States House of Representatives both he and Flagler were pushed to the point of admitting several of these facts which for so many years they had consistently denied. These investigations led to a series of state and federal antitrust laws which will be mentioned later.

Of more importance at the time was a suit entered in the Ohio courts in 1890 for the dissolution of the Standard Oil Trust. David K. Watson, a crusading young attorney general of the state, stumbled on to a book containing a copy of the agreement by which corporation stock had been exchanged for stock certificates, and found that all but seven shares of stock of the Standard Oil Company of Ohio was held by the trust. Since this surrender of control was contrary to the Ohio corporation law, he instituted a suit to compel the return of the stock to the corporation—in other words, to dissolve the trust. The trust depended upon dialectics and the statute of limitations to save itself, but also used more forceful methods of persuasion. Attempts were made to bribe Watson. Mark Hanna threatened him politically, reminded him that public officers owed nothing to the public, and promised even to reprimand Senator John Sherman if he found that the latter was backing the prosecution. Joseph H. Choate defended the company, pleading for mercy and talking lugubriously about innocence of motive. But after a long battle the Ohio Supreme Court in 1892 ordered the Ohio company to sever its connection with the trust.

Strict adherence to this order being difficult, the trust had no inten-

tion of obeying. By that time the number of Standard Oil subsidiaries had been reduced to twenty, leaving about as many extinct corporations whose stockholders still drew dividends on trust certificates. To return the stock of a forgotten corporation to its former owners would be an act of rank injustice which even the Standard Oil Trust would not countenance. Furthermore, continued control of all the subsidiaries was desired by the trustees who owned \$43,000,000 of the total \$70,000,000 of stock. Consequently the trustees retained $\frac{4}{7}\frac{3}{10}$ of the stock of each corporation, while every other holder of trust certificates who turned them back for stock got his proportional share of the stock of all companies. In reality, many of the trust certificates were not redeemed at all and the trustees continued to pay dividends upon them. Because of this state of affairs, suit was brought again in the Ohio courts in 1897, this time on contempt charges. But, after the usual succession of delays, the case was dropped in 1900 when a more amenable attorney general refused to sue or prosecute under the antitrust law of Ohio.

This case, along with prosecutions of others under the federal Anti-trust Act, seems to have influenced the company to undergo another form of reorganization under the loose corporation law of New Jersey. In 1899 the Standard Oil Company of New Jersey, having expanded its capital from \$10,000,000 to \$110,000,000, absorbed the whole trust without any real investment of new money. The new holding company was formed so as to retain centralization of control and yet remain clear of prosecution for conspiracy. So successful was the New Jersey company that five years later the market value of its stock was more than \$643,000,000. It was still popularly known as a trust, but its extralegal character for years made it immune from legal attack.

During these years of expansion and reorganization the fight of unconquered independents was continued, and with more success than in earlier years. Lewis Emery and Roger Sherman waged a 15-year combat and spent about a quarter of a million dollars in court costs and legal aid before in 1901 they got pipe lines for both crude and refined oil from the fields to Marcus Hook near Philadelphia. The Pure Oil Company, founded by Emery, now was independent of railroads and their rebating practices, and had a clear opportunity for sale in foreign markets. In 1900 the Pure Oil Company consolidated with other independents as a \$10,000,000 corporation which continued thereafter to offer competition.

But the blasting of Rockefeller's hopes to monopolize the whole industry was accomplished mainly by the discovery of new oil fields. Archbold had once said he would drink all the oil discovered outside

the Pennsylvania area, which after 1900 would have demanded a Gargantuan stomach. As the fields of Ohio, Indiana, Illinois, Kansas, Oklahoma, Texas, and California began producing petroleum the Standard Oil Company extended its pipe lines and continued at the producing end of the game. But it could not keep up with developments. The Gulf Refining Company, Texas Refining Company, and numerous others joined with the Pure Oil Company in the ranks of competitors. Yet, by 1920 the Standard Oil interests still produced about 50% of the oil of the country and, in addition, were the largest railroad power, owned several banks, owned or controlled mines in the Mesabi iron range of Minnesota, and held much stock in the Colorado Fuel and Iron Company.

Antitrust Movement. Besides the Standard Oil, Whiskey, and Sugar trusts, about a score of other combinations of less power were organized before 1890. This concentration of industry led to a literature of protest, public uneasiness, and finally legislative action. Henry George, Henry D. Lloyd, and Edward Bellamy in particular, between 1880 and 1890, informed the people by books and magazine articles concerning the increase of wealth and poverty side by side, the misdemeanors of the Standard Oil Company, and the crude injustices of the capitalist system in its existing form.

The first political attacks came, as usual in the American system, through the medium of minor parties. The Anti-Monopoly party of 1884 described its purpose in its name. Since it indorsed the Greenback candidates on the national ticket, it is difficult to estimate what part of Ben Butler's vote was cast by Anti-Monopoly men. In 1888 the Union Labor party advocated the abolition of usury, monopolies, and trusts. In the same year the major parties also expressed their disapproval of existing conditions. The Democrats blamed the tariff for the growth of monopoly, while the Republicans expressed an opposition to combination of capital in trusts or other forms of monopoly, and recommended legislation to suppress restraint of trade. There was a general feeling that bigness itself in industrial organization was an evil.

Accompanying these platform declarations were the legislative investigations already mentioned. The federal House of Representatives issued a 1,500-page report, about two-thirds of which was devoted to the Standard Oil Trust. In 1889 eight states and three territories in the West and South adopted antitrust laws, while Washington and Wyoming included similar provisions in their constitutions. In 1890 five other states joined the movement, and before the wave of reform subsided all the states except New Jersey, Delaware, and West Virginia had done likewise. The common law had proscribed only unreasonable

restraint of trade, but the state legislation made any restraint illegal. As a rule the acts made any agreement between two or more persons, for the prevention of free competition in production and sale, criminal and punishable by fine, imprisonment, or both.

None of these laws were of much effect, since the three states which remained aloof began making their existing corporation laws more lax and meaningless. The federal Constitution (Art. IV, sec. 1) prescribes that "Full Faith and Credit shall be given in each State to the public Acts, Records, and judicial Proceedings of every other State." Consequently, so long as a New Jersey corporation was complying with the law of its own state, it was entitled to do business in any other state, regardless of the latter's laws. The result was that 95% of the corporations of the country soon took refuge in these three states—especially in New Jersey after a further relaxation of its law in 1899.¹

Sherman Act. Seeing the necessity of supplementary legislation, President Benjamin Harrison in 1889 requested a federal statute based on the interstate commerce powers of Congress. John Sherman introduced such a measure in the Senate, which, after pronounced modification, was passed on July 2, 1890. The act was very brief, occupying only two pages (Vol. XXVI, pp. 209-210) of the *Statutes at Large*. The core of the law is contained in the words: "Every contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce among the several states, or with foreign nations, is hereby declared to be illegal." Punitive clauses provided that persons violating these prohibitions should be fined not less than \$5,000 or imprisoned not less than one year or receive both penalties for each offense. Persons suffering losses in consequence of such restraint of trade were permitted to recover by civil suit three times the amount of damages sustained. The act was hastily passed at a time of great popular discontent, and according to Orville H. Platt, a Republican senator from Connecticut, was intended not so much to limit trusts as to tide the Republican party over the next election. If this was true, then the act was an all-round failure, judging both from its own effects and the Democratic landslide of 1890.

Notwithstanding its simple wording, the meaning of the act was a subject of vigorous legal disagreement and dispute for over twenty years. The key sentence made every restraint of trade by a contract, conspiracy, trust, or other form of combination illegal. This would make the most innocent of mergers unlawful if by the economies of large-scale production any competitor was damaged. Under this literal

¹ Governor Woodrow Wilson in 1913 secured a decided strengthening of the New Jersey law, after which time corporations tended to favor Delaware charters.

interpretation, hardly a large business concern in the country could be adjudged innocent. But, if the literal meaning was not accepted, then to what lengths might not judicial interpretation go? The courts generally agreed that the terms of the act were of old usage in the common law, and that "restraint" meant "unreasonable restraint." What then was unreasonable? This the courts reserved to themselves to decide as each case arose. But, since the language of the common law was restored, the act itself was useless except as to the new fixing of penalties. Congress, rather than the courts, was to blame for making this ruling necessary.

Operation of Antitrust Legislation. But, in interpretations of the sort of combinations to be banned and in deciding what restraint was unreasonable, the United States Supreme Court for many years took an unnecessarily reactionary point of view, thus leaving far more leeway for monopolies to escape the act than was justifiable. It almost seemed that the intent of the court was to foster combination in every line but labor. In 1894 the Sherman Act was invoked against the leaders of the Chicago railroad strikes (see Chap. XXVI), but three years later, when traffic associations and rate agreements among railroad companies were outlawed, the way was pointed out for the era of railroad consolidation which followed. Again, in 1904 and 1905, when dealing with the Northern Securities affair (see Chap. XXVIII), though a holding company of railroads was dissolved, a resulting community of interest was upheld.

In fact, it seemed that all the antitrust laws, federal and state alike, merely tended to drive corporations "from the old forms which often contained the seeds of disintegration"¹ into newer and more powerful forms of combination. As a trust, the Standard Oil Company from 1882 to 1891 always made at least \$8,000,000 a year. But as a community of interest from 1892 to 1899 the earnings were from \$19,000,000 to \$34,000,000 annually. When consolidated into a single corporation in 1899 the income jumped in six years to \$57,000,000. When the New Jersey corporation was again dissolved in 1911, the Standard Oil stock immediately rose instead of falling.

As a result of the antitrust laws there was a general rush to conform with the new order of things. When, under the common law in New York, the Sugar Trust was dissolved in 1890 it merely consolidated as one large corporation under the name of the American Sugar Refining Company. The Whiskey Trust underwent a like transformation. Other trusts became communities of interest or holding companies which in time changed to absorbing companies. For several years, in

¹ [United States] Industrial Commission, *Final Report* (Washington, 1900-1902), Vol. XIX, p. 595.

nearly every instance, the new combinations were immune from serious molestation. Seven out of eight prosecutions in Harrison's administration failed, after which the Department of Justice ceased to push prosecutions.

The laws and courts facilitated combinations by defining what was illegal. This left to the corporation lawyers the simple task of devising ways to evade the law. Under the common law they had remained in doubt. The Supreme Court decision in the case of *United States vs. E. C. Knight Company* in 1895 sealed the legality of the consolidated monopoly. The case grew out of the formation of the American Sugar Refining Company. This consolidation created a monopoly which was 98% perfect in scope. When the Attorney General attempted to secure an annulment of the purchases by which it was accomplished, the Supreme Court held that the mere purchase of corporation stock was not an act of interstate commerce, and hence did not come under the scope of the law. This decision held out hope to all aspiring monopolies. As Attorney General Philander C. Knox explained a few years later, the prosecution had to show that there was direct restraint of purely interstate commerce, and accomplish this against combinations acting under the best legal advice in the country.

Even if it be disputed that the antitrust acts fostered combinations, it can certainly be demonstrated that concentration of business went on much more rapidly after 1890 than before. In the 40 years before 1890 only 24 trusts had been formed with a total book capital of \$436,000,000. But the Census of 1900 showed 183 consolidated concerns having 2,029 active and 174 idle plants, a capitalization of \$3,150,000,000, and an annual output of \$1,661,000,000. Exactly 120 of these trusts, to call them by their popular name, had been effected in the three years immediately preceding the census. The 183 combinations had in their control about a seventh of the manufactures that were susceptible to this form of management. In 1901, with the formation of the United States Steel Corporation capitalized at \$1,400,000,000, largely water, the nation saw the beginning of big business on a new scale. Even the Standard Oil Company was dwarfed by comparison. By the same time the American Tobacco Company dominated its field, while the "beef trust," made up of the companies of Armour, Swift, Morris, Cudahy, Schwartzschild and Sulzberger, and the National Packing Company, dictated prices for live animals and meats.

Holding Companies. Holding companies became especially prolific in 1899 and following, chiefly because of the General Corporation Act of New Jersey passed in that year. Previously, both in Europe and America, it had been illegal for one corporation to hold stock in

another except by special legislative sanction. By such authority the Pennsylvania Company of 1870, the American Bell Telephone Company of 1880, and the Southern Pacific Company of 1884 had been formed. Their imitators were few. But the New Jersey law threw open the gates to all who wished to enter. The only thing necessary was to rent desk room, display a sign, and make "a meagre and non-committal annual report"¹ to the New Jersey legislature. The company's business was merely to hold stock, elect officers, receive dividends, and distribute them. But the stock of no corporation was desired unless enough of it could be secured to give control to the holding company. Thus a monopoly was secured wherever enough former competitors could be absorbed. No conspiracy in restraint of trade could be seen in the simple fact of holding stock in other companies.

Among the leading corporations to flock early to New Jersey for charters, aside from those already mentioned, were the United States Rubber Company and the Federal Steel Company, both of which had had an earlier existence in another form. The Amalgamated Copper Company was one of the first corporations to organize originally under the aegis of the act, while the United States Steel Corporation, a combination of trusts, was for a long time the largest. The Distillers' Security Corporation, with \$32,000,000 capital took over the Distilling Company of America, which itself was a merger of four corporations formerly known as the Whiskey Trust. The Rock Island Company of 1902 and the Northern Securities Company of the same period were among the newer holding companies for railroads. At the other end of the scale might be noted multitudes of New Jersey charters for insignificant concerns which might as well have been operated as simple partnerships. For instance, a Tennessee sawmill was owned by two men who wished to take out a New Jersey charter. To meet the legal requirements they gave one share of stock each to a professional director in Trenton, the mill foreman, and night watchman in Memphis. The latter two attended all directors' meetings but were not permitted to vote or sell their stock. The dummy director at Trenton, by receiving a small fee for like services in numerous other corporations, made a living at the business.

By 1900 big business had achieved the form under which it was to expand for many years. The country was feverish with hopes of wealth in a period of reviving prosperity. The moribund public sentiment had yet to be revived by the muckrakers. The era of "trust busting" was impending but not yet visible. The theory still prevailed that the people ran the government, but the fact remained

¹ William Z. Ripley, ed., *Trusts, Pools and Corporations* (Boston, 1905), p. xvi.

only to be demonstrated that they were as voters merely the pawns of the business interests. Many of the cruder methods of Gould, Vanderbilt, and Rockefeller were in disrepute, but the new captains of industry were finding that the refined tactics of the new era could be used with more deadly effect.

CHAPTER XXIII

THE NEW PATHS OF INLAND COMMERCE

The problem of transportation is so intertwined in the industrial fabric of American life that it is difficult to consider as a separate entity. The relation of the railroads to the rebuilding of the South, the pioneering of the far West, the perplexities of the farmer, and the movement toward monopoly have already been touched upon. There still remains for discussion the development of railroad transportation and the rise of newer forms of travel and communication.

Railroads: Rate of Construction. Before 1860 railroad building had gone just far enough to accentuate sectional bitterness. Following the war the loosely knit regional networks were brought into a great national system which, though still dominated by rivalry and jealousy where there was competition, allowed physical contact and through traffic from any part of the country to all others. The nation became smaller as measured by days of travel, and economic ties between the sections, though they often chafed and galled, grew stronger. Interdependence between the sections increased, while provincialism declined.

GROWTH OF RAILROAD MILEAGE, 1890-1930

YEAR	MILES OF FIRST TRACK OWNED	MILES OPERATED			
		First Track	Other Main Tracks	Yard Track and Sidings	Total Track
1890	163,597	156,404	9,760	33,711	199,875
1900	193,346	192,556	14,075	52,153	258,784
1910	240,439	240,831	25,354	85,582	351,767
1920	252,845	259,941	36,894	109,744	406,579
1930	249,052	260,440	42,742	126,701	429,883

The most obvious fact to be noted is the rapidity of railroad construction after 1865. In eight years some 35,000 miles of track was laid. Then, for five years following the panic there was a virtual standstill, followed by a new spurt of energy resulting in the building of 82,000 miles of first track between 1878 and 1890. From 30,626 miles in 1860 the total of the railroads reached 93,267 in 1880. The figures for succeeding census years are given in the preceding table. The decline in mileage of first track owned in the United States set in immediately after the maximum of 254,037 in 1916. In 1860 there was nearly one mile of railroad for each 1,000 inhabitants. In 1930, in a population four times as great, the ratio was doubled.

As a result of slackened railroad building during the war, coupled with constantly increasing traffic, the westward reaching chains from the Atlantic could by 1865 scarcely handle all the business offered them. The terminals were congested with grain, meat, and petroleum. About a third of this kind of goods went by water in the open months, but when the lakes and canals were frozen the railroads found it possible to increase their rates by as much as two-thirds and yet get all the freight they could handle. Aside from the depressing effect of this state of affairs upon Western markets, it also stimulated the spurt of railroad building to 1873. Each year 100,000 or more people were settling west of the Mississippi River, thus lending even greater confidence to the railroad builders. It was believed that wherever the steam whistle went the people would follow the new pied piper. A temporary realization of this hope drove caution out of consideration in an era when tracks could be laid for \$30,000 a mile and would pay for themselves in four years. The Chicago and Northwestern reached Council Bluffs in 1867, well ahead of the completion of the trans-continental link in Utah. When the first Pacific freight came through, the Burlington and Rock Island lines also were opposite Omaha to receive their share. Kansas City was reached by the Missouri Pacific in time to make connection onward to Denver over the Kansas Pacific in 1870. Later on, other roads connected Chicago with Omaha, St. Louis with Kansas City, while crisscross lines between these four and other of the larger cities of the Middle West became numerous.

When the Chesapeake and Ohio reached the Ohio River at Huntington, in 1873, Richmond and the Virginia bay cities were put in connection with Western trade. In January, 1867, the South had about 17,000 miles of railroad finished or under construction. The Louisville and Nashville line already held a commanding position in the Old Southwest. Under the domination of Louisville interests, it discriminated against Cincinnati trade. For this reason, the Cincinnati shippers got permission from the state legislature in 1869 for a municipally built and owned railroad to Chattanooga. This \$10,000,000 project was carried to completion following 1871, after some points had been compromised with the Kentucky legislature. Though it later became by lease a part of the Queen and Crescent line, its municipal ownership remained as a unique instance in railroad history. Such developments as these, coupled with the Pacific projects and the movements toward consolidation mentioned in preceding chapters, were also accompanied by a completion of the networks of the Atlantic Coast and the Old Northwest.

The Railroad Threat to Waterways. This gain by the railroads threatened for a time the continuance of the older water routes. Canal

building almost stopped entirely after the enlargement of the Erie Canal. By 1900 nearly 1,700 miles of these waterways were abandoned. In 1860 the Erie Canal moved more freight than the New York Central, Hudson River, and Erie railroads combined. As late as 1868 canal freight across the state of New York was 44% of the total, but by 1898 it was reduced to 5%. After 1890 there was a decline of about a third in the tonnage carried by the canal. The Mississippi River trade also fell in the 1860's from 468,000 tons to 398,000, the river becoming mainly a feeder of the railroads. The Great Lakes fleet in 1865 had a tonnage of 600,000 which was saved from decline only by the cutting of transfer rates, lowering the Erie Canal tolls on wheat by a half, and by agreements with the railroads running westward from Lake Michigan. By 1875 ore carrying was saving the fleet for future growth.

Prosperity and Depression for Railroads. The era of railroad prosperity after 1865 had its bad effect on rail transportation itself. Too much faith was placed in the ability of a railroad to create its own traffic in a hitherto unsettled region. Financial management was often reckless. Even Jay Cooke used irrational methods and golden influence on politicians. The Texas and Pacific line, under the leadership of John C. Frémont, was an example of a railroad which, though not built, turned out to be a get-rich-quick scheme for its promoters. Poor's *Manual* of 1877-1878 estimated that a population of at least 850 for each mile of right of way was necessary for profitable operation of railroads. But the over-building of 1865 to 1873 reduced the ratio from 1,026 in 1860 to 590 in 1873. By 1876 the population per mile of track in the West was 427. Gross earnings, as a result of overbuilding as well as rate wars, fell from \$9,000 a mile in 1870 to \$7,933 in 1873 and \$6,381 in 1877. The Panic of 1873, precipitated partly by this excessive expansion and shrinking income, put 20,714 miles of railroads into receivers' hands in four years. A capital stock of \$600,000,000 and bonds amounting to \$651,000,000 were involved. The looted Erie and bloated Union and Central Pacific lines, along with the Northern Pacific, Kansas Pacific, and Chesapeake and Ohio, were among the 150 railroads which sought legal protection through receivers before 1880. Many of them emerged under new names in order to avoid recognition.

The Panic of 1893 gave another violent jolt to railroad building and management. Not till 1900 did the construction of new lines resume the pace of earlier years. In the panic year 119 companies with 28,000 miles of track went into receivership, more following in 1894. The Santa Fé, with 4,438 miles of right of way, was the largest, but the Baltimore and Ohio, Norfolk and Western, and Union Pacific

were included. The Santa Fé emerged only after a strenuous financial reorganization, and then it was not till 1899 that any dividends were paid. Charles Francis Adams resigned as president of the Union Pacific in 1892 because of his lack of power to make the road pay. Following the panic, Kuhn, Loeb, and Company, joined by E. H. Harriman and the Illinois Central, assumed the liabilities of the railroad amounting to \$81,000,000.¹ Harriman then set about to spend another \$25,000,000 in rebuilding the line—especially in the reduction of mountain grades, digging tunnels, and eliminating curves. In the same years the Southern railroads were reorganized in such a way that the Southern, Atlantic Coast Line, Louisville and Nashville, and Seaboard Air Line, operating together nearly 20,000 miles of right of way, practically controlled transportation in the Old South.

Physical Improvements of Railroads. The early years of rapid expansion, consolidation, rate wars, and frenzied finance also witnessed the beginnings of many improvements in rails, roadbed, safety devices, and travel comfort. The consolidation of trunk lines and a demand for long shipments made alterations to the standard gauge imperative. This movement went on rapidly. By 1867 railroad iron was shipped 1,500 miles without reloading. In 1869, by proper selection of lines, the continent could be spanned by a train of standard gauge. By 1886 the South, the last stronghold of mixed gauges, was succumbing to uniformity.

The rebuilding of tracks with steel rails had to await improvement in steel making and lower prices, as well as more progressive tendencies on the part of railroad managers. The first Bessemer steel rails imported by the Pennsylvania system in 1862 cost \$150 a ton. Yet they were so bad that many of them broke in cold weather. By 1870 the iron rails in use still outnumbered steel by seven to one. Nearly a decade later several wooden-rail lines were built, mainly to mines and lumber camps, but one of them was 50 miles in length and supported a 20-ton locomotive traveling 20 miles an hour. For several years after 1875 there were serious differences of opinion over the economy of iron versus steel rails. One important question, what to do with replaced serviceable iron rails, was answered by utilizing them for sidings and lines of lighter traffic. Some were reheated, hardened, and used for heavy traffic on the Reading railroad for 13 years. The rapid replacement of iron rails with steel was begun about 1877. In that year the transition had taken place on only about a sixth of the mileage of the country, but nearly all new lines were using steel, the output of Bessemer rails for the first time exceeding all others. The price

¹ This includes \$58,448,000 and interest owed to the United States government for the loans of nearly 30 years earlier.

having declined from \$120 to \$40 in four years, it began to seem that steel was a better investment than iron at \$10 a ton less. By 1883 the mileage of the two kinds of rails was about equal, while by 1890 three-fourths of the track, including about all of the main lines, was steel. The price for some years continued to drop. In 1884 one contract for steel rails was filled at \$26.50 a ton—a price lower than the tariff on the foreign product. Two years later the average price was below \$30. A steel rail association tried to keep up the price of rails and probably succeeded in maintaining the profits.

As the traffic on the railroads became heavier the rails had to conform in durability. From an average of 56 pounds to the yard before 1870 they increased to as much as 90 pounds in 1890. Ultimately the latter figure became the average, while the heaviest rails passed 135 pounds to the yard. Locomotives, meanwhile, underwent a growth from the 15-ton size of 1870 to 60 tons twenty years later. Freight cars were developed from 10 tons to 25 tons in capacity, a movement which was to continue until coal cars of 70 tons became common before 1920. The speed of freight trains also increased from 15 miles to 30 miles in the clear. All of this change tended to multiply the amount of haulage over the same roadbed with a slight increase in the labor force and great savings in cost. The construction of steel cars began to attract attention by 1896, and a decade later the Pennsylvania system was using some all-steel coaches. Electric lights and steam heat were introduced on an express train between Boston and New York in 1887.

Day coaches before the Civil War were sometimes converted into improvised sleepers, but the Central Transportation Company of the war period was the first real sleeping car company. It tried to keep the Pullman organization from entering the field as a competitor, and was looked upon as a "ruthless monopoly" with a firm grip on the railroads. George M. Pullman made his first sleeper in the closing months of the war at a cost of \$20,000—four times the ordinary earlier value. This *Pioneer* was attached to Lincoln's funeral train. Being a foot wider and $2\frac{1}{2}$ feet higher than other cars, station platforms and bridges had to be altered to let it pass. In 1867 Pullman supplied kitchen and meal service in the sleepers, transforming them into moving hotels. The following year he introduced the separate diner, and still later began building drawing-room and reclining-chair cars.

Safety Devices. Safety devices were of contemporary development with the rest. In the early days brakemen were prone to retire at an early age, with at least one empty coat sleeve or a peg leg. Many others were killed outright as a result of the hazards of their calling. In order to stop a train they had to run along the top of the cars, even when

icy, to apply the brakes on each separately. Also, an extra supply of brakemen was required in order to make a stop in a reasonable distance or length of time. If the track was obstructed, a bridge was out, or a horse balked at a crossing, other lives besides those of the train crew were endangered. Stephenson in 1833 had put steam brakes on a locomotive, but this device was of scant use when a heavy train of cars was sliding the locomotive along ahead of it. The air brake, operating simultaneously upon each car, was worked out by George Westinghouse between 1866 and 1868. His first brake operated when the engineer opened a valve on a compressed-air tank. This was sufficient under ordinary conditions, but if a portion of the train separated from the rest on an up grade nothing could prevent the detached cars from retreating in an opposite direction from the locomotive. In 1872 the automatic air brake appeared, capable of stopping the whole train as soon as the air connections were severed. Now that quick and safe stopping was assured, it was possible also to secure greater economy in transportation by use of heavier locomotives, longer trains, greater speed, and fewer brakemen. By 1900 67% of the trains were fully equipped with automatic brakes.

Block signals effected another great saving in life and expense. Fixed signals had been used both in England and America since about 1834. In 1841 a semaphore system had been tried out in England. But, in general, the only effective method had been to station numerous flagmen along the track, the number usually being insufficient. In 1863 block signals were erected on the Philadelphia and Trenton line, telegraphic communication being used. In 1866 or the following year the New Haven lines installed the first automatic electric block system at Meridan, Connecticut. Modifications alone were necessary to transform these signals to the modern pattern. Interlocking block systems with central control came only gradually. In 1907 less than 60,000 miles of line were supplied with block signals. By 1923 the mileage was nearly doubled. In 1906 only 6,535 miles had automatically controlled signals. There was an increase by 1927 to 51,000 miles. Besides providing greater safety, these signals permitted the running of many more trains over the same track, sometimes only a few minutes apart.

Another life saver of otherwise economic value was the Janney type of automatic coupler, appearing in essentially permanent form in 1889. The old link-and-pin coupler could be operated only when the brakeman stood between the cars. When the coupling was made a nimble jump was required, the slightest misstep resulting in death or permanent maiming. Thousands of couplers, according to an Interstate Commerce Commission report, had been patented before one was

designed to stand the wear and tear of service. Connecticut, Massachusetts, Michigan, and New York, between 1882 and 1886 had adopted laws requiring the use of automatic couplers meeting the approval of their railroad commissions. But a standardized type had to be adopted for interstate traffic before any such legislation could be of much value. So long as link-and-pin couplers were in use at all, any automatic device had to be so constructed as to connect with a pin-coupling car. Thus some degree of standardization was evolved. A federal act of March 2, 1893, required all railroads engaged in interstate commerce to adopt standard couplers for all rolling stock. By 1900 this rule was in force.

In spite of all safety appliances, the number of railroad casualties increased steadily for many years. From 1891 to 1895 the annual average was 6,821 killed and 35,313 injured. By 1907 the numbers had increased to 11,839 and 111,016. The climax was reached in 1913, with 10,964 killed and 200,308 injured. Thereafter, as a result of safety campaigns, the elimination of dangerous grade crossings, and possibly also in consequence of the shorter average laboring day for trainmen following the Adamson Act of 1916, there was a slight decline to 1917 and a rapid decrease thereafter. In 1930 the number of killed was 5,481 and of injured 49,430, despite the growing tendency of motorists to try to beat the train to the crossing. A majority of the fatalities have occurred at crossings or among trespassers on the tracks. The great bulk of injuries has been to employees of the railroads.

Speed and Service of Railroads. Under exceptional conditions some enviable speed records were made in early years. In 1848 a run of 53½ miles was made in England at an average speed of 68 miles an hour. In 1862 a time table showed 33 hours for the run between New York and Chicago, while a record of 36 hours was actually established. In 1905 this 960 mile run was made eastward over the New York Central in just under 16 hours. In 1876, as a part of the Centennial celebration, a train was run over the Pennsylvania, Northwestern, Union Pacific, and Central Pacific systems from Jersey City to Oakland, California, a distance of 3,311 miles, in 83 hours and 45 minutes. Considering the date and greater distance, this run compares very favorably with that of 1924 over the Santa Fé and New York Central from Los Angeles to New York, 3,197 miles, in 69 hours and 7 minutes.

Along with creditable speed and increasing safety for passengers, the railroads were offering greater conveniences for shippers as well as travelers. In order to drum up business, rail companies began superintending the transfer of goods from one road to another, thus making it unnecessary for the shipper to accompany his consignment to its destination. In time this service came to be considered as a right to be

protected by state and federal laws. Baggage handling in America was early recognized as being superior to any in Europe. P. T. Barnum, who often fooled others but rarely was deceived himself, took to the railroads for the transportation of his circus in 1873. Faced with the necessity of performing only in the larger towns and making overnight jumps from one to the other in order to avoid bankruptcy, he took the step which brought to a close the day of the wagon circus. Even of bulky products, such as grain and coal, the railroads began taking their share. Accompanying all these improvements the receipts per ton mile declined from 1.92¢ in 1867 to 0.8¢ in 1897.

Street Railways. Closely related to the steam lines, yet performing a service peculiarly their own, were the street railways. The first street car track in America was completed in New York in 1832. The horse-drawn cars had such conveniences as straw on the floor in winter months to keep the passengers' feet from freezing. With a separate management for each street that had a car line, the city of New York alone in 1870 had 30 traction companies. In 1922 there were still four miles of horse-car line in America. Cables, which were experimented with in New York in 1869, proved practical in San Francisco four years later. The cost of operation was very high, but the cars proved popular and were widely used for two decades. In recent years they have continued in operation for especially steep grades particularly in San Francisco and Seattle. In 1927 there were 43 miles of these lines in use. Steam-driven cars were tried in the late 1870's but did not prove very satisfactory. Yet, in 1927 about 17 miles of track were still equipped with them. Elevated street railroads were also in early operation. The first was built on Ninth Avenue in New York in 1867. Despite the fierce protests of horse-car drivers and outraged property owners, the line was extended to Thirtieth Street by 1870. Because of its success, it was soon copied elsewhere. From 1907 to 1927 the mileage of elevated track increased from 362 to 634, over half the total in the latter year being in greater New York and most of the remainder in Chicago, Philadelphia, and Boston.

The idea of the electric street car goes back almost to the beginning of the horse-car business, but development had to await the invention of a practical dynamo. A toy electric-motor car, running on rails, was exhibited in Springfield (Massachusetts) and Boston in 1834. Four years later a small electric locomotive was run on a railroad at Edinburgh, Scotland. In 1847 an experiment was made in America with a two-passenger car, and in 1851 the carrying of power through the rails was attempted in Boston. The overhead trolley wire was patented in Europe in 1855, but it was 20 years later before a model car operated on a like principle in America. This was at Kalamazo.

In 1880 Thomas A. Edison ran an experimental car with the rails as conductors, while three years later the third-rail idea was being tried out in various places. In 1884 a practical line of two miles was built at Cleveland, a second appearing in the same year at Kansas City, and a third at Baltimore in 1885. In the world at large in 1888 there were only 19 electric railway companies with a total of 60 miles of fragmentary lines. But in 1887 and 1888 Frank J. Sprague built a complete, commercially operated trolley line at Richmond, Virginia, which proved successful from the business point of view. The era of electric railway building took on new life with this event, and in 1890 there were 789 companies in the United States with 8,123 miles of track.

The Traction Magnates. The financing and control of traction companies for a quarter of a century after 1880 was an unsavory business, bringing out all that was worst in city and state governments and Wall Street stock manipulation. While Mark Hanna played the rôle of a lone wolf in Cleveland, a clique made up of Thomas F. Ryan, William C. Whitney, Charles T. Yerkes, William H. Kemble, Peter A. B. Widener, and William L. Elkins exerted a much wider influence. They dominated the street railway companies of New York, Philadelphia, Pittsburgh, Chicago, and over a hundred other cities and large towns in Pennsylvania, New England, Ohio, and Indiana. Jointly or separately they controlled the gas and electric service of Philadelphia, Reading, Harrisburg, Syracuse, Atlanta, Vicksburg, St. Augustine, Minneapolis, Omaha, Kansas City, Des Moines, Sioux City, and about seventy other communities. They bought mayors and councils, governors and legislatures, and scoffed at public opinion.

Kemble and Yerkes finally drew jail sentences for bribery and embezzlement in connection with their Philadelphia ventures, whereupon Yerkes emigrated to Chicago and proceeded to give that city its Philadelphia flavor of government. The secret of his success, he said, was "to buy old junk, fix it up a little, and unload it upon other fellows." It was also Yerkes who popularized the motto: "It is the strap-hanger who pays the dividends."¹ After looting the Chicago company and dumping the derelict upon old friends, he transferred his activities to London. Widener, a former butcher, and Elkins, a butter and egg man graduated from the Quay school of politics, took over the work of Kemble and Yerkes in Philadelphia, maintaining always the established traditions.

Ryan and Whitney specialized in the New York traction business. Ryan had worked his way up to power as a stock exchange operator and faithful disciple of Saint Tammany. He was a smooth and efficient worker. Whitney was the scholar in business. At Yale he had

¹ Burton J. Hendrick, *The Age of Big Business* (New Haven, 1919), p. 126.

divided honors with William Graham Sumner. He became a lawyer, a Warwick of presidents and cabinets, a protégé of Samuel J. Tilden in the prosecution of the Tweed Ring, and a foe of Tammany. He helped elect Cleveland in 1884, became Secretary of the Navy, and did much to modernize the American battle fleet. Then, executing a nimble about-face when past 50 years of age, he became a member of the crew of traction pirates. Before this transition took place, the Widener-Elkins-Kemble-Ryan combination, posing as reformers, had got control of the New York business by hounding Jacob Sharp to death. Sharp, having given a \$500,000 bribe to the board of aldermen for the Broadway franchise, died in jail while his accusers enjoyed the fruits of his endeavors. Whitney then joined the coterie in 1893 and helped to form the Metropolitan Traction Company, the first holding corporation in the street-car business. The ring boosted the value of the stock by paying dividends with borrowed money, then sold their holdings and left the riddled hulk for others to bail out. Whitney died in 1904, leaving \$40,000,000 but no Metropolitan stock. The company finally went to the wall in the Panic of 1907.

A favorite method of early traction companies was to get a strangle hold on a city by means of long-term charters. In 1865, over the protest of the Chicago city council and the veto of Governor Richard J. Oglesby, a company was given a 99-year charter for operation in the "windy city." A new state constitution in 1870 forbade the legislature to grant charters for street railways without the consent of the municipal authorities, but not till 1907 did the United States Supreme Court deny to the monopoly its right to use the Chicago streets. Following a new series of charters, in the next 20 years the four Chicago street-car companies paid the city \$39,000,000 as the municipal 55% of the net receipts, in addition to over \$40,000,000 in taxes. Not till after 1900 was the domination of the traction bosses ended in the principal American cities.

Waterways: Decline of Packet Service. Alongside this development of land transportation, the waterways, despite their relative decline, continued to offer stubborn competition. The disruption of Mississippi River traffic during the Civil War had only a minor effect on the business of the Ohio, Missouri, upper Mississippi, and their tributaries. The steamboat trade from city to city had always exceeded that of goods entering into foreign trade and going or coming by way of New Orleans. Moreover, the lower Mississippi was not closed to through steamboat traffic for more than two years. Meanwhile, the boat yards along the Ohio River had been busy making gunboats and monitors. In 1864 and 1865 more boats were built on the Ohio than in any preceding two years. There was a setback in construction after

1865, and another following the Panic of 1873, but in general there was prosperity on the rivers till after 1890. In 1865 the Mississippi system was traversed by steamboats throughout 16,000 miles of channels. Iron ore again was coming from Cumberland River ports to Pittsburgh and the smelteries in Ohio, while great cargoes of railroad iron and supplies were carried westward. Competitors of the Standard Oil Company used the rivers for a barge trade in petroleum when confronted by the railroad rebates of the monopoly.

Most of the important boat yards were on the Ohio River, where all kinds of steamboat outfitting trades flourished from Pittsburgh to Cairo. Some craft were built for use on the rivers of Texas, Florida, the Pacific Coast, and even South America, Africa, and Russia. As boats were built with far more staterooms than there were states to name them for, the original meaning of the designation was forgotten. Steam capstans and hoisting devices were developed. In the 1880's dynamos were installed, after which the glaring searchlights removed another hazard from night travel. By 1880 there were 473 steamboats operating on the Ohio River alone. They were valued at \$5,500,000, had an aggregate tonnage of 110,000, employed 9,000 rivermen, and carried a million passengers and 2,500,000 tons of freight a year. Their annual gross earnings were \$7,629,000. The captains and pilots were paid \$125 a month, which sum, though well below the rates of the preceding generation, was still far above ordinary wages. The cabin crews and deck hands got \$15 and \$25 a month.

By 1882 the future of the packet boats was threatened by an era of cutthroat competition. The railroads, after building lines paralleling the rivers, so manipulated charges as to discourage the owners of the floating palaces. The unprecedented floods of 1883 and 1884 did much damage to the trade. It was becoming increasingly difficult to renew mail contracts for the slow-moving boats. Yet the business kept alive, because of greater economy, increased immigrant traffic, and old habits of shippers who as yet mistrusted the low rates of railroads which might endure only so long as there was steamboat competition. Excursions brought a lucrative Sunday and holiday trade, while drummers and others saved hotel bills by night travel. Corporate control of the lines after 1893 also effected some savings. Yet, the last great stand for passenger fares was during the St. Louis World's Fair in 1904. Within a few years thereafter the packet trade between Cairo and New Orleans was at an end. On the Ohio and upper Mississippi, the liners were never entirely driven out of use.

Towboat Business. The towboat business was the real salvation of the river traffic after 1865. While it cost \$1,000 a day to operate the larger packets, a towboat could push ten barges at a snail's pace for

\$200 a day and still save much time on a large shipment. The possibilities of this form of freight movement were soon realized. By 1865 about 2,500,000 tons of coal a year was being mined in the fields around the headwaters of the Ohio River, two-thirds of it being sent down stream. This trade was soon monopolized by the towboats. The savings over railroad transportation were immense. The *Joseph B. Williams*, for instance, pushed 32 barges loaded with 600,000 bushels (22,800 tons) from Pittsburgh to New Orleans for a freight charge of \$18,000, or 3¢ a bushel. With the small cars and short trains of that period it would have taken 180 trains to haul the same coal. The whole summer would have been required for the task, whereas the towboat did it in two weeks. The cost by rail would have been ten times as much as by river. Even with the 50-ton cars of the 1920's, 45 or 50 of them to the train, ten trips would have been needed, and the expeditiousness of the towboat could not have been equaled.

The railroads did their utmost to break up the barge trade, even building low bridges with narrow spans to interfere with large fleets. An act of Congress in 1872 forbade the construction of any more such bridges, but it did not apply above the mouth of the Big Sandy River. Regardless of such obstructions the coal trade flourished. By 1890 the Ohio River and its tributaries, the Monongahela and Great Kanawha, handled 10,000,000 tons a year. The average cargo at that time was 15,000 tons on barges covering $1\frac{1}{2}$ acres. The *Sprague*, by 1900, was the greatest of all towboats. It was 318×63 feet in dimensions and had a stern wheel 40 feet long and the same distance in diameter. In 1907 it pushed 60 barges containing 70,000 tons of coal. The fleet was a rectangle 312 feet wide and 925 feet long, thus covering nearly seven acres of water. This was the equivalent of 50 maximum trainloads of the same date. The Monongahela River Consolidated Coal and Coke Company, locally known as the "combine," was formed in 1899 with \$30,000,000 capital stock, and soon got a monopoly of the coal trade. By 1907 the coal tonnage on the Ohio and its main tributaries was 17,000,000 tons. The combine was using 80 boats and about 4,000 barges of 2,785,000 tons total capacity to handle it.

River Improvements. Long before World War traffic conditions compelled a return to river transportation, a movement had started for the systematic development of the internal waterways. Before the Civil War, proposals were made for canalizing the Ohio River by a system of dams from Pittsburgh to Cairo. But the engineers could not agree concerning the advisability of the project or as to the methods to be adopted. From 1864 to 1900 the pork-barrel method of appropriations prevailed, resulting in some very important work, a lot of wastefulness, and a general postponement of systematic planning. The

appropriations for rivers, amounting to \$100,000 in 1864, reached \$1,300,000 in 1867, and \$12,700,000 by 1882. The Grangers demanded river improvements as a means of fighting railroad rates, and the Windom Report of 1874 took this into consideration. The Windom recommendations were defeated piecemeal in 1875, James B. Eads's proposal for jettying the lower Mississippi taking precedence. Among the noteworthy developments which took place, despite this lack of planning, the enlargement of the Portland Canal around the Louisville Falls between 1860 and 1874 is worthy of mention. The tolls were then reduced from 50¢ to 5¢ a ton and were abolished entirely in 1880. As a means of maintaining a navigable depth of water, some dams and locks had been built in certain Ohio River tributaries in the canal-building era. Then, between 1878 and 1895 a movable dam was constructed near Pittsburgh, at a cost of over \$900,000. The detractors of the scheme called it a "damnable move." Within ten years after 1895 five more dams were built to maintain a six-foot channel in the upper Ohio. In 1899 Congress authorized the removal or remodeling of obstructing bridges, but legal maneuvers prevented any progress in that direction until the War Department took the matter in hand in 1917.

A Mississippi River Commission, established in 1879, made plans for spending \$775,000,000 for flood control work, but could get appropriations for nothing except to build levees higher so that floods would become all the more disastrous when they did occur. Other commissions for the Missouri and certain Pacific Coast rivers were created in 1884 and 1893, then between 1902 and 1910 three commissions started work on a Lakes-to-Gulf waterway. Also, a permanent International Waterways Commission was established by the United States and Canada, to regulate the use of water from the Great Lakes and for other purposes. These various organizations were given some sort of unity of purpose by the Board of Engineers for Rivers and Harbors, created in 1902. The board proposed a \$400,000,000 program and superintended the expenditures of funds actually appropriated, often in spite of local protest and in entire disregard of the venerable pork barrel.

Highway Traffic. In that generation of governmental aid to rail and water transportation, the public highways were grossly neglected. Most of the work done on them was under the direction of county and township road supervisors, the labor being provided by a poll-tax requirement very similar to the old French *corvée*. In the wealthier regions of heavy haulage, gravel or other hard-surface finishes were given to the main highways, but elsewhere the farmers' teams wallowed in mud till the roads dried out sufficiently for a dragging or grading. Public highway traffic was of such an unregulated character as to be

unamenable to reliable statistical treatment. Prior to 1900, if a few steam tractors and the swarm of bicycle riders are eliminated, all of the hauling was confined to horse-drawn vehicles. One-horse buggies and two-horse carriages or surreys were the common means of personal transit of a local character. But many drummers, sewing machine agents, and country peddlers drove their buggies incredible distances. Youths in their courting days and some of their elders of sporting tendencies yielded to their cravings for the more fashionable vehicles of the prevailing style—dogcarts, sulkies, and the like—and sometimes drove their horses tandem. The sleighing season added another thrill to rural life. The livery-stable horse most in demand for courting purposes pranced elegantly, requiring two tight hands on the reins while in town, but plodded along without attention as though hitched to a milk wagon when on a country road. American buggies were acquiring international repute before 1873. In later years, with rubber tires and brightly painted running gears, they acquired enough elegance to satisfy the vanity of any who could raise the sum of from \$100 to \$200 required to purchase them. When one of the village bloods bought such a carriage to drive behind his docked trotter, the editor of the local weekly newspaper would mention it in his personal items, concluding with an attempt at wit: "Look out, girls!"

Farm wagons became standardized with the exception that east of the Mississippi River the stiff-tongue prevailed, while to the westward only the drop-tongue and neck-yoke type was sold. Most of the wagons were made in Indiana, Illinois, Michigan, and Wisconsin. The Studebaker brothers (see p. 258) created the greatest wagon works in the world at South Bend, Indiana, and finally turned to the making of automobiles. Till 1910 or a little later the dumpcart was the favorite of the South, while mud boats and sleds had their occasional uses in various parts of the country. These heavier vehicles were also used by the less affluent people when the whole family wished to go to town or church at the same time. The kitchen chairs furnished seats for those not privileged to ride on the spring seat by the driver.

The Bicycle. The development of the bicycle was a protracted process, extending through a century or more of experimentation. In the late 1860's two-wheeled velocipedes were being manufactured in America and a school for the training of riders was started in the city of New York. A few English bicycles were shown at the Centennial Exposition. Then in 1878 Albert A. Pope set about to make still better ones at Hartford, Connecticut. Bicycle clubs were soon organized, each having its distinctive uniform. Farmers learned to hurl picturesque imprecations at the sinful younger generation which whizzed past them, scaring their horses. The more athletic bicyclists

won local fame by riding 100 miles in a day. "Stunt" riders performed their antics on every street—but not on the sidewalk if the deacon could stop it. These early bicycles had a high front wheel, requiring an "upping block" to mount, while the hind wheel resembled a caster. They were dangerous even when bestrode by skilled riders, for a very small obstruction would upend one of them, landing the occupant on his head. By 1887 the "safety" bicycle with chain drive was gaining favor. Pneumatic tires were introduced in 1890. With seamless tubing after 1893 the bicycle took on essentially its modern form except for coaster brakes and spring saddles. The height of the bicycle craze was reached by the close of the century, when women riders nearly equaled the men. The mail-order houses even sold third-wheel equipment by means of which bicycles could be operated on the railroad tracks. But this form of trespassing was soon stopped. In 1899 the number of bicycles manufactured in the country rose to 1,113,000. In that year the American Bicycle Company was formed, combining 45 firms and 56 factories, with a capital of \$40,000,000. In the next quarter of a century the demand dropped to about a fourth, after which there was a revival in bicycle manufacture till the depression years following 1929. Besides stimulating the development of instruments of precision in manufactures, the bicycle contributed the pneumatic tire, air valve, pressure gauge, wire spokes, and ball bearings to the automobile industry.

The Automobile. Following Cugnot's machines of 1769 in France, it was nearly 70 years before the idea of a successful highway locomotive was definitely abandoned. Hostile laws and excessive tolls for their use on roads and bridges stopped progress on the experiments by the late 1830's. Thus, there is little if any connection between this early movement and the one which began nearly half a century later. In 1875 an Austrian inventor, Siegfried Narkus, is said to have built a four-wheeled vehicle propelled by an internal-combustion engine. But the engines themselves at that date were unreliable. When Gottlieb Daimler of Germany began in 1885 and 1886 to turn out his high-speed engines, real progress started.

Carl Benz in 1885 made his first automobile, which was really a three-wheeled velocipede with a gasoline engine. In 1889 S. H. Roper of Massachusetts built a steam automobile, while in 1891 the first electric car was built in Chicago, but was not in a condition to appear on the streets till two years later. In 1892 and 1893 Henry Ford built his first automobile, as did also Charles E. Duryea. In the latter year the first Benz car was imported for exhibition at the Chicago World's Fair. Elwood Haynes of Kokomo, Indiana, and Charles B. King of Detroit followed with practical machines in 1894. No gasoline cars

were made for sale till 1896 or 1898, but by that time several electric and steam automobiles were on the market. One New York merchant in 1898 bought electric delivery wagons at \$2,000 each because he considered them more economical than horse-drawn vehicles. In 1899 there were about 100 taxicabs, 20 motor trucks, and between 30 and 50 private cars in the city of New York, nine-tenths of them being electrically operated.

In 1899 the International Automobile and Vehicle Tire Company was formed. Other automobile companies were started in the same year with capital stock of from \$5,000,000 to \$8,000,000 each, and one project was under way for a world automobile trust with \$75,000,000 capital. It seemed for a time that a monopoly would be created, but the fact that thousands of details in invention were being worked out independently, and that no monopoly could hope to acquire all the patents, prevented further tendencies along that line. George B. Selden of Rochester, New York, applied for a patent on a gasoline engine for automobile use in 1879 and received his patent in 1895. But, since gasoline engines were already in use for that purpose before the monopoly was granted, the claim to royalty on all engines built for automobile propulsion was faulty. Nevertheless, the Selden company had enough power to enforce tribute from most manufacturers down to 1911 when the courts overruled the practice. When the original patent expired in 1912 no effort was made to renew it, though his transmission continued to draw tribute. Henry Ford was one of the most persistent of the manufacturers who refused to pay the royalty.

By 1900 the transmission was so far developed in gasoline automobiles that the cars could be run in reverse, after which gasoline propulsion began to gain the ascendancy. The Locomobile Company in that year could make 90 cars a week. It and the Mobile Company made 95% of all the steamers. Ransom E. Olds of Detroit entered the field with his first Oldsmobile in 1898, and in four years' time was manufacturing machines at the rate of 2,500 annually. By this time it was discovered that the driver of an automobile did not need to see over a horse or keep its tail out of his face, and, consequently, that there was no need to have the conventional dashboard or build the automobiles as high off the ground as buggies. Other mechanical developments had lessened the necessity of getting under the car so often. Consequently, smaller wheels were adopted and the center of gravity began to shift closer to the ground. Then two-cylinder engines began to appear—in front of the driver instead of under the seat, a feature which originated, but was not widely adopted, as early as 1894—and people began to speculate as to whether the supply of petroleum would hold out with such an extravagant use of the fuel.

As yet there were no cheap cars in the field. Motoring was the luxury of the rich and the home mechanical geniuses.

Air Traffic. Air transportation even in 1934 was still in the experimental stages. The biblical notion of angels with wings and the story of Daedalus and Icarus bear testimony to the antiquity of man's desire to fly. The versatile Leonardo da Vinci, contemporary of Columbus, wrote a *Treatise on the Flight of Birds* which explained the elementary principles of flight. An Italian mathematician of the same period, Giovanni B. Dante broke his leg while attempting flight in a glider. In the seventeenth century still another Italian, Francesco Terzi-Lana—a philosopher and Jesuit priest—developed the theory of the weight and buoyancy of air, and planned to overcome gravity by means of an aerial ship supported by four light metallic globes from which the air had been exhausted. His treatise, published in 1670, anticipated the later possibilities of the dirigible. But mechanical progress at the time had not reached the point where his idea could be tried out. Later experiments showed that metal globes could not be made light enough to ascend without being crushed by atmospheric pressure.

Balloons and Airships. The first successful balloon ascension was accomplished in France by the brothers Jacques E. and Joseph M. Montgolfier in 1783. After trying hydrogen and other gases, they succeeded with hot air in a balloon 37 feet in diameter. They did not venture to ascend with the bag. Later in the same year, Jacques A. C. Charles substituted hydrogen for hot air and, with a companion, made a successful flight of nine leagues, ascending to a height of 7,000 feet. Captive balloons were used for observation purposes during the American Civil War. Ferdinand von Zeppelin, later the inventor of the dirigible airship, made his first ascent while connected with the Union army during the war, but not in the vicinity of the battlefields. For many years the balloon served no practical purpose, being seen mainly as the central attraction at county fairs.

Airplanes: Early Experiments. Meanwhile, inventors were reviving the interest in gliders and power-driven machines of the heavier-than-air type. In 1840 W. S. Henson and John Stringfellow were experimenting with model gliders in England. In 1849 Stringfellow flew a model plane, too small for a passenger but under its own power. He experimented with other models for another 20 years. Between 1891 and 1896 Otto Lilienthal made about 2,000 flights in gliders before meeting his death in landing. Unsubstantiated stories were circulated of partially successful flights in power-driven airplanes by 1890 or earlier. It is known that Hiram Maxim, of machine-gun fame, did have some success with a plane controlled by rails fixed above it.

The first scientific principles of flight were worked out by Samuel P. Langley of the Smithsonian Institution at Washington between 1892 and 1896. In the latter year one of his steam-driven models made a continuous flight of three-fourths of a mile, which fact led the War Department to allow him \$50,000 for the construction of a full-sized "aërodrome" capable of carrying a man. This machine, completed in 1903, failed to fly. With several alterations, the attempt was renewed with success a few years later, but not in time to avert the prior claim of the Wright brothers as the world's first aviators. In those years, all sorts of queer ideas prevailed as to the proper way to succeed in flying. Inventors, who evidently had never seen a buzzard, insisted that there could be no flight without flapping wings. Others, equally ignorant of the bat, declared that feathers on the wings were a prime necessity. Still others, devoid of mathematical ability or knowledge of the limitations of human muscles, thought man could furnish his own power in extended flight. Though aviation remained in the realm of visions till after 1900, the aspirants to fame added much to the enjoyment of the reading public.

Telegraph and Cable. Aside from the post office,¹ the telegraph remained the principal means of communication. The chief developments in the telegraph business since the Civil War have been the system of multiple messages sent simultaneously over the same wire, automatic recording in type, improvements in relaying of messages, the laying of ocean cables, and the growth of a network of lines so interconnected that messages may be sent from any part of the country to any other part with only a few minutes' delay in making connections. Many of these changes have taken place since 1900. A feat accomplished in 1861, but receiving small attention because of the greater interest in war news, was that of Hiram Sibley in building the first transcontinental line to San Francisco in only five months' time. The monopoly secured by the Western Union Telegraph Company during the war was strengthened afterward and was not seriously contested during the remainder of the century. The second attempt to lay a trans-Atlantic cable was made in 1865 by Cyrus W. Field and associates. The cable broke, but in the following year a new one was laid successfully while the other one was fished up and repaired. Since 1866 the transoceanic telegraph service has been continuous, the lines

¹ The Post Office Department repeatedly expanded into the bordering branches of business till it became, aside from public education, the greatest socialized institution of the country. From the beginning the post office was opposed by stage-coach drivers for competition with private endeavor. In 1864 the money-order system was begun. A year earlier than this the free delivery system was started in the cities. In response to the demands of Populism a like service was established for rural routes in 1897. Further business activities were assumed after 1900.

having been extended to all the principal ports of the world. In 1927 nearly 106,000 nautical miles of American owned cable were in use.

Telephones. Artificial transmission of the human voice goes back at least to 1667, at which time the diaphragm and tight-string method was known. Higher forms had to await the development of the electromagnet. In 1861 a German inventor succeeded in transmitting musical tones on a circuit made and broken by the vibrations of a tuning fork. In succeeding years as many as twenty persons worked on the idea of the electric telephone. One of these, Elisha Gray, filed caveat at the United States patent office just two hours after Alexander Graham Bell had placed his application for a patent on his finished product. Bell, born in Scotland, was the third in succession of his family to be a teacher of the deaf. This occupation aroused his interest in acoustics. After receiving information and assistance from many sources, on March 10, 1876, he sent his first message to his assistant, Thomas Watson, who was in an adjoining room: "Come here Watson: I want you." When the New York to San Francisco line was opened in 1915 it was inaugurated by Bell and Watson, with the same transmitting and receiving instruments and the same words.

The London *Times*, calling the telephone the "latest American humbug," listed it as inferior to speaking tubes. The attitude in the United States was hardly any different, for the Western Union Telegraph Company refused to buy the patent rights for \$100,000.¹ For a year or two Bell and Watson had to give stage performances with their toy to popularize it and supplement their income. Then, in 1878, Theodore N. Vail was taken into the company. The Bell Telephone Company, with its system of leased equipment and uniform service, was largely of his making. Before many years Bell and his original associates sold out of the company for a fortune apiece and went into other pursuits—Bell to experimentation and his old occupation of teaching the deaf. Vail in 1880 reorganized the company under the name of the American Bell Telephone Company. The Western Electric Manufacturing Company had already been absorbed for the production of equipment. In 1885 Vail's scheme of administration was completed by the formation of the American Telephone and Telegraph Company.

Many other changes had been effected during these years. Profane boys had been replaced as switchboard operators by absent-minded girls. Charles E. Scribner had developed the multiple switchboard.

¹ The mistake soon being realized, the Western Union in 1878 tried forming its own telephone company. A law suit followed, ending in a compromise whereby each company agreed to stick to its own service. Stock in the Bell company within eleven months after November, 1878, jumped from \$50 to \$800 a share.

Michael I. Pupin, of Serbian birth, worked out at Columbia University the Pupin coil which made transmission possible over smaller wires. By accident he also discovered that by frequent crossing of the wires in two circuits a third or "phantom circuit" could be created. By 1884 Boston and New York were connected. Though the first underground cable was laid in 1887, not much advance was made in that direction for 20 years. In 1892 there were about 230,000 telephone stations in the United States—the equivalent of the growth of three or four months in 1925. After the original Bell patent expired in 1893 a great number of small companies sprang into existence, reaching the height of their strength between 1900 and 1905, when altogether they about equaled the Bell organization.

CHAPTER XXIV

THE MECHANIZATION OF INDUSTRY

BASIC INDUSTRIES

An Industrial Revolution. An outstanding feature of the economic development of the later decades of the nineteenth century was the revolutionary changes in the mechanics of manufacturing and the extractive industries. The seeds of this industrial revolution were planted in the preceding century, but the harvest was in the period following 1865. The multiplication in number and size of cities, the greater complexities of urban life, the disturbing exodus from the farms to the industrial centers, the alarming influx of cheap European labor, and the more perplexing phases of the labor problem were all a direct outgrowth of this movement. Manufacturing was no longer the handmaiden of commerce. Instead the rôles were reversed. Even the great port cities of the Atlantic Coast became characteristically more manufacturing centers than marts of foreign trade.

As economic life became more complex, the distinction between basic industries and manufactures for the ultimate consumer grew more clearly defined, the division of labor was intensified, the hold of the skilled trades upon industry became more precarious, and the lot of the jack-of-all-trades became a fair replica of that of the earlier tinker.

Aside from agriculture and transportation, which have been discussed elsewhere, the most prominent of the basic industries were mining, the generation of power, the production of metals and machines, the exploitation of the forests, and the manufacture of construction materials. In describing their growth it is neither easy nor altogether desirable to divide them into air-tight compartments. The rolling of rails and structural steel links transportation and construction with the rolling mill. Mining is a fundamental factor in the metal industries and in the generation of power, while power itself is of prime importance in the working of metals and in mining. Industry has been so integrated that all the different important activities are so interdependent as to create a maze of detail for consideration. Yet, as in biology, some anatomical and even histological examination is necessary as an accompaniment to a study of the physiological processes of the organism. It is not possible at all times to ignore psychological and philosophical aspects.

Sources of Power: Coal and Coke. As a fuel and prime source of power, coal remained in the lead of all competitors, its position hardly being contested before 1900. The per capita consumption of this fuel increased from four-sevenths of a ton in 1865 to three tons in 1900. Though more anthracite than bituminous coal was mined in the former year, the ratio at the end of the period had changed to more than three to one for bituminous. The methods of mining were as yet not greatly changed. The pick, shovel, and drill, gunpowder, and the lard-oil lamp remained the most necessary equipment of the miner. Some digging machines were in use before 1900, but the bank mule remained indispensable for underground draft purposes. The tipples became higher as more effective screening devices were introduced. The shafts were deepened as the upper veins of coal were exhausted. Hoisting engines were improved, becoming speedier and more powerful.

Coke, so necessary to the iron and steel trade, was originally made in the crude fashion followed by the earlier charcoal burners. These dirt-covered heaps were not entirely extinct in 1890. But before that date nearly all of the product was produced in the beehive type of oven such as in 1934 could still be seen in large numbers in Pennsylvania and West Virginia. These ovens made a very fine quality of coke, but wasted all the gas and other by-products. A German capitalist, accustomed to the rigid economies of his country, on observing the gases ascending the mountain sides and blasting the timber, was so struck with astonishment that he could express himself in no other way than to throw his hands aloft and mutter "Mein Gott!" A few retort or by-product ovens were in use by 1893, but were not in good standing with the industry.

Gas and Petroleum. In the manufacture of gas the first great improvement after 1865 was the discovery that, by driving steam through white-hot coke, a mixture of hydrogen and carbon monoxide could be produced at almost no additional expense. This added greatly to the volume and heating properties of coal gas and was much more profitable than selling the coke. Water gas was first used commercially at Phoenixville, Pennsylvania, in 1873. The Welsbach mantle, developed in Vienna in 1885 and following, made the new gas more effective than the old for illumination as it already was for heat. Within a few years following more of it was used than of coal gas. As late as 1898 seven-eighths of the sales of artificial gas were for lighting purposes, but the product was also being used in glass making and various branches of the iron trade.

The first natural-gas pipe line, five miles in length, was built from the wells to Titusville, Pennsylvania, in 1872. Soon thereafter,

wells in Ohio made gas so cheap in their locality that it was frightfully wasted. Street lamps burned day and night because this was cheaper than hiring men to light and extinguish them. The rise of manufacturing industries in the state was greatly aided by the presence of this cheap fuel. Meters were unthought of, people paying a flat rate for each stove, light, or house. Large fields were discovered in Indiana in 1886, after which factories were given free gas as an inducement to their development. Here the display of burning wells, coupled with ordinary carelessness and leaky pipe lines, exhausted the supply in a little over 20 years. But, before this, new supplies had been discovered elsewhere. Petroleum had very few uses for industrial power before 1900. Except in the immediate vicinity of the wells it was not used for heat. Coal oil lamps, gasoline cook stoves, and like light requirements were the principal consuming points. Lubricating oils and greases were the main contribution to industry, though the number of gasoline engines was increasing. An average price of \$4 a barrel of 42 gallons at the well from 1861 to 1865 perhaps should not be mentioned in a period when the price has dropped (temporarily in 1933) to 10¢. Production approximately doubled every five years till 1880 and every decade thereafter till 1910.

Prime Movers: Internal-combustion Engines. Prime movers for the utilization of fuel power developed in proportion to the output of the raw materials. Improvements in steam engines and turbines were continuous. The internal-combustion engine, though not extensively used till near the close of the century, deserves more than passing mention because of the rapid stages of its development during the period. The Chinese by 1234 were experimenting with gunpowder exploded in a cylinder, the cannon being the woeful result. The Dutch physicist Christian Huygens in 1680 used a gunpowder pump to produce power by lifting water over a water wheel, but the outcome was of no economic importance. In 1794 Robert Street patented a slow-combustion engine in England, after which various experiments were made, with interesting but nonprofitable results. Turpentine, coal gas, hydrogen, and other combustibles were used as fuel. By 1883 gasoline engines were sufficiently developed in Germany to encourage the finally successful effort to make effective horseless carriages. The Daimler engine set the pace for numerous other efficient types which followed. Between 1892 and 1895 Rudolf Diesel of Germany got his ideas in shape for the creation of a new type of engine handling heavier hydrocarbons and operating with greater efficiency and economy than the earlier models. The first successful Diesel engine was publicly

rights. In this line of invention the United States was more the beneficiary than the contributor.

Dynamos. A totally new practical source of light and power, developed after 1860, was electricity. Power from batteries was obtainable as early as 1800. By use of these Humphrey Davy produced an experimental arc light in 1802 which was sufficiently perfected for public exhibition eight years later. Another English scientist, Michael Faraday, made a primitive dynamo in 1831. Two years later probably the first electric motor was built. After a number of other experiments, an arc light was placed in a British lighthouse in 1862, so powerful, it was declared, that its shaft of light could be read by six miles away. If true, this speaks well for the type of reflector used.

The great trouble in these early attempts was that each light required a separate dynamo. The commercial generation of electricity was made possible in 1878 and 1879 when Charles F. Brush of Cleveland developed the system of connecting lights in series, while at about the same time the multiple-arc system was being worked out in Europe. It was in 1879 also that Thomas A. Edison succeeded in producing his first successful carbon-filament incandescent light. By this time the dynamo was sufficiently developed for the operation of central stations. Though the Edison Electric Light Company was organized in 1878, it was not till 1882 that the first commercial stations were established in Appleton, Wisconsin, and the city of New York. Ten years after the Edison company was formed, nearly two million electric lights, most of them incandescent, were in use, while there were 34 electric street-railway systems with a total of 223 cars. New capital was going into the business at the rate of \$80,000,000 a year. In 1892, when the General Electric Company was organized from earlier combinations, pooling its patents with the Westinghouse Company, it became possible for one central station to operate street cars and all other electric light and power for the area served. A new natural monopoly had been created. The diversified uses of the new power were being discovered. Motor-driven machine tools were already in use, while in 1893 an electrically operated traveling crane was installed in a steel plant at Pittsburgh.

Hydro-electric Power. Hydro-electric power on a large scale began at Niagara Falls in 1894 and 1895 when, after five years' work, a power plant of over 100,000 horse power in 5,000-h. p. units was opened for use. Factories immediately began clustering about the plant, entrepreneurs being fearful that the current could not successfully be conducted to Buffalo. By 1900 this plant was preparing to double its capacity. In the same year the falls in the St. Mary's River

near Detroit were being developed. A power trust was not as yet even a dream of the future.

Iron and Steel: Labor Supply. The iron and steel industry, upon which modern mechanized life has been so largely based, continually improved its processes and increased output to meet the needs. At the same time it created demand by the continued betterment and variety of its products accompanied by a steady decline in prices. The geography of the industry was determined more by the location of raw materials than by the question of labor supply. Mobility of labor was a feature of the ever-shifting frontier life of the country. It was always more profitable to locate an industry with reference to cheapness of raw materials and transportation, secure in the knowledge that an abundance of labor would drift in from the oversupply elsewhere in America and Europe. The number of highly skilled mechanics needed was always a small proportion of the total. The latest arrivals of immigrants of whatever nationality or race were sufficient for the heavy routine work. Such a supply was anything but stable. Yet, from the viewpoint of the employer, this was an enduring trait, since it worked against effective labor organization with its demands for higher wages and shorter hours.

In a few trades only, such as puddling, rolling, and pattern making, which required a high degree of skill, the employers were compelled to make concessions. For a few years after the Civil War, because of the scarcity of home talent, puddlers and rollers had to be brought from Great Britain under five-year contracts. These trades developed such effective unions that before 1870 lockouts became common in the effort to lower wages. The steel workers were the next to organize, especially after 1873. The Amalgamated Association of Iron and Steel Workers contested for a time with the Knights of Labor for supremacy among the laborers, till after 1887 it was seen that the former was best adapted to keeping up the power of the highly skilled groups. The puddlers for a time were able to maintain a wage scale fabulous for that day, but even with them the prosperity was not permanent. A strike at Pittsburgh in 1875 was broken by the importation of Negro puddlers from Richmond. The development of puddling machinery was another undermining influence. The changed methods of production constantly affected the piece-wage scale, the result usually being labor strife. The failure of the Homestead strike of 1892 (see Chap. XXVI) sounded the knell of the A.A.I.S.W., though for nearly a decade it strove to recover its lost power. A continuous series of strikes for the closed shop in 1900 and 1901 failed, and thereafter the open shop with shamefully low wages and long hours prevailed in the United States Steel Corporation for a generation.

Such labor troubles as these had no influence in the localization of the industry.

Geographic Distribution of Iron Business. It was soon realized that iron and its products could be transported more economically than raw materials. Hence, the tendency was to locate smelteries at the most advantageous position between coal and ore deposits. In this respect New England could not compete with the region of the western foothills of the Alleghanies. Consequently, though some pig iron was produced in the old center down to 1920, the tendency was to change from iron and steel production to metal manufactures from Western materials. The New York-New Jersey area just about held its own for a quarter of a century after the Civil War. Cheap freight on fine ores from Spain, and later from Cuba and Chile, made this development possible. Local circumstances led to production in some rather unexpected places. Thus, for a number of years after 1870 the St. Louis region sprang into prominence as a result of its location between the Iron Mountain and Pilot Knob ore ranges in Missouri and the Illinois coal fields. When the ore deposits were worked out, only reproductive iron and steel work was left for the St. Louis industries. Likewise, from 1880 to 1900 the Colorado Fuel and Iron Company and the subsidiaries from which it was formed showed promise of offering genuine competition to the Pennsylvania smelters. But after 1900 Colorado produced relatively so little iron and steel that, along with all the United States west of the Mississippi River, it was classed with the miscellaneous group which produced less than 4% of the iron and ferro-alloys of the country. There were some blast furnaces on the Pacific Coast, depending upon cheap transportation of ore by water from the Birmingham region and later from China.

Southern Iron Works. Virginia, until near the close of the century, was able to offer valiant competition. Good iron was made in the Richmond vicinity by 1875 for less than \$17 a ton, which was a remarkably low price at that time. But, as the lowered cost of Lake Superior ores gave greater advantages to the Lake states, the business, except for reproductive work, dwindled to insignificance. It was left to the Birmingham-Chattanooga region to uphold and advance the old standing of the South. The sulphur and phosphorus content of Southern ore made it unfit for the Bessemer process. But it was unexcelled for casting and puddling, thus leading to a local trade which soon grew to national importance. In northern Alabama good ore, dolomite, and coal were found almost within a stone's throw of each other. The ore could be delivered to the top of the furnace for less than the freight alone on Lake Superior ore to Cleveland or Erie.

Chattanooga first achieved prominence as a smelting center, but Birmingham sprang to the front soon after its founding in 1871. By 1880, after conquering the old prejudices against the use of modern methods, Birmingham was producing pig iron at a cost of \$11 a ton, and the price was still dropping. Before 1900 markets were found in almost all parts of the world. Even Great Britain was purchasing some of the charcoal product for car wheels. Steel was not made in commercial quantities in the Birmingham area till 1899. But by that time the open-hearth process had been so far developed as to make Southern ores profitable for such use. In 1893 the South supplied about 22% of the pig iron of the country, a position of relative importance from which it was forced to recede within a few years.

The Rise of Pittsburgh. It was the Lake Superior ores which gave to western Pennsylvania and the Old Northwest the supremacy they were destined to maintain in the iron and steel business. Pittsburgh was not outstanding among Ohio River cities for its iron works till after the Civil War. Several of the others, particularly Cincinnati, had proved worthy rivals. As late as 1871 Pittsburgh made only 4% of the pig iron of the country, and was dependent upon other river towns for enough to supply her reproductive plants. Three years later her consumption outran the local supply three to one. Then the tide began to turn, and in a short time the city was leading the country in output. Until after 1870 local ores were depended upon almost entirely. Such ore was delivered at the smelters in Ironton, Ohio, for \$2.50 a ton, hauled in by farmers. Before the possibilities of the Bessemer process were thoroughly realized, Ironton was of nationwide importance in the iron trade. Thereafter, its relative standing dwindled as the smelting centers closer to the lakes rose in output.

Though the qualities of the Lake Superior ores were known as early as 1850, it was not till during the Civil War that their consumption reached a tenth of the country's total. As late as 1875 the product sold at Pittsburgh for from \$10 to \$12 a ton, half of the price going for freight. The lake vessels in that day were loaded by wheelbarrows and emptied by tubs suspended from block and tackle. It was cheaper to bring the ore to the coal than the reverse. Hence, the development of Bessemer plants occurred around Pittsburgh rather than along the shore of Lake Superior. A constant decline in freight costs continued to give the greater advantage to eastern Ohio and western Pennsylvania, which region was also better located for the marketing of the finished product. By 1894 Bessemer ore was selling at Cleveland for as low as \$2.50 a ton, though it still took two weeks to unload a cargo of 2,000 tons. Twenty years later an amount five times as large could be discharged in two hours. Before 1890 the ore deposits

in upper Michigan were the main source of supply, but by that date the Mesabi range of Minnesota was opened up. It soon exceeded all the others combined in output.

Iron Production along Lake Shores. Pittsburgh had by no means an uncontested supremacy. Portions of Ohio could get the new ores at least as cheaply, and were well enough established in the industry to wish to do so. Also, their coal supply was adequate. Before 1870 it was seen that Indiana had a bountiful supply of coking coal, so furnaces arose around Indianapolis and Terre Haute. Chicago, East Chicago, Michigan City, Whiting, and Hammond constituted an economic unity at the head of Lake Michigan which soon was teeming with activity. So far as accessibility to ore and fuel was concerned this region was, if anything, better located than Pittsburgh. Another center grew up around Detroit.

Organization of Iron and Steel Business. In its organization the iron and steel business went through two or three eras of consolidation before the United States Steel Corporation emerged as the supertrust. There were a number of early associations among iron masters for purposes of lobbying, experimentation, and dissemination of information. But even in this line of activity much more was done by the horizontal and vertical trusts and later mergers which came into existence between 1880 and 1890.

Andrew Carnegie was one of the pioneers of this movement. Brought to America as a boy by his Scotch parents, he was another of that group of industrialists who rose from relative poverty to power. Depending upon the practical genius of a Captain Bill Jones, he entered the iron business in 1864. Thereafter he constantly built upon the efforts of others but rewarded them well (except for the common laborers) for their contributions. Henry Phipps, boyhood playmate of Carnegie, became the plodder, penny squeezer, lubricator, and price shaver of the organization. Henry C. Frick, cold and fearsome of demeanor, was brought into the company in 1889 in order to secure the advantage of his control over the Connellsville coal region. It was Frick who was chiefly responsible for such labor troubles as the Homestead strike. Later he was a bitter enemy of Carnegie. Charles M. Schwab, a former stagecoach driver and expert handler of horses, knew also how to manage men. Entering the Carnegie company for a dollar a day at the age of 18, he was 12 years later in a position of influence to smooth out the labor troubles after the Homestead strike, and at the age of 34 became president of the Carnegie concern.

Early Steel Trusts. In 1879 the Carnegie interests began the process of absorbing the other iron and steel works in and around Pittsburgh. Twelve years later the combination was reorganized as the

Carnegie Steel Company, with five times its previous capital. Meanwhile the march toward monopoly was proceeding in the Alabama, Colorado, and Illinois centers. A merger of the Bardeleben Coal and Iron Company with the Tennessee Coal, Iron, and Railroad Company in 1892 resulted in a corporation with a capital stock three-fourths as great as that of the Carnegie concern. The Illinois Steel Company, a combination of several of the companies in the Chicago area, was created in 1889 with a capital of \$25,000,000—equal to that of the Carnegie merger of 1891. In the latter year, however, the stock of the Illinois company was doubled, at which time it had the largest material output of any steel works in the world. Other trusts and similar combinations nearly as large as those listed occurred in the same years.

U. S. Steel Corporation. The next great period of consolidation occurred in 1898 and 1899, when eleven mergers involved nearly 200 earlier independents. The greatest of these was the Federal Steel Company, organized by Elbert H. Gary with \$200,000,000 capital stock and centering around the Illinois Steel Company. In 1899 Schwab reorganized the old Bethlehem Iron Company of Civil War birth into the Bethlehem Steel Corporation. In time this company virtually monopolized the tidewater steel business. While this spirit of concentration was in the air the stock of the Tennessee Coal, Iron, and Railroad Company advanced in three months from a market value of \$17,000,000 nearly to its new par of \$100,000,000. Various other corporations were experiencing a like evidence of prosperity—or speculative fever. The crowning achievement of all this consolidation was the organization of the United States Steel Corporation in 1901, under the engineering genius of Gary and backed by the Wall Street bankers. The Carnegie Steel Company alone by this time was making \$40,000,000 in profits a year, of which Carnegie himself got five-eighths. Before he would agree to retire from control he compelled the manipulators of the movement to pay him \$492,000,000, mostly in securities of the new combination. Seven-tenths of the steel concerns of the day, including 12 of the biggest producers, joined this merger of trusts. Besides its vast holdings of coal, iron, and limestone lands, it started business with 112 steamships and 1,000 miles of railroad, then proceeded toward further absorption of competitors. Yet it controlled only 44.8% of the steel output of the country and for a decade could not hold quite as high a ratio again. The greatest competitors were the Bethlehem Steel Corporation, the Jones and McLaughlin Company, the Cambria Steel Company, the Lackawanna Steel Company, and the Colorado Fuel and Iron Company. To this list a new independent was soon added—the Youngstown Steel and

Tube Company. Though charges of monopoly were constantly refuted, the control of prices which followed 1900 showed that the supposed independents were all acting in close accord.

Iron and Steel: Mechanical and Technical Development. It is not necessary to go into the elaborate details of technical and mechanical development of the iron and steel industry in order to present a historical view of the business. Only a few of the more significant movements can be considered. Great improvements in furnace construction and in the heat of the blast were made before 1873, but the average iron master was slow to adopt these innovations. The charcoal process of smelting continued for special high grades of iron long after coke had become all but universal. Following 1873 the use of anthracite gradually declined till in half a century it no longer was listed in the statistics of the steel industry. Judged by the number of idle furnaces in the country at any time from 1865 to 1900 it would seem that iron making was but little profitable. Even in 1892, when the industry was unusually prosperous, 253 of the 564 furnaces were shut down. But the idle ones were the inefficient ones. While the progressive operators flourished the laggards complained of hard times. The total output of the country grew phenomenally—from a third that of Great Britain in 1870 to equality in 1890.

The amount of wrought iron produced continued to grow despite the much more rapid development of steel. The cost of puddling was one of the most important items in its making, but this was reduced to reasonable limits by the puddling machines which came into commercial use in 1870. The three-high rolling process, invented in 1857, also saved time and labor by turning the iron back over the second roller and letting a third take the place of a second set. The use of reversible engines later made this process obsolete. The greater resistance of wrought iron against rust was one of the reasons for its continued use after steel became much cheaper. By 1874 Russian iron for stove pipes and jacketing of locomotive boilers was produced at McKeesport, Pennsylvania. Bloomeries, hammering wrought iron direct from the ore, existed in spite of other developments. Even in 1876 their number was greater than that of rolling mills, though their output was much smaller. By 1892 only ten were left in the United States.

Bessemer Steel. For many years the Bessemer process remained the most important innovation in the steel trade. Neither William Kelly nor Henry Bessemer succeeded in making steel. But Robert Mushet improved upon Bessemer's process in Great Britain, while other persons developed Kelly's ideas in America. The first Bessemer steel made in the United States was at Wyandotte, Michigan in 1864.

In the following year the builders of the *Monitor* started production at Albany under the Bessemer patent. Another firm started at Detroit, protected by the Kelly patents. These rivals soon combined and before many years were reaping rich profits from royalties. For some years the new product was so poorly controlled that a rod, crystallized and brittle at one end, might be positively ductile at the other. Several years of experimentation were necessary to guarantee a uniform product. Spiegeleisen, an iron-manganese alloy used in reducing Bessemer ores, was imported in large quantities so long as Bessemer steel remained the principal product of the industry. After 1890 the alloy was also produced in America.

Open-hearth Steel. In 1861 Charles William Siemens and his brother Ernest W. of Germany and England began experimenting with the open-hearth process. Aided by Pierre and Emil Martin, they developed a commercially successful furnace near Paris in 1864. This was a slower and for some years a more expensive method than was the Bessemer process, but after the Thomas basic modification of 1878 it made better steel and was adapted to almost any sort of ore. It was introduced in the Bethlehem plant at Trenton in 1868. Though from the beginning the open-hearth product was preferred for boiler plates, its wide adoption for rails and general use did not come for several years. The crucible and puddling methods were preferred in America till the 1870's, and there was even some blister steel still produced. By 1875 open-hearth steel was made in Europe as cheaply as Bessemer, but, hampered by patents and reactionary manufacturers, the improved processes were not adopted in America for another decade. By 1890 the market for open-hearth steel looked brighter than for many years, especially since it could substitute for nearly every use that puddled iron and Bessemer steel were employed at and excel at the task. Furthermore, it was known as the "scavenger of the trade," ores and scrap rejected for other steels producing as high-grade a product as the finest of hematite. Finally, it could be made as economically in small furnaces as in the largest, thus sharing the chief advantage of the trusts with all. For structural purposes open-hearth steel was specified by architects and engineers. By 1900 it could be made in America at least as cheaply as Bessemer steel. In succeeding years the latter was almost crowded out of the industry. Even crucible steel began to decline after 1885, because of its replacement by the open-hearth product for most ordinary purposes.

Other Developments in Iron and Steel. The movement in Chester A. Arthur's administration toward the creation of a modern steel navy forced some improvements over the heads of unwilling steel manufacturers. They were compelled to conform to the rigid

standards for armor plate or else lose the contracts to foreign countries. Chrome steel, long known in France, was not made in the United States till after 1865, and not in large quantities till after 1880. Nickel steel, of the same origin, was not copied till 1890. Among the distinctly American improvements was the carrying of molten iron direct from the blast furnaces to the converter, thus saving both labor and fuel. This was first done at the Edgar Thomson Steel Works at Braddock, Pennsylvania, in 1883. At about the same time the steam-mixed blast was tried with success at Chicago. In 1888 an electromagnetic crane of 800 pounds capacity was in use in Cleveland. In the same year Henry A. Harvey patented a process for tempering Bessemer steel, while Elihu Thomson's method of electric welding of steel was applied at Trenton. The processes of rolling were also undergoing improvement. Between 1884 and 1888 George Simonds of Massachusetts evolved a method of rolling metal in any shape from a cube to a screw.

Machine Work. Technical and mechanical progress in the utilization of iron and steel kept at least even pace with the output of pigs and billets. During the Civil War and afterward there was a steady effort to supplant hand tools with power machinery in machine shops. Lathes, planes, and drilling, milling, and grinding machines were steadily developed in size, accuracy, and speed. They were capable not only of producing other machine parts almost automatically, but also could reproduce themselves. Trip hammers up to 23 tons in weight were used in forges by 1870, and 20 years later they had reached 150 tons. By the latter date it was found that hydraulic presses were better than hammers for overcoming inertia in very heavy forgings. By 1893 the Carnegie Company had imported a press of 16,000 tons' capacity. One of the largest hammers in use, installed in that year, was scrapped three years later. The introduction of steel welding removed all practical limits of size for forgings. The casting of steel, probably first introduced in the United States in 1867, had developed by 1880 to the point where wrought iron could be replaced. Before the lapse of another decade battleship parts were being cast. In the making of ordnance by this method American manufacturers by 1893 could equal any in the world, though the economic value of the attainment could well be questioned.

Rolling Mills. Like progress was made in the rolling of steel. In 1891 the Carnegie works were able to roll nickel-steel ingots of 50 tons' weight into armor plate. By 1900 steel was easier to roll than iron. Even before that accomplishment interest was centered more upon new grades of metal to use than upon further refinements of the rolling processes. The demands of the railroad builders provided for many

years the principal basis of prosperity for the American steel manufacturers. Until after 1873 more steel rails were imported from Great Britain than were made in the United States, notwithstanding enormous tariff rates. After the quality of Bessemer steel became fixed the demand increased till nearly the entire output of the country was used for rails. After 1884 the demands for other industries began to work a change. Open-hearth steel seems first to have been used for rails in 1878, but until 1902 its competition with the Bessemer product was very slight.

Locomotive Works. The locomotive works also entered a prosperous era after 1865, subject to the usual depressions following panics. One of the postwar industrial transformations was that of the Burnside Rifle Works of Rhode Island into a locomotive factory. In 1874 an American establishment turned out what was represented as being the largest locomotive in the world. It weighed 60 tons without the tender and had 12 four-foot drive wheels. The Baldwin works by 1873 were making 500 a year. In another 20 years the total output of the country amounted to 2,000 annually, after which there was a severe and prolonged decline till 1899. Throughout these years the Baldwin Company had an export trade in locomotives with various countries, particularly Brazil, Canada, and Russia. Electric locomotives were produced as early as 1896 for the Chicago Electric Railway Company. In 1891 the manufacture of all-steel cars was begun on a permanent basis. In the following year a locomotive of 112 tons with a boiler pressure of 200 pounds was built. Compound locomotive engines, saving from a fifth to a fourth of the fuel, were known two or three years earlier.

Machinery. The development of machinery exclusive of that for transportation is an encyclopaedic matter concerning which little history has been systematically compiled. Persons desiring intimate details concerning any particular kind of machine should consult the compendious reference works and technical books relating to such subjects. Any attempt to abbreviate the matter would result only in a grotesque picture of arbitrarily selected sections of the whole. The best that can be done in a brief discussion is to mention the epochal changes in machinery in connection with the development of the industries in which they were utilized, such as agriculture, textiles, the preparation of foods, and the like. Largely because of the wide range of uses, technical intricacies, and multitudes of new patents, the making of machines was never as highly monopolized as some other branches of industry. Even the International Harvester Company found it possible to exert monopolistic control in only a limited line of the more expensive farm implements. By 1899 the value of machin-

ery alone was equal to half the total for all the manufactures of 1860, while the number of laborers employed was a third as many.

Bridge Building. Modern bridges and other structural works are essentially the product of rolling mills. Bridge beams became standardized in the 1860's. Before the end of the decade one firm developed a business of making bridge parts by almost purely automatic machinery. The structures were made to order at the mills and merely assembled at their ultimate destination. Most of the mills were in Pennsylvania and Ohio, but a plant of considerable size was before 1873 situated as far into the interior as Iola, Kansas. Elevated railroads by 1878 created a demand for large amounts of structural iron. The first all-steel bridge was built across the Missouri River at Glasgow, Missouri, in 1879. The Eads bridge at St. Louis, built in 1867-1874, though called a steel-arch, was mainly of iron. The same is true of the bridges at Kansas City and Omaha which were opened in 1869 and 1873. The Brooklyn bridge, built between 1870 and 1883 was of the suspension type. By 1883 rolling mills were producing I beams of a ton and more in weight. In 1895 a Pennsylvania company, five weeks after receiving the order, delivered to California a steel bridge a quarter of a mile in length and weighing over 1,000 tons. The skyscraper, another achievement of the rolling mill, was developed mainly after 1900.

Shipbuilding. Shipbuilding since 1865 has become very largely a branch of the steel industry. This business suffered no permanent depression because of the blow struck at the American high seas fleet as a consequence of the Civil War. The demands of the coastwise and intercoastal trade, in which only American built and owned ships could engage, took care of this problem. The Maine shipyards by 1866 had resumed their old activity, turning more to the construction of screw and side-wheel steamers of from 800 to 1,500 tons capacity. When a decline set in two years later the tariff on raw materials was blamed. The builders of iron vessels at the same time entered into a new period of activity. Cleveland began supplying the lake demand while Pittsburgh made knocked-down ships for assembling in Brazil and elsewhere. But the Delaware River shipyards were busiest. By 1873 iron vessels of 5,000 tons and \$1,000,000 in value were being launched. Some vessels also were made in San Francisco.

Before 1875 steel was not reliable for shipbuilding, for the same reason that it had failed in railroad construction. Five years later it was rapidly replacing iron, vessels being made for the inland waters as well as for the high seas. The first whaleback steamer for lake service, one of 3,000 tons, was launched in 1889. The continued importance of wooden ships is seen by comparison. Between 1880 and 1890

the annual tonnage of steel vessels built increased from 31,000 to 124,000, while the wooden tonnage fell only from 401,000 to 320,000. In 1891 the Collis P. Huntington interests had shipyards at Newport News valued at \$3,000,000 and considered among the most complete in the world. By this time Schwab also was coming to be a leader in the industry and by the end of the century was helping to organize a shipbuilding trust of \$30,000,000 capital. Meanwhile, the Maine shipyards were still active, though importing much timber from Oregon and the South. The beginning of a colonial empire in 1898 provided a new stimulus to the business.

Iron Pipe and Steel Wire. Two other branches of the iron and steel industry which are worthy of special attention are the making of iron pipe and steel wire. Much of the story of the development of the gas and oil industries as well as the rise of sanitation and safe water in the cities depended upon the former, while electrical communication and farming were especially indebted to the latter. Chattanooga and Birmingham began early competition with Pennsylvania and New Jersey in the casting of pipe. In later years this became a mainstay of the Southern foundry business. Wrought iron pipe was needed in the transportation of oil and gas, for irrigation tubes, and in hydraulic mining. This branch of the trade kept about even pace with the other. One of the most efficient forms of price fixing was revealed in 1897 in connection with the Addyston Pipe and Steel Company.

During the Civil War an annual demand for 1,500 tons of iron wire for the making of hoop skirts was considered as a boon to the iron masters. In time this branch of the trade (wire making, not hoop skirts) was destined to outstrip even the making of rails. The building of the Brooklyn bridge gave a great stimulus to the drawing of crucible steel wire, but the cheaper grades were sufficient for less strenuous uses. Some experiments with barbed wire were made shortly after 1865, but not till 1871 did John W. Gates demonstrate on a Western ranch that the new product would make a cattle-tight fence. Within a short period of years the price of barbed wire dropped from 20¢ a pound to 2¢, thus leading the producers to combine under Gary's leadership into a trust. This combination, created in 1892, was later reorganized as the American Steel and Wire Company which became one of the greatest of corporations. The Spanish-American and Boer wars popularized barbed wire for use in military entanglements to replace the older abatis. Before 1900 woven wire fence was coming into use and in time achieved the distinction of being "hog-tight, horse-high, and bull-strong."

Though nails were made from iron wire in the United States as early as 1873, they were not in great demand for over a decade, and as

late as 1893 some slitting mills were still producing nail rods. By 1886 steel-wire nails were so much cheaper than the older type that the latter could be used with economy only where rust resistance was the main consideration. In the 1890's the nail makers as well as the producers of steel barrel hoops and screws organized into trusts. The American Tinplate Company and the stamping mill trust were other virtual monopolies organized in 1898.

Nonferrous Metals. Copper, lead, zinc, and aluminum were, after iron, the most important of the common metals produced in the United States. Mainly as a result of the working of the Lake Superior deposits the domestic supply of copper had almost equaled consumption by 1873. By 1885 the United States was producing about three-tenths of the world's supply and was leading all other nations. The development of the Rocky Mountain deposits helped in this achievement. Shortly after 1890 the electrolytic process of refining was developed to the point of practical value. The greatest use of copper has been found as an electrical conductor. But also, because of its resistance to deep corrosion, it has found multitudes of other uses, and is a primary ingredient in brass, bronze, and other alloys.

The Galena lead deposits were declining by 1865, after which for about a decade Missouri was ahead of the other states in production. Then Colorado entered the field with its silver-bearing lead ore in close proximity to coal veins. In recent years extremely rich deposits have been discovered in Arizona. Aside from its age-old uses in paint, shot, pipe manufacture, and roofing, lead was found to be the best available base for many other purposes such as in solder, babbitt, and type metal. Because of its insolubility in acids, it was of primary importance in their manufacture and storage. The laying of electric cables created further demand. Because of its cheaper cost it later was substituted for tin in such things as tooth-paste tubes and moisture-proof packing. Its compounds were widely used as insecticides and to a small extent for medical purposes. Soon after the Civil War the United States became the principal producer of this metal. A lead trust, formed in 1889, was reorganized two years later as the National Lead Company, operating in combination with the American Linseed Oil Company. It did not achieve monopoly proportions.

The production of metallic zinc was begun in Pennsylvania by 1859, the industry being extended to Illinois, Wisconsin, and Missouri before the end of the war. Kansas, Virginia, and Tennessee next entered the field, but the Virginia deposits did not prove to be of permanent importance. For many years Missouri was the most important producer, though in later years it dropped to relative insignificance. The metal was chiefly used for galvanizing steel and as an alloy in brass. It was

also indispensable in the electrical industry, chiefly as an electrode, and was once in great demand for bath tubs and wash boards. Much of the cheaper paint has always contained zinc as a base.

Aluminum, prior to 1885, was produced only by very expensive processes, and then mainly as a scientific curiosity. The lightest of all commercial metals, it was also the most widely distributed. Being the base of all clay, it constitutes 8% of the earth's crust. In 1885 and 1886, E. H. and A. H. Cowles, H. F. Castner, and C. M. Hall, in three independent lines of research, worked out practical methods for producing the metal commercially. Being very difficult to procure from ordinary clay, bauxite was found to be the best ore. Since electrolytic processes played so large a part in its production, the industry first grew to large proportions at Niagara Falls, later being extended to other sources of hydroelectric power. Greenland ores were first used, and later those from Alabama and Georgia. In the early days of its commercial production the price was from \$25 to \$32 a pound. Its use, therefore, was confined largely to optical instruments, false teeth, and as an alloy in special grades of steel. By 1893 the price had fallen to 50¢ a pound and was destined to recede to less than half that figure. Most of the ores continued to be imported.

Gold and silver, though of far less importance industrially than the foregoing metals, continued to attract the most attention. With the opening of the Comstock Lode, gold and silver mining entered the capitalistic stage. Deep shafts, expensive drainage tunnels, and the pumping of millions of gallons of water daily were new developments beyond the capacity of the placer miner. The heavy stamp mills, mercury, chlorine, and cyanide processes of extraction of the metals required a specialized technique calling for the training of an engineer rather than the optimistic outlook of the prospector. In the twenty years of the Comstock Lode \$358,000,000 in gold and silver, mostly the latter, were obtained at a cost which has never been estimated. Even where placer mining could still be pursued it was profitable only by dynamiting and washing away the mountain sides. This left only the remote portions of the globe for the old-time miner to prospect with his pick, shovel, and pan. The United States continued to hold a high place in gold output in spite of the Klondike strike of 1896 and discoveries in Australia and Africa.

Other Minerals and Chemical Products. In the production of nonmetallic minerals, except building materials, the United States did not take any outstanding position. Chemical manufactures down to about 1890 were limited largely to sulphuric, acetic, and carbonic acids and their compounds, soda, lime, alum, a little phosphorus, and borax hauled in from the Western deserts. In 1869 celluloid was

discovered, thereafter taking its place alongside pyroxylin as a product of a multitude of uses. Analine dyes were persistently made, almost solely in New York, but the industry was of a languishing nature. Notable progress was achieved in the production of sulphuric acid after 1890. Baltimore was the chief center of its manufacture. First Utah and then Louisiana led in the mining of sulphur. Since acid could be made from pyrites at a third the cost of the pure mineral, sulphur itself had to be devoted to other uses.

Ammonia, the next most important reagent in the heavy chemical industry, was largely a by-product of the gas houses. Soda making was advanced by the Solvay Process Company at Syracuse about 1884. The electrolytic method was also employed, while even the carbon dioxide from breweries was utilized in its manufacture. The lighting properties of calcium carbide were discovered in the 1880's. By 1897 this was an important manufacture around Niagara Falls and Sault Ste. Marie. Carbide soon supplanted the lard-oil lamps in mines, provided brilliant illumination for homes remote from electric power or gas mains, and for some years after 1900 flooded the highways with light from automobiles.

Fertilizers became distinctively a part of the output of the chemical industries. For many years the production centered about the sulphuric acid plants of Baltimore. But before 1900 the manufacture was shifting southward into South Carolina and Georgia. Guano was giving place to phosphate rocks, mainly of native origin. Coke-oven and cotton-seed by-products were increasingly in demand, while the packing houses learned to utilize what had once been mere waste or sewage. Trust control was attempted in 1895 and attained four years later, but monopoly proportions were not reached.

Building Materials. Building materials of the nonmetallic mineral type are of primeval origin and permanent importance. Stone, the earliest of them all in use, continued to be the most important mineral product of every state in New England as well as the Carolinas, Georgia, Wisconsin, and Oregon. It also ranked second in several states, particularly Indiana from whence came the Bedford limestone used the world over. The principal facts in the development of the quarrying industry are its growth and the widening uses of its products. Brick and tile have always been made as close as possible to the markets, the industry remaining widely disseminated. Though brick manufacturing machinery and improved kilns were coming into use by 1870, the making of brick by hand in small establishments, by laborers who are also the proprietors, has never entirely ceased. Paving brick was used in 1875 on the streets of Charleston, West Virginia, some of it apparently being still in place. Enameled brick

was first made in America in 1876, after which numerous other types were developed. Pressed, vitrified, and faced bricks appeared, relegating to the museum the old, soft variety which the scullion pulled out of the foundation for the scouring of knives. In the 1880's the amount of capital in the industry jumped from \$28,000,000 to three times as much, and trusts began to appear. The America Clay Manufacturing Company was known as the "bathtub trust."

Natural or hydraulic cement is also of relatively ancient usage. The first discovered in America was in New York about 1818. It was used to some extent in the building of the Erie Canal. Though Portland cement was made in Great Britain by 1824, the first commercial production in the United States did not come till 1885. The price thereafter was high and the development slow. Even in 1900 it did not equal the amount of hydraulic and other cements. Yet, as early as 1889, the Atlas Cement Company of Coplay, Pennsylvania, was making progress with revolving kilns, using gas and petroleum for fuel. By 1899 the United States could rival Germany in cheapness, after which the industry grew beyond earlier comparison.

As a building material, glass has not since 1865 been as important as for other uses. Various parts of the United States had excellent sand, while there was also plenty of potash for flux and fire clay for furnaces. Polished plate glass of American manufacture was first made successfully in the 1860's at New Albany, Indiana. For a number of years the business was not profitable. Yet, as a record of persistence, it may be noted that, after losing \$600,000 between 1873 and 1879, the company survived and ultimately made reasonable profits on the whole venture. Soon after the success there were several imitators. Annealed glass, through which a nail could be driven, was a product of that period. The first tank furnaces were installed near Pittsburgh in 1888, after having been in use in Europe for twenty years. Until some years after 1900 most glass was made by manual labor, though the substitution of lehrs for kilns in tempering the product was almost universal.

Lumber. Despite all the gains made by clay products, reinforced concrete, and structural steel, lumber remained the principal building material of the country, especially for dwelling houses and interior finishing. Before 1870 Michigan was the leading lumber state, followed by Pennsylvania and New York. Then, as the railroads opened up markets in the treeless plains, the Lake states took on new activity. In 1889 Michigan, Wisconsin, and Minnesota sawed over a third of the lumber of the country. But the Pacific Coast was gaining in importance, while the South had increased her contribution five-fold in the preceding decade. Some improvements were made in timber cutting

and lumbering before 1900, but nothing of a revolutionary nature. The canthook was not perfected till after 1870, while the band saw for the initial process of making boards was not introduced till 1877, though used in France eight years earlier. The large, double circular saw was very wasteful, especially when it took spells of wobbling. The band saw eliminated part of this waste, but even it would "snake" occasionally, disrupting labor for an hour or two while the saw was replaced and the damage repaired. In the 1870's gangs of 54 saws were in use, but they were not widely adopted in the South. There, by 1900 the band saw predominated in the better mills, especially for large logs. The "steam nigger" and steam-operated carriage by the latter date greatly accelerated sawing, while automatic carriers, multiple edgers, and gang trimmers accommodated the rest of the mill to the speed of the head saw. By the same time, rotary planes and other devices for finishing lumber were perfected, while stave cutting was reduced to an automatic process. Sawing by water power had given way to steam engines and boilers fired by sawdust and slabs. Kiln drying was being tried in some of the larger mills. The amount of lumber sawed increased from 12.7 billion feet in 1869 to 35 billion at the end of the century when the average price was a little over \$11 a thousand.

CONSUMERS' GOODS

To the average citizen, using the term in its customary sense, most of the industries of the preceding pages seem remote except as they are called to his attention. He takes fuel and light for granted, noting the cost and labor of furnace attention. He is aware of the existence of factories and persons going to and from work—perhaps he performs an isolated task in a factory himself. The manufactures he notices most are not the raw materials of the mines, saw mills, or steel mills, but the finished products of daily consumption. These are the ultimate aim of all the basic industries and the subject next to be considered.

Growth of Manufactures. One of the first things to attract attention in connection with this manufacturing for the ultimate consumer is its stupendous growth since 1860. The value for 1859 was about \$60 per capita, while for 1899 the amount had increased to \$172, not all of which by any means was the result of rising costs. In most cases prices had declined instead. Neither must it be understood that the well-being of the laborer was increasing in proportion to his contribution to the wealth of the nation. But a consideration of this point must be deferred. Another gauge of the growth of manufacturing is the use of power machinery. The amount of horse power in industry was not ascertained by the Census of 1860, but ten years later it was

listed at 2,346,000, while by 1900 it was above ten million. The number of factories and shops in the forty years grew from 140,000 to 512,000, while the output increased from less than two billion to thirteen billion dollars. Manufacturing has been particularly sensitive to political disturbance and industrial depression. The farmer cannot abandon a partly grown crop because of unfavorable markets; the public utilities are bound by their charters to give service in spite of financial adversity; but the factory can close down on abrupt notice and resume operations when more favorable conditions have been restored. There are limitations to this rule. Oftentimes it has proved more economical to operate at a slight loss than to incur further damage by silent-factory maintenance. This is particularly true of coal mining in localities where to abandon pumping, roof repair, and inspection is equivalent to destruction of the entire mine. But once the point arrives where the loss in operation exceeds that of mere maintenance, the change can be made suddenly.

Prosperity and Depression. For a time after 1865, during the transition to a peace-time basis, a state of uncertainty existed, further aggravated by the fluctuation of greenbacks. In general, the premium on gold increased the cost of imports to people who had to pay in paper, thus creating a tendency for foreign capital to seek investment in American factories. Though the taxes on manufactures were considered burdensome, their rapid repeal left the tariff rates more protective than before. After such factors as changing monetary values are eliminated, the volume of production still shows an increase twice as fast as population.

The Panic of 1873 was the first serious setback. Pig iron, generally considered as a barometer of business activity, fell in price by the close of 1874 from \$42 to \$24 a ton. "Pig Iron" Kelley and other industrialists became temporary greenbackers, while many business men criticised Grant's veto of the inflation bill. After the bottom was reached early in 1879, recovery was rapid, and by the close of 1880 the wheels were turning as though no panic had occurred. Then came a short boom followed by a serious depression in 1883, centering in the iron trade. Recovery was perceptible in 1886 but was retarded by an era of great strikes. The failure of the London banking house of Baring Brothers and Company in 1890 reacted upon American business because of the large Baring holdings in Santa Fé, sugar trust, and other securities. After these were dumped on the American market there was no considerable new investment of European capital for several years.

The two decades between panics showed a steady decline in the cost of manufactures to consumers. The principal causes were cheaper production resulting from a greater use of machinery, scientific proc-

ses, and improvements in transportation which reduced the spread price between the factory and the final purchaser. A list of fifty titles used on the farm, ranging from machinery to canned goods, declined from \$678 in 1873 to \$276 in 1887. Notwithstanding this condition, which tended to encourage hand-to-mouth buying, the average manufacturer made ample profits. Though the effects of the panic of 1893 were not quite as enduring as those of 1873, business for a time being was stricken more severely. The country had undergone much industrialization in the twenty years, and therefore a greater number of persons and larger business interests were affected. The period of uncertainty about money matters is reputed to have retarded recovery. When the old scale of production was resumed between 1897 and 1899 more rapid progress was made than ever before. In ten years the output increased 81%. The number of laborers grew 19% and gross wages 41%. Per capita wages were virtually unchanged, while real wages showed a decline. Money inflation, which the laborers had demanded in 1896, had arrived, but the workers and salaried classes alone had failed to profit from it.

Packing-house Products. Food products are not only the most essential form of manufactures, but also, long before 1900 they began to occupy first place by value, being more than twice as much as any other form of goods for personal consumption, except textiles. About 90% of the foods were of animal origin, including meat, butter, cheese, condensed milk, ice cream, oleomargarine, and various forms of canned foods. The packing industry rose to power by securing control of the output of many of these items. The greatest stimulus to the concentration of packing came from developments in artificial refrigeration. The company which could afford large cold-storage plants could best take advantage of favorable markets for live animals. If the company could also maintain large numbers of refrigerator cars, it could drive better bargains with railroad companies and gain greater control over the markets. Refrigeration on ships was the final step in making it possible to send fresh meat to all quarters of the globe. Though ice-making machinery was known as early as 1775, ammonia machines and practical patterns were not introduced into the United States till nearly a century later. A Chicago packing house installed such equipment in 1880. A decade later an ice famine added a new stimulus to the spread of the artificial process and to the use of direct cooling.

Among the great Western packers, Nelson Morris and Philip D. Armour got started on a large scale, in Chicago and Milwaukee respectively, as a result of Civil War contracts. The cattle drives out of Texas settled the question of supremacy among the packing centers. In 1875 Gustavus F. Swift was induced to move from Massachusetts

to Chicago, where he helped revolutionize the business by instituting the regular use of refrigerator cars for long-distance shipping of dressed beef. The city of New York in 1865 had over 200 slaughterhouses. Stockyards occupied some of the choicest sites of the metropolis, and Fifth Avenue traffic was often tied up by moving herds of cattle. The concentration of the industry, as well as sanitation crusades, helped eliminate this sort of situation there as in many other cities. Yet, New York remained a great packing center. Chicago retained the leadership gained soon after the Civil War, but Kansas City, Kansas, soon achieved second place, while New York generally rated third or fourth. In their efforts to control the activities of the greater packers and prevent the growth of monopoly, the independent butchers in the 1880's denounced the companies of Chicago and Kansas City, declaring that they preserved their meats with poison. The "embalmed beef" scandal of the war with Spain seems to substantiate the charge.

Cereal Products. Next in value to animal products comes the output of flour and other grain mills. In 1870 New York was still the leading producer of flour, followed by Pennsylvania and Illinois. Virginia remained ahead of Minnesota, while Richmond far excelled any Western city with the possible exception of Chicago. But Minneapolis was getting a start at that time under the leadership of Cadwallader C. Washburn, Charles A. Pillsbury, and George M. Christian, the first two coming from New England and the latter from Alabama. The principal innovations were worked out in their mills around the St. Anthony Falls. Pillsbury went to Hungary to learn the iron-roller process of grinding, applying it to his own mills in 1874. By 1890 Minneapolis, with a product of \$31,000,000 was the greatest flour-mill center in the United States. Though this industry was not greatly influenced by the trust movement, some of the higher manufactures of wheat, such as crackers and ginger snaps, came to be known largely by their trade-marks. The National Biscuit Company, organized in 1898 with \$55,000,000 capital, was of the trust type without monopoly. Starch and glucose were probably more closely controlled by the Corn Products Company.

The manufactures of distilled and fermented beverages were other important industries based on grain products. The new taxes on alcoholic beverages gave an added respectability to drinking, since the thirsty individual could point with pride at his contribution to the federal Treasury. The continued immigration of Germans and Irish, as well as the new tide of Italians, added support to the saloon business, which was already under attack. Maine in 1846 and 13 states in the next decade adopted prohibition laws, all of which were either

modified or repealed in a few years' time except in Maine, New Hampshire, and Vermont. The Prohibition party was formed in 1869-1872, the Women's Christian Temperance Union in 1874, and the Anti-Saloon League in 1893. Before the latter date four states west of the Mississippi had adopted prohibition. The local-option movement also was gaining headway. In many other states licenses to operate saloons cost from \$500 to \$1,000 a year. Yet, the amount of capital invested in the liquor business increased steadily from \$29,000,000 in 1860 to \$269,000,000 in 1890. Beer was made commercially in nearly every town of 10,000 population and upward, except where it was prohibited. But Milwaukee and St. Louis became especially noted. The Schlitz Company boasted of "the beer that made Milwaukee famous," while the Anheuser-Busch brewery featured its popularization of bottled beer. The centralization of the distilling business made Peoria, Terre Haute, and the Bourbon region of Kentucky outstanding in whiskey production. Rum was still made in New England, a million gallons a year still going to Africa to supply the trade started two centuries earlier.

Sugar. Refined sugar ranked next to grain products among food manufactures. Maple sugar and sirup remained popular, but because of their higher cost declined in consumption. After 1880 some experiments were made with sorghum sugar, but by 1892 Kansas was the only state getting a bounty under the McKinley Tariff Act. Beet sugar was another innovation which, unlike the others, was remarkably successful. By 1870 some progress had been achieved with the product in Illinois and Wisconsin. Ten years later California and Maine were reaching a commercial basis in its production. There was hardly a Northern state where it could not be grown, but in many of them there could be no profit without heavy subsidies or tariffs. The output of the country increased fifteen-fold in the 1890's, but even then the total for 1900 was little more than a fourth of the amount of cane sugar. But the time was near at hand when the latter was to shrink to relative insignificance. Some concentration of the industry was foreshadowed in 1899 by the formation of the American Beet Sugar Company.

Prepared Foods. The number of more highly prepared food products developed was myriad. Before 1900 the bride who had not learned to cook was coming to be a byword, but if the can opener remained the only kitchen implement with which she was familiar she was generally classed as a slattern. Bakeshop bread was in the process of rendering another old household art obsolete, but the woman who could rouse her family's appetites with the more savory product of her own oven might still look with scorn upon her less skillful neigh-

bors. Generally she considered them lazy. Commercial canning was branching out to cover nearly every kind of food which could be cooked. Gail Borden, who had mastered the secret of condensing and canning milk in 1856, made a fortune from the process through Civil War contracts. In 1870 and following Louis McMurray made numerous improvements in canning processes. By 1885 the machine making of cans was a factory industry. The autoclave made cooking at a temperature of 500° possible. By 1890 most of the processes of preparing fruits, vegetables, and fish had become mechanical, even to filling and soldering the cans.

Tobacco Products. Not till long after 1900 did tobacco manufacturers hint in their advertisements that their product had a place in dietetics. Nevertheless, tobacco manufacture is closely enough associated with food production to give some excuse for mentioning it in that connection. Machine processes have been most noticeable in the making of cigars and cigarettes. In 1869 a mold was introduced to hasten the hand rolling of cigars. After 1890 many improvements in the molds made it possible to exploit child labor for tasks which once were the monopoly of skilled laborers who had spent from three to five years in learning the trade. Cheaper cigars were made purely by machine processes, but the unsanitary methods of the small cigar roller's shop were never entirely abandoned. Cigarettes were popularized after the Panic of 1873 as a cheap substitute for cigars. Factory-made cigarettes were exhibited at the Centennial Exposition at Philadelphia in 1876. Year by year these "tailor made" cigarettes gained on the hand-rolled product, though both were condemned as "coffin nails" by all who did not smoke them. The "fiend" who could not give them up was constantly warned of the danger of sinking into the pitiful status of a "cigarette consumptive." After about 1870 much machinery came into use in the preparation of chewing and pipe tobacco, this adding still more to the prevalence of low wages in the industry. The American Tobacco Company, formed at Durham in 1890 with \$25,000,000 authorized capital, was the beginning of a powerful trust.

Textiles: Cotton. Next in value to food and kindred manufactures came textiles and their products. In the last 40 years of the century the output of these goods rose from about a quarter of a billion dollars to \$1,629,000,000. Immediately after 1865 cotton regained its leadership of the textile industries. Despite falling prices some manufacturers paid annual dividends as high as 45%, the Lowell companies not falling below 18% for a decade. The bulk of the mills remained concentrated in New England for a number of years, while there was a decline in the Middle Atlantic and Western states. The revival and

growth of the industry in the South have been considered elsewhere (pp. 413-415). Before 1870 the United States was making about a fifth of the machine-spun cotton goods of the world, consuming a million bales of cotton a year. American fabrics were coarser than those of Great Britain, just as in later years the Southern product bore the same relationship to the Northern. By 1880 the American output had reached a fourth of the world total, after which there was no further gain for a decade because of competition from British India.

The Panic of 1873 led to a demand for cheaper fabrics. The resulting substitution of cotton for woolens helped tide the cotton manufacturers over a prolonged era of depression. There was a regular boom in the industry in 1879, followed by another drop in 1883. Coarse and medium grades remained dominant till 1890 or later, with shirtings and sheetings leading. About 1885 a whim of fashion, known as the "calico craze" proved a boon to the industry. Then an era of cheap raw material, 1888-1892, led to a multiplication of new uses, even to duck roofing. Meanwhile, because British firms were addicted to weighting their goods with too much sizing, a demand for American cloth was created in the English market. South America, the West Indies, and Canada were heavy buyers, but at no time were exports a large part of the American output. In 1890 they were less than in 1860, while Japan was rising as a new competitor.

There were numerous improvements in cotton-mill machinery, especially in frame and mule spinning, first one and then the other method forging ahead. The efficiency of spindles showed an average growth of a third between 1870 and 1890, while the number to a machine increased rapidly. In 1892 one shaft at Manchester, New Hampshire, drove about 33,000 spindles besides other machinery. In a quarter of a century before 1895 the cost of ginning and baling was diminished by 80%, thus affecting the cost of raw fiber. But the greatest improvement was in weaving. Between 1889 and 1895 the Northrop loom was developed. It required no interruption to replace shuttles, but stopped automatically if one warp thread broke, thus greatly diminishing the waste due to defective cloth. In ten years' time thereafter the number of looms to the weaver jumped from 8 to 24.

Woolens. The woolens industry continued to cling to the North Atlantic states, though a few scattered mills were found elsewhere. Before 1870 American weaving machinery was probably equal in some respects and superior in others to that of any European country, but not till about 1875 did power mills thoroughly replace hand jacks in spinning. The reason was that American looms required such a

variety of yarns that mules were for a long time unprofitable for the spinning of the small quantities of each kind used. Much carpet weaving in the same period was done by hand, although looms for both ingrain and Brussels were of American invention. This also was a time of cheap imitation of foreign goods and reliance upon shoddy mixtures which were sold as pure wool. The tariffs of the time made this subterfuge profitable.

Between 1870 and 1890 the industry grew steadily, though price declines in some lines ranged as much as 40%. The quantitative output in this period just about doubled. Pennsylvania, Massachusetts, and New York continued to head the list of producers. A promising development in California was checked because water freight on local wool sent to Boston proved less than rail charges to the California mills. The per capita demand for woolens did not grow rapidly, but there was much change in the grades called for. Worsteds of different values tended to supplant both the broadcloth of the gentleman and the jeans of the farmer. Mohair upholstery was coming into common use, largely because of the lowered cost of its manufacture by purely automatic machines. By 1890 American manufacturers were leading the world in the making of common carpets, blankets, and flannels. This was the era of flannel underwear—blue for the army and navy and red for civilians. The prosperity of the carpet makers is illustrated by the fact that their output doubled and their capital investment increased three-fold in twenty years. In those days, when carpets were tacked down over a thick bedding of straw, the spring house-cleaning job of carpet stretching was vouched for as being capable of "making a preacher swear" even when putting up the stove pipe failed. Except from the artistic point of view—local taste running largely to gaudy colors and patterns—American manufacturers equaled the British even in narrow wiltons and axminsters. Much hand weaving was still done around Philadelphia, which was the main center of the industry. Throughout this period foreign markets had to be depended upon for raw wool. Though the domestic clip doubled in twenty years, imports in the same time grew from about a tenth of the amount used to nearly three-tenths.

The woolens business participated in the depression following 1893, but revived under the Wilson-Gorman Tariff Act, which was expected to have a killing effect. Then followed more depression and another revival under the Dingley rates which led to overproduction and another drop. It is hard to escape the impression that the industry would have been as well off at any time after 1865 if compelled to exist on its own merits, without the uncertain effects of protection. By 1900 only a tenth of the woolens used in America were imported.

It is not at all certain that the percentage would have been greater under free-trade conditions. It may be noted that the tariff on the newer machines did much to offset the duties on woollens.

Silks. Silk manufactures showed the greatest relative growth, but started almost from scratch. The output of the 86 silk mills of 1870, mostly in New Jersey and Connecticut, was barely 31¢ per capita of the country. Yet, the total volume was twice that of 1860. The amount doubled again by 1875, and the latter volume was almost quadrupled by 1890, by which time the per capita had increased to \$1.38. This amount, together with imports of finished goods, allowed a very small share for the average family. The bride of the common man was aware that her wedding dress was likely to be the last silk one she would own in years. There was some point to being buxom to start with. The dress could be made over from time to time, while plenty of work could keep the woman within the bounds of the garment if it was ample in the beginning. For many years the principal output of the silk mills was ribbons and trimmings for women; neckties and flaming handkerchiefs for the men. Dress goods trailed in production. But before 1880 a progressive boom started in the latter line. Many Jacquard loom adaptations were effected for fancy weaving, while other mechanical improvements cheapened the cost of manufacture. When it got so that women and children could run the machines, there was a shift in the regions of production toward the mining towns of Pennsylvania where the laborers' families could be exploited at wages far below those of the old factory towns such as Paterson. In the 1890's other mechanical innovations reduced the necessary floor space two-fifths and wages one-fifth. The cost of throwing silk was reduced from \$4.50 a pound to 75¢. Philadelphia, about 1880, got into the knit silk goods business, making mittens and silk stockings long before short skirts made the latter almost a necessity. Meanwhile, Japan and China were close rivals as sources for the raw material. But before 1890 France and Italy were making gains, the latter soon assuming a place second only to Japan.

Other Textile Goods. Goods of flax and hemp remained insignificant in quantity. Ohio produced a little dressed flax for thread and toweling, but the main purpose of flax growing in the country was for oil. For conventional usage, the word "linen" had come to apply to sheets, pillow cases, and the like, though most of them were of muslin. Sisal, jute, and similar goods were of greater importance than linen. The making of cotton-bagging, grain sacks, binder twine, and cordage flourished, though on a lower scale than that of the major industries. The National Cordage Company, organized as a trust in 1887, increased its annual product four-fold in three years, yet did not

prosper as was expected. It was succeeded in 1894 by the United States Cordage Company.

Clothing. The making of wearing apparel became a factory industry after 1860. In earlier years nearly all clothing, except for hats, caps, boots, shoes, and a few other articles, was made in the home or by the local tailor, dressmaker, or milliner. Machine processes and war contracts had much to do with bringing about a change. The first cloth-cutting machines were installed on Staten Island in 1872, this being the first important step since the invention of the sewing machine. Very little artificial power as yet was used anywhere, and the industry was decidedly of the sweatshop variety. But the number of ready-to-wear suits of clothing in store windows by that date was a source of astonishment to European visitors. For some obscure reason these "store clothes" also came to be known as "hand-me-downs," probably because their ill fit suggested previous ownership. It was many years before the designers of such garments paid much attention to the variations in human proportions, and as late as 1934 some manufacturers seemed to think that boys were merely diminutive men. But, for the major part of the industry, by 1900 a man who conformed somewhat to the hypothetical average could do about as well at getting a proper fit in a clothing store as in a tailor's shop. Hand-me-downs were no longer the distinguishing marks of rustics and sailors. Other devices had been adopted to speed and cheapen the processes. By 1890 machines would work 3,000 buttonholes each in a day. Power sewing machines by 1895 were developed to the point of making 2,800 stitches a minute, and mechanical pressers were replacing the tailor's goose. The clothing business had gone permanently into the hands of the Jews. Various state laws were passed about 1900 to abolish the sweatshops, but the system was very little changed. Various items of clothing were highly localized in production. Thus, Danbury, Connecticut, became famous for its hats and Troy, New York, for collars, while Gloversville, New York, incorporated its product in its name.

The dressmaker survived longer than the tailor, and is no doubt destined to existence for many years yet. But, before 1900, the dressmaker who could properly tailor a woman's coat or jacket could make more money on dresses. The former branch of the trade was already recognized as a factory industry. The local milliner, however, remained in demand, though generally trimming shapes bought from factories. So great was the amount of home-made clothing for women and girls that in 1890 the factory output was barely 27% as much by value as that for men and boys, despite the numerous yards of drygoods enveloping each female.

The knit-goods industry, since it starts with spun yarn and turns out a finished product, is a sort of a hybrid between plain textile and ordinary clothing manufacture. It was once confined largely to underwear and stockings, but more lately has come to include headwear, gloves, neckties, jersey cloth, sweaters, toweling, and stockinette for the protection of hams and other meats. Prior to 1883 most of the goods as it left the factory was flat ware for future cutting and sewing. In that year machines were imported for full-knitting of hose. Cotton was the main fiber used, being mixed in large amounts even in the "pure" wool goods. This was a highly sweated industry, many large firms owning no factories or machinery whatever, yet giving the laborers only a small fraction of the value they added to the product. New York led in the making of underwear and Pennsylvania in the knitting of hosiery. By far the greater amount of capital was invested in New York, especially in the cities along the Mohawk Valley.

Leather Goods. Since the bulk of leather manufactures have always been for personal wear, it is appropriate to class the industry alongside the clothing trades. The growth of the Western cattle business gave a great impetus to the tanners after 1865. For a period of 20 years from 13 to 14 million American cowhides were tanned in addition to those from abroad. Other imports included goat skins from India for Morocco leather, horsehides from various places for Cordovan leather, and kangaroo skins for shoe uppers. About 6,000 of the latter hides were imported into New Jersey each week in the 1880's. The United States had many special advantages in leather production. Oak bark cost only about a fifth as much as in Great Britain, while hemlock was still cheaper. Sumac leaves were plentiful for the Morocco grades. Chrome tanning was coming into use. Even in producing the popular enameled and patent leathers and vici-kid the country was ready to compete with any by 1890. In addition, there were plenty of German immigrants to ply the trade, persons who were as adept at this business as at brewing. Tanning was followed in all quarters of the country, much of the product being sold in Europe. The beef packers took up the trade in 1892, and in the following year the United States Leather Company started on its road to monopolize the sole and belt leather business, an objective not so easily obtained as was expected. By the enlistment of the aid of industrial chemists in the 1880's the industry did not become exactly "high brow," but it did grow more profitable. One establishment alone in 1887 saved \$400,000 in by-products, or from six to twelve cents for each hide.

Massachusetts led the states in shoemaking, the center being at Lynn. The greatest improvements were in the manner of fastening

soles to the uppers. Pegging, even as a mechanical process, was declining before 1880, but nails and other metal fasteners were used long thereafter. The McKay sole-sewing machine in 1864 and following was further improved by its inventor Lyman R. Blake to the point where sewed soles began to gain favor. Before this the machine had produced a stiff sole with an uncomfortable inseam. But the reduction in cost from 75¢ to 3¢ a pair for sewing had already led the poorer people to grin and bear the discomfort. By 1876 some factories were beginning to adopt the Goodyear welt, but the greater cost led to a long hesitation by many, and it did not become popular till about 1890. By this latter date the making of shoes had become almost purely a mechanical process. The American manufacturers were beginning to rival Paris in design and style for women's shoes. There were no very outstanding technical improvements after 1890, but there were some rather astounding styles, of benefit at least to the chiropodists. Yet, the standardization of output was making the breaking in of footwear less torturous, provided vanity was sacrificed to common sense in fitting.

Massachusetts continued to produce half of the output of the country, but by 1890 there were factories in 35 states, Chicago and St. Louis showing especial promise. Efforts of New England manufacturers to throw off the control of the Knights of Labor led them to scatter their plants into towns and villages where labor was not organized. But the only result was that the Knights invaded the new centers. A new method of selling was started about 1883 by James Means and W. L. Douglas, acting independently of each other. Their practice of selling directly to consumers by express was copied by others, which led ultimately to the establishment of great factory-controlled chains of stores. Another novel feature was introduced by the United States Shoe Machinery Company which was organized in 1899 with \$25,000,000 capital as an effective monopoly. It controlled all the principal patents and, instead of selling machinery, rented it, thus taking a toll from every pair of shoes made. On the other hand, it took very little money to start a shoe factory in a rented building with this leased equipment, so no shoe trust could be formed aside from the one monopoly. By 1895 it cost, on the average, 15¢ to make a pair of shoes, including everything but the raw materials. On this basis there was no possibility of foreign competition and therefore no talk of tariff. Shoes were exported, but the increased shipment abroad of shoemaking machinery acted as a brake on foreign markets.

Rubber Goods. Before rubber became primarily the handmaiden of the automobile industry it was used mainly for footwear and waterproof clothing. Before his death in 1860 Charles Goodyear saw

his vulcanized rubber utilized for about 500 different uses, and the number increased afterward till in the twentieth century bakelite and other synthetic products were found to be superior. Yet, in 1860 the total imports of crude rubber amounted to less than 4¢ worth for each person in the country. Fifteen years later, if all the imports had been divided equally each person would have got a little less than five ounces. At the close of the century the per capita had reached a worth of about 33¢. The bicycle craze created a considerable market for pneumatic tires, while the manufacture of mackintoshes in the 1880's also broadened the industry. The United States Rubber Company, organized in 1892, very nearly monopolized the manufacture of footwear for some years. The Mechanical Rubber Company of the same period was another trust specializing in other rubber products. The Rubber Goods Manufacturing Company of 1899 was rather successful for a period in controlling the bicycle tire business. When it was then swallowed up by the United States Rubber Company, a genuine monopoly seemed in progress. But a new and greater period of competition was coming.

Construction Work. Building construction, whether technically considered as a branch of manufacturing or not, is next only to food and clothing in importance to the individual. Hence, it is the next item for consideration. This is a line of work rather difficult to get definite statistics about, especially for the earlier days. Even estimates based on building permits in the more recent period are not particularly reliable. Only a few of the developments will be noted here, with no attention to fashions and styles of building.

Except for the congested tenement districts of large cities, the individual dwelling house was almost universal in 1865. In many parts of the country building materials were of local origin, often coming from the land upon which the house was constructed. Sod huts on the Western plains, some of which in 1934 were still in use, were often more comfortable than pitying Eastern travelers could realize. At the time when Kansas settlers on treeless lands were thus, like gophers, burrowing into the soil, the East began copying the pueblos of Arizona. But alongside the newer flats of the 1870's stood mansions with mansard roofs, iron statuary on the half-acre lawns, and possibly even bathrooms containing black walnut tubs lined with zinc. The better houses had cellars for storing vegetables, canned fruits, and liquid refreshments, while even rural dwellings had caves apart from the house for like purposes. By 1875 the brick and board sidewalks were beginning to give way to concrete, while some asphalt paving was to be seen. The Chicago and Boston fires, the former destroying 17,450 buildings and leaving a third of the population

homeless, led to a greater interest in fireproof construction. Before this, in 1870, a concrete home had been built in Bellville, New Jersey. Asbestos, plate glass, and Bessemer steel by the same time were coming to the aid of builders of better dwellings.

By 1900 bathrooms were to be found in the homes of the more opulent families even in the smaller towns. The country gentleman as well as the town dweller found it possible to provide running water by means of windmills, but the washtub in the kitchen on Saturday night was still the source of bodily cleanliness for the masses. The unsanitary outhouses of earlier days still prevailed even in some portions of the larger cities, but wherever proper drainage systems could be developed they were beginning to disappear. Furnaces of various types began to replace heating stoves and coal grates; electric lights to supplant coal oil lamps and gas jets; and the kitchen sink to contest for supremacy with the dishpan in the homes of people of moderate means.

There was no great change in the structure or sanitation of factory and office buildings. State laws as yet were ineffective in procuring proper safety for industrial employees, so correct ventilation and lighting were obtained only by chance. There was a tendency toward higher office buildings. In fact a few skyscrapers had been built and others planned. But, in general, the steel framed structures of recent days were the product of the twentieth century.

Furniture and Household Supplies. The businesses concerned with supplying furniture and other movable equipment for the home also developed on factory lines after 1865. Furniture became cheaper but certainly less substantial. New York, Massachusetts, and Pennsylvania led in furniture making in 1870, while Cincinnati, St. Louis, and the towns of Tennessee were getting started. Twenty years later Grand Rapids was the center of the industry in the West, and was exporting a portion of her product to various parts of the world. Styles in furniture changed as they did in architecture, but hardly as rapidly as in clothing. The Eastlake designs of the Centennial Exposition gave way to the Romanesque a decade later. The Empire fashion was an outgrowth of exhibits at the Paris Exposition of 1889. Before 1900 the South, particularly North Carolina, was specializing by localities in various types of furniture making. In organization, the industry tended more toward trade associations than trusts, but some combinations of considerable proportions got control of the making of school furniture and burial caskets.

Stoves and Hardware. In the making of stoves and household hardware, American manufacturers had little to fear from British competitors. The National Association of Stove Manufacturers,

formed in 1872, was as highly organized as any association in the iron trade. It held together firmly and permanently, largely because it had to cope with one of the strongest of labor unions. On account of the bulkiness of the product, the foundries were located at widely scattered centers. Toward the close of the century, production reached an almost stationary level because of the rise of central heating stations and the increased use of gas ranges. Various standards of accuracy in the making of hardware were perfected during the Civil War. So rapidly did the excellence of the American product grow that by 1873 the British had to pay as much attention to preserving their home market as to supplying that of the United States. Though the British had cheaper labor, the Americans had better machines, thus tending to equalize costs. Much tool steel still came from England, but American tools had a good reputation at home and abroad. An exception might be made for cutlery. Not till after 1900 was it recognized that any domestic razor could compare with the British-made product. A trust for the control of tools and cutlery was formed in 1898. Connecticut held supremacy in the whole hardware trade.

Pottery, Glass, and Enameled Wares. American homes have never depended upon the domestic market for the best grades of china. But within a decade after the Civil War some porcelain was made of sufficient fineness for use as false teeth. Potteries have been located at numerous spots, the cheaper products being made by semiskilled workers wherever good clay abounds near markets. The principal centers have been Trenton for finer wares and East Liverpool, Ohio, for the coarser grades. The two regions together down to 1900 produced from a third to a half of the total. Power machinery was in use by the early 1870's. The Centennial Exposition did much to encourage artistic features. The New Jersey factories started making electric conduits and vitreous china bathroom fixtures in 1890. By the close of the century the annual kiln value of all the pottery products had reached only about 23¢ per capita for the population of the country. Supplementing the clay products was glassware, the output of bottles, jars, demijohns, carboys, and tableware being at any time greater in value than all the window and other building glass. At any time after 1870 American manufacturers had better materials and machinery than the British and a labor force at least as highly skilled. Before 1890 English merchants were shipping soda to western Pennsylvania and bringing glassware back to undersell the home manufactures. In the making of cut glass and scientific apparatus, America was so short of skilled labor as to be dependent upon European sources. In the 1890's there was a long period of trust development which had some effect on the output and prices of glass products.

Black-and-white enameled kitchen utensils were made in New York in 1865, and "agate" ware by 1876. Even at the latter date there was a prejudice against the use of such pans and vessels because they were thought to poison the food. Yet, at the same time, people made cucumber pickles in copper kettles so as to give them a brighter green color. Aluminum, which later succeeded enameled or granite ware in kitchen popularity, also as late as 1933 was denounced as having poisonous effects. The making of enameled utensils reached a high degree of perfection before it entered into eclipse. By 1875 pails with almost vertical sides could be stamped in one piece without wrinkles. Later, even such shapes as water pitchers with bulbous bottoms were stamped without difficulty. Great attention was also paid to delicate coloring of the enamel. But one defect was never remedied—the enamel would always chip off at a light blow, leaving a scarred and soon useless utensil of high initial cost. By 1930 the stamping and enameling mills were trying to revive their business by making such products as enameled tiling and roofing materials.

Clocks and Watches. In keeping with the faster moving age, the demand for clocks and watches helped add to the industrial activity of Connecticut and Massachusetts. The alarm clock and time clock were the principal innovations of the clock makers to 1900. Civil War soldiers all wanted watches, though why—except to prove how slowly their servitude expired—remains an unsolved riddle. At any rate, this greatly stimulated the industry which was centered at Waltham, Massachusetts. By 1870 great attention was being paid to precision of manufacture, micrometers being in use which measured to .0001 inch. In the next decade the importation of Swiss watches fell off nearly two-thirds, while American watches began to invade foreign markets. In 1879 at Waterbury, Connecticut, a company started making cheap watches of fifty-eight parts and no jewels. They were not particularly good timekeepers, but they looked more like a watch than an alarm clock, were greatly desired by boys and used by many others. At a time when they were selling at a dollar apiece and had to be replaced annually, there were many of the old turnip-shaped, key-winding, silver watches of an earlier generation still keeping good time.

Office Machinery. Much romance has been written about the operators of office machines, but little attention has been paid to the development of the equipment they handled. The most important of such apparatus is the typewriter. In an impractical design it dates as far back as 1714 in England. One made at Detroit in 1830 has been preserved more than a century, but merely as a curiosity. The modern mechanism in its primitive state was evolved between 1867

and 1873 by C. L. Sholes and others. In the latter year the Remington Fire Arms Company started manufacturing the new typewriters by contract with the patentees. A quarter of a million dollars were spent and 10,000 machines were sold before any profit was made. By 1890 ten factories were making typewriters valued at \$3,600,000 a year, and most of the modern conveniences were not yet invented.

Cash registers became a necessity when business became so large that the managers could no longer handle all the money or keep an eye on those who handled it. Not till 1879 was this invention started, and then the patent was sold several times to persons and companies who hastily regretted the purchase before the machines were successfully put on the market. The National Cash Register Company of Dayton got an effective monopoly on this product, which was maintained by engrossing all effective new patents which could not be suppressed outright. Later, various adding and calculating devices were developed. Other equipment of numerous kinds was introduced after 1900.

Intellectual and Sensual Aids. Manufactures adaptable to the gratification of the intellectual as well as emotional and sensual cravings of human nature should include as a minimum, musical instruments, photography especially as applied to motion pictures, and the output of the printing press. The developments of music, theatrical art, and literature, far more important in themselves than the mechanics of their presentation, can find little place in mere economic history.

Musical Instruments. Most families with musical cravings, before 1900, had to be content with instruments of little cost. The mandolin or guitar were useful in serenading and other forms of light lovmaking. Other string and wind instruments were available at all periods. Little effort was made at the production of fine violins, German handicraftsmen being depended upon for the best reproductions of the old masters. But the factory-made violins of America had the virtue of being cheap. Their sound was heard, as well as that of the better German instruments, at millions of square dances the country over, though often almost drowned out by the stamping, clapping, and shouting of the director of the dance. Often the imported harmonica or accordion served as a humble substitute. As late as 1870 parlor organs exceeded pianos in numbers manufactured, there being 29,000 of the former and 24,000 of the latter made in that year. But American pianos excelled all others at the Paris Exposition of 1867, the Steinway and Chickering entries receiving the principal prizes. Square pianos of that era were still in use 60 years later, after fashions had shifted to the upright and grand styles. Grand pianos for concert

use showed little change in outward characteristics. The first mechanical player for pianos appeared in America in 1860. Such devices were not much used for another 30 years, and thereafter they were built in the piano instead of separate.

Phonographs. There were other substitutes for the later mechanical music. Phonographs, while not to be classified strictly as musical instruments, have come to be considered largely as such. Probably the first instrument for reproducing music from a record was the barrel organ, which goes back at least to the fifteenth-century Netherlands. Modern adaptations were before 1900 mainly used by beggars. Music boxes, made principally in Geneva, were known as early as 1750, and in improved form were still popular in the parlor of 1900. The idea of permanent recording of sound waves goes back to the early nineteenth century. Leon Scott, in 1857, invented a "Phonautograph" for diagraming sounds on a cylinder, which in its essential particulars was not far different from the later phonograph. The main improvement made by Thomas A. Edison, in 1876 and following, was to record the impression on tinfoil—later on wax—so that the sounds could be reproduced. Following Edison's invention, Bell and an associate in 1885 produced the graphophone, and two years later Emile Berliner got patents for the gramophone. These machines were all manufactured by commercial companies. Further improvements were made in records, clockwork, and amplifying parts, and by 1900 the annual product was valued at \$2,000,000. Even in rural villages, when more customers were desired at the general store, they could be attracted by exhibiting a graphophone especially borrowed for the occasion from the nearest city.

Photography. Some of the principles of photography have been known for many centuries. Before 1600 a double-concave lens was substituted for the pinhole in the camera obscura. The lens itself was known in ancient Nineveh. By 1800 methods of securing a permanent image by the use of silver chloride had been worked out by Thomas Wedgwood and Humphrey Davy. In 1829 Joseph N. Niepce, who had been experimenting with photography, joined forces with Louis J. M. Daguerre. Ten years later these Frenchmen surprised the world with the Daguerreotype, the first practical form of photography. The new science flourished during the Civil War, the wet-plate process coming into extensive use at that time. The dry plate appeared in 1881. In 1888 the Eastman Company put the film-roll camera on the market.

In 1893 Edison perfected means for taking 45 exposures a second on a continuous film, thus making moving pictures possible. The kinetoscope (peep-show box) had been in use since about 1880. But

Edison's experiments made it possible to project the pictures upon a screen, which development occurred by 1896. For a number of years "magic lantern" shows continued as attractions to illustrated temperance lectures in the churches, and when crowds were hard to collect it was sometimes announced that the lecturer also had some moving pictures. His single reel, generally lasting about a minute and a half, consisted of such things as fire wagons hurrying to their destination, and oftentimes were run through backwards.

Paper and the Printing Press. The printing and publishing business were influenced almost as much by new methods of paper making as by improvements in printing machinery. The paper business boomed excessively for a few years after the war, as a consequence of too much protection, and then fell into distress. But new uses were being found—for machine belting and shirt collars. In 1867 one firm alone made 16,000,000 collars, and three years later it had 32 competitors. The collars could be worn but once, but they were not costly and must have been much more sightly and comfortable than the leather and enameled-iron collars of the war period. The height of their popularity was reached about 1876. Earlier than this, paper wheels were made for locomotives and railroad cars, being especially in demand for sleeping cars. Though more expensive than iron, they wore longer and jarred less. For other purposes, wheels were made up to 10 feet in diameter. Cylindrical paper barrels were exhibited in 1878, and in later years washtubs of the same composition were greatly in demand.

By 1890 wood pulp was achieving ascendancy for news print, though the innovation was fought by the newspapers. The new product was never as durable as rag paper, but it was enormously cheaper, despite a royalty of \$10 a ton paid to the patentees. News print in 1865 was worth 24¢ a pound, but a quarter of a century later it sold for 3¢. In 1893 over a million tons of wood pulp were used, some of it for making a high-grade sulphite product. An equal amount of rags and waste paper were also used, in addition to large quantities of straw for a particularly vile sort of wrapping paper. Also over half as much manila stock, including rope waste, went into the tougher grades of paper.

Following earlier improvements, in 1865 a printing press was invented which would print from a continuous roll, on both sides of the sheet, cut the sheets and deliver them to the folding table. Stereotype molds from *papier-mâché* impressions had preceded this invention. By 1880 there was a press in St. Louis with a capacity of 30,000 newspapers an hour, assembled, folded, and ready to deliver. Within the next twenty years it was made possible to run off 100,000 impressions

an hour, in as many as twelve colors. Machines for setting and distributing type were used in book work by 1800, but not much advantage was gained for newspaper making till the Mergenthaler linotype came out about 1885. The monotype and automatic typesetting machinery followed before 1900, by which time the mechanics of printing was fairly well established. The first highly illustrated daily newspaper was the *New York Graphic* in 1873. It used photolithographic printing, and may be considered the grandfather of the tabloids. Cheap magazines appeared with *Munsey's* at 10¢ a copy in 1893, followed by *McClure's* and *Cosmopolitan* in 1895. Yellow journalism, under the guidance of Joseph Pulitzer, William Randolph Hearst, and the Scripps brothers rose to towering eminence in the same decade. The coming of the penny daily widened, but scarcely deepened, the reading habits of the nation.

CHAPTER XXV

THE GROWTH OF TARIFF PROTECTION

The War Tariffs. After 1865 the tariff had, more than ever before, a pervading influence upon the trend of manufactures, the welfare of laborers, and the direction of foreign commerce. For the manufacturers alone, and then with some exceptions, it can be clearly demonstrated that the effects were beneficial. The tariff acts of the Civil War period, though ostensibly intended mainly to satisfy the increased revenue needs of the Treasury, were, nevertheless, also consciously so shaped as to create a degree of protection to American industries which would have delighted Henry Clay in his prime. In every session of Congress from 1861 to the summer of 1864 new bills were passed increasing the rates.

In the Act of June 30, 1864, all pretense of merely procuring revenue was brushed aside. The authors frankly made the bill as highly protective as the most avaricious producer could declare to be necessary. Morrill and Thaddeus Stevens, who had most to do with the shaping of the bill, kept this rule constantly in mind. If any interest was slighted it was merely because there was no spokesman to present its claims. The bill was railroaded through the House of Representatives in two days, without debate except on such amendments as Morrill brought up as afterthoughts. The Senate, contrary to tradition, was still more expeditious, disposing of it in one day. The public was quiescent—almost apathetic—both concerning the rates and the indecorous lack of parliamentary consideration, seeming to think that this was only another measure necessary to the hasty ending of the war.

Few persons except the protected interests and their congressional spokesmen expected the act to be permanent. For years after its passage it was referred to as the "war tariff." Because of the internal duties on goods with which imports competed, the tariff rates had been fixed about 20% higher than otherwise would have been considered justifiable. In the general movement toward tax reduction following the war the unsophisticated both in and out of Congress thought that the tariff rates would be scaled down in proportion with the rest, so that the degree of protection would remain unchanged. But another sinister group was at work in the lobbies, bent upon making the Republican party over into a big-business aid society. Part of the vindictiveness of the radical reconstruction of the South was due

to an effort to keep legislators from industrial centers in the saddle until the economic program was made permanent.

Popgun Bills. In 1867, while income and excise taxes were being lowered, the House of Representatives blocked a Senate bill, framed by Commissioner David A. Wells, which tended toward a moderation in tariff policy. The Wells bill, if accepted, would most likely have started a general movement toward the reestablishment of rational duties. After its failure the reactionary element got such full control of legislation that for over a quarter of a century there was not another good chance for genuine tariff reform. By 1872, when all the excise rates except those on spirits, tobacco, and the like had been repealed, industry was profiting to the extent of as much as 20% in consequence. For this reason, even Morrill in 1870 had declared that the tariff should be scaled down in proportion. But, instead of this, additional doles were provided.

The wool and woolens industries were the first to benefit. In 1867 the National Association of Wool Manufacturers (the makers of carpets and worsteds) and the National Wool Growers' Association (a few sheep fanciers) jockeyed a bill through Congress to perpetuate the war-time system with important additions. The old hoax of minimum valuations was dusted off and refurbished in subtlety to such an extent that the cheaper woolens got doubled protection without any seemingly important changes in rates. The most important grades of cloth got a specific duty of 50¢ a pound to compensate for the tax on raw wool, though in practice it afforded protection as well. In addition, there was a 35% ad valorem tax which became relatively more important when the 10% internal revenue was removed. At that time no wool manufacturers demanded more than 25% net protection. But, as their nerve strengthened in later years, they got additional increments until the ad valorem rate reached 55% in 1897. The Act of 1867 was so complicated that even the manufacturers were not certain as to the total amount of their protection, except that it was much greater than it seemed. Even with these duties, and partly because of them, the woolens industry languished in some of its branches for years.

The Lake Superior copper mine owners were the next to receive favor. Regardless of the fact that with their rich ores they could underbid the world, the tariff on copper was in 1869 increased from 5% to six and seven times as much. Johnson's veto failed to save American consumers from paying monopoly prices for a product that needed no protection. A year later steel rails were assessed \$28 a ton, an amount which by 1877 was over 100% of their cost of production. In time, competition behind the wall reduced the enormous difference

between the sale price of rails in Great Britain and the United States. Also in 1870 marble, flax, and nickel were selected for benevolent paternalism. Though there was only one nickel mine in the United States, the people were compelled to pay an additional 30¢ a pound for the metal in order to add to the profits of Joseph Wharton of Pennsylvania. Since this Act of 1870 also put several noncompetitive goods on the free list, the average of the tariff was scantily affected, while protection was increased.

Acts of 1872 and 1875. Conditions in 1872 seemed propitious for a general downward revision of the tariff. Tax receipts for a year or two had been in excess of needs, resulting in an annual Treasury surplus of about \$100,000,000. The Department of the Treasury tried to remedy the situation by retiring government bonds. But many Republicans as well as Democrats, especially in the West, felt that a better solution of the problem was to reduce the revenue by lowering the tariff. The war rates not being as yet considered sacred, a bill representing genuine reduction was presented in the House. Then a lobby, headed by John L. Hayes of the National Association of Wool Manufacturers, showed its strength. In the act, as finally adopted, nearly all purely revenue items as well as many raw materials were put on the free list, while the higher manufactures merely suffered a 10% horizontal reduction. Considering the drastic cut on raw materials, several industries actually profited by the change. Though many tariff reformers were temporarily satisfied with the measure, leading economists and other thinkers, including Wells and Edward Atkinson, denounced it as unscientific and tending toward permanently high protection. Yet, if the first cut had been followed by proportional reductions over a period of years, as had been done in 1833-1842, the problem might have been solved without any serious burden upon industry. The main weakness of the horizontal cut was that it could be so easily restored. A slight Treasury deficit followed the Panic of 1873, which could have been remedied simply by renewing the duties on tea and coffee. Instead of trying this obvious method, the 10% was merely clapped back on in 1875. With the free list and raw materials unaffected, the leading interests then enjoyed even higher protection than prior to 1872.

The Treasury Surplus. For a few years thereafter, currency problems and farm relief pushed the tariff into the background. The net result of three bills presented before 1880 was merely to abolish the duty on quinine. It was another Treasury surplus which brought the next movement for tariff reform. This situation, which was chronic from 1875 to 1890, almost constantly kept from \$100,000,000 to \$200,000,000 out of circulation. Confronted by the widespread and

urgent clamor for currency inflation, the politicians were further embarrassed by this withholding of so much available money from the people. Surplus financiering became the political sport of the day. The best way to repair political fences was to spend the money, hence this was the first method used. A more liberal pension policy was adopted, including private bills for recompensing persons of doubtful military records but positive political influence. Pork-barrel legislation was another remedy. Post offices, old soldiers' homes, river-and-harbor improvements were started in localities where their need had not previously been dreamed of. Some streams were made navigable which were so insignificant in size that, as was said by critics, it would have been cheaper to pave them instead. Then, in 1880, the movement was begun to modernize the American navy in keeping with the European establishments. Beginning with an appropriation of \$14,000,000, the policy was continued and expanded for the next eighteen years. At the end of that time the United States was prepared for an era of aggressive imperialism.

Act of 1883. Since even this extravagance might not be carried beyond a definite limit, the question of further tax reduction was not to be avoided. The national debt could not be retired more rapidly than the bonds became due without paying ridiculous premiums in the bond market. Consequently, at the suggestion of President Chester A. Arthur, Congress authorized the appointment of a commission to make an investigation. By this time the conviction had grown that the tariff should be changed only by its friends. Therefore, most of the nine commissioners appointed by Arthur were avowed protectionists, none favored reduction, and John L. Hayes himself was the chairman. In the fall of 1882 a voluminous report was made to the Congress. The suggestions offered were naturally conservative, yet it was admitted that industry could stand an average reduction of 20% in protection. The only question a genuine tariff reformer could ask was, how much more than that might be safely cut off.

The Act of 1883 which followed was one of the most incongruous in the history of the country. After the two branches of Congress pulled and hauled the original bill into unrecognizable shape, it was in the conference committee that the lobby did its most effective work. Hayes, as a tariff expert, had agreed that the tariff could safely be lowered. Now, as a lobbyist, he told Congress what the woolen industry wanted, and the solons were much more attentive to the request than to the information. In several cases the conference committee established duties higher than those fixed by either the House or Senate. For instance, the tariff commission and each branch of Congress agreed on a rate for iron ore, but the committee increased

the duty by a half. The ancestry and paternity of the Act of 1883 were so uncertain that it was often referred to as the mongrel bill.

Superficially the act seemed to be a slight lowering of the tariff, the general average being 4% below the 47% of 1864. But the adjustment was so made as to grant even higher protection than before to manufactured products of great volume. Much of the advance was made by reclassification, such as in the steel schedule where cheap goods were advanced to a higher group without changing the rates of the different classes. Again, the duties on woolen and cotton goods of such grades as met little or no competition were lowered, while competitive goods were given increased rates, and thus the average for the whole schedule was not noticeably changed. A reduction on raw wool was made in behalf of the manufacturers. The only real textile cut was on worsteds, this coming because of a blunder on the part of the archlobbyist Hayes. It was corrected in 1890.

Even where schedules were lowered, care was taken not to injure protection. Thus, the reductions on raw wool left the duties on the most important classes prohibitory, letting in merely such grades as were consumed only in very small amounts. The Western growers who specialized in wool were generally independent of tariff needs, while to the Eastern growers who produced wool as a side line the lessening of duties was of small consequence. In the steel schedule the principal downward change was on rails—from \$28 to \$17—but competition behind the wall had already cut prices to the point where the new duty was prohibitive. It made no difference whether the rate was \$17 or \$70. A slight reduction for copper was of the same nature. In order to maintain the fiction that farmers as well as manufacturers were benefited by protection, the agricultural schedules were in the main left unchanged, but on barley and rice—about the only crops really helped by the tariff—the duties were lowered. Yet the farmer continued to hope for tariff benefits.

Democratic Wavering. There were two outstanding reasons why the protected interests had things so largely their own way during the first score of years after the war. One was that the Republicans managed to retain the presidency, the federal courts, and one or both houses of Congress continually. The other was that the Democrats pursued a spiritless policy on the tariff question, evidently fearful of losing such support from the great interests as they managed to retain if they came out boldly on a sound economic issue. The hedging of the parties, the Liberal Republican fiasco of 1872, the side tracking of 1876, and the anomalous position of the Democrats in 1880 are interesting but not necessary to an economic discussion. By 1883 a definite protectionist wing had developed in the Democratic party,

headed by Samuel J. Randall of Pennsylvania. This element joined with the Republicans in passing the tariff bill of that year. In 1884 William R. Morrison of Illinois proposed a 20% horizontal reduction which would have diminished the revenue by probably \$30,000,000, solved the surplus question, and come near to the recommendations of the tariff commission. The Democrats, having a majority of about 80, could have passed the measure in the House, thus creating an issue out of its certain rejection in the Republican Senate, had not Randall headed a bloc of 41 Democratic votes against it. In consequence of this defeat, the Democratic convention of 1884 again wavered, promising "to revise the tariff in a spirit of fairness to all interests" and following with more equivocation. The campaign which followed was one of slander rather than issues, Cleveland being elected largely on his record as a reformer in New York.

Cleveland on the Tariff. Prior to this, Cleveland had been absorbed mainly in state politics, and his ideas on the tariff were about as hazy as those of Andrew Jackson or Theodore Roosevelt. Furthermore, his party was in the minority in the Senate throughout the administration. In his first message to Congress Cleveland touched vaguely on the tariff, recommending some modification. Shortly afterward Morrison presented another bill (1886) calling for a scheduled revision downward. This measure was killed without consideration and other efforts were abortive. But a tariff issue was nearer than it seemed. As Cleveland rapidly extended his grasp on national problems he centered his attention upon the Treasury surplus, and in December, 1886, made a much stronger appeal for tariff reduction. Finally, after a more thorough study of the subject, he chose in December, 1887, to make the tariff the outstanding issue in the approaching presidential campaign.

A less conscientious President might have been content to rest upon the laurels of a popular administration, confident of reelection. But Cleveland seems to have preferred defeat on a vital issue to a success which would leave the people unconcerned as to the fate of his cherished policies. A lively public interest was necessary to keep Congress squarely behind him on the tariff. Consequently, he devoted his entire Congressional message to the Treasury surplus, advocating tariff reduction as the solution. In the year immediately preceding, the surplus had reached \$216,000,000 while the prospect for the current year was even more. Noting this condition and its effect on business, Cleveland also pointed to the existing tariff with its more than 4,000 duties and numerous absurd schedules. The message was very moderate in scope. There was no demand for free trade or tariff for revenue only, but merely that the duties should be lowered to the

actual revenue needs of an economically administered government; that protection should be an incidental matter; and that care be taken to preserve both capital and labor. When reproached for not adhering to some definite theory, he replied that the country was confronted with a condition rather than a theory. The remark was not particularly clever, but it was popular. Thoroughgoing liberals could find plenty of reason to quarrel with his arguments. Nevertheless, Cleveland had taken a stand far in advance of any other presidential candidate since the war, and had propounded a doctrine decidedly unpalatable to the protected interests.

The Mills Bill. Democrats, with foreboding, and Republicans, gleefully, pronounced the message a courageous one—some even considered it foolhardy. At last an issue had been created. Roger Q. Mills of Texas drew up a tariff bill as a test of Democratic loyalty. For the first time in years the unofficial third house of Congress was not consulted. So astounding was this action to the autocrats that they likened such honest procedure to the ways of burglars, calling the measure a “dark lantern bill.” The Mills proposal was for a moderate downward revision. Actual reductions, not mere illusions, were offered, the new simplified schedules to average not over 40%. By strict party discipline the bill passed the House on July 21, 1888, with only four Democrats headed by Randall opposing. The foredoomed failure in the Senate was welcomed as showing that the only barrier to a reasonable tariff was the Republican opposition.

Meanwhile, the conventions had already met. Cleveland was renominated on a platform largely devoted to the tariff. For once, at last, laborers were informed by a political party that a lowered cost of living was more to be desired than visions of doubtful generosity of protected employers. The Republican party selected a dark horse, Benjamin Harrison of Indiana, but met the tariff issue squarely. “We are uncompromisingly in favor of the American system of protection. . . .” the platform said. “The protective system must be maintained. . . . We denounce the Mills bill as destructive to the general business, the labor, and the farming interests of the country. . . .” The revenue should be reduced through lowered taxes on tobacco and spirits and by prohibitive duties on competing imports. If, with these changes, there should still be a surplus, “we favor the entire repeal of internal taxes rather than the surrender of any part of our protective system. . . .” For the first time in a generation of high protection the people had an opportunity to express their minds about the system. But the voice of the electorate was incoherent. Though Cleveland got a plurality of nearly 100,000, Harrison carried the electoral college by 233 to 168. Trivial incidents, plus some effective vote

buying in close states, determined the outcome of the election. Harrison also received a working majority in both houses of Congress, the first time a President had held such an advantage in 14 years.

The McKinley Act. Since the Treasury surplus was still causing trouble, it was easy for the Republican leaders to argue that the people had asked for more protection. The new speaker of the House was Thomas B. Reed of Maine, a parliamentarian thoroughly capable of rushing through an administrative program. The chairman of the ways and means committee was William McKinley of Ohio, a son and grandson of iron masters, representative from an iron manufacturing district, and political disciple of William D. (Pig Iron) Kelley. McKinley, after calling the leaders of the lobby into the committee consultations, presented the draft of a measure which was so designed as to increase protection while reducing the revenue. This was the first bill passed for the avowed purpose of protection mainly, with incidental revenue.

The governmental income was to be diminished by four methods: by lowering the internal revenue on tobacco and alcohol; by removing the duty of 2¢ a pound on raw sugar and giving American growers an equivalent bounty instead; by a reciprocity provision; and by prohibitive duties on a large list of protected goods. The first item was expected to result in a loss of \$10,000,000, besides having wide popular support. The second would waft away from \$50,000,000 to \$60,000,000 a year, while the bounty would amount to as much as \$6,000,000 or \$8,000,000 extra. The resulting cheaper price of sugar would appeal to Western consumers and make it easier to increase protection on other goods without adding so much to the average of the tariff. Western sugar growers would be appeased by the bounty. James G. Blaine, Secretary of State, was chiefly responsible for the reciprocity provision. Though he continually bungled diplomatic affairs with the Latin-American countries, he tended to offset this failing by offers of freer markets for their goods in the United States. But more important was the extension of American trade to the southward. Even this policy, as applied in the tariff act, was of an undiplomatic character. Sugar, molasses, tea, coffee, and hides were put on the free list, with the proviso that the President might reimpose the duties against nations which assessed "unjust or unreasonable" taxes against American goods. Despite the threatening character of the clauses, treaties were signed in 1892 with Brazil, the Central American republics, and with Spain and Great Britain for their tropical American possessions.¹ A special virtue of the reciprocity provision, as enacted, was that it gave American consumers cheaper prices than would be

¹ The President reimposed the duties against Venezuela, Columbia, and Haiti.

obtained merely by reducing duties to such nations as made like concessions.

As for protection proper, the amount of added increment was carefully hidden by a wide extension of specific duties and by carrying to extremes the principle of minimum valuations. On some grades of woollens the specific duties alone amounted to 100% or more, in addition to 40 or 50% ad valorem. By readjustments of division lines in minimum valuations, higher duties were made to apply to cheaper goods, thus aiding much in concealing tariff increases. On the other hand, where duties were lowered it was nearly always because the goods concerned were not competitive. Thus the average of the tariff was held down far below the actual amount of protection. While tariff experts proclaimed that the McKinley Act of October, 1890, established an average of 49.5%, or only a little more than the war-time level of a generation before, the actual degree of protection in the lines of industry most concerned in tariff lobbying was virtually doubled by the various acts since 1864.

"Average" Rates and Protection. Indeed, by 1890, the time was past when a tariff could be measured by "average" rates. The only accurate way to find the actual volume of protection would be to take each item of the protected list; ascertain the volume of it sold in American markets; calculate the price this would bring, without protection, in competition with foreign goods; subtract this amount from the total gross sales value of the goods at the protected price; then reduce the difference to a percentage basis by dividing it by the calculated competitive gross sales value. Then an average would have to be struck between the percentages of all the protected items, each being weighted according to its volume. This sort of calculation would have to be applied for each year or other unit of time. No tariff duty, though constant in ad valorem percentage, will provide the same degree of protection from year to year.

A great series of monographic studies will be necessary before any graph of protection can be drawn, especially for the last 50 years. In many cases sufficient data are not available for definite conclusions. From such studies as have been made, it is seen that several supposedly protective rates in reality did not protect at all. For example, there is the perennial agricultural schedule for products like wheat and corn which are grown in excess of domestic consumption, against which there is no real competition, and whose prices are fixed by world-market conditions. In 1931 a tariff of \$10 a bushel would not have allowed the Kansas farmer to get more than 25¢ a bushel for his wheat. Only an insufficient crop or a government subsidy could have made the tariff effective for anybody but the wheat speculator, and

only rarely for him. Again, other schedules have been so prohibitive that even a monopoly could not bring the domestic price to equal the cost of production plus the tariff. In such cases, and especially where competition instead of monopoly exists behind the wall, the degree of protection is considerably less than the legal rates. On the other hand, as in the woolens schedule, compensating specific duties and minimum valuations have so disguised the total amount of protection as to make it often immeasurable even by its beneficiaries.

The least reliable of all methods of measuring protection is to take the government customhouse receipts for any year and divide them by the value of all imports. Yet, even this childish expedient was employed to justify tariff increases in 1930, the people being informed that the tariffs were low because the duties of the preceding year were only 13.55% of the value of imports. A more honest statement would have shown that the rate on dutiable imports averaged 40.11%. But even this sort of calculation fails to take into consideration the noncompetitive imports like tea and coffee. Worse still, it omits the disguised schedules and the prohibitive duties which, instead of producing revenue, totally exclude competing products.

Effect of McKinley Act. Considering the objects of its makers, the McKinley Act was a huge success. The Western farmers swallowed the bait of 5¢ extra tariff on wheat and corn and became permanent converts to the theory of general high protection. Rice was a commodity which could really be benefited by a tariff but, being produced only in the South where no votes could be won, it got no such indulgence. Before the end of Harrison's administration in 1893 the Treasury surplus was obliterated and a deficit was looming in its place. Thus one promise was kept with interest. As to the main purpose of the act, an indication of the effect of the new rates is to be seen in the fact that the Cunard liner *Etruria* saved a million dollars by racing into port a few minutes before the new rates went into effect. More convincing to the public was a sudden and sharp rise in the cost of living. Within a very short time the day laborer, who had been able to save a dollar out of his week's wages, found that on Saturday night, after he paid his store bill, he had nothing left for a round of drinks, an hour of pool, or a new washboard for his helpmeet. In his tour of inquiry as to the cause of this situation he was informed, sooner or later, that it was because of the "McKinley Bill." Consequently, he waited for election day to get even with Bill McKinley.

The new tariff and its effect upon prices was almost solely responsible for Republican loss of control in Congress by the elections of 1890 and 1891. Though the act was barely in effect by the time the Novem-

ber elections were held, prices had already jumped in anticipation of the new rates. In the first heat of indignation at this result, the men flocked to the polls, changing a Republican majority of 166 to 159 in the House into a Democratic majority of 236 to 88. In the Senate the Republicans managed to retain a bare margin of two, which was widened to a safe control by the admission of the "omnibus states" (see p. 440), all safely Republican. The overturn in the House was seen even in the delegations sent from the formerly stalwart Republican states of Massachusetts, Ohio, Illinois, and Michigan. McKinley himself was defeated.

Two years later the feeling against the law was still strong enough to play a leading part in returning Cleveland to the presidency with a plurality approaching 400,000 and a large electoral majority. His renomination had been opposed by many Eastern Democrats of protectionist leanings. It was only by overriding the proposals of the resolutions committee that the Democratic convention adopted a tariff plank in accord with the candidate's record and wishes. As finally adopted it was a masterpiece of militant opposition to extreme protection. "We denounce the Republican protection as a fraud, a robbery of the great majority of the American people for the benefit of the few," it said. "We declare it to be a fundamental principle of the Democratic party that the Federal Government has no constitutional power to impose and collect tariff duties, except for the purpose of revenue only, and we demand that the collection of such taxes shall be limited to the necessities of the Government when honestly and economically administered." As a climax it denounced "the McKinley tariff . . . as the culminating atrocity of class legislation. . . ." and its repeal was promised. Finally, it was significantly noted that instead of the tariff protecting the laborer by increased wages, the cost of living had risen, money wages had been cut, and distressing strikes were occurring, especially in the iron trade.

The year 1892 was indeed an excellent one in which to demonstrate the fallacy of the wages argument. The Carnegie Steel Company at Homestead, Pennsylvania, was one of the most highly protected concerns in the country. Yet, just two years after a high tariff act it was cutting wages, locking out employees in a successful attempt to destroy their union, and using Pinkerton thugs and the state militia in a bloody war to quell the opposition of the victims. Despite this distressing situation, the Republican convention had the hardihood to reaffirm its protection principles and to claim that the "prosperous condition of our country is largely due to the wise revenue legislation of the Republican congress." The fact that the voters were otherwise convinced is shown not only by the vote for Cleveland, but also by a

Democratic plurality of 220 to 126 in the House and 44 to 38 in the Senate, in addition to Populist support.

The Wilson-Gorman Act. For the first time in thirty-four years there was a Democratic President with the nominal backing of both houses of Congress. The party having taken so decided a position on the tariff, it was natural to suppose that the long-awaited and often-promised tariff reform was at hand. It is quite possible that the party pledges might have been kept had it not been for Cleveland's quixotic notion that his first duty to the country was to secure the repeal of the purchase clause of the Sherman Silver Act. No President in his second term has the influence over Congress he can exercise in the first term. Cleveland exhausted the patronage at his disposal, even to the point of sacrificing his civil service reform principles, in pushing the repeal bill through the special session. Then, when the Congress met for its first regular session in December, 1893, it was a body whose members had nothing more to expect from the President and therefore felt no obligations toward him. Each member was free to follow his own inclination on the tariff question, heeding only the pressure from his state or district, without too nice a regard for party promises.

The tariff bill, as presented by William L. Wilson of West Virginia, was in line with Cleveland's policy and the platform pledge, though far from being a purely revenue measure. Because of the Treasury deficit, created by the Harrison administration and made worse by the panic, the bill was so shaped as to bring more revenue while it lessened protection. This was to be done by putting basic raw materials such as lumber, wool, coal, and iron ore on the free list; reducing duties on the principal manufactures; increasing the internal revenue duties on a few articles such as tobacco, alcoholic liquors, and playing cards; and by providing a tax of 2% on all incomes above \$4,000. The latter provision was an afterthought intended to secure Populist support.

In the Senate the Wilson bill was distorted into an almost unrecognizable form. Changes to the number of 634 were made, including those of the finance committee of which Arthur P. Gorman of Maryland was chairman. Many of these amendments robbed the bill of low-tariff features. Criticism was roused especially over the juggling of the sugar duties. The defection of the Louisiana Senators from an already narrow majority made the campaign promise of small avail. There were other Senators who thought nothing of manipulating the rates so as to assist their dealings on the stock exchange. Matthew S. Quay of Pennsylvania even boasted of the practice. In the long run the duty on refined sugar was virtually dictated by the sugar trust. The 40% on the raw product amounted only to about half the rate under the Act of

1883 or the bounty under the McKinley Act, but a like proportion on refined sugar, in addition to a small specific duty, allowed a margin of tariff profit not permitted by the original Wilson bill. This particular item received a disproportionate amount of advertising, but the people were justified in their disgust over the outcome.

Too many of the intricate specific duties, which had been eliminated in the House bill, were restored by the Senate. One important improvement over the McKinley Act was in the wool and woolens schedule. Raw wool was put on the free list without serious inconvenience to the farmers. The specific duties on woolens were then removed, but the ad valorem rates were scarcely touched. The real merit in the change, even after the Senate amendments, was that a good deal of excess protection was removed by the elimination of the presumably "compensatory" rates. In general, the textile schedule, while lower than that of 1890, was still higher than that of 1883. Other breaches of faith were contained in the Senate changes in regard to raw materials. The duties on coal and pig iron were restored to nearly half those in the McKinley Act, but the latter item made little difference, since the country was almost independent of imports of pig iron. The duty on steel rails was cut from \$13.44 to \$7.84 a ton. But this was still a prohibitive rate which allowed full monopoly profit. Tin plate duties were restored virtually to the 1883 level. The only outstanding reductions on goods meeting active competition were for earthen and china ware, where the rates were cut about in half.

Even with all of its weaknesses, this Wilson-Gorman Act of 1894 scaled the tariff down to a hypothetical average of 40%. But Cleveland was disgusted and, contrary to his stand on an earlier matter, disclaimed paternity. The bill, therefore, became law without his signature. Perhaps it would have been just as well if he had vetoed it outright. At any rate, the veto could have harmed his party no more than the act did. Furthermore, with the McKinley rates still in force, there would have been less opportunity for the passage of an act for more extreme protection three years later. The Wilson-Gorman Act was unfortunate in still other respects. An ultraconservative Supreme Court in 1895 nullified the income tax provision, on the pretense that it was a direct tax, though an earlier decision in 1884 had declared income taxes to be indirect. The reversal of this section left an insufficient source of revenue. Finally, since the act was passed in the midst of a depression, it was too easy to blame the tariff for continued hard times. By election time it was even being asserted that the tariff act had caused the Panic of 1893. If corrected as to chronology, politicians could still say that fear of a Democratic tariff had caused the panic, while the act itself had added to hard times. The result of

general discontent was that in the election of 1894 the decision of 1890 was reversed. The Republicans gained a majority of two to one in the House of Representatives. This made further tariff reform in Cleveland's administration impossible.

The Dingley Act. McKinley, in 1896, wished to make the tariff question the outstanding issue in his campaign for the presidency, but when Bryan forced the monetary problem to the front the issue of the preceding decade was eclipsed. Nevertheless, the Republican platform was strong in denunciation of the Wilson-Gorman Act as "sectional, injurious to the public credit, and destructive to business enterprise." Forgetful of wage cuts under the McKinley Act, it demanded a tariff to "protect American labor from degradation and the wage level of other lands." The country, it was declared, "demands a right settlement, and then it wants rest." As to the sugar interests, they were promised a prohibitive tariff. America should produce all the sugar it consumed—an empty and vainglorious boast. In contrast to the stand of 1892, the Democratic platform was weak and evasive. The tariff should be for revenue, but the expression "revenue only" was noticeably missing. There should be no tariff changes until the money question was settled, except to make up for the loss of revenue due to the nullification of the income tax provision.

The election of McKinley, with a Republican Congress, did not signify that the people wanted a change in tariff policy. The deficit in the Treasury under the Wilson-Gorman Act was smaller than during the last year of the McKinley Act, and each year it was growing less, in spite of the ill fate of the income tax. Only a slight correction of revenue legislation was needed, and certainly industry had nothing to complain of as a result of protection changes in 1894. Yet, McKinley took the attitude that he was elected to increase the tariff. So he called a special session of Congress to meet in 1897 for the purpose of making the recommended changes. Three days after Congress met on March 15 a prearranged bill was reported by Nelson Dingley of Maine. "Czar" Reed, who again was speaker of the House, used such pressure of rigid party discipline that the bill was passed in 13 days. Only 22 of the 163 pages were taken up for discussion. Since the House of Representatives, true to Reed's boast, had ceased to be a deliberative body, it was greatly to the credit of the Senate that it spent nearly two months in passing so important a measure. Yet, after 872 changes had been made, the bill was unfortunately more like the original Dingley draft than when it was reported from the finance committee. After adjustments in a conference committee, the bill became law before the end of July.

The Dingley Act well justified its reputation of being the highest

tariff to that time passed in America. As compared with the 40% of 1894, rates were raised to a new average of 57% (according to the old system of reckoning). Wool and woollens were restored essentially to the status of 1890, though the industries had prospered surprisingly well under the Wilson-Gorman rates. The old compensating duties, with their complicated specific and ad valorem rates, were renewed with additions. The ad valorem rates on the principal grades were over twice as high as had been considered munificent 30 years earlier when the industry was much more of an infant. Hides, which had been on the free list since 1872, were given 15%. Some cotton goods got higher protection under the minimum valuation principle than in 1890, but this was partly counterbalanced by the fact that the drag-net clause (for miscellaneous odds and ends) was fixed at 45% instead of the earlier 50%. Silk and linen also got increased duties, the maximum for the former being \$4.50 a pound. The metal schedules were not greatly changed from the rates of 1894, but the metal industries were already beyond the stage of development where protection really could protect. They probably would have achieved this eminence just as soon without the excessive tariffs of earlier years. The wild promise to make America produce all the sugar it consumed was modified by fixing rates somewhat below those of 1883, but, as in 1894, a special tax was provided to offset export bounties paid by competing countries.

The reciprocity idea of 1890 was revived and elaborated, but for the most part in an unworkable form. Three different forms were stipulated. The first was essentially the same as that of the McKinley Act except that sugar and hides, no longer being on the free list, were excluded. The second provision was to authorize the President, in case he could secure concessions from countries producing them, to suspend the duties on fine liquors and works of art. This was aimed particularly against the maximum and minimum tariff act adopted by France in 1892. Ultimately, treaties for this limited reciprocity were completed with France, Germany, Italy, and Portugal. Finally, the President was permitted to lower any duty as much as 20% for any nation by treaties to be negotiated within two years, to be limited to a duration of five years, and to be approved by the House of Representatives as well as by the Senate. These restrictions, even to the point of usurpation of authority by the House, were sufficient to stifle negotiations. Only a few treaties were signed, and these the Senate refused to ratify.

An Ebb in Tariff Agitation. The Dingley Act ended the phase of tariff agitation which had been started in Arthur's administration as a result of the surplus question, and the protectionists were victorious beyond the wildest hopes of the preceding generation. No longer were

protective tariffs spoken of apologetically as temporary expedients. The principle was now hailed as a permanent part of American policy. The question of lowering rates was not strenuously debated for another decade. The war with Spain and questions of imperialism occupied the center of the political stage for a few years, and with the opening of the twentieth century the country was befogged by the outward seeming of prosperity. The increasing gold supply permitted mounting prices for everybody who had commodities to sell. This stimulated production and created more jobs. During the same period the unskilled industrial laborers as well as salaried men found that their incomes were not keeping pace with the increasing cost of living. But the latter classes have never wielded real political influence in America, and the cry of national prosperity was enough to quell tariff discussion among others.

CHAPTER XXVI

LABOR'S FIGHT FOR RECOGNITION

The Need for Organization. In the era of industrialization and mechanized processes following 1865, the presence of an abundance of cheap land in the West was by no means sufficient to furnish readjustment for the labor troubles created. All of the homestead entries perfected to 1900 would have allowed an average of only two acres per capita for the increase in population during the period. After full allowance is made for all persons who were able to make a livelihood from the land, whether homesteaded, bought, or rented, there was always a surplus beyond the employment needs of the expanding industries. The captains of industry did not concern themselves with this problem. They thought merely of getting the most out of their workers at the least wage they could be hired for, assuming that a demand for the goods produced would exist regardless of the inability of the laborers to buy their full share. The government, in that period of *laissez faire*, assumed no responsibility for the situation. If anybody looked out for the growing army of labor, the incentive had to come from within. Many experiments were tried by the leaders of the workingmen's movements, the object of them all being a fair division of the products of their toil. One and all they stoutly maintained that labor was not a commodity to be bought according to the law of supply and demand. Yet, so long as there was a period of excess workers, wages were depressed in proportion. The years of labor shortage were too few to rectify earlier damage. Oversupply was produced by the failure to adapt hours of labor to the increasing use of labor-saving machinery, but even more by immigration, sweating, and the employment of children and women at lower rates according to the work done than those needed by heads of families.

The Immigration Problem. If the old home-market doctrine had been valid, immigration would not have disturbed the status of labor, for the larger the number of people the greater would be the market for goods and the more insistent would be the need of more workers. If labor in its entirety, including immigrants, had received the full product of their work, this theory would have been tenable so long as the natural resources of the country permitted each person an opportunity. But, so long as the capitalist demanded a profit beyond a moderate return for his investment and the actual labor value of his

services, the laborer was deprived of just that much in wages and ability to buy. Consequently, whenever all the potential laborers were employed, there was a tendency to create a surplus of goods beyond the power of either the domestic or foreign markets to absorb. Most of the immigrants came from countries where the distribution of goods was even less fair than in the United States. Consequently, being accustomed to lower conditions of living, they could be hired at wages below those demanded for maintaining the American standard. Theoretically, the migration of population should not disturb world markets, since the same number of persons would be demanding goods. But, in America, the supplanting of higher paid labor with lower tended to lessen the average buying power, and therefore to add either to overproduction or underemployment. International tariff barriers hindered the flow of excess goods to other countries. Under any consideration, so long as world wages in general were too low, there could be no market for the product of all labor everywhere. Consequently, in order to maintain this absurd system, a large portion of the people had to remain underfed and partially supplied with other economic goods, while at the same time they tried to maintain dependent, unemployed relatives.

The problem, then, was not so much immigration as the underpayment of immigrant labor. But it was easier for the public to see the aliens taking the jobs than it was to realize why this caused distress. The possibility of checking immigration seemed easier than boosting the whole scale of the employee's share of the goods produced. It seemed that the easiest way to help labor was to reduce the number of competitors. Thus, labor itself adopted the commodity theory, while opposing its application by the employers. So far as labor organizations could see it, immigration merely relieved congestion abroad while adding to the problem in America.¹ Consequently, there was produced the curious anomaly of labor deviating from its customary idealism to cry out against immigration, while capitalists found it thoroughly materialistic to decry any movement to violate the venerable tradition that America was the home of opportunity and a Canaan for the oppressed of all nations.

The sheer magnitude of immigration, especially after 1880, was enough to rouse apprehension. By 1873 even the record of the early 1850's was broken. Then, discouraged by the hard times, there was a lull until 1880 when the greatest era of immigration began. After that

¹ On the other hand, it has been argued that this merely accelerated the birth rate in foreign countries while having the opposite effect upon the older American stock, so that population numbers were relatively little changed at home or abroad, while America's ratio of the new types of immigrants increased.

date, from about half a million to nearly 800,000 persons were admitted annually for 12 years out of 20. Over 14 million, according to the official figures, entered between 1861 and 1900. The individual motives were numerous and varied. Russian Jews and Poles came in large numbers because of religious or political persecution. Germans and people from other countries having compulsory military-service laws migrated to avoid conscription. Before the immigration laws, especially those of 1882 and 1891, checked the abuse some foreign governments made a practice of dumping undesirables on America. Others came to join relatives, as many as 30% in some years having their fares paid by others. Cheap, easy, and quick ocean transportation was another factor influencing the poor and discontented.

Perhaps more important than any difference between the economic, political, and religious status were the efforts of steamship, labor, and land agents. Steamship companies violated American law by establishing agencies and employing runners to paint attractive pictures of the land of milk and honey. The old Colonial proprietors would have been humiliated could they have compared their colonizing efforts with those of the land agents after 1865— and these latter sold their land for real money instead of grain quitrents. Importers of contract labor during the war hysteria of 1864 got permission from Congress to organize an American Emigration Company with \$1,000,000 authorized capital to further their purpose. The incorporators included Chief Justice Salmon P. Chase, Secretary of the Navy Gideon Welles, Senator Charles Sumner of Massachusetts, the Reverend Henry Ward Beecher, together with various governors, senators, and other politicians. The purpose was to provide a reserve of strike breakers. In order to further the same aim the federal government legalized the importation of laborers under contract and established the office of Commissioner of Emigration. These war measures lapsed with the return of peace, but construction companies and other employers of large numbers of rough laborers openly continued the activity till the congressional prohibition of 1885, and more discreetly thereafter.

Changing Type of Immigrants. Especial alarm was aroused after 1880 because of the changing nature of European immigration. Prior to that date the northwestern nations had been overwhelmingly represented, with the British Isles and Germany far in the lead. Thereafter the countries of Eastern and Southern Europe gained rapidly. After 1890 this contingent ranged from half to three-fourths of the numbers from all parts of the world. The great bulk of the new type came from the polyglot Austro-Hungarian Empire, Italy, and Russia including Poland. But there were considerable numbers, more noticeable after 1900, from Bulgaria, Greece, Rumania, Spain, Portugal, and European

Turkey. To illustrate the gain of the newer over the older type of immigrants, the percentages of the two groups to the totals from Europe and the world, for the various decades to 1920, follow.¹

SOURCES OF IMMIGRATION, BY PER CENT. OF TOTAL,
1861-1920

DECADE	BRITISH ISLES AND GERMANY		EASTERN AND SOUTHERN EUROPE	
	Per Cent of Europe	Per Cent of World	Per Cent of Europe	Per Cent of World
1861-70	88	79	1.5	1.4
1871-80	75	61	9	7
1881-90	62	56	20	18
1891-00	33	32	54	52
1901-10	15	14	76	71
1911-20	14	11	77	59

At all times in American history the newest type of immigrant has come in to take over the heavier and least attractive type of labor, and has received the greatest disapproval from the older stocks. Anti-immigration propagandists have generally considered differences from themselves as evidences of inferiority. The newcomers did not have heads of the same shape as the majority of their predecessors, for example. Hence they had to be of a lower quality. Stock arguments against them were that they increased "illiteracy, crime, pauperism, problems of disease and sanitation, labor difficulties, low wages, corruption and inefficiency in government, and radical political, economic, and social theories, and that they are not readily assimilated or Americanized."² At the same time there were equally good arguments based on statistics at least as voluminous and sound to prove the contrary. A new era of Know-Nothingism, under the name of the American Protective Association, sprang up in the 1880's and became the center of a savage anti-alien movement with special emphasis upon checking the growth and influence of Catholicism. After the election of 1892, the organization having discredited itself by some of its political activities, its effectiveness dropped to insignificance.

Limitations on Immigration. The first general act to limit immigration was passed in 1882. It merely excluded criminals, idiots, and potential paupers, and assessed a poll tax of 50¢ for each entry, to be

¹ British and German immigrants increased in total numbers through 1881-1890, but declined thereafter to pre-Civil War totals. From 1911 to 1920 immigration from other American countries, principally Canada and Mexico, was nearly 800,000 above the preceding decade, thus lowering the world per cent. for the eastern and southern European countries.

² James C. Malin, *The United States after the World War* (Boston, 1930), p. 222.

paid by the shipowners. Numerous amendments and additions to this act were adopted, the earlier ones being intended mainly to make enforcement more effective and to provide means to deport undesirables who had entered unlawfully. An Act of 1891 provided a superintendent, later changed to commissioner general, of immigration; forbade solicitation by steamship companies for steerage passengers; strengthened the contract-labor law by forbidding advertising for labor in foreign countries; and added any persons with contagious or infectious diseases to the list of undesirables.

The Anti-Chinese Movement. The first movement for total exclusion of immigrants was directed at the Chinese, and later extended to all Asiatics. The Chinaman was a docile and dependable laborer, and therefore dangerous to labor organizations, independent of the fact that he could make a few cents' worth of rice the bulk of a week's rations and was so accustomed to other similar economies that he could work for a small part of what it would take to keep a white man. In 1849 and following, because of a shortage of hired labor at any price, the gold seekers and parasites of California had welcomed Chinese immigration. An Act of Congress of 1862 prohibited the importation of coolies under contract, but it was none too well obeyed even after reënforcement by amendments in 1869, 1873, and 1875.

A treaty negotiated by Anson Burlingame in 1868 went into effect a year later, at about the time that coolie labor on the Central Pacific railroad had completed its share of the task of linking the Atlantic and Pacific coasts. The Burlingame Treaty granted reciprocal right for the citizens of the United States and China to travel, visit, and reside in the other country. Just a few months later, in June, 1870, Chinese strike breakers from California, to the number of 75, were rushed in to break up a shoemakers' strike at North Adams, Massachusetts. This roused the ire of the Knights of St. Crispin and the National Labor Union. The Labor Congress of 1870 demanded abrogation of the treaty. Before this, California unions alone had seen the danger of unlimited competition with the cheaper labor.

In 1870 the Census showed only 63,199 Chinese residents in the country, but by 1880 the number had increased to 105,465. While this growth in itself was enough to excite alarm for the future, it was only a small part of the story. The effects of the Panic of 1873 did not reach the West Coast till 1877. In the meantime about 150,000 people from the East had rushed into California to partake of the greater prosperity, but many of them had not found employment. When the belated hard times finally arrived the situation in California was worse than elsewhere. Then the grumbling against "John Chinaman" swelled to a vociferous outburst and mob action. A meeting of the unemployed at

San Francisco on July 23, 1877, had for its rumored purpose the burning of the docks of the Pacific Mail Steamship Company, the worst offender among importers of the Chinese. Two days of rioting resulted, in which \$100,000 worth of property was destroyed and four men were killed.

A leader in the pick-handle brigade which helped disperse the mob was Dennis Kearney, a man of high ability as an organizer and agitator, but of unstable purpose. From being a friend of the importers of coolies he changed sides, now that the riot was ended, and became the leader of the Workingmen's Trade and Labor Union. Thereafter he was the most vituperative of all in his denunciation of the Chinese, their importers, and employers. The Southern Pacific railroad, which had an enormous influence in the government, came in for the greater share of abuse in the Sunday meetings which he held on the sand lots near the city hall of San Francisco. The legislature rushed through a gag law to suppress such gatherings, after which Kearney was repeatedly arrested and served one term of six months in jail.

In 1878 a Workingman's party, operating in conjunction with the Grangers, carried the city election in San Francisco and captured a majority of the seats in a constitutional convention. Then professional politicians came into the party to participate in the spoils, and soon wrecked it. The Constitution of 1878 forbade the employment of Chinese labor by corporations, either directly or indirectly, and also provided for limiting the power of industrial and railroad corporations. But the courts, remaining conservative, nullified about all the state laws and local ordinances passed to make the antimonopoly provisions effective.

Meanwhile a change of sentiment was taking place among business men. The Chinese began setting up businesses of their own and could hire Chinese labor cheaper than their white competitors could. Consequently, they could undersell the white merchants. This put a new face on the Chinese question as viewed by the former opponents of restricted immigration. Following the new trend of capitalistic thought, the newspapers and courts also changed sides, thus saving some of the anti-Chinese legislation. California before 1880 was making a national issue out of the yellow peril. In 1879 Congress passed a Chinese Exclusion Act which Hayes vetoed because of its conflict with the Burlingame Treaty. Hayes agreed, however, to try to procure a new treaty, and this was accomplished in 1880. By the terms of the new agreement the United States could "regulate, limit, or suspend" Chinese immigration, but could not prohibit it absolutely. In the next two years 57,000 Chinese entered the country before a new law could be passed and go into effect. The first bill, passed in 1882,

proposed to exclude the Chinese for 20 years, but it was vetoed by Arthur because it amounted to total exclusion. Immediately afterward a new bill to suspend immigration of Chinese laborers for 10 years was passed and accepted. Laborers going home on visits could carry permits to reenter. Since all Chinamen looked alike to port officials, this allowed new laborers to come and take the place of those who did not care to return. Others also came over the land borders of the country. A new act in 1884 greatly strengthened the original, which itself was renewed each time before the 10 years elapsed. In 1902 the exclusion was made permanent, though the Chinese government refused to amend the original treaty. In spite of the inrush of 1880-1882, the Chinese population of 1890 was only 2,000 more than in 1880. Thereafter it declined to less than 62,000 in 1920. Then came an increase to nearly 75,000 in 1930, but this was so small a number in proportion to the total population that no danger of a new race problem in the United States seemed probable. The Japanese question, coming to a head after 1900, will be considered in a later chapter.

The Sweatshop. Closely related to immigration as an influence toward low wages was the sweatshop system. Immigrants, segregated into their Little Italys, Ghettos, Chinatowns, and the like, became easy victims of this form of exploitation. The characteristics of the system have been a long day's work, low pay, unsanitary working quarters, and feverish haste—but low wages easily ranks first. The sweatshop manager had no financial stake in the business, but merely got a percentage of the amount paid by the capitalist for the work done. Inasmuch, then, as the sweatshop boss cleared more than his labor as a supervisor was worth, he was merely another parasite. The small piece-wage paid became less because of the sweater's ratio. Since the wages were so small that individuals could not live on them, society in one way or another had to make up the balance to support the system.

The practice usually occurred in tenement sweatshops and in the home, the latter form being especially hard to regulate by law. Advertisements in newspapers, and especially in the gutter type of magazines, encouraging women to "Earn money in your spare hours!" are the most modern method of recruiting employees. Not only did home work save the employer the cost of room, heat, and light in factory or shop, but, worse yet, the victims were usually required to make a deposit of a dollar or two to "cover the cost of materials." Then the task, such as decorating greeting cards, was often beyond the skill of the gulled laborer, who therefore lost his deposit on what, after all, was material of only a few cents in value. Sweated industries have generally included the "manufacture of artificial flowers, sewing tape in kid gloves, millinery work, making garters, shelling nuts, putting

cords in pencils for souvenir cards, stringing beads, sewing men's neckties, covering buttons with braid, finishing . . . postcards, putting buttons on a card, finishing corset covers [in earlier days], and manufacturing false-hair switches."¹ But the clothing industry has been preëminently the culprit.

Conditions in the city slums where the system flourished have been ably depicted.² Shortly after the Civil War the city of New York had at least 100,000 slum dwellers living in 20,000 cellars in regions where garbage sometimes lay two feet deep in the streets and contagious diseases spread rampant and frequently. When Philadelphia cleaned her streets in 1870, a thousand loads of garbage were hauled off daily for ten weeks. At that time the people drank water from the Delaware River into which 13,000,000 gallons of sewage were dumped daily. The induction pipes were above the sewer vents, but not far enough to escape the backwash from the tides. The New England mill towns were proportionally as bad. In Fall River there were tenements where twelve persons lived in three rooms or fifteen in four.³ In 1873 yellow fever made its last great sweep as far north as Memphis, and was accompanied by smallpox and cholera. Such conditions endangered the lives of people of all degrees, but made veritable pest holes of the slums where the sweated laborers dwelt.

In 1866 the city of New York got a genuine Board of Health, began moving the slaughterhouses to the edge of the city, and cleaned up generally, but the interior conditions of the tenements were not greatly improved. In that year 75,000 of the population of the city "lived on the ragged edge of misery." About 15,000 of them were getting from \$2.50 to \$4 a week, but this was better than the wage of women who did piece work in the garment industry. Susan B. Anthony did what she could through the agency of the Working-women's Protective Association. Women's labor unions were also formed, but they could not accomplish much with people afraid to risk their precarious existence by organization. The city officials in the late sixties admitted the existence of 697 houses of prostitution. Another investigator accounted for 750, with 12,000 inmates, most of whom were seeking this form of release from hunger. A Society for the Prevention of Cruelty to Animals was formed by Henry Bergh

¹ Frank T. Carlton, *History and Problems of Organized Labor* (Boston, c. 1911), p. 362.

² See Allan Nevins, *The Emergence of Modern America* (New York, 1927), pp. 319-329.

³ In 1910 the author counted the number of "hunkies" living in a three-roomed house in an Indiana factory town. Eighteen men slept in the beds at night and, when they climbed out in the morning, an equal number from the night shift crawled in. There was also a woman housekeeper, who carried from the grocery store mainly corn meal, salt meat, and garlic.

in 1866, but it was eight years later before anybody started an effective movement for a like organization to protect children. When the latter movement was begun, it was realized that the conditions depicted in *Oliver Twist* were duplicated with interest in many of the slums of America.

Legislation against this form of exploitation was slow, and its career in the courts was not easy. When the New York Court of Appeals, in 1885, nullified an act to prohibit cigar making in tenement houses, it resorted to the lugubriously sentimental appeal of the "hallowed associations and beneficent influences" of the home and the benefits to be derived from working in such surroundings. Yet, in time, the states began framing health laws to regulate tenement labor, and so worded as to stand the test of judicial review.

Child Labor and Underpaid Women. Coördinate with the sweat-shop system has been child labor and the underpayment of women. Organized labor from early days demanded the limitation of child labor and equal pay for both sexes for equal work, the dual purpose being to raise the general wage level and protect the youth and women of the country. The statistics of child labor are very scanty for the period before 1870, but the Census of that year showed 739,164 persons of from ten to fifteen years of age in gainful occupations, of whom 114,628 were in factories. The totals grew to 1,118,536 by 1880 and 1,750,178 in 1900.¹ The proportion of females above ten years of age gainfully employed increased from 13% in 1870 to 19% in 1900. Their ratio to the total number of laborers was approximately the same. The census figures for child labor were never complete. Many children, as well as their parents, lied about their age in order to get the jobs, and the employers were cautious about revealing the total number of small children they hired. It was no secret that a great number of children preferred to work than go to school, and, considering the deadly routine with small purpose to which the schools subjected them, they were about as well off in the factory. But when it is noted that the average age at which they went to work in New Jersey, in 1886, was nine years; that they received not over \$2 a week; and that their wages were used to support fathers who were thrown out of employment by their competition, the need of regulatory legislation is made apparent. Massachusetts and Ohio took some half-hearted steps toward limitation of child labor before the Civil War. Illinois and Wisconsin in 1877 and Michigan in 1885 did likewise. Massachusetts was the first state (1866-1867) to take up the mission in earnest, and other states laggingly followed the example. Before 1910 every state

¹ The percentages of child laborers to total labor as reported were 5.6 in 1870, 6.7 in 1880, and 3.2 in 1900.

but Nevada had some sort of legislation on the subject. Some statutes were very elaborate, while others were nearly useless. The latter type of law was especially found in the South. For instance, Georgia showed charity to the children of widows, and to total orphans, by allowing them to work in factories at the age of ten, and no great effort was made to see that this degree of maturity had actually been attained.

Difficulties in Organizing Laborers. Confronted by the exploitation of immigrants, women, children, and the sweatshop derelicts, labor organizers were further handicapped by the innate conservatism and ignorance of the able-bodied, native, male adults with whom they tried to deal. Most of them were sons of the soil, deeply grounded in the traditions of individualism. The example of one self-seeking labor leader in a hundred was enough to reenforce their prejudices against them all, and it cannot be said that 99% of the organizers were honest. Labor had not become class conscious. Because some persons had risen from their ranks to positions of power, there was a Micawberish notion that something was going to turn up for the rest. Like the slaveless whites of the Old South, they continued to support a system which they thought might sometime make them rich.

In 1865, though organization had been tried out for two generations alternately along economic and political lines, most of the lessons of combination had yet to be learned. In the ensuing twenty years, while business units were multiplying in size, thus giving the employers vastly greater power in bargaining, the labor leaders were divided into numerous factions, each advocating a different form of economic or political panacea. After a permanent type of federation was finally evolved another fifteen years had to pass before it waxed strong and gained respectability. By this time, the old century had passed, and with it much of the opportunity to take advantage of organization in the creative period of industrialism. The hardest fight still lay ahead.

Civil War Effects on Organization. Some advantages had been gained during the Civil War, but not in wages or hours of labor. The organizers in 1860 had blamed the war upon the politicians of both sections, declaring that the workers had no fundamental interest in the divisive issues. In general, they favored the Crittenden Compromise. But, when the fighting began, the Northern unions became zealous in war work. Sometimes whole locals enlisted as units. This activity helped create a favorable state of public opinion, while the demand for more labor stimulated the movement toward union organization. Also, though real wages declined somewhat in the next four years, work was steadier and fewer people were unemployed, so that the laborers as a class became just a little more independent than in earlier times. In 1860 there were only five national unions. Of these

the Molders' International Union was the work of William H. Sylvis, who became the outstanding labor leader of the 'sixties. Jonathan C. Fincher, founder of the National Union of Machinists and Blacksmiths, was more consistent in his trade unionism than was Sylvis. Thirteen more nationals were formed by 1864, after which there came a brief lull in the first postwar years of readjustment. In June, 1863, organization existed in but 20 trades, the total number of locals being 79. But by the close of 1865 there were about 300 locals in 61 trades. The general demand of skilled labor was for an increase in the day's wages from \$2 to \$2.50. There were also some attempts at the creation of cooperative retail organization among members, but following a series of big failures in 1865 the movement soon subsided.

Labor newspapers and periodicals also experienced a revival during the war and immediately following. *Fincher's Trades' Review*, founded in 1863, set a high standard in labor journalism during its three years of existence. Fincher maintained its freedom from capitalistic influence by refusing to print any advertising. The *Workingman's Advocate*, edited at Chicago by Andrew C. Cameron from 1864 to 1877, was adopted as the official organ of the National Labor Union. The *Daily Evening Voice* of Boston, 1864-1867, was of great influence in the East, particularly in the movement for the shorter work day. In all, at least 120 daily, weekly, and monthly papers were founded between 1863 and 1873.

Early Efforts at Federation. Various attempts at a federation of the different trades were made before any noteworthy success was achieved. The first movement, following an abortive attempt in 1860, was started by the city trades' assemblies in 1864. These were local federations of unions intending to accomplish for their areas what was later done for the continent at large by the American Federation of Labor. The first one was formed at Rochester, New York, in 1863. The idea spread so rapidly that by the end of the war they were found in nearly every important manufacturing city of the country. They collected no strike funds, for strikes were hardly necessary in that era of rising prices. But they organized boycotts, assisted coöperative stores, established free libraries and reading rooms, supported the labor press, and conducted lobbying activities. By 1864 they found themselves opposed by employers' associations which had been erected to counteract the demands of labor, and at least in Michigan were organized on a state-wide basis. These associations had the unintended effect of holding the national unions together in spite of internal disturbances, of stimulating the formation of similar combinations in other trades, and especially of arousing a new agitation for an effective intersectional labor federation.

The outcome was that in September, 1864, representatives of numerous city trades' assemblies meeting at Louisville formed the International Industrial Assembly of North America. The national trade unions were ignored, the federation being solely one of city assemblies. A program of action was adopted worthy of the name of the organization. But the movement was not deeply rooted, and no later conventions were held. Of all the delegates at Louisville, Richard F. Trevellick of the Ship Carpenters' and Caulkers' Union at Detroit was the only one to achieve later fame.

A new effort was made while the McCulloch plan of greenback cremation was in operation, as business was entering its necessary postwar readjustments, and when the ranks of labor were still disorganized by the returned-soldier element. The National Labor Union grew out of the Labor Congress at Baltimore in August, 1866. It was conducted along somewhat idealistic lines, emphasizing the eight-hour day, greenbackism, and coöperative production. At that time the eight-hour day was enjoyed by so few laborers that it was possible to build up a Utopian philosophy about its possibilities. Ira Steward, a Boston machinist, was the major prophet of the movement. He formed his first eight-hour league at home in 1864, under the name of the Labor Reform Association. Grand eight-hour leagues, which had been established on a state-wide basis in 1865 and 1866, were responsible for the calling of the Baltimore Labor Congress. The philosophy of the leagues was that the eight-hour day without wage reductions would increase the laborers' wants, thereby stimulating increased production. This would result in a greater mechanization of industry, but the workers would then demand more pay, which could be granted because of a lowered general cost of manufacturing. Thus, a rising standard of living would ultimately absorb interest and profit, and a coöperative commonwealth would be created.

The National Labor Union. The National Labor Union which emerged from the Baltimore congress was a loose affiliation of local unions, trades' assemblies, eight-hour leagues, and national unions. In later congresses women delegates were admitted, including Susan B. Anthony and Elizabeth Cady Stanton, the latter as a representative of the Woman Suffrage Association which was in no sense a labor organization. Anthony was excluded in 1869 for the unethical practice of recruiting girls at reduced wages to take the jobs of men who had been discharged. At the same session four Negro delegates were admitted. But the Republicanism of the colored contingent so conflicted with the program of the N.L.U. that they split off again in the following year.

Resolutions in regard to the eight-hour day were adopted annually

and presented to the legislative bodies. In 1868 the federal Congress adopted the plan for government employees, but not till four years later were corresponding wage cuts restored. About half a dozen state legislatures adopted the idea in principle, but, by permitting separate contracts for longer hours, the laws were rendered inoperative. Some of the member unions of the national organization made pretentious experiments in cooperation. The Molders' International Union, headed as was the N.L.U. by Sylvis, started several stove foundries which soon became capitalistic and passed out of the control of the workers.

From the beginning the National Labor Union was political in its ideals and tactics. The Labor Reform party, proposed at the meeting of 1866, did not materialize till 1872, but agitation against contract labor and Chinese immigration was especially prominent in the activities. There was also much local political agitation. In 1869 a Massachusetts labor party elected 21 representatives and a senator to the legislature. In the next year Wendell Phillips, who had become an early and permanent convert to Steward's philosophy, made an unsuccessful race for the governorship as a labor candidate. As permanent attainments of this short-lived movement, Massachusetts in 1869 created the first bureau of labor statistics, and in 1872 adopted the first genuine ten-hour law. The Labor Reform party has been chiefly noted for its greenback plank. This remedy had been propounded by Edward Kellogg ever since 1848. His idea was to issue legal tenders based on real estate mortgages and bearing a rate of interest not exceeding the labor cost of conducting the loan business. The loans would be made to coöperatives in the effort to help them do away with middlemen and bankers. By the time this program got into the platform of 1872 the National Labor Union was already declining in strength.

Straight trade unionists were always fearful that through political action they would lose the objectives of collective bargaining. Meanwhile, the advocates of economic action were gaining in numbers. Sixteen new national and international unions were formed between 1867 and 1872. The Knights of St. Crispin, a shoemakers' union originating at Milwaukee in 1867, won a number of strikes and reached a membership of 50,000 by 1873, the largest number of any union on the continent. In a period of successful strikes the union men became contemptuous of political action, breaking up the National Labor Union after David Davis's rejection of the presidential nomination in 1872. Aside from the preliminary work of Kellogg and Steward, the principal contributions had been made by Sylvis, A. C. Cameron, and John Hinchcliffe.

Effects of Panic of 1873. The Panic of 1873, like its predecessors, had a blighting effect upon labor. Industrial unrest increased as each successive year grew worse than its predecessor. By 1877 there were nearly 3,000,000 persons wanting work who could not get it. The unions, which had remained loosely organized in the more plentiful years, had collected no funds to tide over a period of distress. Consequently, as individual workers became more intent upon grasping for subsistence than in maintaining the integrity of their crafts, they went to pieces. By 1877 there were only eight or nine national unions left in existence. The total number of union men in 1878 was not more than 50,000, whereas in 1873 they had numbered 300,000, while some claims ran twice as high. The Knights of St. Crispin almost went out of existence. Most of the eight-hour-day gains were lost in the period of wage reductions. An era of bitter and extensive strikes was begun, most of which proved unsuccessful. Yet, some advance was made even in the midst of depression. A bituminous miners' union was formed in the panic year, and gained steadily in membership as times became harder. Also the Amalgamated Association of Iron and Steel Workers was created by the combination of three earlier unions, including the strong puddlers' organization.

Several efforts at labor consolidation were made during the lean years, but most of them came to naught. In July, 1873, an Industrial Congress tried to salvage the national unions which had split off from the National Labor Union. A year later it fused with a similar organization, called the Industrial Brotherhood, under the ritual of the latter. In another year, after switching from economic action to greenbackism, it called for a general strike for the eight-hour day, which never materialized, and then flickered out. It was in this organization that Terence V. Powderly, a machinist of Scranton, first appeared as a prominent labor leader. Another movement of the same period, the Sovereigns of Industry, was a direct offshoot from the Grange, created because the farmers' society would not admit industrial laborers. It was almost purely a coöperative order, operating as a secret society. It had some success for a few years in New England, but it never spread widely. In the general failure of the coöperative enterprises of the 1870's it succumbed to hard times. Labor men also took part in the formation of the Greenback party, though few of them voted for the candidates of 1876. But the harsh suppression of the strikes of 1877 helped to develop an independent political attitude among many. About 10% of the total vote in Pennsylvania, Ohio, and New York was cast for labor candidates in 1877. In 1878 Powderly was elected mayor of Scranton, being twice reëlected. But in later years he became an orthodox Republican, even holding appoint-

ive offices under McKinley and his successors. As employment conditions improved after 1880, the labor contingent drifted away from the Greenback movement.

The Molly Maguires. Labor organization was virtually driven into secret channels as a result of employers' blacklists and hostile court decisions in the dark years of the 'seventies. While the Sovereigns of Industry and the Industrial Brotherhood were perfectly wholesome in their influence, other societies developed vicious tendencies. The worst manifestation was that of the Molly Maguires in the anthracite region of Pennsylvania. The Mollies were a secret ring controlling the activities of the Ancient Order of Hibernians, which itself was a Catholic organization dating from at least 1852 and disapproved by the church. In the early '60's the Molly Maguires, then known among themselves as "Buckshots," began murdering mining officials in retaliation against oppressive tactics. In 1862 and 1863 they led the draft-resistance movement in the Pottsville region. After numerous murders and considerable destruction of property, they were restrained from further violence only by the presence of General Darius N. Couch and a contingent of federal troops. The order, despite its name, was by no means a purely Irish organization, for such names as Bressler and Stutzman were found in the list of members who were arrested.

After 1871 the Ancient Order of Hibernians had as many as 6,000 lodges, at which time the public did not associate the order with the Mollies. The main thing noted was that mine officials would be found murdered and the guilt could not be traced. Whenever it was decided that the world would be a sweeter habitation without some particularly obnoxious mine operator, a lodge in some more distant locality would be asked to send a visitor to remove the victim. In this way the identity of the murderer was not known to any of the local brethren, or if guilty knowledge existed it was easily hidden by perjury. Then the Philadelphia and Reading Railroad Company hired James McParlan of the Pinkerton detective agency to gather evidence. Posing as a fugitive counterfeiter, he joined the order, collected sufficient evidence, and led to numerous arrests in 1875. The hanging of ten and imprisonment of fourteen other members, after conviction in 1876, broke up the organization.

Knights of Labor. Modern American socialism also began on a systematic basis during this period. But more important for the time being was the development of the Noble Order of the Knights of Labor. Uriah S. Stephens, a garment cutter of Philadelphia, and six of his associates found in 1869 that stool pigeons kept the employers informed concerning all deliberations of the garment cutters' union,

so that each movement could be checkmated. Consequently, they formed the new secret order and laid plans for its expansion into a nation-wide, all-inclusive labor body. The degree of secrecy was such that for some years not even the name of the order was revealed, it being referred to as "the five stars," an idea not altogether new among American secret societies with a purpose.

Earlier unions had been almost solely for the benefit of skilled craftsmen, the mass of common labor being ignored. In a period before machines had been adapted to change workmen into guardians of automatic processes, such aloofness from the herd was practicable for any who chose to take advantage of the method. In fact, the union man felt that he had especially to guard against the admission of too many apprentices into the trade—it was well to keep the gulf fixed between skilled and unskilled laborers. On the other hand, the problem of unionizing the unskilled element separately seemed rather hopeless. The difficulty arose from their profusion, the multiplicity of nationalities represented, and the ease with which immigrants, migrants, women, and children could be used to counteract such organization. Other obstacles were that the hostility of employers, legislatures, and courts, and the suspicious, ignorant conservatism of the laborers themselves were too great to get such unions started.

But, among garment makers, cigar makers, iron workers, and others, machines were already displacing hand trades to the extent that the distinction between skilled and unskilled labor was beginning to seem less permanent. This fact, as well as a broader and more humanitarian view of the question, was bringing some labor leaders by 1870 to the conclusion that the only salvation of workers in general was to organize them into one big union, regardless of craft or task, in order to offset the advantages of capitalistic combination. The Knights seized upon the fundamental idea of admitting the unskilled and unorganized along with skilled craftsmen who at the same time might retain membership in their trade unions. Stephens, who had been educated for the Baptist ministry, was willing to admit even persons who could not be classed as laborers at all, in hope that they would be fired with the missionary spirit.

Until July, 1872, only one local assembly of Knights existed. Then, as labor began to feel the pinch of hard times before the panic broke, five more were created in ten months. Before the close of 1873 there were so many locals that district assemblies had to be established. The order rapidly absorbed the wreckage of the panic-stricken trade unions, sometimes taking over the organizations as a whole. But many of the neophytes, finding that the principles of the Knights did not suit their needs, dropped out again, so that for another decade the

total membership remained relatively small. In 1878 fusions were effected with the Junior Sons of '76 and with the Social Democratic party of North America. It was at this time that socialism began to take more than a theoretical part in the labor movement. Stephens himself was of a somewhat socialistic turn of mind.

Principles of the Knights. Following the exposure of the Molly Maguires, a new wave of public indignation against secret societies led to the abandonment of the esoteric features at the Reading convention in 1878. At the same time Terence V. Powderly superseded Stephens as Grand Master Workman of the order, after which, for nearly a decade, the idealistic but erratic machinist remained the outstanding figure in the labor movement. As a part of the *coup d'état* an elaborate "Preamble" or declaration of principles was adopted, including most of the labor demands evolved in the preceding fifteen years. Arbitration was advocated in place of strikes. The eight-hour day and abolition of child labor were demanded. But special emphasis was placed on government ownership of all public utilities, including railroads, and cooperative control of most other means of production and distribution. The central governing body was to supervise all cooperatives, which should begin as consumers' agencies and ultimately take over marketing and manufactures. The coöperatives in time would be extended to include as members all "useful" persons, after which the distribution of economic goods would be rid of parasitic profits.

Coöperative Efforts of Knights. In practice, the Knights fell far short of their high ideals. Many members preferred collective bargaining, and it was not till 1881 that an amendment was smuggled into the constitution making the establishment of coöperatives compulsory. An active start was made toward the realization of this plan, in 1883, through the purchase of a coal mine near Cannelburg, Indiana. Though this was the only effort of the general executive board, another downward swing of the business cycle in succeeding months gave an impetus to efforts of district and local assemblies. By 1886, when the movement reached its height, at least 135 producing and marketing agencies had been established, mostly in mines, cooper shops, and shoe factories. These enterprises all failed in a relatively short time. In some cases inner rings got control, turned capitalistic, and froze out the other stockholders. In other instances inexperience, ignorance, and lack of mutual confidence were combined with extravagant expectations of what could be accomplished. Prices were cut to undersell competitors, and then wages were reduced to make both ends meet. But, since the employees also were Knights, this robbing of Peter to pay Paul caused trouble. Finally, the enterprises were subject to high

interest rates and unfair practices especially on the part of the railroads.

The career of the Union Mining Company at Cannelburg is the classic example both of rash action and discrimination. The order spent \$20,000 getting the mine into shape, including the building of a siding which the railroad refused to construct. Then, after digging \$1,000 worth of coal, the managers had to wait nine months till the railroad company decided to connect their siding with the main line. Next, it was discovered that the coal was fit only for making gas and that contracts for such coal were let only in July. This necessitated another nine months' wait, during which time they would have to buy a \$4,000 locomotive, since the railroad company refused to switch the cars. Under such circumstances, the board now being out of funds, they were compelled to sell out to the capitalistic competitor that had been backing the whole fight against them. By 1887 the whole cooperative movement was on the rocks.

An Era of Strikes. The Knights of Labor were equally unfortunate in the long run in their efforts at collective bargaining. As a result of changing principles under a new leadership, strikes and boycotts were almost constant from 1883 to 1886, and finally were disastrous. The chief enemy was the railroads and particularly the Gould system.

The first great railroad strikes occurred in 1877, under other control, before the Knights had wandered from their first principles. Two strikes had been successfully conducted on Eastern lines by the Brotherhood of Locomotive Engineers in 1875. The trouble in 1877 came when the Pennsylvania system made a second 10% wage cut and doubled the length of trains without increasing the crew. Competing railroads followed the example. At this time the Pinkerton detective agency was approaching the height of its arrogance. It circularized employers, with promises to discover any plotted disturbance and furnish means to prevent their materialization. When its services were engaged it sent out men to join the unions, foment discontent, and then act as stool pigeons. When a strike was started by such means a gang of armed thugs would be rushed in to suppress the movement. They acted very much like a body of retainers about a medieval lord, but without any shadow of legal authority.

The Pennsylvania, Baltimore and Ohio, and New York Central railroads were intent upon breaking up the unions; the laborers were enraged by wage reductions and layoffs; an army of hoboese, recruited by years of enforced unemployment, was willing to turn any strike or other disturbance into a riot. Since the regular railroad brotherhoods feared to risk their existence by any unsuccessful strike, a secret Trainmen's Union was organized at Pittsburgh by Robert H. Ammon

Though the efforts at an organized walkout on all of the Eastern trunk lines failed, strikes and riots occurred in the latter half of July, 1877, at Martinsburg, Cumberland, Baltimore, Pittsburgh, Reading, Chicago, St. Louis, and minor points. In each case the militia was sent in, not to restore order, but to suppress the unions. When the militia failed, or openly sympathized with the strikers, the governors appealed for federal troops. Hayes readily complied, sending soldiers to West Virginia, Maryland, Pennsylvania, and Illinois. At Martinsburg nine persons were killed and 30 or 40 wounded before order was restored. At Cumberland and Baltimore the situation was equally sanguinary, while at Reading eleven rioters were killed in a skirmish with soldiers. But the most serious trouble was at Pittsburgh. Because the Pennsylvania system had so long discriminated against the city in the matter of the long-and-short haul, the mayor and citizens sympathized with the strikers. Consequently the governor sent 650 national guardsmen from Philadelphia. After 25 members of the mob were killed in the first attack, the militia were repulsed, driven into a roundhouse, besieged for nearly two days, burned out, and driven under fire across the Allegheny River. The burning and pillaging of railroad property then went on until the mob was satisfied. Claims for damages were entered against the state for a sum of over \$4,000,000, but they were finally settled for almost a third less.

All the strikes failed, after which the men returned to work at the reduced wages. Firemen and brakemen on the New York Central got \$1.58 a day. Engineers were paid \$3.15 a day and switchmen \$36 a month. The average monthly pay was \$41.08. Yet, at the time the cuts were made, the company was paying 8% on a capital of \$90,000,000, half of which was water. At least \$4,500,000 in surplus dividends were extorted from labor and consumers by that one railroad in one year alone. In the long run, the worst effect of the strikes was that the courts revived the old "malicious conspiracy" doctrine, legislatures passed new conspiracy laws, and a precedent was established for the use of federal troops on slight provocation.

These events also inaugurated an era of great and numerous strikes and lockouts, many of which were inevitable so long as labor insisted upon a respectable standard of living against the opposition of both employers and governments. Between 1881 and 1900 there were 23,798 strikes and lockouts, involving 127,442 establishments and 6,610,000 laborers including all duplications. The loss to the laborers was \$306,683,000 and to the employers \$142,659,000. The indirect consequence to the public—in the weakened bodies and intellects of underfed children, and the consequent contributions to crime, pauperization, drunkenness, and charitable institutions—like the similar

results of a panic, must always remain unknown. Thirty-five per cent. of the strikers were successful, while another 16.7% were partly so. Less than half failed entirely. Since many of the laborers were involved in two or more strikes each, this means that, on the whole and for the entire period, the material result of the strikes justified the effort. Over a third of the troubles were in the building trades and the various coal, coke, metal, and metallic goods industries. Questions of wages and hours accounted for 58% of the strikes, while sympathetic movements and demands for union recognition and the closed shop raised the ratio to two-thirds.

Strikes Led by Knights of Labor. Though the Knights of Labor had engaged in some minor walkouts prior to 1883, the telegraphers' strike of that year was the first to bring attention to the order. The telegraphers demanded a six-day week, with eight-hour shifts or seven hours at night, and a 15% wage increase. Because of the almost universal detestation of Jay Gould, who controlled the Western Union Telegraph Company, the public and a considerable portion of the press sympathized with the strikers. When the effort failed, many of the former employees were blacklisted. Renewed hard times from 1883 to 1885 made further attempts at striking futile, except in a few instances. But there was a gradual recovery in 1886 and 1887, accompanied by numerous boycotts all over the country, for which the Knights were chiefly responsible, and many strikes, the most spectacular of which were under the same management.

In 1885 the shopmen of Gould's southwestern system received wage reductions and struck. The train crews lent their assistance, thereby enabling the shopmen to win with restored wages. Six months later a strike resulted when the Knights were locked out of the Wabash shops at Moberly, Missouri, and again the receivers of the Gould lines gave in. This victory led to a great rush of membership in the order. Until 1883 there had never been more than 52,000 Knights at any one time. But many persons who had passed through the organization were still influenced by its doctrines, thus making its influence much greater than its size would seem to justify. The federal Act of 1885 to prohibit the importation of laborers under contract was a consequence of K. of L. lobbying.¹

Following the strikes of 1885, about 600,000 new members were secured in a few months, the total reaching 700,000 in 1886. This was three-fourths of all the organized labor in the country. But the employers' associations were working in unison, anxious to trim the plumage of the Knights. They made extensive use of the lockout,

¹ Trade unions had been indifferent to this abuse because their members were skilled and "dagoes" and "hunkies" were not competitors.

blacklist, and Pinkerton men, violating trade agreements as though they had been signed under coercion and were of no binding force. The Gould organization, seemingly determined to crush the Knights of Labor, deliberately provoked a strike on the Missouri, Kansas, and Texas line. Following a series of minor attempts to egg the order into action, a shop foreman was fired in violation of promise. The Knights, seeking recognition of the order and a minimum wage of \$1.50 a day for unskilled hands, were glad of the opportunity offered. So they walked out on March 1, 1886. Their brothers on the Missouri Pacific joined them in sympathy, and within a week the whole Gould system of the Southwest was involved. There were about 9,000 strikers, but the four railway brotherhoods took no part. In a couple of months the movement had failed.

Decline of the Knights. There were numerous other strikes in the same year, mostly unsuccessful. A boycott and strike in the meat-packing industry were on the point of succeeding when Powderly, for some mystic reason known only to his own capricious soul, called off the efforts. Some said he acted on the advice of a priest. The failure of so many strikes gave the employers' associations the upper hand, while the Noble Order began to dwindle. Internal dissensions were tearing it asunder anyway. Coöperationists were opposed by advocates of collective bargaining; political actionists were quarreling with the advocates of purely economic methods; consolidationists were hostile to those who would reorganize the body as a federation of unionists; socialists, Bakunin nihilists, cranks, and self-seekers, who had flocked into the order in its period of overexpansion, were pulling in various directions. But the failure both of cooperation and strikes, coupled with the more alluring prospects of the rising American Federation of Labor, furnished the main reasons for disintegration. Henry George, the single taxer, was backed as the labor candidate for the mayoralty of New York in the fall of 1887. He ran a good second, well ahead of the Republican candidate Theodore Roosevelt, and might have succeeded had he not been counted out of thousands of votes. After this brilliant exhibition the order dwindled rapidly to a position of permanent impotence.

Beginnings of Socialist Parties. The American Federation of Labor was not, like the Knights of Labor, either primarily American nor purely idealistic. Instead, it was an outgrowth of Marxian and Lassalleian social theories, adapted to a practical method of dealing with American problems. Since socialist theories played a part in the career of so many labor organizations, especially from 1870 to 1886, some explanation of this rôle in its purely domestic aspects needs to be presented.

American socialism after the Civil War had little connection with that of earlier decades. It started from two new European sources: the International Workingmen's Association, founded by the British trade unions with the assistance of Karl Marx in 1864, and the efforts of Ferdinand Lassalle as begun in Germany in 1863. Without going into the intricate details of the theories, it should be noted that the International Workingmen's Association had but little of communism in it despite the Marxian influence. It was primarily intended to check the international migration of strike breakers between continental European countries. The Marxian idea was to work first through the trade unions and cooperatives, holding out the capture of government and complete socialization as an ultimate ideal. The Lassallean notion was that political control should be secured first, after which cooperation would follow. A Communist Club was founded in New York in 1857, basing its theories on the *Communist Manifesto* of Marx and Friedrich Engels. In 1865 some disciples of Lassalle formed the General German Workingmen's Union in the same city.

But F. A. Sorge, of the Marxian school, was the real founder of American socialism. Sylvis, just before his death in 1869, had adopted the views of Sorge, and was trying to induce the National Labor Union to affiliate with the International Workingmen's Association. The rapprochement was completed in 1870, but the early collapse of the union prevented any practical results. By 1872 the International was breaking up in Europe as a result of dissension over the theories of the Russian nihilist Mikhail (Michael) Bakunin. To escape this influence, the headquarters were transferred to New York and left under the direction of Sorge. The division in the United States thereafter was known as the North American Federation. Perpetuating the International's original idea of protecting labor from migratory scabs, the Federation continued for a short time to exert influence over unions of large German membership. But the Federation was split to pieces by internal bickerings by 1875, and was officially dissolved in the following year. It had probably never had more than a thousand members.

Meanwhile, the Lassallean movement had languished till the Panic of 1873. Then, as trade unions crumbled and attention shifted to political action, its influence began to grow. In 1874 Joseph Weydemeyer organized a labor party in Chicago, which cast 785 votes in the state election after a campaign for reform of child and prison labor, state ownership of railroads, aid to coöperatives, and abolition of monopolies. Abstract theory was already succumbing to hard-headed American unimaginativeness. In the same year Adolph Strasser led a faction of the International into a combination with eastern Lassalle-

ans, to form the Social Democratic party of North America, confined largely to the suburbs of the city of New York. Efforts were made in 1875 and 1876 to fuse the socialists, greenbackers, and Knights of Labor. But, since their differences were too great for compromise, each went its own way. By this time, Marxian and Lassalleian differences were pretty effectually smoothed out through contact with actual conditions. After 1876 the terms were soon supplanted by "political socialists" and "trade-union socialists." Generally both elements managed to get along in the same party.

The parting of the ways between socialism and straight unionism came in 1877. The labor troubles of that year rushed the more theoretical socialists into political action, a fair showing being made in the city elections of Chicago, Milwaukee, and Cincinnati. In 1878 the reorganized Socialist Labor party launched the International Labor Union on the one-big-union plan.¹ With the return of more prosperous times, the Socialist vote declined to insignificance even in Chicago. This spurt of political action disgusted Strasser and others, who split off from the party into straight unionism. Shorn of this faction, the remnant of the Social Democratic party after 1880 was submerged for a time, while the schismatic elements drifted into anarchism and syndicalism.²

Anarchism and Syndicalism. A new organization was formed, calling itself the Revolutionary Socialist party. Its eastern wing, under the leadership of Johann Most, a German refugee, drifted into pure anarchism. It advocated the replacing of governments and trade unions by a loose federation of coöperatives, exchanging products between themselves by means of paper money. Public affairs should be regulated by contracts between communes and associations. Concessions were made to trade unions, but not to politics, while violence was recommended for the treatment of church and state officials and capitalists. A federation of Revolutionary Socialists with other similar elements was effected at Pittsburgh in 1884. It took the name of the International Working People's Association, but was commonly known as the Black International. Its principal stronghold was at Chicago, where a further fusion with labor unions created a counterpart of French Syndicalism. The members of the Black International were anything but cautious in the language which they used to incite the laborers during the upheaval of 1884-1886. The *Alarm*, one of their

¹ This union began to dwindle shortly afterward, giving up the ghost in 1887.

² The principal socialist newspapers of the period were printed by Adolph Douai, a German "forty-eighter" of high education, school teacher, and introducer of the kindergarten to the United States (Boston, 1855). He edited *Die Arbeiter Zeitung*, 1868-1870, taught school for eight years, and then edited the *New Yorker Volkszeitung* till his death in 1888.

Chicago papers, on February 21, 1885, went so far as to recommend the placing of dynamite bombs "in the immediate neighborhood of a lot of rich loafers," it being promised that "A most cheerful and gratifying result will follow." Such doctrine led to tragedy in the following year.

The Haymarket Affair. The Chicago police for over a decade had been suppressing labor meetings with fierce brutality. On January 13, 1874, an unemployment parade had been broken up, and hundreds of persons whose only guilt was hunger were beaten with clubs. The sight of this outrage made a socialist out of a former editor of so conservative a paper as the *New York Times*. Again, during the excitement of 1877, a mass meeting, largely socialistic, was similarly broken up. But this time the victims fought back, several on each side being wounded or killed. Such police tactics were continued in succeeding years till many innocent victims had reason to harbor feelings of revenge.

The climax was reached in May, 1886. On the first of the month a nation-wide strike for the eight-hour day had been started by the trade unions. On the third, pickets at the McCormick works attacked some strike breakers and in turn were fired upon by the police, four being killed and many injured. On the following evening, May 4, a mass meeting was held in protest against these murders. The crowd was addressed by several members of the Black International, including Albert R. Parsons of the *Alarm*, August V. T. Spies of the *Arbeiter Zeitung*, and Samuel Fielden, an Englishman. Mayor Carter Harrison attended the early part of the session, and, feeling that, in spite of some fervid language, the assembly was peaceable, he left early. Soon after this, during Fielden's somewhat more intemperate speech, a company of 180 policemen advanced to use the customary method of dispelling the crowd. Then somebody threw a bomb which flattened sixty of the police, one dying on the spot and seven more later. Another twenty-seven were seriously injured. The remaining police used their guns to finish their work. People all over the country were inflamed over the outrage, seeming to feel that the whole nation was in danger from anarchists, though there were not more than 6,000 of them in all the states.

Hundreds of Chicago laborers had felt the clubs or shrunk from the gunfire of the police. Anyone of these, especially if related to the slain pickets of the preceding day, might have thrown the bomb without any knowledge of anarchist dogma. But, since the public demanded Mosaic reprisal, the local anarchists became the victims. The court, including the presiding judge Joseph E. Gary, was swayed by the general feeling. Consequently, seven of the leaders were sentenced to

death, after a farcical trial, merely because they favored a different economic and political régime and because it was possible that the unknown maniac who threw the bomb might have been influenced by their doctrine of violence. Louis Lingg, one of the convicted men, committed suicide in his cell; Parsons, Spies, George Engel, and Adolph Fischer were hanged 18 months after the crime; the sentences of Fielden and Michael Schwab were commuted to life imprisonment. Another culprit, Oscar W. Neebe, was sentenced to 15 years in the penitentiary. As years passed, an increasing number of moderate-minded people began to feel that the trial was a travesty. In 1893 Governor John P. Altgeld, a life-long advocate of justice and square dealing, pardoned the three imprisoned men. But, in delivering his decree, he uttered so savage an indictment of the persons who had railroaded the others to the gallows that he created enemies who hounded him to poverty and the grave. The Haymarket affair broke up the activities of the Black International, and, thereafter, the ranks of the Socialist Labor party began to increase.

Rise of the A.F.L. A number of early leaders in the American Federation of Labor, including Strasser and Peter J. McGuire, had received training in the socialist ranks. Strasser also, along with Samuel Gompers—an Englishman of Dutch-Jewish ancestry—had helped form the Cigar Makers' Union in 1864. Their experience in the cigar-making trade was of great importance in the movement for a federation of unions following the depression of the 1870's. War-time taxes had driven cigar rolling from the household into capitalistic control. Then came the cigar mold, which opened the trade to persons of very slight training. In the next decade the New York manufacturers shifted to sweatshop control. Numerous strikes against this movement between 1873 and 1880 failed, the laborers being compelled to take wage cuts of as much as 45%. Gompers and Strasser then decided to copy the British form of organization as a remedy for the weaknesses of American trade unionism. This system included greater power of international officers over the locals, higher dues to make possible effective strike funds, an extensive benefit system, and an equalization of funds between the richer and poorer locals. The Cigar Makers' International Union, reorganized on this basis in 1879, soon became a model for others. Wage consciousness was fostered to supplant the persistent hankering for coöperative manufacturing. Opportunism was carried almost to extremes. Bargaining with the employers went to the point of upholding capitalistic demands upon consumers, just so a fair division was made with the workers. This system was carried over into the new movement for federation started in 1881.

By 1879, the revival of prosperity becoming perceptible, the number

of national and international unions had increased to eighteen. Thereafter the membership grew rapidly to 300,000 in 1885, regardless of the mounting appeal of the Knights of Labor. Many skilled workmen came over from Europe in these years, infusing a new life into the unions as a result of their experiences with better established organizations in their native lands. Representatives of the revived unions, resenting the efforts of the Knights of Labor to consolidate all into one union with strong central control, met at Terre Haute on August 2, 1881, and started a movement which was completed at Pittsburgh in November. A Federation of Organized Trades and Labor Unions of the United States and Canada was created. The economic aims, similar to those of the Knights, included abolition of the truck system, contract labor either of convicts or immigrants, Chinese immigration, and the labor of children under 14 years of age. Demands were made for the eight-hour day, a federal bureau of labor statistics, and compulsory school attendance. An early movement for the incorporation of unions was soon abandoned because of the legal restrictions involved. Members were urged to vote only for candidates favorable to labor demands, and the formation of a labor party was firmly opposed.

Organization of A.F.L. The form of organization was fundamentally different from that of the Knights. Representation was by unions instead of individual, the unions remaining self-governing but directed by a central board. National and international bodies comprised the core of the Federation. But, since some trades were not as yet organized on so broad a basis, city central combinations, state federations, and detached locals were given representation according to their strength. Gompers, who was made president in 1882, retained that office except for one year until his death in 1924. His biography is essentially the history of federated American labor.

The chief function of the Federation was lobbying for labor legislation, an activity later taken over by the state federations. But with only a fourth of the organized trades being affiliated, the annual income was not in excess of \$700, an amount too small to buy postage stamps for an effective lobbying campaign. A jangling controversy soon arose with the Knights of Labor who were trying to absorb the craft unions. The men were told they should unite with the unskilled element, if for no other reason, to prevent the latter from manning machines during strikes. But the trades held an advantage they did not care to compromise. The cigar makers, for example, ordered the Knights in their ranks to sever the dual connections.

This contest brought internal strife into both organizations. A threatened schism in the Federation was healed at a meeting at Columbus in September, 1886. Here the reorganization was made into the

new American Federation of Labor. The constitution was revised so as to place less emphasis upon labor legislation and more upon collective bargaining. The duties of the officers were mainly to strengthen unions, assist in organizing new ones, and act as advisers. Each trade was left with complete autonomy, the bond being largely fraternal. The Federation could not, like the central officers of the Knights, issue orders to component units, but acted as a moderator to secure concerted purposes and efforts. Rivals to any federated union were not tolerated. This decentralization of control seemed the most effective way to deal with American craft organizations, especially where trade strikes were deemed necessary. The disadvantages of strikes directed by the powerful head of a heterogeneous labor body had been amply exhibited by the blunders of Powderly. When the Knights failed to effect an internal reorganization more along trade lines, there was a wholesale desertion to the new rival, though some of the seceding unions remained aloof from the Federation for some time.

Another Era of Strikes. Before the reorganization, the old Federation had sponsored a general strike for the eight-hour day, to begin on May 1, 1886. The Haymarket affair, happening three days later, caused an unjustifiable but easily understood public reaction against the strike, thus strengthening the power of resistance of the employers' associations. It was estimated that 150,000 laborers got the shorter day on mere threat of striking, while 190,000 walked out. Of the latter, 42,000 succeeded, but most of the concessions were soon lost again as the employers' associations gained in power over the American Federation of Labor. The demands were renewed in 1888, with the threat of a series of strikes to begin on May 1, 1890, in case the employers failed to accede. The carpenters, being the largest union of the group and having the biggest strike fund, led the way. Along with some other of the building trades, they secured permanently reduced hours. The coal miners struck a year later, but, being only about a tenth unionized, they failed and the movement came to an end.

Homestead Strike. The next trouble came in the steel industry. The Amalgamated Association of Iron and Steel Workers, at the climax of its power in 1889, got some concessions from the Carnegie Steel Company without striking. Then H. C. Frick, hostile to labor organization in any form, became chairman of the corporation. To Frick, labor was just another commodity, unfortunately necessary to manufacturing, and to be bought at the cheapest terms possible. Determined to break up the union, he proceeded to cut the wages, hiring a gang of 300 Pinkerton men before the negotiations with the labor representatives were ended. The arrival of the guards precipitated a pitched battle at Homestead, Pennsylvania, on July 6, 1892.

Ten men were killed and over sixty others were wounded, after which the "detectives" departed. After a few days of quiet, the company prevailed upon the governor to send in 8,000 militiamen. In the absence of any attempted disorder, the only excuse for this maneuver was to break up the strike. This the militia succeeded in doing, after several months of harrying the pickets. The union being broken at Homestead and Pittsburgh, other steel manufacturers shortly afterward began violating their contracts. From that time the steel corporations continuously prevented effective organization of their servile employees.

On July 11 of the same year, just as the militia were arriving at Homestead, a battle occurred between silver miners and strike breakers in the Cœur d'Alene region of Idaho. The trouble started over a series of wage reductions following a long decline in the price of silver. After the strikers had succeeded for some time in keeping the scabs away from the mines, the governor called for federal troops. A régime of martial law, following Harrison's compliance, broke the strike, but for many years thereafter a guerrilla warfare prevailed in the region.

The outbursts of 1892 were a mere prelude to a concert of major strikes following the Panic of 1893. In the dismal year of 1894, when unemployment and misery reached new records, about 750,000 employees struck in the various industries. This number was greater than that of 1886, but the troubles of 1877 were not equaled in violence. Other precedents were established, among them being the fact that for the first time the unions were able to weather a major financial shock. This was primarily because of the prudence of the American Federation of Labor in fostering the accumulation of larger strike and other benefit funds. Of the unions represented at Columbus in 1886, a number counting only 150,000 members joined the Federation. But, after a steady growth, from 1893 to 1897 the number hovered around 275,000. As prosperity returned the total jumped to 550,000 in 1900, after which a still more rapid growth ensued. The great number of strikers in 1894 was reached because many unorganized workers and unaffiliated unions joined forces with the A.F.L. For instance, though the United Mine Workers had only 20,000 members, about 125,000 miners went on a three months' unsuccessful strike in April, 1894.

Chicago Railroad Strike of 1894. The most significant strike of the year was one in which the Federation took no part. This was the Chicago railroad affair, managed by the American Railway Union. Thirty years earlier the railroad men had begun to organize along occupational lines: the Brotherhood of the Footboard in 1863 (renamed Brotherhood of Locomotive Engineers a year later); the Order of

Railway Conductors in 1868; the Brotherhood of Locomotive Firemen in 1873; and the Brotherhood of Railway Trainmen in 1883. Started as insurance associations because commercial companies would not carry their risk, they later took on the usual activities of trade unions. Since they occupied a strategic position and had more to lose than to gain by affiliation with other groups, the four brotherhoods remained outside the A.F.L. The telegraphers, switchmen, and others who were not so advantageously fixed did not remain aloof.

In 1886 the managers of the twenty-four railroads centering in Chicago, having formed the General Managers' Association, set about to control at will the economic status of about 200,000 employees. Wages were cut to a uniform standard. Strikers, locked out and discharged men were blacklisted so they never again could be reemployed on a railroad. Eugene V. Debs of Terre Haute, who as secretary-treasurer of the Brotherhood of Locomotive Firemen had seen many strikes of single unions fail, determined to combat the Managers' Association with one of similar power. The American Railway Union which he created in 1893, admitting all kinds of railroad employees, soon had a membership of 150,000. The opposing forces then seized the first opportunity to try their strength, and they did not have to wait long.

George M. Pullman of the sleeping-car company, being possessed of a Jehovah complex, exercised the authority of a sultan over his employees. He housed them in neat modern dwellings in the suburb of Pullman, but charged excessive rents and subjected the tenants to a system of espionage. As a result of the Chicago World's Fair of 1893, the Pullman company had prospered mightily, having undivided profits in 1894 of \$25,000,000 on a capitalization of \$36,000,000. Foreseeing worse times, Pullman decided that the laborers should pay for the depression. So in May, 1894, he discharged a large number of them and reduced the wages of the rest by a fifth, while maintaining at full height the salaries of officers and the rents in Pullman. Two months earlier about 4,000 of the employees had joined the American Railway Union. When a committee from this group protested against the wage cuts, Pullman discharged three of them in violation of his promise. Five-sixths of the laborers then struck, on May 11, and Pullman at once expelled the rest. In June, Pullman refused to see a committee appointed by a convention of the union, and also declined arbitration at the hands of the local civic federation which was backed by the mayors of about 50 cities. After allowing him due time for reconsideration, the union, on June 26, declared a sympathetic strike on all the Chicago railroads. When the switchmen refused to couple Pullman cars to the trains, they were discharged. Then the train crews would

quit. From the point of view of the Managers' Association the worst feature was that the union men were obeying implicitly Debs's warning to abstain from anything approaching lawlessness. If only a riot should start there would be an excuse to call upon the government for troops.

Federal Interference in Chicago Strike. But there were plenty of tramps and other desperate characters, rendered so by the panic and reinforced by others who drifted in during the fair and were left stranded. Though it has not been proved that this mob element was incited by the managers, just at the right time a horde stopped a mail train and crippled the locomotive. Since the railroad officials insisted on attaching Pullman cars to every mail train, these were stopped in various parts of the country. This having produced the situation the managers had waited for, they appealed to the federal government. Richard Olney, the attorney general and stumbling block of Cleveland's cabinet, advised that, instead of relying upon the criminal law, the Justice of the Federal District Court at Chicago should issue a blanket injunction forbidding Debs or any other person not named to interfere with mail trains or interstate commerce. This was done on July 2, one and all being forbidden even to advise employees to quit work.

As yet there were no disturbances which the Chicago police were not perfectly capable of quelling, but the managers persisted in sending out distress signals for federal troops. Governor Altgeld offered to use the national guard, if it should prove necessary. But the managers knew that, under Altgeld's orders, the militia would merely maintain law and order and probably see to it that the mail trains minus Pullman cars were moved. Since suppression of the strike was what was wanted, Altgeld's offer was rejected. All this time Cleveland was getting his information through federal officials at Chicago, who were influenced purely by the point of view of the General Managers' Association. Consequently, he lost his head. Acting under advice from Olney, on July 3 he ordered the whole garrison at Fort Sheridan to the scene of the strike.

There was scarcely a shadow of constitutional authority for this action. Article I, section 8, paragraph 15 of the Constitution provides "for calling forth the militia to execute the laws of the Union. . . ." Article II, section 2, paragraph 1 gives the President command of the militia "when called into the actual service of the United States. . . ." But the managers did not want the militia, which no doubt would be the Illinois regiments with officers appointed by Altgeld. They wanted federal troops with no local sympathies. Article IV, section 4 of the Constitution guarantees the several states "on application of the Legislature, or of the Executive (when the Legislature cannot be con-

vened), against domestic violence.” There are no other provisions covering the situation. Clearly then, if only the federal law was to be enforced, the militia could be used—and such was the pretext for the use of force. On the other hand, the Illinois legislature was not in session, could not be convened immediately, and the governor had not asked for federal troops—instead he protested against their use. If called in at the governor’s request they could be only for protection “against domestic violence” and not for enforcement of federal law. But Olney raked up an old, discredited, and unconstitutional Ku Klux act of the reconstruction days of 1871—a sorry proceeding for a Democrat—and Cleveland accepted the subterfuge. On the following day he ordered all people to refrain from “unlawful assemblages,” though this was purely a matter of state jurisdiction.

In addition to the several thousand soldiers in charge of General Nelson A. Miles, a brigade of militia also came in, under orders from Altgeld. After the federal troops arrived (not before) the most serious disturbances began. Then 12 persons were killed, many injured, and 515 arrested in Chicago and elsewhere. On July 10, Debs and three others were arrested under the terms of the Sherman Antitrust Act, being released on bail of \$10,000 each. A week later they were again arrested for contempt of court in violation of the injunction of July 2, and were sent to jail without trial by jury. Still later, Debs was convicted of violation of the Antitrust Act and sent to prison for six months, the decision being upheld by the United States Supreme Court. The vigorous action of the federal government secured prompt moving of the mails, but it also played into the hands of the General Managers’ Association. By July 20, the power of the strikers being broken, the troops were withdrawn. The usefulness of the American Railway Union was ended. The strike had involved 27 states and territories and 125,000 miles of railroads. The estimated loss to the railroads was \$4,600,000, to the Pullman Company \$350,000, and to the laborers \$1,400,000. But later figures of direct and indirect losses to the country at large ran as high as \$80,000,000.

Here for the first time the people learned that the otherwise ineffective Sherman Act could be vigorously applied against labor officials,¹ that the President could usurp the power to use troops in violation of state rights, and that trial by jury could be abandoned at will despite

¹ A more comprehensive application of the Sherman Act came in the Danbury Hatters’ decision of February, 1908 (*Loewe vs. Lawlor*, 208 U. S. 274). Individual members of the union were held responsible to the full amount of their property for losses to producers caused by an interstate boycott. Many home owners among the Danbury, Connecticut, hat makers were ultimately impoverished by this decision. Yet, within this same week the same court had nullified the Erdman Act of 1898 by permitting railroad companies to discriminate against union men because of their membership.

the Sixth Amendment, by resort to the flimsy subterfuge of criminal equity. It became possible for a judge to make a law under the guise of a blanket injunction, sentence a man for violation of the order on such evidence as the court might decide to admit, fix a penalty not provided by the statutes, and all without the intervention of a jury. The general public, caring little for constitutional niceties in times of trouble, applauded Cleveland for the use of federal troops. But among people who seriously considered constitutional guarantees of the rights of man, "government by injunction" became odious.

Labor Injunctions. This was not the first example of labor injunctions—they had been used by state courts for a decade or more—but it served better than any earlier case to give publicity to the practice. Injunctions had been asked for, but denied, in New York in 1880, had been granted in Iowa in 1884, and were used generally during the railroad strikes of 1886. In most cases the injunctions were applied to prevent acts already made criminal by law, thereby invoking equity to interfere with criminal procedure. The blanket injunction was especially noxious because it applied to the public at large, like a criminal law, but without legislative enactment. This form of judicial procedure had been denounced by Chancellor James Kent as early as 1819. But in 1897 the Supreme Court (*In re Lennon*, 166 U. S. 548) declared that all persons having notice of the issuance of an injunction were bound, whether named in it or not. The American Federation of Labor made an issue of the practice, though the American Railway Union was not an affiliate, and never ceased to fight for anti-injunction laws in nation and states.

Beginnings of a New Socialist Party. While Debs was serving his jail sentence he was converted to socialism, largely through the influence of Victor Berger of Milwaukee. In 1898 he organized the Social Democratic party. After the rise of the American Federation of Labor, and following the upheaval of 1886, the socialist movement had dwindled for a few years to a handful of intellectuals. Its influence was confined to a group of possibly 10,000 laborers, mainly German, who continued to be prominent in the cigar, brewing, and a few other trades. The Socialist Labor party kept its name and organization, but for a time made only local nominations. Then, in 1890, Daniel DeLeon appeared as a leader, trying to socialize the Knights of Labor and the American Federation of Labor. Some temporary progress was made with the A.F.L., whose platform in 1893 included 11 planks of socialistic or democratic character. Gompers lost the presidency of the organization for the year 1894–1895 because of his opposition to this political movement. At the end of that time the Federation returned to its conservative leadership, after which the Socialist

Trade and Labor Alliance was created as an implacable but evanescent rival.

The Socialist Labor party continued in existence after the 1890's, regularly nominating national candidates, but it failed to gain much in membership. Instead, the new Social Democratic party forged rapidly ahead, securing about all of the growing socialist strength. Debs, as the presidential candidate in 1900, got a popular vote of about 95,000 in 34 states, whereas the Socialist Labor candidate got less than 40,000 votes at the apex of the party's career. In the popular mind of the time, socialism, anarchism, nihilism, and terrorism were synonymous terms. Even trade unionism was still viewed with suspicion, not only by the greater capitalists, but almost equally by the small tradesmen, farmers, and a large number of struggling, unskilled workingmen. In 1900 the labor movement was just coming of age.

CHAPTER XXVII

COMMERCE AND IMPERIALISM

DOMESTIC COMMERCE

It is neither possible nor desirable to consider commerce entirely dissociated from the other lines of economic activity. Especially is this true of the domestic branch which, more than anything else, links up the other fields of endeavor. Hence, various phases of the subject have already been considered in their relation to industrial developments and transportation, which in itself is but a branch of commerce. A study of domestic trade under the broader definition, including all kinds of exchange of goods, could easily lead to a maze of profitless detail and still be incomplete. Some features of the subject, however, not directly related to the problems of production need to be dealt with as a unity.

The Business Cycle. A bugbear of commerce as well as of industry in general has been the business cycle. The twentieth of these since 1855 was supposed to have reached its nadir in 1933. Most of the score were scarcely distinguishable to the mass of the population at the time of their occurrence. This was because of their narrow range between high and low points and their centering in a relatively small number of industries. The farmer might notice better prices for three or four seasons, followed by decline, but tended to consider as the reasons mainly the perversity of Wall Street, the cost of freight, and the eccentricities of the weather. Laborers noticed periods of slack employment and difficulties in collective bargaining, followed by steady jobs and lenient bosses, but were inclined to listen to banal aphorisms about the particular brand of political control which insured the full dinner pail, or to pursue the *ignis fatuus* of inflationism. Only when major depressions, accompanied in their early phases by panics, struck the country was there a general suspicion that there was something fundamentally faulty in industrial organization. The tendency then was to attack merely the traders who profited from falling markets, and ignore the factors which had impelled business upward to the brink of the precipice. It would require a long chapter in a history of economic theories to describe the proposals which have been made for stabilizing the dollar, or other schemes for business gyroscopes. But, prior to 1933, these doctrines rarely received attention outside academic circles. Meanwhile, business continued in its

process of upheaval and prostration. The cycles tended toward periods of three or four years, the longest being 99 months—from January, 1871, to March, 1879, the shortest being 29 months in 1919–1921. The period of depression to the point of upturn generally ranged around 20 months, the minimum being eight and the maximum, after the Panic of 1873, being 65.

Commercial failures by five-year periods since 1865, a list of which follows, show the continued precariousness of business. These figures are in addition to all bank failures and foreclosures on farm, home, and other private mortgages.

COMMERCIAL FAILURES, 1866–1930

YEARS	NUMBER OF FAILURES	AGGREGATE LIABILITIES	YEARS	NUMBER OF FAILURES	AGGREGATE LIABILITIES
1866–70	13,238	\$377,439,000	1901–05	58,405	\$ 631,891,000
1871–75	25,737	791,106,000	1906–10	63,673	896,263,000
1876–80	34,835	809,672,000	1911–15	85,388	1,327,046,000
1881–85	43,109	716,141,000	1916–20	56,162	950,086,000
1886–90	51,936	744,676,000	1921–25	103,875	2,777,654,000
1891–96	64,941	996,882,000	1926–30	118,025	2,570,430,000
1896–00	60,736	740,467,000	Totals	780,038	\$14,328,735,000

Markets and Exchanges. Another distinct characteristic of the commerce of recent decades is the substitution of markets or produce exchanges for separate bargaining. The New York Produce Exchange, dating from 1862, had its predecessors in a smaller way going back to Colonial days. The Merchants' Exchange of St. Louis, beginning about 1850, grew out of an earlier chamber of commerce which had started as a debating society. The Chicago Board of Trade was incorporated in 1859, after a decade or more of previous existence. The New York Cotton Exchange and the New Orleans Cotton Exchange were incorporated in 1871. Other later markets included the Live Stock Exchange of Chicago, the Chamber of Commerce of Minneapolis, the Duluth Board of Trade, the Board of Trade of Kansas City, and the various fruit growers' exchanges of the Pacific and Gulf coasts. The boards consist of organized groups of traders, patterned somewhat after the New York Stock Exchange, who establish the price of products as well as the volume of exchange by bidding. Most of the smaller bodies are "spot" or "cash" markets. But the larger ones deal to a great extent in futures, especially for cotton and wheat.

When properly conducted, dealing in futures has a stabilizing influence upon prices, proving a benefit to producers and consumers as well as speculators. By hedging, the miller, exporter, or other handler

of the products can secure protection against losses. But the medieval practices of forestalling, engrossing, and regrating—then considered criminal—have been combined into the single process of cornering the market. The activities of the modern predatory traders are palliated under the euphemism of “good business.” Grain and cotton have most often been raided, much after the fashion used by Gould and Fisk in their gold operations of 1869. An especially obnoxious corner was effected on sugar in 1919 and 1920. The war-time restrictions on sales were ended and prices were dropping. In August, 1919, the midwestern consumer could buy a hundred pound bag or more, if he wanted it, at 10¢ a pound. Then came false rumors of a short crop, and prices began to advance. Merchants could not buy sugar in lots of more than a barrel at a time, and had to ration it out in vest-pocket lots to their regular customers only. A stranger could not buy sugar at all. Before the spring of 1920 arrived grocers sold apologetically, with no profit, at 35¢ a pound in quantities not exceeding three pounds at a time. The sugar thus bought had the single virtue of durability. It was grayish in color, damp to the touch, smelled of coal oil, and seemed to crawl when poured from the sack. Then the news was spread that sugar really was plentiful, and there was no excuse but greed for the price and quality of the product released. The bottom at once dropped out of the sugar market, and few men on the street were heard to express regret when some of the traders, faced with ruin, took refuge in suicide. It was some comfort to note that practices such as this were the exception to ordinary trading.

Advertising. More prominent in the public eye than the intricate activities of the market dealers was the development of advertising. This device, as old as commerce itself, reached its height in the United States, particularly after 1865. Before that time the signboard had been supplemented by the handbill, and both were receding before the advance of newspaper advertising. The front pages of the daily and weekly sheets were universally covered with advertisements, the news being printed on the inside. The Civil War, with its daily quota of exciting happenings, brought a reversal of this order. Also, it created a demand for Sunday editions. Horace Greeley, who 20 years before had founded the *New York Tribune* as a semireligious periodical, himself began publishing a Sunday paper, with due apology to those whose feelings might be injured. At that time the rule was almost universal that the body of an advertisement should be printed in type no larger than agate, the headlines sometimes being in Columbian or great primer. In place of using larger type, the important words were repeated several times on successive lines, or the type was set in such a way as to form designs of words in large outline. In such

modest style the women were informed of the merits of liquid face paint guaranteed to withstand washing for a week, to be indistinguishable from a blush, and to be used in the royal courts of Europe. Soldiers were inveigled into buying gold pens "iridosmine pointed," gold-plated watches, and guaranteed bullet-proof vests. The young men who stayed out of the army were urged to patronize the tailor who once had fitted the Prince of Wales. Many of the modern tricks of advertising were known at that date, when the most widely read newspapers in the country were rarely more than 12 pages in size. In a day when people read the weekly editions from front to back, a short notice in small type was sufficient to attract attention. Foreign observers spoke of the great amount of advertising done in America, yet the volume did not reach more than one per cent. of what it came to be by 1929.

From so humble a status as this, advertising grew in the next half century into a major industry. Newspapers became thicker and heavier, with news items attenuated through from 20 to several times that number of pages of advertisements. A single department store in a large city would buy from 16 to 20 solid pages of space for its great annual sale, the cost running into thousands of dollars. In 1927 the newspapers received \$252,800,000 from sales and subscriptions and \$724,800,000 from advertising—small wonder that Babbitry prevailed on the editorial pages and in the headlines. Periodicals of other sorts in the same year received \$176,656,000 from subscribers or buyers and \$305,384,000 from advertisers. It was estimated that \$400,000,000 more went for direct advertising—door to door canvassing, the distribution of samples, and the like. The sum of \$20,000,000 went for street-car cards, \$75,000,000 for items in business journals, and \$25,000,000 for premiums, program space, telephone directory advertisements, and odds and ends elsewhere. The total advertising bill for the year was well over one and a half billion dollars, at the lowest estimate. Another item, \$7,000,000 for radio patter, was a warning of the vastly greater nuisance to be committed on the ether waves in years to come.

It was perhaps inevitable that, for lack of any regulative legislation, some companies would grossly misrepresent their products. This was particularly true of patent medicines, the rule of *caveat emptor* being the only safeguard. If certain advertisements could be believed, hair might be made to grow on anything less dense than a door knob; there was a baby in every bottle of Lydia Pinkham's Vegetable Compound; and a certain mixture of sulphurous acid would cure tuberculosis. Babies were doped with opiates sold as harmless soothing sirups; pious old ladies were kept half drunk and happy with concoctions of cheap

alcohol sold as elixirs of life. The Pure Food and Drugs Act of 1906 fell far short of correcting all this, since it merely required in many cases that the dangerous ingredients be named on the labels. The use of fine print and scientific names neutralized most of the expected effect, while the claims of the advertisers were as yet not moderated.¹

Advertising by means of slogans reached its most pernicious form after 1920. "Say it with flowers" is said to have doubled the florists' business between 1921 and 1924. Mothers' Day, created by sentimentalists, was commercialized by advertisers. Then days and weeks were set aside for so many high and noble purposes that only the regular holidays seemed exempt. The *pater familias* suffered under all this until the idea that every dog must have his day reached its climax with an effort to establish Fathers' Day. But enough fathers, even of the modern age, retained hold on their pocketbooks to make that movement fall rather flat.

Truth seemed to be the least essential element among some of the less conscientious advertisers until the Federal Trade Commission began investigating the worst abuses. Then it was found that "honesty is the best policy," that innuendo paid better than direct slander of a rival product. Appeal to the moron intellect became especially noticeable. Cosmetics could not be sold either to female or male customers, it seems, without appealing little sentences, half French and half English, with the French words graciously translated. Cigarette advertising became so puerile as to drive rebellious readers to the use of pipes. Testimonials, once contributed by the addicts of Peruna or other patent medicines in exchange for a case of their favorite stimulant or narcotic, were solicited and secured from world-famous individuals. "Famous Names, Inc." was established to sell the exclusive right to use the names of well-known persons for indorsements. The right to such monopoly cost from \$150 to \$2,500. The sanctions ranged from the world's most famous gum-chewer and the queens of the movies to the Queen of Rumania.

Installment Selling. Regardless of the expense of advertising it was maintained that the cost to the consumer was not increased. Multiplied sales made the price of the highly touted article but little more than that of its little-known competitor. Yet, the chain stores were able to sell their private brands so far below their illustrious shelf neighbors as to lead to a new campaign of deprecation against the unadvertised products. Whether or not the price of goods was affected by advertising, it can scarcely be denied that people were encouraged

¹ In 1934 efforts to secure the passage of a really effective pure food and drugs act were denounced in scurrilous fashion by companies which wanted no hindrance in poisoning or robbing the public.

to buy beyond their needs. A conscious effort was made to render consumers dissatisfied with anything which was not of the latest style, shape, or design. For a decade prior to 1929 the company which kept its wares closest to popular demand in style change prospered more than the firm which was merely economical or sold on a closer margin of profit. People were encouraged to, and many did, believe that high price alone was a guarantee of quality. Articles which were passed up in disdain when offered at a fair profit oftentimes sold rapidly when the price was increased.

A gradual decline in prices following 1921, as well as dizzying changes in fashions in the decade of paper prosperity, stimulated hand-to-mouth buying on the part of merchants. The firm with a large stock of goods was likely to have to sell close to cost because of the decline in the wholesale market, or at a loss to dispose of goods gone out of date. By 1927 so much less advance buying was done than five years earlier that the nation's retail business could be conducted with a billion dollars less capital. In the same period, installment selling took on a new appeal. From the local department stores to the mail-order houses, appeals went out for customers to buy anything from clothing to machinery for a dollar down and a dollar a week. When jobs were plentiful and farm prices were still at a medium height, common people were encouraged to supply their present wants and anticipate the future so far as their incomes would cover the installments. Then, when low prices and unemployment came, the buyers found unpaid balances sometimes higher than current costs. Even the finance corporations which took back the goods often, like the banks, found themselves burdened with frozen assets. Installment selling was nothing new even a generation earlier. If all the newly married couples since 1865 had been compelled to pay cash for their household furniture, it is likely that population increase would have been checked long before it was. The main change after 1920 was in the number and variety of articles thus sold and the ease with which credit could be secured. Some investigators have questioned whether installment selling increased any more rapidly after 1923 than did retail sales in general.¹ The system was especially noted in automobiles, furniture, musical instruments, radios, electrical devices, clothing, farm machinery and implements. At least in the latter category, installment selling increased more rapidly than total sales.

In sheer magnitude American markets became a marvel of the age. "With but 7 per cent of the world's population," said an investigator in 1930, "the United States consumes 56 per cent of its

¹ For instance, see Melvin T. Copeland in *Recent Economic Changes in the United States* (Edward Eyre Hunt, ed., New York, 1929), Vol. I, pp. 390-402.

rubber, 21 per cent of its sugar, 72 per cent of its silk, 36 per cent of its coal, 42 per cent of its pig iron, 69 per cent of its petroleum.”¹ American purchasing power was equal to that of half a billion people in Europe or a billion in Asia. If a woman's dress in 1928 had only a tenth as many yards of goods in it as a generation earlier, she had several times as many changes, and, by some sort of magic, any one of them cost as much as the voluminous units of 1900. Canned or otherwise prepared—sometimes predigested—food replaced the bulk commodities of earlier days, and the can opener became as indispensable to the kitchen as the corkscrew to a hotel bathroom. The kitchen itself gave way to a cubby-hole lined with built-in cupboards and having just room enough for a gas plate, a sink, and a medium-sized cook. Household electrical appliances more than doubled in sale from 1922 to 1927. To flatirons, washing machines, and vacuum cleaners were added mechanical hobbyhorses, fat reducers, and implements of therapeutic quackery reminiscent of the electric belt of the McKinley era. So, on down the line of merchandise, buying increased to the limit of the salary and credit of the ordinary householder.

Department Stores. Among the miscellaneous appendages of domestic commerce, which must not be omitted, is the revolution in retail selling brought about by department stores, mail-order houses, and chain stores. Of these three agencies the department store was the first to receive attention. Alexander T. Stewart established one in New York in 1861. More famous in later years were the stores of John Wanamaker in Philadelphia and Marshall Field in Chicago. Such emporiums, as they emerged from infancy, were denounced as monopolies and were fought with all the virulence that the old-line storekeepers could muster. But the convenience of such units, as well as the one-price system which prevailed, in the long run were more convincing than all the criticism. They were eventually established in nearly all cities of 10,000 and upward in population and in many smaller places. In recent years the more prosperous ones have been found in cities of 25,000 or more. Automobiles and improved roads have encouraged shoppers to visit the centers of greater variety and competition, especially for the buying of dry goods and clothing. Chain stores also have eaten somewhat into the trade of the department stores, but in the main the two represent nonconflicting types of selling. In 1929 there were 4,924 department stores listed in the census reports, these being only the ones doing \$100,000 or more of business. They reported sales amounting to about four and a third billion dollars, or 8.64% of the total retail sales of the country. This

¹ Thomas J. Wertenbaker, "Ten Eventful Years in the United States," in *Current History*, Vol. XXXIII (October, 1930), p. 7.

represented an increase of over four-tenths in sales in ten years, though prices in general had declined somewhat.

Mail-order Houses. The mail-order business, as noted in the discussion of the Granger movement, started on a large scale in 1872. Montgomery Ward and Company soon had a formidable rival in Sears, Roebuck, and Company, both seeking to supply almost every merchandise need of the ultimate consumers. At one time they even listed threshing machines and automobiles in their catalogues. Still later, they continued to carry nonperishable groceries, furnaces, ordinary farm implements, and houses, sawed and fitted, ready to set up. Branch stores were established in various parts of the country so as to give purchasers part of the advantage of car-lot shipments. Beginning in 1926, Montgomery Ward in two years had 18 department stores and 230 other smaller retail outlets, these being especially in the middle sized and smaller cities. Sears, Roebuck, and Company in the same time established 37 department and 155 smaller stores, usually in the larger places. Both were planning many more. These steps had to be taken because of chain competition and to retain the trade of farmers who, with their automobiles, had more chance than formerly to examine competing goods in the cities.

The outcry of local merchants against the mail-order houses began at the start and never stopped. Yet, the percentage of sales by the catalogue concerns was always very small as compared with the total of the ordinary retailers, the ratio not varying much between different communities. Smaller mail-order houses sprang up in various parts of the country. Some, dealing in specialties such as ready-made clothing and seeds, reached national proportions. Even the department stores began selling by mail as a side line. Because their catalogues are semi-annual, the mail-order firms do not readily adjust themselves to periods of rapid price changes. When costs go up, some cleverly executed substitutions have to be made. When they fall, frequent sales catalogues have to be distributed to remind the purchasers that lower prices exist than those in the big book. During the depression of 1921-1922 the index of sales for the two leading firms fell almost a third below the level of 1919, after which there was an upward turn to over twice the volume by the close of the decade. The decline for the first three years after 1929 was no greater than the average for all retail business.

Chain Stores. Considering the relatively short period of their prominence, chain stores have received an astonishing amount of attention. They have been damned over the radio by the mail-order man, cursed by the Main Street merchant, and patronized by the cash buyer. The Great Atlantic and Pacific Tea Company was the first and

became the greatest of the modern chains. Founded in New York in 1858, the mother store of the spawn was taken over by George H. Hartford in 1859. When Hartford died in 1917 he left 3,200 stores at a time when the business was just entering its greatest period of expansion. In 1931 there were approximately 16,000 of these red-front groceries, many of them also handling fresh meat. Their annual business was estimated at above a billion dollars. Other chains of later prominence, founded before 1900, were the Jones Brothers Tea Company, 1872; the Woolworth Five and Ten Cent Stores, 1879; the Kroger Grocery Company, 1882; the United Cigar Stores, 1892; the Kresge system of five and ten cent stores, 1897; and the National Tea Company, 1899.

The period of greatest multiplication and most rapid growth came after 1914. Chains already in existence multiplied in units and volume of business by from three- to ten-fold in 16 years, while the number of organizations increased almost as rapidly. Including chains of half a dozen or fewer links, local as well as national organizations, the number of companies increased from about 2,000 in 1914 to 17,800 or more in 1930, while the number of outlets grew from 23,900 to over 198,000. The J. C. Penney Company, with 34 stores in 1913, grew to be the largest dry-goods and clothing chain, with over 1,000 units in 1930. The Piggly Wiggly Grocery Company, organized in 1916, despite its name and occasional bankruptcy developed 15,000 branches, while the Kroger Company by 1930 had over 5,000, doing a gross business of over a quarter of a billion dollars. Grocery, drug, tobacco, and variety stores of the five and ten cent sort contributed about 75% of the total chain outlets in 1930, while the groceries alone did about six-tenths of all the chain-store business. At least 55 different lines of merchandise had been taken over by the new type of stores in three decades. Clothing and shoe-store chains developed widely, but mainly under the control of manufacturers who used them to offset hand-to-mouth buying by the independents, and sometimes for the disposal of cheap goods. Otherwise, because of the great amount of personal attention needed in fitting and altering, no great advantage was obtained from chain management in those lines. The indexes for the decade ending in 1929, on a median base, show sales for grocery chains increasing from 45 to 235, five and ten cent stores from 53 to 164, and drug stores from 64 to 204.

Several dispassionate studies of the business have been made, mostly of a local character. These seem to be agreed that the chains are operated at an overhead expense of only 15 or 17% as compared with from 30 to 50% for the average independent. The reasons are a more rapid turnover, standardized buying, the elimination of middle-

men, cash sales, and the omission of delivery service. More recently there has been a tendency to take orders by telephone and to do a limited credit and delivery business. Savings to the consumers have ordinarily ranged between 10 and 15%. In the larger cities, by 1930, the chains were doing about 48% of the grocery business. For the United States at large the number of grocery chain units was only 15.5% of all grocery stores, though the percentage of sales seemed to be somewhat larger. Of the total retail sales of all kinds of goods in 485 cities, the chains accounted for a little less than 17%. No accurate figures are available for the proportion of all the business of the country, but careful estimates show about 15% done by the chains of all sizes from three or four stores upward. Nearly half the chains of 1930 were of six or less units each, while only 337 had more than 50 outlets.

Denunciations of the business have been based upon all the known arguments concerning monopoly, absentee ownership, drainage of the currency to Wall Street, lack of civic spirit, evasion of taxes, underpayment of labor, and the stifling of individual business initiative. The monopoly prophecy flourished, though the competition between chains showed no signs of cessation. Most of the rest of the arguments could be used so aptly against a large number of independent stores that their effectiveness was seriously blunted. In the small towns and rural regions, where local chains were relatively few, the argument of absenteeism had greater force. As to the ruination of the small business man, an assistant secretary of commerce estimated in 1928 that only 3.6% of the failures of independent stores was due to competition, while, depending upon the locality and trades involved, from 32 to 80% were the result of incompetent management.

By 1929 four Southern states had passed laws to tax chain stores out of existence, while 11 other commonwealths in various parts of the country had similar bills under consideration. But the state supreme courts were already nullifying the earlier acts, resulting in a subsidence of the movement. Already, the more thoughtful of the independent wholesalers and retailers were beginning to place the blame upon themselves and, therefore, set about to remedy the conditions which had made possible such large inroads upon their business. Coöperative groups of retailers and wholesalers were organized to eliminate waste in buying and reduce inefficiency in selling.¹ Credit accounts were eliminated or more carefully scrutinized; hand-to-mouth buying was accentuated; modernized sales methods were copied. The result was that within a few years a well-managed unit of an alliance could compete on a par with most of the chains. Consumers for decades had

¹ The firm of McKesson and Robbins merged 15 wholesalers in the drug business who dealt with 55% of the independent druggists in the country.

complained of the spread in prices brought about by the multiplicity of middlemen. By 1933 it seemed that the old system was passing without any impairment of individual initiative worth preserving.

Wholesale Business. Less than half the wholesale trade of the country by 1929 was being done by wholesalers proper. The rest was carried on by "manufacturers' sales branches, bulk tank stations, auction companies, chain-store warehouses, brokers, manufacturers' agents, selling agents, and shippers."¹ The following figures show the comparison between the entire wholesale trade and the part conducted by wholesalers proper in 1929. In the two years immediately preceding there had been a tendency for the wholesalers to regain some of their ground, probably as a result of the establishment of cooperative alliances.

WHOLESALE TRADE IN 1929

	ENTIRE TRADE	WHOLESALE ONLY
Number of establishments	169,764	79,557
Number of employees	1,609,197	894,165
Salaries and wages	\$ 3,017,090,000	\$ 1,683,351,000
Net sales	\$69,527,949,000	\$29,079,743,000
Stocks on hand, end of year (at cost)	\$ 5,667,740,000	\$ 3,524,068,000

Retail Business. The census figures on retail business are probably not as reliable as those for wholesalers, because of the multiplicity of small establishments and unorganized direct selling by farmers, peddlers, and other persons who make no returns. The following figures of total retail sales will, by comparison with the preceding table, show the large amount of wholesale dealing direct with consumers.

RETAIL TRADE IN 1929

TYPE OF OUTLET	NUMBER OF STORES	NET SALES	PER CNT TOTAL NET SALES
Food group	497,715	\$11,310,627,000	22.61%
Country general stores	87,683	1,927,623,000	3.85
General merchandise group	70,263	7,140,515,000	14.27
Automobiles, accessories, gasoline, etc.	253,322	9,546,898,000	19.08
Apparel group	112,960	4,315,234,000	8.62
Furniture and household group	44,417	2,286,008,000	4.57
Restaurants and other eating places	135,674	2,097,171,000	4.19
Lumber and building group	79,839	3,637,054,000	7.27
Other retail stores	252,630	7,619,756,000	15.23
Second hand stores	14,665	152,964,000	.31
Total	1,549,168	\$50,033,851,000	100.00

¹ *Statistical Abstract of the United States, 1931* (Washington, 1931), p. 321.

FOREIGN COMMERCE

The Merchant Marine. The foreign commerce of the United States has been carried mainly by water. Before 1870 even the trade with Canada and Mexico was primarily a part of the coastwise business. In the following decade approximately a fiftieth of the foreign trade was carried across the borders by land vehicles. By the 1920's this ratio had increased to 14 or 15%, largely because of increased dealings with Canada. But by 1930 Canadian reprisals against American tariffs were checking growth in that direction. Because of the preponderating influence of the merchant marine, American shipping needs to be considered first. The part played by American-owned vessels in the foreign trade is indicated in the following table. Waterborne commerce alone is listed; exports and imports are combined; gold and silver bullion are included to 1879. All figures except percentages are expressed to the nearest million dollars.

AMERICAN PARTICIPATION IN THE FOREIGN
CARRYING TRADE

YEAR OR YEARLY AVERAGE	TOTAL VALUE	IN AMERICAN VESSELS	IN FOREIGN VESSELS	PER CENT IN AMERICAN VESSELS
1860	762	507	255	66.5
1870	913	323	590	35.6
1871-75	1,162	326	835	30.6
1876-80	1,206	289	917	23.9
1881-85	1,419	229	1,190	16.2
1886-90	1,398	198	1,200	14.1
1891-95	1,598	198	1,400	12.4
1896-00	1,784	179	1,605	10.0
1901-05	2,225	220	2,005	9.9
1906-10	2,838	287	2,552	10.1
1911-15	3,639	385	3,254	10.6
1916-20	8,673	2,534	6,140	29.2
1921-25	6,801	2,383	4,418	35.0
1926-30	7,492	2,511	4,981	33.5
1920	11,983	5,153	6,830	43.0
1929	8,129	2,692	5,437	33.1
1930	5,803	2,014	3,789	34.7

An absolute, as well as a percentage, decline in the American carrying trade with foreign countries will be observed to 1900. Thereafter there was a noticeable increase for 15 years in actual value, partly because of the shrinking value of the dollar, while the percentage growth was very slight. During the World War years and following, though from four to ten times the values of 1860 or any preceding years were carried, the percentage at no time exceeded two-thirds that of

UNITED STATES MERCHANT MARINE TONNAGE

YEAR	NUMBER OF VESSELS			THOUSANDS OF GROSS TONS			THOUSANDS OF TONS EMPLOYED IN			
	Total	Steam and Motor	All Other	Total	Steam and Motor	All Other	Foreign Trade	Coast and Internal Trade	Whaling	Cod and Mackerel Fisheries
1860				5,354	868	4,486	2,379	2,645	167	163
1870	28,998	3,524	25,474	4,247	1,075	3,171	1,449	2,638	68	91
1880	24,712	4,717	19,995	4,068	1,212	2,856	1,314	2,638	38	78
1890	23,467	5,965	17,502	4,424	1,859	2,565	928	3,409	19	68
1900	23,333	7,053	16,280	5,165	2,658	2,507	817	4,287	10	52
1910	25,740	12,452	13,288	7,508	4,900	2,608	783	6,669	9	47
1915	26,701	15,948	10,753	8,389	5,944	2,446	1,863	6,486	9	32
1918	26,711	16,658	10,053	9,925	7,471	2,453	3,599	6,282	4	38
1920	28,183	18,814	9,369	16,324	13,823	2,501	9,925	6,358	4	38
1921	28,012	19,071	8,941	18,282	15,745	2,537	11,077	7,163	4	37
1922	27,358	18,960	8,398	18,463	15,982	2,481	10,720	7,703	4	36
1925	26,367	18,637	7,730	17,406	14,976	2,430	8,151	9,216	4	35
1930	25,214	18,211	7,003	16,068	13,757	2,311	6,296	9,723	7	42

1860. But these figures, excluding as they do the coastwise and other domestic water-borne trade, do not give a fair picture of the actual status of the American merchant marine. The table on page 633 shows several things which may be discovered by comparing one column with another, but especially the importance of the coastwise and internal trade as contrasted with all other activities of the merchant marine.¹ While the total tonnage of the fleets till after 1900 did not exceed that of 1860, it never fell as low as the marks for 1850 or earlier. After 1900 there was a notable growth even before the World War made a large fleet for foreign commerce imperative. When the maximum tonnage of 1922 was reached, the per capita ratio was about equal to that of 1860.

Another brief table at this point, showing the number and tonnage of vessels built in the United States for domestic owners, may throw a little more light on the discussion of the merchant marine.

TONNAGE OF VESSELS BUILT FOR UNITED STATES FLEETS

YEARLY AVERAGE	NUMBER OF VESSELS	GROSS TONS	SELECTED YEARS	NUMBER OF VESSELS	GROSS TONS
1851-60	1,466	366,603	1908	1,457	614,216
1861-70	1,654	299,602	1910	1,361	342,068
1871-80	1,455	253,800	1917	1,297	664,479
1881-90	1,056	230,197	1918	1,528	1,300,868
1891-00	1,055	235,699	1919	1,953	3,326,621
1901-10	1,311	418,178	1920	2,067	3,880,639
1911-20	1,449	1,090,983	1921	1,361	2,265,115
1921-25	998	737,158	1922	845	661,232
1926-30	928	222,054	1929	808	128,976
			1930	1,020	254,296

Shipping after Civil War: Government Policies. Following the Civil War, about the only thing which kept the salt-water fleet from dwindling to insignificance was the Act of 1817 (not essentially changed till 1912) which limited the coastwise trade to vessels of American build and ownership. Americans who wished to participate in the shipping trade with other countries generally invested their money abroad, because the foreign vessels both cost less and were cheaper to operate. While Great Britain, France, Germany, and Japan were resorting to heavy subsidies for the building up of their fleets, the American government was almost a total abstainer. For a quarter of a century mail subsidies were granted very sparingly or not at all. One large grant made in 1872 was soon canceled when it was learned that an excessive amount of money had been spent in lobbying for the dona-

¹ Gross tonnage is the total number of cubic feet in the hull and other enclosed spaces divided by 100. The column "all other" vessels includes sailing craft, canal boats, and barges.

tion. In 1876 Congress abandoned all forms of money aid. Three years later even a Senator from the old shipbuilding state of New Hampshire opposed a renewal of the policy, stating that he had observed that the doles always went to the richest shippers and were paid from public taxes. Some concessions other than direct money payments were occasionally made, but generally they were offset by equivalent restrictions. Even the remission of duties on shipbuilding materials in 1872 and later was offset by the requirement that ships built under such advantage should be employed in the foreign service.

Not till the Panama Canal Toll Act of 1912 were foreign-built ships admitted to American registry, and then only if less than five years old, owned entirely by citizens of the United States, and destined for trade with distant colonies or foreign countries. In 1914 the provisions were extended to older ships. In less than three months after this sanction, eighty vessels with an aggregate tonnage of 278,374 were acquired by American owners. The mere requirement of domestic ownership had been no real restriction upon the growth of the merchant marine, for there was no barrier to the foreign ownership of stock in American shipping concerns. The ban on alien building, the subsidies offered by other countries, and the higher wages on American vessels had been the main disadvantages—aside from the fact that foreign owners were satisfied with smaller profits than were the American capitalists.

Labor on Merchant Vessels. It must not be inferred that life even on a merchant ship of the United States was luxurious. Seamen had always been classed as the lowest type of labor, and treated accordingly. They remained in the service merely because that was all they knew, or for lack of opportunity to engage in any other activity. Some protection had been afforded by a congressional Act of 1790, and corporal punishment was nominally abolished in 1850. But even after other legislation in 1870 and following the work was still underpaid and living conditions were often loathsome. The Seamen's Act of March 4, 1915, sponsored by Robert M. LaFollette, finally put sailors on an equality with other laborers. Because this made the cost of operation high enough to offset the advantage of the new opportunity to buy foreign ships, an immediate agitation was begun to secure the repeal of the law.

Ship Subsidies. Meanwhile the system of subsidies had been renewed. The rebuilding of the United States navy after 1882 added greatly to the activities of the private shipyards. Then, in 1891, subsidies to mail steamers were resumed. The maximum allowance was \$4 a mile for the shortest practicable route on the outward voyage,

given for the use of iron or steel vessels of at least 8,000 tons having a speed of 20 knots or more. The minimum was $66\frac{2}{3}\text{¢}$ a mile. Again the concessions were almost useless. It would have cost shippers \$14,000,000 to acquire ships to comply with the regulations for the fifty proposed routes. Of the eleven contracts which were originally made only six were operative by 1913.

The Coastwise Trade. Though coastwise shipping had a more consistent development than other forms of water-borne commerce, its volume as compared with its earlier importance showed a relative decline. In 1852 this branch of the trade had carried four-fifths as much goods as all other forms of land and water transportation combined. But, as fast as proper connecting rail lines could be completed they took over the carrying of lighter and more valuable articles, leaving such bulky raw products as building materials, coal, iron, and steel for the coastwise vessels. By 1870 a very noticeable relative decline had occurred in the water shipments of cotton from New Orleans. The railroads from the delta and from other Southern port towns were mainly responsible. Yet, the tonnage engaged along the Atlantic and Gulf coasts grew from 1,425,000 in 1870 to 2,100,000 in 1900. Coal from Philadelphia, lumber, ice, and stone from New England, coal and fishery products from Baltimore were prominent in the North Atlantic commerce. A change of customs laws in 1906 made the collection of coastwise-trade statistics less satisfactory than before, but enough was left for purposes of comparison. By this time the commerce of the Atlantic and Gulf coasts, though totaling 64,000,000 tons, was only one-fourteenth as great as that of the railroads. The Pacific and intercoastal trade helped somewhat to reduce this diversity. By 1914 the Eastern fleet had grown to near three million tons. Galveston, because of its cotton, had become the leading coastwise trader of the Gulf of Mexico. Meanwhile, the railroads, either directly or through controlled corporations, had virtually monopolized the fleet, operating it according to their own interests. By 1929 the coastwise trade alone was equal to 9.3% of the tonnage of the railroad traffic; the lake vessels raised the ratio to 19.5%; while the river and canal boats made the total of the domestic merchant marine hardly three-tenths as great as the railroad business. The coastwise commerce alone was a little less than the foreign trade, while the lake traffic and that of the rivers and canals were each a little in excess.

Intercoastal Shipments. The Pacific Coast fleet increased from 110,000 tons in 1870 to nearly three times as great in 1900 and six times in 1914. Lumber was the most important commodity, a billion feet being handled in 1911. The intercoastal traffic, classified as a part of the coastwise business, was likewise exempt from foreign competi-

tion. Since South America lies so far eastward that its westernmost points are in the same longitude as Charleston, South Carolina, commerce carried around Cape Horn to the Pacific Coast was always at a great disadvantage. New York is hardly any closer to Pernambuco than are Liverpool or Bordeaux, while New Orleans is farther away. Consequently, the coastwise vessels, with their greater cost of operation, were at a positive disadvantage as compared with European ships in competition for trade around the Horn with the Pacific ports. But, by using the rail connections across the Isthmus of Panama, New York had an advantage of 3,000 miles and New Orleans 3,600 miles over Liverpool, even if the British shippers used the same facilities. The savings made by the shorter route more than offset the rail and re-handling charges. By using the Isthmus of Tehuantepec, New York saved another thousand miles while New Orleans cut off 1,700 miles. These factors would have given the coastwise fleet an advantage over European competitors even if the tariff need not be considered. In 1870 goods valued at \$15,300,000 were sent from New York to San Francisco by way of Panama, and about a fifth as much return freight was carried. Then the transcontinental railroads caused a decline which was not fully overcome till the opening of the Panama Canal. Not till between 1907 and 1913 did trade over the Tehuantepec railroad reach large proportions.

In 1914 the Panama Canal started a new era of intercoastal commerce. The Act of 1912 gave the Interstate Commerce Commission power to order the establishment of physical connections between railroads and intercoastal vessels. Another act, in 1914, prohibited railroad control of competing water carriers except by permit of the commission. As soon as the canal was opened the best of the privately owned merchant fleet left the foreign trade to participate in the protected intercoastal business. The canal was a success from the start, but not as markedly so as its savings warranted. The cost of freight was cut as much as \$10 a ton below the railroad charges for transcontinental business. Yet, by 1928 the 10,000,000 tons sent through the canal was contrasted with a quarter of a billion tons shipped over the railroads. About 35% of the intercoastal trade has been in petroleum. The uncertainty of rates by a combined rail and water route has tended to retard the industrial development of the Midwest, where the manufacturers have no security against all-water freight competition from the East.

Neutrality and Trade, 1914-1917. When the World War broke out, and Great Britain began blockading German ports, American shippers reëntered the foreign carrying trade under conditions which bore some similarity to those which had made the American merchant

marine so prosperous during the Napoleonic wars. When Germany retaliated with her submarine campaign, freight rates rose to such a point that vessels could pay for themselves from the profits of one trip. The cost of shipbuilding was, consequently, no longer an important factor in American shipping policy. But the problem of freedom of the seas remained as a deterrent to cautious investors. Until April 6, 1917, the United States remained neutral during a ruthless rivalry of Great Britain and Germany for domination of the seas. But to the American public the submarine tactics of Germany seemed the more reprehensible. This was partly due to the effective British propaganda in the United States. After two years of diplomatic efforts, the details of which must be sought out in the political histories, the United States finally entered the war on the side of Great Britain, France, Russia, and Italy.

The World War Years. During the neutral years the hazards of the merchant marine held the expansion of the American fleet engaged in foreign trade within modest limits. Then, as a part of the preparedness program of 1916, Congress passed an act on September 7, creating a Shipping Board similar in make-up to the Interstate Commerce Commission, but authorized to take the government directly into the shipping business. Vessels already in private service were not to be taken over so long as their owners could keep them in use, but the sum of \$50,000,000 was provided to buy or build ships. If needed, a government corporation could be organized to purchase, operate, lease, charter, or sell merchant vessels. When war was declared only 2,191,000 tons were registered in foreign trade, very few of the vessels having passenger accommodations. The confiscation of German ships interned in American ports added a tonnage of 660,000. In ten days after the declaration of war the Shipping Board had organized the Emergency Fleet Corporation which six months later had a capital of \$1,934,000,000 and a program for the building of 1,200 vessels with an aggregate dead-weight tonnage of 7,500,000. Also about 400 craft of over 3,000,000 tons dead weight were taken over from private companies while under construction. In 15 months after July 1, 1917, a total of 384 steel and 289 wooden ships were built in the country, their tonnage being above two million. When the Armistice was signed in November, 1918, the United States had 341 shipyards with 1,284 launching ways, and a vast tonnage of vessels under construction. About three billion dollars had been spent or stipulated in contracts for ships. Meanwhile the British had been relied upon for transporting a large portion of the troops to France, the fares charged the United States being high enough to excite a great deal of caustic criticism.

Reconstruction Policies. As soon as the war was over there was an outcry to get the government out of business. Consequently, an act of June 5, 1920, revised the whole merchant-marine code for the purpose of building up a large fleet of privately owned vessels. In the first three postwar years the Shipping Board launched more tonnage than had existed in the total water craft of the nation, from ocean liners to canal boats, in 1917. The problem of control of this fleet was solved in the traditional way. The ships were to be operated by the board until sales could be made—preferably to Americans. In order to encourage the transfer, the new owners were exempted from excess-profit and income taxes on the earnings, provided the savings thereby effected should be reinvested in new American built ships. About all kinds of subsidies were granted except direct gifts of money, mail contracts and liberal loans being especially featured. Preferential rail charges were authorized for imports in American vessels. Marine insurance associations were exempted from the operation of the antitrust acts. Seventeenth-century mercantilism was carried to the point of excluding foreign-owned vessels from the carrying trade between the United States and her colonies. President Woodrow Wilson, who was in his last sickness when he signed the bill, probably made no effort to understand it.

The sale of the fleet could not be effected till President Calvin Coolidge, in February, 1926, succeeded in changing the political complexion of the Emergency Fleet Corporation. The ships were then sold for anything they would bring. Robert S. Dollar in 1928 got possession of the last government-owned merchantman on the Pacific, thereby becoming the leading shipowner on that ocean. A whole fleet of over 200 wooden craft was sold for a little more than the cost of building one. Millions of dollars worth of vessels brought only junk-iron prices. In fact, Henry Ford bought 199 ships of about half a million tons for no other purpose than to make automobiles from the steel they contained. A loss of as much as 50% was to be expected as a consequence of the extravagant cost-plus method of their original purchase. But American shippers could not pay even half prices. The excessive American tariffs made exchange of goods with foreign countries difficult and, beyond definite limits, often impossible. American vessels also were outclassed by those of various other countries both in size and character of services—tourists especially crowding on to the ships that had bars for the sale of alcoholic beverages. Then too, the foreign competitors were operated largely by Chinese and Japanese labor, receiving wages of only from \$7.50 to \$9 a month, while the LaFollette Act guaranteed American seamen a minimum of \$45. All things considered, since the government insisted upon selling, it could not expect

to get much for the ships. But the indications are that the desire to grant subsidies resulted in lower prices than could have been obtained by competitive bidding among world buyers.

All these efforts combined failed to bring prosperity to the high-seas fleets. In 1927, though the American merchant marine stood second only to the British in capacity, four-fifths of the \$600,000,000 paid for ocean freights went to foreign owners. The oil tankers alone prospered, mainly for lack of serious competition. In an effort to check the decline in the merchant marine, Congress in 1928 passed the Jones-White Act. The name of the Emergency Fleet Corporation was changed by substituting the word "Merchant" for "Emergency," thus indicating more of an inclination to retain permanent control of the few ships as yet unsold. Further sales at charity prices were curbed. Loans were allowed on extremely liberal terms to private builders, and heavier subsidies were granted for mail carrying. This act had at least some temporary effect in stimulating shipbuilding.

World Shipping Difficulties. No permanent relief was visible by 1933. There had been a decade and a half of increased size and elegance of world fleets, accompanied by a lack of prosperity. World tonnage between 1914 and 1930 had grown from 49,089,000 to 69,607,000, the United States in the latter year having about 14 million tons of seaworthy vessels as compared with over 23 million for the British Empire. Japan, Germany, Norway, France, Italy, and the Netherlands had most of the remainder. Three-fifths of the American tonnage was in the coastwise and interior services. The world tonnage was a ninth greater than what could be employed even part time. A decline of 22% in ocean freight rates occurred in fourteen months following October, 1928. Shortly afterward, passenger fares across the North Atlantic were cut by from one to three-tenths. The net profits of the Cunard line for 1930 were reported at \$93,000 as compared with \$4,000,000 in the previous year. The Merchant Fleet Corporation in 1930 had a deficit of over 10 million dollars, and the United States Lines were appealing to the Shipping Board for help. These conditions, no doubt, were only temporary, but indications were that the era of rapid construction would have to give way to one of economy in operation.

In the early 1930's experiments with Diesel engines on oil burners and pulverized coal on steamers were showing promising results. Efforts were still made at new speed records; the Cunard line started a 70,000-ton vessel; and gyroscopes were demonstrated as capable of checking the roll of ships. But these refinements could add little if any to the prosperity of the owners so long as the vessels so operated were dependent mainly on first-class passenger service. Profits in the merchant marine have come from freight and passengers of the second

and third classes. World tariff barriers were hampering the former, while immigration laws had hit a body blow at the steerage profits.

Imperialism. A cautious and methodical scholar has said: "in the same way that political nationalism makes peace an armed truce, so economic nationalism makes the competition between states a truceless war."¹ The latter, even before 1860, was beginning to include economic imperialism. Imperialism itself is as old as human records, embracing the theory that subject nations and colonies should add to the welfare of the dominating state. The Phoenicians and Greeks of ancient times probably came closest to the modern conception that the colonies should be especially adapted for catering to the needs of business men at home. Without tracing this idea down to modern days, it may be noted that the industrial revolution placed a new value upon raw materials, foreign markets, sources of investment, and reservoirs for impounding the allegiance of overflowing populations. This situation, especially after 1880, incited the British, French, Italians, Belgians, Germans, Russians, and Japanese to an avid scramble for colonies, special privileges, and spheres of influence.

Background of American Expansion. Though the United States was the last of the greater powers of the Occident to acquire non-contiguous territory, hardly had the relatively unsettled regions of the far West been secured when talk of seizing Cuba, Santo Domingo, or other foreign regions began to disturb the quiet of peace-loving people. Even before the Mexican War, jingoes were raving about dominion over all of North America. In 1867 William H. Seward, as Secretary of State under Johnson, realized a part of his long-cherished dream by the purchase of Alaska from Russia at a cost of \$7,200,000. But President Grant was balked in an attempt to secure Santo Domingo. No other important additions were made till 1898 and 1899, by which time the European states had subdivided Africa and seemed on the verge of repeating the operation in China. When the time came that American interests could see the horizon of domestic expansion, and began to speculate on what might lie beyond the rainbow, there was very little ungrabbed territory remaining except a few islands in the Pacific.

But American yearning was more toward Latin America, all of which was either independent and self-governed or in the possession of European states. Good excuse had to exist for the seizure of colonies of another nation, even if a weak one. Long-established American policy made the extinguishment of independence, even in the least stable of the Latin-American republics, a betrayal of faith. The Monroe Doctrine of 1823 not only warned European powers against the

¹ Clark, *History of Manufactures in the United States*, Vol. II, p. 4.

extension of colonies or their political system in America, but it also left the inference that the United States would refrain from actions which would be deemed unfriendly if performed by others. But the annexation of Mexican territory in 1848 led the minor American republics in general to view the Monroe Doctrine as merely a declaration of prior claim to the Latin-American apple tree, the fruit to be shaken into Uncle Sam's plug hat as it became ripe. Later events served to strengthen this suspicion. While few if any Americans would have admitted any selfish motives in the imperial policies of the time of Blaine and McKinley, the missionary zeal, adventurous spirit, and feeling of manifest destiny bred of a century of expansion made it easy for the people to feel that ownership or control was extended to any colony merely for the good that could be done to an inferior people. Seldom, however, was the "white man's burden" lifted from native shoulders unless it was considered worth carrying home. In 1919 no country—the United States included—wanted a mandate over Armenia, but the rich Mesopotamia was another matter entirely.

James G. Blaine was one of the first Americans to realize the disadvantages of the United States in South American trade. As Secretary of State under Garfield and Benjamin Harrison, he laid the foundation for the Pan-American Union—mainly a commercial enterprise. But Blaine, by officious meddling in Chilean politics during one of the perennial civil wars, 1890–1891, offset any earlier advantages he may have obtained, leaving the situation no better than he found it. Cleveland, a few years later, was able to secure wider recognition of the Monroe Doctrine, in connection with the Venezuela boundary dispute, in spite of some boorish diplomacy.

Cuba and the Spanish War. In 1898 the United States launched fully into the sea of imperialism. By this time, citizens of the United States had probably \$50,000,000 invested in Cuban railroads, mines, and sugar plantations. The annual commerce with the island amounted to twice that sum, despite mutually absurd tariff barriers. For many years Spain had misgoverned Cuba, and since 1895 a warfare had raged which was marked by barbaric cruelty on both sides. Taking advantage of this situation, the investors tried to get the American government to intervene, but Cleveland could not be budged from the regular forms of diplomatic protest. But when McKinley entered the White House the jingoes soon had their way. William Randolph Hearst and other newspaper publishers gave full publicity with some embellishments to the inhuman *reconcentrado* policy of General Valeriano Weyler, while idealizing the almost equally brutal tactics of the native leader Maximo Gomez. In consequence, a war spirit was created among the sympathetic but half-informed American

people. This animosity became white-hot after the sinking of the *Maine* on February 15, 1898, with a loss of 258 men and two officers. Though the responsibility for this outrage was never established, the American public was by preponderating majority convinced of Spain's guilt—even small boys began hating the "Dons."

Though McKinley wanted to preserve peace, he was soon won over by the arguments of the war party, asking for a declaration of hostilities just a day after he had received full compliance to an ultimatum sent to the queen regent. Before the end of the year, 1898, Spain was subdued, surrendering the remnants of her colonial empire. Because of frequent protests that the United States was not desiring to annex Cuba, that island was given its independence, but American troops remained in control pending further decisions concerning policy. Puerto Rico and Guam, neither of which had been involved in the preceding controversy, were seized as indemnity. Because the port of Manila had been captured during the war the whole Philippine archipelago was demanded, though \$20,000,000 was paid for the transfer. Thus the United States gained hopes of greater advances in Oriental trade. Because of a native war already being waged against Spain, it was almost an independent nation that America annexed. The United States then assumed the rôle of the former possessor. It required four years of warfare, \$170,000,000 in money, and a treatment of the Filipinos too much like that of Weyler to bring the conflict to a close. It had cost the United States more dollars (of a smaller value) to suppress independence in the Philippines than had been spent to secure her own independence a century and a quarter earlier.

Annexation of Pacific Islands. During the commotion of 1898 and 1899, McKinley took opportunity to make further annexations in the Pacific. American interest in the Hawaiian Islands dated back to the early whalers and the sandalwood trade. By 1875 enough American sugar planters, many of them children of missionaries, resided in the islands to secure from the United States a reciprocity arrangement admitting Hawaiian sugar free into American ports. In 1884 the United States leased Pearl Harbor as a naval station. In 1893 only the watchfulness of Cleveland prevented the annexation of the islands following a revolt headed by the resident American capitalists and sanctioned by the American minister. Since it was not safe to restore the irate Queen Liliuokalani, the dictatorial government of the sugar planters remained in control till July 7, 1898, when, by a joint resolution of Congress, the annexation to the United States was effected. At that time the Japanese were also casting covetous glances at the islands.

The island of Tutuila in the Samoan group was secured in 1899.

As early as 1872 a coaling station had been acquired at the harbor of Pago-Pago, followed in the next decade by a controversy with Germany over supremacy in the group. A hurricane in March, 1889, prevented open hostilities between warships of Great Britain, Germany, and the United States, after which a joint protectorate was arranged. Following a decade of friction over the new arrangement, it was decided to divide up the islands. The United States got the island in which she was most interested; Germany took the rest; and Great Britain was recompensed elsewhere. Other islands in the Pacific were picked up in the last two decades of the nineteenth century, but they were useful only as cable stations, coaling bases, or for guano deposits. Some were totally devoid of population.

Oriental Policy. In these same years, American diplomacy in the far East was directed toward greater trade advantages. In 1898, while Germany and Russia were wringing concessions from China in the Shantung and Liaotung peninsulas, the British proposed to the American ambassador John Hay that a treaty be made between the two countries guaranteeing the "open door" for Chinese trade. For a while Hay was cool toward the proposition, making some supercilious remarks about the Senate and difficulties of ratification. But in 1899, when Great Britain began following the precedent of seizures in China, Hay quickly shifted his ground. Fearing losses to American commerce, he proposed that the open-door policy be applied to the portions of the country controlled by foreigners. This suited the British, while the other nations acceded more or less graciously and with mental reservations. Following the Boxer uprising of 1900, since the watchful jealousy of the interested nations prevented a dismemberment of the empire, they all agreed to respect Chinese territorial integrity. The United States accepted \$24,000,000 of the \$333,000,000 indemnity exacted from the decrepit nation, but seven years later returned \$11,000,000 which remained unspent after all damages had been paid. This casting of bread upon the waters, whether so intended or not, was an excellent bit of diplomacy. The Chinese were so unused to such treatment from despoilers of their land that the resulting good will between the nations was enough to withstand even the strain of America's immigration policy.¹

Canal Diplomacy. In the campaign of 1900, which featured the anti-imperialism stand of Bryan, both parties recognized the imperial position of the United States to the extent of recommending an inter-

¹ In many of the events above mentioned missionaries proved valuable to the nation desiring colonies. If a missionary was eaten in an undesirable part of the world it was a regrettable incident. But any aggression, even if well justified, against a missionary in a region of potential profit was a national crisis making the subjugation of the tribe and extension of imperial control a Christian duty.

oceanic canal across either Panama or Nicaragua. The possibilities of trade across the southern route had been known since the days of Balboa. By treaty arrangements with Colombia and Great Britain, the United States had occupied a privileged place in railroad transportation across Panama since the middle of the nineteenth century. Numerous later plans for a Central American canal were toyed with before 1900, the French making a heroic but futile attempt in Panama and an American company failing in a feebleness effort in Nicaragua a little later. Then the Hay-Pauncefote Treaty of 1901 cleared the way for the United States to build a canal under her exclusive control. The remaining steps were largely under the direct guidance of President Theodore Roosevelt. Following a series of steps scarcely justifying Roosevelt's characterization of the Colombians as a "set of bandits," Panama became free, as the result of an inspired revolution, and the United States secured a canal zone. This *coup d'état* of November, 1903, gave the United States a strip of land ten miles in width across the isthmus, in perpetuity, for \$10,000,000 cash and \$250,000 a year rental beginning in 1913. The work of excavation was begun by the War Department in 1906. The canal, costing \$375,000,000, was completed eight years later. In 1912 Congress exempted American coast-wise vessels from the payment of tolls, but, before the canal was opened for use, President Woodrow Wilson, in the interest of international accord, secured a reversal of the policy. Since Wilson's administration the tolls have been refunded to American merchantmen without causing diplomatic complications. In 1921 a desire to secure the renewal of oil concessions in Colombia led the Senate to end a long dispute by paying \$25,000,000 to the country for the loss of Panama. Colombia accepted this as sufficient apology for Roosevelt's tactics in 1903.

The Insular Cases and Colonial Government. By 1900 it was an established fact that the United States had definitely founded a colonial system. Laws passed regarding the government of and trade with the islands showed that these possessions were considered as separate from the United States to the extent that the Constitution did not apply to them. Two important cases arising under these acts were carried to the Supreme Court in 1900, three more in 1901, and another in 1904. The essence of the decisions, generally concurred in by a bare majority, was that the Constitution contained two kinds of provisions—fundamental and formal. The former alone were bound to be extended to the colonies. Congress might pass any act it chose, leaving to the court to decide how much of it was to be enforced. This much was established: tariff barriers might be erected against colonial products; United States citizenship could come only

by congressional grant; such rights of man as trial by jury might be withheld so long as Congress should see fit. Full territorial status, with the rights of American citizenship, were extended to Hawaii in 1900, Alaska in 1912, and Puerto Rico in 1917. In 1930 Puerto Rico had a population greater than any one of 19 states in the Union and nearly equal to any of seven others. About nine-tenths of the people were white, used the English language, and had as high a percentage of literacy as some American states. Yet, full partnership in the Union was not even promised for the distant future. The economic conditions in the island were wretchedly bad, American neglect and tariff restrictions being largely to blame. A high degree of self-government, with promises of ultimate independence, was extended to the Philippines by the Jones Act of 1916. A change of political control in Congress in 1919 prevented the consummation of the pledge. In 1933, when the major parties were tied in Congress, an independence bill was put through by a bipartisan vote. The motives were in connection with protection of the home markets, rather than altruistic considerations, the ten-year interval of adjustment before completion of independence being guarded with American producers solely in mind. The Filipinos rejected the offer, after which Congress, in 1934, adopted a more satisfactory plan.

The Virgin Islands. In 1917, after dandling the proposition for 50 years, the United States purchased the Virgin Islands of Denmark, neighboring Puerto Rico. The three principal islands and surrounding islets have an area of only 133 square miles and a population which declined from 27,000 in 1910 to 22,000 in 1930. The price was \$25,000,000, which sum was justified on the ancient doctrine of military advantage. Economic conditions, which were bad in 1917, became steadily worse till 1933. No other colony has suffered proportionally under American ownership. This group, along with the other insular possessions, has profited in roads, public buildings, sanitation, education, and generally in orderly government as a result of American occupation. But the colonies have paid all that these blessings are worth, and sometimes more. The system of great wealth for a few and relative poverty for many has gained headway. Too often, Americanization has been pushed to the point of ethnical indigestion. The forced infiltration of American ideas into Spanish and Polynesian civilizations has not always worked well, in some instances aggravating outbreaks of crimes of violence. The question has remained open to debate as to whether civilization forced down from above is of any benefit to the recipient.

Trade with the Colonies. Whether or not the mercantile system of control has been of profit to the colonies, their trade since annexa-

tion has become increasingly confined to the United States. The following table of imports and exports of the four principal colonies from 1900 to 1930 will illustrate this point.

COLONIAL TRADE, 1900-1930

YEAR OR YEARLY AVERAGE	IMPORTS		EXPORTS	
	From United States	From Other Countries	To United States	To Other Countries
Alaska				
1901	\$ 13,475,000	\$ 558,000	No estimate	\$ 2,534,000
1903	9,510,000	477,000	\$ 10,229,000	1,612,000
1926	31,587,000	544,000	73,301,000	522,000
1930	31,303,000	1,710,000	48,997,000	347,000
Puerto Rico				
1901-05	11,056,000	2,201,000	10,485,000	3,743,000
1920	121,562,000	7,512,000	158,322,000	16,347,000
1930	74,219,000	10,319,000	99,880,000	4,069,000
Hawaii				
1901-05	11,460,000	3,165,000	28,029,000	65,000
1920	74,052,000	12,285,000	192,383,000	3,438,000
1930	81,726,000	9,400,000	98,924,000	1,992,000
Philippines				
1901-05	4,246,000	27,652,000	10,180,000	18,394,000
1929	92,593,000	54,567,000	124,465,000	39,981,000
1930	78,183,000	44,910,000	105,342,000	27,825,000

Of recent years the principal goods imported into the United States from Alaska have been fish, canned salmon alone accounting for the bulk of the value. From 1906 to 1930 the total shipments of gold were \$295,424,472, the greatest amount sent to the United States being \$18,564,288 in 1907. In 1929 whale oil reached the unusual level of \$8,698,000, but more consistent in value have been furs and skins. Animals, reindeer meat, stone, lumber, copper, and lead account for most of the rest of the exports to America. Reindeer, first imported from Siberia, have come to be a mainstay of food supply for "Seward's ice box," the total herds in 1931 being estimated at 600,000. Fur seals, once nearly exterminated, again became numerous after several years of protection. The only federally owned railroad is in Alaska, running from Seward to Fairbanks, a distance of about 479 miles not counting spurs to mines. This railroad has been operated at a loss because of the scanty population. If it ever pays consistent dividends the likelihood is, judging from experience, that it will be sold to private interests.

Imports from Hawaii, the Philippines, and Puerto Rico in recent years have consisted mainly of sugar, the Philippines occupying a position between the other two colonies as a source. Canned pineapple takes second place for Hawaii, while lesser amounts of coffee, hides, honey, molasses, and bananas have been imported. Tobacco and cigars occupy an important part in the Puerto Rican trade, while cotton goods make a sizable third item. From the Philippines, coconut products—oil and copra alone amounting to over \$46,000,000 in 1929—have rated second only to sugar. Manila hemp, tobacco, rubber, cordage, and wood range next in order in the contributions to the United States. Extraordinarily low prices for sugar since 1928 have made that product of less importance in comparison to the rest than the bulk of the exports would warrant.

Caribbean Spheres of Influence. Aside from the colonies, the United States has established a number of special spheres of influence in the Caribbean region since 1900. The first of these was Cuba. Before the army of occupation would be withdrawn, the American government forced the Platt Amendment¹ into the insular constitution and a treaty between the two countries. Cuba was enjoined from allowing foreign infringement upon her independence or territory, or from incurring debts beyond her ability to pay from the ordinary revenues. To the United States was given the authority to establish naval bases and to intervene with military force to maintain independence or preserve the government at any time the greater power saw fit. On various occasions since 1904 troops have been landed, generally to prevent bloodshed as a consequence of elections, and ordinarily they were not removed till further protective legislation was adopted. Cuban liberals have felt that American influence was used to maintain in power the more reactionary type of leaders, particularly the blood-thirsty despot Gerardo Machado from 1925 to 1933. In 1928 about nine-tenths of all foreign capital invested in Cuba belonged to citizens of the United States, the investment being over $1\frac{1}{2}$ billion dollars of which a half was in the sugar industry alone. Real estate, railroads, public utilities, tobacco manufactures, industrial securities, commercial establishments, mines, and bank deposits account for most of the remainder. Since 1927 over three-fifths of all Cuban imports and four-fifths of the exports have been in trade with the United States. The exports include mainly sugar, tobacco, cigars, hides, valuable woods, iron, copper, and asphalt. In 1934 the government was showing some inclination to abandon the Platt Amendment after another experiment in unseating dictators.

¹ Offered by Senator Orville H. Platt of Connecticut as an amendment to an army appropriation act in 1901.

The second application of the Platt Amendment idea was to the republic of Panama in 1903, for, in addition to the Canal Zone, the United States acquired a privileged position over the whole state. Less than a year before this Theodore Roosevelt had used the threat of force to prevent Germany from gaining a foothold on Venezuela through the guise of collecting debts. Thus was Europe informed that the right of forcible intervention in the Latin-American republics was peculiarly the prerogative of the United States. In 1905 and following the Dominican Republic became the third of the series. Roosevelt, without congressional sanction, first made an arrangement with the native government putting an American financial expert in control of the collection of revenues. This was to prevent a situation such as had occurred in Venezuela, and incidentally to help American creditors. The arrangement worked splendidly both for the payment of the debts and in providing greater revenue for the insular government. In 1907 the financial supervision was made permanent by a treaty, under the elastic terms of which military occupation was later accomplished. American marines have been landed both to supervise elections and to maintain the existing governments in control. There was one period of continuous military occupation from 1916 to 1924.

The next extension of the principle was made by President Wilson. In 1915 the marines were landed in Haiti to protect American interests during a violent revolt. Later in the year a treaty was drawn up establishing relationships such as those with the Dominican Republic, but including a temporary protectorate with more explicit terms concerning military interference and control of the police. Before long, great criticism was raised over forced labor and other indignities enforced by the marines upon the native Negroes. The established custom was being followed of trying to make over the republic on the American pattern. The protectorate relationship was limited by the treaty to twenty years. As the end of that period approaches, the question is being raised as to whether President Franklin D. Roosevelt's statements about abstention from military occupation of foreign territory is going to bear fruit.

Nicaragua never became a protectorate so far as treaty stipulations are concerned, but, in effect, American control has become as complete as elsewhere in the Caribbean region. In 1911 New York bankers demanded an American financial supervisor as a prerequisite to the making of a large loan to the government. The remainder of the story, like a Greek tragedy, follows the fated course to its conclusion. In 1912 some local disturbances furnished an excuse for the landing of marines to protect American interests. They remained as a "legation guard" till 1925, controlling elections and otherwise looking out for

American investments. In 1916 a treaty was ratified, giving to the United States some naval bases and the exclusive right to build a canal, the consideration being \$3,000,000. In 1926 the marines again took control to maintain the existing government. Thereafter, the American newspapers consistently referred to the revolutionists, who sought to undo this situation, as bandits. In 1933, after the removal of military supervision, the leader of the "bandits" became a respected citizen of the republic till murdered by a political enemy in the following year.

There is no definite assurance that this system of encircling the Caribbean Sea with dependencies has come to a close. When officials of Honduras, after an election, cable Washington to ask whether the results are satisfactory there is reason to wonder at the action. When the reply goes back to Tegucigalpa that the United States government has no concern in the election, the reply may be taken either literally or as an affirmation of the question. People ponder what the reply may be some time when the results are unsatisfactory. Some comfort may be secured from the fact that there have been no annexations of independent Latin-American republics. Even when billions of dollars in American property were endangered during a period of semi-anarchy in Mexico, 1911-1917, President Wilson called in the leading states to the southward to help adjust the situation, refraining to take advantage of various opportunities to employ military coercion. The establishment and maintenance of a stable government based on public confidence, since 1917, has been ample justification of the Wilsonian policy of purely diplomatic pressure.

World Commercial Interdependence. While imperialism has aided in controlling sources of a limited number of raw materials, extended markets for manufactures, and widened the scope of protected investments, at the same time it has added to the problems of naval armaments and colonial defense, thus making the peace of the world less secure. Despite the efforts of all the imperial nations, the idea of the self-sufficing mercantile state remains more nearly impossible in the twentieth century than in the seventeenth. The interdependence of the world in production and distribution becomes constantly more apparent. In 1921 the United States Steel Corporation required 14½ typed pages to list the different kinds of imports needed in its business. Forty separate commodities came from 57 different countries. Copper was brought from Chile, Peru, Mexico, Canada, and Portuguese Africa; iron ore from Sweden, Chile, Cuba, and North Africa; manganese from Brazil, India, and Russia; lead from Chile, Peru, Mexico, and Canada; Chromium from Rhodesia, New Caledonia, Asia Minor, Russia, and Brazil; tin from the Malay Peninsula, the East Indies,

and Bolivia; palm oil from British West Africa and the Belgian Congo; nickel from Canada; tungsten from China, Bolivia, Portugal, and Spain; vanadium from Peru. These are a few of the raw materials upon which a single industry is dependent in international trade. Obviously, political imperialism could not be pushed to the point of controlling all these sources of supply. Since gold knows no international boundaries, economic imperialism has taken the place of political control in seeking out the best places for the procurement of needed goods. Not content to wait till the commodities could be put on the market by peoples of backward industrialism, manufacturers have sent their capital into the out-of-the-way places of the world to secure concessions for producing the materials for themselves.

Economic Imperialism. Occasionally the capitalists of one country have gained a corner on some particular widely needed product. By 1922 nearly a dozen such materials were monopolized, the governments in some cases taking a part in holding up prices. Sisal was controlled by Mexico, nitrates by Chile, iodine, long-staple cotton, and tin by Great Britain, rubber by Great Britain and the Netherlands, potash by Germany, mercury by Spain and Austria, coffee by Brazil, and quebracho by Argentina and Paraguay. Other materials of decidedly localized production, but not cornered, were raw silk and camphor from Japan, wood oil from China, shellac and jute from India, and cocoa from Ecuador. The latter product after 1918 was produced largely by American capital. The Department of Commerce in 1926 stated that the United States paid annually \$300,000,000 through unjustifiable official restraint on trade in such products as those just mentioned. Generally, however, the greed of the monopolies evoked competition in other parts of the world. Brazilian excesses in driving coffee to unseemly prices led Colombia and Central America to enter the field. The world then discovered that the newer regions produced a better grade of coffee. As a result the price tumbled again, to the lowest point in a score of years. Likewise, controlled rubber was driven to an extreme height of price, but this merely resulted in world overproduction accompanied by the lowest price in the history of the industry.

Dollar Diplomacy. A special anxiety of the federal government has been the problem of protecting private investments in foreign countries, "dollar diplomacy" being the solution. Investments in industries together with loans to capitalists and governments abroad have, since 1914, outweighed in volume and importance the investments and commercial interests in the Caribbean protectorates. Before the World War the United States was classified as a debtor nation, foreign capitalists having about \$4,500,000,000 invested in the states

as compared with \$2,600,000,000 of American capital seeking returns abroad. The war reversed this situation, shifting the financial center of the world from London to New York. Between 1924 and 1930 half the world's available gold supply took refuge in America. Not till 1932, when some fear was noted as to the stability of the American gold standard, was there any noticeable drainage from this reservoir. The actual amount of foreign investments in the United States, or *vice versa*, has at no time been reliably estimated. Much Canadian capital has gone through New York banks into foreign fields, while many alien securities handled on Wall Street have been resold abroad, the private transactions and credits often receiving very little publicity. As careful an estimate as is available gives the following figures.¹

FOREIGN INVESTMENTS, 1922-1927

YEAR	AMERICAN INVESTMENTS ABROAD	FOREIGN INVESTMENTS IN AMERICA
1922	\$ 8,522,000,000	\$2,808,000,000
1923	8,775,000,000	3,052,000,000
1924	9,589,000,000	3,096,000,000
1925	10,405,000,000	3,301,000,000
1926	11,195,000,000	3,469,000,000
1927	12,187,000,000	3,700,000,000

Another estimate ² shows American investments abroad in 1928 amounting to \$14,500,000,000 besides about \$10,000,000,000 in war debts owed to the United States government. Julius Klein of the Department of Commerce, answering foreign critics of "Uncle Shylock," declared that by the close of the year 1929 foreign investments in America amounted to \$7,500,000,000.³ Evidently he made no effort to eliminate duplications of bank deposits and investments, and considered that all foreign securities sold by American banks remained in the country.

Of the 1928 investments abroad, the amount was somewhat equally divided between Canada, Europe, and Latin America, the latter portion being a little the largest. American money went into Canada largely for the purpose of getting inside the Dominion tariff wall, and thus also to participate in "imperial preference" tariff provisions of other portions of the British Empire. American interests dominated in several of the Canadian industries. In Mexico and Central America the capital has gone mainly into petroleum, mines, railroads, public utilities, manufacturing, land, lumber, coffee, fruit, and meat.

The most dangerous feature of the international scramble for

¹ James Harvey Rogers, "Foreign Markets and Foreign Credits," in *Recent Economic Changes*, Vol II, pp. 709-756. See especially p. 727.

² Malin, *The United States after the World War*, p. 292.

³ Associated Press dispatch of July 27, 1930.

markets, raw materials and other exotic products has been the narrow nationalism displayed by the governments. If a man makes a bad investment at home and loses, that is his own bad luck. If he is fleeced by a "blue sky" salesman, he may appeal to the courts and find the "shark" protected by a Delaware charter. If he is victimized by "racketeers" he may invoke a police investigation, though uncertain as to which side the police may be most interested in. But a great corporation in which he has invested money may plunge to any extent in projects in undeveloped countries with safe assurance that the diplomatic force and marine corps will back it up.

As an example of diplomatic support to foreign investments, the petroleum industry will serve. In 1920 the United States produced about 80% of the world's oil, including about 12% in Mexico. But wider fields were looked to as a reserve when the domestic supply should run low. The Minerals Leasing Act of 1920 prohibited development of American oil fields by foreign companies except on the basis of reciprocity. In the Wilson and Harding administrations American companies were assisted in penetrating the Turkish fields, thus ultimately securing ownership of 21.5% of the stock of the Turkish Petroleum Company. In 1928 concessions were gained in the Dutch East Indies in return for favors done the Dutch Shell Company in America. At the same time that the United States was demanding participation in the Mesopotamian and East Indian fields, like concessions were denied foreigners in the Philippine Islands. The interests of American oil men in Mexico have since 1910 played a major part in the diplomatic relations of the two countries. The handling of the European war-debt question and the attitude of the State Department toward the marketing of foreign government bonds, as will be shown in a later chapter, are examples of the tenderness of governmental regard for the interests of international bankers.

While the government has gone to such extremes as these to protect foreign trade and investments, its tariff policy has done much to counteract the effect (see Chap. XXXIV). In trade, as well as in world politics in general, scant tendency has been noted in the direction of internationalism. But the trend of great commercial houses, as well as of international bankers, in recent years has been in the direction of greater freedom of exchange, so far as political restrictions will permit. By the close of 1929 the United States was sending industrial equipment abroad at the rate of nearly a million dollars worth for each working day. The exports of shoe machinery alone had grown to such an extent that the exportation of shoes to a number of South American countries had dwindled to insignificance. The same was essentially true of textile machinery sent to various parts

of the Orient and Latin America. The United States was supplying about 35% of the world's exports of industrial equipment. This tendency, naturally, showed that America was beginning to surrender a part of the supremacy enjoyed in consequence of her mechanical superiority. It is fair to assume, however, that if the trade barriers could be leveled or lowered each country could exchange its specialties for its needs, thus substituting a more economic basis for the existing sameness and self-sufficiency of nations. As things are, international cartels have been formed on a large scale for various metal products, rayon, silk, dyestuffs, glass, and other commodities. Commercial restrictions alone have interfered with the breaking up of this form of organization in favor of national specialization.

Regulation and Organization of Trade. The federal government has developed a very complex but not well articulated system of machinery for the regulation and encouragement of foreign commerce. The Department of Commerce and Labor was organized in 1903, and separated into two distinct departments ten years later. Since 1913 the Department of Commerce has been devoted to a single line of endeavor. But various other departments and bureaus influence commerce in one way or another: the Treasury Department through its customs, revenue cutter, and life-saving services, the Commissioner of Internal Revenue, and the Bureau of Public Health; the State Department through the diplomatic and consular service; the War Department through the Division of Insular Affairs, established in 1898 and changed to a bureau in 1902; the Post Office Department through numerous channels; the Department of Justice in a round-about way; the Navy Department through the Bureau of Navigation, the Hydrographic Office, and other too obvious ways; and the Department of Agriculture through its meteorological service. Even the Bureau of Immigration of the Department of Labor is closely associated with commerce. Any service of the Department of Interior is slight and incidental. The Department of Commerce drew bureaus and functions from several of the older departments, but still left them with those listed.

The consular service is the chief agency for assistance in foreign countries. For half a century after 1856 it was not very responsive to commercial needs. The collection of fees for assistance was a form of *douceur* reported to be worth \$20,000 a year to the consul at London and probably as much at Paris. Since the consuls were allowed to engage in trade of their own, and there was no inspection before 1870, some of the worst abuses of the spoils system were to be found in this branch of government activity. Cleveland tried to straighten the matter out in regard to appointments, tenure of office, and promotion

according to merit. This idea was further carried out by Theodore Roosevelt. The Lodge Act of 1906 remedied many of the abuses of the preceding fifty years, and three years later a director of consular service was added to the State Department. By the end of Taft's administration the consuls were actively engaged in stimulating American trade.

The Federal Trade Commission Act of 1914 directed the commission to study "trade conditions in and with foreign countries where associations, combinations, or practices of manufacturers, merchants, or traders, or other conditions may affect the foreign trade of the United States." Efforts were made to keep the good will of foreign business men and to maintain good repute for American traders. In 1926 an interdepartmental liaison committee was formed to coordinate the work of the governmental departments and prevent duplication of activities.

Combinations of importers were needed to adjust the export business to peculiarities of taste and changing fashions abroad, but such associations were in violation of the federal antitrust acts. On request of the Federal Trade Commission, the Exports Associations Act of April 10, 1918, granted legalization of such combinations, subject to commission control and restricted as to restraint of trade against other Americans. In the next year 92 associations were formed, including 840 concerns. In 1927 there were 56 combinations with about a thousand members, handling \$371,500,000 worth of business.

The larger mercantile firms have branch houses to manage sales abroad, while lesser establishments make use of "combination salesmen" who handle noncompeting products of several concerns. A few of the greater packing companies have maintained a very effective organization for export trade. The marketing of grain and cotton has suffered especially from the lack of such control. An effort of the federal government in 1929 and following to dispose of wheat and cotton by means of a Federal Farm Board (see Chap. XXXIV) was far from successful.¹

Import and Export Trade. The numerous details of import and export trade for the 70 years following 1860 can most conveniently be presented in tabular form for study and comparison. First comes the volume by five-year periods, and the totals for certain significant years, to the nearest \$1,000.²

¹ Marine insurance business has remained largely in foreign hands. Large companies have found it feasible to carry their own insurance. Insurance on cargoes, smaller shipping companies, and tramps continues with the organized companies.

² To 1915 the end of the fiscal year is June 30. Thereafter it is December 31. This makes the 1915-1920 average cover $5\frac{1}{2}$ years. This division is made in each of the following tables. Since averages are given instead of totals this makes very little difference.

VOLUME OF AMERICAN FOREIGN TRADE, 1861-1930

YEARLY AVERAGE OR YEAR	EXPORTS		IMPORTS MERCHANDISE	BALANCE EXPORTS (+) IMPORTS (-)	TOTAL MERCHANDISE, GOLD, SILVER		BALANCE EXPORTS (+) IMPORTS (-)
	U S Merchandise	All Merchandise			Exports	Imports	
1861-65	170,198	187,811	255,439	-67,628	248,586	274,492	-25,906
1866-70	307,696	320,842	408,295	-87,453	392,040	426,932	-34,892
1871-75	486,128	501,841	577,873	-76,032	586,179	599,043	-12,864
1876-80	663,650	676,761	492,570	+184,191	714,470	532,542	+181,928
1881-85	774,607	791,892	667,142	+124,750	833,894	719,583	+114,311
1886-90	725,685	738,379	717,231	+21,148	799,112	761,439	+37,673
1891-95	876,326	892,421	785,137	+107,284	1,008,935	843,659	+165,276
1896-00	1,136,039	1,157,318	741,519	+415,799	1,266,236	847,245	+418,991
1901-05	1,427,020	1,453,803	972,162	+481,641	1,569,701	1,064,122	+505,579
1906-10	1,750,980	1,778,697	1,344,838	+433,859	1,911,497	1,478,365	+433,132
1911-15	2,231,684	2,370,539	1,712,319	+658,220	2,515,144	1,837,027	+678,177
1915-20	6,416,513	6,521,190	3,358,354	+3,162,836	6,897,886	3,804,593	+3,093,293
1921-25	4,310,221	4,397,026	3,450,103	+946,924	4,558,940	3,866,937	+692,003
1926-30	4,687,788	4,777,313	4,033,469	+743,845	5,077,974	4,348,894	+729,080
1914	2,329,684	2,364,579	1,893,926	+470,653	2,531,583	1,990,791	+540,792
1920	8,080,481	8,228,016	5,278,481	+2,949,535	8,663,724	5,783,610	+2,880,114
1922	3,765,091	3,831,777	3,112,747	+719,030	3,931,459	3,458,724	+472,735
1929	5,157,083	5,240,995	4,399,361	+841,634	5,440,985	4,754,950	+686,035
1930	3,781,172	3,843,181	3,060,908	+782,273	4,013,305	3,499,723	+513,582

From various points of view, the preceding figures and others like them are decidedly misleading. They leave out of consideration especially the factors of increased population and the numerous changes in price levels, both upward and downward, over the long term of years. The per capita figures for the different five-year periods, which follow, give a better idea of the importance of foreign trade to the average inhabitant of the country.

FOREIGN TRADE PER CAPITA OF POPULATION

YEARLY AVERAGE	EXPORTS	IMPORTS	YEARLY AVERAGE	EXPORTS	IMPORTS
1861-65	\$ 5.11	\$ 7.15	1896-00	\$15.60	\$10.03
1866-70	8.35	10.73	1901-05	17.53	11.75
1871-75	11.70	13.55	1906-10	19.54	14.82
1876-80	14.01	10.18	1911-15	23.98	17.46
1881-85	14.49	12.50	1915-20	61.20	31.37
1886-90	12.12	11.73	1921-25	38.05	30.22
1891-95	13.21	11.59	1926-30	38.50	33.02

Because of great fluctuations in the value of the dollar—the Civil War level, the vagaries of the greenback period, the deflation tendency from 1873 to 1896, the later increased gold supply, the World War stimulus, and postwar deflation—a reconsideration even of the preceding table must be attempted in terms of the indexes of general wholesale prices for the period. For this purpose the per capita exports and imports for the middle and last year of each decade will next be shown, together with the same in terms of the index number, 100 being for the year 1926. Without assuming any infallibility in the

INDEX OF FOREIGN TRADE, 1860-1900

YEAR	INDEX	EXPORTS		IMPORTS		YEAR	INDEX	EXPORTS		IMPORTS	
		Ac- tual	By Index	Ac- tual	By Index			Ac- tual	By Index	Ac- tual	By Index
1860	61	10.61	17.39	11.65	19.10	1900	56.1	18.17	32.39	11.01	19.63
1865	132	4.74	3.59	6.81	5.16	1905	60.1	17.62	29.32	12.84	21.36
1870	87	10.19	11.71	11.31	13.00	1910	70.4	18.41	26.15	16.66	23.66
1875	78	11.55	14.81	11.99	15.37	1915	69.5	27.13	39.04	16.46	23.68
1880	65	16.66	25.63	13.36	20.55	1920	154.4	74.70	48.38	47.16	30.54
1885	57	12.97	22.74	10.34	18.14	1925	103.5	41.30	39.90	35.80	34.59
1890	56.2	13.54	24.09	12.27	21.83	1930	86.3	30.21	35.01	24.88	28.83
1895	48.8	11.51	23.59	10.61	21.74						

index numbers compiled by the bureau of labor statistics, used above, and with no certainty that the exports or imports of any given year would correspond accurately to the index of general values, yet the

figures just listed come reasonably close to an actual picture of the changing volume of trade. By consulting the second column under "exports" and "imports" it is seen that the per capita of trade, on the basis of the purchasing value of the dollar for a given year, does not reveal such violent fluctuations as are reflected by total values or even per capita values alone.

Thus far, only the total trade of the country has been considered, no attention being paid to the relative amounts of the various kinds of goods exchanged. The table on p. 659 presents merely the percentage which each kind of export or import bore to the total for the various five-year periods.

The relative decline in exports of raw materials and foodstuffs and the corresponding increase for manufactured goods, as shown in this table, is made clearer in the next one, showing the values to the nearest million dollars of the principal articles of United States merchandise exported during the same period. Some items—oil cake and meal, fruits and nuts, rubber goods, naval stores and related goods—whose values have remained small, or have become important only in very recent years, are omitted (see p. 660).

Likewise, the relative increase in imports of raw materials and the corresponding decline in imports of finished manufactures, as shown in the percentage table, is given greater meaning in the next table of the principal commodities imported in the same years. A few items, such as burlaps, saw-mill products, and petroleum, are omitted because of their small volume or very recent importance. The imports of petroleum have rarely equaled a fourth of the exports. Again the values are expressed to the nearest million dollars (see p. 661).

The destination of exports and source of imports by continents are next shown, with reference to merchandise alone—no shipments of gold or silver are represented. The Philippine Islands are included with Asia, in all years, and the Hawaiian Islands with Oceania, prior to 1901. The West Indies are included with southern North America. The figures for northern North America, especially after 1920, are somewhat misleading because of the large quantities of United States grain shipped down the St. Lawrence and from Montreal to Europe. This grain has been listed as going to Canada. As expressed in percentage values, however, the discrepancy is not great (see p. 662).

Finally, in this statistical review of commerce, there are listed the exports—including reexports—and general imports of merchandise, divided among the various areas of trade along the coast and borders of the United States. The values are to the nearest tenth of a million dollars (see p. 663).

Though numerous other tables are available, those from the *Reports*

PERCENTAGES OF AMERICAN FOREIGN TRADE BY SELECTED COMMODITIES, 1861-1930

YEARLY AVERAGE	EXPORTS U S MERCHANDISE, PER CENT					TOTAL GENERAL IMPORTS PER CENT				
	Crude Materials	Crude Foods	Manufac- tured Foods	Finished Manufac- tures	Semi- Manufac- tures	Crude Materials	Crude Foods	Manufac- tured Foods	Finished Manufac- tures	Semi- Manufac- tures
1861-65	19.97	22.13	34.42	17.78	5.69	14.12	14.29	17.47	40.52	13.60
1866-70	57.62	9.05	13.75	14.89	4.68	11.71	13.23	19.93	41.26	13.87
1871-75	44.94	15.47	19.59	15.33	4.67	16.12	14.12	20.07	39.27	13.56
1876-80	32.24	23.93	24.39	14.87	4.55	18.55	18.56	21.49	29.35	12.45
1881-85	33.78	21.00	25.50	14.94	4.78	19.98	14.90	19.15	32.25	13.73
1886-90	38.13	14.98	25.01	16.36	5.52	22.65	15.77	16.49	29.33	15.76
1891-95	33.67	17.21	27.22	15.57	6.32	23.59	18.66	17.92	25.45	14.37
1896-00	26.11	18.90	24.01	21.33	9.64	29.47	15.08	15.93	26.17	13.35
1901-05	30.27	12.19	22.16	24.07	11.30	33.38	12.92	12.36	24.69	16.65
1906-10	31.68	8.90	18.12	27.07	14.23	34.56	10.98	11.80	24.84	17.82
1911-15	30.74	8.83	14.32	30.70	15.41	34.91	12.80	12.56	22.36	17.37
1915-20	18.22	9.16	17.66	39.58	15.39	40.13	12.15	16.21	14.40	17.10
1921-25	27.54	9.74	13.93	36.33	12.45	37.40	11.09	12.99	20.86	17.66
1926-30	24.40	6.40	9.72	45.35	14.14	36.80	12.56	9.88	21.88	18.89

EXPORTS OF SELECTED COMMODITIES (IN MILLIONS OF DOLLARS), 1860-1930

YEAR OR YEARLY AVERAGE	MEAT AND OTHER ANIMAL PRODUCTS	WHEAT, RYE, FLOUR	RAW TO- BACCO	RAW COTTON	COTTON MANU- FACTURES	SAW-MILL AND WOOD PRODUCTS	COAL AND COKE	PETRO- LEUM AND MILL PRODUCTS	IRON AND STEEL MILL PRODUCTS	COPPER AND MANU- FACTURES	MACHIN- ERY, ALL CLASSES	AUTOMO- BILES, ENGINES AND PARTS
1860	15	20	16	192	11	10	1			2		
1865	36	47	42	7	3	18	1	16	1	2	7	
1870	22	69	21	227	4	13	1	33	1	1	6	
1871-75	63	83	24	206	3	16	3	37	1	1	8	
1876-80	109	136	24	184	10	16	2	44	1	3	8	
1881-85	114	160	19	219	13	21	4	48	1	4	14	
1886-90	104	107	23	225	12	22	6	51	2	7	14	
1891-95	145	150	23	231	13	24	10	49	3	14	22	
1896-00	173	152	25	221	20	36	14	69	20	37	50	
1901-05	206	132	30	335	31	52	26	82	33	55	78	
1906-10	212	119	33	438	35	72	39	104	54	92	114	6
1911-15	210	176	46	537	53	86	59	137	96	124	159	36
1915-20	678	565	140	768	215	97	152	347	491	209	354	158
1921-25	331	361	165	805	133	116	131	405	167	130	320	177
1925-30	242	245	145	766	124	137	122	524	171	150	493	405

IMPORTS OF SELECTED COMMODITIES (IN MILLIONS OF DOLLARS), 1860-1930

YEAR OR YEARLY AVERAGE	HIDES, SKINS, FURS AND MANU- FAC- TURES	FRUITS, NUTS, VEGE- TABLE OILS AND FATS	COFFEE	SUGAR	RAW RUBBER	RAW TOBACCO	COTTON MANU- FAC- TURES	WOOL AND MOHAIR	WOOL MANU- FAC- TURES	RAW SILK	WOOD PULP, PAPER AND MANU- FAC- TURES	COPPER, ORE, AND MANU- FAC- TURES	TIN AND TIN ORE	FERTI- LIZERS
1860	12	6	22	31	1	1	33	5	43	1		2	1	1
1865	7	3	11	27	1	1	9	8	22	1		1	1	1
1870	17	10	24	57	3	3	23	7	34	3	1	1	2	2
1871-75	20	12	44	77	5	5	31	15	48	5	2	1	3	2
1876-80	23	13	54	74	6	4	22	11	28	8	1	1	3	2
1881-85	32	20	48	88	13	6	32	11	38	13	2	1	5	5
1886-90	31	21	63	84	14	11	29	16	49	19	2		7	5
1891-95	35	24	98	106	18	13	29	18	35	22	5	1	8	6
1896-00	48	21	68	89	25	11	34	26	29	31	4	6	11	7
1901-05	71	30	69	77	35	17	48	25	17	45	7	23	22	15
1906-10	104	48	73	92	61	25	68	40	21	66	14	38	30	27
1911-15	122	70	109	118	83	32	63	43	23	80	29	46	41	40
1915-20	249	156	165	394	192	51	66	170	27	214	90	104	74	67
1921-25	174	135	206	295	193	65	87	102	65	348	172	78	59	57
1926-30	233	167	282	207	294	57	64	79	69	368	237	108	89	68

THE REGIONS OF AMERICAN FOREIGN TRADE (PERCENTAGES OF TOTAL)

YEAR OR YEARLY AVERAGE	PER CENT OF TOTAL EXPORTS						PER CENT OF TOTAL IMPORTS							
	North America		South America	Europe	Asia	Oceania	Africa	North America		South America	Europe	Asia	Oceania	Africa
	Northern	Southern						Northern	Southern					
1860	6.9	8.8	4.7	74.8	2.4	1.5	1.0	6.7	12.5	9.9	61.3	8.3	.3	1.0
1865	10.0	20.5	7.2	57.7	1.4	2.4	.8	14.7	19.5	9.7	48.2	6.1	.5	1.4
1870	5.5	7.9	3.9	79.8	1.5	1.0	.5	8.3	17.1	9.9	55.1	8.7	.4	.6
1871-75	6.4	7.2	4.0	80.2	1.0	.8	.4	5.9	16.6	11.0	55.6	9.7	.7	.6
1876-80	5.0	5.4	3.3	83.1	1.7	1.1	.6	5.6	17.6	13.8	50.3	11.3	.9	.5
1881-85	5.4	5.7	3.6	81.1	2.2	1.6	.5	6.3	14.4	11.4	55.1	10.5	1.7	.6
1886-90	5.2	5.8	4.3	79.3	2.8	2.0	.5	5.6	13.8	11.5	56.0	10.4	2.3	.5
1891-95	5.5	6.8	3.7	79.5	2.3	1.6	.6	4.6	16.3	14.9	50.6	10.8	2.1	.6
1896-00	6.9	5.6	3.1	76.7	3.9	2.3	1.5	5.0	10.3	13.2	52.6	14.6	3.1	1.3
1901-05	8.6	6.7	3.2	72.3	5.3	2.0	1.9	5.4	13.3	12.5	51.3	15.4	.9	1.1
1906-10	10.2	8.7	4.6	68.2	5.5	1.8	1.0	5.9	13.4	11.7	51.3	15.2	1.2	1.2
1911-15	14.2	7.7	5.2	64.0	5.6	2.2	1.1	7.7	14.5	12.8	46.6	15.8	1.1	1.4
1915-20	12.0	7.7	5.5	63.2	8.6	1.7	1.3	12.7	17.5	17.6	20.3	27.1	2.1	2.7
1921-25	14.3	10.1	6.8	52.7	11.3	3.2	1.6	11.5	14.9	12.2	30.4	27.3	1.6	2.1
1926-30	17.4	8.4	9.4	46.8	12.0	3.7	2.3	11.9	11.4	13.5	30.0	29.6	1.3	2.3

FOREIGN TRADE OF VARIOUS PORTIONS OF THE AMERICAN COAST AND BORDERS, 1860-1930
(Millions of Dollars)

YEAR OR YEARLY AVERAGE	ATLANTIC COAST		GULF COAST		MEXICAN BORDER		PACIFIC COAST		NORTHERN BORDER	
	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports
1860	160.2	304.6	153.7	22.3	1.0	.5	5.0	7.4	13.7	18.8
1865	257.5	193.7	3.6	1.5			10.9	15.9	16.2	27.6
1870	293.4	370.6	146.0	16.5	2.2	1.0	14.6	16.2	15.0	31.6
1871-75	390.9	502.0	122.7	20.1	2.7	1.4	21.6	26.0	22.3	28.3
1876-80	533.5	425.4	107.5	12.4	3.1	1.7	33.5	30.3	25.0	22.7
1881-85	589.6	572.8	114.7	13.8	4.4	2.2	50.7	40.3	32.6	37.1
1886-90	548.8	594.2	112.6	14.2	3.6	6.4	42.4	46.5	31.0	48.5
1891-95	655.1	651.2	140.2	21.4	8.6	9.6	44.3	46.7	44.2	48.2
1896-00	813.1	611.2	188.6	18.4	15.1	4.6	60.7	49.6	79.7	50.2
1901-05	923.4	776.7	297.6	37.7	25.4	12.9	81.0	55.7	126.3	76.1
1906-10	1,058.5	1,052.2	408.7	60.9	33.1	17.0	86.2	82.8	192.2	112.8
1911-15	1,364.2	1,279.0	514.0	100.2	22.8	24.7	135.7	128.0	333.5	159.9
1915-20	4,235.0	2,245.8	946.6	185.3	49.4	41.5	449.9	429.6	840.4	432.2
1921-25	2,207.3	2,296.4	1,088.6	233.2	73.8	17.1	374.1	421.1	653.8	456.9
1926-30	2,224.2	2,675.5	1,082.5	275.4	92.6	30.0	526.1	485.7	825.5	535.0

of the Bureau of Foreign and Domestic Commerce,¹ summarized above, are sufficient to give the general trend of trade in volume, commodities, and geographic distribution. A separate table for trade with each individual country would still leave many things unexplained. A few of these matters will be mentioned in conclusion.

The Directions and Regions of Trade. Inasmuch as the Civil War affected industry in general it influenced commerce. The cotton trade did not recover for ten years, and did not again become the preponderating leader among exports till 1900. The import business of the South was crippled for many years by the war and reconstruction. Though the North remained bitter against Great Britain even after the settlement of the *Alabama* claims, the rancor was soothed by the practice of "twisting the lion's tail" during political campaigns, and the course of trade was not affected.

Before 1900 the merchants were reaching out for new markets in Europe, South America, and the Orient. The scant success in the South American area was not only because of bungling diplomacy but also on account of the seeming incapability of American agents to adapt themselves to the Latin temperament. The Yankee methods of hurried salesmanship lacked the appeal of the more leisurely tactics of the British and Germans. American disregard of national dialects—reaching the extreme of supposing that Castilian Spanish would be understood in Rio de Janeiro—was another weakness, while the impermanence of residence of American agents was quite at variance with the practices of more successful nations. Yet, between 1890 and 1900, exports to Argentina increased quite noticeably, but toward the end of the decade the markets in Brazil began to decline. The principal gains in the Orient were made with Japan after her abolition of feudalism in 1868. Following 1895 there was a decided growth in exports to South Africa, while the gold rush to Australia stimulated an early trade in manufactures.

Though the percentage of imports from Europe has declined rather steadily since 1850, the same being true of exports to Europe since 1880, the actual volume of trade of both kinds has been consistently upward. Great Britain continued till 1900 to be the greatest European market, absorbing American machinery, smaller implements, even tools and tool steel. The worst situation from the American point of view was in southern Europe. The maximum-and-minimum tariffs of France, Portugal, and Italy were used particularly to discriminate against the United States. In the last quarter of the century the

¹ These are presented in compact form in the annual volumes of the *Statistical Abstract of the United States*. In the volume for 1931, pages 449-621 are devoted to waterway commerce and pages 481-613 deal solely with foreign commerce.

balance of trade with Europe favored the United States in every year but four, but this was partially offset by America's invisible exports of specie. The tourist trade and immigrants' remittances to their distant families contributed largely to the outward flow of gold. The interest on European capital invested in the United States, freight payments to foreign shipowners, and insurance premiums to European companies remained high.

Shortly before 1900 there was much fear in Europe of becoming Americanized. This and the Dingley Tariff led Spain, Greece, Serbia, Bulgaria, Rumania, Austria-Hungary, Germany, Switzerland, Belgium, Norway, and Russia to follow the tariff examples of France, Portugal, and Italy. Reciprocity agreements with a few of these countries helped to relieve the situation, but nothing in the long run was gained by inciting Europe to tariff competition. In later years it was seen that the greater contests would be for control of the undeveloped markets. A study of the table of trade by continents will show the results of this contest on American commerce. Prior to 1914, especially, the figures of imports by continents and countries are misleading in favor of a few nations with large colonial holdings and old established commercial connections. Great Britain, and to a lesser degree the Netherlands, Belgium, Germany, and France, collected goods from distant parts of the world and sent them from home ports to America. Thus, more rubber came from Europe than direct from its source of production, and more wool followed a similar circuitous route than came direct from Australia. The European nations acted as brokers, handling the business more effectively in that way because of their better transportation service and trade connections.

The slackening of ordinary economic activity in Europe during the World War greatly increased the demand for food and munitions. Later shipments of war supplies for the American troops and the allied nations added mightily to the trade balance in favor of the United States. Europe, unable to send gold enough in payment, had to transfer securities of American industries in exchange. In 18 months, it was estimated, over \$1,288,000,000 in railroad stocks and bonds were unloaded. The invisible exports of United States money also reached a minimum. In the same years American firms began taking over the Latin-American business of British and German banking and commercial companies. Under a more intelligent management even greater headway could have been made in that direction. Following 1917 there was very little, if any, gain over the European countries in South America.

Since the war, even the tariff barriers have not prevented Canada

from becoming the best market for American machinery, Great Britain taking second place. Decided gains were also made in Argentina and Australia which, together with South Africa, have also become large buyers of American automobiles. Reversing the status of over a century, Germany in 1927 surpassed Great Britain as a buyer of American cotton. The greatest increases in imports from Europe since 1922 have been from Germany and Italy rather than the older emporiums of Great Britain and France. In Latin America the less developed or smaller countries, especially in the Caribbean region, have furnished the greatest relative growth. In the Orient the Straits Settlements have achieved a new prominence as a source of rubber, while imports from British India have grown more rapidly than those from China, Japan, and Australia. Imports from Africa also made gains, though the totals remained comparatively small. The growth of both branches of trade in the first postwar decade tended to be more with the new and formerly undeveloped areas, at the expense of the older markets whose possibility for expansion had reached at least temporary limits.

Trade Balances in Recent Years. While the trade balances continued to favor the United States, the inflow of money was nothing to compare with that of the war years. An increasing difference between prices in the United States and Europe led to an extensive tourist trade, foreign investments, and loans. Some suggestive, but not wholly reliable, estimates of interest, commissions, and new investments between the United States and the rest of the world for a few of the postwar years follow. All amounts are expressed to the nearest million dollars.¹

INTEREST, COMMISSIONS, AND NEW INVESTMENTS,
UNITED STATES AND REST OF WORLD

YEAR	RECEIVED BY U S		PAID BY U S	BALANCE TO U S	NET NEW INVESTMENT ABROAD	NET NEW EUROPEAN INVESTMENT IN U S	NET EXPORT OF CAPITAL	NET FLOW OF GOLD (+) TO U S (-) FROM U S
	Private	War Debt						
1922	551	158	144	565	742	6	736	-171
1923	590	259	180	669	253	244	9	+660
1924	631	183	192	622	814	44	770	-148
1925	684	186	229	641	816	205	611	+ 30
1926	735	195	268	662	790	168	622	+ 40
1927	795	206	281	720	992	231	761	- 41

Invisible exports by way of the tourist trade during these years

¹ Adapted from *Recent Economic Changes*, Vol. II, pp. 728-729.

amounted to \$398,000,000 in 1922, a little less in 1923, and then mounted year by year to \$617,000,000 in 1927, according to estimates. In 1930 and following the tourist business dropped to comparative insignificance, the supposition being that, with the restoration of more prosperous times, it would recover.

CHAPTER XXVIII

THE SUPERMONOPOLIES

RAILROADS AND THEIR REGULATION

As the situation stood in 1900, the monopolies which had arisen in the preceding generation were but slightly hampered by the legislation adopted for their regulation. Instead, their legal talent had found ways to checkmate every attempt at their suppression. In the next three decades they were destined to reach such magnitude and height of power as had scarcely been dreamed of when the Interstate Commerce and Sherman acts were passed. The railroads alone were to find their activities seriously curbed.

The Demand for Greater Regulation. At the dawn of the new century public sentiment was crystallizing around a demand for further legislation to strengthen the Interstate Commerce Commission. Virtually all of the old grievances still existed in but slightly abated form. At the same time the rapid industrial changes of the country were creating new problems. Railroad consolidation was entering its most extensive phase, with a resulting elimination of competition ¹ and a continuous increase in freight rates beyond the general curves of prices and gold supply. Monopoly rates were being imposed upon shippers and transferred by the latter to the consumers. This movement the Interstate Commerce Commission was in no position to check in any effective manner. An increase in charges for lumber shipments from Georgia to points on the Ohio River, for example, was overruled by the commission in 1903. But the railroads ignored the order till 1907, when the Supreme Court upheld the ruling. In the meantime over \$500,000 in excess freight costs had been passed on to the consumers—very likely with interest. Even if an adjustment between the carriers

¹ The Northern Securities case illustrates the method of consolidation. The Northern Pacific and Great Northern lines, former competitors for trade between Lake Superior and Puget Sound, united for the joint purchase of the Burlington system in order to secure an independent entrance into Chicago. The Union Pacific officials, also desiring control of the Burlington, in 1901 started wild stock-buying operations to get possession of the Northern Pacific. This resulted in a stock-market panic. To prevent another such attempt the rivals organized the Northern Securities Company, capitalized at \$400,000,000, to hold the stock of their own roads and the Burlington. By a 5-4 decision in 1904 the Supreme Court held this combination to be in violation of the Antitrust Act and ordered its dissolution. Thereupon, the stock was so divided that the same set of capitalists still controlled the three railroads jointly. This form of division was upheld by the Supreme Court in 1905, thus making secure the "community of interest" in railroad consolidation.

and shippers had been effected after the settlement of the case, those who bore the ultimate burden of the excess charges would not have been remunerated.

The new railroad monopolies were also becoming unduly arrogant, threatening public welfare with the concentration of unlimited power over transportation in a few hands. E. H. Harriman, for instance, admitted to the Interstate Commerce Commission in 1906 that his ambition included control of all the railroads of the United States, and that the commission, which by that time was somewhat strengthened by law, was the main restraining factor. Meanwhile, the abuse of monopolistic power was being made public by a group of zealous writers whom Theodore Roosevelt unfairly called "muckrakers." But the writers popularized the name, gloried in the distinction, and devoted themselves to the service of humanity. Between 1902 and 1908 *McClure's Magazine* published Ida M. Tarbell's "History of the Standard Oil Company," Ray Stannard Baker's "The Railroads on Trial," and Lincoln Steffens's articles on "The Shame of the Cities" and "Enemies of the Public"; *Everybody's Magazine* printed Thomas W. Lawson's "Frenzied Finance"; *Cosmopolitan* gave publicity to "The Treason of the Senate" by David Graham Phillips; while *Collier's* attacked the patent medicine frauds of the day. These and other magazine articles, as well as books like Upton Sinclair's *The Jungle*, exposed the corrupt methods whereby monopolies were gripping the nation by the throat, fortifying their position through control of governments all the way from municipal to federal. Some of the articles were frightfully blunt in pointing out specific instances of corruption and in naming the evildoers. Yet, they were so accurate that few of the accused cared to appeal to the courts for protection against libel. On the other hand, the revelations created a great public demand for reform. Even Roosevelt, in time, became a muckraker of the milder sort in his efforts to correct some of the more glaring abuses pointed out by others.

The Elkins Act. Congress was slow to take up the fight. Even the redoubtable "Teddy" would wield his "big stick" only upon a foe which was already tottering from the inebriating effects of its debauchery.¹ But when the railroads, seeking to protect their revenues, sought legislative relief against rebates Congress was quick to act. Now that monopoly had been achieved, the carriers saw less need to grant personal favors. But the system which had grown up in the era of competitive transportation was hard to break away from. Stephen B. Elkins of West Virginia, a life-long exponent of the right

¹ For instance, he denounced the Northern Securities Company but approved the Tennessee Coal and Iron Company's consolidation.

of railroad companies to do as they pleased, presented to the Senate the bill which was to compel erring members of the railway managers' brotherhood to conform to the discipline prescribed by the majority interests. The Elkins Act, as passed in 1903, was intended merely to compel observance of printed rates and, therefore, was confined in scope to legal procedure and penalties for violation. Corporations only—not individuals—were to be penalized. Any departure from published rates was made illegal. Shippers, as well as carriers, were made subject to prosecution, but the older penalty of imprisonment was abandoned. Finally, the courts were authorized to issue injunctions when there were reasonable grounds for belief that rebates were being granted or rates were otherwise trifled with.

Smokeless Rebates. There is reason to believe that this law was intended by its inspirers to apply only to such lines as were not absorbed into the regional monopolies, and to be ignored when the more powerful carriers wished to wrest business from would-be competitors—that it was meant to complete the process of monopoly absorption of the carrying business. At any rate, for a long time after the passage of the act, the greater companies continued to violate it by roundabout methods known as “smokeless rebates.” Thus, the Santa Fé made arrangements with a salt manufacturer of Hutchinson, Kansas, to divide freight charges with the Hutchinson and Arkansas River Railroad so that the latter would get a quarter of the money. But the Hutchinson railroad was only a mile long, had no rolling stock, and belonged to the salt company. In a few months some \$15,000 changed hands by this form of rebating. In a like fashion the International Harvester Company, which handled its own terminal business at Chicago, got its switching fee increased from \$3.50 to \$12 a car. The Illinois Steel Company received from \$700 to \$1,000 for hauling each trainload of coke seven miles over its own tracks. Another ruse was the use of “midnight tariffs”—the rapid changing down and up of published rates, with only the favored companies forewarned. Probably the most insidious of all forms of smokeless rebating was excessive allowances for “damages to goods in transit.” As late as 1909 the beef trust received orders from the Attorney General of the United States to stop accepting this kind of gratuity. Two years earlier, Judge Kenesaw M. Landis of the federal court at Chicago assessed a fine of \$29,240,000 against the Standard Oil Company—\$20,000 on each of 1,462 carloads of oil for the hauling of which rebates had been granted. On appeal, a higher court declared each freight settlement involving rebates, not each carload, a separate offense, and then threw the case out entirely because it could not be proved that

the Standard Oil Company had been specially favored by the lower rate.¹

In 1905 the Interstate Commerce Commission began active prosecution, the beef trust, tin plate trust, and American Sugar Refining Company being the worst offenders. The latter alone was fined \$300,000, while between October, 1905, and March, 1907, a total of \$586,000 in penalties was assessed against various concerns. Meanwhile, the imprisonment clause having been restored in 1906, several men were sent to jail for from three to six months each. In 1908 the Interstate Commerce Commission declared that the evil still existed. Later yet, the American Tobacco Company and other Duke interests of North Carolina were found to be profiting from the old spur-line type of rebating, in connection with a little coal road they operated at Durham. In the division of rates they were getting \$24.80 for hauling a car of coal one mile, while the Norfolk and Western line took only \$30.80 for 160 miles. Similar agreements had been made with the Seaboard Air Line.

The Hepburn Act. In the passage of the Elkins Act the railroads had been supplicants and Congress a willing benefactor. But the next move, to secure regulations in favor of ordinary shippers and consumers, met stubborn opposition both from the carriers and legislators. Since 1894 bills had been reported aiming to give the Interstate Commerce Commission rate-fixing power. In 1899 both Shelby M. Cullom of Illinois and William E. Chandler of New Hampshire presented such measures to the Senate. The railroads showed their annoyance at this disregard of their vested rights by defeating the veteran Chandler for reelection. These bills, and another of Cullom's in 1902, were all stifled in committee. But, by 1904, the exposure of conditions had gone so far that the politicians had to heed the rising storm of public protest. Roosevelt then declared, in a message to Congress, that further regulation was a "paramount issue," but did not demand actual rate-fixing power for the commission. A bill promptly passed the House by a big majority, but was held up in the Senate while the railroads established a powerful lobby at Washington and conducted a campaign of "education" among the farmers, small business men, and newspapers of all sizes and political creeds. The methods used were those promising the best effects. But the exposure of this campaign resulted in a greater reaction of public sentiment against the railroads and their policies. In 1905 Roosevelt began to use pressure upon Congress to grant power to the commission

¹ Public opinion at the time held that the Standard Oil Company had, by increased oil prices, saved up enough to pay the fine, and therefore made just that much profit out of the litigation.

to regulate maximum rates. There was no insistence for absolute rate-fixing authority. It was Senator Robert M. LaFollette of Wisconsin who headed the progressive forces in the demand for thorough-going regulation.

The resulting legislation, taking its name from the sponsor of the original bill, William P. Hepburn of Iowa, became law on June 29, 1906, after only seven votes in the House and three in the Senate had been cast against it. A measure so unanimously accepted could be nothing more than a compromise. Even so, it was the first real step since 1887 toward curbing the railroads. The commission, enlarged by the addition of two members, was given power to regulate sleeping-car, express, and pipeline companies and control over all switches, spurs, and terminal facilities whose private ownership had made rebating so easily concealed. Joint transportation by water and rail was included, but the coastwise and internal water-carrying trades were exempted. The most important new authority of the commission was that, on complaint of an interested party, it should investigate and fix maximum rates or adjust regulations and practices on the basis of justice and reason. Orders thus issued by the commission, except for money payments, were to become effective in 30 days and remain in force for two years unless set aside or changed by the courts. The commission was also to decide on the division of rates between lines and to adjust other services which were used as stalking horses for rebates. The "commodities clause" of the act forbade railroads to carry in interstate commerce any materials, except timber and its products, which were manufactured or produced by companies either directly or indirectly owned or controlled by the carriers. An exception was made for materials used in the maintenance of the roads. Other features of the act were the abolition of the pass system for public officials and the outlawing of all kinds of accounting or keeping records except those prescribed by the Interstate Commerce Commission.

Along with manifest improvements, this law also contained glaring weaknesses. No rate or regulation of a railroad company could be changed except on complaint. If a resulting I.C.C. order was not obeyed in 30 days' time, penalties of \$5,000 a day accrued for each day the order was violated thereafter. But the edge was removed from this mandate by a provision that circuit courts, with three judges sitting, might "enjoin, set aside, annul or suspend" any such orders. Though the burden of bringing suit was shifted from the commission to the carriers, the old rates or practices, instead of the commission's decree, were permitted to prevail pending a final decision in any case. This encouraged the carriers to increase rates at will and conduct

long-drawn-out legal fights. If in the end they lost a case, the increased revenues during the period of litigation were likely to be more than enough to pay the costs. If they won, they were just that much ahead.

Another weakness was in the commodities clause, which in a short time was emasculated by the courts. The Pennsylvania Railroad Company was the principal offender on this count, making the independent operation of coal mines along its lines almost impossible, but there were plenty of other companions in malfeasance. The Supreme Court in 1909 upheld the constitutionality of the clause, but suggested that, if the railroad company should sell its products before they were offered for shipment, the provision could be successfully evaded.

In spite of the defects in the law, for about two years the I.C.C. was unusually effective in handling disputes. Over 9,000 appeals were made to the commission, the great majority of which were settled by arbitration. A little over 1,500 cases were reserved for formal investigation and report, whereas, in the whole history of the commission prior to 1906, only 878 complaints were thus formally entered on the docket. For a time the railroads meekly submitted, appealing to the courts only once before the middle of 1908. Then, having felt their way through to a more complete understanding of the Hepburn Act, the carriers began to fight. Thirty-eight suits were instituted before another change was made in the law, in 1910. This change of attitude was due to a number of things. The election of William Howard Taft as President augured a conservative reaction in federal policies. The overruling of Landis's decision in the Standard Oil case revealed a tendency of the courts not to be too extreme in their interpretation of the law. The favorable outcome of a few of the early cases under the Act of 1906 strengthened the confidence in a friendly judiciary. Aside from the commodities-clause victory, another decision had protected witnesses from being required to tell the part they themselves had played in corporation affairs. Before 1910 the railroads were beginning to recover from the business decline accompanying the Panic of 1907, and were looking forward to a new era of high rates. Consequently, they were prepared to fight all manner of points through the courts, at the same time resisting valiantly any efforts to put greater power into the statutes.

The Mann-Elkins Act. In the political campaign of 1908 the Democratic platform dealt at length on the transportation question, recommending particularly that the Interstate Commerce Commission be given the authority to initiate changes in rates without waiting for formal complaints. The Republicans advocated mainly the legalization of traffic agreements (a principle also partially accepted by the

Democrats) and additional regulation of capitalization. Taft, after his inauguration, went beyond the platform, asking for the creation of a permanent court of commerce to handle problems of transportation alone.

The Mann-Elkins Act of 1910 was the outcome of this agitation. The original bill was of such moderate terms as to give joy to Elkins and all of the "stand-pat" conservatives. But before this time the control of Congress had shifted to the coalition of Democrats and insurgent Republicans, which proceeded to reshape the bill along progressive lines. The most important provision of the act was the power given to the commission to suspend any new rate or regulation promulgated by a carrier from four to ten months pending investigation of its reasonableness. The insurgents, who had demanded absolute consent of the commission for any changes of rates, had to be satisfied with the compromise which, after all, gave the consumer instead of the carrier the benefit of the doubt. The railroad companies were less anxious to inaugurate unreasonable changes, knowing that no benefit would be obtained prior to costly adjudication.

Another part of the law put life into the long-and-short-haul section of the Act of 1887. It was stripped of all ambiguity and periphrasis, leaving an out-and-out prohibition against such discrimination. Also, to put a stop to unfair competition with water traffic, the act provided that a rate lowered for such a purpose could not be increased again until the commission found some other reason than the mere elimination of competition. Since steamboat traffic had already died out on most of the navigable rivers, this was locking the stable after the horse was stolen. Finally, a Commerce Court was provided to accord with Taft's recommendations. This was giving promise of developing into a valuable organization when it was abolished by an Act of 1913, after one of its justices had been removed from office for using his influential position as a means of unlawful gain.

Expanding Powers of Interstate Commerce Commission. The Interstate Commerce Commission, exercising to the full extent the new authority granted in 1906 and 1910, finally became one of the most important branches of the federal administration. A series of rate increases in 1910 were promptly suspended, the commission being upheld by the Commerce Court. As a part of the Wilson program of 1913 Congress ordered the commission to compile a physical valuation of all the property of railroads and other common carriers, the report to be a basis for future rate adjustments. Five years' time was allowed for this work, but, as a result of the disturbing influences of the war with Germany, no definitive report was ever made. Also in 1913, the Newlands Act was passed extending the power of the government in adjusting railroad labor disputes.

A more revolutionary step was taken in September, 1916, when Wilson prevented a strike of ominous proportions at a critical moment by bludgeoning Congress into passing the Adamson Act (see Chap. XXXII) fixing eight hours as the basis of a day's pay for trainmen, with "time and a half" for excess hours up to the ultimate maximum of 16 hours a day. Since the pay for the first eight hours was equal to that previously given for ten, this really was an act to fix wages for railroad employees. As such, it inaugurated a new principle in the regulation of common carriers. The railroads, having already lost control of rates, were now also powerless to bargain for the cost of labor. Thinking to overthrow the act, the railroads quickly appealed to the Supreme Court. But that body, having been liberalized by Wilson's appointees, promptly upheld the new powers, going so far as to say that Congress could enact any legislation necessary to the public interest. A long road had been traveled since the day and theories of Vanderbilt.

World War Problems. Still more lessons were to be learned. In the early months of American participation in the war, the transportation system of the country began to break down, and before the end of 1917 the service was in hopeless confusion. Though the costs of operation were mounting daily, the Interstate Commerce Commission refused to permit a corresponding increase in rates. There was a shortage of locomotives and cars at the same time that the moving of troops and supplies made an extraordinary demand for equipment. The venerable rules against pooling were finally effective at a time when well regulated traffic agreements were desirable for the public welfare. Not the least of the difficulties was the fact that a great number of railway executives were woefully incapable of adjusting themselves to the new transportation needs. The success of the United States in its rôle of knight-errant would have been endangered by this chaos had there not been a remedy at hand. Wilson in 1916 had been considering the possible involvement of the country in the European brawl, and had taken due precaution. The Adamson Act provided that the President, in case of military necessity, might take over and operate the railroads of the nation. The emergency now having arisen, on December 28, 1917, the entire network of the United States passed from private management for a period of 26 months.

William G. McAdoo, Secretary of the Treasury, was put in charge of the railroads till his resignation in 1919 when that portion of his work was continued by Walker D. Hines. McAdoo proceeded immediately, and with success, to unsnarl the traffic tangle with special emphasis on the handling of government business. All the systems were managed as one. Equipment was shifted from one line to another as needed. The shortest and most direct routes were selected, the

strategic roads being utilized to their utmost capacity. Efficiency in management was realized to such an extent as would have been impossible without the unification. Many railroad presidents and other officials were suspended for failure to join whole-heartedly in the work. Doubtless the system would have worked still better if certain others had met a like fate, for there was plenty of subterranean obstruction going on in an effort to discredit government management.

Under the new control much standardization was introduced with good effect, especially in the items of locomotives and cars. Many economies were made which had not previously been attempted. At the same time numerous incidents gave the public cause to grumble. Passenger service was reduced to a minimum, while all fares and rates were hoisted enormously to take care of war-time costs of materials and wages. The expenses were further heightened by willful acts of railroad officials who wished to make government control seem wasteful. Many a country station agent asking for a pencil got a gross of them. Supplies of all kinds were squandered before the practices could be ferreted out and stopped. Even the degree of courtesy shown by the officials to the traveling public seemed to be shortened. This, almost as much as the increased fares and limited service, added to the loudly voiced complaints of drummers and other oracles of the smoking compartments. It was pointed out that a deficit of \$1,200,000,000 in management had to come out of tax money. Yet, in the long run, it is clear that federal control accomplished services which would have been impossible under private management; that the accommodations were as good as could be expected in a period when the main consideration was to win the war; that the peccadillos of inefficiency were rapidly being eliminated as time went on. Even those who cried most raucously about the deficit failed to note that a good part of the sum had been spent in building up run-down roads; that much of the rest was accounted for by supplies hoarded by undischarged officials against the day of returned private control.

The Esch-Cummins Act. Just when smoothness of operation was being achieved, the close of the war ended the excuse for war-time measures. Wilson, with a Republican Congress on his hands, could no longer exercise the leadership for which his administration had been noted. Hence, when Congress refused to take the necessary steps for returning the railroads to private control, the President had but one whip to crack. He announced that he would release the roads on March 1, 1920, with or without legislation. The result was that just before the appointed day an act, not exactly according to his notions but nevertheless a workable instrument, was ready for his signature. This measure, a compromise between widely dissimilar bills presented

by J. J. Esch of Wisconsin and Albert B. Cummins of Iowa, was decidedly friendly to the railroads. Yet, it represented a degree of public control which had not even been closely approached before the war. It ordered the I.C.C. (the membership now increased to 11) to adjust rates so as to guarantee a 6% return, including .5% for improvements, on an estimated capitalization of \$19,000,000,000. After two years the rates should merely insure a "fair return" but not excessive profits.¹ Any revenues in excess of the 6% warrant were to be divided equally between the companies and the government, the surrendered share to go into a fund for loans to railroads operating below the 6% level. There was also provided an appropriation of \$200,000,000 for immediate relief and a \$300,000,000 revolving fund for loans. Pooling was no longer outlawed so long as supervised by the I.C.C., and further consolidation was encouraged.

The powers of the commission were greatly extended. It now had the authority to fix both maximum and minimum rates, absolutely, in all cases, and subject only to judicial review. It also had complete control over the issuance of securities, joint use of terminals, and allotment of cars. It might, in time of war or danger thereof, consolidate and manage the railroads outright. As to labor provisions, neither were strikes outlawed nor arbitration made compulsory. A railroad labor board was provided to which wage disputes should be submitted for attempted settlement. In 1926 this board was set aside by Congress in favor of supposedly voluntary boards organized jointly by the companies and the unions. This seemed to mean that arbitration by government assistance was ended.

Labor organizations of high and low degree immediately denounced the Esch-Cummins Act. The farmers, in the ensuing period of deflation, could not understand the utterances of the Solons who declared that "guarantee dividends" were a good thing for railroads and protective tariffs the proper sustenance for manufacturers, but that direct aid for agriculture was uneconomic. Cummins, who in his earlier days had been considered an insurgent, progressive, or radical, depending upon his commentator, now was known as safely conservative or as a moss-backed reactionary. Those using the derogatory epithet defeated him for reelection to the Senate in the primaries of 1926. In fact, Cummins had changed but little—he had marked time

¹ The commission preferred to use the original cost of the railroads as a basis for figuring earnings. Since, till 1929, construction costs were abnormally high, the companies argued that the valuation of physical property should be on the basis of what it would cost to rebuild the roads at current prices. The Supreme Court in 1929, in a case involving the St. Louis and O'Fallon railroad, upheld the railroad contention. Reproduction costs in 1933 probably did not amount to as much as 10,000,000,000. But the railroads then showed a decided affection for the original-cost basis—or better yet the reproduction values of 1929.

while the world moved on and left him in the background. He died before the expiration of his term.

Decline of State Regulation. After the World War state regulation of railroads declined to a minimum. No longer were the states permitted even to make intrastate rates for roads doing an interstate business, or even for purely local roads which competed with interstate lines. The courts did not see fit to consider this an overstepping of the reserved rights of the states. Of more practical concern in later years has been the problem of the future of the railroads. Though they were tamed, a spirit of resistance still smoldered. That their usefulness was as great as ever was not seriously questioned. But they had fallen upon evil days. In the heyday of railroad building too many competing lines had been constructed. Then, in a period of more systematic control, it was difficult to make them pay. With the advent of better highways and motor transportation, numerous short lines failed to prosper but could not be abandoned without government consent. A revival of water transportation in the West seemed bound to have its effect on the maximum charges of the railroads. In December, 1929, a plan was evolved for a consolidation of all railroads into 16 systems, but this was not taken to kindly by the managers. The questions being raised at the close of the third decade of the century included these two of opposite import: Is government regulation of railroads being reversed into railroad regulation of government?; and, How soon will the railroads themselves give up the struggle and ask the government to buy them out, lock, stock, and barrel? The latter question, as the next chapter will show, was largely for the purpose of gaining sympathy.

INDUSTRIAL AND PUBLIC UTILITY MONOPOLIES

State and Local Regulation of Public Utilities. In the field of industrial corporations, most of the holding companies which started around 1900 gradually transformed themselves into consolidated organizations, often abandoning even the pretense of the existence of subsidiaries. The stock of the holding companies being exchanged for that of the auxiliaries, the latter ceased to exist. The Northern Securities decision had much influence on this tendency toward mergers. While this process was going on, the holding-company form of organization was invading the field of public utilities.¹ So complex did the ownership of some corporations become that it was next to impossible for state regulatory officials to fix responsibility. Before 1905 the Union Railway Company of Providence (a Rhode Island corpora-

¹ See pp. 511, 522

tion) was owned by a New Jersey combine, which leased it to another Rhode Island company. But the stock of the latter was owned by a second New Jersey corporation which, in turn, was controlled by a Pennsylvania concern. Other holding-company interrelations became so complex that they can be pictured only in diagram form. A study of the feudal holdings of the counts of Champagne in the early thirteenth century would furnish an excellent introduction to the industrial feudalism of the early twentieth century.

The amazing growth in number and power of these new extralegal trusts led to another era of "trust busting" which prevailed mainly during the administrations of Roosevelt, Taft, and Wilson. The movement was participated in by governments ranging from municipal to federal. For a generation there had been an increasing amount of disgust at the autocratic power of the street-railway magnates, aided in their highwaymen's tactics by venal municipal officials. A better realization of the true scope of the movement, as revealed by Lincoln Steffens and other muckrakers, led to a public demand for municipal reforms and the adoption of a series of state laws and city ordinances for the regulation of public utilities. Precedents for such interference were of more than a century's standing. A Massachusetts charter to a bridge company as early as 1784 had asserted the public-utility character of the enterprise. Various other steps toward the control of utilities had been taken before 1860. A number of cities between 1865 and 1900 had adopted ordinances or fixed provisions in charters regulating the rates of gas companies and others. For example, in 1887 Pittsburgh fixed gas rates ranging from 15¢ a month for each light to a dollar a month for cooking ranges. But, as yet, there was no general tendency toward the establishment of state commissions for the regulation of anything but railroads.

A United States Supreme Court decision of 1898 declared that a fair valuation of property should be the basis of the reasonableness of transportation charges, an idea later adopted by the state commissions. In 1905 a series of laws was passed, beginning with the states of Wisconsin, Washington, and Indiana, establishing commissions for pipe lines and electrical companies. In 1904 Wisconsin expanded the scope of its commission to cover telephone, water, light and power companies. New York made a similar move in the same year. This started a trend for extensive regulation which reached nearly all of the states. Indeterminate permits began to gain favor in place of the earlier long-term franchises of 99 years and the like. It was found possible in many cases to hold the utilities so strictly to certain charter provisions, which had once been deemed beneficial but had since become burdensome, that the companies themselves asked to have

the old charters annulled. In time, as the commissions refused to increase car fares while operating costs advanced and competition arose from private automobiles and "jitney buses," the one-time domineering traction magnates lost their power. Confronted with the demands of stockholders for dividends and of patrons for modern service, they were unable to procure additional capital for making the improvements necessary to comply with either of the appeals. Though the conditions were not always so bad, in many cases the traction companies became pleaders instead of dictators.

The traditional public hostility to monopolies often prevented or postponed the consolidation of water, gas, or electrical companies for city-wide service, even when the duplication of mains, wires, or tracks prevented economies to the consumers. Until 1914 some state and local commissions compelled gas companies to keep up the lighting qualities of the gas to the standard of the day when the fish-tail burner was standard equipment. Since gas lighting was becoming obsolete and, even when used, the Welsbach mantles required merely heat, this was an unnecessary expense which the public had to pay. Gradually this adherence to tradition gave way to a realization that to force competition between natural monopolies was bad both for the companies and the public. In the long run the public service commissions became quite sympathetic with the utilities they regulated. Especially after 1920 there was repeated complaint that many of the commissions were mere tools of the newer and more powerful electrical, natural gas, and telephone monopolies—that the regulators had become the regulated. In some instances the facts fairly established the justice of the accusations.

Prosecution of Trusts. "Trust busting" by the federal government was distinguished more by pyrotechnics than by permanence of results. Theodore Roosevelt, borrowing from the Populists and the Bryan platform of 1896, took periodic spells of crusading fervor. Occasionally he knocked a rotten piece of fruit from the branches, but it cannot be said that he did much to cure the blight which afflicted the industrial tree. Even if he had wished to go to great lengths in trust prosecution, it is doubtful whether the net results in the long run would have been more than to create unfavorable publicity against the "malefactors of great wealth." In 1902 he intervened in an anthracite coal strike, getting some benefits for the miners. He secured an act of Congress, February 11, 1903, giving precedence in the federal courts to cases arising under the Interstate Commerce and Antitrust acts. A few days later the Department of Commerce and Labor was created, including a special bureau of corporations with power to study and report on the practices and organization of corporate business.

In the same month the Attorney General got an appropriation of half a million dollars to use in fighting infractions of the acts above mentioned.

During his campaign for reelection, in 1904, Roosevelt was aided by the Northern Securities decision and by his prosecution of officials who had perpetrated frauds in the Post Office Department and the land office. The convictions included two United States senators, thus adding much to the presidential cause. The prosecution of the beef trust at the height of the campaign was also highly beneficial, while the dissolution of the combination shortly afterward was hailed as another victory for the big stick. Yet, it did no particular good to the candidate to have it discovered that the corporations which were subjected to the closest scrutiny were contributing heavily to the campaign fund.

Following the election the presidential fervor cooled to some extent, till in 1907 an excellent chance arose to make an example of a mighty corporation engaged in criminal practices. The American Sugar Refining Company had had the scales in the customhouses tampered with. The ensuing civil suits resulted in a recovery of over \$4,000,000 by the government, while prosecutions resulted in the conviction of some of the company's officials. On the other side of the balance was the setting aside of the fine against the Standard Oil Company, while in the next year came the reactionary decision in the Danbury Hatter's case (see p. 618, note) which defined certain practices of the labor unions as being in violation of the Antitrust law. These, of course, were court decisions and not presidential proclamations. But the fervor of denunciation which had accompanied some earlier cases was omitted by Roosevelt in the later ones.

Under the conservative Taft administration at least as much was achieved in the way of regulation of monopolies as in any like period of the Roosevelt régime. The Supreme Court dissolved the Standard Oil Company of New Jersey in 1911. The number of subsidiaries by that time had increased to 37, but all were controlled by interlocking directorates dominated by less than a dozen men. The decree of the court was complied with, but the effect was negligible. In recent years the Standard Oil interests have gone through a dry-cleaning process by means of which most of the old-time strong-arm methods of business have been abandoned. Yet, the different Standard Oil companies remained essentially one. In 1929, when John D. Rockefeller, Jr., of the New Jersey corporation wished to clear the honor of the Standard name, he found himself in control of enough stock and proxies to secure the dismissal of the president of the Indiana company. Thus he convinced the public that the prohibition of interlocking directorates, like

all other antitrust legislation, was of small avail. Though this dissolution, that of the American Tobacco Company in the same year, and the enactment of the Hepburn Act were at least on a par with the Rooseveltian accomplishments, Taft profited little from the circumstance.

His administration was weakened from the start by the Payne-Aldrich Tariff Act (see Chap. XXXI) and the Pinchot-Ballinger controversy. Gifford Pinchot of Pennsylvania, chief forester in the Department of Interior, declared in the summer of 1909 that the government was permitting a budding power trust to monopolize the waterpower sites and coal lands of the country. He implied that Richard A. Ballinger, Secretary of the Interior, was responsible. Pinchot was dismissed for insubordination, while a congressional committee "white-washed" Ballinger. The latter, nevertheless, was driven by public opinion to resign in March, 1911. Since it was felt that Taft had been too loyal to his cabinet member, nothing that he did later in the way of trust prosecution was sufficient to overcome the doubts raised against him.

Wilson Legislation. A last and almost futile effort to check the growth of monopoly was made in the Wilson administration. Among the numerous bits of social and economic legislation of the first two epochal years of the new President were the Federal Trade Commission Act of September 26 and the Clayton Antitrust Act of October 15, 1914. The former measure was intended primarily to prevent abuses rather than to punish for infractions of the law. A Federal Trade Commission of five members with seven-year terms was provided to administer the antitrust laws and prevent unfair practices. On reasonable supposition that questionable methods of competition were being used, the commission was authorized to order the cessation of such activities. When the orders were ignored, appeal could be made to the federal courts. That some such organization was needed is shown by the fact that in the next ten years 8,632 requests were presented to the commission. Most of the cases involved such practices as misbranding goods, false advertising claims, pretense to patent protection, espionage, price discriminations, and underhanded means of discrediting goods sold by competitors. The commission was also a fact-finding body, with power to report to Congress and recommend legislation. So long as its authority was unhampered by executive disapproval the commission achieved creditable results.

The Clayton Act forbade discrimination in prices between different customers, the holding of stock by a corporation in others if the result was to diminish competition, and interlocking directorates between companies serving the same market. In a somewhat vain effort to

reënforce the commodities clause of the Hepburn Act, the right of railroads to deal with companies in which the railroad directors were financially interested was limited. Clauses were also included to safeguard labor and agricultural organizations against trust prosecution and to protect labor unions in other ways (see Chap. XXXII). By court interpretation the labor provision was later crippled. Though numerous interlocking directorates and intercorporation stockholding arrangements were broken up in compliance with the law, the continuation of gentlemen's agreements between the separated concerns proved just as successful afterward in furthering the interests of monopoly. By this time it was coming to be realized by people of all political faiths that bigness alone in industry was not of necessity an evil; that small corporations might just as readily be guilty of offensive actions as larger ones; that the nature of business dealings was the more important matter to supervise. President Wilson came to this point of view. In 1919 and 1920 he advocated the licensing of all corporations engaged in interstate business, but a hostile Congress ignored the suggestion.

World War Regulation. During the war with Germany the regulation of industry went not quite as far as government control of the railroads. The War Industries Board was established in July, 1917, to prevent competition among agents purchasing war supplies and to regulate production in general. Only the needs, and not the wants, of civilians might be ministered to, the surplus of productive energy to go to war purposes. In March, 1918, the board was given executive powers, being thereafter virtually an industrial dictator. Permits, the securing of which was often far from easy, were required for any extensive building programs. Price fixing was employed to some degree, while long strides were made toward standardization of products. Shoe manufacturers, for instance, were allowed to use only three colors of leather and were not permitted to introduce new styles. Whereas there had been 287 types of automobile tires, the War Industries Board reduced them to nine. Similar standardization was extended in various other directions, with effects that were beneficial after the war was over.

Postwar Reaction. The reaction from wartime strenuousness was even greater following 1918 than in Grant's administration. At about the time of the death of President Warren G. Harding, in 1923, it was beginning to be revealed that his administration had been honeycombed with official dishonesty and criminal actions on a grand scale. The finger of guilt traced the muck of corruption to the very doorsteps of the White House, but did not show that the President had been guilty of any worse offense than associating with and reposing exten-

sive powers upon a new incarnation of Ali Baba and his forty thieves, and of closing his eyes while they proceeded to burden themselves with pelf. Aside from numerous lesser betrayals of the public trust, there were four major scandals brought to light. Charles R. Forbes, director of the Veterans' Bureau, and one of his associates were given penitentiary sentences of two years and fines of \$10,000 each for looting the bureau and mistreating veterans. Thomas W. Miller, the Alien Property Custodian, drew an 18 months' sentence and a \$5,000 fine for conspiracy. Attorney General Harry M. Daugherty, besides complicity in other corrupt acts, was driven to resign in March, 1924, because of known but unproved dispensation of justice to the highest bidder. Edwin Denby, Secretary of the Navy, resigned in disgrace in the same month because of his part in the greatest scandal of them all. He was possibly honest, but undoubtedly incompetent and weak. Albert B. Fall, Secretary of the Interior, was the Cataline of the gang.

In May, 1921, Denby had been induced to transfer the government oil reserves near Elk Hills, California, and Teapot Dome, Wyoming, to the Department of the Interior. These reserves had been set aside in 1912 and 1915, respectively, for the use of the navy in time of crisis. In 1922 Fall emerged from impending bankruptcy to moderate wealth, and at the same time leased the Elk Hills reserve to Edward L. Doheny and the Teapot Dome area to Harry F. Sinclair, both leaders in the oil industry. Doheny, expecting to make \$100,000,000 out of his transaction, paid Fall \$100,000 for the favor. Sinclair had contributed heavily to the Republican campaign fund, but whether or not he also bribed Fall was not proved. All three were acquitted of conspiracy charges, but Sinclair was ultimately jailed for contempt of the Senate. In 1927 the Supreme Court nullified both leases, and two years later Fall was sentenced to a year and a day in the penitentiary for accepting a bribe. Not till 1931 did the execution of the sentence finally begin. Perhaps the most disgraceful part of the affair was the effort of oil men, by trumped-up charges, to send Burton K. Wheeler of Montana, one of the prosecutors, to the penitentiary. The gloomiest side of the situation was that a large portion of the people applauded this persecution of Wheeler.

A New Era of Consolidation. In a period when the federal administration had sunk to this level and the public was so benumbed in conscience as to laugh about it, it is not surprising that monopolies should assume a new aggressiveness and effrontery, and proceed to an era of consolidation greater than anything preceding. Boldness on the part of lobbyists was met by a cheerful willingness of the government to make repeated concessions to business interests. Following an

attack upon them by Wilson in 1913, the lobbyists had trod carefully. Yet, there had been nothing to prevent such organizations as the United States Brewers' Association, the Anti-Saloon League, the National Association of Manufacturers, and others from spending millions of dollars a year in propaganda to shape public opinion. Pamphlets, speeches, thinly disguised subsidies to newspapers and country bankers, and sometimes direct pressure upon employees were used.

Lobbying. In 1921 and following, direct lobbying with members of Congress took on new big-business aspects, outcountenancing anything even in the heyday of Dingley and Aldrich. In one year a combination of Americans with Cuban investments spent about \$100,000 to get a lower tariff on sugar, while the United States Beet Sugar Association between 1921 and 1929 used over \$500,000 to keep the duty up. The American Tax Payers' League disbursed as much as \$250,000 a year, while the National Electric Light Association collected over a million dollars annually for propaganda and general lobbying. Even the United States Chamber of Commerce and the American Farm Bureau assumed wide-scale lobbying functions of the more refined sort.

In 1929 the whole lobbying situation received a much-needed airing when William Baldwin Shearer entered suit in the New York courts for over \$257,000 due him from American shipbuilding companies for services as a propagandist and lobbyist. As a result of his work, he asserted, eight 10,000-ton cruisers were authorized by Congress. It was also claimed that he was largely responsible for the failure of the Geneva Naval Disarmament Conference of 1927. When the Senate started investigating, the clients of Shearer testified that they had paid him \$25,000 as an "observer" at Geneva and \$143,000 for lobbying for the Merchant Marine Act of 1928. Shortly after this, Senator Hiram Bingham of Connecticut was censured by the Senate for conduct "contrary to good morals and Senatorial ethics." His offense consisted in getting Charles Eyanson, a lobbyist for the Connecticut Manufacturers' Association, on the Senate payroll so that he could sit in on the hearings of the finance committee while it framed tariff legislation. Then Joseph Grundy, president of the Pennsylvania Manufacturers' Association, who in 1924 had raised \$600,000 and in 1928 some \$700,000 to \$1,000,000 for the Republican campaign fund, was in 1930 appointed by the Governor of Pennsylvania to fill a vacancy in the Senate at a time when he was in the midst of lobbying efforts. It has been estimated that, before 1930, from 500 to 1,000 lobbies, many of them relatively inoffensive, had permanent offices in Washington. This was in addition to the countless lobbies at the state capitals.

Renewed *Laissez Faire*. It was in this atmosphere of rapacity and high-pressured seduction that governments, both federal and state, reverted to *laissez faire* policy.¹ In place of regulation, there was a decided reaction toward government assistance of business. The Republican party now quite outdid the Democrats in arguments for state sovereignty in the matter of business control. President Harding pursued the policy of "less government in business and more business in government." Calvin Coolidge, following in the footsteps of his predecessor more closely than any earlier President by accident, declared that government and business "each ought to be sovereign in its own sphere."

It was merely following the course of least resistance to put such theories into practice. So the Federal Trade Commission was the next regulatory body after the Interstate Commerce Commission to be reduced to the status of subserviency to the interests concerned. A Supreme Court decision of 1920 limited the powers of the commission to the restriction of such practices as were "opposed to good morals." Commission members still tried manfully to perform effective service, but met repeated court reversals of decisions. Harding and Coolidge were both mildly hostile to the commission as then organized and operating. In the campaign of 1924 it fell into worse disfavor by issuing a damaging report concerning the Aluminum Company of America in which Andrew Mellon, Secretary of the Treasury, was deeply interested. Coolidge then put a strong political ally on the commission in the place of a man interested in curbing monopolies, this change giving the conservative element a majority. The commission then revised its rules so as to conform more to the wishes of the companies under investigation. After 1925 the activities were largely confined to checking up on false advertising. Cigarette manufacturers were restrained from telling the public outright that their particular brand developed stylishly slim figures, golden voices, athletic prowess, or Hollywood beauty and histrionic ability; that candy produced a hideous contour and other brands of cigarettes ruined the voice, destroyed muscles, and marred classical outlines of the face. Instead, they were constrained merely to promote the ideas by suggestion, insinuation, and innuendo. Government prosecutions for violation of antitrust acts suffered an acute attack of anemia which soon became chronic. Then progressive Republicans, such as Senators George W. Norris of Nebraska and William E. Borah of Idaho, began to demand the abolition of the Federal Trade Commission, declaring it to be dominated by the interests it was supposed to regulate.

¹ By 1927 the last of a series of reform legislation, secured by Woodrow Wilson when Governor of New Jersey, was repealed.

Trade-practice Conferences. As early as 1919 the commission began calling conferences of all the leading concerns in a given business to formulate policies for the governance of the industry, so that when complaints were made to the commission it could act as an umpire. By 1925 twenty such trade-practice conferences had been called. In the following year applications were received from 23 other industries. In order to meet the new demand, a separate division of the commission was established to handle such conferences, it being the business of the commission when an agreement was made to enforce it against all offenders in the trade. In its annual report for 1927 the commission cited an instance of over 90 complaints all being settled by one such conference. Should the commission prove to be not too pliable, this was one effective method of producing industrial harmony. There was a simultaneous tendency for the states to adopt, for their own local businesses, the rules thus applied by the Federal Trade Commission for interstate commerce.

Self-regulation. At the same time that the federal government was thus relaxing its vigor of supervision, big-business concerns became interested in self-regulation as a precaution against a later revival of governmental intervention. As the president of the United States Chamber of Commerce declared in 1926, the failure of business to keep its own house in order "will mean more drastic government regulation than we have ever had before or ever dreamed of having."¹ The Chamber of Commerce had been organized in 1912, at the suggestion of Taft, as a congress of business concerns to agree upon what the industries wanted before approaching the federal government with requests for action. Thereafter the different industries began forming permanent trade associations for purposes of common action in lobbying, publicity, and extension of trade. The American Meat Packers' Association, created in 1919, had about 150 company members six years later. Before long nearly every important industry in the country, and many lesser ones, had their associations with headquarters in Washington. Each attempted to harmonize its own business, while the Chamber of Commerce sought to coordinate the industries with each other and smooth out the relations between them and the government. The Federal Trade Commission acted as a sort of hybrid field judge and referee.

In 1922, and for a short time thereafter, there was some attempt at prosecution of trade associations for violation of the antitrust acts. But the appointment of three ultraconservative Supreme Court justices in 1922 and 1923 had the effect of checking this movement. By 1925 the highest court was upholding the organizations in such

¹ As quoted in Malin, *The United States after the World War*, p. 89.

reactionary decisions that even the conservative Chief Justice Taft felt compelled to dissent on one or two occasions. An arbitration act, passed on February 12, 1925, provided machinery for the enforcement of such voluntary agreements as conformed with the law's broad terms. The federal Department of Commerce, under the leadership of Herbert C. Hoover, proved an effective bulwark for the trade associations and other business combinations. The idea of self-regulation was extended even to professional baseball and the moving picture industry. Each proselyted from the federal government to select arbitrators with famous names, placing them in positions of high salary and doubtful authority. In the words of the vernacular, the day of the "stuffed shirt" had arrived.

By 1927 even the *Magazine of Wall Street* was happy to announce that the Interstate Commerce Commission had become the mainstay of the railroads; that Congress investigated and dropped questions where once it would have intervened; that the President protected all investors in honest business; that the Secretary of Commerce used trade associations instead of asking for further legislation; that the political parties were lying low on questions of regulation because of anxiety to retain the votes of small investors (assuming that the little fellows brought democracy to business!); and that from 300 to 400 trade associations with offices at Washington acted as "a parliament of the people as business units."¹

Public Extravagance. Perhaps the greatest encouragement to the growth of monopoly in the decade following 1920 was the reckless attitude of an indiscriminating public. Befuddled by a topsy-turvy era of wages, salaries, dividends, and prices, the people paid anything that was asked for services ministering to their comfort or amusement, judging everything by the price tag it bore. Shoes which were unsalable at \$5 a pair sold readily at \$8. Many a shopper, delighted with a piece of merchandise, laid it aside in disdain when she learned that it was cheap. Persons made accustomed to Liberty-Loan, Red Cross, and Y.M.C.A. drives during the war were next inured to the habit of spending billions of dollars for war memorials, athletic arenas, and other monuments to wild-eyed zealots who conceived ideas for others to meet the cost of. The command "coöperate" became synonymous for the more ancient "hands up." But, of their own free will, people in the 1920's contributed over \$1,000,000 for a world's series in baseball, nearly \$3,000,000 for a single prize fight, \$200,000,000 a year for sporting goods, a billion dollars annually for dancing, and buried two billion dollars in golf courses, equipment, and other expenses. It was estimated that nearly a quarter of the total

¹ *Ibid.*, p. 209.

American income was spent directly or indirectly for recreation and amusement.¹

The New Trusts. Encouraged by such recklessness, the old monopolies grew and prospered, new ones sprang into being, and the greatest era of consolidation in the history of the country began. Persons who in 1904 were alarmed at the existence of 300 combinations capitalized at something over \$7,000,000,000, a quarter of a century later were totally oblivious of the fact, or else complaisant in the knowledge, that a single corporation had a capitalization of over half that of the earlier 300—that 13 corporations had capital stock ranging from one to four billion dollars each. From 1919 to 1928, in the fields of manufacturing and mining alone, 4,135 concerns are known to have combined and to have acquired 3,124 more in 1,268 mergers. In other words, from incomplete figures it is seen that 5,991 businesses disappeared in the process of consolidation. In the same decade at least 4,500 public-utility companies of all sizes were combined mainly into holding companies. Over a thousand, a fifth being municipal plants, were submerged in 1926 alone. In 1927 another 182 city-owned concerns surrendered to corporate control. The income-tax reports for 1926 showed 10,300 corporations admitting net earnings of more than \$100,000 each, but this is by no means an indication that all the companies were independent. In 1927 two hundred “non-financial corporations did 45 per cent of the non-financial business of the country.”² An estimate four years later showed 49 combinations in manufacturing and public utilities which, between them, controlled from half to all the output of 23 leading industries of the country.

The “Money Trust.” There was so much competition between store and newspaper chains that they failed to consolidate into monopolies. But chain and branch banking, in addition to immense bank mergers, gave something of reality to the long-standing charges concerning the “money trust.” This supposed monopoly was denounced as early as 1910. By 1912 Woodrow Wilson, Robert M. LaFollette, and others were pointing out the dangers of too much financial centralization. A congressional investigation of 1913 resulted in the breaking up of interlocking directorates between the Morgan Company and other banking houses. The Federal Reserve System also was intended partly to provide decentralization of banking. But after 1920 the opposite tendency prevailed. From 30,000 banks in 1921 the number diminished, partly by failures but also by mergers, to 23,000 in 1931.

¹ See Preston William Slosson, *The Great Crusade and After, 1914–1928* (New York, 1930), p. 270 *et seq.*

² See Harry W. Laidler, “The Growth of American Monopolies,” in *Current History*, Vol. XXXV (November, 1931), p. 204 *et seq.*

In 1929 alone, 1,100 were consolidated. In 1931 the Chase National Bank of New York had resources of \$2,500,000,000, being the largest in the world. The National City Bank and the Guaranty Trust Company of the same city were running a close race for second place, with over two billion each. Half of the total bank resources of the nation were controlled by 1% of the banks, while 24 New York banks alone accounted for 15%, having a combined capital equal to that of 20,000 banks in cities of 10,000 population or smaller. By 1929 there were 273 bank chains aggregating 1,800 members and over \$13,000,000,000 in resources, or a fifth of the total for the United States. Branch banking was still in its infancy but growing rapidly, state laws of diminishing numbers alone restraining the movement. The Morgan interests still permeated banking to an awesome degree. J. P. Morgan and Company, with its allies, held directorships in corporations with assets of \$74,000,000,000, or over a quarter of the corporate wealth of the United States.

Moving Picture and Radio Monopolies. Other new monopolies included the moving picture industry and the radio. The former, capitalized in 1928 at a billion and a half dollars, was not a single corporation. Yet, with Adolph Zukor, Marcus Loew, William Fox, and Carl Laemmle as virtual dictators, it was sufficiently monopolized. A clearer case of unit control was seen in the radio business. The Radio Corporation of America, chartered in 1919 by the state of Delaware, was essentially a creation of the Navy Department, organized to utilize patents held by various concerns. It soon had a strangle hold on the whole industry. By 1930 the majority of the R.C.A. stock was owned by the General Electric and Westinghouse companies, who controlled it as a subsidiary. The R.C.A. and its licensees by that time manufactured 95% of the radio apparatus sold in interstate commerce; an auxiliary company controlled the commercial wireless business; another, the National Broadcasting Company, monopolized 28 of the 40 cleared channels for broadcasting purposes, having twice as much power and fourteen times as many cleared channels as all the independent companies combined. In addition, the monopoly dominated the Victor Talking Machine Company, the Columbia Graphophone Company, and many houses furnishing apparatus for the moving pictures.

The regulation of radio dates from the provisions concerning commercial wireless telegraphy in the Mann-Elkins Act of 1910, and an act of 1912 providing for the licensing of stations. The Federal Trade Commission in 1923 made an unfavorable report concerning the radio business, but with little if any effect. Shortly afterward, the Department of Commerce began assigning wave lengths to the various broad-

casting stations, but abandoned the practice following an adverse court decision in 1926. Confusion in the ether then caused a popular clamor for federal regulation. In February, 1927, an act was passed providing for a commission of five to classify, regulate, license, and assign wave lengths to stations. No political discrimination or censorship was allowed. The commission was to disband after a year, leaving further regulation to the Department of Commerce, but the tenure was twice renewed. These powers applied mainly to broadcasting stations, having little effect upon the monopoly on which they were all dependent. The question was seriously raised as to whether the regulation which existed was as impartial as it should be. Under the Mann-Elkins Act and the measure of 1912 the licensing of stations was to be governed by public interest, convenience, or necessity, thus allowing a great deal of elasticity in interpretation. In 1924 it was hard for an anti-Coolidge man to get an opportunity to broadcast anything. In 1926 Hoover would not grant the Socialist party a license for a station. In 1928 there was no restraint, at least for the major parties, but there was still a widespread feeling that a few powerful chains had all of the best cleared channels.

Public Utility and Power Monopolies. Of all the big businesses, those attracting the most attention after 1920, both for the speed and magnitude of their centralization and the grip they held upon consumers, were the public utilities. The Bell Telephone system, with assets of \$5,000,000,000, owning three-fourths of the telephones in the United States, and getting seven-eighths of the revenue of the industry, was the greatest monopoly in the world. The Western Union Telegraph Company did 75% of the telegraph business of the country, the Postal Telegraph Company having about all the rest.

The greatest political attention, and with good cause, was paid to the development of electric-power monopoly. Opposition was aimed not only at consolidation and restraint of trade, but even more at the tendency of the greater interests to engross the water-power sites in navigable streams which were under federal control. As the consumption of electric power increased and more sites were utilized¹ electrical companies were enabled to produce power at much lower cost than before, while rates, under the control of slow-moving state commissions, were but tardily and inadequately adjusted to the changed conditions. Foreseeing immense profits in the future electrical business, and desiring to acquire the government projects at

¹ In 1913 a 53-foot dam was completed across the Mississippi River at Keokuk, at a cost of \$24,000,000. It furnished power for considerable areas of Iowa, Illinois, and Missouri. In the same year a 60-foot dam costing nearly \$7,000,000 was thrown across the Tennessee River at Hales Bar, near Chattanooga. These were the first of a series of great power dams in America.

Muscle Shoals¹ and the best sites elsewhere, great financial groups about 1921 and 1922 began organizing huge holding companies to absorb local distributing units, regardless of the type of generating facilities included in the plants. By offering from two to five shares of holding-company stock for each share of the independent companies, the promoters encountered no difficulty in having their way. Since the state commissions guaranteed 7% dividends, this overcapitalization was a promise of larger returns to the investors. But, in the holding company, voting power was limited to no-par common stock for which the directors paid little or nothing. Thus, a tiny group with a very small financial stake could dominate the corporation and all the nonvoting capital. Then, by the subtle process of "skimming the cream," all the surplus profits could go, as salaries, bonuses, and the like, to the entrepreneurs. Good will, monopoly privilege, and nearly everything else that could be given a money value were added to the actual physical worth for rate-making purposes.

Between 1927 and 1929 Gifford Pinchot made a survey of electric-power corporations, finding 4,362. Nearly three-fourths of the total were controlled by 41 holding companies. Smaller combinations, numbering 125, had 877 subsidiaries; 31 investment companies dominated 126 corporations; and only 85 companies of the grand total were found to be independent. In 1926 the 41 holding companies provided 82.02% of the electric current consumed by the nation, serving 82.72% of the customers. Further study showed that six financial groups² controlled 23 of the 41 combinations separately and 12 jointly. The six supermonopolists supplied nearly two-thirds of the electric current of the country and served a little over two-thirds of the customers. In this position of dictatorship, they agitated for state rights against federal control of intrastate business, and invoked federal interference against state regulation of interstate lines, thereby retaining a free hand in running the business.

By 1930, while this centralization of control was still in progress, the amount of capital invested in the electric light and power business was over eleven billion dollars. In that year Frederick M. Sackett, ambassador from the United States to Germany, while speaking before a world power conference at Berlin created a sensation throughout the United States by declaring that the sale price of electric current to the great mass of consumers was fifteen times the actual cost of pro-

¹ This was originally spelled "Mussel Shoals" for obvious reasons, but, as a result of illiterate transcription of the name, the senseless modern spelling has become standardized.

² The General Electric Company, Samuel Insull, J. P. Morgan and Company, Andrew W. Mellon, Henry L. Doherty and Company, and H. M. Byllesby and Company.

duction. Though he evidently knew of what he was talking, for months the moguls of the industry took frequent occasion to explain that his statement meant something far different from what he said.

The Conservation Movement. The growth toward power monopoly gave a new significance to the older problem of conservation of natural resources. For generations the federal government had pursued the policy of surrendering the subsoil with the surface whenever it sold land. Thus, nearly all of the coal, oil, and gas areas were under private ownership before the government began to realize its mistake. Before the Pinchot-Ballinger controversy a number of liberal-minded thinkers had begun to feel that the government had been totally unregardful of the future welfare of the country when it surrendered title to all underlying minerals. Even the agrarians of Skidmore's day had asked only the equal division and inheritance of land—not the blind donation of gold mines or oil pools to one homesteader and barren acres to another.

Since that which had been alienated could not be recovered, the reformers insisted that what was left of the natural resources of the country should be saved for the public at large and not merely for the fortunate few. The fuel deposits were already out of the federal grasp; effective utilization of wind, solar energy, and the tides seemed possible only in the remote future; but the remaining water-power sites, with whatever remained of the national forests and mineral lands, should be reserved for the general good. A small beginning was made by an Act of June 25, 1906, providing that all dams across navigable streams should be built according to plans and specifications approved by the War Department; that licenses for the operation of such dams should be indeterminate and revokable for violation of the terms of the leases. Another Act of June, 1910, following the Pinchot-Ballinger controversy, was rather reactionary in character. Government improvements of the streams, when utilized by private companies, were to be paid for, but licenses were to be for fifty years. Federal purchases of private developments were to be made only on payment of a fair price, which term was not carefully defined.

For the next decade the conservationists fought for more effective legislation, while the power companies waged counteroffensives for unlimited freedom of activity. The controversy centered about interpretations of the term "navigable streams," the power interests being inclined to consider no river navigable which would not float a battleship. A new water-power act, signed by Wilson on June 20, 1920, was the outcome of the dispute. A commission was created, composed of the Secretaries of War, Interior, and Agriculture and subordinate appointive officers. Its authority extended to all waterways on public

lands, to all other navigable streams, including falls and rapids, and to such additional waterways as the federal government might at any future time desire to make navigable. The commission might license power companies to utilize appropriate dam sites for periods of time not exceeding fifty years, the government to be remunerated for any cost to itself in the developments and for use of the sites. All excess profits from operation were to go to the federal Treasury. Also, on expiration of a lease, the government was to have the authority to take over all improvements subject only to a two-years' notice. This act was passed just in time to save the remaining sites from passing into private control. Following 1920 Congress did not dare repeal the law, but the power commission saw fit to apply it so generously as to render it of less effect than had been intended.

The Muscle Shoals Contest. Thereafter the conservationists and power companies fought over the matter of government versus private operation of facilities at strategic points such as Muscle Shoals, the canyons on the Colorado River, and the site near Bagnell, Missouri. The honors were divided by 1930, but the power companies were somewhat in the lead. The longest and hardest fight, not settled till 1933, was over Muscle Shoals. The National Defense Act of June 3, 1916, had authorized federal construction of dams and government erection and operation of nitrate, munitions, and fertilizer plants. Surplus electric power was to be sold for other uses. Under the terms of this act, President Wilson on February 23, 1918, ordered such development in northern Alabama along a stretch of the Tennessee River known as Muscle Shoals. Three dams were planned to utilize the power from a fall of 134 feet in a 35-mile stretch. When the war ended one dam was completed and another started. The finished dam was leased to the Alabama Power Company. Then the further disposal or development of the remainder of the facilities became the pawn of politics.

Henry Ford, in 1921, offered to take over the whole project on a 100-year lease and other terms entirely contrary to existing legislation. In 1924 the Associated Power Companies of the South presented another offer, more within legal bounds, guaranteeing to manufacture 50,000,000 tons of fertilizer and to spend a million dollars a year on fertilizer research, besides paying the government an annual rental of \$3,000,000. Senator George W. Norris was the outstanding opponent of these schemes for private operation. In March, 1928, Norris's plan for government operation and sale of surplus power was accepted by the Senate, but the conservationists could not overcome Coolidge's hold on the House of Representatives. Coolidge wanted to sell out to the private interests at their price, Hoover taking the

same stand. Alfred E. Smith, in his campaign for the presidency in 1928, advocated government ownership and operation, but was rather hazy as to particulars. The whole matter then was set aside till the early days of the administration of Franklin D. Roosevelt, when the whole Tennessee Valley was set apart for a comprehensive federal experiment in social planning.

Boulder Dam. Another contest involved the building and operation of a dam across the Colorado River. Though the name Boulder Dam finally was attached to the structure, it was in reality in Black Canyon that the project was begun. An act of Congress of August 19, 1921, authorized the seven states drained by the river to make a contract among themselves for apportionment of the waters of the river for irrigation and other purposes. An agreement was soon reached which Arizona persistently refused to ratify. Meanwhile, one of the greatest and most powerful lobbies ever created was brought to bear against government ownership and operation of the proposed dam. After the matter had hung fire for six years, Coolidge on December 21, 1928, approved a bill leaving the Secretary of the Interior to decide whether the government should build and operate power plants or lease the concession to the power companies. Flood control and irrigation rights were also cared for in the act.

The private interests were perfectly willing to let the government incur the risks of building the dam, just so they, in the long run, could control the power. Hence the Boulder Dam Act provided for a dam and incidental works to cost not more than \$165,000,000. Arrangements were made to sell the power to the city of Los Angeles and to the Southern California Edison Company at a sufficient rate to cover the cost of operation and pay for the dam with 4% interest in 50 years. Since this left all other profits to the Edison Company, the arrangement was more satisfactory to private capitalists than to conservationists. In July, 1930, operations began for building a dam 727 feet high and 950 feet long at the top. The work of construction was let out to private contractors. In the succeeding year labor troubles began hampering the work. Other projects, such as the Bagnell Dam, completed in 1931, came under the control of the power trust without attracting so much public attention. Developments such as those of the Columbia and St. Lawrence rivers were pending in 1930, but complicated by interstate and international disagreements.

Early in 1928 Senator Thomas J. Walsh of Montana introduced a resolution for a senatorial investigation of the power situation, but an amendment carried referring the matter to the Federal Trade Commission. This meant that the whole thing would be hushed up. The vote showed the bipartisan character of the power trust influence.

Twenty-eight Republicans and 18 Democrats opposed the investigation, while 19 from each caucus favored it. The Southern Democratic element had deserted the cause for fear that the development of Southern sites might be retarded.

For a time in 1930 it seemed that the Federal Power Commission was going to be reorganized on liberal lines. In place of the old Cabinet board of 1920, Congress provided a commission of five men who would not be distracted by other duties. President Hoover made the appointments, which were ratified on December 19-20. Then, on December 23, while Congress was in recess, three of the new members met and demanded the resignation of all the subordinate officials of the old board. The purpose was to get rid of two members who had long and consistently favored more rigorous regulation of the power companies. As soon as the Senate reconvened Walsh demanded that the Senate be permitted to reconsider the confirmation of the rapid-firing triumvirate. The motion, as accepted, was strictly in accordance with the rules of the body. But President Hoover, who evidently had inspired the tactics of the new commission, struck back savagely at the Senate and refused the opportunity for reconsideration. Thus, any hope that the new commission would be any more liberal than the old was temporarily ended.

The Supertrusts. In the early days of trust regulation people spoke of pools, trusts, holding companies, and communities of interest. Before 1930 the nomenclature had changed, along with the alteration of business organization, and people spoke of horizontal, vertical, and circular trusts. General Motors was of the horizontal type, reaching out to control the output of automobiles of nearly every design and in almost every price range, even extending to electric refrigerators. The General Foods Corporation was an example of the circular trust, producing so many different types of food products that a grocery store could be stocked with nearly every kind of prepared food its trade would demand, all bought from the same manufacturing corporation. The Ford Automobile Company was the outstanding example of the vertical trust. Henry Ford and his son, who were almost sole owners of the corporation, determined to control every stage of the process of making their machines from raw materials to the finished product. They bought their own iron mines and coal fields; erected their own furnaces and steel mills; took over a struggling railroad and made it pay; made their own tools regardless of the initial cost; and even went into the grocery and meat business to supply their laborers and the general public. They succeeded in making efficiency and economy of production their sole aim. This idea was not altogether new. Before 1900 the Standard Oil Company controlled every stage

of its production from the oil fields to the village jobber, and later even went into the retail filling-station business.

The investment trust was a more modern idea. The incentive was to create a type of investment attractive to the buyer of small means. It was a holding company interested in stocks and bonds of numerous kinds, not so much to control the industries as to make sure a moderate but steady income. Because the investments were spread out, the failure of one business would be offset by large returns from another. Thus, the buyers of investment trust securities would not feel the blow of losing with the loser nor experience the desire to plunge into speculation with the prosperous companies. The idea was a good one if properly carried out, but with inadequate regulation there still remained plenty of chances for the company officers to loot the treasury. The United Corporation, formed in 1929 by three large banking houses including J. P. Morgan and Company, was the outstanding investment trust of the period.

A novel feature of the new era of big business was the campaign to secure large numbers of small stockholders. It became the boast of the American Telephone and Telegraph Company that, not only was it the largest corporation in the world, but it had nearly 400,000 stockholders (700,000 in 1933) not one of whom owned as much as 1% of the total stock. By 1926 it was estimated by the Department of Commerce that there were 14,000,000 stockholders of the various corporations in the country. No doubt it was hoped by the company officials that this wide dissemination of small holdings would popularize big business and make rigid government regulation less likely. For a time political liberals feared that the mass of the people would become bourgeois minded and insist upon *laissez faire* as strongly as had the trust magnates before 1890. These hopes and fears were mostly unfounded. Stock ownership did not carry with it democratization of management. No longer was it necessary for the directors of a corporation to own a majority of the stock in order to have absolute control. The ordinary investor held classes of stock carrying no voting power, or very little, while an infinitesimal percentage of the total capital was represented by class B common stock of small value but vested with all the voting privileges of the corporation. Often less than a tenth of the total stock by value controlled the business. In 1927 the Federal Trade Commission revealed an instance where \$1,000,000 of stock at the apex of a holding-company pyramid dominated subsidiary investments amounting to \$370,000,000. Even when the little fellow owned voting stock he was generally not in a position to exercise his privilege and knew nothing about how to vote intelligently when he attended a stockholders' meeting. Consequently, the directors, by

the use of their stock and proxies of others, dominated the voting in such a way as to make ratification of the directors' decisions a mere legal formality. Then, by the manipulation of profits, they were enabled to reap a good share of the income earned by other people's money. By 1934 instances had been revealed where one dollar at the apex of a holding company pyramid controlled more than a thousand dollars in the subsidiaries. When each holding company held only a majority of the voting stock of its immediate subsidiaries, and the pyramiding went to the extent of nine holding companies in succession above the operating companies, the directors of the superholding company had so little capital stake that they might loot the subsidiaries with impunity.

The magnitude of corporate business in the country may be seen from the following figures. In 1926 the capital stock, surplus, and undivided profits of corporations were calculated at \$119,300,000,000, cash dividends at \$5,945,000,000, and profits after tax payments at \$8,281,000,000. The combined ratio of profits and dividends to capital investment was 11.9%, but only 5% went to the stockholders. Excessive salaries, bonuses, and like devices accounted for the bulk of the income. By this same year it was estimated that 1% of the people controlled 59% of the wealth of the country, while 13% of the people dominated 90% of the wealth. The number of persons with incomes exceeding \$1,000,000 a year increased from 21 in 1921 to 283 in 1928.

James W. Gerard (ambassador to Germany before 1917) in 1930 issued an oracular statement that 40 men, whose names he listed, actually ran the United States. It would seem that in a supposed democracy such an utterance would have aroused either wrathful denial or a national feeling of shame. But, instead of this, the reaction was comical in a somewhat pathetic way. Chambers of commerce realized that their local business czars were not listed, presidents of corporations felt that their power was not sufficiently recognized, and even women's clubs effervesced with indignation because no women's names were listed. The accommodating diplomat, thereupon, extended the number to 59 and finally to 64. Still the offended portion of the population failed to see the tragic joke. But the events of the next few years were enough to shake public confidence in the capitalistic system to the lowest ebb for a generation. In fact, the change was already in progress.

CHAPTER XXIX

THE CONQUEST OF TERRESTRIAL SPACE

The Changes of a Generation. Despite the progress of the railroad, telegraph, oceanic cable, and telephone, the average American of the year 1900 looked upon a trip to the county seat as a matter to ponder over a day or two before venturing forth. The citizeness of Farmersburg who went to Terre Haute for her fall millinery received a front-page paragraph in the local weekly newspaper and was the envy of the neighbors who condemned her most for "putting on airs." The native of Boston was appalled at the idea of a trip as far west as Chicago. The ordinary citizen rarely sent a telegram except to announce a death in the family. Long-distance telephone calls were largely limited to neighboring towns or cities. Only on the Western plains, where the deceptive nature of distance was taken as a matter of course, did the farmers or ranchers look with indifference upon the possibility of a trip to Denver or Kansas City, though the journey might be as much as 500 miles. In those days it was accepted as a settled fact that when the daughter of an Iowa family married and moved to California she would never be seen again. The breaking up of the old home was still a solemn affair. At the end of the next generation the continent could be spanned between dawn and dark, the Kansas farmer could hear the King of England open an international conference to the tune of the sizzling breakfast bacon, every spot on the earth had been surveyed by land or air, and the untraveled citizen of the remotest hinterland was a local oddity. These developments are the theme of the paragraphs which follow.

Railroad Improvements: Electrification. The railroad systems of the country were essentially complete by 1900. The mileage of first track increased about 30% in the next 16 years, after which there was a decline. Other obvious changes included the tendency toward heavier locomotives and rails, safer and more luxurious coaches, a greater range of adaptation of cars for freight, and the extended use of safety devices mentioned in an earlier chapter. Longer and more capacious trains, as well as the development of more economical consumption of fuel, effected savings which ought to have given the railroads a decided advantage in the later competition with other forms of transportation.

Probably the most significant contribution of the generation to railroad development was electrification of the lines, a movement which was still in its infancy in the early 1930's. Aside from an experiment in a Pennsylvania coal mine in 1887, the first electric locomotive for practical purposes was tried out in 1895. Not much advance was made in this direction till 1904, when the New York Central system ordered a number of the new locomotives for use in metropolitan New York, their purpose being to eliminate the smoke nuisance. Then it was found that they accelerated much faster than steam engines, this being an important factor in suburban service where frequent stops were necessary. Still later it was discovered that electric power was far superior to steam in mountain climbing. In a test on a Virginia railroad two electric locomotives carried a 6,000-ton train over a stretch in 58 minutes, while three steam locomotives required two hours for a load a sixth smaller. In descending grades the electric locomotive drags upon the motor, converting it into a generator to put power back into the wires. Thus, a train going down one side of a mountain helps pull another up the other side, thereby eliminating much of the loss of efficiency involved in climbing grades. On a 677-mile electric line, operated in 1927 by the Chicago, Milwaukee, and St. Paul system, 16.4% of the power was thus generated by the trains, the use of air brakes was diminished, repairs were lessened, while stops for water and coal were eliminated. The cost of hauling was reduced 46.6%. But the continued high price of installation and the lack of abundant sources of cheap electric power continued to hamper electrification of the roads. There were 243 electric locomotives in use in 1915 and 621 in 1929, exclusive of those on street-railway lines. In the latter year about 2,500 miles of line, or 1% of the total, had been electrified. The percentage was much higher in some other countries, being 43 in Switzerland. After 1890 much oil was burned in steam locomotives in regions where it was abundant. After 1920 there was a general movement to install Diesel engines for light traffic on spur lines, the power being transmitted to the driving gears by electric generators and motors.

Financial Problems of Railroads. The railroad business continued to be sensitive to business cycles. Following the Panic of 1907 the revenues fell off \$300,000,000 in a year, and recovery did not come till 1910. In the latter year over a billion tons of freight were handled, having a value of ten times the amount of the foreign trade. The freight was classified as: agricultural goods, 8.13%; animal products, 2.10%; output of mines, 56.23%; forest products, 11.67%; manufactures, 14.42%; other merchandise, 3.69%; miscellaneous, 3.76%. From year to year these percentages have

changed a little, but for most of the time down to 1930 the tables appear quite similar to that of 1910, except for a decline in forest and mine products and a corresponding increase for manufactures.

In spite of ups and downs in the matter of income, conservative insurance companies continued to invest large proportions of their funds in railroad securities. Also, the physical improvements of the roads were kept up. The number of locomotives, including those for switching and terminals, increased from 30,140 in 1890 to 69,486 in 1924, after which there was a decline. The number on main lines, together with the aggregate capacity of freight cars for selected years, are as follows:

YEAR	NUMBER OF LOCOMOTIVES	FREIGHT CAR CAPACITY, TONS
1916	61,332	92,280,000
1920	64,746	98,280,000
1924	65,358	104,149,000
1929	57,537	105,411,000

The decline in number of locomotives following 1924 does not signify a lack of prosperity on the railroads. It means, instead, that the average tractive power of the locomotive had been increased a third since 1916, and that more freight was moved with a smaller labor force and with other lessened expenses.

In addition to all the money expended by the government in improving the railroads during the war, in the next decade the companies themselves spent about \$7,500,000,000. Four-fifths of this represented new capital investments. Under the provisions of the Esch-Cummins Act the Interstate Commerce Commission allowed freight-rate advances ranging from a fourth to two-fifths and an increase in passenger fares of about 20% to a standard of 3.6¢ a mile. In 1922 the railroads took a 10% reduction in freight rates, which even then remained well above the 1919 levels.

The Plea of Hard Times for Railroads. Before 1930 the railroad companies were pleading hard times. This is a matter deserving some consideration. Without doubt, trucks and river boats were carrying large quantities of goods which otherwise would have gone to the railroads. Yet, in 1929 the latter hauled three-fourths of the ton mileage of the country. As the following table will show, the freight business of 1929 was nearly twice the volume and produced more than twice the revenue of any year prior to the World War. Certainly, it will be necessary to look beyond truck and barge competition to find any cause for complaint.

FREIGHT BUSINESS OF RAILROADS, 1891-1929

YEARLY AVERAGE OR YEAR	REVENUE FREIGHT IN TON MILES	AMOUNT OF REVENUE	CENTS PER TON MILE
1891-95	85,693,000,000	\$ 758,930,000	.886
1896-00	113,962,000,000	879,837,000	.772
1901-05	167,715,000,000	1,298,713,000	.774
1906-10	228,936,000,000	1,744,525,000	.762
1911-15	277,073,000,000	2,051,625,000	.740
1916-20	390,815,000,000	3,419,260,000	.875
1921-25	375,468,000,000	4,377,618,000	1 166
1929	450,189,000,000	4,889,168,000	1.088

The next argument was that busses and private automobiles were ruining the passenger business. For this contention there is some show of evidence. But most of the loss of passengers was on short rides. On the other hand, the Pullman business, which in 1921 was but 3% of the total and paid 31.1% of the revenue, increased in proportion about half in the next six years. The following figures for the passenger business for a period of about 40 years, show a decline of about a third in passenger revenue from the bloated value of \$1,304,815,000 in 1920. But there were compensations. The income from passengers

PASSENGER BUSINESS OF RAILROADS, 1891-1929

YEARLY AVERAGE OR YEAR	PASSENGERS CARRIED ONE MILE	AMOUNT OF REVENUE	MILE AVERAGE PER PASSENGER IN CENTS
1891-95	13,383,000,000	\$ 281,415,000	2.10
1896-00	13,863,000,000	279,900,000	2 02
1901-05	20,737,000,000	416,609,000	2.01
1906-10	28,683,000,000	566,815,000	1.98
1911-15	33,768,000,000	672,792,000	1.99
1916-20	42,548,000,000	1,021,536,000	2.40
1921-25	36,869,000,000	1,112,634,000	3.02
1929	31,165,000,000	875,929,000	2 81

has never been more than about a third of that from freight, while the ratio of profit has always been diminished by the higher cost of maintaining passenger service. However, most passenger trains carry mail at subsidy rates and also handle express-company business which showed no appreciable decline from 1920 to 1929. Again, the gain in freight revenue from 1921-1925 to 1929 amounted to \$283,845,000 more than the loss in the passenger business. It may also be noted that the 1929 passenger receipts were nearly a third greater than those for the years immediately preceding the war, while the capitalization in the intermediate years did not increase in as large a proportion. Though the number of passenger miles showed a slight

decline below that of 14 years earlier, the war-time fares which were still charged can be pointed to as a probable cause. Finally, it might be noted that even in passenger revenue the railroads suffered far less loss in returns than various other lines of industry, particularly agriculture.

Then comes the question of return on invested capital. Here must first be noted the fact that between 1920 and 1929 diminished operating expenses far more than balanced the increases in taxes. The

CAPITALIZATION AND REVENUE OF RAILROADS, 1890-1929

YEAR	NET TOTAL CAPITAL IN THOUSANDS	PER CENT REPRESENTED BY BONDS	YEARLY AVERAGE OR YEAR	NET IN- COME LESS TAXES IN 1,000'S	NET REVENUE PER MILE	PER CENT OF OPERAT- ING EX- PENSES TO GROSS REVENUE
1890	\$7,577,000	54.5	1891-95	\$ 333,027	\$2,172	67.37
1900	9,548,000	54.2	1896-00	389,701	2,321	65.85
1910	14,376,000	61.3	1901-05	574,840	3,048	66.14
1920	16,994,000	60.5	1906-10	727,407	3,586	67.46
1929	18,680,000	61.4	1911-15	729,172	3,578	70.61
			1916-20	624,304	3,581	81.54
			1921-25	899,332	5,116	78.02
			1929	1,262,636	6,885	71.85

companies at the end of the period were in this way still making a net saving of \$1,261,806,000, which just about equaled the clear income of the year. The economies had been effected not only by increased tractive power at less expense, but by numerous other improvements as well. Aside from superheaters, high steam pressure, mechanical stokers, and roller bearings, new freight yards had been equipped with humps and car retarders calling for less labor in braking and assembling trains. Motor cars had been substituted for heavier trains for light service. In 1930 about 7,000 trucks were owned by 60 railroads, some doing a store-door and pick-up delivery service in competition with independently owned trucks. In June of that year the railroads owned or controlled 3,004 busses running on more than 56,000 miles of highway, 23,000 miles being on interstate routes. Motors were indeed competing with railroads, but much of the rivalry was merely between different ledgers of the railroad companies. The number of employees was reduced by 20% in the decade following 1920, while the average earnings of laborers declined from \$1,820 a year to \$1,715.

The first section of the above table shows the increase in railroad capitalization since 1890. On the basis of this valuation, the second section relating to net revenues minus taxes is made more comprehensible. It will be seen that the capitalization in 1929 was less than

three times as great as in 1890, while the net income was nearly four times as much, and larger than in any preceding year represented in the table. Though from 1925 on the railroads had been phenomenally prosperous, the returns for 1929 exceeded all others in the history of the industry. The operating expenses were back almost to the ratio of 1911-1915. After meeting all interest obligations on bonds, over three-fourths of the railroad stock of the country was receiving an average of 7.47% in dividends. If this were distributed over all the outstanding stock of all railroads, the percentage would still be 5.70, despite all the hidden dividends going to the officials. But the company reports of actual investments run far above the capital stock and funded debt. On this basis of \$25,465,036,000, the return in 1929 was 4.69%, indicating something far short of destitution. To be sure, there were leaner years ahead. But, as will be seen in the concluding chapter, the railroads suffered no more than business in general. The crux of the situation was that the companies were under federal regulation, thus making it worth their while to bring pressure to bear upon the Interstate Commerce Commission and the labor unions.

Street Railways. The fate of the street railways was widely different. By 1905 the days of the domineering traction bosses were numbered. The long-term charters usually stated the rate of fares to be charged. These sums were amply high when first fixed, but as operating expenses increased the fares ceased to be remunerative. The time came when the companies would voluntarily surrender old charters for new, sacrificing a number of prerogatives in exchange for larger fares. Often the change could not be made. The old theory that five cents was sufficient for a street-car ride did not die easily. People would pay \$1,000 for an automobile and 50¢ for a parking place when they were in the business districts, but would balk at a two-cent increase in car fares.

The street-car business reached its climax in 1924 when there were 44,440 miles of track, excluding some interurban lines, representing an investment of \$5,600,000,000 by 550,000 individuals. The industry employed 300,000 people and operated 107,000 cars. Over a billion fares were collected on New York surface lines that year, after which there was some decline. Between 1915 and 1927 receivership was sought by 259 companies, representing two-sevenths of the capital and over a third of the track in the business. Service was abandoned entirely by 253 companies and partly by 511 more. In the decade ending with 1927 about as many miles of track were torn up in unprofitable towns as were constructed elsewhere. Too many lines had been built by "boosters" in small cities, on the slender substance of hopes for the future. Failure was foreordained. In other cases, busses

and private automobiles so reduced the patronage of the trolley cars that they merely struggled along, the companies unable to make improvements and therefore incapable of winning back the customers. Others plunged extravagantly, failing to make the business pay after installing limousine comforts. Many companies bought busses to extend their services, owning 12,790 of them on 24,745 miles of routes in 1930. But at the end of each year there was an average net deficit as a result of their operation. Advertising campaigns and other devices costing \$6,000,000 a year were tried to revive trade, but with scant success except in the larger cities.

The net income of surface electric lines in 1927 was distinctly below that of twenty years earlier. Yet, in spite of all these difficulties, the street-car, elevated, and subway lines remained more indispensable in the large centers of population than ever before. Though surface cars often retarded other traffic, it was admitted that if all the passengers were transferred to private automobiles the traffic jams would be far worse and the question of parking space would be unsolvable. The economy of street-car riding as compared with automobile transit in cities was proved even in the years of great prosperity, but the lesson proved to be unlearned by the private car owner even in the doldrums following 1929. The place of elevated trains and subways seems to be firmly established where they exist. The first subway in New York was opened for use in 1904. In 1927 there were 342 miles of subways and electric tunnels in the United States, 282 miles being in New York, 29 in Massachusetts, 13 in New Jersey, 9 in Pennsylvania, and 6 in California. The remnant was distributed among five other states.

Waterways: The River Trade. The oldest, yet the newest, form of transportation in the United States is the waterways. The packet boats never entirely gave up the struggle on the upper Mississippi, the Ohio, Tennessee, Green, and other Ohio River tributaries, but after 1908 they entered into a prolonged period of decadence. The railroad companies, more efficient than the steamboat lines, refused to offer any coöperation. They got control of river terminals and facilities, then refused to make transfers except at prohibitive rates. Since the Interstate Commerce Commission had no power to arrange a prorating system, nothing could be done about it. The railroad companies owning their own coal mines would ship the competing product from river terminals only when they needed the freight business. The Louisville and Nashville company charged more to haul competing coal 25 miles than it did for its own coal for the whole length of the railroad from the Tennessee and Kentucky fields. By 1915 Pittsburgh was needing nearly all the coal brought down the Monongahela and

Allegheny rivers, and the coal trade on the Ohio had dwindled in importance except for occasional reversals of circumstances. The decline of the packet business caused the wages of pilots to drop to \$75 or \$100 a month. Many of them then quit the trade, leaving the field to less competent persons. This also helped to lower the effectiveness of the steamboat business. The agents of the railroads sought traffic while the steamboat men took whatever came along without solicitation. Thus, at the outbreak of the World War it looked as though the days of river navigation were numbered except for rafting and barge business, and there was some question about the latter.

The floating and rafting of logs down the rivers continued because of the great saving of freight costs. In 1907 the Ohio River shippers alone saved \$3,000,000 by sending crossties on barges and logs in rafts downstream. Sometimes, when an immense boom of logs broke up, the house-boat dwellers reaped a much-needed reward by salvaging the branded timbers. In 1929, mainly on the Pacific Coast rivers but also including the Mississippi system and Southern streams from Virginia to Louisiana, 19,357,000 tons of logs were floated. This in itself was a bigger item in bulk than the whole river traffic at any time before 1865.

River Improvements. As noted in a previous chapter, the federal government began taking an interest in a revival of the waterways trade long before its lowest ebb of vitality. In 1901 a lobby was organized under the name of the National Rivers and Harbors Congress, which advocated progressive increases in appropriations up to a minimum of \$50,000,000 a year after 1906. Theodore Roosevelt became interested in the movement, and in 1907 appointed an Inland Waterways Commission of more general scope than its predecessors. This was followed by another National Waterways Commission in 1909. The latter made a $2\frac{1}{2}$ years' study of the conditions and rendered a report urging the pressing need of river developments. It insisted upon working connections between the railroads and river craft, leaving river terminals to the control of states and municipalities. Federal expenditures should be made only on the assurance that the trade would be open and the rates reasonable.

This continuous agitation and investigation finally began to bear fruit in the form of legislation of something better than the pork-barrel variety. War-time lessons in transportation led Congress in 1922 to override the administration by granting \$42,000,000 for river-and-harbor work, to be used according to plans worked out by the War Department. With an appropriation of \$56,000,000 in 1923 and others later, the work of canalization of the Ohio River was carried to completion late in 1929. Fifty dams and locks were constructed at a cost

of \$125,000,000, giving a nine-foot channel so long as there was water enough in the tributaries to keep it filled. These dams are of the movable type, locks being used in the dry season but wickets being let down to the river bed in high-water stages so that boats may go through an unobstructed river.

More perplexing than canalizing the Ohio was the problem of controlling the winding and treacherous Missouri. The Ohio, because of its bluffs, must stick to its channel, but the Missouri, meandering across clay plains, can change its bed in any period of high water. To build dams would be a clear waste of money when the improved channel was left high and dry by the next whim of the river. The problem, therefore, was to keep the banks stationary and compel the current to dig a permanent channel of six feet or more for itself. Between 1927 and 1931 this was accomplished from Kansas City to St. Louis by a system of revetment and dikes built of stone and piling on a bed of willow mats. The river was narrowed to 1,500 feet and the channel to 200 feet. Besides providing a permanent barge channel, some 200,000 acres of river bottom land were reclaimed. Projects were then begun to continue the work up to Omaha and beyond.

Because of the coal trade down to Pittsburgh, the Monongahela carries the largest amount of traffic of any river wholly within the United States. It is exceeded only by the channels between the Great Lakes, and very slightly by the Panama Canal. This trade was made possible by a series of 15 stationary dams between Fairmont, West Virginia, and Pittsburgh. By 1923, over \$17,000,000 had been spent on improvement of the Delaware River below Philadelphia, while a million dollars a year were going for upkeep. Between 1925 and 1931 a six-foot channel, with a canal around the Rock Island rapids, was created for the Mississippi River between St. Louis and Minneapolis. By the latter date the Illinois, with a seven-foot channel below La Salle, was promised a further deepening. Meanwhile, the ship passages between the Great Lakes were receiving their share of attention, while promises were made for further improvement of the Ohio River tributaries from industrial centers, and for the rivers of the Alabama, Georgia, and Pacific Coast manufacturing or logging centers. Over 25,000 miles of rivers were classed as navigable, but only 4,000 miles were in condition for effective use for whole or part time. The entire cost of all these river developments, by the close of 1930, had amounted to about \$1,500,000,000. But the chief of engineers of the War Department declared that they effected a saving in freight charges of a third that amount annually.

Flood Control. The problem of flood control continued to receive scant attention. The flood of the lower Mississippi River in 1927,

unprecedented in its destructiveness, was largely the result of poor planning. The closing up of by-passes and continued elevation of levees proved not only ineffective but actually an additional menace when a head of water greater than its predecessors upset the calculations of engineers. The flood took 246 lives and destroyed \$300,000,000 in property. Relief work amounted to \$34,800,000. Army engineers then asked \$296,400,000 for additional flood protection on the banks of the river, aside from all funds needed for the protection of the tributaries and for building reservoirs at the headwaters. As much as four-fifths of the cost, they estimated, should be met by the federal government. After President Coolidge blocked the congressional plan for some genuine flood control, the Act of May 15, 1928, provided mainly for further levee work at an estimated cost of \$325,000,000 over a ten-year period.

Government Shipping Business by Waterways. The federal government entered directly into the river-transportation business during the World War. Because of the necessity of handling large quantities of war materials which the railroads could not move rapidly enough, government barge lines were started on the Mississippi and the Warrior River in Alabama. Barge building on a large scale began around Pittsburgh and elsewhere. In 1920 about \$5,500,000 were spent for river craft built especially between Pittsburgh and Charleston on the upper reaches of the Ohio River system and Jeffersonville and Paducah at the lower end. Even at Nashville ship parts were built for assembling at New Orleans. The tonnage of federal-owned barges on the Mississippi increased from 23,000 in 1918 to 1,237,000 in 1927, while on the Warrior it grew from 10,000 to 398,000. The government barges, even at the latter date, were only a small part of the number engaged on the inland waters. A self-propelled barge was built at St. Louis in 1928 for use in France, being later copied for domestic trade at the Ohio River yards. Some of this type in the next ten years were constructed 275 feet in length by 52 feet in width and 14 feet in depth, but the standard was 100 feet shorter, half as wide, and 3 feet shallower. Wood gave way to steel in construction, even for packets and towboats. Diesel engines became popular and screw propellers numerous, though the stern-wheel drive remained ascendant. In 1928 the boats and barges on the Ohio alone were valued at \$40,000,000, while terminals added another \$35,000,000 to the investment.

Until 1924 the federal river-transportation agencies remained under the control of the Secretary of War. Then the Inland Waterways Corporation was chartered, with \$5,000,000 capital all subscribed by the government. The intention was that the barge lines should be

operated by this corporation until profits became regular, then to be sold. The government should assume all the risk of pioneering, but private companies were to make the profits. The first net gains were made in 1927, but it seemed that money making would have to become an established practice before the public risk would give way to private favors. Meanwhile the people were saving much in freight costs. The Interstate Commerce Commission, under the terms of the Esch-Cummins Act, had compelled the railroads to make joint rates with the barge lines. An act to expand the federal system was approved May 29, 1928. The capital of the corporation was increased to \$15,000,000, and the tributaries of the Mississippi, except the Ohio, were brought within the scope of its activities. Since private shipping was thriving on the Ohio the government did not care to offer competition. The demands of Midwestern farmers for cheaper freight on grain seemed in the succeeding years to augur an indefinite postponement of government abandonment of the enterprise it would so willingly have dropped.

Recent Years on the Rivers. Since 1920, especially on the Ohio and its tributaries, there has been a rapid growth of trade by privately owned common carriers and by manufacturing concerns hauling their own products. The Carnegie Steel Company in 1922 started its own steamboat line for Southern shipments. In 1930 it operated a dozen towboats and over 300 barges valued in all at \$11,000,000. Iron, steel, coal, coke, timber, lumber, building materials such as sand and gravel, and grain were shifting back to barge transportation. Not only was the cost lower, but for movements of large quantities the water routes were much faster. A barge, charging a fifth less than the railroads, will carry a maximum freight-train load. When 16 or 20 barges are pushed by one towboat, the advantage in speed and economy is readily discernible.

By 1930 there was speculation as to the possibility of constructing seaworthy, self-propelling barges which might be loaded at Pittsburgh or Chicago and sent to any destination in the world on navigable water. The success of such a venture would mean much to the shippers of the Mississippi Valley. The Panama Canal moved New York \$2.24 a ton nearer to the Pacific Coast, while postwar freight rates drove Chicago \$3.36 a ton farther from the same market. A continuous water shipment from Chicago would completely alter the situation. Rail rates from Moline to the Pacific in 1930 were \$1.86 a hundredweight, while the charge by water was 75¢. Before that time, the Illinois Central railroad was offering special rates to New Orleans for goods destined from that port for the Western coast. The Pittsburgh to New Orleans waterway, newly opened for through traffic, was ex-

pected to have a great effect on industry in the Ohio Valley. Shippers at lake ports were anxiously awaiting the fulfillment of their dreams of adequate water connections with New Orleans. Kansas farmers were looking forward to cheaper transportation of wheat from Kansas City.¹ At the same time the railroads were denouncing the "paternalism" of the government which made such competition possible.

The way in which advantage was taken of the revived water courses is shown by the activity in boat and barge building. In 1929 there were 410 barges and 49 propelling units added to the 4,500 barges and 1,300 power units already in operation. In 1931 a program was under way for spending \$65,000,000 a year on further development of internal waterways. The 28,909,000 tons of freight carried on the Monongahela River in 1929 was nearly equal to the bulk of the whole trade of the Mississippi system 40 years earlier. The tonnage traffic of other rivers in the same year is as follows.

Ohio	21,955,000	Columbia-Willamette	10,557,000
Mississippi	14,280,000	Upper Hudson	8,053,000
Allegheny	3,784,000	Upper Delaware	5,344,000
Tennessee	2,186,000	Potomac	2,664,000

Nine other rivers carried between one and two million tons each. About 72 rivers in all, not counting connecting channels, are listed as the principal commerce carriers of 1929.

Great Lakes Trade. On the Great Lakes the shipments of ore, grain, and oil continued to predominate. At various times the inter-lake channels have had to be deepened and widened. The growth in trade is seen by contrasting the 85,000,000 tons of traffic in 1910 with the receipts and shipments, including duplications, of 141,182,000 and 150,653,000 in 1929. Either of the last two items well exceeded the total bulk of foreign commerce for the same year. About 30 lake ports had shipments or receipts of above a million tons each, Duluth-Superior because of the ore trade far exceeding any of the rest. The Detroit River in 1929 carried 110,720,000 tons of freight, making it by far the busiest waterway in the world.

Despite the vast traffic on the Lakes, very little of it has represented foreign trade, except with Canada.² The Welland Canal in 1928 handled only 7,440,000 tons and barely 64% as much in 1929, while the St. Lawrence business for the same years was only about a million tons greater. The average for the two years on the New York Barge Canal

¹ Midwest farmers were paying from 6 to 12¢ more a bushel on grain to world markets than before the war. The rate from Argentina to Liverpool was 7.23¢ a bushel, while from South Dakota it was 11 9¢. The difference was enough to change profit to loss on cheap wheat.

² The total imports to lake ports in 1929 were 6,385,000 tons. Exports were 13,773,000 tons.

was less than three million tons. Midwestern manufacturers and farmers had long clamored for more effective water transportation. They favored the government construction of a ship canal around Niagara Falls, so as to throw open the St. Lawrence River as an outlet. New York, in opposition to this, demanded federal aid toward another enlargement of the barge canal. The St. Lawrence route would be much cheaper, involving only nine locks and 25 miles of restricted navigation, while reducing the distance from lake ports to Europe by 625 miles as compared with the New York route. About four-fifths of the existing ocean tonnage could use the St. Lawrence outlet, with a saving of $6\frac{1}{2}\text{¢}$ a bushel on wheat from Duluth to Liverpool. But the distance around to New York being 1,550 miles greater, that port would get none of the trade except what was intended for local distribution. Consequently, the American shippers had to await Canadian action. In 1932 the new Welland Canal was ready for use. It should not require many years for this canal to pay for itself, especially after the 27-foot channel through the upper St. Lawrence is completed.

Canals. Meanwhile, in hope of making its old waterway again an important factor in commerce, the New York legislature in 1903 voted \$101,000,000 to create the new barge canal somewhat along the route of the Erie. When completed it cost \$172,000,000, was 150 feet in width and 12 feet deep. The canal proper is only 122 miles in length, the Mohawk River being utilized for about two-thirds of the distance. It was a great engineering project but not a financial success, carrying less than a tenth of the commerce expected. A Supreme Court decision of 1926, ordering the New York Central railroad to make physical connections and arrange for interchange of freight, also proved disappointing in its effect.

Canals of more than local importance, aside from those already mentioned, are confined almost solely to the intracoastal system between Cape Cod and Corpus Christi, Texas. The total of state and private canals in 1930 was 964 miles, while the federal government had over 1,600 miles, largely confined to the coastwise chain and including dredged natural channels. Portions of this latter date back a century or more but have been reopened for use mainly since 1914, when the Cape Cod Canal was made available for ocean-going vessels. Together with the Chesapeake and Delaware Canal, the government spent about \$15,000,000 by the time they were ready for navigation. Except for a 30-mile stretch in New Jersey, this system was in 1930 ready for use from Boston to Beaufort, North Carolina. Gallatin's dream of over a century before was realized. Work also was in progress between Beaufort and the Cape Fear River. Florida had accepted federal terms for taking over and developing its East Coast Canal. The long stretch

from New Orleans to Corpus Christi was nearing completion. About 700 miles of canals and deepened channels were finished, and 1,000 miles more were embraced in the program for the next ten years. Including the Great Lakes, the Mississippi, and the New York Barge Canal, this will provide a belt line around the population bulk of the United States. The minimum depth for the intracoastal canals is figured at 12 feet, which is ample for barge service and the ordinary coastwise steamers. The traffic was not great by 1929, though it exceeded 12,000,000 tons on the Sabine-Neches Canal in Texas and 2,000,000 tons through the Cape Cod Canal. No other portion showed a total as large as 1,000,000 tons.

Rail and Water Traffic Compared. A comparison of the total freight carried by rail and water in the commerce of the United States at the close of the first century of steam railroads may be of some interest. All the revenue freight on railroads in 1929 amounted to 1,419,383,000 tons, the average haul being 317.17 miles. In the same year the tonnage of imports and exports through sea and Great Lakes ports was less than 9% as much, while the domestic waterway trade was over 37% that of the railroads. The latter was divided among the various branches as follows:

Coastwise between ports	124,999,000 tons
Great Lakes between ports	135,838,000
Local traffic of sea and Great Lakes ports	1,892,000
Traffic between seaports and river landings	39,632,000
Traffic on rivers, canals, and connecting channels	135,174,000

After excluding all duplications from the above figures, the approximate net domestic water traffic amounted to 456,290,000 tons.

The Automobile: Popularization. The greatest development of the century in transportation by land was the automobile. The entrance of Henry Ford into the field as a manufacturer, and not merely an inventor, did more than anything else to popularize the new machine. In 1902 he won a race against all comers with a queer-looking entry. His idea was mass production of low-priced cars, so he turned down all offers of capitalists because they would not conform to this plan. It was Ford who put the system of interchangeable parts into the automobile business. His factory, starting in 1907, produced 10,000 identical automobiles in the first year. By 1916 a sixth of the 4,000,000 automobiles in America were Fords. They violated all the laws of aesthetics and many other laws, but they got to their destinations and they were cheap. For a time three of them could be bought for \$1,000, including freight and some extra parts. Ford entered no combinations, asked for no tariffs or other favors, and sought no monopoly. He paid the highest wages in the industry, but was bitterly opposed to organ-

ized labor. On May 26, 1927, he turned out his fifteen-millionth car, adding a third as many more in the next six years. But before 1927 he was receiving keen competition from the General Motors Company, with a car almost as cheap which really looked like an automobile. Compelled to make a change, Ford closed his plant for several months and spent at least \$15,000,000 preparing to turn out his Model A. So systematic were all the operations in the new plant that iron ore at the docks on Monday could be marketed as finished cars at noon on Wednesday, allowing 15 hours for shipment. General Motors then produced a more elegant six-cylinder Chevrolet. But Ford, refusing to admit any mechanical advantage in the six-cylinder arrangement, announced instead in 1932 the arrival of an eight-cylinder Ford.

Improvements in Cars. While these developments were going on, automobile manufacturers in general were grasping at each new device and improvement as it came out, striving to gain more favor by offering greater mechanical perfection or more riding comfort. By 1910 windshields were supplied as regular equipment, magnetos were taking the place of batteries, and electric lights were competing with the older carbide lamps. By 1913, automobiles were beginning to assume a permanently recognizable shape, some being so well built as to be running with a trace of infirmity a score of years later. In 1920 "he men" declared they would never ride in stuffy closed cars, but in the next decade the women compelled them to submit and to enjoy the change. Balloon tires, double-acting hydraulic shock absorbers, shatter-proof glass, and the finest of steels were by 1930 accepted as a matter of course as belonging to the lowest priced cars as well as to the most expensive. While the cheaper automobiles were adopting six and eight cylinders for greater smoothness in operation, the more expensive ones had 12 and 16 cylinders, and some built for exhibition purposes exceeded even this. The possible speed of cars had gone beyond all practical limits. Any new make of car could reach 60 miles an hour, while the heavier ones had a possibility of 100 miles or more. In 1932, Malcolm Campbell of Great Britain broke his own record by exceeding 250 miles an hour under the most favorable of conditions and on a very short stretch of track. Free wheeling and silent gears were the marvels of 1930 which were mere commonplaces in 1933. By 1934 knee-action and turtle-back design were being hailed as improvements.

Growth of Automobile Business. By 1927 nine-tenths of all passenger cars and four-fifths of all busses and trucks made in the world were of American manufacture, Detroit being the main center. The industry used 80% of the rubber, 50% of the plate glass, 8% of the copper, 11% of the iron and steel, and 65% of the leather upholstery

consumed in the country. Over 7,000,000,000 gallons of gasoline were burned annually. Ford, General Motors, and the Chrysler-Dodge combination controlled four-fifths of the industry, yet there was no outcry concerning monopoly. The number of cars imported was insignificant, the largest since 1920 being 813 in 1926.

The comparative growth of the industry can be seen in the following figures. The total of motor vehicles in 1930, including 110,757 motor-

GROWTH OF AUTOMOBILE INDUSTRY

YEAR	TOTAL AUTOMOBILES MANUFACTURED	TRUCKS ONLY (INCLUDED IN PRECEDING COLUMN)	WHOLESALE VALUE	NUMBER REGISTERED
1900	4,000		\$ 4,899,000	8,000
1905	25,000		40,000,000	78,000
1910	187,000	6,000	225,000,000	468,000
1915	970,000	74,000	701,778,000	2,446,000
1920	2,227,000	322,000	2,232,420,000	9,232,000
1925	4,428,000	557,000	3,015,164,000	19,937,000
1929	5,622,000	827,000	3,576,646,000	26,501,000
1930	3,510,000	600,000	2,128,792,000	26,524,000

cycles, was 26,708,155. The registration taxes on these amounted to \$355,705,000, all but a small amount of which was reported to be used for road construction and maintenance. A still greater source of revenue, partly used for road building, was the gasoline tax which grew from \$146,029,000 in 1925 to \$494,683,000 in 1930. The tax varied from 2 to 6¢ a gallon according to the state. A federal manufacturers' tax of one cent was added in 1932 and increased to 1½¢ in 1933-34. For a time the state and federal taxes on the regular grade of gasoline was 100% or more of the retail value, while public grumbling remained at a minimum because of the abnormally low price of the product.

Automobile Accidents. With the growth of the automobile industry came an astonishing number of accidents. The total of fatalities in 1929, not counting lesser injuries, was 27,066. Deaths from collisions with trains and street cars added 2,465 more to the number. The injuries in 1928 were 800,000. In the quadrennium beginning in 1926 about as many persons were killed in automobile accidents as in either the Union or Confederate army for the like period of the Civil War. The death rate per 100,000 of population in 1911 was 2.2, while in 1929 it was 23.3. In proportion to the number of cars in use there was a decline in rate from 253.8 for each 100,000 in 1911 to 92.8 in 1926, after which the ratio rose to 106.3 in 1929. As compared with fatalities credited to heart diseases (245,244 in 1929) these figures are small.

They ran lower even than deaths from falls, but they managed to attract a much larger amount of attention.

Road Building. Automobile transportation led to a new era of road building and improvement beyond comparison with any earlier period. Likewise, the creation of better roads stimulated automobile sales and a larger amount of highway travel. The invention of the stone crusher and steam roller in the late 1850's helped much in the building of macadamized roads. The old bicycle manufacturer A. A. Pope started a good-roads movement in the early days of the bicycle clubs. Gravel or crushed-stone roads were fairly numerous east of the Mississippi and north of the Ohio River before 1914, but in various other parts of the country until after 1920 rainy or thawing weather made travel uncertain even by horseback. Counties and townships were making a start before the World War, but with little or no co-ordination of effort. The United States was considered backward in highway development.

In 1916 Congress passed the Rural Post Roads Act providing for the spending of \$75,000,000 in five years, the distribution among the states to be on the basis of area, population, and mileage of mail routes. Under the control of the Secretary of Agriculture, the federal government would give half the cost of improving the roads up to a maximum of \$10,000 a mile exclusive of bridges of more than a 20-foot span. As the plan was extended in the federal Highway Act of November 9, 1921, aid was to be given on not to exceed 7% of the road mileage of any state. Not over three-sevenths of the allotted mileage of a state and not more than 60% of the federal aid should be for primary roads—parts of interstate systems. The maximum of federal aid was limited to \$20,000 a mile. After reaching the 7% maximum, no additional projects would be accepted without approval of the Secretary of Agriculture. The appropriation for 1922 was \$75,000,000, which became the standard for succeeding years. By the close of 1926 over a billion dollars had been spent for these projects, of which the federal government had furnished nearly half. By the close of 1930, 88,945 miles had been completed and over 9,000 miles were projected at an average cost of about \$26,000 a mile. This system, no doubt, invaded the realm of state rights and stretched the "necessary and proper" clause of the Constitution near to the limits of its elasticity, but any protest over these matters received scant attention.

On January 1, 1930, there were a little over 3,000,000 miles of rural roads, more than a fifth of which had been surfaced after one fashion or another. Over 80,000 miles were paved. Much of the early asphalt and concrete pavement laid was too narrow, unprotected at the edges, faultily constructed, and poorly supervised. The result, after a very

brief space of time, was that they were useless and the investment was mostly wasted. More recently the tendency has been to make the concrete roads thickest at the edges, to eliminate sharp curves, and to bank others on correct mathematical principles. There also has been a rapid improvement in road-building machinery. In 1919 a gang of 74 men could build 350 running feet of concrete pavement in a day. In 1928 a gang of 45 could lay 800 feet by the use of the new machines. Vehicular tunnels and bridges have had to keep pace with road building. The multiplication of toll bridges has been especially noticeable.

Truck and Bus Transportation. Better roads made possible the development of commercial trucking and bus transportation. Before 1914 such methods of conveyance were largely individual. First came delivery trucks in the cities. Then furniture movers began extending the distance of their operations by use of gasoline motors. Farmers, in the days when time meant money to them, began buying trucks. Many army trucks were sold for private use at the close of the war. Then manufacturers in some lines began marketing their consignments to points even 100 or 200 miles distant by the same method. Dairy companies in large cities bought slow-moving tractors with gigantic trailers, thus making passenger traffic more hazardous than ever. Automobile assembling plants used tractors and trailers of 60 feet and more in length to deliver cars to dealers. Motor transportation companies, operating on regular schedules, entered the common-carrier business with shipments, including the carrier, rivaling the weight of a loaded box car. The number of registered trucks in 1905 was less than 1,500. The million mark was passed in 1920, and in 1930 the registration was 3,481,000. The amount of cotton moved on trucks to the Gulf ports grew from 8% of the total in 1924 to 28.8% in 1930. Livestock trucking in 1928 was estimated as equal to 152,000 railroad car loads, yet this was not a major factor. Refrigerator trucks in 1930 were taking over the shipment of butter and milk, while rubber tires even earlier had been carried on rubber to the dealers. Since so many trucks were privately owned and the business was not under any system of regulation, there are no accurate statistics on the actual volume of freight moved in this fashion or the ratio it bears to that carried by the railroads.

Motor busses, in their earlier days, were mainly of the sight-seeing or "rubber neck" variety, for the transportation of school children, or belonged to hotels for the use of guests coming from and going to trains. Since the number of one-room rural schools decreased more than 37,000 in number between 1918 and 1926, over 27,000 of the 69,400 busses used in the latter year were for the carrying of children to consolidated or distant schools. Motor busses of a respectable

pattern were introduced about 1923, being used mainly in lieu of or to supplement street-car service. Within the next two or three years the long-distance service was begun. Soon there was an intricate network of lines, reaching to the remotest parts of the country, operating on time-table schedule with about as much reliability as that of the railroads. Expensive terminals were built, baggage was handled and transferred effectively, and through tickets—with some annoyance about reissuing—could be bought for coast-to-coast trips. The weary passenger was allowed liberal stop-over privileges, while the rates for long distances were hardly more than half those charged for day coaches on the railroads. It was about 1928 that the railroads themselves entered the bus business, and at about the same time some companies began running sleeping-car busses. Some figures concerning bus traffic in 1929 follow. The number of bus miles covered by all common carriers was 1,760,000,000, while the total of individual passages was 1,793,000,000. The investment, including terminals and other facilities, was \$366,000,000. The taxes paid by common carriers amounted to \$22,000,000.

BUS TRANSPORTATION, 1929: OWNERSHIP, NUMBER,
AND MILEAGE

TYPE OF COMPANY OR OPERATOR	NUMBER OF COMPANIES	NUMBER OF BUSES	MILES OF ROUTE (WITH DUPLICATIONS)
Motor carriers	6,280	35,250	252,400
Electric railways and subsidiaries	262	11,256	22,399
Steam railways and subsidiaries	66	1,256	25,236
School busses	15,930	40,875	410,370
Sight-seeing busses	340	2,750	17,185
Total, including others	23,300	92,400	782,485

By 1929 the public investment in motor vehicles and hard-surfaced roads was greater than that in railroads and equipment, while automobiles were among the first manufactures in value of annual output and third among exports. A vast amount of highway traffic was in no way in competition with the railroads, because people made so many trips they would not have taken if they had to depend upon trains—trying to get the most out of expensive investments. As shown above, the menace to the railroads of busses and trucks was, at least to 1929, not as great as the outcry would indicate. It has been estimated ¹ that to 1928 the amount of trucking business outside of cities, except from farm to town, was not more than 3% as much in ton miles as that of the railroads. To haul the equivalent of an average freight train having a crew of 5 or 6 would require 140 fully loaded five-ton trucks with one

¹ *Recent Economic Changes*, Vol. I, p 273.

man or more for each. The fuel cost would be \$5 a mile as compared with 50¢ on the railroad. Furthermore, the trucking companies have to figure on the hotel bills for operators and the large mileage of empty trucks on return trips. On the other hand, the cost and maintenance of roads and the matter of terminal facilities are of minor importance to the truck driver.

Without doubt, the rapid growth of bus and truck business has become a menace to private traffic on the highways, and the destruction of roads by excessively heavy vehicles is by no means repaid by the license fees charged. A Supreme Court decision of 1926 declared that the states could not limit the use of busses or trucks doing interstate business, except to the extent of protecting life and conservation of the highways. It was easy to make any bus line interstate in character. The United States Senate in 1931 pigeonholed a bill to put highway traffic under the control of the Interstate Commerce Commission. So it seemed that any effective regulation either by state or federal agencies was far in the future.

The Airship. The conquest of the air was largely the work of the twentieth century. The practicability of Zeppelins for protracted flight and heavy bombing purposes was demonstrated during the World War. By the substitution of helium for hydrogen, the airships were rendered immune from explosion or fire starting in the gas chambers, but, after a number of disasters, the ability of these leviathans of the air to weather a gale remained problematical. Though such ships crossed the Atlantic in both directions in 1919, and have since circled the globe, they have remained too expensive for wide use outside of military activities. Collapsible airships (blimps) were beginning to attract attention as of possible commercial importance in the 1920's.

The Airplane: First Success. The airplane, so long a matter of theoretical conjecture, became a reality in December, 1903, when Wilbur and Orville Wright of Dayton, after three years of experimentation, kept their machine off the ground for 12 seconds with Orville on board. This event, at Kill Devil Hills, near Kitty Hawk, North Carolina, marked the beginning of successful aviation. Soon afterward the Wright brothers flew 852 feet in 59 seconds. Two years later they made a trip of $24\frac{1}{2}$ miles in a little over 38 minutes, while in 1908 their machines were capable of remaining aloft over an hour. In 1910 they moved the rudder from the front to the back and added bicycle wheels so that the plane could start with its own power instead of descending an inclined rail. By this time others, such as Louis Bleriot of France and Glenn H. Curtiss, were also attracting attention by their inventions and ability as aviators.

Aviation during World War. In 1914 there were still very few airplanes in America, 21 being available for the 119 flyers in the military forces. Other countries had gone far ahead of the United States in construction. After declaring war on Germany the government attempted to supply itself and the associated allies with flying equipment, placing orders for 11,500 machines and appropriating \$640,000,-000 for the work of construction. But the government's ambition exceeded its ability to carry on the work. Factories had to be built, men trained in the technicalities, and proper designs selected in an era of swift transition. As the experience of the battle front showed the desirability of improvement, numerous changes had to be made in the details of construction, \$24,000,000 being spent on work that was obsolete before completion. Other delays of painful effect took place even after a definite type was settled upon. Yet, in spite of this poor showing, the Liberty engines with 12 cylinders and from 400 to 465 horse power¹ were produced, 13,396 of them in addition to 15,700 training-plane engines being turned out by automobile factories before the end of the war. Also, 860 planes had been delivered to the battle fields. When the Armistice was signed 24 factories with a capacity of 21,000 machines a year found themselves with \$100,000,-000 of canceled orders and no markets.

Federal Aid for Air Lines. For the first few years of peace the industry languished. The principal use for planes was to carry thrill-seeking passengers on short flights at a charge of as much as \$15 a ride. In 1918 a government-owned air-mail route was established between New York and Washington. In 1919 Chicago and Cleveland were similarly connected, and in 1920 a coast-to-coast mail service was established between New York and San Francisco. Night flying was then begun, guided by signal lights installed along the route. By 1925 commercial air travel was at a low ebb. Though 44 establishments were listed as making airplanes, they employed only 2,700 laborers with an output valued at \$12,525,000.

Then Congress passed the Air Commerce Act of 1926, providing for aid of various kinds, from weather bureau information to a new assistant Secretary of Commerce for Aviation. Lighting service and landing fields were authorized, and contracts were let to private carriers for handling the mails. In 1927 the government turned over all air-mail carriage to private companies, subsidizing them heavily in addition to allowing them to carry passengers and express. The postage rates were lowered in 1928 from 10¢ for each half ounce to 5¢ for the first ounce and 10¢ for each additional ounce. The total air mail carried in the year ending June 30, 1930, was 7,720,000 pounds.

¹ The first Wright plane had an eight-horse-power engine.

The revenue on this could not have been much above \$6,000,000, but the companies received \$14,618,000 for their services. Without counting all the other losses incurred by the Post Office Department in handling this mail, the subsidy to the air companies was about \$8,500,000. Also, various large cities taxed their inhabitants to spend millions of dollars each in the construction of airports used almost solely by commercial companies. From the middle of 1930 to October 15 of the same year the mileage of air-mail routes grew from 14,500 to above 31,000. As a result of the various kinds of government subsidy, in 1929 there were 132 airplane factories, employing 14,700 men, and turning out products valued at \$71,153,000. About 6,000 planes were made in that year, after which there was a sudden decline along with business in general. In 1934 the Post Office Department canceled the air-mail contracts of preceding years, because of illegality in the letting of them. Then, for a time, the army airplanes carried the mail and succeeded in revealing the ineffectiveness of much of the army equipment and training.

Popularization of Airplanes. In the years following 1919 there were also numerous advances made in air navigation instruments. Men as intrepid as Magellan made the first trans-Atlantic flights in 1919, with army planes in which the aviators of 1927 would not have trusted themselves off the ground. Three flights were made from Newfoundland to the Azores in May, 1919. One of the planes, carrying A. C. Read and a crew of five from the United States air force, after a brief stop continued to Lisbon. In the following month Arthur W. Brown and John Alcock of the British royal air force made a nonstop flight from Newfoundland to Ireland. This was done during the Peace Conference at Paris when, news being plentiful, little was thought of the accomplishment. In 1926 Richard E. Byrd of the United States navy circled the North Pole, and in 1927 several flights were made from New York to various points on Continental Europe. The first of this latter series, by Charles A. Lindbergh, created an immense amount of excitement in a period of scant news of other kinds. Soon there was a plethora of seekers after fame. People strove to be the first passenger, the first woman passenger, the first stowaway to cross the Atlantic by airplane. Some were brave or foolhardy enough to attempt the much more dangerous flight against head winds across the Atlantic westward. In 1930 Dieudonne Coste and Maurice Bellonte accomplished the feat on a 4,100-mile trip from Paris to New York. In 1933 Wiley Post made a "solo" flight around the world, if a 19,000-mile trip can be so described.

Meanwhile, flights from coast to coast in America had been made between sunrise and sunset; the Hawaiian Islands had been reached;

nearly every other portion of the world except Mt. Everest had been viewed below from the air, and by 1933 the latter was accomplished. Airplanes had been proved able to stay aloft for nearly a month without coming down, provided anybody cared to attempt it. Incidentally, numerous aviators were lost at sea, never to be seen again. Whether or not these endurance feats were of any practical value, they succeeded in attracting more attention than anything else going on in the world, and stimulated many persons to take up flying who had never thought seriously about it before. By January, 1931, there were 1,650 air ports, 13,867 licensed pilots, 8,960 licensed mechanics, and about 10,000 airplanes in the United States. Transcontinental flights by plane were being made with passengers on regular schedule at about the same cost as riding by Pullman.

The Postal Service. Among the agencies of communication, the post office has remained the most important for other than local business. Also it has continued to branch out into new activities. The Panic of 1907 led to a demand for some federal guarantee of bank accounts of small depositors. The Postal Savings Bank System of 1910 was the outcome of this agitation. Any person of ten years of age and upward could deposit as much as \$2,500 at a post office having a savings branch. So as to quiet the clamor of private bankers the rate of interest was fixed at 2%. In 1911 there were 400 offices which ended the fiscal year with 11,918 depositors having \$667,145 credited to them. On June 30, 1930, there were 5,998 offices with 466,401 depositors credited with \$175,271,686. As a result of wholesale bank failures from 1931 to 1933 the number of depositors and the amount of deposits grew rapidly.

In 1912 another Populist measure was adopted -- the Parcel-Post System which received support even from orthodox Republicans. This act was the most strenuous of any in its competition with private business. Because of the low charges and free delivery both in country and city, the express companies had to make a decided lowering of rates in order to retain some of the business of handling small packages. The rules have changed from time to time, but for some years prior to 1934 any package from eight ounces to 70 pounds in weight and not over seven feet in length and girth combined was acceptable. Some exceptions were made for manuscripts, poisons, explosives, obscene material, and other things excluded from the mails in general. These restrictions and exceptions left some business still for noncompetitive handling by the express companies.¹

¹ In 1918 the four principal express companies were taken over and managed by the federal government. When turned back to private control in 1920 the Wells-Fargo, Adams, and United States companies were merged with the American

Other business activities of the Post Office Department include the manufacture and sale of stamped envelopes and wrappers, averaging over three billion a year from 1928 to 1930, and postal cards to the number of nearly two billion annually since 1925; insurance on mail matter, for which the premiums after 1925 averaged about \$9,000,000; a registry service for mail bringing fees of \$12,807,000 in 1930; and even a C.O.D. service on about 50,000,000 packages a year since 1925, from which the fees have averaged about \$6,000,000. On the other hand, the department subsidizes magazines and newspapers—and thereby advertising in general—by handling second-class mail matter at a huge loss. Between 1915 and 1930 from a billion to $1\frac{1}{2}$ billion pounds of second-class mail were carried annually, besides from 60 to 75 million pounds carried free to destinations in the counties of its origin.

Before 1916 the system of payment to railroad companies for the hauling of the mails amounted to another subsidy of proportions hard to ascertain. For a limited period of time every four years all mail delivered to the trains was weighed, and the charges for the next quadrennium were based on these weights. This, in conjunction with the franking privilege enjoyed by certain government officials, led to an overloading of the mails during the weighing period and consequent excess payments for the next four years. Until the franking privilege was limited, members of Congress were known to send even their household furniture by mail at such times. In 1916 the basis of payment was changed from weight to the actual space occupied by the mails. The payments to the railroads on this basis in 1930 amounted to \$117,265,000, while \$59,720,000 were spent for other means of transportation.

The following table will give some idea of the growth of the postal business.¹ It will be noted that deficits are the rule, sometimes running rather large. Yet, the part of the cost of the Post Office Department which must be paid from taxes is smaller in proportion to the amount of service rendered than that of any other department of the government, and there are fewer unnecessary persons on the payroll than Express Company under the name of the latter. The Southeastern Express Company remained independent but not a strong competitor. The Railway Express Agency, Inc., was a new entry in the field in 1929 which showed some promise of power. The net income of express companies after 1920 remained almost stationary at between \$2,000,000 and \$2,500,000 a year for a decade.

¹ In 1930 the number of rural mail routes, not included in the table, was 43,278 with a mileage of 1,334,842. The cost had reached \$106,378,000. Better roads and motor transportation then led to some consolidation, but not enough. The Universal Postal Union, established by treaty in 1874, was an important aid to foreign commerce. Rates have sometimes been lower than Union levels. Limited parcel-post arrangements have also been made with many countries, the size of parcels usually limited to six ounces, four pounds, or eleven pounds.

anywhere else. Were it not for unjustifiable subsidies to publishers, advertising agencies, and transportation companies, the department would operate at a profit.

POST OFFICE BUSINESS, 1800-1930

YEAR	NUMBER OF POST OFFICES	MILEAGE OF POST ROUTES	THOUSANDS OF DOLLARS				MILLIONS OF PIECES OF MAIL HANDLED
			Gross Revenue	Gross Expend- itures	Money Orders		
					Domestic	Foreign	
1800	903	20,817	281	214			
1860	28,498	240,594	8,518	19,171			
1870	28,492	231,232	18,880	23,999	34,054	22	
1880	42,989	343,888	33,315	36,543	100,353	3,464	
1890	62,401	427,990	60,882	66,620	114,363	13,230	4,005
1900	76,688	500,989	102,355	107,740	238,921	16,749	7,130
1910	59,580	447,998	224,129	229,977	547,994	99,743	14,850
1920	52,641	435,342	437,150	454,323	1,332,700	32,960	no est.
1930	49,063	518,617	705,484	803,667	1,714,576	72,708	27,889

The Telegraph and Cables. The story of the telegraph since 1900 is largely statistical, a few of the figures being presented herewith. The Western Union Company continued to hold its monopoly. Of the 2,365,000 miles of telegraph and cable companies owned by American companies in 1929 over four-fifths belonged to the Western Union. The Mackay companies, with 360,000 miles, were the principal competitors. Nearly as large a mileage was owned and operated by the railroads largely for the dispatching of trains. During the war with Germany all mediums of electrical communication were put under government control, but when turned back to the owners in 1919 the rigid forms of regulation were soon abandoned. The telegraph companies were scarcely touched by the Esch-Cummins Act, except that as common carriers they were made subject to rate regulation by the Interstate Commerce Commission. The investment in the business in 1929 was \$466,000,000 and the net income was \$21,600,000. The movement toward putting the telegraph wires underground had not gone very far, the total mileage for 1927 being only about 200,000. The telegraph has greatly reduced the cost of transacting business, has made possible the elimination of many middlemen, and permits merchants to operate with much smaller stocks of goods than was possible in earlier days.

Development of the Telephone. Many changes have been made in telephony since 1900. First, there was a tendency toward the elimination of competing systems for the same cities. Local monopoly was restored, and after 1905 the Bell system gained rapidly on all com-

petitors. The automatic telephone (and exchange) was the product of one of the smaller companies.

Until effective relay coils were developed telephone messages could be sent over very long distances only by human relaying. Then, by 1911 New York was within speaking distance of Denver. Two years later Salt Lake City was reached, and in 1915 a 3,650-mile line spanned the continent. The first transcontinental radio-telephone message, from Arlington, Virginia, to San Francisco in 1915, was followed by messages to Honolulu and Paris. Ship-to-shore radio-telephone messages from 400 miles at sea were received in 1922. In 1927 commercial service by radio-telephone was established between New York and London, and in the following year it was extended to other countries. In 1924 pictures were sent by telephone circuit. In 1927 television was demonstrated but awaited several years of further development to become practical. The automatic transmission of typewriting by telephone lines was perfected by 1930. Ten years earlier the city of New York alone had more telephones than six medium-sized European countries, Chicago had more than France, while any one of several office buildings in New York exceeded either Greece or Bulgaria. The service of American telephone companies, as compared with that abroad, was almost equal to the numerical superiority.

All the American telephone systems together in 1927 (numbering over 60,000 when the farmers' lines were included) had 63,836,000 miles of wire and 18,523,000 telephones. Those companies reporting to the Department of Commerce accounted for over 31 billion messages in the year. Three years later the Bell system alone had 76,248,000 miles of wire, nearly two-thirds of which was underground, and 2,206,000 miles of phantom circuit. It had 15,682,000 telephones and made connections with 4,416,000 others. Rates also had undergone decided changes. People who paid \$20 a month for service before 1900 often objected to \$2 in 1930. To the small users of telephones it seemed that a toll rate was preferable to the flat charges which so generally prevailed.

Radio. Wireless telegraphy, an invention of the Italian Guglielmo Marconi and patented in England in 1896, had by 1901 reached the point where transoceanic messages could be sent.¹ Permanent communication being established in 1902, five years later a news service was started over the Atlantic, followed by some commercial usage. The next important step in wireless was the invention, by Lee De Forest in 1906, of the audion or vacuum-tube valve. This helped in

¹ Marconi's discoveries were based upon earlier studies by James Clerk Maxwell, who in 1865 proclaimed the ether-wave theory of transmission of light, and Heinrich Hertz of Germany, who in 1887 demonstrated the hypothesis.

long-distance telephony and made the radio possible. By 1919 it was proved possible to broadcast musical concerts, and on November 2, 1920, station KDKA at Pittsburgh started daily broadcasting, with the election returns as news material. In order to secure an audience, several receiving sets were given away. By March, 1927, there were 732 broadcasting stations in the United States and probably 10,000,000 homes with radios. In 1929 the factory output of sets and tubes amounted to \$411,637,000. Receiving sets were undergoing changes so rapidly that within a year's time a still-shining model was out of date, but sets of five and six years of age were still in use. The Federal Radio Commission (see p. 691) helped somewhat in confining broadcasters to definite channels, thereby making reception endurable. But people of even slight aesthetic sensibilities doubted whether it was worth the trouble, since nothing could be done to still the announcers, advertisers, demagogues, quacks, religious zealots, "jazz" bands, and "crooners" who still infested the ether waves.¹

¹ The Radio Corporation of America secured a monopoly of the point-to-point business in foreign commerce. In 1923 radio competition reduced cable rates by 20%. In 1924 the R.C.A. had 30% of the trans-Atlantic business, but reduced cable rates lowered the proportion by 1927 to 20%. Of the Pacific business the R.C.A. in 1924 handled half and in 1927 three-fifths. Cables had the rest. All oceanic cables together in 1920-1930 were equal to about 300,000 miles.

CHAPTER XXX

THE TRIUMPH OF THE MACHINE

BASIC INDUSTRIES

Men and Machines. The displacement of human labor by machines made more rapid strides after 1900 than ever before. In three decades the population of the country advanced from about 76,000,000 to 123,000,000, or about 62%, while the number of laborers in workshops and factories grew from 5,306,000 to 8,836,000, or 66.5%. In the meantime the amount of horse power consumed rose from 10,000,000 to 43,000,000, while the value of manufactures multiplied over five-fold, from \$13,000,000,000 to above \$70,000,000,000. This mechanization of industry had increased the average output of the individual laborer by the multiple of 3.25, while the average wage was almost exactly three times what it had been 30 years before. In other words, the worker in 1929 was getting only about 92% as large a proportion of the product of his toil as in 1899, though the distinction between producers' and consumers' goods may vary this ratio. On the basis of production in 1859 the ratio was about 86%. Taking into consideration an increase of 84.9% in general wholesale prices over the three decades, the annual wealth in manufactures had been multiplied by 2.9 and the per capita by 1.78, while the buying power of the laborer had risen only to 1.6. The machine, though it was the product of labor, was centering the purchasing power more and more in the hands of a relatively few persons. The influence of population changes and immigration upon the distribution of goods can best be understood in connection with the later discussions of agriculture and labor.

Production of Fuel: Coal. Behind all this development of machine manufactures was the enormous increase in fuel and water-power production which made possible the operation of so many prime movers. Because of the wide use of coal and petroleum products for heating purposes and transportation, the tables of production cannot be taken as synonymous with the development of power. Yet, the divergence is not so great as to be widely misleading. The figures on page 727 of the output of the principal kinds of fuel may serve as an introduction.

The climax of the coal industry was reached in 1917 and 1918, after which there was a steady decline. By 1930 the output of the bituminous mines was valued at only 38% of the \$2,000,000,000 of 1916. The relative decline of coal as a source of power is greater than the quantita-

tive ratio. In the early 1870's coal furnished 91.5% of the power. By 1900 it had declined to 89.8%, while in 1928, even including coke and coal gas, coal supplied only 61.5% of the total power. Since 1901 oil energy had increased from 6.1 to 23.8%, natural gas from 3.2% to 6.8%, and water power from 2.1 to 7.9%. Also, coal was being burned with greater economy. The railroads alone, which used over a quarter of the soft coal produced in the country, learned to save 42 million tons a year by means of more efficient boilers and engines. In electric plants the average consumption of coal per Kw.H. was cut in half between 1919 and 1930, but mainly because of an increased use of water power, oil, and gas. The iron manufacturers in the same time diminished their use of coking coal 15% in proportion to the amount of pig iron poured. The by-product coke oven made another great saving. The automobile and auto-truck, by diverting traffic from railroads, cut down on coal consumption, while the increased use of oil and gas for heating purposes in the homes was beginning to be felt.

PRODUCTION OF FUEL, 1901-1930

YEAR	COAL		COKE 1,000 SHORT TONS	PETROLEUM 1,000 BAR- RELS (42 GALLONS)	NATURAL GAS 1,000,000 CU FEET	MANU- FACTURED GAS SOLD 1,000,000 CU FEET	NATURAL GASOLINE 1,000 GALLONS
	Anthra- cite 1,000 Long Tons	Bitu- minous 1,000 Short Tons					
1901	51,221	212,316	20,533	102,083 ^a			
1905	65,318	278,660	23,661	172,769 ^b	437,057 ^b	112,444	
1910	64,620	379,774	39,315	209,557	575,708 ^c	149,431	30,317 ^c
1915	79,460	442,624	41,581	281,104	628,579	204,310	65,365
1920	79,998	568,667	51,345	442,929	798,210	319,888	384,774
1925	55,194	520,053	51,267	763,743	1,188,571	421,406	1,127,470
1929	65,918	534,989	59,884	1,007,323	1,917,693	524,100	2,233,688
1930	61,951	461,630	47,972	896,265	1,979,000	523,528	2,172,900

^a 1901-1905 average

^b 1906-1910 average

^c 1911-1915 average

In consequence of this situation, bituminous coal mining after 1920 became a very sick industry. The case was further aggravated by the fact that during the World War too many marginal shafts had been opened up to meet local demands caused by a car shortage as well as to supply the unusual demands of industry. In 1926 the soft-coal mines were capable of producing 821,000,000 tons while the demand was for only 573,000,000 tons and was growing rapidly less. In 1923 the industry had employed 705,000 men, but in 1929 the number was 200,000 less. Those with jobs were employed only two-thirds of the time, and the surplus could find no other occupations to follow. In the same six years the number of shipping mines diminished a third in number, while from 1920 to 1930 there were 1,665 companies

which went out of business. The largest and smallest mines were least affected by the depression. It was the type too large to depend upon local trade and too small to compete successfully for the larger markets which suffered most.

The obstinate opposition of coal operators, especially in the southern Appalachian fields, to unionization of the miners was a very potent cause of the disorders in the industry. Wages have amounted to from six- to seven-tenths of the cost of coal at the tippie. These wages have varied so widely between different sections and mines as to give an undue advantage to the operators in the more backward sections of the country. The American Miners' Association, started during the Civil War, did not secure sufficient recognition to remedy this situation. When the United Mine Workers of America were organized in 1890, they were welcomed by the forward-looking operators of the central competitive field, even by Mark Hanna, as a stabilizing factor. But the question was: Could the whole industry be sufficiently unionized so as to give all operators an equality in the matter of wages? The answer in the southern Appalachians was in the negative. Southern employers in general, whether in the coal business or not, fought bitterly against an innovation which would set a higher standard of wages. This is not the place to discuss labor disputes, yet, it might be noted, every time a strike occurred in the unionized fields the industry expanded further in the nonunionized areas, to the ultimate harm of all.

The slackened demand for coal after 1918 gave an undue advantage to the nonunion regions and led to shut-downs in the central field. Instead of the union operators trying to force unionization upon the backward section, they themselves began fighting the labor organization and very largely succeeded in their efforts. After 1927 only the strip mines of Kansas, Missouri, and scattered localities remained effectively organized. Whereas the unions had once controlled 70% of the output, by 1930 they had declined to 20%. The result was that competitive conditions became worse than ever and many mines were compelled to operate at a loss rather than lose more by closing. Other operators found the greater economy in going out of business. By 1930 a new organization, the National Miners' Union of somewhat communistic complexion, was beginning to frighten the operators. In the northern part of West Virginia, at least, mine owners who had always fought the unions hastened to make agreements with the United Mine Workers of America at terms scarcely creditable to the latter.

Meanwhile, the mechanics of mining were undergoing significant changes. Gas-free mines were electrified both in lighting and power, but elsewhere the Davy safety lamp and bank mules had still to be

depended on to avoid the possibility of explosions. Experiments with loading machines go back to the decade before 1900. In 1930 over a tenth of the total output of coal was mechanically loaded, five-eighths of this being in Illinois, Indiana, and Wyoming, where the unions had once been strongest. Steam shovels were destroying farm land to the depth of 50 feet or more, throwing the dirt back and loading coal with an extraordinary speed in proportion to the amount of labor involved. In 1929, in addition to producing nearly all the anthracite, Pennsylvania also led in the bituminous industry, followed by West Virginia, Kentucky, and Illinois. The four states produced almost exactly three-fourths of the coal of the country, not counting the wagon trade of "gin shafts" and "slopes."

Coke. In the coke trade the principal change was the substitution of retort or by-product ovens for the older beehives. Not till 1919 did the improved process excel in output, but by 1930 over 94% of all the coke was made by the by-product ovens. After 1914 the United States began to become independent of the importation of such by-products as creosote and benzol. In gas making the tendency was to turn more and more to water gas and a mixture of this with coal gas. By 1925 only a fraction of 1% of the gas made in the country was the pure coal product. By 1929 some 11,800,000 gas meters were in use, serving almost half the people of the country.

Natural Gas. Before the natural gas fields of the Eastern states were worked out, the West began contributing its much larger quota. By 1915 fifteen states were producing in paying quantities. The growth of the industry was phenomenal, the volume of the product by 1930 reaching the incomprehensible figure of nearly two trillion cubic feet, its value being \$419,000,000. The price was about 22½¢ a thousand feet, delivered at the city gates, while at the well it brought about a tenth as much. The ordinary householder usually paid from 50¢ to a dollar a thousand. By 1928 Texas was beginning to surpass Oklahoma as a producer, while California, Louisiana, West Virginia, and Pennsylvania followed. Nearly 44% of the gas was used in the oil industry, 19.5% by industrial plants, 4.9% for electric power, 11.2% for the making of carbon black, and 20.5% for domestic purposes.

In 1927 a gas pipe line of 250 miles was considered a magnificent achievement. But in September, 1928, the Amarillo field of the Texas panhandle was connected by a 382-mile, 20-inch pipe with the two Kansas Cities, and the Henry L. Doherty Company had organized a \$300,000,000 concern to build clear through to Chicago. The line was expected to pay for itself in seven years. Also, the Missouri-Kansas Pipe Line Company was spending \$60,000,000 to pipe gas 900 miles from Amarillo to Indianapolis. Many mains of a diameter

as great as two feet were under construction. Because of its enormously greater heating power and lower cost than any artificial gas, and considering the apparently limitless supply of the fuel, it seemed likely to make continuous inroads into the industrial and domestic fields. It was thought scarcely likely that there could be much real competition from electricity for heating purposes. If all the 46 million horse power of undeveloped water-power sites of the United States were utilized, it was estimated that they could heat less than 4% of the homes of the nation.

Petroleum. The growth of the petroleum industry is shown in the table above. The figures of volume, however, are but little indication of prosperity. The output of 1929 was over two-thirds of the world's total, but the price was only about a dollar a barrel. The reason was not because of foreign competition. The United States was importing a little less than 8% as much crude oil and nearly 3% as much refined as the total domestic production. At the same time the exports were over 2.6% and 13% respectively. Considering the fact that exports exceeded imports, there was no need of protective legislation against outsiders. It was the vast overproduction in the United States which drove the price in the next four years to a small fraction of that of 1929. This caused wild-eyed talk of compelling Congress to impose a prohibitive tariff on petroleum, and in 1932 the movement partially succeeded. Then, in the following year the price dropped temporarily to a dime, and rose again only after production fell off. In 1929 Texas, California, and Oklahoma, in the given order were the leading oil states accounting for over 84% of the American supply and about 57% of that of the world. In 1928 there were 81,676 miles of petroleum pipe lines in operation, representing direct and indirect investments of nearly \$766,000,000 and returning a net income of over 15%.

Prime Movers. The principal improvements in prime movers were in turbines, Diesel engines, and dynamos. By 1928 a compound steam turbine of over 221,000 horse power, 93.7% efficient, was in use. The Diesel engine by 1927 was 33% efficient, which, considering the loss of energy in steam boilers, was comparable to the best operation of the older forms of power. Such an engine would operate on half a pint of distillate for each horse-power hour, was almost infallibly dependable, and as near fool-proof as it could be made. Before 1930 some internal combustion engines were developing as high as 15,000 horse power.

Hydro-electric Power. Beginning about 1894, New England capitalists began hydro-electric development of the local streams. In 1905 some 175 textile mills were using a total of 140,000 horse power of electricity for their machinery in addition to the amount of

current used for illumination. In the decade following 1904 streams in the southern Appalachians were likewise harnessed, half a million horse power being available from interlinked and coöperating plants, mainly for the operation of cotton mills and other factories then rising to prominence. The Keokuk dam and succeeding major developments on sites entirely within the United States have been mentioned in a preceding chapter. In 20 years following 1905 the power of large generating units increased from 5,000 to 40,000 kilowatts, a few were from 50,000 to 60,000, and one dynamo of 200,000 kilowatts or 278,000 horse power was in use. This dynamo itself would have been a big business in 1900. The first successful transmission line—29 miles built in 1892—would carry a current of 10,000 volts. By 1930 transmission for 150 miles at 33,000 volts was common, while one line carried a voltage of 220,000. At that time the amount of capital invested in electric power production exceeded \$11,000,000,000 while the income was in the neighborhood of \$2,000,000,000. Some statistics of electric power production and general power consumption follow in abbreviated form.

ELECTRIC POWER PRODUCTION, 1902-1930

YEAR	CURRENT PRODUCED		CONSUMPTION OF FUEL				CAPACITY OF GENERATORS, THOUSAND KILOWATTS
	Total Million Kw H	Water Power, Million kw H	Coal, Thousand Tons	Fuel Oil, 1,000 Barrels	Gas, Million Cubic Feet	Coal Equivalent of All Fuel, 1,000 Tons	
1902	4,768						2,112
1912	17,572						7,670
1920	43,555	16,150	37,124	13,123	24,702	41,420	14,399
1925	65,870	22,356	40,222	10,246	46,521	44,780	23,619
1929	97,352	34,629	44,937	10,124	112,707	52,574	31,952
1930	95,936	33,021	42,898	9,260	120,290	50,654	34,264

CONSUMPTION OF VARIOUS KINDS OF POWER IN
SELECTED YEARS

YEAR	ESTABLISHMENTS REPORTING POWER	PRIME MOVERS					
		Total Rated Capacity 1,000 H P	Steam Engines and Turbines 1,000 H P	Internal Combustion Engines 1,000 H P	Water Power 1,000 H P	Electric Motors	
						Purchased Current 1,000 H P	Current Generated in Plant 1,000 H P.
1919	222,924	29,324	17,034	1,242	1,765	9,283	6,969
1923	173,415	33,092	16,700	1,223	1,803	13,364	8,821
1925	167,533	35,767	16,916	1,186	1,801	15,865	10,255
1927	174,118	38,826	16,924	1,171	1,599	19,132	11,220

It will be seen that in 1927 the factories reporting used electric current, produced by themselves or purchased, to the extent of 78% of the total power of all kinds consumed. The possible future of the electrical industry is shown by the further fact that in 1928 only 43% of the people of the United States lived in electrically lighted houses, and only 60% of the potential customers had been reached.

Iron and Steel: Sections of Production. Among the basic manufactures of the country, iron and steel continued to hold their pre-eminence. The geography of the industry did not shift radically after 1900. Because of their closeness to the greater markets, New York and New Jersey remained as competitors, in spite of the cheapness of Pittsburgh coal. In fact, the pig iron production of the extreme northeastern section increased from 3.5% of the total in 1900 to over 7% in 1929. No other portion of the country except Indiana and Michigan showed a growth proportionally so great. The Birmingham-Chattanooga region continued to be important, but in a declining ratio. In 1907 the United States Steel Corporation began pouring millions of dollars into that section, after which greater attention was paid to the making of steel. Most of the iron and steel after 1904 was manufactured into finished products at home, cast-iron pipe being a specialty of the Birmingham neighborhood. The loss in relative importance of Alabama in the iron trade can be noted from the figures on page 733 which also show the development of the business for other parts of the country. All amounts, except for furnaces, are in thousands of long tons.

In 1900 Alabama had produced 8.5% of the total pig iron and ferro-alloys of the country, ranking next to Pennsylvania and Ohio in importance. But in 1929 its percentage had fallen to 2.7, being exceeded by five other blast-furnace centers. Even in ratio to Pennsylvania its pace had not quite kept even—declining from 18.6 to 18.4%. Tennessee was no longer in the race. The whole South, including Maryland, West Virginia, and Kentucky, and all the United States west of the Mississippi River combined, in 1929, produced less than 13% of the output of the country. The fact that much steel was made direct from the ore, without going through the pig iron stage would not help these ratios any, since that process also was most largely developed from Pennsylvania and the Ohio River northward.

Very little of the ore used was of foreign origin, the net of imports over exports being only 2.5% of the domestic output of 73 million long tons in 1929. Minnesota and Michigan alone in that year produced about 84% of the total in the ratio of 3 : 1 for the two states. Between 1890 and 1910 there was a tendency for the large steel corporations to monopolize the Lake Superior ore deposits. In 1902 two-

thirds was mined by its users, 58% of it by the United States Steel Corporation alone. But by 1911 there was a movement away from such practice. The ore seeming to be inexhaustible, buying in the market proved to be more economical than tying up so much capital in

IRON PRODUCTION BY SECTIONS, 1900-1930

	1900	1910	1920	1925	1929	1930
Total pig iron and ferro-alloys	13,789	27,304	36,926	36,701	42,614	31,752
By states						
New England	14	17	10	}	3,025	2,221
New York, New Jersey	463	2,203	2,601			
Pennsylvania	6,366	11,272	13,983	12,523	14,453	10,305
Maryland	290	326	524	705	}	1,166
Virginia	491	445	429	125		
Alabama	1,184	1,939	2,393	2,836	2,710	2,395
Ohio	2,471	5,752	8,533	8,863	9,796	6,805
Illinois	1,363	2,676	3,218	3,604	4,358	3,345
Indiana, Michigan	164	1,250	2,940	4,120	5,086	3,934
Wisconsin, Minnesota	185	307	711	468	379	}
Iowa, Colorado, Utah	}	}	}	{ 505	{ 638	
All other				{ 762	{ 1,003	864
By disposition						
For sale			10,724	8,991	9,635	7,083
For maker's use			26,202	27,710	32,979	24,670
By kinds						
Basic	1,072	9,085	16,738	19,667	24,912	18,393
Bessemer	7,979	11,246	12,062	9,419	9,877	7,315
Foundry	3,376	5,260	5,958	5,410	4,787	3,960
Malleable	173	843	1,311	1,554	2,313	1,572
Forge	793	564	318	241	168	51
All other	395	306	539	409	557	461
Number furnaces, total	406	473	452	395	316	300
In blast, Dec. 31	232	206	216	238	165	97

raw-material production. The investment could be used to better advantage in the higher processes of manufacture, while the monopoly found it possible to control the price of ore anyway.

The new rivals of Pittsburgh after 1900 were the centers along the lake fronts. To the other suburbs of Chicago the United States Steel Corporation in 1906 added Gary, building it up from nothing on seven miles of lake shore and 8,000 acres of sand dunes and marshes bought especially for that purpose. Four years later its population was 16,800, in 1920 it had grown to 55,000, and in 1930 it exceeded 100,000. Iron and steel manufactures were the sole cause of this development. The figures above show the gain of the other lake states on Pittsburgh.

There has been no prospect that this tendency is destined to an early retardation. But, for the United States as a whole, the period following the World War showed that the climax of rapid growth had probably been reached. More ore was mined in either 1916 or 1917 than in any succeeding year to 1934. These years showed fluctuation rather than steady growth.

Trust Control of Iron and Steel: Monopoly. There was no great change in the organization of the industry after the formation of the United States Steel Corporation. In an effort to refute charges of monopoly, the great trust in 1914 showed that the prices of steel products had fallen an average of \$8 a ton since 1903, and claimed that even at the earlier date the United States sold cheaper than either Great Britain or Germany. The officials neglected to say how much lower the prices had been in other years or how low they might have gone had it not been for the consolidation of 1901. The figures themselves were subject to serious question.

Small lots of Birmingham iron sold locally in 1897 for \$5.50 a ton, while for several months in the same year the Tennessee Coal, Iron, and Railroad Company sold pig iron by contract for from \$5.75 to \$6.25. Rails, which constituted a large part of the total product of the industry, sold for \$17 and \$18 a ton. But in 1902 the price of rails rose to \$28 and remained at that point without fluctuation till 1914, when it was advanced to \$30. Following a few ups and downs during the war, the price reached \$43 in 1923 and remained exactly at that level till 1929, while the cost of production was on a decline. Other iron and steel products were almost equally stable, a situation which could not have existed without price fixing. In pig iron alone was there any real fluctuation, but there was very little of the product for sale. Since most of it was further manufactured by the producer, any balance thrown upon the market for the small foundry man was, of course, bound to vary in price. In 1902 the price of pig iron was relatively high, having advanced from \$15.93 to \$20.67 in one year. At \$14.89 in 1914 the lowest mark since 1900 was reached. Thus, about three-fourths of the claim of the steel trust can be accepted for one item. But it may as well be mentioned that three years later the price was three times that of 1914.

The steel industry had been created by boundless, rich, and cheap ore, the most economical of labor-saving devices, and the cheap assembling of raw materials at central manufacturing sites. These factors, rather than trust control, had before 1900 made American steel so cheap that a tariff for it was a joke. The *Iron and Steel Directory* of 1902 had a 17-page list of concerns which had disappeared in the preceding four years. Though not all of this was the work of the steel

trust, the mortality list was significant of the existence of monopoly. A community of interest among the nominal competitors in the business after 1901 did about as much as previous mergers to produce harmony and monopoly in the steel business.

Technical Improvements in Steel Making. The principal technical developments in the business have been the production of numerous varieties of steel for specific purposes. For some uses wrought iron still proved better than any kind of steel. Following 1915 electric steel, which had been made in Sweden as early as 1900, began to take the place of the crucible product for tools and cutlery. Not only was it equally good, but also it was much cheaper. The automobile industry has been largely responsible for the creation of light, tough, springy, and hard steel alloys which greatly lighten the weight of parts subjected to great strain, and also of steel of other qualities for special purposes. Tool steel which would keep its edge and temper when red hot had been developed by 1900. Chrome and nickel alloys were still earlier. By 1905 manganese, tungsten, molybdenum, vanadium, titanium, cobalt, and uranium steels were in use. In 1910 about 57% of all alloy steel was of the titanium content, while over a thousand tons of the various alloys were being used. Rustless and stainless steel was by 1930 the infant prodigy of the industry.

Steel Production. As to the low-carbon common steels which formed the bulk of the trade, Bessemer reached its high mark in 1906 while the open-hearth product achieved ascendancy in 1909. The following figures show the relative importance of the principal types of steel after 1890.

PRODUCTION OF STEEL INGOTS AND CASTINGS. LONG TONS

YEAR	TOTAL	BESSEMER	OPEN HEARTH	CRUCIBLE	ELECTRIC
1890	4,277,071	3,688,871	513,232	71,175	
1900	10,188,329	6,684,770	3,398,135	100,562	
1910	26,094,919	9,412,772	16,504,509	122,303	52,141
1920	42,132,934	8,883,087	32,671,895	72,265	502,152
1925	45,393,524	6,723,962	38,034,488	19,652	615,512
1929	56,433,473	7,122,509	48,352,888	6,645	951,431
1930	40,699,483	5,035,459	35,049,172	2,253	612,599

In 1900 the American steel product almost equaled that of Great Britain and Germany combined. In 1929, on a par with the total of Great Britain, Germany, France, Belgium, Luxemburg, Russia, Italy, and Canada, it was about 47% of the known world output. In 1930 the steel industry heralded the fact that the billionth ton had been produced in the United States, about half of this having been made in the preceding dozen years. At that time it was estimated that the

country possessed unworked ore amounting to nearly 10 billion tons, while the known resources of the world were reckoned at 23 billion. The great era of expansion in the United States seemed to have reached its climax, and production was becoming about stationary.

Even after the United States became the greatest producer of steel, manufacturers continued to import small quantities of special grades for cutlery and some blooms and billets. But the total of such shipments was never enough to affect the industry perceptibly one way or another. On the other hand, though the United States became one of the leading exporters of ferrous products, the total, except machinery and vehicles, amounted in 1929 to hardly more than 5% either in bulk or value of all kinds of exports. Nearly every country in the world was listed among the purchasers.

Machine Work. The demand for metal products which led to this great expansion of the steel business also evoked the development of better processes in higher manufactures. The improvement in machine-shop tools, which had already made great advances before 1900, continued in the same and newer directions. Before 1930 some iron lathes were produced capable of finishing a cylinder 10 feet in diameter and 40 feet in length. Boring mills were adapted to work up to 60 feet in diameter, and were capable of still greater growth. The size of ships, locomotives, bridges, and the like was no longer limited by the capacity of tools, but merely by the considerations of economy.

Rails and Locomotives. The railroads continued to be heavy buyers of steel products, the climax in rail production being in 1910 when 3,636,000 long tons were manufactured. This was about a sixth of the total of rolled products for the year. Thereafter, the era of rapid railroad expansion having ended, only replacements and minor extensions had to be considered. For that reason, the mark of 1910 was never again reached. In 1929 rails were only 6.6% of the 41,069,000 tons of rolling mill products. Since 1900 the exports of rails have ranged from about a tenth to nearly a third of the output, while imports have sunk as low as one-twentieth of 1% and have never reached as high as 4%. The climax in locomotive construction was reached in 1907, with 7,362, of which about half were put in use on American railroads. The rest were either for export or for installation on American lines in the next year or two. The largest number of locomotives purchased by the railroads in any one year was 4,381 in 1913. In 1928 the number was less than a fourth as large, but the units were of higher power. Including internal combustion and electric locomotives, the apex of factory value was reached with \$193,673,000 in 1923, an amount which was three times the level of some succeeding years.

Machinery and Transportation Equipment. In the making of machinery and transportation equipment of all kinds there was an amazing advance. In fact it was this phase of industrial development which, more than any other, created the impression of an approaching millennium, in which poverty would be abolished and there would be plenty for all. In truth, so far as the means of production were concerned, this was a fair prophecy. If only social thinking and planning had kept pace with mechanical progress, all the people of the country could have been supplied with necessities, comforts, and a reasonable amount of luxuries as the product of an amount of labor which would measure only as a small fraction of what was required for a bare existence a century before. In 1929 the value of machinery and transportation equipment produced exceeded \$13,000,000,000, over half of which was for machinery alone. This was something like 25 times the output by value of 1899. But the number of laborers employed had barely been multiplied by three. In the last 15 years alone the output was multiplied by five, the number of employees by 1.8, and money wages by about four. In fact, the 1,613,000 workers in the industry in 1929 was about 13% less than in 1919, while the wages were about the same. But it was the manner in which the machines were used—the failure to cut hours of labor and increase wages in proportion to the mechanical advances in production—which contributed to the unemployment and underconsumption that soon was to leave industry prostrate.

Bridges. Construction work became another marvel of the machine age. In order to continue building bigger and better bridges, a special steel containing from two to three per cent. of nickel had to be developed to produce the necessary tensile strength, hardness, toughness, and resistance to corrosion. A small manganese content was also sometimes allowed to prevent segregation. Before 1930 steel-truss bridges were also using some silicon steel because of its strength in proportion to weight and its shock-resisting qualities. In 1929 \$129,000,000 were spent for bridges of major size (not all of them steel). In August, 1930, there were 296 toll bridges in the country, and 51 more under construction. The Hudson River bridge at New York, begun in 1927 and completed in 1931, is one of the great engineering triumphs of the world. Of the suspension type, it has a span of 3,500 feet swung on four steel-wire cables of 36-inch diameter from towers 635 feet high. It has a 250-foot clearance above the river and carries four street-railway tracks as well as eight traffic lanes. The cost, including \$10,000,000 for land, has been estimated at about \$60,000,000. In 1934 a still more magnificent bridge was being built across San Francisco Bay. Some 40 of the principal bridges of the United States

are about equally divided between the cantilever, suspension, steel-arch, and simple truss types.

Skyscrapers. The skyscraper, the most spectacular and controversial of America's contributions to architectural engineering, grew out of the high price of real estate in the greater cities. In a day when the number of feet pounding over the sidewalks was counted as a criterion of the most popular sections of a city, it became impossible to accommodate the throngs in buildings of only a few stories in height. In fact, the cost of land was too high for low buildings at the best sites to pay dividends. Shortly after 1880 the five- and six-story buildings on lower Manhattan Island began to give way to eight- and ten-story structures of a type similar to their predecessors. By 1886 some office buildings were being built with iron skeletons. But the Masonic Temple at Chicago, begun in 1891, was the first real skyscraper. Its steel frame, weighing nearly 4,000 tons, was completed ready for assembly at Uniontown, Pennsylvania. This great structure of 20 stories soon had to compete for honors among rural visitors with the Flatiron building, 286 feet in height, at Twenty-third and Broadway in New York. Passing years made skyscrapers common. Then the Singer building at 149 Broadway, with its 41 stories reaching upward 612 feet, gave rise to the contention that the last six stories were fitted on hinges to fold down when the moon passed over. But fame was fleeting. In 1913 the Woolworth building of 60 stories and 792 feet elevation became the admiration of the "rubber-neck wagon" tourist. For a number of years nothing of greater pretensions was attempted. Then four buildings in New York overtopped the Woolworth, the Empire State, completed in 1931, being 1,248 feet high and of 86 stories. By 1930 there were in New York and Brooklyn 143 buildings of 20 stories or more each, besides numerous ones in other cities. The First Methodist Church of Chicago laid claim to fame because its spire reached 556 feet toward heaven. Pittsburgh was indulging in higher education in a "Cathedral of Learning" as yet uncompleted but rating well among the skyscrapers.

Shipbuilding. Shipbuilding was a sometimes important but very uncertain annex of the iron and steel trade. For a few years prior to the World War, both in number and tonnage of merchant vessels of 100 tons and upward, the United States was launching about a tenth of the world total. In 1918 and 1919 almost half the number and over half the new tonnage of the world were of American make. Then, after 1922, America's proportion sank to a new low level. In one year during the war the United States launched over three-fourths as much tonnage as the entire merchant fleet, including coastwise and lake vessels, in 1860. The supplanting of wooden and sailing vessels by

steel construction and steam power, is mainly a development of the period since 1900. At the beginning of the century 77% of the vessels of the American fleet by number and 47% by tonnage were of wood, but the latter were much less effective per unit. The corresponding percentages in 1930 were 25 and 6. Also, in 1900 sailing vessels numbered 70% of the total, but declined by 1930 to 17%. Since the number of tons of wooden steamers was in each year about equal to the tonnage of steel sailing vessels, an equal ratio was also maintained between the tonnage of wooden and sailing vessels.

Other Metals. The value of all iron and steel products made in 1929 was over \$7,000,000,000 or, including machinery, twice that value.

PRODUCTION OF METALS IN 1929

METAL OR ORE	WEIGHT SHORT TONS, EXCEPT AS NOTED	VALUE IN DOLLARS
Aluminum	112,500	51,864,000
Antimonial lead	25,669	3,267,000
Antimony	3,052	546,000
Bauxite	409,670	2,266,000
Cadmium	1,214	2,010,000
Chromite	202	3,000
Copper	1,001,432	352,504,000
Gold (1,000 ounces)	2,208	45,651,000
Pig iron	46,534,880	731,858,000
Lead, refined	672,498	84,735,000
Manganese ore	67,614	1,612,000
Manganiferous ore	1,330,850	3,274,000
Mercury, metallic	900	2,893,000
Nickel	340	297,000
Platinum (1,000 ounces)	48	3,121,000
Silver (1,000 ounces)	61,328	32,688,000
Tin	39	36,000
Tungsten ore	830	654,000
Zinc	611,209	80,680,000
Approximate total value: including ores of titanium, uranium, and vanadium		1,475,900,000

With the addition of transportation equipment for air, land, and water, most of which was of steel construction, the sum of \$20,000,000,000 is accounted for. As compared with such stupendous figures, all the nonferrous metals and their products combined, with a value of \$3,600,000,000 make a very small showing. In fact, as may be noted above, the value of pig iron alone was about equal to all the other metals combined. All weights in the table are reduced to short tons except gold, platinum, and silver.

As can be seen at a glance, copper is the greatest of nonferrous metals in volume and by far the most valuable. The crude copper

produced in 1929 was worth almost half as much as pig iron and was equal to all the rest of the metals combined. Next comes lead, with zinc, aluminum (bauxite ore), gold, and silver in order. Since most of the bauxite is imported, the value of the domestic ore is listed separately. If the recent rate of consumption continues, it is estimated that new deposits of copper ore will have to be discovered within a century. The manufactures of brass and its alloys by 1927 had passed the billion dollar mark. Primary lead products at the same time were worth about a quarter as much. The ores of Arizona were coming to be an important source of the raw material, but market conditions were unfavorable for the development of some of the most promising mines. By 1910 Missouri led all the states in zinc production, followed by New Jersey, Colorado, and Wisconsin. Ten years later Oklahoma was first and Missouri sixth. In 1929 Kansas was second, New Jersey third, and there were no close competitors.

The United States continued to hold a prominent position in the mining of gold and silver. From 1870 to 1895 the gold output of the nation passed the two-million ounce mark in only two years. In the latter year a steady advance began, reaching 4,266,000 ounces in 1905 and fluctuating between that and five million ounces for another dozen years. The maximum was 4,888,000 ounces in 1915, after which there was a continuous decline to less than half the amount in 1929. The figures include Alaska and the Philippine Islands. The maximum silver production of 63,500,000 ounces in 1892 was not reached again for 20 years. Then it rose to nearly 75 million ounces in 1915, the price being about half as many dollars. World overproduction and demonetization of silver in India drove the price down to about 25¢ an ounce by 1932. But, since silver is largely a by-product of lead and other ores, its production continued regardless of the decline.

California in time had to give precedence to Colorado in gold mining, while after 1896 Alaska was a close rival for first place. But by 1920 California was back in the lead again with a product equal to that of Colorado and Alaska combined. By 1929 South Dakota was third, followed by Utah, Colorado, and most of the rest of the mountain states. By 1925 Utah had assumed the leadership in silver mining, followed by Montana, Idaho, and Arizona. Nevada, the old leader, was fifth.

Other Minerals. The total mineral output of the United States in the primary state of production in 1929 was calculated at \$5,830,000,000. Of this \$3,202,000,000 was fuel, \$1,476,000,000 metallic ores, \$1,141,000,000 nonmetallic minerals, and the rest unspecified. Twelve items of an output of \$10,000,000 and upward accounted for about seven-tenths of the nonmetallic materials. These, in descending value, were as follows:

OUTPUT OF NONMETALLIC MINERALS (LEADING ONES
BY VALUE) IN 1929

Cement	\$255,105,000	Lime	\$33,387,000	Asphalt	\$25,164,000
Stone	199,992,000	Gypsum	31,293,000	Clay	14,851,000
Sand and gravel	112,200,000	Salt	27,335,000	Phosphates	13,153,000
Sulphur	43,800,000	Pigments	26,212,000	Slate	11,236,000

These and minor minerals, such as borates, chlorides, potash, pyrites, and the like, are all related to the mining and quarrying industries. They play a large part in construction works and the chemical industries.

Chemicals. Until 1910 all minerals were included with the land when acquired from the government, either by purchase or as homesteads. But an act of June 25 of that year reserved the mining rights for phosphates, coal, gas, and oil. In 1917, in order to stimulate war-time chemical production, an act permitted prospecting on four-section tracts for chlorides, sulphates, carbonates, borates, silicates, or nitrates of potassium. A patent for one section and lease for the rest were permitted on discovery of such deposits. There were strict stipulations as to rentals and royalties to the government as well as for the prices to be charged for the chemicals. In 1920 similar provisions were made for the exploitation of phosphate, sodium, coal, oil, and gas lands, with special reservation to the government of all helium in the natural gas. An act of 1926 was intended to promote the mining of sulphur on public land, while another act provided encouragement for potash developments on private property. In most of these acts it was stipulated that rentals and royalties from government mineral deposits be divided between the states and the fund for reclamation work.

Various new resources were developed in the chemical industry. Phosphates from slag, flue dust from cement plants, and all sorts of refuse heaps have been exploited for fertilizers. In recent years hydro-electric power has played an important part in the making of cyanamid—of rich nitrogen content—but the total product has been somewhat less than the political contention over water-power control would indicate. During the World War, when competition from Germany was suspended, chemical companies secured a monopoly of the home market. In order to preserve this position the Chemical Foundation was created for purposes of lobbying and the dissemination of "high brow" propaganda. As late as 1931 it distributed a book entitled *Other People's Money* to explain why America should desist from further financial assistance to the country which once led the

world in chemical production. The output of chemicals and allied products in 1929 was about \$3,750,000,000 in value, or about twice that of 1914. Had it not been for the elimination of alcoholic liquors, which were included in the earlier estimates, the proportional growth would be seen to be much larger.

Building Materials. The use of stone and cement as building materials experienced a steady growth till 1919, and then the output of the quarries nearly doubled in the next ten years. About half the product used, by value, was limestone, with granite, basalt, marble, and sandstone trailing far in the rear. As to uses, nearly half the stone was crushed, 22% went into buildings for economic purposes, and about a third as much was buried in monuments. The mania for the erection of arenas and war memorials was a special boon to the industry. The use of limestone in the making of Portland cement, for furnace flux, and especially in road building accounted for the bulk of the common product. For finer building purposes the best stone continued to come from the Bloomington-Bedford region of Indiana.

Following 1900 nearly all the building cement used was of the Portland variety. In 1910 nearly 78 million barrels (376 pounds) were made, while the climax was reached in 1928 with over 176 million barrels. The industry spread outward from Pennsylvania till Kansas in 1910 and Indiana in 1914 had the largest plants in the United States. Some trusts were formed, but attained no great power. The Portland Cement Association, founded about 1904, did not till some years later have much success at price fixing. Numerous improvements in concrete making have greatly multiplied the uses to which it can be put. Reënforced concrete for buildings and bridges and the straight product in roads and streets account for much of the use of cement in recent years. But when concrete burial vaults and reënforced concrete boats were put on the market speculation began as to the ultimate variety of uses that might be created. In 1929 Pennsylvania was still far in the lead of the states in cement manufacture, more than equaling the total of the three closest rivals, Michigan, California, and New York.

Building materials of clay have also been diversified and their use extended. Early in the twentieth century speakers at farmers' institutes began talking of the value of tiling land. In the next decade the brick silo added another rural market for clay products. From 1914 to 1929 the value of brick, tile, and related commodities increased from \$129,583,000 to \$320,201,000. But already the importance of paving brick had begun to wane before the flood of asphalt and concrete. Stone and reënforced concrete were also limiting the use of building brick.

Forest Products. The forests continued to supply the bulk of the material for the construction of dwelling houses and for interior finishing. Before 1914 there were mills which could utilize the timber of from 50 to 300 acres in a day and turn out 180,000,000 feet of lumber a year. The year of greatest production was reached in 1909, with 44.5 billion feet selling at an average of \$15.38 a thousand. About three-fourths of the lumber by that time was from soft woods. The highest average price was reached in 1923 at \$31.78 a thousand. The product of that year (37 billion feet) sold for over a billion dollars. By 1928, when the proportion of hard wood had declined to about a half that of 1909, the price and annual volume also were declining. The center of production shifted rapidly away from the Lake states, toward the South and the Pacific Northwest. Between 1889 and 1928 the Lake states declined in percentage output from 34.6 to 5.3. In the South the proportions in the same years changed from 20.3 to 45, having reached as high as 54 in 1914. Meanwhile, the percentage of the Pacific states grew from 8.5 to 40.

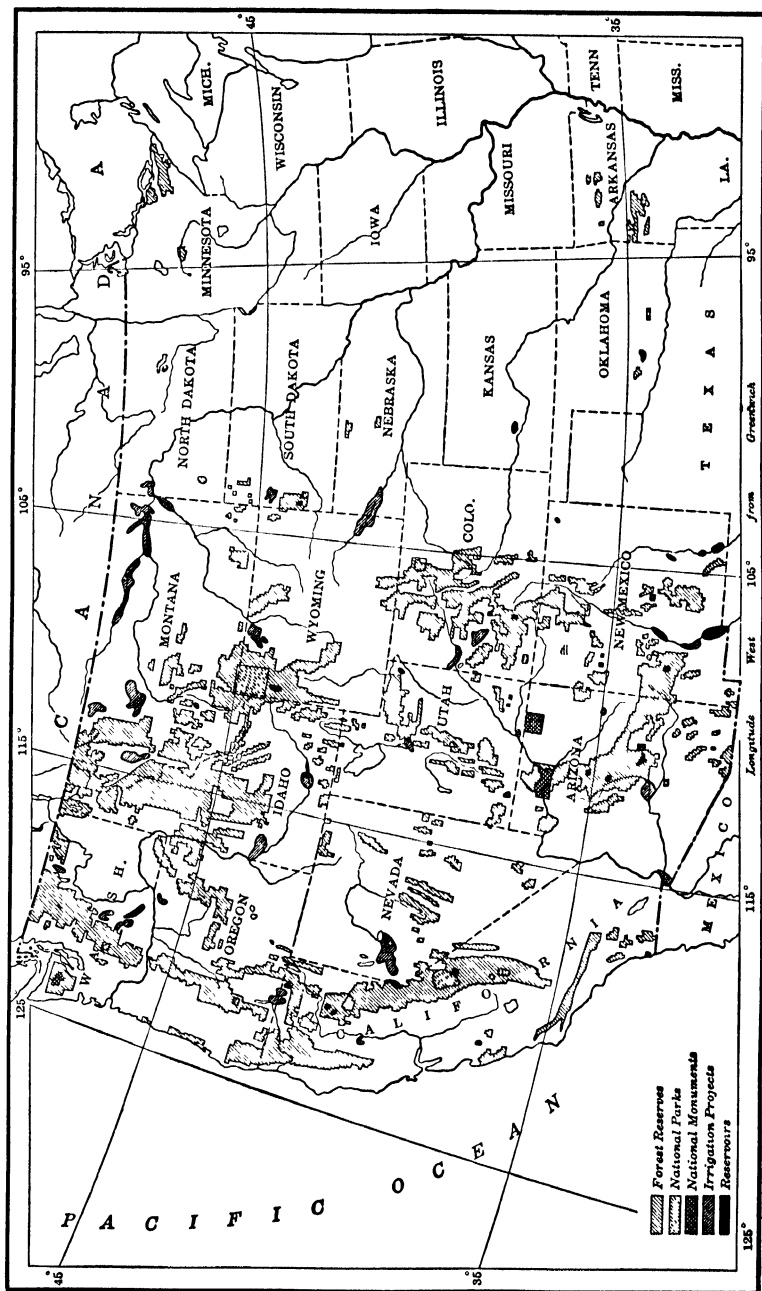
No real lumber trusts materialized by the familiar process of combination, but some firms, expanding to gigantic proportions, established virtual monopolies over certain areas and kinds of lumber. The traction-engine type of sawmill, which has never been eliminated from the neighborhood trade, could not handle the big logs of the Pacific Coast. Small concerns could not build the canals needed for rafting out the cypress timber of the South. For such operations large corporations were needed. Some of them proceeded to acquire vast holdings of timber land. Finally, a few of them controlled the bulk of the better raw material. Then the National Lumber Manufacturers' Association of 1902, more effective than most such organizations, fixed prices, standardized products, and regulated the business. Many independent mills remained, mostly in the custom business, but hundreds of them together would hardly equal one large company.

Another great drain upon the forests was the production of paper pulp. The kinds of wood mostly used were spruce, hemlock, poplar, and balsam. Gradually the dependence of the country upon Canada for this material became less absolute. Before 1930 less than a fifth was imported. Naval stores continued in demand long after their utility for wooden vessels sank to relative unimportance. New uses were found, especially in paints. Though North Carolina for a time remained ahead of the other states in this industry, by 1927 Georgia and Florida were far in the lead, followed by Alabama, Mississippi, and Louisiana. The maximum output was reached in 1900, after which production merely marked time, losing a little in the process. Tar and pitch making suffered most, the former being supplanted

by coal tar from petroleum and the latter by asphalt. Other wood products were pyroligneous acid (wood vinegar, made at New Orleans as early as 1867), wood alcohol, acetate of lime, formaldehyde, and creosote. Most of these were obtained by distillation, while turpentine and rosin were got from sap procured by tapping the trees.

Wasteful methods of cutting and sawing, the utilization of partly grown timber, and forest fires continued the unnecessary destruction of forests which had been started by the pioneers. Of the original area of 822,000,000 acres of timber, by 1922 only 469,000,000 were left of which only 138,000,000 were in virgin growth. In addition, there were 114,000,000 acres of growing saw timber and 136,000,000 acres of developing cordwood. Another 81,000,000 acres were being sawed without restocking. It was estimated that 2,215 billion feet of timber was left standing, half of it in the Pacific states. The annual growth in restocked areas was less than a fourth of the amount used for lumber alone. The sawmills of great regions of the country had to be supplied with scrub timber and second growth which an earlier generation would have scorned as firewood. By 1910 cedar rail fences in the South were supplying the world with pencils. The farmers got enough for the rails to build four times as much wire fence. At the same time if some of the black walnut rails of Indiana could have been put back into timber they would have sold for more than the land they inclosed. In late years much pencilwood has been imported.

Conservation of Forests. Before this time the government had begun to take notice of forest spoliation, and to adopt remedies. The Timber Culture Act of 1873, repealed in 1891, was the first gesture toward conservation. After the Department of Agriculture had dallied with the problem for five years, Congress in 1881 created the bureau of forestry. Then, in 1891, forest reserves were authorized by law. Six years later Cleveland set aside a reserve of 25,000,000 acres in California. Theodore Roosevelt added to his reputation as a conservationist by reserving 148,000,000 acres more. This was about all of the best that remained. The 150 national forests of the United States in 1929 were distributed among 35 states and colonies. The total acreage was about 159,000,000, of which 21,000,000 was in the outlying possessions. About 552 billion feet of saw timber, or a 16-year supply at the existing rate of consumption, was estimated to be standing in these reserves in 1926. Woodrow Wilson and Calvin Coolidge both favored federal assistance to the states in conservation and reforestation. Acts of 1924, 1925, and 1928 provided for further fire protection and experimental work. Franklin D. Roosevelt, in the campaign of 1932, proposed a gigantic scheme of reforestation, as a conservation measure, to provide employment, and to relieve



CONSERVATION AND RECLAMATION, WESTERN UNITED STATES, TO 1917

agricultural overproduction. Though the idea was laughed at—the usual response to political promises—the work was actively under way by the middle of the next year.

CONSUMERS' GOODS

Growth of Manufactures. Manufacturing for the ultimate consumer reached the climax of its stupendous growth after 1900. Though the factory value per capita in 1899 had reached \$172, this was advanced to \$247 in 1914, while the output of the smaller shops was no longer considered. In 1919, at war-time prices, the \$62,000,000,000 of products was \$590 per capita. Ten years later the \$70,420,000,000 of manufactures meant an average of over \$573 for each person. Even the cheaper dollar of later years accounts for only a fraction of this increase. The matter of distribution has already been considered.

Prosperity and Depression. While making this progress in a mechanical way, the capitalists of the twentieth century were as ignorant of any means of controlling production as those at any earlier period. The result was that business continued to be disturbed by booms and depressions. The sharp but brief Panic of 1907, while seriously deranging financial institutions and the larger manufacturing interests, was not greatly felt by smaller concerns. Factory production was soon back into widening and deepening channels.

Growth, 1909–1914. The decade following 1909 was that of the greatest relative growth in the history of the country, and is not likely to be duplicated for some time to come. The business of supplying the belligerent nations of Europe with goods at war-time prices, and the extravagance of “cost plus” war contracts for the American government account for the 200% increase in the money volume of manufacture in those years. Before this time of gyrating activity, manufacturing was showing symptoms of maturity—in some branches even of senility. Because of the anxiety to control the sources of raw materials, American imperialism was approaching European proportions. There were some deformed dwarfs but few infants among the industries which clamored for federal aid in extension of their markets. The home-market argument for protection had ceased to be a living reality, having become merely a shibboleth repeated from habit. Industries which had become pot-bellied at the trough of protection, now wobbled aghast at the knowledge that retaliatory European tariffs had put their products at a disadvantage abroad. So, while renewing the cry for protection of American labor by tariff walls against European products, they proceeded to erect factories in countries where labor was cheapest and tariffs were highest, thus re-

ducing the possibility of adding more to the demand for labor at home. The International Harvester Company built an immense factory near Moscow. The British branch of the Singer Sewing Machine Company erected a regular factory town in Russia. The General Electric Company had factories in Japan and China. The Bethlehem Steel Company was working iron deposits in Chile, while mines in Cuba had been owned by Pennsylvania companies since before 1898. Rubber companies were operating plantations in the tropics, but these at least in no sense competed with American labor.

The position of American industry in world affairs is shown by the fact that between 1860 and 1914 finished manufactures increased from 15% to 31% of the total exports, while they fell from 43% to 24% of the imports. Trusts and monopolies, having outgrown the era of blustering insolence, had become suave and debonaire, choosing to work through silent and invisible channels rather than boldly to defy the law and public opinion. The East continued to be the great manufacturing section, but an increasing number of factories were migrating to the centers of raw materials or to the regions best supplied with fuel or water power. The progress and poverty of Henry George's day was not materially changed in detail, but merely magnified in size. The time was yet remote when Bellamy's hero could look backward upon a strange and unrecognizable industrial world. Yet, a spirit of industrial democracy was in the air. But, just as liberalism had been stifled in England by the beheading of Louis XVI of France, so the assassination of an Austrian archduke loosed the forces which suppressed for two decades the fulfillment of the new freedom in America.

War-time Conditions. The first effect on American industry of the outbreak of war in Europe was to start an incipient stock-market panic, which was checked only by a temporary closure of the exchanges. Then, following orders from the belligerents for munitions, the frenzy of war-time manufacturing energy caused people to lose all sense of former values and economic proportions. The exports of iron and steel products doubled twice in four years, while the shipments of explosives increased from about \$6,000,000 in 1914 to \$467,000,000 in 1916. The DuPont powder works are credited with saving the Entente allies in 1915. In the four years of the war the company increased its output from 12 to 400 million pounds. The steel business was stimulated in a like manner. The preparedness plans of 1915 and 1916 involved a half-billion-dollar program of war vessel construction. The scheme of government manufacture of armor plate was resented, but later was lost sight of in the dictatorial period of American participation in the war. The shipping board program was another stimulus.

Late in 1916 the increasing possibility of an American declaration of war led to a survey of the factories to see how they could be utilized in case of necessity. The Council of National Defense, composed of the Secretaries of War, Navy, Interior, Agriculture, Commerce, and Labor, was provided for in August. Subordinate to this was an advisory commission made up of seven experts in as many lines of industrial activity, including a railroad president, the head of a great mail-order house, and the president of the American Federation of Labor. The council and commission were authorized to secure coördination of the industries and resources of the country. Following America's plunge into the conflict a War Industries Board took over the work of the advisory commission, and before long was exercising an authority almost as dictatorial as that of the French revolutionary Committee of Public Safety. Government regulation and rationing of food and fuel supplies followed in August, 1917. Before long, with heatless and meatless days and price fixing for wheat and coal, the people realized even more than during the Civil War the extent of the war-time powers of the President.

Munitions factories, already developed to meet the demand for Enfield rifles for Great Britain, had to make only slight alterations in order to adapt the guns to Springfield cartridges. Thus the government was saved the repetition of one of the great blunders of the Civil War. Protracted delays, both puzzling and annoying to the public, accompanied the efforts to provide machine guns and airplanes. British and French factories were depended upon for heavy artillery. The handling of conscription and army training was better beyond compare than that of 1861-1865, but not much can be said for the system of war contracts. Men got orders who had no means of supplying the materials called for, then sublet them to manufacturers regardless of the charges made. This was easy to do, since the contracts provided payment to the contractor on the basis of cost to him plus a stipulated profit. Extravagance and profiteering were positively encouraged, the only excuse being that the government had to have the goods regardless of buccaneering tactics. By 1928 political platforms were demanding, in case of a future war, conscription of wealth and resources as well as of men. Perhaps, in the long run, the failure to try such methods in 1917 will be considered the major blunder of the war.

Postwar Changes. The more recent years were characterized by growth in the size of most industries, the decay of some, continual substitution of machines for hand labor, and in certain lines a large amount of scientific research and technical improvement. In a great number of cases the tendency was merely to produce larger machines,

ships, locomotives, or bridges, or to expand and increase output without essential changes in processes. The automobile, truck, and bus put the making of wagons, carriages, saddles, and harness in the museum class of industries. Changing styles and the emancipation of the human figure placed cotton goods, corsets, and men's hats on the sick list, but hopeful of recovery with the next turn of fashion. The same factors bloated the automobile, rubber, petroleum, silk, and rayon industries beyond recognition by a modern Rip Van Winkle.

Postwar readjustments and deflation caused a temporary depression in manufactures. In 1921 the average number of laborers employed fell 22.8% below the level of 1919, while production declined 29.6% by value. But by 1923 the status of 1919 was restored. The manufactures of 1929 represented a greater growth in volume than the difference of value would indicate. The number of laborers was 200,000 less than in 1919, but total wages were a little more. A significant item is the increase in horse power in proportion to the individual laborer from 3.23 to 4.87, or over 50%. The greater blast furnaces changed almost entirely to machine processes between 1914 and 1929.

Technical Development. Interest in technical development of a systematic sort has shown constant growth. The Rensselaer Polytechnic Institute (see p. 271) was probably the first major attempt at formal education for the mechanic arts. Brown University as early as 1851 offered technical courses. By 1861 other schools, such as the Massachusetts Institute of Technology, were in existence. The Morrill Land Grant Act of 1862 is the best known federal contribution to the movement which has furnished a steady stream of trained young men at a low cost to industry.

Chemistry has played an important rôle, not only in utilizing seemingly useless materials, but also in producing new goods or serviceable and cheaper imitations of older products. Coal tar has been made into dyes, drugs, explosives, antiseptics, lacquers, perfumes, food adulterants, and phonograph records. Since 1900 the meat packing establishments have depended upon by-products to pay the profits. The carcasses, if necessary, can be sold at cost. Sugar, starch, and alcohol have been produced by direct synthesis from the elements, but not on a paying basis. Synthetic camphor has been put on the profitable list. In 1930 a process of cracking petroleum to make gasoline sold for \$25,000,000. In 40 leading lines of manufacture in 1928 about 600 concerns were collectively spending \$12,000,000 a year on research. Chemicals, electrical machinery, petroleum refining, heavy and light machinery headed the list in order. Practical results of such research—since 1918—include moisture-proof cellophane, celluloid for nonshatterable glass, cellulose sausage casings, numerous forms of

steel, bakelite, cord tires, panchromatic motion picture films, rayon, and carbon-dioxide ice.

Electromagnetic control of machinery has been developed to the point where newspaper columnists and artists balk at nothing in their prophecies. Robots have ceased to be the topic of conversation at luncheon clubs. In 1928 the Boston and Maine Railroad Company completed a freight yard at Somerville, Massachusetts, with an area of 470 acres and 225 miles of track, which could be operated by one man without switchmen. It cost \$4,000,000 and employed thousands of electromagnets. The dial telephone and long-distance operation of typewriters are achievements of the same sort. Probably the outstanding invention of a decade or more was the photoelectric cell which was being exhibited as a toy with marvelous possibilities in 1930 and 1931. A variation of light scarcely perceptible to the human eye is detected and electric currents are so affected as to operate upon electromagnets, thus stopping and starting machinery. By such means the Century of Progress Exposition was opened at Chicago in 1933 by the light starting 40 years earlier from the star Arcturus. When it is said that by this device cigars can not only be counted but also sorted according to color, it is left to the imagination alone what the future possibilities may be.

Scientific management, personnel management, and industrial relations committees have been talked about, tried, and the results debated. Efficiency experts in some instances have become efficient, and scientific management has been known to apply scientific method. Among the tangible results of such efforts has been a greater degree of standardization of products, with resulting savings. One food manufacturer (not Heinz) reduced the varieties of his products by 89%, his sales force 73%, advertising expenses 78%, overhead 80%, and at the same time increased the volume of sales five-fold.

Dissemination of Manufactures. There has been a constant dissemination of manufactures, so that various states in the West can claim to produce more goods than the whole United States at the outbreak of the Civil War. Concentration of manufactures by locality and section has been broken up. Of 105 cases of local concentration, 32 were at their height in 1899 and only 10 in 1925. Chicago in 1899 shipped 35.6% of the packing-house products entering interstate commerce. Thirty years later the percentage had dropped to 18.8 despite a doubled output at Chicago. In 1850 about four-fifths of the amount of manufactures was produced in the Atlantic Coast states, mainly north of the Potomac River. By 1890 the ratio had been reduced to 58%, while in 1927 the products from Pennsylvania and New Jersey northward amounted to a little over two-fifths of the

total. But, while the whole country had participated in the industrial revolution, the region of greatest relative development was the Old Northwest—Ohio, Indiana, Illinois, Michigan, and Wisconsin. The 14 states lying north of the Mason and Dixon line and the Ohio River, containing only 13.7% of the land area and 48.7% of the population of the United States, still in 1927 produced 71% of the manufactures as illustrated in the following figures. New York was far ahead of

MANUFACTURING BY GEOGRAPHIC SECTIONS, 1927

REGION	NUMBER OF ESTABLISHMENTS	AVERAGE NUMBER OF LABORERS	WAGES IN 1,000'S OF DOLLARS	VALUE OF PRODUCTS 1,000'S OF DOLLARS	HORSEPOWER
United States	191,866	8,350,000	10,849,000	62,718,000	38,826,000
New England	17,745	1,099,000	1,329,000	6,028,000	4,566,000
Middle Atlantic	62,276	2,468,000	3,492,000	19,533,000	10,969,000
Old Northwest	43,671	2,310,000	3,341,000	18,988,000	11,057,000
Rest of U. S.	68,174	2,473,000	2,687,000	18,169,000	12,234,000

any other state in manufactures, followed in order by Pennsylvania, Illinois, Ohio, Michigan, and New Jersey. These six states alone did over half the manufacturing of the country. The \$9,400,000,000 of New York products were considerably greater than those of the whole South and a little in excess of the trans-Mississippi West exclusive of those states which Census figures list in the South.

MANUFACTURES BY CLASSIFICATIONS, 1899-1929

CLASSIFICATION	ALL VALUES IN MILLIONS OF DOLLARS			
	1899	1919	1927	1929
Food and related products	2,228	12,707	11,016	12,025
Textiles and their manufactures	1,629	9,211	8,950	9,234
Forest products	1,008	3,113	3,463	3,592
Paper and its products	119	1,250	1,785	1,892
Printing and allied industries	409	1,764	2,859	3,172
Chemicals	1,083	3,804	3,352	3,759
Petroleum and coal products	236	2,289	3,060	3,625
Rubber products	100	1,138	1,225	1,117
Leather and its manufactures	582	2,610	1,869	1,906
Stone, clay, and glass products	271	1,112	1,613	1,561
Iron, steel, and their nonmachine products	916	5,888	6,198	7,138
Other metals and their products	682	2,519	2,677	3,601
Machinery	906	4,769	5,348	7,053
Transportation equipment	356	5,627	4,694	6,048
Products of railroad repair shops	228	1,354	1,290	1,270
Miscellaneous industries	576	2,995	3,317	3,427
Total	11,407	62,152	62,718	70,420

Food Products. Foods which require some degree of manufacture or processing between the farm and the table have amounted to about a fifth of the total manufacture since 1900. The preceding table shows the relative place of foods among the various other kinds of manufactures for selected years.

The ratio of value between food products of animal and of vegetable origin has since 1900 generally been about five to seven. About two-thirds of the animal products have been the output of the packing houses. Butter has constituted from a seventh to a sixth, while ice cream, canned milk, cheese, dressed poultry, meat products not made in packing houses, and canned sea foods bring up the rear with a total value about equal to that of butter.

• **Packing-house Products.** The dissolution of the beef trust in 1905, as in nearly all other such cases, merely altered the form of combination. The court decision in this case was followed by the publication of Upton Sinclair's *The Jungle*, exposing the unsanitary conditions of Chicago packing houses. Largely as a result of this publicity a federal law was adopted on June 4, 1906, providing inspection of all animals slaughtered for interstate trade, and applying further sanitary restrictions.¹ There can be no doubt that, regardless of some very perfunctory inspection, the average quality of meat was improved. World War soldiers complained of the monotony of "tinned Willie" but there was no "embalmed beef" scandal.

The new monopoly, following the dissolution of the trust, was in the form of a market-pooling arrangement between the houses of Armour, Swift, Cudahy, Morris, and Wilson. Aside from meat itself they controlled to an increasing degree the marketing of eggs, cheese, and vegetable oils. Then they reached for supremacy in the realm of prepared or canned foods, including fish. They even made sand paper and violin strings. They controlled half the meat exports of Argentina, Uruguay, and Brazil, and, before 1920, were investing in Australian enterprises. Farmers, cotton-seed oil producers, tanners, fertilizer and soap makers, and food canners were in arms against the octopus-like grasp of the monopoly. Their outcry was a mere echo of the clamor which for a generation had been coming from Western stockmen and Eastern butchers. This hostility led to the adoption of the Packers and Stockyards Act of August 15, 1921, a separate antitrust act for a single industry. The packers were forbidden to form pools, employ discriminatory methods, or enter into agreements or combina-

¹ On June 30 of the same year the Pure Food and Drugs Act was passed, forbidding adulteration, misbranding, and the use of harmful ingredients. Dr. Harvey Wiley, chief agitator for such a law, felt that the act was only a half-way measure, and blamed the President for many of its shortcomings. Another act in 1911 was aimed at false claims for patent medicines.

tions in restraint of trade. The main consequence of the act was that the courts later compelled the packers to retreat from their invasion of the field of general food preparation. By 1929 Chicago was still the leader in the packing industry while Kansas stood second to Illinois. New York was running a close third, and Iowa was fourth. Nebraska and Missouri were only a little ahead of Ohio and Pennsylvania. Most of the states had important packing plants, but the control still rested with a relatively few companies.

Oleomargarine was once primarily a packing-house product. In recent years vegetable oils, particularly coconut, have replaced animal fat in over two-thirds of the output and are used to some extent in the rest. In 1886 the dairy farmers' objection to butter substitutes led to a 2¢ tax on each pound of oleomargarine. The tax was later reduced to $\frac{1}{4}$ ¢ on the uncolored product, but was raised to 10¢ on artificially colored substitutes. When a process was discovered to make oleomargarine with a natural yellowish color, Congress in 1930 imposed the higher penalty on this product also. Despite such hostility, oleomargarine production increased from 142,000,000 pounds in 1910 to 333,000,000 in 1929, the user being supplied free with his own coloring materials. Many a farmer, in the period of high-priced butter in the 1920's, sold all his cream and bought oleomargarine for the family. But even in those days the manufactures of butter were about six times those of all substitutes. By 1927 about 71% of all butter was factory made. Over 76% of the milk used in manufactures went into butter, the rest being divided about equally between cheese, canned milk, and commercial ice cream. Small amounts were converted into powdered and malted milk. A little less than half the milk produced went into manufactures.

Fishing Industry. The fishing industry not only grew steadily, but also became more national in scope during the passing years. The cod and mackerel fleets of New England were at their height in 1860 with a gross tonnage of 163,000. By 1915 they had declined to a fifth as much, after which there was a slight increase. From 1880 to 1928 the annual catch of all kinds of fish by New England fishermen showed but little change in volume, usually being around 600,000,000 pounds. But the value doubled in the half a century to \$25,600,000. Meanwhile, the fisheries of the middle Atlantic states declined more than half while the value increased a third. The Chesapeake portion experienced a steady but not exceptionally rapid growth. The Great Lakes showed rather violent fluctuations to 1922 and then a sudden decline. The remaining coastal states and the Mississippi River system accounted for the greater part of the growth of the industry following 1880.

By 1928 there were something like 128,000 fishermen with 4,500 large vessels and 83,000 boats catching three billion pounds of fish worth \$116,000,000. In quantity the New England states contributed about a fifth of the total, being exceeded both by the Pacific states and Alaska. In the value of the catch New England was still 25% ahead of her nearest rival. By 1919 the codfish had surrendered supremacy to the haddock which ten years later amounted to over half the catch both by weight and value. The various kinds of salmon, closely followed by halibut, were supreme on the Pacific Coast. Canned fishery products of the United States and Alaska, including the by-products, amounted in 1929 to nearly \$125,000,000. Salmon constituting 45% and sardines 15% of the total. Other products included tuna, shrimps, crabs, clams, oysters, lobsters, and the meal, scrap, and oil of menhaden. Whaling continued to be a considerable industry for Norway, but in the United States it shrank to insignificant proportions. The American whaling fleet at its height, in 1860, was rated at 167,000 tons. By 1929 this had dropped to 7,000 tons, represented by 14 vessels.

Cereal Products. Among vegetable products the output of the milling industry continued to hold its ascendancy. But for 20 years after the beginning of the century flour making increased only half as fast as population, and in the next decade remained almost stationary. Minnesota still remained in the lead, but not far ahead of New York, while Kansas in five years jumped from tenth place to third, closely contesting the two leaders. Before 1930 the three states were producing nearly half the total of the nation. Many other states continued in the race, Virginia still retaining some of her earlier importance.

Breakfast foods of a cereal base were produced particularly in a belt of cities running from Niagara Falls to Minneapolis. The foods were in myriads of shapes and designs, ranging from the semblance of baled hay to vitrified sawdust, and claimed by their manufacturers to be possessed of marvelous nutritive and therapeutic values. Bread making, especially in urban centers, almost ceased to be a household industry. The housewives were easily lured from their own ovens by the seductive but often misleading propaganda of the bakers' associations. Then, having forgotten the art, they did not easily regain it. The substitution of beautiful but tasteless bake-shop bread for the savory biscuits and loaves from the family kitchen doubtless had much to do with the relative decline of the milling industry. The consumers have often been mystified by another fact. When wheat falls to half its former value, the price of bread remains little changed, because flour is only a minor item in the cost. But when the price of

wheat is restored, the cost of a loaf advances in proportion because of the rising value of flour. In 1933 the federal administration was examining into the cause of this phenomenon. Between 1914 and 1927 the value of bakery products increased from \$492,000,000 to \$1,395,000,000, the latter figure being nearly a quarter of a billion dollars greater than that of all mill products and 70% more than the value of all the flour.

The brewing and distilling interests of the country fell into hard times after 1900, largely because of the arrogance and illegal tactics of the leaders. In increasing numbers the people began to resent the dictatorial authority of brewers over politicians, the creation of chain saloons financed by liquor manufacturers, and the encouragement of the saloon proprietors to violate all regulatory laws. This attitude also added to the temperance movement which was rapidly changing to a demand for absolute prohibition. Yet, despite the addition of several states to the prohibition group, the capital invested in the industry grew to \$900,000,000 by 1914 and the annual output of alcoholic beverages reached over two-thirds of a billion dollars. The amount of whiskey made illicitly to escape the federal tax is beyond computation, but in 1898 it was estimated that the 2,391 "moonshine" stills seized by revenue agents were hardly a tenth of the total in use. In the quarter of a century preceding 1914 the calculated annual per capita consumption of alcoholic liquors increased from 15 to 26 gallons. It seems that during these years the amount of home-made liquor declined, so that the actual increase in drinking may not have been as great as it appeared. The annual output of distilled spirits mounted from 129,000,000 gallons in 1901 to 286,000,000 in 1917. Fermented liquors increased from 41,000,000 barrels in 1901 to 66,000,000 in 1914, the record of the latter year not being reached again prior to the era of prohibition. The war-time restrictions on the use of food products for the making of alcoholic beverages, were followed by the Eighteenth Amendment to the Constitution and the Volstead Act of 1920. The latter, passed over the veto of Woodrow Wilson, limited the legal alcoholic content of any drink to .5% by volume, except by medical prescription or for sacramental purposes.

It is easy to overestimate the importance of the liquor traffic to grain farmers. At the height of the industry in 1917 only 13% of the rice, 4% of the corn, and 3% of the barley crops were used. Whiskey took 1% of the corn crop, while gin and especially ethyl alcohol increased the amount to 4%. For that matter, the production of ethyl alcohol for industrial and other purposes in 1926 and 1929 was considerably greater than the total amount of distilled spirits for any year prior to 1916. It is hard to determine how much beer was made

in the country during the existence of the "noble experiment." If the hop crop of 33,000,000 pounds in 1929 is any indication, it might be compared with the 40,000,000 pounds of twenty years earlier. If the amount of illicit whiskey could be determined it would very likely show that, together with beer and industrial alcohol, more of the farmers' crops went into alcohol in 1929 than in any year before prohibition. This leaves out of consideration entirely the moral issues and questions of unit potency of the pre- and postprohibition liquor, which ordinarily accompany any discussion of the consequences of prohibition. Most of the other arguments, for and against, have been based mainly on personal prejudice or guesswork. In 1932 both major political parties repudiated the Eighteenth Amendment, varying only in the degree of their language (see further Chap. XXXIV).

Sugar. Sugar refiners, as the years passed, had to depend increasingly on importation of the raw product. Of the native sugars the maple product continued to have a small market, Vermont and New York competing for first place in its production. By 1929 the per capita annual output was about three ounces. In the 1920's considerable progress was made in the production of corn sugar, but the product failed to become popular except among the makers of "boot-leg" whiskey. The fate of cane sugar growing in Louisiana has been considered elsewhere. The output reached as high as 398,000 tons in 1908 and as low as 47,000 tons in 1926. The 200,000 tons of 1929 was about a fifth as much as the beet product. Seven other states besides Louisiana, in the belt from South Carolina to Texas, produced cane sirup. But beet sugar held the supremacy among domestic products. Its million tons in 1929 was valued at about \$100,000,000. Colorado supplied about a third, with Nebraska following, while the old sugar states of Michigan, Utah, and California were declining rapidly because of the prevailing low world prices.

Most of the raw material for American refineries comes from the colonies and Cuba. Hawaii, the Philippines, and Puerto Rico, in the order named, produced 486,000 tons in 1898 and 2,509,000 tons in 1929. About three-fourths of the latter crop was shipped to the United States. The per capita of American consumption was about 120 pounds a year. The product of American sugar refineries in 1927 was valued at over \$700,000,000, nearly six-sevenths being cane sugar.

Canned Goods. The canning of fruits and vegetables ranks next in importance, the factory sales of these groceries increasing from \$210,000,000 in 1914 to three-fourths of a billion dollars in 1929. Important improvements were wrought in can making. By 1910 the lids were made so that they could be rolled on in the cannery without the use of solder. Before 1930 one machine could make 100,000

cans in a day. Many of the old hand processes in the canneries have been taken over by machinery. Among them, the "iron chink" has eliminated the human touch in the cleaning and trimming of salmon. By 1920 nearly anything could be canned which could be cooked. The industry is largely seasonal in most parts of the country, but cannery along the sea coast have learned to alternate fish, oysters, and lobsters with fruits and vegetables. No trusts have controlled the industry, but some products have been put out by very large corporations. The kitchen canner has never been entirely eliminated from the business.

Other Foods. Other food industries of considerable importance are confectionery, which from 1914 to 1929 increased in value from \$154,000,000 to \$393,000,000, and the coffee roasting and spice grinding business, with a growth from \$151,000,000 to \$424,000,000 in the same period. Other items, ranging in annual per capita output from one to two dollars by 1930, were chocolate and cocoa preparations, cotton seed oil and its by-products, lard substitutes which overlap the preceding detail, corn sirup, oil, and starch, cereal preparations, beverages, and artificial ice. Around some of these articles veritable romances could be written, but at the expense of proportion of space. Cotton-seed oil alone under its various disguises and euphemistic names—overproduced in the 1880's, trust controlled before 1890, and coming finally to a respectable place among foods and industrial oils on its merits alone—is deserving of a history that has never been written.

Another list of products of less than a dollar per capita annual manufacture would include such articles as chewing gum, flavoring materials, macaroni and other glutinous bread substitutes, processed nuts and peanuts, malt, vinegar, and salt. Without stopping to consider the romantic possibilities of a well-rounded discussion of chewing gum and malt, it is interesting to note the relation of salt to the gas and petroleum industries. The discovery of saline wells while drilling for gas in Kansas made possible the delivery of salt to Kansas City for \$4 a ton by 1890, thus stimulating the meat-packing business at that center. By 1892 the United States produced more salt than was used, and the problem of later oil drillers of the Southwest was how best to case a well so as to prevent interference of salt water, which was so abundant as to be a major nuisance.

Tobacco Manufactures. The main change in the tobacco industry has been created by the increasing popularity of cigarettes. The "coffin nail" of 1900 became after 1920 a drawing-room necessity. The boy who had been beaten purple for smoking corn silks behind the barn arrived at the age when, if brave enough, he had to warn his wife about dropping ashes in the baby's eyes. Year by year the "tailor made"

cigarettes gained on the hand-made product till by 1929 the woman who could "roll her own" could attract attention in any crowd. Then, in the bleak years to follow, the consumers learned what a large percentage of the cost of cigarettes went to the government in the form of taxes. Thus the individual hand-operated cigarette machine was popularized.

The amount of leaf tobacco made into plug, twist, fine cut, scrap, snuff, and pipe mixtures showed but little change from 1901 to 1929, the maximum being from 1916 to 1920 with an average of 456,584,000 pounds. Tobacco chewing became less characteristic of Americans than in the days of Charles Dickens's observations. In the three decades the amount of chewing tobacco declined almost a half, but the more loathsome practice of snuff dipping doubled, while the output of pipe tobacco was multiplied by nearly $2\frac{1}{2}$. The use of cigars remained about stationary, between six and eight billion a year. But cigarettes mounted from about three billion a year in 1901-1905 to 18 billion in 1918 and over 119 billion in 1929. The government revenue from tobacco reached \$434,445,000 in 1929. About 6.32 pounds of tobacco per capita were consumed by Americans in that year. The exports amounted to about 4% of the domestic use, while less than 1% was imported, mostly from Puerto Rico. The wholesale value of tobacco products reached one and a fourth billion dollars in 1929. The tobacco trust in time became international in scope, with factories in various foreign countries. Japan escaped its control by creating a government monopoly for cigars. Accusations of "ruthless competition and unfair practices" seem to be well justified. In 1911 the trust was dissolved into four competing companies. But continuously thereafter when the price of the popular brands of cigarettes was advanced or lowered it was with such unanimity as to render laughable the assumption that no monopoly existed. Prior to the World War organized groups of Kentucky tobacco growers tried to limit production in order to combat price fixing of the raw product. But in spite of destruction of hotbeds and other depredations of these "night riders," no perceptible success was attained.

Textiles. In the textile industries—second in importance to the food groups—generally about half of the factory value of products was for the cloth and other direct output of textile mills proper, a little less than two-fifths was for wearing apparel made from purchased fabrics, and the remainder was for other finished products ranging from awnings to fish nets, linoleum, and waste. These ratios, of course, varied somewhat from year to year. The improvements in textile manufacturing machinery, begun in the days of Kay and Hargreaves, were continued into the twentieth century. By 1903 improvements in ring

spinning saved \$64,000,000 in investment, 160,000 horse power, and the tending of 16,000,000 spindles in the cotton goods trade. By 1905 some of the best machines had a speed of 20,000 spindle revolutions a minute, though half that was the maximum normal rate. Mules carrying 1,300 spindles needed only two operators each. Frame spinning was gaining in favor. Hand labor in weaving was all but ended in 1900, by which time even the threading of the looms was made automatic. Crompton and Knowles looms, introduced between 1905 and 1910, included further improvements. During those years American and British experts disagreed as to which made the finest goods, threads as fine as 600 being made and woven in America. Yet, as late as 1912 it was noted that some Northern factories were using machines which had been in operation for 60 years. The South was the quicker section to adopt the newer inventions.

Cotton Goods. As a whole the cotton goods industry remained free from trust domination, but there were some exceptions especially in the making of sewing thread and duck. Though the United States approached Great Britain in the production of cotton fabrics before 1914, the number of spindles remained only half as great. Also, the American goods played a much smaller part in world markets, only about 5% being exported as compared with 75% in Great Britain. The World War years brought great prosperity to the domestic mills, largely because of the opportunity to expand the export trade. The value of the goods increased over three-fold by 1919, and, though wages and raw materials also rose rapidly in cost, the gross profits at the end of the five years were nearly half a billion dollars greater than at the beginning. Exports reached nearly a fifth of the total product, after which they declined more nearly to the earlier ratio.

Following 1920 cotton manufactures fell victim to changing fashions. Though the consumption of cotton increased by a seventh in the next eight years, the trade was shifting more to the coarser and cheaper goods. Before the end of the period cotton manufacturing was listed with coal mining as a sick industry. Too much capital had been attracted into the business by war-time prices, and then too many substitutes were found. But, while cotton dress goods and knit wear have suffered from competition with silk, rayon, and Paris fashion decrees, some new uses have been found. Automobile tires, for instance, had in 1929 ten times the output of 1914, requiring much more cotton. The amount of tire fabrics made in 1927 exceeded in value the total output of the New England cotton mills in 1860.

Woolens. The woolen mills continued to be concentrated in the North Atlantic states. The trade practices also showed strong resistance to change. Before the day of the Federal Trade Commission the

buyers of textiles had no protection equal to that of the Food and Drugs Act of 1906. The methods of disguising substitutes for pure wool were very effective except against the examination of an expert. The name "shoddy" was sedulously avoided. The manufacturers instead, resorting to the customary form of euphemism which can translate an undertaker into a mortician, offered their customers "recovered wool fiber." By 1914 about a third of the material used in carded cloths was shoddy, 12% was cotton, 17% was wool waste, and only 29% was scoured wool. This may have been one reason for the steady decline in popularity of carded woolens, worsteds becoming the new favorite. After 1914 American woolens, grade for grade, were recognized as equal to any. The trust form of organization remained permanent in the most important lines of the industry after 1899. But even monopolies could not overcome the vagaries of fashion. The buying of two-pants suits by men and the increasing use of silk for the outer garments of women, coupled with a declining use of carpets, had much to do with the hard times in the industry in the 1920's.

After 1900, rugs, mostly of near room size, began replacing carpets in the more stylish homes, while pile fabrics were taking the place of tapestry Brussels and ingrain. A more extensive use of polished hardwood floors next led to the use of smaller rugs. By 1914 rugs constituted nearly three-fourths of the carpet made. New York had gained supremacy over Pennsylvania in the industry. In the "jazz" age following 1920, when dancing ceased to be an "invention of the devil" yet entered its most ridiculous forms, wherever a phonograph or radio could be commandeered the old-time parlor became a dance hall. Rugs must be easily removed, so the smaller they were the more easily they could be tossed aside. In two years' time the output of rugs and carpets declined over 11%. Linoleum, which was being extensively advertised before 1880, remained a staple merely for the kitchen and bathroom till long after 1900. Then it invaded other rooms in the homes of the less opulent people, though with an insecure felt base rather than burlap. Before 1930 the factory value of linoleums was about half that of wool carpets and rugs, while the volume was of a still greater ratio.

Silks. The silk goods industry continued to cling to iron-mill and coal-mining towns, but by 1914 the production had grown so great that only a tenth of the cloth consumed in the United States was imported. The value of the product was still far below either cotton or woolen goods. A high degree of specialization of processes had been evolved and many technical improvements, mostly of native origin, had been applied. The greatest growth of the industry occurred after 1914. The apex of value was reached in 1925 at \$809,000,000, not in-

cluding knit goods. Cotton was still in the ascendancy with twice the value and many times the volume, but woollens were being surpassed. The manufacture of artificial silk, or rayon, is classified as a chemical rather than a textile industry, but after the initial stages the distinction ceases to hold. The industry was first started in Europe, the first American factory being opened in 1910. Four years later this Pennsylvania establishment had a capacity of ten tons of fiber a week. By 1929 the United States was the largest producer, having 29 establishments turning out a product valued at about \$150,000,000. Imports had declined to a small volume, and there were some exports.

Other Textiles. Other textile manufactures included a small amount of linen and a somewhat larger volume of cordage and twine. The dyeing and finishing of cloth, recognized as a separate industry, has grown to considerable proportions. Prior to the World War nearly all the better dyes were imported, but some technical improvements were achieved in America. Because of the lack of German competition during the war, domestic dyes achieved wide use but a vile reputation. The sale of German dye patents to American firms, in itself an act of dubious propriety, was a great favor to the industry when renewed competition made the production of better dyes a necessity.

Clothing. The Census of Manufactures shows that in 1929 wearing apparel was made from purchased fabrics in 16,142 establishments outside the handicraft group, and the value of the products was \$3,536,000,000, of which about half was added by manufacture. The industry employed 536,000 laborers who received \$596,000,000 in wages. But the above valuation excluded the following items:

Knit goods	\$ 899,717,000
Felt hats	111,060,000
Boots, shoes, parts, and findings	1,157,996,000
Leather mittens and gloves	39,123,000
Rubber boots, shoes, soles, and heels	138,246,000
Fur goods	277,593,000
Men's straw hats	18,739,000

When these are added in the total becomes \$6,280,000,000, or a little above \$51 per capita.

The making of men's clothing became almost wholly a factory industry, except for shirts and rough clothing which were also produced in sweatshops. The tailor was transformed into a presser and agent for some custom clothing establishment. He took measurements and exhibited samples of cloth. The purchaser could not even feel sure that the suit he bought was not taken from stock instead of made to order. In the larger cities a few exceptionally proficient tailors still catered to the trade of those who combined fastidiousness with ample

purses. Much of dressmaking remained as a household task, or was done by the local professionals, but to an increasing degree this trade also was taken over by the factory and sweatshop. By 1910 the factory had almost ended the career of the local milliner and the itinerant artist who taught the latest styles to the local girls. The Merry-Widow hat, with its peck of artificial flowers and fruits, was the last stand of the milliner against the factory.

The degree of sweating in the clothing industry is not easy to measure. In 1914 there were 24 factories large enough to employ more than 1,000 laborers each. Yet, it is uncertain how much of the \$1,297,000,000 of products reported represented duplication of reports of factory heads and sweatshop bosses. Women's garments in that year exceeded men's in value by \$20,000,000, not including all the home-made garments. Down to 1930, notwithstanding the fractional weight of a complete change of a woman's apparel as compared with 1914, the factory value of women's clothing continued to rate far above that of the overdressed men.

The knit-goods industry suffered from the whims of fashion as regards some branches and prospered in others. Less than 13,000 pairs of silk hose were made in 1899. In 1914, when the number reached 2,355,000, the use of the product was just beginning to become popular. When skirts became shorter the full fashioning of silk hose was demanded. Then the cry for thinner fabrics and more flesh-like color reached the point where stocking mill operators became alarmed at the tendency of young women, children, and college boys toward abandonment of hose entirely. Grudging nature and æsthetic sense then came to the rescue of the manufacturers and prevented the new fad from ruining the industry. Hosiery by 1929 amounted to about 55% by value of the total product of the knit-goods industry, with underwear at 15% the closest competitor.

Fur goods assumed a rather astounding importance after 1914, increasing from \$43,633,000 to almost \$300,000,000 by 1927. A great proportion of the raw material was imported. Fur was used in trimming and for coats for both sexes. Women even began wearing furs in the summer time.¹ A 'coon-skin coat was a prerequisite for entering college, even if the wearer was not sure whether or not he possessed a hat. The combination of 'coon-skin coat, knee breeches, jersey or suede jacket, sagging socks, and frost-bitten ears were as characteristic of 1930 as red flannel underwear, side burns, derby hat, cowhide boots, and hand-me-downs were of 1880.

The trade in raw furs, as it existed in earlier days, prevailed mainly

¹ It was estimated that of all the woolen clothing sold in the fall of 1926 over half the cost was for furs and trimming and less than one-fifth was for the wool fabric.

in the Arctic countries. But muskrat trappers and others in Louisiana claimed that they secured more skins than did the entire Dominion of Canada. Not much was said about the comparative total value. Most farmers did a little hunting in the winter, while many buyers of poultry and eggs also dealt in pelts. Fur farming before 1930 was perhaps still experimental but often very successful. One of the outstanding features of the furrier's business came to be the celerity with which he could disguise and rename the fur even of a jackrabbit or alley cat.

Leather Goods. Of all the leather products sold in 1927 about 93% by value was shoes, boots, trinkets carried about the body, and receptacles for clothing, such as trunks, suitcases, and bags. The remaining 7% was divided among belting, harness, saddles, and miscellaneous products. Leather itself was valued at about a third as much as the finished products. By 1914 half the tanning business of the country was done in Pennsylvania, Massachusetts, and Wisconsin. Certain grades of shoe leather since the beginning of the century had been controlled by trust-like corporations. In general, the United States was a heavy importer of hides, but an exporter of leather goods.

New England, and Massachusetts in particular, continued to predominate in the making of shoes. In 1914 that state produced 40% of the total for the nation, Boston and its suburbs being the center of the activity. After 1920 the main changes in shoemaking had to do with styles, height of heel, and oddities in kinds of leather. A contribution in the way of comfort was the adoption of crêpe rubber for soles on some types of shoes and rubber heels for most men's shoes. This advantage was counterbalanced by five-inch heels on women's shoes and a revival of high-topped cowhide boots for romantically inclined young men. Shoes alone in most years accounted for about four-fifths of all the leather goods output.

Rubber Goods. The rubber goods business after 1900 became less and less an adjunct of the clothing industries. Between 1875 and 1929 the importations of crude rubber rose from 10,000,000 pounds to 1,262,939,000 pounds. The automobile industry was chiefly responsible for the astounding growth. Tires and inner tubes constituted over two-thirds of the output of what had come to be valued at more than a billion dollars. The tire monopoly was broken in power when the B. F. Goodrich Company expanded by the absorption process and in 1912 became a lively competitor. The Firestone and Goodyear companies added to the contest in the 1920's. Then the public was treated to some price wars which revived memories of the pretrust period. Tire making came to be centered especially at Akron, Ohio, though other Ohio cities also became prominent.

Housing Construction. Having noticed the production of food and clothing for the people, it is in order to consider next the problem of their housing. A prominent factor in this development was the rapid rise in the cost of building materials. On the basis of the index number of 100 for 1926 the cost rose from 37.4 in 1897 to 56.7 in 1913. The World War then caused a sharp increase to 150.1 in 1920, followed by a sudden drop to 97.4 in 1921. There was not much change in this level till 1929. On a basis of 100 for 1913 the index for 1930 was 159.3 despite a drop of ten points below the level of 1926. This mounting cost of building made it more difficult than ever for the laboring man to own his own home or even rent a single dwelling. The Census of 1910 showed 17,805,845 habitations of all sorts from house boats and tents to family hotels. In 1920 the number was 20,697,204. These were occupied by 24,351,676 families, of whom 54.4% were renters, 28.2% had mortgage free homes, and 17.4% owned equities.

During the World War years construction work in general declined because of the need for economic activity in other lines. A housing congestion with multiplied rental costs resulted. Then there was a building boom which was temporarily checked during the depression of 1921. Two years later another wave of construction drove the prices of materials up 10% in four months. This was partially checked by a policy of the federal administration to postpone operations on the government program till more stable conditions were restored. For a few years prior to 1930 about \$7,000,000,000 a year were spent for buildings of all kinds except small unreported structures, but including public works such as roads and bridges. This furnished employment for about 1,500,000 laborers directly and an equal number in related industries. Over an eighth of railroad freight tonnage was of building materials. Extensive and costly advertising campaigns were launched to popularize such products as quick-setting cements and mortar materials, wallboard, composition shingles, quick-drying lacquer paints, insulating and sound-deadening materials, and flooring. This called forth counter sales campaigns for the older products whose prestige was threatened. Popular evangelists took up the cry for every man to own his own home. Billy Sunday said that every time the renter sang "Home Sweet Home" he was "kidding" himself and serenading the landlord. So, in building as in other activities, an inflation movement set in which was not checked till after 1929.

Furniture and Household Appliances. Furniture and other household equipment have come to be valued at about half as much a year as building construction. Excluding products already mentioned, the manufacturers in 1929 received the following sums for household

furnishings, though some of the equipment was for office use as well as for the home.

FURNITURE AND HOUSEHOLD EQUIPMENT, 1929

Furniture and related items	\$1,036,659,000
Textile furnishings, not including carpets and rugs	127,602,000
Stoves, ranges, and hot air furnaces	271,740,000
Steam and hot water heating apparatus and fittings	228,310,000
Laundry machinery for household use	82,330,000
Electric vacuum cleaners, irons, heating apparatus, etc.	75,233,000
Mechanical refrigerators	161,566,000
Sewing machines	45,096,000
Clocks	42,166,000
Watches and cases	47,841,000
Stamped and enameled ware and related goods	204,307,000
Jewelry	181,387,000
Silver and silver-plate	85,882,000
Pottery	112,208,000
Glass ware including bottles but not building glass	216,417,000
Musical instruments and phonographs	177,844,000
Radios and equipment	411,637,000
Total	\$3,508,225,000

Because the American people were able to buy conveniences such as these, plus an amount of motor transportation equipment half again as great in value, political orators were inclined to dwell at great length upon the blessings of a nation whose humblest citizen enjoyed luxuries unknown to kings a hundred years before. Surely such prosperity was the outcome of the wise selection of political leaders. Nothing was said about how much of this material was paid for or how many of the purchasers would see their belongings "repossessed" by finance corporations in consequence of the impending crash.

The furniture makers more than various other industrialists found great profit in changing styles. Early in the twentieth century came the demand for highly polished and shellacked golden oak furniture, brass beds, and felt mattresses. Old furniture was looked upon as an evidence either of poverty or provincial-mindedness. This rule, however, did not hold if the articles were or looked to be very old. After the World War came a craze for antiques, when manufacturers had to discover ways of making half-seasoned wood look old and worm-eaten in order to satisfy the demand of uncritical zealots. The development of furniture making in the South led to the rise of various associations which controlled as much as 85% of different kinds of specialties. Connecticut continued to hold the supremacy in the production of hardware, while Illinois became second with a small

fractional output. Between 1914 and 1929 the annual value of hardware rose from \$40,000,000 to \$229,000,000. Ohio, Michigan, and Illinois led in the making of stoves, though after 1914 Iowa became noted for her hot-air furnaces.

Glass Ware. The greatest changes in glass making were in the substitution of machines for blowers. Between 1910 and 1914 this resulted in a cut of wages in the window-glass industry from \$50 a week to \$15 for the skilled trades. By the latter date Pennsylvania, Ohio, Indiana, and West Virginia together produced three-fourths of all the glass made in the United States. From then until 1929 the annual value of the products grew from \$123,000,000 to \$304,000,000. Of this 40% was for bottles and jars, 28% for pressed and blown products, and 29% for building glass of all kinds. Other items, such as cut glass and scientific apparatus, were negligible in quantity. Until the European war cut off trade with Germany nearly all the glass for scientific purposes was imported from Jena. Thereafter, that branch of the trade was developed in America. The first bottle-blowing machine was introduced in 1896, needing the attention of a man and a boy. Such machines were later made purely automatic, and by 1925 could turn out 165 bottles a minute.

Clocks and Watches. Clock and watchmaking had become such a fine art before 1900 that not much technical advance was needed. Watchmaking did not remain a New England monopoly, Indiana and Illinois especially contesting for recognition. The demand for thinner and smaller watches finally led to the making of them in bracelets. By 1925 even a champion heavyweight prize fighter could wear a wrist watch and none dared call him effeminate. The chief advance in clock making was in substitution of electrical operation for the older clock works. After 1925 electric clocks were widely manufactured at a low price for household use.

Electric Appliances. It has been especially since 1914 that electrical machinery and appliances have come to be considered as a necessity in the home. First the electric iron, next the vacuum cleaner and washing machine, and then a multitude of other equipment became standard articles of merchandise. The variety ranged from lamps of supposed therapeutic value (some genuine) to mechanical hobbyhorses ridden by the exalted of the land, fat reducers, curling irons, refrigerators, cooking utensils, and heaters. Not only did the appliances solve the problem of hired labor for many households, but they freed multitudes of women for club work, card games, light reading, or intellectual development. Even the old-time washer-woman discovered that she could prosper more by becoming a laundress with electrical equipment.

Toys and Sporting Goods. Toys, many of which might almost be listed as light machinery, have found a place among Christmas gifts for children and some older people. Since 1865 American manufacturers have competed with the Germans for supplying the toy market. China and Japan were sending their rival trinkets to the United States by 1870 or earlier. During the World War Japanese products especially were extensively imported. The imports of sporting goods and other toys between 1921 and 1930 ranged in value between \$6,000,000 and \$8,000,000 a year. Children's toys alone manufactured in the United States in 1929 amounted to nearly \$59,000,000. Apparently the distribution of such manufactures among the children was far from even. Sporting and athletic goods for the same year, if firearms and ammunition be excluded, just about equaled the children's playthings.

Miscellaneous Items. Miscellaneous industries involving chemical processes play an important part in nearly every home. Excluding from the list of 1929 such items as lamp black, fertilizers, and compressed liquified gases—materials used for further manufacture or production—the following items of everyday use remain.

MISCELLANEOUS PRODUCTS, 1929

Paint and varnish	\$ 613,265,000
Soap, soap powders, etc.	322,109,000
Druggists preparations	124,989,000
Patent medicines	211,840,000
Patented household chemicals	101,913,000
Cosmetics, perfumes, dentifrices, etc.	201,689,000
Artificial ice	215,776,000
Total	\$1,791,581,000

Moralists and humorists may draw what they will from this list. It is interesting to note that the cosmetics group alone grew from \$17,000,000 to the given amount in 15 years. The largest single item of the group in 1929 was face creams, many of which were merely lard compound, colored and perfumed. About 7,000 preparations were on the market.

Matches would add another \$20,000,000 or more to the above total, and doubtless many other articles could be included. Matches, however, seemed by 1929 to be declining in production. Mechanical lighters of various kinds and degrees of efficiency were becoming a fad of unproved economy. There was a time when match manufacturers had things about as they wished. The Diamond Match Company in 1881 and following became a vertical trust. In 1899 it formed a community of interest with the Continental Match Company, and

then doubled the price of matches. This led companies with competing patents to enter the field. A discovery after 1910 that phosphorus matchmakers were slowly killed by a disease starting in the jawbone led the courts to exclude these matches from interstate commerce, and at once an institutional disease was ended. Of late years the Swedish match monopoly, headed by the archswindler Ivar Kreuger, has controlled the American market for safety matches.

Office Machines. The additions to the list of office machinery have been numerous and sometimes revolutionary. Typewriters were improved, adapted to a multitude of new uses, made silent and electrically operated, and also appeared in light portable form. The American Multigraph Company, incorporated in 1902, sold its first machine two years later. Since then the mimeograph, lithograph, and numerous other copying machines have made their appearance and been developed to the point of mechanical operation. The dictograph, an outgrowth of the phonograph, has proved to the office worker a great relief from taking dictation direct from nervous, irritable, and cigar-chewing bosses.

Musical Instruments. For entertainment and emotional outlets in their leisure hours the American people have increased their demand for music, regardless of what might be said about their choice in selection. The pianos manufactured in 1899 were valued at \$35,000,000, while five years later the figure jumped to \$89,000,000. There was not much advance after that time. By 1914 player pianos were in great demand in families with little appreciation of artistic performance but a lively craving for "ragtime" music. Earlier than this automatic and electric pianos were making the night hideous in restaurants, saloons, and the cheaper or more questionable places of amusement. In 1925 the total number of pianos of all kinds manufactured was 306,584, valued at \$93,677,000. Then the radio became popular and the output of pianos dropped by 1929 to 133,404 with a value of \$39,012,000. One evidence that musical talent was not dying entirely was that, whereas 55% by number of all pianos made in 1925 were of the mechanical type, the percentage in 1929 had dropped to 28. The output of baby grands suffered least of all the popular kinds and sold at twice the number of any other model in the latter year. Reed organs to the number of 2,703 and pipe organs totalling 1,799 were also produced in 1929.

Light instruments for popular use changed according to the usual vagaries of fashion. The mandolin and guitar, so useful in accompanying the love ballads of 1900, gave way to the ukulele and Hawaiian guitar—admitting that these are really musical instruments. Then, when "ragtime" degenerated into "jazz," the banjo of the cotton

field and the accordion of the Italian immigrant entered polite society, transfigured into glittering instruments selling at \$100 or more each. The saxophone, long a curiosity on the vaudeville circuits, invaded the ballroom and radio broadcasting station along with the adolescent tenor and gasping baritone. By 1925 most orchestras had abandoned music to take up strange, jarring noises that have never been adequately classified. Even musical instruments were of minor importance in the "jazz" orchestra, their place being taken by traps, cow bells, reed horns, tin pans, and xylophones. The musician became a gymnast and the orchestra a bedlam. Percussion types of instruments were the only ones aside from electrical pianos that increased in output after 1925.

Phonographs and Radios. Great improvements were made in phonographs. In 1914 the value of production reached \$27,000,000. The frog-like tones of the announcer at the beginning of the record had long been eliminated; people could actually know instead of guessing at what the performer was saying; and artistic reproductions were taking the place of the sayings of old Uncle Josh. In the next decade special attention was paid to acoustics. The tones became so natural as scarcely to be distinguished from the originals. Then the radio invaded the field and upset the industry. By making combination radio and phonograph sets, production increased from 642,000 machines in 1925 to 1,046,000 in 1927. But in the next biennium production fell off a fourth. The invention of flexible and other records prevented a corresponding decline in that field, but the future of the phonograph seemed doubtful. The radio, belonging essentially to the field of electrical communication, is discussed in that connection. It may be noted here that, from a value of \$10,648,000 mostly confined to wireless telegraphy in 1921, the output of radio apparatus including tubes increased by 1929 to \$411,637,000—over twice the value of all musical instruments and phonographs combined.

Moving Pictures. Moving pictures were still in the puling infant stage in 1900. By 1906 five-cent theaters were being installed in every vacant building on Main Street. Rival barkers stood outside proclaiming the superior merits of the illustrated songs and heart-stirring melodramas being enacted within. Then a few actors began to attract special attention—John Bunny, Francis X. Bushman, and King Baggot, followed by Charlie Chaplin, Mary Pickford, Fatty Arbuckle, and hundreds of other types or imitators. By advertising the salaries paid these performers it became possible to increase the admission price a nickel at a time. As shows became longer and the theaters were provided with more conveniences and attractions, the cost of

admission vaulted till there was little difference from that of the legitimate stage.

Definite advancement was made toward sound pictures in 1927. Two years later all the important theaters of the country were equipped for the new development. Since 1930 only one important talkless film has been produced, and even it had very unique sound effects. In 1930 there were over 22,000 theaters in the United States, seating 11,000,000 patrons. In a year's time the investment in the business had increased a fourth to \$2,500,000,000. The studios at Los Angeles were listed at \$58,000,000. In the whole country 325,000 persons were employed, and the weekly attendance amounted to about 115,000,000. From 85 to 90% of the world's films were produced in the United States. Some foreign countries were trying to put American films on a quota basis so as to encourage their home industries. The coming of talking pictures complicated matters for the American producer, because of the language difficulties. This situation proved a stimulus to the industry abroad. By control of patents, the General Electric Company and The American Telephone and Telegraph Company were in 1930 in a position to take command of the industry should they see fit.

Products of the Printing Press. Since 1900 the multiplied size and immense circulation of newspapers and the flood of books has raised a serious question as to how long the forests can withstand the raids being made upon them. Between 1899 and 1929 the manufactures of wood pulp in the United States increased from 1,180,000 to 4,863,000 tons. Since young second-growth spruce is especially good for pulp the problem was partially met by reforestation. In 1929 paper to the amount of \$163,365,000 and 1,634,000 tons of pulp were imported, while exports amounted to about a fifth as much. By value, twice as much paper went into books as into newspapers, but in bulk the latter held the advantage. Fine writing paper and wrapping paper each far exceeded news-print in value, while paper boards were nearly three times as much. News-print was about one-eleventh of the total. After 1914 the tendency was toward greater use of Canadian stock. In this period also there was rapid improvement in paper-making machinery, news-print being run off at the rate of 650 feet a minute. Little hand-made paper, even for books, was produced after 1906. New York, New England, and Wisconsin have led in paper making, while Massachusetts and Indiana excelled in straw paper. In the period of agricultural decline after 1920 there was a noisy agitation in the corn belt for the manufacture and use of cornstalk paper, but its adoption did not become widespread.

In the field of newspaper publishing, the most striking changes

have been made in bulk, circulation, tabloids, and the rise of chains. Hearst papers after 1900 were established in more than twenty large cities. Most prominent of the more recent chains has been the Scripps-Howard group in middle-sized cities the country over. There has been no newspaper trust, but the cost of paper, often running higher than the sale price of the newspaper, has led publishers to depend upon advertising for their income. The larger the circulation of the paper the more economical the advertising. Hence, many smaller papers had to give up or merge with others. In New York alone, between 1914 and 1924, six out of seventeen general metropolitan dailies gave up their independent existence.

In 1929 there were 24,369 printing and publishing establishments listed in the United States, employing about 281,000 wage earners and turning out a product valued at \$2,761,000,000. Over half of the establishments (12,713) were for book and job work, their output being a little over a billion dollars. A few houses (124) were publishing music. The rest were newspaper and periodical publishers with a product of \$1,739,000,000. Daily newspapers had an aggregate average circulation per issue of 43,000,000; Sunday papers, 29,000,000; weeklies, 53,000,000; and monthly magazines, including the gutter type of recent years, 133,000,000.

CHAPTER XXXI

RECENT MONETARY AND TARIFF PROBLEMS

High Costs of Government. All lines of economic activity have been increasingly dependent upon the monetary and credit situation of the country and have been influenced, for good or for ill, by the nation's tariff policy. Even more easily noted has been the steadily mounting cost of government. Increased expenditures may indicate any one or more of several things. The cry of excessive taxation may or may not be justified, depending upon a number of factors, such as the benefits derived or the lack of any such compensation, the method of levy, and the economy of government. The publisher or advertiser who insists upon a second-class postage rate which is inadequate is, to say the least, inconsistent when in the next breath he denounces a tax to make up a deficit in the Post Office Department. The merchant or manufacturer who demands a Department of Commerce expanded to gigantic limits for the benefit of his trade displays a swinish tendency when he accepts the subsidy and then asks that the cost be defrayed by regressive sales or tariff taxes. Such persons express horror at the idea that the Department of Commerce should be placed on a self-supporting basis, like the Post Office Department, by a profits tax upon the benefited industries. The point is that many departments of the national, state, and local governments are run for the direct purpose of aiding special interests which too often accept the benefits and then try to shift the expense to other shoulders. The same person who argues that excess profits, corporation, and higher bracket income taxes are merely passed on to the consumer, is soon heard to declare that the average man, living in a rented house and having no great amount of property or income, is extravagant in his attitude toward governmental expenditures because he pays no taxes. He naively assumes that the landlord pays the tax on the rented property and that indirect taxation is unfelt because unseen. Too often the smoking-compartment oracle fails to distinguish between the high cost of government and wasted expenditures. There have been plenty of the latter.

Returning prosperity near the close of the nineteenth century led to a new period of federal extravagance, ushered in by the expensive war with Spain. From 1898 to 1901, including the years when the Filipinos were being subdued in their war for independence, the ex-

pense of maintaining the War and Navy departments increased over half a billion dollars above the amount for the preceding quadrennium. Yet, when people spoke with alarm of billion-dollar Congresses they were smugly reminded that this was a billion-dollar country. Following the conflicts with Spain and the Philippines, the War and Navy departments, as after preceding wars, remained on a far larger and more expensive plane than in the years immediately preceding. Between 1891 and 1897 the War Department spent about \$50,000,000 a year and the Navy Department around \$30,000,000. Then, from the totals of \$230,000,000 and \$64,000,000 respectively in 1899, the amounts declined to \$135,000,000 and \$56,000,000 in 1900. Thereafter the War Department expanded rather steadily till 1914, when its cost reached \$173,500,000, while the Navy Department rose to \$155,000,000 in 1916. Then, with the coming of the World War, everything previous was overshadowed by the new expenditures.

The Spanish War was financed by increased taxes and loans. The new taxes included a horde of internal revenue duties, many in the form of stamp levies. There was also an inheritance tax beginning at from one to 5% depending upon the degree of relationship of the heirs, and graduated to 15% on large sums going to distant beneficiaries. The revenue from such sources rose from \$147,000,000 in 1897 to \$307,000,000 in 1910. All purely war-time taxes were repealed in 1901 and 1902. Bonds to the amount of \$200,000,000 at 3% and in small denominations were offered to the public in 1898. These bonds, selling at par, immediately afterward commanded so high a premium that in a very short time the holdings of about 116,000 subscribers were transferred to a relatively few hands. The Panama Canal and various phases of imperialism already discussed added to later expenditures.

Bank Policy, 1900-1913. In these same years governmental paternalism toward the national banks, complained of for so many years before 1900, continued and grew. The Gold Standard Act of 1900, besides allowing note issues to the full value of bonds deposited, also provided for refunding of much of the public debt in thirty-year 2% bonds in place of the 3% bonds of 1898 and the older ones falling due in 1907. To induce the national banks to make the exchange, a premium was paid on the old bonds and half the tax on circulation was removed from notes based on the new issues. The government profited little if any by the change, but the banks were accommodated with a generation's new lease of life for the security of their notes.

When Leslie M. Shaw became Secretary of the Treasury in 1902 he began doing almost everything legal, and some things of doubtful legality, to favor the banks. Since 1895 there had consistently been a

surplus of over \$100,000,000 in the Treasury, and after 1900 this seemed to be causing a stringency in the money market. To relieve this situation Shaw paid interest on the bonds before it was due and bought bonds on the market at absurdly high premiums. In August, 1903, he renewed the policy of taking money from the Treasury to deposit in national banks. He then allowed the deposit of state and municipal bonds up to 90% of their market value as security for bank notes, thus increasing the circulation by \$18,000,000. Since the Gold Standard Act, national banks of as small capital as \$25,000,000 had been sanctioned in towns of less than 3,000 population. Under such stimuli as these the number of national banks rose from 3,583 in 1899 to 7,473 in 1913, while their note circulation jumped from \$199,000,000 to \$722,000,000. This inflation was second only to the \$900,000,000 in gold which doubled the supply in the United States during the same years. All efforts of free-silver men in the past had succeeded in putting into circulation only about as much money as was emitted by the national banks in fourteen years.

Inflation and Panic of 1907. Inflation, much of which was avoidable, played a large part in causing the Panic of 1907. It encouraged unfounded optimism in future industrial development, thus leading to rampant speculation. Half a billion dollars from Europe and \$300,000,000 from banks of the interior of the United States were invested in stocks on the New York exchange. The financial situation was further complicated by the fact that numerous trust companies had entered the general-banking field with insufficient regulation. The panic was precipitated by the failure of the Knickerbocker Trust Company in New York, October 22, 1907. It was one of the sharpest crises in the history of the country, bearing with especial weight upon the bigger industries. Banks all over the country became involved and gold went into hiding. With all its earlier expansion, the national bank system proved inadequate to provide an elastic currency in time of need. For a brief period the country went back almost to the old shin-plaster type of currency. Pay, bread, beer, and pool checks became substitutes for money. Runs on banks and the closure of factories caused further distress. Bread lines and soup kitchens were common even in Middle-Western small towns. Relief was finally found by the importation of gold from Europe and extensive deposits of surplus money from the federal Treasury in the national banks. Within a year recovery was on its way.

The Federal Reserve System. The panic had much to do with the passage of the Aldrich-Vreeland Act of May 30, 1908. This was an effort to give more elasticity to the national currency. Banks were permitted to emit notes on the security of bonds of other than federal

issue, or by means of national currency associations using ordinary commercial paper. The latter notes were taxed 5% the first month and 1% a month for five months thereafter, to prevent them from circulating longer than necessary, but no reserve was required. This act expired in 1914 but was continued for a few months to tide over a temporary emergency at the outbreak of war in Europe. Also, in 1908, Congress provided a monetary commission, headed by Nelson B. Aldrich, to study and report upon the whole banking system of the country. In 1912 the commission recommended a permanent reserve association to handle government deposits and act as an intermediary between the government and the banks. It was ultimately to take over the whole matter of bank issues.

After the election of Woodrow Wilson Congress again took up the banking problem. Postal savings banks, established in 1910, had provided a means of safe deposit for small investors and proved very beneficial especially in small towns and rural districts. But the larger financial problems were still unsettled. These matters were provided for in the Federal Reserve Act of December, 1913, the joint work of President Wilson, William G. McAdoo the Secretary of the Treasury, Senator Robert L. Owen, and Representative Carter Glass. In many banking details the act followed the Aldrich plan, but it allowed more government control. The banking system was placed strictly under the control of the federal administration and was sufficiently decentralized to avoid development into a money trust. At the head of the organization was the Federal Reserve Board of seven members, including the Secretary of the Treasury and Comptroller of the Currency, all appointed by the President of the United States. This board regulated the machinery of banking in 12 federal reserve banks located at Boston, New York, Philadelphia, Cleveland, Richmond, Atlanta, Chicago, St. Louis, Kansas City, Minneapolis, Dallas, and San Francisco.

The federal reserve banks do business only with member banks, which include all national banks and such state banks as care to and are permitted to join. The regional banks hold the reserves, receive deposits, make rediscounts, and do other banking business for members. Federal reserve notes are issued to the member banks in exchange for the deposit of commercial paper and (till 1934) gold. The stock of the reserve banks is subscribed by the members, who also choose two-thirds of the directors, the remainder being appointed by the Federal Reserve Board. Government deposits, previously made directly with the national banks, were transferred to the reserve banks. A provision was also made for the Federal Reserve Board to refund the United States debt and in 20 years' time to replace all national bank notes with federal reserve notes. This plan, being later upset

by World War finances, could not be fully carried out. About all that was done was to prevent further expansion of national bank issues.

For several years the Federal Reserve System more than justified itself and reflected great credit on its founders.¹ Even private banking interests which originally resented this federal interference came to be its staunch supporters. The moving of crops, always a strain on finances before 1913, was rendered easy. This was especially true in the South where for a century the conditions had been worst. Currency had elasticity in the right direction. It could be expanded or contracted as needed except under extraordinary strain. Thus, with capable administration, the dollar could be stabilized in value. It does not follow that the management was always wise. The handling of the currency during the depression of 1921-1923 very likely prevented the spread of a general panic, but as much cannot be said for the speculative era of 1925-1929.

Expansion of Banking. The Federal Reserve Act for the first time permitted national banks with a capital and surplus of \$1,000,000 and more to establish branches in foreign countries or colonies of the United States and to deal in foreign exchange. Until that time only 26 American banks had foreign connections, the International Banking Corporation with 16 branches being the greatest. The New York State Banking Act of 1914 also permitted this form of expansion. By an amendment to the federal act, passed in December, 1919, foreign investment banks under federal charters were also authorized. During the depression following 1920 there was some slackening in the non-American activities. In 1920 there were 181 bank branches and 38 offices of the American Express Company doing financial business abroad. On June 30, 1929, the numbers were 107 and 47 respectively. The National City Bank of New York alone had 51 branches, mostly in Cuba, Santo Domingo, and other Caribbean regions. Reciprocity in foreign banking was greatly hampered by state laws.

In 1920 there were 30,139 reporting banks in the United States, with a capital and surplus of \$5,133,000,000, credited deposits of \$37,268,000,000, and total resources of \$53,079,000,000. By 1930 the number of banks had declined to 24,079, with a capital and surplus of \$8,858,000,000, deposits of \$53,681,000,000, and resources of \$74,020,000,000. Aside from failures, the principal reason for the decline in the number of banks was consolidation. Between 1920 and 1929 there were 4,000 mergers resulting in some huge combinations. One of the common methods of merging was to convert the acquired bank into a branch

¹ In 1929 there were 8,522 member banks, and in 1928 about 400 more. Of the 1929 number 7,403 were national banks. Federal reserve notes outstanding on December 31, 1929, totaled \$2,426,785,000. There were also over \$3,500,000 of federal reserve bank notes used only between banks.

of the absorbing company. The McFadden Banking Act, adopted in February, 1927, after three years of congressional hesitation, permitted consolidation of state and national companies, extended the lines of business in which the latter could engage, and allowed the establishment of branches so far as state laws would permit. But only 10 states allowed full leeway, 21 made partial concessions, while the rest prohibited the practice outright. Restrictions against branches were evaded in two ways: by chains and by "affiliates." The Bank of United States which failed in New York in 1931 had 60 affiliates. Many of the associated organizations were not banks proper, hence were not under state or federal supervision and could do many things not sanctioned by sound banking principles.

World War Finances. The World War ushered the United States into a new era of high expenditures and taxation. In 1917 alone contracts were let for nearly \$21,391,000,000, while appropriations were made for \$18,897,000,000 including \$7,000,000,000 in loans to the associated allies. The most accurate account of the total immediate cost of the war to the United States alone is in excess of \$31,000,000,000 which sum may ultimately be doubled by the indirect costs for pensions and veteran relief.¹ In 1928 President Coolidge suggested that the total cost of the war might in the long run reach a hundred billion dollars for the United States alone. The indirect cost both during and after the conflict can never be reckoned. About a third (\$11,280,000,000) of the immediate cost was raised by taxation. A revenue bill passed on October 3, 1917, after five months' consideration, yielded \$3,696,000,000 in the first year. It included greatly increased income taxes, retroactive for the preceding year, excess-profits levies on industries, and numerous excise features. In 1918 Secretary McAdoo asked for an additional \$8,000,000,000 tax bill, but lowered his estimates of needs after the signing of the Armistice. The resulting act, approved on February 24, 1919, provided an income tax graduated from 6% on amounts under \$4,000 to 65% on any excess of a million dollars a year. There was also a 12.5% corporation income tax besides excess-profits taxes.

The experiences of Cleveland and McKinley were remembered in the sale of bonds. A "Liberty Loan" was arranged in May, 1917, to secure \$2,000,000,000 from the popular sale of bonds in denominations of \$50 upward, the rate of interest being 3.5%. More than 4,000,000 people responded, oversubscribing the loan by more than half. A second loan in October for \$3,000,000,000 at 4% found 9,400,000 buyers who again offered 50% more than was asked. Two more

¹ Donations to private relief organizations amounted to about \$4,000,000,000 more.

Liberty Loans for a total of \$9,000,000,000 were arranged in the next six months. The fourth loan, for \$6,000,000,000 at 4% was raised by over 20 million people. War Savings Stamps at 25¢ each were sold even to school children, who held them till they could trade for War Savings Certificates which would mature at \$5 each. The interest here was greater than on any of the bonds. A fifth bond sale, the Victory Loan, was offered in April, 1919, for \$4,500,000,000 at 4 $\frac{3}{4}$ %. It also was largely oversubscribed. The total of all five loans was \$21,448,000,000. In succeeding years the annual interest payments on the public debt regularly exceeded the total governmental expenditures for previous years, averaging about a billion dollars a year from 1920 to 1924 inclusive. By 1930 the payment had been reduced to \$658,602,000, or about the total of ordinary disbursements in 1908. The retirement of the debt was rapid from 1921 to 1930, averaging almost half a billion dollars a year.¹

One feature of war-time policy which aroused more excitement than was warranted was the Pittman Act of 1918. The demand for silver in munitions, gold hoarding, Oriental exchanges, and other factors had driven the price to a dollar an ounce, and in 1919 it reached \$1.39. In order to satisfy the needs of the associated allies Congress arranged to sell them 350,000,000 silver dollars melted down as bullion for not less than a dollar an ounce. This act prevented a more rapid rise in the value of silver produced by American mines. In consequence, Senator Key Pittman of Nevada, representing the Western silver interests, got a proviso in the law that an equivalent amount of the metal should be bought back from the mines in succeeding years at

¹ Government ordinary receipts and expenditures for 1916-1931 were as follows. Fiscal years close June 30.

All figures are to the nearest tenth of a million dollars:

YEAR ENDING JUNE 30	TOTAL ORDINARY RECEIPTS	TOTAL EXPEN- DITURES	SURPLUS (+) OR DEFICIT (-)
1916	782 5	734.1	+48 5
1917	1,124 3	1,977.7	-853 4
1918	3,664 6	12,697 8	-9,033 3
1919	5,152 3	18,522 9	-13,370.6
1920	6,694 6	6,482 1	+212.5
1921	5,624.9	5,538 2	+86.7
1922	4,109.1	3,795 3	+313 8
1923	4,007.1	3,697 5	+309.7
1924	4,012 0	3,506 7	+505.4
1925	3,780 1	3,529.6	+250.5
1926	3,962 8	3,585 0	+377.8
1927	4,129 4	3,493 6	+635.8
1928	4,042.3	3,643.5	+398.8
1929	4,033 3	3,848.5	+184.8
1930	4,177.9	3,994.2	+183.8
1931	3,317.2	4,220.0	-902.7

a dollar an ounce. This act depleted the silver in circulation from \$568,270,000 in 1917 to \$268,875,000 in 1920, its place being taken by federal reserve notes. When the time came to replace the coins the market value of silver had fallen to about 65¢ an ounce. Thus, the government had to pay the mine owners a bonus of nearly \$80,000,000. This may have been very poor finance, but no more so than the protective tariffs and other subsidies that the government has indulged in since 1789. In fact it little more than recompensed the silver producers for the interference in the rise of silver prices in 1918-1920. To 1930 the number of silver dollars in the country remained nearly 30,000,000 below the level of 1917.

The whole question of war debts and costs is often badly misunderstood. In reality the cost of the war was all met while it was in progress, \$19,000,000,000 coming from decreased consumption and \$13,000,000,000 from increased production.¹ Most of the cost was met by the laboring and salaried classes. Nearly all of these common people also bought bonds to the point of personal deprivation. The unwilling ones were almost compelled to buy, and if they had German-sounding names or talked with a foreign accent the pressure was all the heavier. In the hard times of 1921-1922 a large percentage of the common people had to sell their bonds at a time when their burden of taxation was increasing. Congress, accepting the financial leadership of Secretary of the Treasury Andrew Mellon, repeatedly reduced the higher income taxes. The corporation tax, all of the excess-profits taxes, and the nuisance taxes were gradually dropped. But the tariff was increased, so that the burden fell more upon the common man and less upon those who had made most from profiteering during the war. In fact, the latter class engrossed the government bonds and other tax-exempt securities, thus escaping a large part of the income tax even under the reduced schedules.

European Debts. Until 1931 it was customary to consider the federal debt smaller than it actually was by the amount of the loans to foreign governments. In the months of readjustment following the Armistice these sums were increased to almost double the \$7,470,000,000 of the war period. Fifteen of the governments funded their debts between 1922 and 1929, but generally at greatly reduced sums. On December 31, 1929, the amount owed by 18 countries was reported to be \$11,678,093,000. Italy owed over two billion, Great Britain 4.4 billion, and France 3.9 billion. The total payments to December 31, 1930, were about 2½ billion dollars, of which 73.4% came from Great

¹ As estimated by John M. Clark, *The Costs of the World War to the American People* (New Haven, 1931); reviewed by Elmer Davis in *Current History*, Vol. XXXV (February, 1932), pp. 643-649.

Britain, 18.5% from France, and 3.3% from Italy. By this time it was apparent that payments were coming to a permanent end. The extortionate indemnity forced by the Entente upon Germany had reduced that country to the verge of bankruptcy, while the former enemies were in almost as bad a condition. The American loans to Europe had been in goods, but it was stipulated that the repayment should be in gold. The point was that the world did not contain as much available gold as the amount of the debts, and half that existed was already in the United States. The American tariff policy resulted in continuous adverse balances for European nations, which therefore were forced to develop markets elsewhere. This caused a falling off in the exports of the United States to the point where some adjustment seemed imperative. Meanwhile, Europe had continued to buy large quantities of goods from America, but only because such sales were financed by American money. The private loans abroad grew in a decade to an amount exceeding the government loans. Then the capitalists, temporarily joining forces with the political liberals, tried to secure a cancellation of the government debts so as to make easier the recovery of their own capital. Next came the crash of 1929 which, as will be seen later, virtually brought about wholesale repudiation.

TARIFF PROBLEMS

Opposition to Protection. At the beginning of the twentieth century there was growing in the minds of thoughtful individuals, and especially political economists, a new feeling that protection was wrong in principle. It was an anachronism belonging to the mercantilist period. The growth and future welfare of the United States was not dependent upon protective tariffs but upon the abundance of cheap raw materials, the adaptation of inventive genius to mechanical improvements, skillful and therefore economical labor, business enterprise, and the possibility of widening world markets. The United States was already the leading manufacturing country. The best way to keep this preëminence was to expand in the directions in which the country excelled, exchanging for those products which could be more economically produced abroad. In order to sell to other countries their goods must be taken in exchange, and this could not be done over prohibitive tariff barriers. Even William McKinley in his last days began to exhibit doubts concerning the protective system. On the day before he fell mortally wounded at the hands of an assassin at the Pan-American Exposition at Buffalo he made the most statesman-like speech of his career. "We must not repose in fancied security that we can forever sell everything and buy little or nothing. . . ." he

said. "The period of exclusion is past." Further expansion of trade, he argued, should not be attempted by still higher tariffs, but by bargaining from existing rates for more reciprocity agreements.

Indifference of Theodore Roosevelt. Had McKinley lived, he would most likely have bent his endeavors to make good these statements. But his successor, Theodore Roosevelt, however vigorous he may have been on other subjects, was almost totally devoid of ideas on the tariff. Immediately after assuming office he promised "to continue, absolutely unbroken, the policy of President McKinley, for the peace and prosperity and honor of our beloved country." It was later remarked, caustically, that he did carry out McKinley's policies—he carried them out and buried them. At any rate, no more was heard from the White House concerning the extension of reciprocity. Roosevelt had never liked Blaine anyway. By using the "big stick" discreetly, carefully avoiding conflict with monopolies too deeply entrenched politically, the President secured vast popular support while gaining in acceptability to the greater business interests. In 1904, pitted against the ultraconservative Alton B. Parker, he won a deserved victory. One conservative party was deemed sufficient.

In his second term, freed from all lip service to his predecessor, Roosevelt continued his reticence on the tariff question. Newspaper cartoonists as late as 1908 could picture the politicians singing "There are no flies on Dingley." But the Panic of 1907, coming sharply in the midst of apparent prosperity, put a new complexion on matters. Bread lines and free soup kitchens in a Republican administration needed some strong party medicine as an antidote. There was a disquieting feeling that perhaps the Dingley Tariff had not caused the prosperity after all, and could not maintain what other forces had created. Leading Republicans who had been singing the praises of the "full dinner pail" since 1896 foresaw the failure of the slogan in 1908 unless the laborers were promised lower living costs through a downward revision of the tariff. Furthermore, it was beginning to be believed that monopolies, or at least monopoly profits, had been fostered by protection.

The Issue Revived. As early as 1900 the Democratic platform had declared the Dingley Tariff to be "a trust breeding measure" and in 1904 protectionism was denounced as robbery. In 1908 a thorough revision of the tariff downward was demanded, the platform repeating the doctrine of 1900 that trust-made articles be given no protection whatever. Meanwhile, the Republican plank of 1900 had praised the tariff as the fount of national blessings. In 1904 the Dingley Act was given credit for the prosperity since its passage. But in 1908, instead of boasting of past benefits, a revision of the tariff was prom-

ised. The plank was not so worded as to reassure a genuine tariff reformer. The direction of revision should be toward "such duties as will equal the difference between the cost of production at home and abroad, together with a reasonable profit to American industries." Thus was perpetuated the nineteenth-century concepts of the tariff, based on eighteenth-century economics.

Equalization of the cost of production plus a reasonable profit sounds well at first hearing, but will not stand close analysis. In many cases it means total exclusion of foreign goods. As has been repeatedly said, pineapples could be grown in Maine under such conditions, but the cost of production would rob a large part of the people of purchasing power. Nelson B. Aldrich of Rhode Island said in 1909 that he would vote for 300% protection as cheerfully as for 50% if necessary to equalize conditions. At the same time the protectionists assumed that high wages meant high cost of production. The fact was that, with efficient labor, the opposite was true. Yet, the laborers were easily convinced that high tariffs made high wages. Such arguments, however, had but little influence on the outcome of the campaign. By November, 1908, the depression following the panic seemed to be lifting, and the people were presented with the candidacy of William Howard Taft, pledged by his bosom friend Roosevelt to continue the latter's policies. The opposing candidate was Bryan, known as the leader of lost and discredited causes, a man whom the people had acquired the habit of voting against. Consequently, the Republicans gained a good majority in the electoral college and in both houses of Congress.

Payne-Aldrich Act. During the campaign Taft had good-naturedly assured the people that the Republican plank meant a downward revision of the tariff. Shortly after his inauguration he called upon Congress to perform this service. Sereno E. Payne of New York introduced a bill in the House while Aldrich superintended its reshaping in the Senate. For three months the Ways and Means Committee had been consulting the lobbyists, listening to every interest except the consumer. A witness who declared that he represented the people was laughed out of consideration. Yet, Payne's original bill was better than the Dingley Act, and his introductory speech was very sensible as compared with those of McKinley and Dingley in the 1890's. Especially did he reproach those who were seeking to magnify the difference in cost of production at home and abroad. The bill extended the free list for raw materials, made cuts on refined sugar and chemicals, reduced by half the duties on steel, iron, lumber, and a number of higher forms of manufactures, exempted Philippine goods except sugar and tobacco from duties, and initiated a progressive

inheritance tax. At the same time protection was increased on various other articles, and the old reciprocity provisions were repealed. In this form it passed the lower house by a partisan vote in April, 1909.

After 48 hours of high-pressure lobbying in the Senate Finance Committee it emerged with over 600 changes, and had 847 before it got through the Senate. The net result of the amendments was that the Dingley Act was restored in its essential features, with some added protection. The new articles scheduled for the free list were restored to their former rates, the duties on iron and steel were elevated above the House levels, more dust was thrown in the farmers' eyes by the agricultural schedule, and the inheritance tax was dropped. The number of specific duties was increased, with numerous jokers by way of shifted division points in the minimum valuations. Some duties no longer of any use were lowered, such as those on coal, iron ore, cheap grades of lumber, pig iron, and rails. They might as well have been repealed outright except that in some instances they still afforded monopoly profits. Cotton goods, cutlery, silks, and dyes secured higher rates, thus encouraging inefficient methods of production. Schedule K, including wool and woolens, was essentially unchanged though virulently attacked. The rate on refined sugar, while slightly lowered, was very satisfactory to the sugar trust. The bill was redundant with "obscure changes, working to the advantage of particular individuals, and concealed amid the endless details."¹

In working out the difference in cost of production no experts from the bureaus of the census or corporations were called upon for advice. Instead, the recommendations followed were those of the lobbyists, who would hear to no rates except such as would make safe the least efficient producers of all. Thus, while the Southern and Western sugar growers needed little if any tariff, the rates were kept up on the crude product to benefit regions like Minnesota which had no business trying to grow sugar anyway.² Each duty of this kind merely called other marginal producers into existence to demand still greater protection later. Great excitement was created over competition with the cheap wages of Germany. But when that country supplied the State Department with honest statistics concerning her wage scales Congress refused to allow the document to be published till after adjournment. Thus, it was easy for Aldrich to assert that he saw not one prohibitory

¹ Frank W. Taussig, *The Tariff History of the United States* (7th ed., revised, New York, c. 1922), p. 400.

² Sugar from Hawaii had been admitted free since annexation. Puerto Rican imports were made free in 1901. By the Payne-Aldrich Act Philippine sugar to the amount of 300,000 tons annually was similarly favored. This was more than the total production at that time. After 1903 Cuban sugar, which amounted to half the imports and nearly all brought from alien territory, was granted a reduction of one-fifth of the regular duty. Consequently, the full rate scarcely applied anywhere.

duty in the Senate bill. The high-handed tactics employed in rail-roading the bill through Congress probably had more to do with splitting the Republican caucus asunder than had the violation of campaign promises. The "insurgent" group thus created was to be the bane of the party for many years to come.

The last stand of the lobby was made in the conference committee, from which it emerged triumphant. Taft had intimated that he would veto any bill which was not a genuine downward revision, but there his influence ended. When he called legislators to the White House to try his arts of persuasion, it was the insurgents and not the stand-patters who were treated as the naughty boys. In the conference committee Taft got a few alterations, such as putting hides back on the free list, thus convincing him that his promises had been fulfilled. He gave Aldrich his blessings and later referred to the act as "the best tariff ever passed by the Republican party."

A few new features appeared in the act which are worthy of special mention. A corporations tax of 1% on net earnings proved a profitable source of revenue. A flexible clause permitted the President to add duties amounting to as much as 25% of the value of the goods in case of discrimination by foreign countries. Fortunately, Taft decided that no such action was necessary. The President also was authorized to employ assistance in determining the existence of discrimination. This gave Taft an excuse to appoint a tariff board of shadowy powers, whose virtues were not discovered by protectionists till abolished by a Democratic Congress.

Reaction against Act of 1909. The judgment of the electorate was almost as decisive as it had been on the McKinley Act. In 1910 some after effects of the panic were still being felt, and Taft seemed far less god-like than when championed by the irresistible Teddy. The Republicans had taken all the credit for prosperity prior to 1907, so it was natural that they should receive the blame for the crash. The Payne-Aldrich Act was emitting no less stench than when first passed. The result was that the Democrats secured a large majority in the House and cut the Republican lead so low in the Senate that, with the help of the insurgents, they controlled the action of that body also. Meanwhile, Roosevelt had come back from a long hunting trip in Africa desirous of returning to the White House. So it was not difficult to pick flaws in Taft's administration (most people were doing that). In a short time Damon and Pythias became Hector and Achilles. Roosevelt, failing to secure control of the Republican convention in 1912, snatched the leadership of the progressive Republican movement from LaFollette and created the Progressive party, commonly known as Bull Moose. In the triangular campaign which fol-

lowed, both Roosevelt and Taft spent so much time vituperating each other as to ignore the existence of the Democratic candidate, Woodrow Wilson. The result was that the latter received 435 electoral votes to 88 for Roosevelt and 8 for Taft. The popular vote was more evenly divided, Wilson receiving about 43% of the total.

In this battle of the giants the tariff was only one of many issues debated. Progressives and Democrats on numerous scores tried to show their greater liberalism, while Republicans proudly boasted of their conservatism. Taft's tariff plank reaffirmed faith in protectionism, promising to continue the existing conservative tariff board. Roosevelt's plank was anything but progressive, beginning as it did with belief "in a protective tariff which shall equalize conditions of competition between the United States and foreign countries, both for the farmer and the manufacturer, and which shall maintain for labor an adequate standard of living." All that followed could not make the declaration far different from the Republican plank of 1908. The Democratic stand, as in 1892, declared any tariff except for revenue to be unconstitutional, but promised that downward revision to a purely revenue base would be gradual, so as to allow industry ample opportunity for readjustment. "In the most highly protected industries, such as cotton and wool, steel and iron, the wages of the laborers are the lowest paid in any of our industries. We . . . assert that American wages are established by competitive conditions, and not by the tariff."

The Underwood Act. Wilson assumed office with a House of Representatives two-thirds of whose members were Democrats. In the Senate the majority was only six, but this was strengthened by one Progressive and a few liberal Republican votes. For the first time since the Civil War a Democratic president had a large enough majority in both branches of Congress to carry out effectively the party program. The largest list of progressive legislation in any like period of American history to that time was enacted during the next four years. Several of the acts were merely the culmination of reform agitation inaugurated by third parties before 1900 and further popularized during the administrations of Roosevelt and Taft. But the Tariff of 1913 was purely a Democratic measure.¹

This act took its name from Oscar W. Underwood, chairman of the Ways and Means Committee of the House. The bill passed in the

¹ Following the Payne-Aldrich Act the only serious effort in Taft's administration to alter rates was the Act of 1911 for reciprocity with Canada. Such legislation, initiated in 1854, had been repealed by the United States in 1866, after which Canada had enacted retaliatory tariff laws. The Taft measure put about 100 articles, chiefly agricultural, on the free list and made over 400 reductions. The act was passed mainly by Democratic votes, in protest over the rates of 1909. The principal

lower branch of Congress early in the special session of 1913. Unlimited debate, high-tariff views of some Democratic Senators particularly from the South, and the narrowness of the resulting low-tariff Democratic majority held up passage in the Senate for nearly four months. The bill did not receive the President's signature till October 3. Yet, the Senate changes were not of such a startling nature as those in preceding tariff acts, most of them being of a liberal nature. Wilson exerted a surprising amount of influence throughout the whole legislative career of the bill. Most startling to the protected interests was his savage attack upon the lobby, which had such a salutary effect as to enfeeble that "branch of Congress" throughout the session, thus upsetting a precedent of over 40 years.

The act divided imports into 14 schedules, most of which showed drastic reductions. In all, 958 rates were lowered, 307 were not changed, and 86 were increased, chiefly on luxuries. Wheat, flour, cattle, meats, and other foods were added to the free list, as were also the raw materials of manufacture, including wool, hides, coal, and lumber. Fence wire, rails, the lower grades of iron and steel, agricultural implements, and leather goods were also included. The free list was extended to include about 300 items.

In attacking protected manufactures, the motive was to restore competition. The rather ambiguous party pledge not to endanger "legitimate" industry was made to mean moderation in dealing with any manufacturers who were not seeking undue profits or attempting to bolster up shoddy merchandise by governmental favor. Taft's tariff board, being purely protectionist in sympathy, was rightly ignored by Congress and then discontinued by the act. There was some guesswork involved in the legislation, a few errors and inconsistencies crept in, but there were no intentional jokers. On such iron and steel goods as were not in the free list the rates ran from 5% to 20%, with the dragnet at 20 instead of the 45 of the Payne-Aldrich Act. Specific duties were totally discarded in the textile schedules, the maximum woolens rate being 35%. Under the complex system of compensation and minimum valuations prior to this some grades of woolens had received from 140 to 150% protection, though the ad valorem rate was only 55%. The levies on cotton goods were cut to a range of from 7.5 to 30%, except for some grades of hosiery which got as high as 50%. Silks, velvets, and plushes ranged at 45 and 50%, which was entirely too high, since these duties were not offset by any internal revenue

opposition came from farmers of the Middle West. Champ Clark, Democrat from Missouri, and Taft, in their efforts to secure popularity for the measure, made some rather foolish remarks about the ultimate annexation of Canada. The result was that, in a general election, the Conservatives carried the Canadian Parliament and refused to accept the reciprocity treaty.

on competing grades. The rates on earthenware and china were also too high, running from 35 to 55%, yet the higher duties applied only to varieties not made in the United States and hence were mainly for revenue. All sugar duties were repealed, but the lowering was gradual and intended to take full effect in 1916. Before the last reduction could be made the section was repealed because of revenue needs during the period of lowered imports resulting from the European war.

An antidumping section provided for additional taxes to offset export bounties offered by foreign countries. The method of administration was simplified and made more effective. To prevent the usual abuse of ad valorem rates—undervaluation at the customhouses—an additional 15% was to apply to all firms refusing to show their books or other records as to the actual value of imports. In general, the act was the most revolutionary tariff since 1846. The average of duties on dutiable imports dropped from about 40% in 1913 to 30% in 1916. But the actual decrease in protection was much greater, for the latter figure, while including some purely revenue items upon which duties were increased, takes no consideration of the extended free list. Also, the abolition of prohibitive duties brought into the latter average a class of goods necessarily omitted from the former. In the same years the percentage of goods entering free grew from 54.47 to 67.91, while the average duties on all imports dropped from 17.69% to 9.62%.

It was expected that the rates established by this act would not provide enough revenue from tariff alone, and this proved to be the case. Though imports, in spite of the war, increased from \$1,813,000,000 in 1913 to \$3,096,000,000 in 1919, the tariff revenue in the same period declined from \$312,500,000 to \$237,500,000, and in three different years fell below the latter figure. This was partly because the imports of high-dutied manufactures, cut off by the war, did not keep pace with imports of free raw materials and goods with low duties. In 1919 the percentage of goods entering free was 72, while the average on dutiable goods was 21.27 and that on all imports was 6.2. But, even before the war started, the decline in revenue was anticipated. Consequently, a graduated income-tax provision was included in the tariff act. A constitutional amendment, growing out of the Democratic-insurgent coalition of 1909-1912, made this item of progressive taxation possible. Taxes on incomes in excess of \$3,000 (\$4,000 for married persons) and up to \$20,000 were 1%. From \$20,000 upward the rates were graduated to 6%, the highest being on incomes in excess of \$500,000. This form of tax shifted the burden from those least able to the ones best able to pay. The latter, who had been the sole beneficiaries of the tariff while paying far less than their share

to the government, then felt greatly aggrieved at what they chose to call "class legislation."¹ ✓

Effect of World War on Protection. The Underwood Act was in force for nine years. But, now that the country was finally headed toward free trade, the people were not destined to receive the benefits which under ordinary circumstances must certainly have followed. The reason was that ten months after the act went into effect Europe plunged herself into a war involving all of the prominent industrial nations. The surplus of industrial activity and labor which had been employed in catering to world markets was now diverted to the supplying of armies and navies. The increase of imports into the United States was mainly in raw materials for the manufactures which were entering into the rapidly growing export trade to the belligerent countries, and these raw materials were on the free list. Imports from Europe fell from nearly \$896,000,000 in 1914 to about \$373,000,000 in 1919, in spite of rapidly mounting prices. Imports from Germany ceased almost entirely by 1915, while manufactures from any source which competed with those of America dropped to an insignificant level.

This situation was conducive to more protection than any tariff act had afforded. The result was that ill-adapted manufactures sprang up in the country, and the older protected interests were enabled to maintain the extreme of monopoly profit. The loss of German imports was a special burden to American consumers. Before 1914 an American girl could get a beautiful, finely made, German doll for a relatively low cost. But during the war she got a miserable-looking lump of cheesecloth, excelsior, wire, *papier mâché*, and paint at a higher cost. The material and expense of manufacture of a \$2 doll could not have exceeded ten cents. The same was true of nearly all toys. Even harmonicas strangled justifiably on their first notes. Japanese manufacturers profited some by the situation, but by the time they were in a position to render real competition in American markets the war was over.

Then a situation like that of 1815 and 1816 was created. Jingoism again was rampant. Along with demands for a permanently large army and navy came the cry for prohibitive tariffs. Oddly enough, it was assumed that war-stricken Europe otherwise would flood American markets and ruin not only the "war babies" but old, established industries as well. For that matter, imports from Europe

¹ Before 1910 tariff duties in normal times had always been over half the federal income, while excise taxes, equally regressive, made up most of the rest. By 1921 income and excess-profits taxes were three-fifths of the revenue, but a conservative reaction in 1920 and following reduced the proportion to less than half by 1926. Afterward it remained in that neighborhood.

did in 1920 jump to a new high level of \$1,179,000,000. But this was mainly because Americans had found the opportunity to replenish stocks of finer goods of which they had been deprived for half a decade. By 1922, and before a new tariff could be adopted, European goods fell again to \$831,000,000, which was about the level of 1912. On the other hand, in 1923, after a new high tariff had gone into effect, these imports rose again nearly to the level of 1920.

The Conservative Reaction. The election of 1920 occurred while the scare over renewed imports was at its height. The Republican platform condemned the Underwood Act and promised an upward revision of the tariff "as soon as conditions shall make it necessary for the preservation of the home market for American labor, agriculture, and industry." In 1916 the Democrats had created a tariff commission of six members, not more than three to be from any one political party. Wilson had made Professor Frank W. Taussig of Harvard, one of the world's foremost students of the tariff, chairman of the commission. In 1920 the Democratic tariff plank was brief, again upholding tariff for revenue only and "basing tariff revisions upon the intelligent research of a nonpartisan commission, rather than upon the demands of selfish interests. . . ."

The tariff played a relatively small part in the outcome of the election, foreign relations, the League of Nations, postwar business relaxation, and bitter personal attacks having much more influence in swaying the electorate. Just before the election President Wilson exerted pressure upon Tennessee to ratify the Nineteenth Amendment to the Constitution, granting suffrage to women on equal terms with men. This completed ratification by the necessary three-fourths of the states. The female vote resulting therefrom was overwhelmingly conservative and went to the handsome Warren G. Harding, who had not, like James M. Cox, been divorced, and concerning whose family life otherwise little was known. But the men also found more comfort in the sonorous utterances of the suddenly god-like Ohio dark horse. Even his garbled suffixes roused enthusiasm when coupled with promises to remove politics from business and put more business into politics. Business ethics at that time were, for some strange reason, deemed of a higher order than political practices. Again, the reaction from war-time enthusiasm went to the opposite extreme of public apathy. Isolation and relaxation seemed most certain under the Republican banner. Consequently, Harding was elected by the largest popular majority up to that time, and with him the House and Senate went overwhelmingly Republican.

Emergency Act of 1921. An able and vociferous progressive element remained in the Republican caucuses, but was too small to

prevent effective control by the old guard. Postwar deflation and falling prices affected farmers before other producers. Hence, in the special session of Congress in 1921 opportunity was taken to renew the rural allegiance to protection principles. An emergency tariff act was rushed through by May 27, fixing high duties on wheat, corn, meat, wool, and sugar for a six months' period. The time was later extended till the passage of the general Tariff Act of 1922. The new rates being useless, since the surplus crops sold at world-market prices, farm receipts continued to fall. But this gesture postponed the time when a more honest effort at farm relief would have to be considered, and it bound the rural congressmen to protective principles. This made possible in 1922 the highest of all tariffs to that time.

Fordney-McCumber Act. Joseph W. Fordney of Michigan and Porter J. McCumber of North Dakota steered the next bill through the House and Senate respectively. The governing principle was the equalization idea of 1909 carried to absurd extremes. The degree of intelligence displayed is exemplified by the boast of Senator Robert N. Stanfield of Oregon that he would favor duties up to 5,000% if necessary to equalize costs. His banal excuse was that "it would pay the American people to be kept employed." When such remarks could pass with scant notice it was possible for Congress faintly to approximate those rates.

The Fordney-McCumber bill was under consideration from June, 1921, till September 19, 1922, before it was passed. In the finished act the farmers were treated to the usual mirage, much magnified. Wheat got 30¢ a bushel, rye 15¢, beef from 1½ to 3¢ a pound. Even eggs, reindeer meat, peanuts, and acorns were included as well as lemons, nuts, prunes, and other California products. The free list of agricultural implements, established in 1913, was not greatly disturbed. But, since America supplied the world with such goods, protection would have been as ineffective as the duty on wheat. Potash was one of the war babies, but so loud was rural insistence that it had to be included on the free list, thus furnishing some real protection to other farmers than the lemon growers. A number of raw materials put on the free list in the Underwood Act were kept there, including cotton, hides, leather, coal, and iron ore. Of manufactured goods, boots and shoes were the principal untaxed articles, but books printed in foreign languages or imported by educational institutions were also included. This generosity to education was not carried to extremes. Scientific apparatus bore 40%, while certain implements used by chemists and in hospitals were taken from the free list and taxed 65%.

The old Dingley and Payne-Aldrich schedules for textiles were reestablished, compensation, compound duties, minimum valuations,

and all, though the ad valorem rate on the principal grades of woollens was fixed at 50% instead of 55%. But, since scoured wool paid 31¢ a pound while the compensating duty on woollens was from 37 to 45¢, the degree of real protection was far above that in the ad valorem rates. Most cotton goods received 40 to 45% protection, but lobbyists got white cotton gloves up to 75%, curtains to 60% and upward, and lace to 90%, the latter being the highest ad valorem rate for purely protective purposes in the history of the country. Some of the outworn rates on pig iron, rails, and other products of iron and steel, as well as china ware were restored to the levels of 1909. But it was the new industries which got chief consideration. Toys were protected to the amount of 70%, while dyes, by specific and ad valorem rates combined, received from 57½ to 172% on their American valuation. Pocket knives paid from 100 to 319% according to their price. Such rates were partially hidden by a tricky invention—valuation points were fixed on dozen lots while the duties were on single items. Thus, the statement that knives valued at from 50¢ to \$1.25 a dozen should be taxed 11¢ each plus 55% really meant that a knife worth about four cents would be taxed 13¢. Other small hardware, by similar necromancy, was assessed up to 400%. It was in this way that the act earned the unenviable title of the highest tariff in all history.

Some lobbyists had fought to have the value of American goods fixed as the basis for taxation of all competing imports, but did not get all they demanded. Instead, an elastic clause was inserted whereby the President, on recommendation of the tariff commission, might raise or lower any duty by half to equalize the cost of production. The talk about equalization was sheer trumpery since the cost of production, hidden as it is by false capitalization and other camouflage, cannot even be determined for American goods much less for foreign products. Yet, to save the faces of the "American valuationists," the President was authorized, whenever the foreign value could not be determined, to order the use of the American valuation, after which a duty might be lowered as much as a half but not increased.

This was the first time Congress could call upon a scientific tariff commission for advice. On two or three points the opportunity was actually seized. The principal recommendation adopted was in regard to administrative details. At first, Congress was not willing to make even this departure from old practices. The wording of the act was taken from preceding measures extending over a century or more of time. The nomenclature and a lot of the administrative provisions were so obsolete that even the congressional committees did not understand them. When, for lack of anything else to do, the tariff commission's report was consulted, it was seen that even a tariff act could

be made intelligible. So the administrative provisions were accepted as presented. Thus, one progressive feature found its way into the act.

The Tariff Commission. In its avowed purpose to help agriculture, the Fordney-McCumber Act was as dismal a failure as economists had predicted. The tariff commission, with its newly acquired powers, instead of taking the tariff out of politics, itself became a political organ and tool of the lobbyists. Its members were incompetent and its labors ludicrous. As Taussig has said: "There were quarrels within the Commission on details which sensible men could have disposed of without trouble." And again: "the make-up of the Tariff Commission was not such as to command respect either for intellectual capacity or for judicial spirit."¹ Yet, the commission labored diligently, if not penetratingly, at the determination of domestic and foreign costs of production. Between 1924 and 1929 it made several recommendations for increases of duties and a few suggestions for lowered rates on such items as bob-white quails and taximeters. In the agricultural list the duty on wheat was raised in 1924 to 42¢ a bushel, and flour got a compensating increase from 78¢ to \$1.04 a hundredweight. Butter and Swiss cheese were other commodities which got 50% increases in 1926 and 1927. These were offset by equal rises for items such as straw hats, pig iron, and chemicals which entered into farmers' purchases.

Politics, 1924-1928. Tariff planks in the campaign of 1924 were about such as might have been expected. The Republicans eulogized protection and its benefits, while Democrats denounced the Fordney-McCumber Act as "the most unjust, unscientific, and dishonest tariff tax measure ever enacted in our history." In 1928 the tariff did not enter prominently into the campaign. The main reason was either Democratic cowardice or a leaning toward protection. The plank, while condemning log-rolling practices, political favors, "monopolistic and extortionate rates," and the incapable tariff commission, yet retreated from the purely revenue demands of previous campaigns. It said that the "actual difference between the cost of production at home and abroad, with adequate safeguard for the wage of the American laborer, must be the extreme measure of every tariff rate." Though such a statement might mean widely different things, in general it was little if any more progressive than the Republican pledge to assist certain industries which "cannot now successfully compete with foreign producers because of lower foreign wages and lower cost of living abroad." Neither party in the campaign talked of a general increase. But there was some absurd talk about the

¹ "The Tariff, 1929-1930" in *Quarterly Journal of Economics*, Vol. XLIV (February, 1930), pp. 192, 193.

Underwood Act creating bread lines. Herbert C. Hoover, the Republican candidate, promised that tariff revision should affect only agriculture and certain other sick industries.

Hawley-Smoot Act. With the religious issue uppermost in the campaign, and a lot of dust clouds on the question of prohibition, the Republicans carried the election with another landslide. Hoover, immediately after his inauguration, called for a special session of Congress to carry out his vague but frequent promises for farm relief. Three months before the convening in April, 1929, the Ways and Means Committee had begun hearings on the tariff question. On May 7 the chairman, Willis C. Hawley of Oregon, presented a bill which passed the House before the end of the month. The original bill, not far beyond the President's recommendations, was amended to include nearly every demand made for increases in rates. Thus, a wildly protective measure was sent to the Senate. There the Finance Committee, under the leadership of Reed Smoot of Utah, made numerous changes both up and down. Not till March 24, 1930, was the bill sent to the conference committee. The adjustments, 1,253 in number, were accomplished mainly by accepting the highest rates set by either congressional house. Even then the committee failed to agree on several important features.

Meanwhile, public indignation over the bill was assuming unusual proportions. The progressive wings of the Republican caucuses, representing mainly the states of the Middle West and Rocky Mountain regions, began to assert themselves, but too often were willing to roll logs. They realized that the increased agricultural rates would be of scant benefit, but were ready to grasp for any sort of aid in hope that something or other might prove helpful. Especially did they demand the export bounty or "debenture" as it was called. Eventually all differences between the House and Senate bills were adjusted and on June 14, 1930, the measure was ready for the President's signature. On the final roll call in the Senate the vote was 44 to 42, eleven Republicans and one Farmer-Labor member voting with 30 Democrats. The measure could have been defeated had not five Democrats from Louisiana, Florida, and Wyoming deserted the cause for local favors on sugar, fruit, and wool. Furthermore, the ranks of the progressive Republicans did not hold fast. The Senators from Kansas alone could have defeated the bill had they chosen to keep faith with party promises.

The act as signed by Hoover on June 17 was, like its predecessor, a new high mark in tariff history. The theory of equalizing costs of production, so enthusiastically upheld in 1922, was ignored. The only idea was to exclude foreign competition entirely in the hope of restoring

war-time price levels. The tariff was to be a sort of price-fixing agency. The following estimate of a prominent authority shows the more obvious increases, schedule by schedule, over the Act of 1922.¹

TARIFF RATES OF 1922 AND 1930

CLASSIFICATIONS	ACT OF 1922 PER CENT.	ACT OF 1930 PER CENT.
Chemicals, oils, and paints	29.22	31.40
Earthenwares and glassware	45.62	53.62
Metals and their manufactures	33.71	35.01
Wood and its manufactures	7.97	10.49
Sugar, molasses, and their manufactures	67.85	77.21
Tobacco and its manufactures	63.09	64.78
Agricultural products and provisions	19.86	33.62
Spirits, wines, and other beverages	36.48	47.44
Manufactures of cotton	40.27	46.42
Flax, hemp, jute, and their manufactures	18.16	19.14
Wool and its manufactures	49.54	59.83
Manufactures of silk	56.56	59.13
Manufactures of rayon	52.68	53.62
Paper and books	24.72	26.06
Sundries	21.97	27.39

A few individual items may help to illustrate the way in which the rates were changed. In the agricultural schedule, raw sugar jumped from 1.76¢ a pound on the Cuban product to 2¢, sugar from other foreign countries being higher but not imported. Hides rose from the free list to 10%, this being an offset to 15% on leather and 20% on shoes. Wool was increased from 31 to 34¢ a pound on the cleaned product. Wool rags also jumped from 7½ to 18¢ a pound. Wheat remained at 42¢ with not a cent of benefit to the farmer. Corn duties advanced from 15 to 25¢, meats and live animals got rates nearly doubled, live poultry reaching 8¢ a pound. Even cotton was taxed 7¢ a pound for the benefit of a few long-staple growers in the Imperial Valley. If any farm crop, animal or garden product was omitted it was for lack of any special lobbying. In a few cases these duties were really protective, at least occasionally, especially that on beef. But the farmers by 1930 had learned that any protection they would receive from an unbolstered tariff would be most sporadic and infrequent.

The woollens schedule got its usual increased dose of duties. To offset an additional 3¢ on wool the specific duty was advanced from 36 to 45¢, while the ad valorem rate was increased to 60%. The cotton

¹ Frank W. Taussig, "The Tariff Act of 1930," in *Quarterly Journal of Economics*, Vol. XLV (November, 1930), p. 17. The protective effect of compensating duties and minimum valuation would be in addition to these rates.

manufacturers, being in a bad way, got special attention. To offset the duty on long-staple cotton, a duty of 10¢ a pound was put on manufactures, and the general ad valorem duties were advanced from the 45% level of 1922 to $62\frac{1}{2}$ and $67\frac{1}{2}$ %. Corresponding increases were made for other textiles.

Protests against this act came from many quarters. A petition signed by 1,028 economists requested the President to veto the measure because of the hardship to consumers and exporters, foreign reprisals, and strained international relations bound to follow its adoption. The American Bankers' Association and many leading Republican newspapers denounced the act. Numerous leaders of big business felt it would retard recovery from the panic because of losses in foreign trade. The New York Stock Exchange took a new downward plunge on report of the final approval. Yet, Senator James E. Watson of Indiana blandly asserted that prosperity would be restored in a month after the rates went into effect. The President declared that, through the flexible provision and the tariff commission, he could adjust extreme rates. Subsequent action indicated that he changed his mind on this point. Further considerations of the effect of the measure are reserved for later discussion.

CHAPTER XXXII

THE RIDDLE OF THE LABORER

The Riddle. The recital of development in the various lines of economic activity is only half of the story. In the final analysis, the welfare of the country had to be measured in the comfort and well-being of its citizens. Only when the products of economic effort were available in plenty for everybody could the country be considered truly prosperous. It was not enough to point out the number of persons riding to their daily work in second-hand automobiles and coming home to listen to the music of a radio or to go out again to the neighboring moving picture show. This did not answer the question as to what other of the comforts and refinements of civilization had to be foregone in order to acquire these few mechanical luxuries. The smart critic who compared the shop girl or store clerk in her near-silk hosiery, high-heeled shoes, and clothing so closely resembling that of the well-to-do, rarely stopped to consider the kind of lodgings, food, and cultural surroundings which had to be endured or done without in order to achieve this outward display.

In an age when "putting up a good front" was considered as the touchstone and evidence of success, the tendency to deprecate such actions on the part of people of small means was an evidence of the callousness of conscience of the critics. It was well enough to voice the virtues of wool stockings, substantial food, and classical literature, but it should have been easy to understand why many of these things were laid aside when the choice had to be made between them and other goods which would attract more attention and approval from friends and acquaintances. Yet, so long as such choices had to be made, the laborers and small salaried persons could not have been getting their full share of the prosperity which was supposed to envelop the nation. Even the college professor or bank clerk who in 1920 had to skimp the food bill in order to provide the kind of clothing his position depended upon could have furnished more expert testimony on the state of the country than could the statistician with his tables of production and his scant knowledge of intimate living conditions. Some chapters of economic history must be devoted to the lot of those classes upon which the industrial structure is built, but who, after producing the food, manufactures, or services of a less tangible nature, have to do without a sufficiency of them. It is difficult to acquire the

necessary information from the reticent "white-collar" employee of industry or the state. But the plight of the ordinary farmer and day laborer has been such that the main problem is to present a balanced choice of evidence.

The riddle of labor has been the problem of obtaining a fair division of economic goods, the object being to secure a comfortable standard of living with sufficient leisure to enjoy it. Except in rare instances, all efforts to cut the Gordian knot by labor ownership of capital have failed. The greatest degree of success has been achieved by the organized trades, who must therefore receive a larger amount of attention than their numbers alone would seem to warrant. A comparison with the wages and conditions of life of the unorganized masses will show the amount of progress yet to be made even under the existing form of labor leadership.

The Proportion of Labor Organized. At no time in America has the number of organized laborers been large in proportion to the total of persons engaged in gainful occupations. Even in 1920, when the unions reached their climax with an aggregate of about five million members, this was less than an eighth of the number of persons drawing incomes from personal efforts. In 1930, when organized labor stood at no more than 4,500,000 members, the ratio was reduced to nearly a twelfth. But, when the 41,600,000 gainfully occupied persons of 1920 or the 48,800,000 of 1930 are mentioned, the salaried persons, farm owners, tradesmen, industrial entrepreneurs, public servants, professional classes, and people in domestic and personal service are included. These, along with farm laborers, have scarcely been touched by labor organization. Many, because they are not in any direct sense employed by others, are necessarily excluded from the groups subject to organization. Counting only employees, and sticking to mining, manufacturing, and railroad transportation, where the most unionization has been effected, the number of union members in 1920 was about a third of the total. Though, even within such narrow limits, union laborers have remained in the minority, their influence has been a leaven for the whole lump. Whatever gains have been made by labor have been mainly due to their efforts.

Labor and the Courts: Injunctions. The problems of labor after 1900 remained about the same as those preceding, except that they were intensified by an accelerated mechanization of industry which further complicated the question of an equitable division of goods. The legal status of labor remained an inadequately solved enigma. From the point of view of the union members the use of injunctions in labor disputes was far from being the least important angle of the question. An extreme application of this form of persecution was

reached in 1909 when John Mitchell of the United Mine Workers and Samuel Gompers were sentenced for violating an injunction which forbade anyone even to mention the existence of a boycott against the Buck's Stove and Range Company. Five years later the Supreme Court of the United States set the decision aside. A seeming victory was won in the Clayton Act of 1914, which exempted labor unions from prosecution under the antitrust acts, gave federal sanction to strikes, picketing, and boycotts within peaceful limits, and greatly restricted the power of the courts to issue injunctions in labor disputes. Trial by jury was prescribed for contempt charges unless the action occurred in court under the observation of the judge.

But the victory was an empty one, since the courts soon deprived the labor clauses of all virility. In the Duplex Printing case of 1921 the right of boycott was limited to the employees of the offending employer. Such a boycott in modern days would be of no effect at all. A year later, in the Coronado decision, immunity from prosecution under the antitrust acts was removed by a specious line of argument. During the railway shopmen's strike of 1922 Attorney General Harry M. Daugherty of oil-scandal fame called for wholesale injunctions, which in nearly every important case were granted by the courts. Temporary injunctions were issued to the number of nearly 300. These restraining orders were based merely on representations of the employers. Hearings for permanent injunctions were generally delayed. But in most cases the temporary proceeding was sufficient, for by the time for final settlement the unions had already lost their fight. The terms of the injunctions were vague, such words as "conspiring," "picketing," and "intimidating" being used. The courts were left to determine, when a culprit was caught, whether or not the provisions had been violated. Again, juries were excluded. Some injunctions even forbade the payment of strike benefits from funds collected for the purpose. The public in general was enjoined against assisting strikers, thus making even the feeding of a striker's hungry family a jail offense. In 1928 both political parties renewed their anti-injunction planks, but the promise was forgotten by the victors as soon as the election was over. As conservative a politician as George Wharton Pepper in 1924 warned against excessive use of the injunction, as conducive to the breeding of revolutions. But his voice, as well as more eloquent ones, went unheeded.

Liberty and Property. In still other ways the courts, influenced by the conservative training or capitalistic connections of the judges, remained hostile to organized labor. This was particularly true in regard to the interpretation of the Fifth and Fourteenth Amendments which deny, the former to the federal government and the latter to

the states, the right to deprive persons of "life, liberty, or property without due process of law." Since corporations were dealt with as persons before the courts, and "due process of law" was interpreted to mean "court action," it followed that any statute which limited the liberty, menaced the life, or took the property of a corporation was unconstitutional. Thus, a minimum-wage law, since it was based on the need of the laborer instead of the value received by the employer, was void.

Nearly all state and territorial governments as well as the United States have passed labor legislation tending toward the protection of the life and health of employees. These acts have included matters relating to the regulation of hours of labor for women and children, sanitation, safeguards against dangerous machinery, frequent wage payments, the prohibition of the truck system, discrimination against union men, the regulation of apprenticeship, night and Sunday work, and child labor.¹ But the courts jealously limited this exercise of the police power. Their interpretations of public health versus property rights tended to nullify the laws. For instance, the New York courts at one time could not see where public health was menaced by the making of cigars in tenement houses, but the profits of sweatshop bosses would be cut if the industry returned to the factory. Hence, the tenement system could not be broken up by legislation.

The right of freedom of contract was carefully guarded. Since an eight-hour law would limit the "liberty" of a laborer to contract for a longer day, since a minimum-wage law would restrict the "liberty" of an employee to contract for starvation wages, such acts were not permitted to function. As late as 1923 a minimum-wage law for women was nullified because the property rights of the employers were involved (*Adkins vs. Children's Hospital*, 261 U.S. 525). Laws to prevent employers from holding back on wages or paying in scrip, acts to stop the discharging of men for joining unions have been interpreted as destroying the liberty and property of corporations. In general, the employers must have liberty to do about as they please and employees must have an equal right to accept the decrees, and thus all round justice is guaranteed.

Exceptions to the rule have been made where the occupation of the laborers was so unhealthful or dangerous that no one could fail to see the menace. Thus, in 1898 the United States Supreme Court upheld a Utah statute for an eight-hour day for miners, but the decision was not binding on the state courts in other commonwealths which might pass similar laws. In 1908 an Oregon statute for a ten-hour maximum day for women was upheld as a measure for protection of the mothers

¹ Carlton, *History and Problems of Organized Labor*, p. 278.

and future mothers of the race. Such legislation had been attempted as early as 1874 in Massachusetts, but the constitutionality was not determined till the girl workers of that day were grandmothers. Since the Oregon case nearly all the states have followed the example.¹ Because the tasks of women and men in factories are so interconnected, this really established a ten-hour maximum for every industry employing a considerable proportion of women laborers. In 1917 another Oregon law, for a general ten-hour maximum in mills and factories, was upheld as a health regulation. Since the courts remain about a generation behind liberal thought in social progress, it is not too much to expect that, by the time the 30-hour week becomes established in all but a few isolated industries, the judicial decisions will uphold laws for applying the eight-hour day to the backward group. The suggestion is not intended to betray any excess of optimism.

Employer Responsibility. Largely for lack of legislation, it was long before employer responsibility was established for accidents involving the injury or death of employees. Accidents resulting from pure carelessness or foolhardiness of laborers of course are not included in this category. Especially in the early days, but even after 1900 in some states, factory legislation was scanty or weak and inspection was farcical. Boiler inspectors, for instance, have been described as of two varieties—the “buggy” and the “shovel” types. The former stopped his horse in front of the factory office, called out some clerk or bookkeeper, and asked about the condition of the boilers. On receiving word that they were in good shape, he made a notation of the declaration and drove on to his next stop. The “shovel” inspector was more conscientious. He would open the furnace doors and poke at the bottoms of the boilers with a shovel. Finding that the boilers could withstand the shock, the inspection was ended. If a boiler blew up shortly following such a visit, the employer was doubly fortified. He had evidence to show that the boiler was in excellent condition. Either the deceased fireman or a fellow servant was responsible for the explosion.

Very little machinery was provided with effective guards or means of prompt release from the power of the main shaft. If the belt slipped from the pulley to the shaft of a cut-off saw, accelerating the machine to ten times its normal speed, it was necessary to stop the engine before the danger could be removed. If, in the meantime, the saw flew apart and disemboweled a workman, it was a regrettable incident

¹ In 1892 the federal government adopted an Eight-Hour Act for all federal work whether under private contract or direct control of the government. But the Attorney General in the next few years interpreted the act into a useless state. Riders to appropriation bills helped to restore the act. In 1912 Democrats and insurgent Republicans adopted a new bill which Taft signed.

for which the employer was in no way responsible. Under the common law the proprietor was required to exercise "ordinary care" in the protection of laborers, but beyond this his responsibility stopped. If a fellow servant had failed to apply dressing to the belt which slipped, he alone was to blame. But, having no property, he could not pay damages even if judgment were returned against him. Consequently, under the "fellow servant" doctrine of the common law, the laborer had to carry his own risk. This doctrine was found only in British and American law, and was not even there till after the beginning of the industrial revolution.

The passage of more comprehensive factory legislation, embodying effective provisions for inspection, tended to lessen the probability of many kinds of accidents. Simultaneously, state laws were enacted to place more responsibility upon the employers. Maryland in 1902 adopted the first Workmen's Compensation Act in the United States, but it was declared invalid. Following similar experiments elsewhere, nearly every state and the federal government in 1911 and afterward adopted employers' liability and compensation laws so carefully drawn up as to pass court muster. This legislation induced employers to carry insurance on their employees, and made it compulsory in some states unless the employer stood ready to assume full responsibility before the courts for accidents.

Workingmen's Insurance. Very little progress was made toward old-age and disability insurance. New York, March 31, 1930, adopted an Old-Age Pension bill for state aid to needy people 70 years of age or above. It was expected to cost \$12,500,000 a year. California, Nevada, Montana, and Wisconsin had somewhat similar legislation, and the federal government provided some compensation for "disabled and superannuated employees." Some beginning was made toward widows' insurance but, taking the Iowa law as an example, the applicants for aid were treated so much like paupers that many preferred to go in want rather than ask for such assistance. Some industries have established their own insurance systems, including unemployment features. In January, 1932, Wisconsin adopted the first state unemployment insurance law. Though it was rather weak and mild in tone, there was much grave headshaking as a consequence of the experiment. It was denounced as a "dole" and as conducive to the pauperization of the laboring class. Its fate before the courts seemed uncertain.

The Immigration Question. Though labor organizations continued to oppose the commodity theory of labor, wages tended too much to follow the influences of supply and demand. The underpayment of immigrants remained as serious a deterrent to living wages for all

as in the later years of the nineteenth century. The number of immigrants admitted to the country from 1901 to 1920 was greater than that of the preceding 35 years, amounting to 14,531,197. In the next decade, despite restrictive legislation, 4,107,209 more entered legally. The total from 1865 to 1930 was just over 32,000,000, or in excess of the total population of 1860. In general, the more prosperous years were accompanied by the greatest immigration, and *vice versa*. Careful statistics of emigration were not kept till 1908, but the estimate is that for ten years prior to that date net immigration was 68% of the total. In 1910-1930 it was only 52%. The greatest years for immigration were from 1905 to 1914, during which time the million mark was exceeded in six separate years. The highest number was 1,385,349 in 1907, but the record of 1914 was nearly as great.

For a number of years immigration legislation continued to be mainly in the direction of restricting undesirable types regardless of nationality. Acts of 1893, 1903, and 1907 increased the head tax by steps up to \$4; added all mental, moral, or physical weaklings, professional beggars or prostitutes, anarchists, and polygamists to the list of pariahs; provided for detention at ports till doubtful cases could be investigated; placed the responsibility upon the shipping companies for returning the rejected ones; and provided deportation for immigrants becoming a public charge within three years after entry. Following 1920 some of the provisions of these laws, especially as amended in 1918, were found to be liable to a very flexible interpretation. Numerous cases of injustice were noted in connection with the work of deportation. In 1897 Cleveland vetoed a bill to provide a literacy test for immigrants. He insisted that, among arrivals from the backward countries of Europe, illiteracy was no test of intelligence, but merely of opportunity. It was also noted that dangerous criminals were rarely illiterate. Taft and Wilson vetoed similar bills in 1913 and 1915. But in 1917 the literacy test became law over Wilson's second veto.

Japanese Immigration. A new excitement over the "yellow peril" was aroused after 1900, in consequence of Japanese immigration, especially into California. The Japanese population of the country rose from 2,039 according to the Census of 1890 to 24,326 in 1900 and 72,157 in 1910. By 1930 the total reached 138,834. The Japanese, being less docile and more ambitious than the Chinese coolies, were not so great a danger to organized labor. But the new Asiatics were excellent truck and fruit farmers as well as business men. Since they were satisfied with smaller profits and fewer comforts than their white competitors, the Californians feared that the growing numbers would force them out of the economic contest.

In 1906 the school board of San Francisco placed the 93 Japanese children attending the public schools in a separate building. This segregation of races was no more than was done for Negro citizens of the United States in a large number of the states. But a matter of Oriental politics was involved. At that time Japan was in the process of absorbing the ancient kingdom of Korea, and wanted no revival of the American open-door policy. Mainly for this reason, it seems, the Japanese government created a great furor over the matter of race discrimination and violation of treaty rights. Theodore Roosevelt patched up the matter by inducing the Californians to reverse the segregation policy. In return he secured an executive agreement with Japan whereby the latter promised to issue no more passports to laborers desiring to come to the United States. Since American officials refused to admit the Japanese without these credentials, the question was settled for several years. Emigration from Japan to Hawaii was given the same consideration in this "gentlemen's agreement."

The next step in the controversy was the Webb Act passed by the legislature of California in 1913. Since the existing treaties did not extend to naturalization privileges, the act provided that aliens not eligible to citizenship should not be allowed to own agricultural land. The Japanese residents found a way to evade this by forming corporations to hold land for the stockholders, and by acting as guardians for land bought for their American-born children. An Asiatic Land Law, passed by the state in 1920 then forbade this form of evasion. But the California Supreme Court in 1922 invalidated the guardianship provision. In 1923 the United States Supreme Court declared the Webb Act and a similar law adopted by Washington to be constitutional.

Quota Restrictions on Immigration. A new aspect was given to the general immigration question as a result of a new outburst of Know-Nothingism, with its attendant illusion of Anglo-Saxon superiority, which occurred during the World War. A revival in name and ritual, rather than in spirit and purpose, of the Ku Klux Klan was started in 1915. The outrages and virtues alike of the new knights of the bed sheet were greatly exaggerated. While claiming as an order to harbor hostility neither to Negroes nor aliens, Catholics nor Jews, they preached the doctrine of "retaining" control of the government in the hands of white, Protestant, native Americans. Then hordes of persons who cherished genuine hostility to one or another or all of the proscribed groups flocked into the organization. Habitual joiners and riffraff with private grudges to settle, as well as professional politicians smelling out the direction of every popular wind, paid their

initiation fees and joined in the adoration of the great god Mumbo Jumbo. Corruption in the order and double dealing in the election of 1924 brought a quick collapse of the organization. But in the meantime it had helped create sentiment for the most drastic of immigration laws.

Early in 1921 Wilson pocket vetoed a bill to limit the annual immigration from any country in the Old World to 3% of the number of its native-born inhabitants in the United States in 1910. Harding a few weeks later (May 19, 1921) bowed to public opinion and accepted the measure. The purpose of the act was not only to limit total immigration, but also to discriminate against the nations of Eastern and Southern Europe. Thus, the United Kingdom and Germany were permitted 68,059 and 77,342 immigrants respectively, while Italy and Russia were limited to 42,057 and 34,284, and the integral remnants of the Austro-Hungarian Empire to a little over 13,000. Poland was allowed 25,827.

The public was shocked to learn that so many of the "undesirables" were still admitted, so demanded still further restriction. The Act of May 26, 1924, was passed in order to allow a greater degree of nicety in discrimination. The new ratio was placed at 2% of the number of nationals of the various countries legally residing in the United States in 1890. At that date the newer type of immigrants was much smaller in proportion to the total population than in 1910 (see p. 591). The quotas under the law cut Italy to 3,845, Russia to 2,248, Austria and Hungary combined to 1,258, and Poland to 5,982, while Germany and the United Kingdom were left 51,227 and 62,574 respectively. Even religious and political refugees were denied sanctuary if above the quotas. After July 1, 1927, the limit should be 150,000, apportioned among the foreign countries according to the number of people in the United States in 1920 who were of, or descended from, the stock of the various nations. Such a provision was clearly absurd, since most Americans could not state with any degree of certainty just what stock predominated in their polyglot heritage. Another clause violated the agreement of 1907 with Japan by excluding entirely all immigrants ineligible to become American citizens. Japan protested vigorously, then laid the matter aside till some political trade could be effected.

Illegal Immigration. A Deportation Act of 1918, along with the new immigration code, worked many hardships upon divided families who could not be reunited unless all returned to Europe. Many of them, because of the European upheaval of 1919, had no country to go to where they would be welcomed. In another sense the acts had their ludicrous side. Immigration from the nations of the New World

was not limited. Consequently, aliens were smuggled in over the borders in addition to the great number of nationals of the neighboring countries who arrived legally. Over a million and a half of the latter were enumerated between 1921 and 1930. About a third of these came from Mexico and a tenth from other Latin-American republics. But these official numbers are grotesque in their inadequacy. Countless mestizos, mulattoes, zamboes, and other mixed peoples merely crossed the Mexican border without formality and took up the heavy labor denied to Europeans. The population of Mexico was said to have declined three million from 1921 to 1929, and most of the migrants came to the United States. Between a million and a million and a half of illegal entries from all sources have been estimated by others for the same period. Even though deportations reached the number of 11,625 for 1928 alone, the increase of illegal immigration over deportation was large. In the period of unemployment after 1929 jobless Mexicans thronged in the other direction while requests for entry from Europe hardly reached the reduced quotas.

The Sweatshop. The sweatshop system continued to work its havoc on immigrants, derelicts, and the wage scale of all unskilled laborers. In 1902 the home finishing of clothing was paid for in New York at the average rate of \$3.67 a week, while the making of artificial flowers was paid 40¢ higher. When the wage for making a gross of artificial roses was 6¢, the speed of work, long hours, and nerve-racking tedium required to earn \$4.07 in a week may be realized. The piece-wage system in overall factories and other garment industries also partook of sweating, as did the wages paid to girls in the five and ten cent stores and other like establishments. From 1920 to 1929 there was not much discussion of sweatshops, yet the essence of the system remained, while in the clothing industries it expanded rapidly. The United States Steel Corporation held to its twelve-hour day till 1923. Logging camps and construction gangs continued to operate on essentially a sweatshop basis of living conditions. Contests between managers of different departments of a factory or store to increase profits generally resulted in sweating practices. Even the bonus system, rising to prominence during the World War, had similar results. Spurred by a prospective bonus, the laborer would endanger his health to increase his output. Then, at the slightest excuse, the rate for piece work would be lowered. Following 1929 there were a few years in which sweating reached the lowest point of degradation of labor.

Child Labor. The movement to outlaw child labor showed equally disappointing results. The old trick of holding back information concerning the number of such employees went unabated. When the

state of Maryland in 1906 required permits for all children under sixteen employed in factories, twice as many permits were issued as the number of child laborers reported to the Census officials. Sometimes the conditions of work were very bad, especially for boys. Extreme cases were found in glass-bottle factories, coal mines, and canning factories. Because of the inadequacy of much of the existing state legislation relative to child labor, Congress in 1916 and 1919 passed acts to bar the products of child labor from interstate commerce. But both acts were overruled by the Supreme Court. Then on June 4, 1924, a joint resolution was passed for the submission to the states of a child-labor amendment to the Constitution. But the amendment was so drawn that its enemies succeeded in convincing farmers that they would not be permitted to compel even a seventeen year old boy to milk the cows. Consequently, enough rural-state legislatures rejected the measure to prevent its adoption even had it been ratified by the rest. In this same year a National Child Labor Commission estimated that two million children under fifteen years of age were regularly employed, most of them being on the farm under their parents' supervision. The federal act of February 25, 1920, for the leasing of mineral lands limited the hours of work underground to eight and forbade the employment of children under sixteen and women. Wages were to be paid in full each two weeks. In 1934 there was some hope that the child-labor amendment to the Constitution might ultimately be adopted (see Chap. XXXIV). There had been no limit placed on the amount of time for ratification, and any state which had rejected it might reverse its decision. The unemployment situation of the period since 1929 had reached the point where legislatures were exercising the prerogative to change their minds.

Women in Industry. The women's rights movement of the twentieth century did much to change the outlook on the matter of female labor. The feminist leaders demanded the right of women to enter any form of employment for which they were physically equipped, while the old ideas of physical barriers were being broken down. The only restriction should be that women must be paid the same wage as men for the same work. Before 1900 about the only occupations open for women were teaching, domestic service, factory or farm work. A few women had edged their way into the learned professions, but special schools had to be created for their training. This situation was materially changed after 1910, and especially in consequence of the World War. In that period of labor shortage women took men's places at tasks which never before had been deemed to be within their capacities. Afterward, they continued to hold many of the gains.

By far the majority of the women preferred to remain in the home, at least so far as occupation was concerned. But no longer was a woman considered queer if she prepared herself for a life task of another kind. Many remained single from choice, while others continued at their professions after marriage. The stigma of "old maidenhood" was forgotten. Yet the percentage of female workers to the total and to the entire number of women did not change materially in twenty years. In 1910 there were 8,075,772 females ten years of age and over engaged in gainful pursuits, this being 23.4% of all in the sex-age group and 20.6% of the total of gainfully employed people of ten years and upward. In 1920 the number was 8,549,511, while the percentages were 21.1 and 19.3. In 1930 the number was 10,778,794 and the percentages 22.1 and 22.2. The shift in female employment from agricultural to other occupations, as well as other changes, can be seen from the following figures.

OCCUPATIONS FOLLOWED BY WOMEN, 1910-1930

KIND OF SERVICE	PER CENT OF TOTAL EMPLOYED		
	1910	1920	1930
Domestic and personal	31.3	25.6	29.2
Manufacturing and mechanical industries	22.5	22.6	22.4
Agriculture, forestry, and animal husbandry	22.4	12.7	8.5
Clerical occupations	7.3	16.7	unknown
Trade	5.8	7.8	15.9
Professional service	9.1	11.9	16.3
Transportation	1.3	2.5	4.2
Public service (not elsewhere classified)	0.2	0.3	1.1
Extraction of minerals	less than 0.1%		
Industry not specified			2.2

The Census of 1900 showed 303 separate types of employment in the United States, and women were in all but eight.¹ It must not be inferred, however, that they were granted equality with men in many cases, nor were their numbers great in most of the occupations. A Pittsburgh survey of 1908 showed women getting half as much as unskilled men and a third as much as union men. The bulk of them got from \$3 to \$6 a week, though a few received \$8 or more. The estimated weekly budget for a woman at the time was \$7. But estimated budgets are seldom of any value except for the entertainment of the makers. Multitudes of men with good-sized families managed somehow on from \$9 to \$12 a week at that time, and got no wage help from their wives or children. Naturally the living standards were far

¹ The classes of occupations where men remained supreme were soldiers, sailors, marines, street-car drivers, municipal firemen, assistants to roofers, boiler makers' helpers, and brass workers' helpers.

below the hypothetical estimates of the statisticians. Perhaps a better estimate of comparative wages than that of the Pittsburgh survey would be that of a federal investigation of the textile industry as a whole in 1907. It was found that male operatives got an average of \$7.15 a week while females got \$6.49. It is only by measuring separately the industries in which women are employed that the actual amount of damage done by paying them smaller wages can be estimated.

The fact that so many women at all times have been engaged in domestic service tended to lower the average wage level of all women as compared with men. Certain other occupations, such as school teaching, have virtually been monopolized by women, mainly because they would work for smaller wages than men could accept. By 1933 girls fresh out of high school were receiving sweatshop wages as rural teachers (see Chap. XXXIV), thereby supplementing the income of the family without actually making enough for independent existence. By accepting such wages they set a starvation standard for other teachers who not only had no other means of support but, instead, had others dependent upon them. Thus far the labor unions have not made any great progress in unionizing women in the employments in which they are most numerous. Consequently the living standards of family men have been jeopardized even more than those of single women laborers.

The New Socialism. The political labor movement showed fewer variations after 1900 than before. But some real progress was made by the Socialists for the first 20 years. The vote for Debs increased to 402,000 in 1904, 421,000 in 1908, and 902,000 in 1912. As a result of the latter election, Socialists confidently predicted victory in the course of two or three more campaigns. But there was a reaction in 1916, brought on over a division of opinion about America's attitude toward the belligerents of Europe. Consequently, the vote for Allan J. Benson fell to 591,000. Socialists were proscribed during the period of American participation in the war. The usually mild-mannered but sometimes vitriolic Debs was sent to the federal penitentiary in consequence of voicing doubts as to the righteousness of the cause of the United States. Realizing the injustice of this imprisonment, many people who were only mildly socialistic in thought cast their votes for "Genial Gene" in 1920. Debs, while serving his sentence, received the largest vote of his five campaigns, 920,000. Because of the enlarged electorate resulting from the Nineteenth Amendment, his percentage of the total vote was much smaller than in 1912.

The I.W.W. A second movement toward syndicalism started with the launching of the Industrial Workers of the World in 1905. It came

about largely as a result of the troubles of the Western Federation of Miners. Ever since the suppression of the strikers at Cœur d'Alene in 1892 there had been an intermittent civil war for an eight-hour day with \$3 pay. Colorado in 1899 adopted an eight-hour day for miners, but the state supreme court nullified the act. Then in 1902 the constitution was amended to authorize such a measure, but succeeding conservative legislatures neglected to take action to put the provision into effect. In disgust at the failure of politics to remedy the plight of labor, William D. Haywood and others founded the I.W.W. The idea was something like that of the Knights of Labor in including all kinds of workers in one big union. Labor ownership of capital was also stressed, but the method of attaining such control was more like that of the Black International of the 1880's. A relentless but covert war on capitalism was attempted, sabotage being the main weapon.

The organization was split into factions from early days. De Leonites differed with other socialist members, while trade unionists objected to syndicalism. The Western Federation of Miners seceded in 1907, joining the A.F.L. four years later. Then in 1908 the remnant of the I.W.W. split in two. Nevertheless, a desultory struggle for existence continued for a few years. Then, after losing some strikes in the East in 1912 and 1913, the I.W.W. dwindled away. It never had had over 60,000 members. Perhaps its greatest contribution to the labor cause was in driving the American Federation of Labor into a counter-revolution. More attention in the future had to be given to unskilled workers. The greatest direct influence of the I.W.W. was among the nomadic laborers of the West, whose grievance against the hoary teachings of church and society was summed up in the song: "Work and pray, live on hay. You'll eat pie in the sky when you die." There had been too much teaching that the meek would inherit the earth. The I.W.W. decided that six feet of earth in the ultimate potters' field was scarcely enough for comfort. Meekness had no place in a struggle with capitalism. There was much excitement about I.W.W. influence in logging camps, harvest fields, and some war-industries factories in the West in 1917 and 1918. In some cases they were treated with shocking brutality. But there was little evidence to show anything more than the usual discontent of migratory workers. War hysteria supplied most of the rumors of plots.

Growth of A.F.L. Following the brief lapse into political action in 1893-1894, the American Federation of Labor reverted again to collective bargaining and trade agreements. Beginning about 1900 there came fifteen years of solid growth, followed by half a decade of World War prosperity, the unions being fostered under the aegis of a benevolent government. Political reaction, beginning in 1918,

reached ascendancy in 1920, after which the unions had difficulty in retaining a portion of the gains made during the war. Then, following 1929 organized labor faced a new crisis which demanded solution in more heroic terms than those decided upon in the 1880's and 1890's. Some details of the developments of these three decades are necessary to illustrate the problems.

From a membership of 550,000 in 1900 the American Federation of Labor jumped to a million in 1902 and reached a temporary high mark of 1,676,000 in 1904. Thereafter it was almost stationary, while consolidating its gains, till 1910. Then it reached 1,996,000 in 1913, after which came the period of war-time growth. A number of strong unions were slow in affiliating with the Federation. Some, particularly the four railway brotherhoods, have never joined. Union members outside the Federation numbered over 300,000 in 1900, about 600,000 in 1910, and above a million in 1920. The most highly organized industry was the brewers, 88.8% of the men being union members in 1910. The printing trades came second with 34.3% membership. Then followed mining, transportation, clothing, building trades, iron and steel workers, and textiles, the latter being only 3.7% unionized. By 1900 several unions had already gained the eight-hour day, notably coal miners and the building trades. But other crafts continued for years to conduct expensive fights on this issue, the Typographical Union not succeeding till 1909.

The United Mine Workers. The career of the United Mine Workers of America to 1914 is an example of several of the problems organized labor had to encounter. Their first success was in the central bituminous competitive field of Ohio, Indiana, Illinois, Michigan, and western Pennsylvania. Their incubus was an inability to make headway in West Virginia and eastern Kentucky. The union secured a trade agreement in 1886, but it was effective only in Ohio. By 1897 the membership had declined to 10,000. By that time the coal market was rising, thus creating a good opportunity for collective bargaining. A general strike was called in which 100,000 or more men walked out, though few of them belonged to the union. Production stopped except in West Virginia, where injunctions were issued copiously and many leaders were sentenced for contempt of court. Sheriffs in Illinois called for the militia to suppress strikers who were in no respect riotous, but Governor John R. Tanner was man enough to refuse the request. The miners won after a twelve weeks' contest, getting the eight-hour day, the abolition of company stores, semimonthly pay, and biennial conferences. The mine-run basis of payment and the check-off system of collection of dues were inaugurated in a small way in 1898. This marked the beginning of a succession of trade con-

ferences and gains by bituminous miners until the collapse of the soft-coal industry in the 1920's. John Mitchell, president of the union, insisted on abiding by agreements. The unions tended to stabilize the business, though overproduction and slack employment continued.

West Virginia remained backward. Miners were compelled to sign "yellow dog" contracts—agreements that they would never join a genuine union. They lived in company houses and were obliged to do all their trading at company stores. If they failed to sign the contracts they were evicted and had to camp on the hillsides, dependent upon charity. The courts issued injunctions to prevent the United Mine Workers from attempting to organize miners who had signed the iron-clad oaths. In 1917 the United States Supreme Court upheld such injunctions in the case of *Hitchman Coal and Coke Company vs. Mitchell et al.* In consequence of the serfdom of West Virginia it was possible for the mine owners to undersell those north of the Ohio River, thus jeopardizing the prosperity of the whole coal industry.

Unionization in the anthracite field was tardier, because of a monopoly which was hard to fight. In 1900 a strike was called by the 8,000 union men, but over 100,000 miners joined in the movement. Mark Hanna, fearing that the election of McKinley would be endangered by this situation, mediated with the operators in favor of the workers. Some abuses were moderated in the settlement, but the union was not recognized. The great strike of 1902 grew out of the failure of the operators to abide by their agreements, coupled with a miners' demand for a 20% increase in wages. Over 150,000 joined in the strike which lasted five months. All of the employed United Mine Workers of other parts of the country contributed a dollar a week each to the strike fund which reached \$2,000,000. This was the disturbance Theodore Roosevelt helped to settle. He probably would have failed had not Wall Street influence been brought to bear upon the operators to prevent a further spread of unrest. The commission which arbitrated the dispute granted a 10% wage increase, a shorter day, and the right of the unions to employ checkweighmen, but definite recognition of the union was not included. A general hostility to trusts threw public opinion on the side of the strikers.

The agreement of 1902 was periodically renewed till 1912, in which time the cost of living was advancing while the lack of the check-off system hindered further unionization. The United Mine Workers then asked for a 20% rise to offset higher living costs, complete recognition, the check-off system, and annual trade agreements. On refusal of the operators, 180,000 men struck, gaining a 10% increase and partial recognition of the union. Four years later the eight-hour

day and full recognition were gained. By 1913 the United Mine Workers, with 378,000 members, were one of the strongest unions of the country.

The New Unionism. A new tendency in organization developed during the period of I.W.W. rivalry. This was the industrial union idea, all workers of a given industry to be included in a single union instead of being divided according to crafts. It was a sort of compromise between the trade units sponsored by the A.F.L. and the one big union represented by the I.W.W. It offered the advantage of a united industrial front against the employers, but it tended to split up the trades. A machinist performs essentially the same sort of work whether employed in a railroad shop or a munitions factory. Freedom of movement might be hampered in his case by industrial instead of trade organization. The number of trades so affected, however, would not be large, while the possibility of dual union membership can always be considered. The International Ladies' Garment Workers Union of America was formed in 1910 as a part of the A.F.L., and as the first attempt of the Federation toward the sponsoring of a true industrial union. In 1914 the Amalgamated Clothing Workers split off from the United Garment Workers to establish the same sort of an organization. Though the new union had much success it was never admitted to the A.F.L. because of its secessionist origin. The Railway Employees' Department of the A.F.L., created during the World War for unity of action between the lesser railway unions, resembled an industrial organization except for the omission of the four aloof brotherhoods.

Contests over the Open Shop. Such success as the unions achieved prior to 1914 were largely the result of trade agreements. In a period of advancing prices the employers were willing to make concessions, knowing that the additional cost of manufacture could be passed on to the consumers. In the same period the unions worked hard at the task of enforcing favorable working rules for maintaining equality of opportunity between laborers, improving sanitary conditions, rendering the unions secure against attack, and protection of the job. The four railway brotherhoods, for instance, secured recognition of seniority rights (the bumping privilege). But after the Panic of 1907 the employers again began breaking trade agreements. Many of them started agitation for the open shop (annihilation of the unions). Compact groups of scabs were retained by employers' associations to rush in wherever a strike might occur in the industry. The Employers' Association of Dayton was an outstanding example of hostility to unions. No laborer could get a job without a card bearing the indorsements of previous employers. In various cities "citizen's alliances," composed of persons hostile to unions, presumed to represent the

public" in all trade disputes. The National Association of Manufacturers, dating from 1895, had become definitely antiunionist by 1903, using effective lobbying resources to combat legislation favorable to labor. The American Anti-Boycott Association, a secret organization formed in 1902, later backed the prosecution of the Danbury Hatters (see p. 618, note). The United States Steel Corporation in 1901 excluded union men entirely and all ex-union men except such as would sign the iron-clad oath. In some cases the laborers retaliated against these militant tactics, the blowing up of the *Los Angeles Times* building in 1911 being the culmination of one of the contests.

A.F.L. Opportunism. During all this time the A.F.L. continued to steer clear of direct political action. The lessons of earlier labor parties were remembered and overemphasized. It was realized that the federal Constitution and, to a large extent, the state constitutions were rigid and relatively unchangeable—that the courts had almost unlimited authority to set aside acts of a liberal character. Anything the legislatures or Congress could accomplish would be small as compared with the union programs. What the labor organizations wanted was more freedom of action to obtain by trade agreements what could not be established by law. Even if the constitutions had been more pliable, the building of an effective labor party would require years of effort and a vast amount of money. The leaders, realizing the hold of old party ties, understood how easily labor could be driven into political organization under extreme situations, but how surely it drifted back to the old channels by the next election day. So, instead of taking the effort to educate the mass to the point where it would offer consistent political pressure, the Federation officials chose to grasp each immediate advantage as it appeared, consolidate the gains, and watch for new opportunities.

At times the A.F.L. has been so conservative as to create dissension within its own ranks. There was too much of a tendency to support any policy of the employers so long as there was a fair division of the spoils, too much readiness to support selfish tariff proposals, and too great an inclination to spurn the aid which could have been secured from intellectuals in the labor movement. As an example of the latter shortcoming, it has been argued, the strike for recognition of the union in the United States Steel Corporation in 1919 might well have succeeded if some intellectual go-betweens had been employed to present labor's side to the public. As it was, since only the employers' side got a hearing, the strike was lost for lack of public support. An extreme example of selfish conservatism has been the sneering attitude of the A.F.L. toward the International Labor Office created under the

auspices of the League of Nations. Though Gompers himself helped to create the agency, Federation officials have done very little to help make it effective, yet are among the first to point out its weaknesses.¹

Labor Gains under Wilson. Still, some recognition of politics had to be granted. Anti-injunction laws, freedom of organization, the strike, the boycott, and exemption from the antitrust laws were necessary for effective union action. To gain these ends the A.F.L. pursued the policy of rewarding friends and punishing enemies. In 1904 a beginning was made toward pledging the candidates of the major political parties on labor issues. In 1906 labor speakers were sent into districts where the worst opponents of the unions were campaigning. In 1908 the Democratic platform contained the A.F.L. anti-injunction plank, while the Republican platform was silent and Taft, as a former judge, had been notorious for his labor injunctions. Consequently, the A.F.L. indorsed the candidacy of Bryan, and in 1912 threw its influence to Wilson. In 1913 and 1914 the Democratic Congress began adoption of Federation planks of 15 years' growth, including the federal Eight-Hour Act, the Seamen's Act, the creation of a separate Department of Labor, the Clayton Act, and an enjoining of the Attorney General from using his appropriations to fight the unions. When William B. Wilson of the United Mine Workers was made the first Secretary of Labor, the Federation attachment to the Democratic organization became more complete. Democratic candidates continued to receive union indorsement through the campaign of 1920. But the labor record of John W. Davis was such as to repel the Federation support which, accordingly, in 1924 went to Robert M. La-Follette, the Progressive and Socialist candidate.

Another evidence of the friendliness of President Wilson to the labor movement was the appointment of Louis D. Brandeis and John H. Clarke to the Supreme Court, thus tending to liberalize that body. But the earlier appointment of James C. McReynolds was not so fortunate. Also, the four Harding appointees of 1921-1923 were extreme conservatives, thus destroying the liberal trend of the court just when peace-time adjustments were needed. A United States Commission on Industrial Relations, created by Congress after the bombing of the *Los Angeles Times* building, made a report which did much to create favorable public opinion for the trade unions during the Wilson administration.

¹ French and British labor insisted upon an international labor congress to help make peace in 1918. British labor urged socialized reconstruction. But American leaders would not back such plans, being satisfied to push unionism further. The A.F.L. indorsed the whole Treaty of Versailles, while British organizations expressed doubts about many points.

War-time Expansion of Unionism. The American Federation of Labor was allowed to determine the policy of the Department of Labor and, in consequence, the Federation firmly backed Wilson's policies of neutrality and later belligerency. The Adamson Act for an eight-hour day on railroads (see p. 675) was denounced by its opponents as a cowardly surrender to union demands. But in the main it merely conformed to the general administrative policy, and was upheld by the liberalized Supreme Court in 1917. During America's participation in the European war every encouragement was offered by the federal government to further craft organization in lines not previously unionized. The closed shop was not to be demanded till peace was restored, in industries where it had not existed before the war, but the employers were not to restrict unionization. While the railroads were under government management the shopmen, section hands, telegraphers, and other employees who hitherto had not been so were very imperfectly organized were assisted in completing their unionization.

On March 29, 1918, the National War Labor Conference Board reported itself favorable to the establishment of a permanent War Labor Board. The unions and employers respectively were to renounce the strike and lockout for the duration of the war, on the understanding that organization should not be limited, that restriction on output would be abolished, and a living wage should be accorded even to the commonest of workers. Though the War Labor Board did not establish compulsory arbitration, public opinion made its recommendations effective. Under such encouragement the unions entered the meat-packing business, from which they had been excluded since 1904, but they were forced out again in 1921. The United States Steel Corporation was powerful enough to exclude unions even during the war. The American Federation of Labor grew steadily in membership to 4,078,740 in 1920, while the total of organized labor reached above 5,100,000.

In spite of the fierce loyalty of the A.F.L. during the war, there were several strikes and near strikes for recognition of unions. When the makers of Browning machine guns struck the government smoothed out the trouble rather than resort to coercion. Some I.W.W. members were roughly handled in the far West, while in Arizona about 1,200 strikers were illegally ushered across the state line. States passed laws concerning "criminal syndicalism" and injunctions were freely issued by state courts. Worse yet, the federal government went to extremes in prosecution under the tyrannical sedition laws, sending a number of agitators to prison mainly for voicing ideas a little more advanced than those of Samuel Gompers.

Still, the administration was far more liberal toward labor than any preceding ones had been—and it was well that this was so. For, in spite of all the advantages gained, even union wages barely kept pace with the increased cost of living, while common labor would have suffered had it not been for unusually steady employment. Salaried men, including teachers and college and university professors, who were too timid to organize and too proud to let their wives take in washings, frequently were pinched with hunger and clothed in patches after buying the quota of liberty bonds forced upon them as a test of loyalty.

Postwar Reaction: Strikes. Hardly was the Armistice signed in 1918 when a change came in the whole field of labor. Munitions plants and other factories working on government contracts closed down indefinitely, adding to the number of unemployed as the soldiers returned from camp or France. About 4,000,000 laborers were involved in strikes in 1919, the steel, coal, railway, and textile industries being especially affected. The showdown came in the steel business in September, 1919, when William Z. Foster and his committee called out the steel workers for union recognition and the eight-hour day. About 300,000 men joined in the movement. But the strike was against the most powerful employer of the country, and the federal administration no longer had war-time power to compel arbitration or concession. Federal troops patrolled the strike centers, but merely to preserve peace. Public opinion, bolstered up by a hysterical press of extreme capitalistic viewpoint, insisted on considering the strike an outburst of bolshevism. Foster himself was a communist, and this was about all the evidence the public wanted. But, when a committee of the Interchurch World Movement showed by investigation the real hardships to which the steel workers had been submitted, it was seen that public opinion had been grossly in error. The weight of this sentiment had forced hundreds of thousands of men back into a condition of industrial slavery. Within two years their wages were cut 30%. Though four years later Gary was forced to grant the eight-hour day, union recognition did not come.

In November, 1919, the miners struck for a 60% increase in tonnage pay and a 30-hour week to spread employment throughout the year. The operators, balked by the Fuel Administration in their efforts to raise the price of coal, refused the demands. At Attorney General A. M. Palmer's suggestion, a federal district judge at Indianapolis issued an injunction against the strike leaders. But the movement continued until a bituminous coal commission appointed by Wilson allowed a 27% tonnage increase. The operators created an artificial coal shortage just as winter was coming on, thus forcing the public to

the belief that the miners' demands were unreasonable and dishonest. Though the settlement did not raise the cost of coal 50¢ a ton, immediately after the strike the price charged consumers in some localities jumped six and eight dollars a ton. The people were asked to believe that the new scale of wages was to blame.

Striking continued in 1920-1922 with sufficient fervor to keep the hypersensitive and misled public in a constant nervous fear of a bolshevist revolution. About 1,500,000 men struck in 1920 and a million in 1921. Some of the most violent outbursts occurred in 1922. As soon as the railroads were returned to private control the switchmen and yardmen struck, though against the orders of the national officials of the unions. The new Railway Labor Board declared that it would not treat with the "outlaw" organizations, but on July 20 it ordered a temporary wage increase which was considered inadequate by the unions and was agreed to unwillingly. Marine workers, clothing, building, and packing-house unions were notable among the strikers of 1921. In 1922 an upward wave to about 1,600,000 strikers was noted, with coal miners and railway shopmen particularly numerous. It was in 1922 that a war between strike breakers and half-starved striking miners near Herrin, Illinois, brought unwarranted reproach upon the ordinarily peaceful citizens of Williamson County, and but slight comment upon the activities of the operators responsible for bringing in the strike breakers.

Efforts to Crush Unions. As conditions improved, following the depression of 1921, the number and violence of strikes began to diminish. But, meanwhile, the unreasoning fear of communist influence helped create a fever of conservatism from which the country was barely convalescing a decade later. The National Association of Manufacturers and its allies started an open-shop campaign under the remarkably original name of the "American plan." Shop committees, company unions, wage bonuses, and employee ownership of stock were tried in some industries with the single purpose of breaking down employee-controlled unions and leaving the employers in the position of dictatorship. Universities, large and small, and colleges of the salt-water, fresh-water, and bilge-water variety were inveigled into offering courses in "personnel management" in the effort to substitute industrial paternalism for industrial democracy. The United States Chamber of Commerce and the American Bankers' Association loudly applauded the "democracy" of the open shop. Henry Ford posed as the great friend of the worker because he paid higher wages than any other company in the automobile business. But his system of specialized labor and mechanical efficiency made men mere parts of machines and stifled questioning of the plan outside of work hours. Unions were

not tolerated. Men came to work for him because of the higher wages, but they were not converted to his idea.

Labor ownership of stock was probably the most subtly deceiving of all the means used to satisfy workmen with dictatorial control. By 1927 it was reckoned that 806,000 employees of 315 companies hiring over three times that many wage earners owned stock which, at the inflated values of that day, was thought to be worth a little over a billion dollars. What that stock was worth in 1932 may be guessed at when it is noted that the Panic of 1929 wiped out paper values equal to the total German war indemnity. Only 7.5% of the stock in companies having employee ownership was held by the laborers, and only 1.5% of the voting stock was thus controlled. A large per cent. of these workers later discovered that, instead of enjoying their wages when due, they had poured them back into the company and then were possessed of pretty pieces of paper of little value.

One of the panaceas of the period of national neurasthenia was the compulsory arbitration law adopted by the state of Kansas at the insistence of Governor Henry Allen in 1920. It was fought by labor organizations because compulsory arbitration was too much like involuntary servitude. In 1925 the whole scheme, industrial relations court and all, was overruled by the regular courts. The laborers had their revenge in 1930 when Allen was running for the Senate. In combination with a large number of farmers who were dissatisfied with administration measures which Allen was supporting, they defeated him, electing instead his fellow townsman George McGill whose name even was unknown to them prior to the campaign.

The Bolshevik Hysteria. The abject fear of communism led to ends some of which were ludicrous and others tragic. Late in 1919 Attorney General Palmer, who had rather an overdose of nervousness, had about 70,000 bolshevik suspects caught in a federal dragnet, and a shipload of several hundred of them were later deported in what came to be known as the "soviet ark." In this same period Postmaster General Albert S. Burleson suppressed an issue of the *Masses*, a communist newspaper, and then had it barred from the mails because it was no longer a periodical. The veteran Milwaukee Socialist Victor Berger was twice denied his seat in the House of Representatives to which he had been legally elected, though it would require quite a stretch of imagination to make a communist out of him. The New York legislature likewise barred five duly elected Socialists. None of this unconstitutional procedure was continued after 1920. The most significant tragedy of the crusade was the case of Nicola Sacco and Bartolomeo Vanzetti, Italian subjects who were sentenced by a Massachusetts court for a murder which they were supposed to have com-

mitted in April, 1920. The evidence and court procedure partook of the nature of the Haymarket trials of 1886-1887. The case was fought and appealed for six years after the conviction. The men were executed on August 23, 1927. Even mildly conservative people the world over were shocked at the execution. Many of them sincerely believed that the fact that the men were radicals played a major part in the case.¹

People made no distinction between evolutionary socialism and revolutionary communism. The war broke the old Socialist party, and the vote for Debs in 1920 was largely a personal tribute. The support given LaFollette in 1924 was in lieu of any actual Socialist upon whom the party could agree. Debs was already weakened physically, dying two years later. For a time Berger was considered as a new party head. But in 1928 the Reverend Norman Thomas, a Princeton graduate, was selected as the standard bearer. Thomas was of the more intellectual type, a most convincing and polished speaker, but, lacking the fire of the old leaders, he received less than 268,000 votes. He was renominated in 1932, but made a showing only a little better than in the preceding campaign.

The Communist Movement. American communism was begun in the city of New York in 1919 as the left wing of the Socialist movement. William Z. Foster, the principal leader, organized his following into the Workers' party which was composed of about 15,000 or 20,000 paying members, mostly of foreign birth. An effort to absorb the membership of the Amalgamated Clothing Workers failed, though many of the latter were Russians. The splits in the communist movement were so numerous that one writer in 1924 listed sixteen different societies, each claiming to be possessed of the true gospel. In time most of these elements came to the support of Foster, who, as the presidential candidate of the Workers' party, secured 33,360 votes in 1924 and 48,770 votes in 1928. Even the hard times of 1929-1932 failed to add strength to the party vote in the latter year. The American Federation of Labor and the railway brotherhoods became the harshest critics of communism, carrying their hostility to the point of opposition to the recognition of soviet Russia even after conservative business men had begun to clamor for it. There were two main reasons: competition for organization of the underpaid laborers of the

¹ The whole case is reviewed in elaborate detail and with most of the testimony by Osmond K. Fraenkel, *The Sacco-Vanzetti Case* (New York, 1931). The procedure was similar to that in the case of Thomas Mooney, who was accused of throwing a bomb which killed ten persons at San Francisco in 1916 during a preparedness parade. He was sentenced to life imprisonment, though the judge, jury, and witnesses later declared that they had no real evidence against him. In December, 1931, the California governor refused a pardon after a nation-wide campaign in Mooney's defense. In 1933 Mooney was acquitted of murder in the case of one of the victims of 1916, but he was still held in prison for the first conviction.

southern Appalachian region, and fear of cheap goods coming in from Russia.

Opportunities for communist missionary work were especially plentiful in 1929 and following. An outburst of labor unrest occurred in the textile mills of North Carolina in 1929, centering around Gastonia. Low wages, still further depressed by the general distress of cotton factories, was coupled with a refusal to recognize the unions or even to employ union men. But not all the laborers could be scared by the threat of eternal torment if they joined a union (see p. 419), so some organization was effected by the communists. The disturbance drifted into a guerrilla warfare which the state officials did their futile best to keep out of the newspapers. After a reign of terror of several months the whole movement was suppressed.

The other principal storm center was in the coal fields of West Virginia and eastern Kentucky. There the coal industry was suffering the penalty of a generation's suppression of unions. The operators had contributed, through underpayment of laborers, more than their share to the overproduction of coal. Mining villages were scattered all over the hillsides, the inhabitants either unemployed or working at starvation wages. Local officials could not suppress the tales of deprivation and shocking brutality which continued to creep out. Strikes in the West Virginia field were regularly accompanied by eviction of the miners from their homes. Reprisals, especially when families were near freezing in their temporary huts, were sometimes swift and gruesome.

Early in 1931 attention was drawn especially to the Harlan coal fields in Bell County, Kentucky. Sheriffs and their deputies had been shooting indiscriminately at striking miners, one of whom returned fire with fatal effect. He was acquitted of murder on the plea of self-defense. But, in the meantime, other shootings had taken place. In the trial of ten men involved in the killing of four deputies in May, 1931, the whole account of the inhuman treatment of miners and their families came out. It was not a new story, but for the first time the truth, which had long been appearing in the liberal weekly journals, was spread on the front page of the newspapers for the common man to read. The novelist Theodore Dreiser courted and received legal persecution in his efforts to reveal the situation. Then, early in 1932, various delegations of college boys and others were cuffed, beaten, and driven out of the county for attempting to investigate. The long failure of the United Mine Workers¹ to accomplish any organization

¹ The United Mine Workers by this time were struggling for existence in the central competitive field north of the Ohio River. Between 1914 and 1923 loaders' wages had been increased 77% while day laborers' wages had risen from \$2.86 to

led many of the victims of the industrial war to listen to the arguments of the communists. This was all the more reasonable to expect since the communist soup kitchens served more meat on the bones. But the presence of communists gave an excuse for officials to invoke the state criminal-syndicalism law, thus furnishing the agitators with just the sort of advertising which would bring them the most recruits.

The Unions in Difficulties. It was only natural that as a consequence of postwar reaction there should be a falling off in union membership. The decline was most rapid during the period of failing strikes in 1921 and 1922. But the lowest point was reached by 1924. The American Federation dwindled by nearly 30% to 2,866,000, while all unions combined lost about 1,500,000 members, standing at 3,649,000 by 1926. In spite of all losses, union membership was still about a million above the prewar level. The reduction had been heaviest in the unions of most recent origin. Transportation and metal-working unions alone lost 800,000 members by 1923. The advances after 1924 were very slight till 1926, and were almost nothing in the manufacturing industries. The greatest gains were in the building and clothing trades and among musicians and other employees around theaters and moving picture houses. Then there was a rapid growth till the close of 1929. In 1930 the American Federation of Labor claimed "104 national and international unions representing 29,226 local unions, 4 departments, 49 state [and district] branches, 804 city centrals, with a total of 3,461,096 members." In addition, there were just about a million in unaffiliated unions, bringing the total within half a million of the zenith of 1920.

As compared with the growth of population, manufacturing, and general business, the status of labor organizations was worse by 1930 than the figures of membership would indicate. The total number of persons employed in manufacturing, mining, and railroad transportation fell from 13,649,000 in 1919 to 12,655,000 in 1927, while the population of the country was increasing 13,000,000. A growing number of laborers was being dislocated in consequence of the technical revolution, while the influence of the unions was being weakened by the ease with which unskilled persons could be put at machines to do work formerly requiring skilled labor. The iron molders' and glass

\$7.50. Nonunion daily wages dropped after 1920 to about \$4, whereupon the operators of union mines wanted to reduce wages to overcome competition. At Jacksonville, Florida, it was agreed in 1923 to maintain the existing union wage for five years. But almost immediately various operators began violating the arrangement, reopening on a nonunion basis. Wages were cut drastically. Then, in 1928, the United Mine Workers, in order to save the organization, permitted separate agreements according to the locality. Wages in Ohio immediately fell by a third. Better conditions prevailed in the anthracite field because of complete unionization and no competition.

blowers' unions were virtually wrecked by the new machinery. Some cities, Detroit for example, openly boasted of being on an open-shop basis.

The unions which separated from the Federation and organized on the industrial basis increased in number and strength. The efforts of New York clothing manufacturers to destroy the Amalgamated Clothing Workers failed in the spring of 1921, after which this organization stood at the head of the "new union" movement. A slight tendency toward cooperation was also noted. In 1920 and following, about forty labor banks were opened. New York clothing workers tried the building of cooperative apartment houses, and there was a temporary movement for the establishment of labor schools and colleges. These innovations all met reverses following 1929. Unemployment funds, such as that created by the Amalgamated Clothing Workers, proved great union savers in the period of hard times.

To many people, for a few years prior to 1929, it was comforting to believe that the day was arriving when the lion should lie down with the lamb and labor would thrive under the beneficence of capital. But true prosperity was not to be measured in profits of corporations or booms in the prices of land and stocks. Anybody could see that the farmers, who constituted a fifth of the population were not prospering, but the fallacy still persisted that the laborer and salaried person were flourishing.

Labor's Share of Wealth The national wealth was estimated to have grown 72% in the decade prior to 1922, reaching a valuation of \$320,000,000,000. By 1925 the figure was set at \$355,000,000,000, or a per capita average of about \$3,000. If this had meant uniform possession, certainly everybody would have been living in economic comfort. But when it is noted that in 1931 over \$25,000,000,000 was tied up in 188 personal fortunes and estates each of \$40,000,000 and upward in the city of New York alone, not counting the ordinary multimillionaires and minor millionaires of that city and the country at large, a saner idea of the distribution of consuming power begins to appear. Income, rather than wealth, is a safer basis for estimating the welfare of the common man. Here again appearances are deceptive. The per capita realized income of the United States, accepting the 1925 value of the dollar as standard, was \$621 in 1913, a little less in 1914-1915, somewhat more in 1916-1918, \$576 by 1921, and \$712 in 1925. But the wealthiest tenth of the population received 33.1% of the total income in 1918, 35.3% in 1921, and 32.9% in 1926. This indicates that, though in periods of depression the emolument of the rich may decrease, their proportion of the national income increases.

Another view of the matter is conveyed by a comparison of the

division of the national income between wages, salaries, property, and entrepreneurs' profits. From 1913 to 1925 the proportion going to wages rose from 37 to 38%, to salaries from 15 to 18%. The per cent. going to property declined from 25 to 23 and to entrepreneurs' profits from 22 to 20.¹ These figures apparently mean that a portion of interest and profit was translated into salaries, while labor benefited 1% in 12 years.

The money wages of labor in the period of rapidly changing values from 1913 to 1927 mean almost nothing aside from their relation to living costs. In 23 representative industries the hourly wage averaged 25¢ in 1914, 61¢ in 1920, 49¢ in 1922, and 57¢ in 1927. Union hourly pay in the building trades rose from an average of 53¢ in 1914 to \$1.32 in 1927 while in some cities in the latter year bricklayers, carpenters, painters, plasterers, plumbers, and gas fitters got from \$1.50 to \$1.75 along with rather steady employment. The difference between these aristocrats of the labor world and common unskilled workers is shown by the estimated rise in hourly wages for the latter from 20¢ in 1914 to 49¢ in 1927. No genuine tendency has been revealed in recent years to lessen the gap between skilled and unskilled labor.

The purchasing value of wages has a far greater meaning, but the basis of computation of real wages varies with the statistician. The government calculators, especially in the 1920's, made much of their opportunity to show a positive gain. The great trouble is that costs are measured by the factory or wholesale values of selected staple commodities. The weakness is that before the wage earners receive these commodities the prices have been pyramided. The laborer buys tools, clothing, and beef, not steel, wool, and cattle. Furthermore, there is always a mass of necessary incidentals which are rarely included in computing the laborer's budget. The figures at their brightest show real wages dropping from the index figure of 100 for 1913 to 95 in 1919. They then rose to 114 in 1923 and 119 in 1927. The salaries of employees showed greater variations, falling to 75 in 1919, recovering to 102 in 1923, and standing at 114 in 1927.

Even if it is assumed that wage and salary employees in 1927 were receiving the given percentages above the 1913 value, this would mean improvement for the employed classes only if they had steady work. But unemployment was high even in the years of stockholders' prosperity. The figures of enforced idleness are difficult to obtain, for lack of compulsory registration and the confusion of inactive persons who do not want or need work with the genuinely unemployed habitual workers. Between 1920 and 1927 about three million persons left the

¹ Pensions and the like remained at 1%.

farms. Those who did so soon enough had plenty to keep them in their old age, provided they sold out early and then steered clear of the stock market, "blue sky" salesmen, and weak banks. The figures of unemployment which follow exclude all voluntarily unemployed persons, being based on the difference between the number actually employed and those "desiring and habitually dependent upon employment."¹ Only nonagricultural wage and salary earners are included. A comparison between the columns of wage earners and the unemployed still remains rather tricky, because the former includes some classes receiving salaries but more properly belonging to the entrepreneur group.

UNEMPLOYMENT, 1920-1927

YEAR	NONAGRICULTURAL WAGE AND SALARY EARNERS	AVERAGE MINIMUM UNEMPLOYED	PERCENTAGE OF UNEMPLOYED
1920	25,558,000	1,401,000	5.1
1921	27,989,000	4,270,000	15.3
1922	28,505,000	3,441,000	12.1
1923	29,293,000	1,532,000	5.2
1924	30,234,000	2,315,000	7.7
1925	30,941,000	1,775,000	5.7
1926	31,808,000	1,669,000	5.2
1927	32,695,000	2,055,000	6.3

Systematic efforts were made either to ignore the unemployment problem entirely or else explain it away as a displacement by machines which would be eliminated in the long run by the creation of new jobs. Assuredly it must not be considered as a national problem. More grievous than this sophistry was the fact that remedial means were at hand but employers were still horrified at any suggestion of state control which would deprive them of the initiative. The notion seemed to prevail that the country could continue multiplying its production with a diminishing labor force regardless of the fact that the farmers were constantly losing their capacity to buy and the dispossessed laborers lessened the consuming power of those upon whom they were dependent. When the day of reckoning came in 1929 the greatest minds of the industrial world seemed to be as devoid of an understanding of the situation as they had been in the midst of the period of high dividends. A consideration of the labor and unemployment problem after 1929 must await its place in a general treatment of the complex and dismal problems of those years.

¹ Leo Wolman, "Labor," in *Recent Economic Changes*, Vol. I, p. 469. The figures are from p. 478.

CHAPTER XXXIII

THE UNCERTAINTIES OF AGRICULTURE

Although the factory system and corporation control in farming had made only a beginning by 1930, the preceding decades had brought about revolutionary changes second only to those in manufacturing and transportation. The utilization of land had progressed to the point of reclamation of deserts. Gasoline power in some localities had almost entirely replaced the horse and mule. The grazing and wheat specialization belts had been pushed to the ultimate frontiers. Agricultural education was dominated by scientific methods, being subsidized more and more by the federal government. Substantial and solid growth had been made in cooperative marketing and buying. The farm home was being modernized. But, along with all these developments, the future of farming assumed such alarming uncertainties as to call for an increasing insistence upon direct federal aid in periods of distress. The plight of agriculture became evident years before extensive attention was paid to the matters of wages and steady employment for the industrial laborer.

Reclamation Work. Much attention was properly paid to the development of fertile but arid land, even though it reduced other less valuable acres to the marginal class. The Reclamation Act of 1902 amended some of the errors in the Carey measure of 1894, providing for direct federal activity in reclamation work. The proceeds from land sales, up to \$10,000,000 a year, were to be used for irrigation of arid lands not provided for under earlier legislation. The Homestead Act was amended to apply to claims of 20, 40, or 80 acres, full title to come after five years' residence and the bringing of half the land under cultivation. The government was expected to get its initial investment back from the dams and canals in payments made by the settlers over a period of ten years. The water rights cost from \$20 to \$30 an acre, and, as under the Carey Act, the installments ceased after the stipulated sum was paid. Each homesteader was allowed three acre-feet of water a year.

Defects were found in this law also. Not enough rights were sold to pay for the initial projects, and many homesteaders at the end of their five-year period still had no water. After various attempts to remedy this situation, Congress finally had to appropriate \$20,000,000 to complete the works. In 1902 it was thought that all arid land was

fertile because the chemicals had not been leached out by rainfall. In truth, oftentimes too many chemicals were present, including harmful alkalies which irrigation washed down to the low spots, rendering them useless. Drainage canals often proved almost as necessary as irrigation ditches. It was also considered sufficient merely to bring the water to the farms, under the supposition that the settlers who flocked in would be capable of carrying on irrigation farming. In 1924 Congress changed this by authorizing the Secretary of the Interior to "select settlers on approved qualification of capital, experience, industry and character."¹

The laws of seventeen arid states had to be taken into consideration by the commissioner of the federal Reclamation Bureau. Adjustments to local conditions were often rendered difficult. New projects often resulted in unwarranted speculation, sagebrush land sometimes advancing to several hundred dollars an acre. Finally, the cost of irrigation ventures had no relation to the value of crops that might be grown in consequence. Three different projects resulted in the reclamation of land on which the crop averages per acre were \$33.72, \$91.22, and \$124.75. Sometimes the most expensive water rights were for land which would bring the smallest return. Some settlers earned too little to pay for their water while others got big profits. An amendment to the act (passed in 1926) gave more discretion to the Secretary of the Interior in controlling developments. It became a policy not to start a new project unless the commissioner of reclamation considered it feasible on the basis of probable profit to the settlers. No easy long-term credits were provided, and to get private loans the homesteader had to have half the necessary capital as an initial payment.

To June 30, 1930, the federal government had spent \$347,224,082 on 34 reclamation projects in 16 states. Over half was for construction costs which were to be repaid by the water users. There were nearly five million acres of land securing full or part irrigation from the dams. Over three-tenths of this land was outside the projects proper. The value of the crops thus raised was over \$161,000,000 in 1929. The principal products by value were hay and forage, vegetables, cotton, fruit, nuts, cereals, and sugar beets.

Other methods of reclamation work have also been followed. An Act of October 22, 1919, permitted individual prospecting for irrigation water on tracts of four sections each. On discovery of water and development of 20 acres in two years, the prospector got title to one

¹ Elwood Mead, "Making the American Desert Bloom," in *Current History*, Vol. XXXI (October, 1929), p. 124. Some of the attributes named are of subversive interpretation.

section, the rest being reserved for homestead entries. Another Act of May 15, 1922, permitted the use of federal irrigation facilities to assist in state reclamation work. In 1919 Woodrow Wilson proposed the drainage of some 80,000,000 acres of swamp land, irrigation of 15,000,000 acres of arid land, and reforestation of 230,000,000 acres of former timber land, but so far as farm sites are concerned the irrigation projects have remained foremost in importance. The criticism has been offered that, while the Department of Agriculture was trying to curb surplus production, the Department of the Interior was working overtime to create more farms. But, if the matter is looked at purely from the point of view of efficiency, the reclaimed areas are seen to be much more productive than the average land while irrigation farmers have been more certain of crops. It would seem that, if farms are to be abandoned, the marginal lands elsewhere should be the first to be sacrificed. On the other hand, the acreage of irrigated land must always remain very small in proportion to the total farm area of the country.

Dry Farming. A much larger amount of semi-arid land, which is unavailable to water supply, has been rendered usable by dry farming. The largest region of this kind lies in western Nebraska, Kansas, and Oklahoma, eastern Colorado, and northern Texas, but includes other portions of the western part of the Great Plains. The soil is good, but rainfall is only 10 or 20 inches a year. In order to farm with this amount of moisture none must be allowed to escape which can possibly be utilized. The ground is plowed a foot or more in depth in the fall. The seeds are planted deep and far apart under a dust blanket. The land has to lie fallow every other year. This method was followed on wheat ranches in California in the middle of the nineteenth century, and after 1900 was applied to the Columbia River Valley and parts of Utah and Nevada. Later it was used on the Great Plains. The system is applicable to cereals, certain forage crops, and to orchards which can be well watered in the first three years. Dry-weather plants such as durum wheat, Kaffir corn, and Persian clover have been introduced. Before 1900 Utah, Colorado, and Wyoming had model dry farms for demonstration purposes.

Modifications of Homestead Act. The Mondell Act of February 19, 1909, gave recognition to the fact that 160-acre homesteads were insufficient for the "heavy-dew belt." Half-section homesteads were therefore permitted on land bearing no timber or known valuable minerals. No residence was required, but the patentee had to show successful cultivation. Other liberalizing features were enacted in 1916 and 1917. On December 29, 1916, the Stock-Raising Homestead Act was approved. Land usable for grazing but not properly located

for irrigation might be secured to the extent of a whole section by any person qualifying under the general homestead provisions. In lieu of the residence requirement the grant was to be improved in three years to the equivalent of \$1.25 an acre. Coal and other mineral rights, water holes, and cattle paths were reserved by the government. In 1923 the acts of 1909 and 1916 were extended to cover settlement in the national forests. The Desert-Land Act of 1877 also received extensions in 1917 and 1921.

Farm Growth. The reclamation work, because of its zigzag course, probably requires more time to tell than the mere number of acres involved would seem to warrant. On the other hand, the growth of farm population, number of farms, acreage, and farm property can most quickly and conveniently be presented in tabular form. A few words of caution are needed. Rural population, as defined in the census figures, is by no means synonymous with farm population. The classification of all towns and villages of 2,500 and under as rural makes the population nearly twice the actual farm enumeration. In 1920 only 29.9% of the people of the United States lived on farms. In 1930 the ratio was 24.8%. Likewise, the item "all land in farms" is two or three times as great as the crop acreage. Pastures alone have consistently covered larger areas than tilled soil. The latter in 1920 amounted to only 391,460,000 acres and in 1930 to 413,236,000.

FARM GROWTH, 1900-1930

ITEM	1900	1910	1920	1930
Number of farms, total	5,737,372	6,361,502	6,448,343	6,288,648
Acreage, in thousands				
Area of U. S.	1,903,462	1,903,290	1,903,215	1,903,217
All land in farms	838,592	878,798	955,884	986,771
Per cent. of land in farms	44.1	46.2	50.2	51.8
Average acreage per farm	146.2	138.1	148.2	156.9
Value, thousands of dollars				
Land and buildings	16,614,647	34,801,126	66,316,003	47,879,838
Implements and machinery	749,776	1,265,150	3,594,773	3,301,663
Livestock	3,075,478	4,925,174	8,012,876	
Per cent. of rural population to total U.S. population	60.0	54.2	48.6	43.8

Farm Machinery. Despite the relative decline in farm population—actual after 1920—the country has continued to produce more food than it consumed. For this fact continued development of agricultural machinery was largely responsible. As the wheat belt moved out on

to the Western plains the header proved practical and long held supremacy over other forms of harvesters, especially in western Kansas and Nebraska. A mechanical shocker was being manufactured with a small degree of success in Iowa in 1925. But it had serious drawbacks which could not be overcome before the combine was capturing the market in regions where the shocker could be successfully employed. The combine, so named because it cut, threshed, and sacked wheat as a single operation, was tried out on the Pacific Coast about 1885. Drawn by a steam tractor, it was long a cumbersome affair. After 1920, when gasoline tractors became cheaper and combines had been further developed, the latter began to replace both binders and headers on the Great Plains. The perennial migrants to the harvest fields then found themselves no longer in demand.

Harvest labor had long been one of the greatest burdens to the wheat belt. The scarcity of men and the brief season put a high premium on such work. When wages advanced during the World War the high price of wheat made it possible to meet the increase. But when the markets began to tumble in 1920 and 1921 a change to greater mechanization of harvesting became imperative. In time, notices had to be published in the newspapers of Kansas City, Omaha, and cities to the eastward, warning would-be harvest hands that they could not be used. This was partly to protect the laborers, but mainly to prevent an influx of great numbers of men and boys who would be stranded without money or jobs and become a burden to the local governments.

Gasoline Power. The greatest change in other forms of machinery has been in enlargements and adaptation to artificial power. The annual factory value of farm machinery advanced about 63% from 1899 to 1914. Then began the period of rapid mechanization of farming, reaching a climax 15 years later. By 1910 eight state colleges were offering courses in agricultural engineering. In later years about every land-grant college had full curriculums in that field. By 1910 the question of superiority between draft animals and gasoline engines was receiving thoughtful attention. Stationary gasoline engines had been used on some farms, mainly for pumping or grinding feed, for 20 years. Steam tractors of 120 actual horse power were drawing as many as 40 plows and turning as much as 75 to 90 acres a day. But it took from $\frac{3}{4}$ to $2\frac{1}{2}$ tons of coal and from 12,000 to 25,000 pounds of water each ten hours to run them. Men with teams were required to haul this. The thermal efficiency of the tractors was only 2% as compared with 20% for horses or mules. But, since the engines required fuel only when in operation, tractors were found profitable on very large farms, and were all the more effective when a rush season required 24 hours of work a day.

Tractors. Gasoline tractors, introduced about 1902, were tried out for plowing as early as 1905. By 1910 they had been greatly improved in design and efficiency and were declining in price. In the latter year about 4,000 were manufactured in the United States. Gasoline engines of all kinds to the number of 75,000 were sold to farmers in 1909. The engines alone at that time cost \$90 a horse power, while the equivalent in good horseflesh came to \$175 or \$200, and the expense of fuel was only a small fraction of that of feed. In those years, before the time of unsalable surpluses, the question of saving space from forage crops to raise food for people was another vital consideration. It took time to adjust the gasoline engine to farming needs, farms to the engine, and farmers to the idea of gasoline traction. But in 1916 American manufacturers made 29,670 tractors all but a few of which were sold at home. In 1920 four-fifths of the 203,207 manufactured were sold in the domestic market, while 246,000 were already in use. In the next decade there was not much growth in manufacture, but the total of tractors in operation reached nearly 853,000 in 1929. The average price by that time was about \$1,000. In truth, many farmers who ill could afford to do so plunged into debt for tractors merely to keep up the pace set by their neighbors. Many of them before 1929 were left with mortgaged machinery at a time when farm prices were too low to meet the installments.

Because it could replace from 12 to 20 horses in pulling combines the tractor was at its best in wheat farming. The larger tractors had a separate engine for running the machinery while the smaller ones operated from a power take-off. Various modifications of the combine have been developed to adapt it to the more humid sections, to grain of varied ripeness, as well as to such crops as clover, soy beans, and peas. By 1927 there were 11,221 combines in use. The binder method by that time usually cost from 30 to 35¢ a bushel, while the combine cost from 7 to 15¢ according to the denseness of the stand of grain. In the semi-arid regions before the World War even whole sections of land acquired without cost would hardly produce enough under the prevailing methods to keep the occupants from starving. But after 1922, by the use of power machinery, a man and a boy or two could farm three or four sections and make a little money. In western Nebraska it cost only 38¢ to grow a bushel of wheat, as compared with 86¢ in the eastern counties. But other sparsely settled portions of the world, outside the United States, were becoming competitors, with plows, tractors, and combines made in America and sold cheaper than at the factory door. This, and not the American yield, was resulting in a stage of acute overproduction. The combine proved most effective on farms where there were 1,000 acres for each machine. There was no

economy on tracts of less than 300 acres unless custom harvesting was resorted to. In the great wheat belt, combines cutting a 48-foot swath were not considered remarkable. But their effectiveness made wheat growing on smaller and more expensive farms unprofitable. In 1931, when wheat in Kansas and Nebraska sold for 25¢ a bushel and less at the elevator, even the wheat-belt farmer was baffled.

The next greatest opportunity for power farming has been in corn growing. Cultivation as well as plowing was made speedier and less expensive. Where a man with a two-horse team could care for from eight to ten acres of corn a day, with a tractor and four-row cultivator he could cover 60 or 65 acres. The labor of husking was first moderated by means of the silo and hogging-down processes. But the horse-drawn corn picker, introduced before 1910, appeared in noticeable numbers when tractor power became cheap. The economic advantage over hand shucking, however, has not proved as great as for some other power machines. The corn binder and silo filler first brought power machinery to the corn belt. More recently the corn harvester appeared, gathering and shredding the stalks and dumping them into trucks for the silo.

In the cotton belt gasoline power has been most greatly used in the regions of newest development. This includes the coastal plain of lower Texas and the semi-arid—euphemistically called subhumid—portions of Oklahoma and the Texas panhandle. Elsewhere the eight-inch plow has been supplanted by improved implements, though mules still predominate for power in most sections. Really good cotton-picking machines have not yet appeared, but the “sledding” method of the Southwest has proved very effective. Opened and closed bolls being stripped together, the product needs special cleaning machinery at the gin. The cotton is also inferior to the hand-picked fiber. But enough can be gathered for a bale by the labor of one man for seven hours, whereas hand pickers would take at least ten times as long. In consequence, more profit is made by the seemingly wasteful method. Checkrow planting, cross plowing, mechanical choppers, and from a quarter to half a section of land in fields farmed by one family make a striking contrast to the ten-acre cotton patches of the older South.

The horse managed to survive mainly in regions where mixed farming prevailed. Teams of eight hitched to a gang plow of three shares can plow $8\frac{1}{2}$ acres in a day with the attention of one man. The horses can be used a larger part of the year than in the wheat, corn, and cotton belts, and they can be pastured and fed cheaply for most of the rest of the year. The saving on fertilizer alone is an item of consideration. But some power machinery has been found desirable even in

such regions. Milkers, separators, and silage machines are necessary to the dairyman. The horticulturist has like needs for tilling, spraying, and refrigeration. Since 1920 even potatoes have been planted and dug by power machinery. At the same time this mechanization of agriculture has been swelling the ranks of industrial labor and the professions, thus increasing the market for farm products in periods when the people of the cities can afford to consume all they would like.

Federal Farm Loans. While the farmer was being transformed into a mechanic he was also becoming less of an individualist. Taking advantage of the opportunities offered by the agricultural colleges, he sought assistance in the combating of hog cholera and wheat rust or the extermination of gophers and grasshoppers. Still more, he called upon the federal government for relief from the loan companies. The tilling of land, building of silos, installation of power machinery, and improvement of land all called for more money than could be raised as needed from the sale of crops. Yet, the farmer was assured that the future of agriculture justified the expenditures. Having once mortgaged the farm to make the desired improvements, the first year of adverse conditions showed that interest rates were too high to be met without undue sacrifice. The old melodrama of the mortgage on the home place became again a living reality.

A demand for relief from exorbitant interest rates ultimately led to federal action. Before 1913 the national banks were not permitted to loan money on real estate. The Federal Reserve Act made some exceptions to this rule, but still left the farmers at the mercy of private bankers. The Federal Farm Loan Act of July 17, 1916, was especially designed to correct this situation. A Farm Loan Board of five members, including the Secretary of Agriculture, and 12 regional farm loan banks were authorized. The banks were to deal with farmers through the medium of national farm-loan associations, banks, other credit concerns, or privately owned joint-stock land banks. The original capital of the regional banks, contributed by the United States Treasury, was added to by stock subscriptions from the local institutions. Loans were made at moderate rates of interest in amounts to as much as half the value of the land offered as security. Bonds issued on the backing of the farm mortgages then provided another source of operating capital. Early in 1918, when Liberty-Loan bonds were more attractive than land-bank securities, Congress provided the board with \$200,000,000 to prevent a shortage of funds, and increased the interest on land-bank bonds to a more attractive rate.

In later years the Secretary of Agriculture came to dominate the Farm Loan Board, largely through presidential appointment of members whose views corresponded with those of the Secretary. The

total of loans made by federal land banks from their origin to June 30, 1930, were \$1,631,420,564, while joint-stock land banks had lent \$891,046,808. At the close of 1930 over \$1,188,000,000 in federal land-bank loans were outstanding, the obligations to the joint-stock banks being about \$590,811,000. Nearly half a million loans amounting to over $1\frac{1}{2}$ billion dollars on property worth over $4\frac{1}{4}$ billion dollars had been submitted for bond issues by the federal land banks. The joint-stock land banks approximately halved these figures, but by this time several of the latter loan agencies had been taken over by receivers. In the same period nearly 5,000 charters had been issued for farm-loan associations and some had been canceled. Loans through these associations had numbered over half a million and amounted to \$1,653,917,000.

The loans just mentioned were for long terms—three years or more. During the World War rulings of the Federal Reserve Board allowed short-time credits also. In 1927 the McFadden Banking Act authorized such loans up to ten months, with warehouse receipts or shipping documents as security. Intermediate farm credits were authorized by an Act of March 4, 1923, providing a bank for such purposes in each federal reserve district. Loans were to be made on warehouse receipts, shipping documents, or livestock mortgages for periods of from six months to three years. The capital was provided by the United States Treasury. The act incorporated the essence of the old Populist sub-treasury demands, then considered radical but finally grown conservative. To June 30, 1930, the intermediate-credit banks had made loans of \$502,705,558 and discounts of \$488,415,505. Though such measures removed much of the old-time excessive interest rates and gave the farmers more security, they did not solve the debt problem. In fact, they added encouragement to plunge farther into debt just at a time when vanishing agricultural prosperity made the possibility of emergence all the more remote.

Recent Farmers' Organizations. Another evidence of the decline of individualism was the rise of farmers' organizations to imposing proportions. Several of these took on coöperative buying and selling activities to a degree not approached by the Grange in its early period of prominence. Also, they were more successful. The Grange itself, after a few decades, recovered from its decline of the late 1870's, and grew steadily in size and influence. Coöperative enterprises played a smaller part in the revived organization, while direct political action was not used at all. The Grange in recent years has represented the most conservative wing of the farmers' movement, but its declarations have been given respectful attention by politicians.

While the Farmers' Alliances were breaking up and losing their

identity in the Populist movement there were various groups which resented the turn of affairs and strove to retain their earlier economic, semipolitical, and sometimes secret organization. In the infant days of the Alliances certain farmers' unions had been absorbed by the Southern Alliance, while before the end of the Populist fervor other similar organizations had emerged. Among others were the Equity Union, the American Society of Equity, the Gleaners, and, chief of all, the Farmers' Union. These, like the Grange and Southern Alliance, were secret in character, emphasizing cooperative buying and selling. Before 1920 there were several attempts to affiliate the numerous organizations along lines similar to the United States Chamber of Commerce or the American Federation of Labor. Because of the lack of comprehension on the part of the organizers most of the efforts were of small consequence. Too many of the separate groups overlapped in their activities, yet wished to retain their full identity and complete scope of work. To affiliate fruit growers, poultrymen, dairy-men, cattlemen, cotton growers, wheat farmers, truck garden operators, and such like distinct farming groups into a federated organization might not have been so difficult. But it was not easy to bring about a union including both these separate interests and the secret associations of heterogeneous membership.

In 1910 representatives of several state farmers' associations organized a Farmers' National Headquarters at Washington, having in mind a grandiose scheme for a great "Temple of Agriculture." At the same time they advocated some very sound economic and political policies, a few of them being of Populistic origin. They asked for the direct election of senators, parcel-post and farm-loan acts, and government ownership and operation of the merchant marine, railroads, and natural resources of a nonagricultural sort. Since the activities of the Farmers' National Headquarters were mainly lobbying, a number of organizations of widely differing interests were represented. A dairy union, two separate butter manufacturing associations, the Rural Credit League, and the Postal Express Federation joined forces with the American Society of Equity and the Gleaners.

A rival group known as the National Board of Farm Organizations was created in 1917. This also included member associations of numerous sorts, ranging from the Farmers' Union, the Farmers' Society of Equity, and the Farmers' National Congress to associations for credit, rural progress, and the Federation of Jewish Farmers of America. The National Board, like the Headquarters group, worked as a lobbying agency and favored a Temple of Agriculture. Both strove to extend organization down to the individual farmers for the greater benefit of all.

Farm Bureaus. Of a widely different character was the Farm Bureau, the first unit of which was formed in Broome County, New York, in 1911. It was sponsored by the Binghamton Chamber of Commerce and the Lackawanna railroad. Having hired a county agent, work began immediately to make the scope of activities county-wide. In West Virginia early efforts were made to organize bureaus, the membership fees of a dollar each being used to employ county agents. Beginning with New York in 1912 laws were adopted permitting county governments to appropriate money for farm bureau work. The Smith-Lever Act of the federal government (see p. 458) provided funds for carrying on extension work through the agricultural colleges, the county agents, and the farm bureaus. The interest of the government in the project was to provide receptive groups for the absorption of doses of agricultural education. But the members of the bureaus, wanting more than this, gradually worked the organizations over into agencies for cooperative selling and buying. Next came the creation of state bureaus, of which by 1919 there were 18 from New Hampshire to California but none in the South except for West Virginia. Then the American Federation of Farm Bureaus was organized, providing an additional national lobby as well as a means of coordinating the work of the bureaus in the various states.

Coöperatives. The Clayton Antitrust Act of 1914 legalized co-operatives operating without capital stock and refraining from unfair methods. An Act of February 18, 1922, permitted capital stock and the handling of some products originating outside the group. After 1920 the tendency of coöperatives was to consolidate into greater units, especially for buying. Thus, the advantage of purchasing in trainload lots was secured. Sales in Farmers' Union and other coöperative stores were made at current prices, the stockholders participating in the profits not only from their own purchases but also from the business of outsiders. Dairy cooperatives by 1927 handled about a fifth of the milk used for household purposes in the United States. About 60% of this was controlled by bargaining associations not actually engaged in selling. In 1926 about a third of the cheese made in the nation was sold through 793 cooperative associations in 21 states. About three-fourths of the Wisconsin product was thus handled. Great advance was also made in the creamery business. The California Fruit Growers' Exchange began advertising in 1907. Twenty years later it was spending \$700,000 a year for its various forms of sales promotion, this sum representing less than 1% of the gross income. By 1930 the exchange controlled 85% of the citrus fruit of California. The Florida Citrus Fruit Exchange and some similar associations in other states were copied after that of California. Wheat coöperatives in 1920 handled

27.7% of the crop, or four-tenths of what went into commerce. By that time wheat pools were also arising to secure "orderly marketing," which really meant holding for higher prices. Coöperative elevators by 1927 handled about twelve times as much wheat as did the pools. Livestock cooperatives, selling direct to the packers, controlled about a third of that sort of business by 1927. Some cooperatives, such as the cotton growers' exchanges, have in recent years even taken up research projects to further their business.

It is accurate to state that since 1922 coöperatives have become big businesses. One kind has attempted to secure monopoly and valorize crops, but with very little success. The other kind, primarily intended to eliminate middlemen, has amply justified its existence. Not much was done by either toward regulation of output. The table on page 837 of farmers' business associations for 1915, 1925, and 1930 shows not only the growth of cooperative activity but also the preponderance of such business in the central states and particularly the West-North-Central section. The importance of different crops in the business of the associations is well represented by the ratios for 1930. The sales of that year were divided as follows: grain 27.6%, dairy products 27.2%, livestock 12.8%, fruits and vegetables 12.8%, cotton and its products 4.4%, poultry products 3.2%, and a large number of miscellaneous items including tobacco 12%.

World War Expansion of Farming. The time soon came when agriculture needed all the coöperation and assistance it was receiving and much more as well. Farmers had rather easy living for a few years prior to the World War. Then for five years they prospered wondrously, and paid dearly for it for well over a decade following 1920. Conditions were not so favorable in 1914, when the blockade of the German coast cut off markets for much meat and cotton at the same time that disturbed international credits and higher ocean freight rates lowered prices on the farms. But before long the shortened labor supply abroad stimulated agriculture in America. Before the close of 1915 prices were mounting and by 1917 farm incomes exceeded any in earlier years. Then the entry of the United States into the war seemed to forecast profits commensurate with those of munitions manufacturers. But this tendency was decidedly checked by the war-time Food Administration, which constituted a virtual dictatorship over distribution and consumption, culminating in price fixing. On April 11, 1917, Congress provided for a committee on food supply and prices, Herbert C. Hoover being made its chairman. In May he was made Food Commissioner, with increased power. In August the President signed the Food Control Act to prevent hoarding, encourage production, and insure more effective distribution. The wheat crop of 1917 was bought

FARMERS' BUSINESS ASSOCIATIONS, 1915-1930

DIVISION	ASSOCIATIONS, NUMBER				ESTIMATED MEMBERSHIP, 1,000's				ESTIMATED BUSINESS IN THOUSANDS OF DOLLARS			
	1915		1925		1930		1915		1925		1930	
	1915	1925	1925	1930	1915	1925	1915	1925	1915	1925	1930	1930
United States	5,424	10,803		12,000	651	2,700	635,839	2,400,000	2,500,000			
New England	157	259		197	21	75	6,974	85,170	92,810			
M. Atlantic	210	522		430	64	160	56,096	153,080	233,540			
E. North Cent.	973	3,075		3,456	107	575	90,114	558,270	589,230			
W. North Cent.	2,577	4,825		5,327	254	850	286,535	836,630	859,220			
South Atlantic	329	385		451	37	280	10,269	152,325	107,070			
E. South Cent.	215	277		305	36	295	7,170	117,270	64,390			
W. South Cent.	315	454		602	31	250	7,684	128,630	122,690			
Mountain	232	363		454	35	75	20,486	70,950	70,680			
Pacific	416	643		778	66	140	150,511	297,675	360,370			

by the government at \$2.20 a bushel, and federal agencies regulated distribution, using autocratic powers to prevent profiteering by speculators and millers. In 1918 \$2 a bushel was offered for all the wheat that could be raised. In case the war came to an early end the government would distribute the loss among the taxpayers. But if demand outran supply the effect would be to keep values down. With an assured price, the wheat crop of 1918 was 41.1% greater than its predecessor, but the farmers afterward felt that they would have profited more without the Food Administration. Another method of regulating prices and assuring an abundance of food for the associated allies was to compel the use of numerous odious substitutes for wheat flour, and to issue decrees for meatless days.

Numerous means were employed to increase production. Under an Act of August 10, 1917, county agents were provided for every important agricultural county in the nation which was not already supplied. In eighteen months following January, 1917, the number of county agents was increased from 1,216 to 2,139. Women county agents were appointed for demonstration work in home economics, a similar service being provided for cities and towns. A survey was made of food on hand. Efforts were made to stimulate a greater production of hogs, poultry, and dairy products; to combat diseases and pests of animals and plants; to teach more efficient methods of packing and shipping of perishable commodities. Even an employment agency was provided to place labor on farms as needed. To carry on this work the sum of \$11,346,400 was appropriated.

The Department of Agriculture also worked through the agricultural colleges and state "Councils of Defense." In a year's time the number of extension workers was increased by over 4,000 to a total of 6,166 on July 1, 1918. Boys' and girls' pig, corn, calf, canning, and other sorts of clubs were created. War gardens were urged upon city dwellers who were asked to grow their own vegetables even if the cost should be greater than by purchase. In 1917 alone it was estimated that the number of gardens increased by two million while over a million acres in city lots were under cultivation. Some states, such as Maryland, Florida, West Virginia, and Wisconsin, adopted compulsory labor laws for all able-bodied men of from 21 to 50 years of age. Even the university and college administrations grew hysterical, allowing students to quit early in the second semester and receive credit in Greek, mathematics, science, or anything else in return for farming a truck patch. Yet, the educational value was probably as great as that acquired in the Student Army Training Corps.

No direct donations of money were made by the federal government, but loans were granted through the federal farm-loan banks for the

buying of equipment. A contract was made with Henry Ford for tractors to be sold at \$750 each. There were great efforts to stimulate the production of nitrates, phosphates, and potassium chlorate for fertilizer, but the problem was not fully solved. The bureau of markets lent help through investigation, standardization, and direct action. A steady stream of goods to the market supplanted the old system of alternating heavy and light days. No doubt the aid of all kinds given agriculture more than outweighed the effect of price fixing on a few commodities and any competition which came from city gardens.

New standards of luxury came to the farms in those days when prices were mounting more rapidly than costs. The farmer who used power machinery, from plowing and harvesting to milking and marketing, also lived in a house which had most of the conveniences of a city dwelling. In 1920, of all farms from which data were available, 30.7% had automobiles, 2% had motor trucks, and 3.6% had tractors. But 38.7% had telephones, 10% had running water, and 7% had gas or electric lights. Nearly 58% of all farm automobiles, 43.5% of all trucks, 64.3% of the tractors, 57.7% of the telephones, 37.5% of the water-piped houses, and 46.7% of the houses with gas or electric lights were in the North-Central states. It may also be noted that the same section was burdened with 47.5% of the mortgages and 58.5% of the debt of all the farms in the United States.

Postwar Farm Distress. For several years after 1920 it was difficult for the farmers to believe that good times were gone for an indefinite period. It was felt that the postwar deflation and decline in prices would be offset by renewed high tariffs—that the next crop would certainly wipe out indebtedness. Also, the installment method made buying seem easier, and merchants were ready to extend credit. Consequently, for some years after the first hard times struck, buying went on beyond actual needs, and hope was made a substitute for experience. In 1923 there were 166,000 farms using electricity from central stations, while by 1929 the number had grown to 557,000. In 1925 tractors were on 7.4% of the farms and radios on 4.5%, and the percentages continued to grow. But, while some advance continued in mechanical improvements and household conveniences, the general standard of living in the country had by 1928 fallen well below that of 1919, and the hardest times were yet to come.

The farmer who sold out in 1920 and invested his money in Liberty Bonds or annuities was a fortunate but rare individual. Land which was for sale in that year went at such speculative prices as to create the impression that the actual worth was two or three times as great as in 1914. This led farmers to hold on for still higher prices, many declaring that the values would never decline. When land in Iowa sold

for \$500 and sometimes \$800 an acre, persons refusing to sell claimed they could make \$800 land pay by growing onions on it. The next summer, when corn dropped to 25¢ a bushel, big land speculators committed suicide as they watched their fortunes drop, while some took up permanent residence in insane asylums.

Extent of Collapse. In order to understand what the postwar depression did to agriculture it is necessary to study a number of figures relating to crop values, production receipts per acre, farm wages and income compared with farm costs over a period of several years before and following the war. First will come the total value of crops, animal products, and net values minus crops fed to livestock for representative years from 1897 to 1929. As in other tables involving statistics covering a long period of years, it must be remembered that variations in methods of gathering and calculating data affect strict comparability from year to year. Yet, the difference is not enough to affect the general character of the changes shown.

VALUE OF CROPS AND ANIMAL PRODUCTS (SELECTED YEARS), 1897-1929

YEAR	CROPS	ANIMAL PRODUCTS	TOTAL MINUS CROPS FED TO LIVESTOCK	YEAR	CROPS	ANIMAL PRODUCTS	TOTAL MINUS CROPS FED TO LIVESTOCK
Millions of Dollars				Millions of Dollars			
1897	2,519	1,442	2,904	1919	16,561	8,275	17,677
1900	3,192	1,818	3,549	1921	7,759	5,589	10,268
1910	6,211	3,743	7,192	1926	9,266	7,300	12,985
1915	7,957	4,303	8,638	1929	5,681	6,243	not computed

It will be noted that crop values for 1929 were at about the level of twenty years earlier, but animal values were holding up a little nearer to the peak of 1919. The next table, showing the average value

ACREAGE VALUES OF TEN LEADING CROPS, 1871-1930

YEARLY AVERAGE	VALUE	YEARLY AVERAGE	VALUE	YEAR	VALUE
1871-75	\$14.05	1901-05	\$12.53	1915	\$17.18
1876-80	11.89	1906-10	15.01	1919	35.74
1881-85	11.33	1911-15	16.31	1921	14.45
1886-90	9.97	1916-20	29.72	1924	23.88
1891-95	9.71	1921-25	20.17	1929	20.30
1896-00	9.09	1926-30	18.97	1930	14.22

per acre of ten leading crops over a longer period of time, is still more illuminating. The 1930 value, it will be seen, was virtually that of 1871-1875 except that the earlier figures were somewhat inflated by

depreciated greenbacks. The sections hardest hit by this decline were the corn, wheat, and cotton belts.

That the wages of farm laborers did not fall as rapidly as did prices will be seen in the monthly rates for selected years next shown.

MONTHLY WAGES OF FARM LABORERS (AVERAGE),
1866-1930

YEAR	WITH BOARD	WITHOUT BOARD	YEAR	WITH BOARD	WITHOUT BOARD	YEAR	WITH BOARD	WITHOUT BOARD
1866	\$10.90	\$15.50	1899	\$13.90	\$19.97	1920	\$47.24	\$65.05
1880	12.32	18.52	1910	19.58	28.04	1925	33.88	47.80
1890	13.29	19.45	1915	21.08	29.97	1930	31.14	44.59

Wages in the Mountain and Pacific states at the close of the period were about twice as high as those in the South and were greater than for any other section.

The indexes of prices, costs, wages, and taxes, when compared in parallel columns, show the situation of agriculture following 1914 much better than mere estimates of crop values. The tables above, while revealing sharp drops following 1929, might still leave the impression that farmers in 1930 were some better off than just before the war. The next table should help dispel such an idea. The index of 100 is the average for 1910-1914. The conditions of the years following 1929 are left for consideration in a later chapter.

INDEX OF FARM COSTS AND PRICES (SELECTED YEARS),
1915-1927

YEAR	PRICES RECEIVED	PRICES PAID	RATIO OF PRICES RECEIVED TO PRICES PAID	WAGES	TAXES
1915	100	106	95	102	102
1919	209	205	102	206	230
1920	205	206	99	239	155
1921	116	156	75	150	217
1924	134	154	87	166	249
1925	137	159	92	168	250
1927	131	154	85	170	258

The agricultural balance sheet for the year ending June 30, 1927, when the nation aside from agriculture was considered to be enjoying the height of prosperity, has been computed as follows.¹ After all errors from incomplete or incorrect returns are considered, such a situation looks gloomy enough. Yet, the year 1927 was above the average for the decade.

¹ Morris A. Copeland, "The National Income and Its Distribution," in *Recent Economic Changes*, Vol. II, p. 781.

AGRICULTURAL BALANCE SHEET, 1926-1927

Amounts in Millions of Dollars

Gross revenue from sale of products	9,537	
Value of products consumed by farm population	2,590	
Rental value to owners of farmhouses	161	
Gross income		12,288
Payments to other industries	3,697	
Loss in property values, one year	2,160	
Wages and salaries, including board, etc.	1,291	
Rents paid to others	1,428	
Interest paid to others	260	
Total expenses		8,836
Net income		3,452
Interest on owners' equity at 4.5% of market value	1,759	
Wages per enterpriser (owners and tenants at average employee wage of \$540 a year)	3,410	
Total value of interest and wages		5,169
Deficit in actual profit		1,717

Such conditions led to farm indebtedness far graver than the comparison of percentages from year to year will indicate. In 1890 the percentage of mortgaged farms owned wholly or in part by the operators was 27.8, while the debt was 35.5% of the total value. In succeeding decades the ratio of mortgaged farms increased to 37.2% by 1920, but the percentage of value of farm property mortgaged in the latter year was only 29.1. In 1925 mortgages had declined slightly to 36.1% while the ratio to value increased to 41.9. These figures can easily be misinterpreted. Prior to 1920 mortgages represented mainly farming expansion. They were contracted as a matter of good business in order to increase income. After 1920 mortgages were hard to secure on any terms. Many were foreclosed, thus reducing the total per cent. in spite of new ones contracted. But the prices of farms fell so low that the percentage of farm values covered by mortgages greatly increased. This situation grew worse till the era of wholesale foreclosures in the early 1930's.

Even before 1929, despite all the credit agencies of the government, the agricultural depression and bank examiners compelled banks to unload their frozen assets. Land was sold at auction at from a half to a quarter of its peak values, thus driving general land prices downward. The federal land banks on January 1, 1928, owned 4,086 farms outright and had sheriffs' certificates for 1,088 more, while joint-stock land banks owned 533 and had certificates for 357—a total of

6,064 in addition to all private foreclosures. The banks, uncertain what to do with the land, in many cases were compelled to go into the farming business themselves.

The Myth of American Overproduction. A great amount of ink and vocal energy have been wasted in assertion that this distress was caused by the opening up of too much land, the mechanization of farming, and consequent overproduction in the United States. Production certainly did boom from 1915 to 1920, but not more than world conditions made imperative. After that time the crops did not equal the prewar years in per capita amount. Nearly a fifth less corn was grown in 1930 than in 1900, though the population had increased 62%. The per capita of corn production had declined more than a third and was behind even the 1870 level. The wheat crop of 1930 was less than 40% above that of 1900 while cotton showed a gain of only 37.6% though population had increased more than half again as fast. All grains combined in 1924 were less than in 1899 while all vegetables were less than in 1909. There were fewer hogs and beef cattle in 1930 than in 1890, though population had increased 95%. The number of horses and mules was about equal to that of 1890, while the number of sheep was five million (about one-eleventh) less.

World Overproduction and Decline of Markets. Overproduction might be shown for a few seasons or for a small number of minor crops, but not enough to account for the general and prolonged situation after 1920. Even the credit deflation of 1920 and 1921, though hitting agriculture first and hardest, will not explain why the disparity between farm prices and costs continued for so many years. The diminished demand for American farm products in world markets was a far more potent cause. Canadian wheat jumped from 52,000,000 bushels in 1900 to 232,000,000 in 1913 and 550,000,000 in 1928. In the same years Argentinian wheat grew from 78,000,000 to 239,000,000 bushels, and Australasian wheat showed similar development from 49,000,000 to 119,000,000 bushels. Not including the crops of China and Russia, for which guess work alone is available, the world production of wheat increased from three billion to four billion bushels between 1921 and 1929, while consumption did not keep pace. Even the increased world production would have resulted in no surplus if distribution had followed the dictates of humanity. The four billion bushels of 1929 would have afforded each person in the world only one pound of bread for each nine or ten meals.

The continued surpluses of cereals and meats in the United States were due not only to maldistribution but also to the loss of foreign markets. Exports of the five principal cereals of the United States fell from 530,000,000 bushels in 1897-1898 to 168,000,000 bushels in

1913-1914. World War exportation was followed by a drop in 1921-1922 to about the level of 1897-1898, after which the trend was continually downward to new low levels. Between 1900 and 1928 Argentinian beef exports grew from 54 million to about two billion pounds while American exports fell to a negligible size. The United States managed to keep ahead of prewar exports of pork products because of continued large corn crops while the consumption by horses and mules was declining. Even in cotton growing America was beginning to lose her long preeminence. In 1930 the American crop was barely more than half that of the world.

Influence of the Tariff. The adoption of American machinery and methods in the less developed portions of the world had something to do with this lively growth of foreign competition. But there was a still more important factor. Established commercial channels are not readily turned aside unless confronted by serious obstacles. The European consumers of American goods were also America's debtors. They could not meet interest and principal payments and continue to buy large quantities of products while denied the privilege of settling a good share of the account with goods of their own. American tariffs were prohibitive while the newer agricultural countries were more liberal. It became necessary for the consumers to establish new trade relations with remoter markets. Thus the American farmers suffered because of their long-continued support of a high tariff policy.

Though the exportable surpluses of American farm products after 1920 were far less than in earlier years, if sold at all they had to go at sacrifice prices—and the world market tended to fix the price at home. The surplus question was further aggravated by the reducing fad, the use of lighter clothing, and substitutes for cotton and wool. The decline in the number of horses and mules alone from 1919 to 1927 made between 15,000,000 and 18,000,000 acres of hay and grain land useless for the purposes to which it had been devoted. Then, also, the great degree of industrial unemployment, even in the highly touted years of prosperity from 1923 to 1929, further reduced the consuming power of the urban centers. Even before the Panic of 1929 the future of the system of owner-operated farms seemed dark.

Difficulties of the Problem. The situation was one to which the farmer could not readily readjust himself, because of the high fixed costs of his business. Even if the farms should lie idle taxation and interest would soon result in a change of ownership. Experiments and suggestions were not lacking but none, at least to 1933, proved to be of any positive benefit. So long as the farmer could raise the major part of his food supply he was not likely to starve, even though compelled to change to the status of a tenant. In some sections of the

country there was a drift toward the growing of specialties in the luxury or near-luxury class, but the limits of expansion in this line were rather rigidly fixed. Europe was in no condition to buy much of such products, and after 1929 the domestic market grew stagnant. Not everybody could operate blueberry or skunk farms at a profit. Butter at 14¢ a pound retail in 1932 raised a question even as to the future of dairy farming. Extreme optimists prophesied the industrialization of South America, Africa, China, and Russia by the use of American machinery, and the creation there of laboring populations to absorb the agricultural surpluses. But they failed to explain what would become of the farmer before that millennium should arrive. Even the controversy between wets and dries over the effect of prohibition on farming resulted in nothing more than a confusion of the issues.

Despite the gloomy outlook, there was no reason to assume that an era of peasantry or serfdom would necessarily be the fifth act of the tragedy. A general deflation of other lines of business to a parity with the farm would prove in the long run to be an equalizer. Even if the banks, loan companies, and corporations by that time should have become the landlords, the agriculturist would stand a better chance than the industrial laborer to recover some of his former prestige. One proposal, receiving more than passing attention, was that marginal farmers and industrial laborers should merge into one class, tending small patches of ground in a self-sustaining fashion in conjunction with seasonal occupation in the mills and factories. The idea was by no means new in various parts of Europe or around the mill towns of the South. It was generally recognized that, unless tariff barriers were radically lowered, production for world markets might as well come to a stop, the surplus question being settled by curtailment of crops. The greater utilization of by-products and waste materials was another possibility for savings. Corn sugar, corn-stalk paper, waterproof glue from soy beans and casein, insulating material and lumber substitutes from the waste fiber of sugar mills were utilized as a promise of further development along similar lines. The 600,000,000 tons of straw, fodder, and other woody fibers going to waste each year could be used as chemical raw materials. Better yet, much of this could be converted into fertilizer.

Though farmers' cooperatives were of some help in ameliorating the situation, the system needed wider adoption. The spread between prices on the farm and at the store remained too great. A Kansas gubernatorial candidate in 1928 pointed out that while Kaw River growers were getting 25¢ a bushel for potatoes, one baked potato on a dining car traveling up the valley sold for 30¢. He informed the astonished waiter that the latter could not carry thirty cents' worth

of potatoes. Though the candidate was not elected on that issue, he did point in a grotesque way to one of the principal farm difficulties. So long as the middlemen's charges amounted to more than farm prices both the farmer and industrial laborer must suffer. But, while the farmer tried to lower the cost of production and get a larger share of the market prices, too often he forgot that his interests were tied up with those of the city worker. Organized labor, seeing that the markets for manufactures were greatly affected by the prosperity of agriculture, learned this lesson somewhat earlier. The farmer still had to realize that producers'-and-consumers' cooperatives, sharing benefits with the factory worker, would help to increase consumption and relieve surpluses.

Corporation and Chain Farming. A recent development in the effort to make profits from cheap crops has been corporation farming, a system partially anticipated by some sugar planters before the Civil War. A study of 1,200 large-scale farms of many states and nearly every kind of products has shown the same sort of economies that have been effected by corporations in manufacturing, and sometimes similar defects. During the World War the Campbell Farming Corporation of Montana started business on 100,000 acres of dry-farming land. There were facilities for plowing 1,000 acres, seeding 2,000 acres, or threshing 30,000 bushels of grain (the product of 2,000 acres) in a day. The corporation in 1929 had "56 tractors, 500 plows, 60 drills, 72 binders, 9 threshing machines, 21 combines, 200 wagons, 12 motor trucks, 10 automobiles, an aeroplane, warehouses with a storage capacity of 150,000 bushels, a modern machine shop, and gasoline tanks capable of holding 70,000 gallons." Labor was hired by contract, but bonuses were allowed. "This," it was said, "is 90 per cent engineering and 10 per cent agriculture."¹ In the same year the James Mills Orchard Corporation of California had 62,000 acres under one management; the McQueen Smith Farming Company, with \$200,000 capital stock, operated 9,500 acres of cotton land in Alabama on the cropper system; a group of British capitalists owned 45,000 acres of cotton land in Mississippi; and the biggest rice farm in the world was under corporation ownership and control in Texas. In 1924 there were 8,275 such corporations in the United States, about a thousand more being added in the next four years. Several in the wheat belt embraced from 40,000 to 75,000 acres each. Still, the economy of such operations was not definitely proved. When agriculture in 1929 entered its lowest ebb some of the largest corporations prospered no more than average-sized farms.

¹ S. G. Rubinow, "Putting the Factory on the Farm," in *Current History*, Vol. XXX (September, 1929), pp. 1071-1072.

A contemporary development, largely an outgrowth of the foreclosure of multitudes of mortgages, was the tendency toward chain farming. Bankers and insurance companies were driven to this business in order to realize on frozen assets. The Aetna Life Insurance Company, in 1931, operated under supervised tenants about 600 farms in the Middle West. Chain farms in the corn belt and chain orchards in California were reported as being successful in 1929. The protest against corporation and chain farming was vigorous but only locally successful. Kansas adopted a law against the issuance of charters for farming corporations, after which the attorney general started ouster suits against those already in existence.

The Demand for Federal Farm Relief. It was only natural and in accordance with American tradition that in time of adversity the farmers should seek relief through legislation. In this quest they were victimized by two types of politicians: those who talked of the immutability of economic law, the sacredness of party ties, and the preservation of rugged individualism, and those who offered panaceas. A prominent political movement, attaining a large degree of local success, was started as early as 1915 under the name of the Farmers' Nonpartisan League. Arthur C. Townley started the agitation in North Dakota. This was an almost purely wheat and grazing state, having a large Scandinavian and Russian element devoid of the hampering influence of party loyalty and possessed of a deeply grounded suspicion of capitalists. The people were especially convinced that the Minneapolis millers were cheating them on the grading of their wheat, a contention in which they were supported by as orthodox a Republican as Porter J. McCumber. After numerous demands for state-owned elevators had been rejected, Townley set forth on his crusade.

The members agreed to put agricultural needs above older prejudices, and to work with any party which would accept the League's demands. Their platform called for state-owned elevators, mills, and packing houses, state hail insurance, exemption of farm implements from taxation, fair grading of grain, and rural credits at easy rates. In 1916 they elected Lynn Frazier as governor and got control of the state House of Representatives. By 1919 the movement had spread into 15 states, and in that year sufficient control was secured in North Dakota to carry through the League program. Then, on the high tide of success, they added to their program demands for a state home-building association, a graduated income tax, the eight-hour day for women laborers, workmen's compensation against sickness and accident, a bonus for World War veterans, and further regulation of railroad rates. At the height of the movement 230,000 members were claimed—50,000 in North Dakota, 54,000 in Minnesota, and diminish-

ing numbers in other states as far south as Oklahoma and Texas. But 1919 and 1920 were years of rabid political intolerance. The League had acquired Socialist members, it had been lukewarm toward the war, and it could be shown that the Bank of North Dakota had been mismanaged. Consequently, as the fervor waned outside of North Dakota, a farmers' movement of genuine promise was nipped in the bud on the eve of an agricultural debacle.

The Farmer-Labor Party. The Farmer-Labor party, drawing largely from the same group of voters, then sprang up on the ruins of the Nonpartisan League. Though the ideals of the party were admirable, the industrial laborers and farmers in most states were too suspicious of each other to be drawn into the same organization even if they had not been bound by tradition to the older parties. The sole success of the new coalition was in Minnesota where Henrik Shipstead was elected to the United States Senate in 1922 and 1928. Magnus Johnson also was elected to the Senate to complete the term of Knute Nelson, while some members were sent to the House of Representatives. Johnson, falling into a propaganda trap set by Eastern capitalists, was retired in 1924 but was sent to the House in 1932 as an outcome of a three-cornered fight. The reelection of Shipstead in 1928 was based more on his popularity than the party he represented. In the Seventy-second Congress, 1931-1933, there were only two Farmer-Labor members, but they were reinforced by the election of 1932.

Another effort to aid the farmer as well as to carry through a general reform program was made in 1924 when Robert M. LaFollette of Wisconsin and Burton K. Wheeler of Montana headed a new and genuine Progressive ticket. Though the Farmer-Labor party, the Nonpartisan League, the Socialists, and the American Federation of Labor threw their support to LaFollette, he carried only the 13 electoral votes of his own state and 16.5% of the popular vote of the nation. There was no further effort at the creation of a third party.

The Farm Bloc. Since Warren G. Harding showed but little sympathy for or understanding of the farm situation, the Farm Bureau in 1921 took the matter of agricultural relief in hand, securing the cohesion of a small group of Senators and Representatives mainly from the North-Central and Western states into what was called the Farm Bloc. The bloc was headed in the Senate by William S. Kenyon of Iowa, Arthur Capper of Kansas, both rather conservative Republicans, and the insurgent LaFollette.¹ Since the Senate was closely divided between Republicans and Democrats while the bloc members

¹ J. L. Dickinson, an ultraconservative Republican from Iowa, was leader of the movement in the House of Representatives. In 1930 he was elected to the Senate to replace Dan Steck, a conservative Democrat.

were rather numerous in the House, the coterie held the balance of power between the parties. With this advantage they got much of what they demanded in their bargaining for agricultural legislation.

The Intermediate Credits Act of 1923 and the emergency tariff of 1921 were the work of the bloc. Also in 1921 they secured the revival of the War Finance Corporation to aid in the exportation of surpluses. Within a year sums of \$433,447,000 were advanced for this purpose, commodities from 37 states being affected. In the same year (1921) the federal land banks were increased in capacity; a Packers and Stockyards Act was passed giving the Secretary of Agriculture the power to prevent such abuses as the manipulation of prices; and a new Grain-Futures Act was adopted giving the Secretary of Agriculture similar power over traders in grain. The latter act had to be replaced a year later by one more in conformity with Supreme Court interpretation. The Act of 1922 concerning coöperatives (see p. 835) was another accomplishment of the bloc.

The McNary-Haugen Plans. Though this agricultural code included several needed improvements—as well as the hopeless emergency tariff—it fell far short of saving agriculture from further depression. After the legislative program of 1921 had been completed, Harding called a National Agricultural Conference which in January, 1922, issued a belated indorsement of the farm bloc plan. Meanwhile, the demand for relief had gone beyond what even some of the original members of the bloc could indorse. In the congressional session of 1923–1924 Senator Charles L. McNary of Oregon and Representative Gilbert N. Haugen of Iowa began introducing the series of bills which came to be known by the names of the sponsors.

While the McNary-Haugen bills differed in particulars, each contained the essential features of an equalization fee or an export debenture. The purpose was to create a federal agency to handle the foreign marketing of surpluses, buying crops at bonus prices and assessing the losses incurred by foreign dumping among the farm organizations. Since the first agitation was created by raisers of wheat and hogs, it was long before general agricultural support could be gained for the bills. Then, by the inclusion of cotton and tobacco in the program, a bill was passed early in 1927. Coolidge seems to have had rather vague impressions about farm conditions until 1926. Then in his annual message he proposed numerous general improvements while opposing direct aid to agriculture. The latter, he said, was uneconomic. When reminded that direct aid to farmers was the same in principle as a tariff for manufacturers he maintained a discreet silence. But he vetoed the McNary-Haugen bill, repeating his earlier objections including the protest that the bill was impractical and would prove

ineffective if not actually harmful to those it was intended to help. This injected the issue into the presidential campaign. The Democratic platform contained a modified form of equalization, but the Republicans turned it down in favor of an alternative plan for a federal farm board. Other issues proved more influential in the campaign, thus diverting the farm vote from its central objective. Also, a temporary rise in prices just before the election improved the outlook for the crops which had been hardest hit. The results of the election seemed to show that the farmers were ready to trust the Hoover alternative plan. The story of the working out of the new idea must await a general consideration of the troublous years from 1929 to 1933. As the quadrennium dawned the militant farmers were ready to try almost anything once, but they were equally prepared to turn savagely upon any politicians who should lead them astray.

CHAPTER XXXIV

THE PASSING OF RUGGED INDIVIDUALISM

Blissful Ignorance. From 1923 to 1929 the American people were living in a fool's paradise. Factories were teeming with an activity which seemed unquenchable. Stock issues could be floated for enterprises as vague as any in the days of the South Sea Bubble. It was necessary only to show the indorsement of some noted politician, industrialist, banker, or university president, and promise a quickly doubled capital, in order to sell shares to the utmost capacity of the prospective buyer. Because the values of certain industrial or public utility common stocks had showed steady advance for two generations, because somebody had bought stock in General Motors when it was young, and simply by waiting twenty years had pyramided a thousand dollars into a huge fortune, the precepts of caution were inhibited in millions of minds. The most commonplace remarks of a successful business man were listened to with open-mouthed reverence as the sublimation of wisdom. The Insulls, Dohertys, and Mitchells were oracles or divinely inspired prophets second only to the sphinx of Northampton. The majority of the voters adhered to the tenet that by maintaining the *status quo* in politics and economic organization—by unswerving support of some vague principle known as "rugged individualism," by voting the ancestral ticket straight, and by the help of God—poverty would soon be banished from the nation.

Weakness amidst Prosperity. Scant attention was paid to the fact that all was not well in the commercial world. Europe was still buying on the strength of American loans, but there was no knowing when payment was forthcoming. Industry was booming in spite of the millions of unemployed and the distress of the farmer. Surpluses of goods were being piled up in anticipation of expanded sales. This seemed a reasonable process, for had not each consecutive year shown an increased demand? Yet, these same years were the seed bed for trouble to come. Farmers were reaching the point where their operations must be regulated on a subsistence basis. If the farm was to be saved from the loan company or the county treasurer the barn would have to go without paint for a few more years, the fences could be repaired instead of being replaced, the family could learn to get months' more of wear out of their shoes and clothing. The un-

employed city laborers had, of course, not ceased consuming. But they were reduced to the barest of essentials, furnished at a cost which lowered the consuming power of relatives and small taxpayers.

Effect of the Tariff. At the same time, while the federal government was going to great lengths to protect investments and curry trade concessions in foreign countries, its tariff policy was doing even more to create an unbalanced world economic status through disturbance of the natural channels of trade. There was not as much real, available money in the world as was owed the United States, her industries and bankers. Yet, because of the tariff policy of 1922 and following, the debtor nations were prevented from making payment in goods. Consequently, they were being compelled to retrench in their purchases of American products. First the farmers, then industry in general, and finally the whole American people had to suffer the consequences. France, in September, 1927, adopted a measure fixing some tariff rates from four to six times as high as any previous ones, especially on goods the main imports of which were from the United States. Shortly afterward, the French duty on wheat was doubled and frozen meats were removed from the free list to a highly protective rate, at the same time that America was trying to get rid of an agricultural surplus. Great Britain also began to desert her long-held policy of free trade, putting a duty of a third of the value on automobiles, nearly all the imports of which came from the United States. An annual tax of a pound on each horse power tended further to restrict purchases. Between 1922 and 1927 Great Britain increased her domestic supply in the automobile market from 49 to 86%. The self-governing dominions were taking like steps. In 1924 Canada and Australia made a tariff agreement concerning trade in dried fruits, favoring the latter against the United States. In 1928 Australia granted a subsidy for the shipment of canned fruit to Great Britain in order to overcome American competition. The importation of American motion-picture films was put on a quota restriction by Spain, Sweden, Great Britain, Canada, Germany, Hungary, Austria, Italy, and Russia.

By such steps the interference in natural trade channels reached the point where the great international bankers, borrowing the arguments of economic liberals, began protesting against tariff policy. President Coolidge and Andrew Mellon agreed that European tariffs were a menace to world peace and prosperity, but submitted the contention that American tariffs were a blessing to Europe as well as to the United States. Not even in the New World would the administration countenance tariff concessions. The Argentinian ambassador to the United

States and the representative of the same country to the 1928 meeting of the Pan-American Union at Havana both tried to secure a tariff union of the American republics. But this motion was quashed by the United States regardless of the unfavorable position of her products in South America.

European Distress. Combined with the precarious status of the markets of the United States, both at home and abroad, was the fact that nearly all of the European belligerents of 1914-1918 were still suffering from postwar maladjustments. France alone of the victors was in a fairly prosperous condition, while, of the victims, Russia was the only one showing any economic progress. The obstinate determination of the United States to withhold recognition from the Soviet Republics prevented even the degree of trade advantage which might have been secured in that quarter. Germany was virtually bankrupt, Austria was wallowing in poverty, while Great Britain was sinking into an economic slough of despond. The time was rapidly approaching when American industrialists and bankers were going to be compelled to realize that Europe had exhausted her credit—that America had for years been paying for the very goods she had been exporting.

Speculation. Bad as this combination of circumstances was, it took the usual period of mad speculation to precipitate the crisis. In 1928 and 1929, at the very time when business was beginning to show the strain of threatened markets, the country broke out with a veritable scourge of stock-market speculation. Unlike earlier periods of similar hysteria, there was a mass movement of the common people to participate in the glamorous and romantic game of the bulls and bears. People who thought the term "selling short" had something to do with remnant sales, were willing to trust their entire savings to the local representative of a brokerage firm on receipt of a "hot tip" from an unknown commercial drummer. As the movement gained headway, first the business men, then the shopkeepers, next the office boys, scrub women, laboring heads of families, and college professors denied themselves long-needed comforts to "invest" in common stocks. Naturally, since the greatest profits were to be made by buying on a margin, the savings were spread out to cover as many shares as possible. Little thought was taken of what might happen if the stocks should fall instead of continuing to rise. The ignorant little speculators were all running with the bulls.

At each rumor of a merger, stock dividend, or even a separation of companies, the price of the stock would shoot upward. The Treasury Department contributed its share by paying off portions of the public debt more rapidly than was required, thus tempting the people to

return their newly recovered funds to sources of more rapid wealth. Borrowings for speculation on the New York Stock Exchange¹ rose from \$3,300,000,000 in September, 1927, to \$8,500,000,000 in September, 1929. The Federal Reserve Board, contrary to its own judgment, made speculation easier. It did not make loans directly for this purpose. Instead it let the money out to corporations who were selling stocks for expansion programs, and these corporations passed the favor on to the market gamblers. About \$5,000,000,000 were secured in this fashion.

Prices on the exchange rose 80% between the spring of 1925 and the close of 1927, jumped 25% in 1928 and 35% more by the end of September, 1929. One issue of stock which had never paid a dividend rose from \$40 to \$450 a share. Merely because there were few offerings on the market, Auburn automobile stock reached 498 by September 3, 1929, this being one of the most bullish of them all. When caution was urged at the height of the madness the people were counterwarned from high authority not to sell their country short. The latter admonition, being the more palatable, was the one heeded. Probably more than a million persons were speculating during the summer of 1929, and unreckoned millions of shares were retained only on a margin. Investment trusts increased to about 500 in number, many of them dishonestly and still more unwisely managed. The ludicrous side of the whole matter is that many of the leading economists failed to see that the pretty bubble was reaching the bursting point. As late as October 17, 1929, one of them opined that the market had reached "what looks like a permanently high plateau." Even after the downward swing was well under way the Harvard Economic Society believed "that the slump in stock prices will prove an intermediate movement and not the precursor of a business depression such as would entail prolonged further liquidation." Two days before the panic broke Charles E. Mitchell of the National City Bank of New York declared: "I know of nothing fundamentally wrong with the stock market or with the underlying business and credit structure. . . ." Why, then, should the Montana stockman or the Michigan automobile mechanic, hearing the market reports by radio and 'phoning his bids to the brokers' agents, take alarm at the unsteady condition which was discernible to clear-visioned people in September?

¹ Tickers were installed in the New York Stock Exchange in 1867, and within the next year \$3,000,000,000 of business was handled. As late as 1895 seats were sold for as low as \$17,000, the \$100,000 mark not being reached till 1919. During the speculative mania of 1929 the price of seats ranged from \$525,000 to \$625,000. In the sale of bonds the market reached its maximum with over \$4,000,000,000 in 1922. The high point for stocks came in 1929 with 1,124,990,980 shares.

The Panic. The panic came after Wall Street raids on the European money markets resulted in foreign protective measures. When European interest rates rose, capital began to flow homeward. Then, when the American speculative fever showed signs of breaking, many European holdings of stocks were unloaded. Domestic bankers, told by the American Bankers' Association that credit was stretched to the limit, found themselves holding too many "undigested" securities. When Europe and the largest Wall Street speculators began to get out from under, the crash followed on Thursday, October 24, 1929. On that date 12,800,000 shares were sold, more than half again the record of any preceding day. The plunge continued till October 29, when, in a deluge of sales, 16,410,030 shares were thrown on the market. This was the worst day in the financial history of the country. Owners sent orders to their brokers to sell at the market. Merely because there were no other bids, at least one person bought stock at 1 which had shortly before been listed at 48.

The general average of stocks fell 40% in a month. American Telephone and Telegraph on that day stood a hundred points below its high of 304 in September. Paper values were wiped out by large numbers of billions of dollars, and the country sank deeper in depression as the months and years went by. With each upward flurry of stocks the financiers and high public officials alike assured the people that prosperity was "just around the corner," and then would come a new drop. Nine successive declines of the stock market, each to a new low level, were counted by the spring of 1932. On October 5, 1932, fifty industrials which had reached an average of 252.8 in 1929 had fallen to 61.7. In the same time 20 railroad securities had declined from 167.8 to 33.6, 20 utilities had dropped from 353.1 to 99. The combined 90 stocks had shown a regression from 253.5 to 63.9. The lowest point for the 90 in 1932 was an even 35, industrials having gone to 35.1, rails to 13.2, and utilities to 51.8. Many stocks were paying 10% or more on their market value, but were finding few purchasers.

The Cold Gray Dawn. The exact opposite of the mental attitude of 1929 had been reached. A congressional committee, appointed in 1932 to investigate the bear market, lost interest and quashed the proceedings when asked to consider also the influences behind the bull market of 1928 and 1929. The reaction of the panic upon business was sudden and prolonged. Now that the speculative mania had subsided, an inventory of conditions showed that retrenchments would have to be made. Building permits in 311 of the principal cities of the United States showed a falling off in estimated construction costs from \$3,036,000,000 in 1929 to \$1,766,000,000 in 1930. This retarda-

tion in itself was sufficient to add greatly to the general business depression. The farm crops of the West-North-Central states alone in the same year declined in value from \$2,097,903,000 to \$1,461,313,000, while the cotton states suffered at least as much in proportion. Reflecting the general tendency, the output of farm machinery dropped over \$100,000,000—or about a sixth—in the twelve months. Factories in large numbers began closing down or running part time. Each successive cessation of activity resulted in a further decreased national purchasing power, thus adding to the doldrums. Wages rapidly, and prices gradually, sank to incredibly low levels. An Associated Press item from Shreveport, Louisiana, on April 26, 1933, reported that petroleum in that region was selling at 10¢ for a 52-gallon barrel. At the same time the newly legalized beer was bringing 15¢ for a 12-ounce bottle. A pharmacist in the city on that date heralded the situation by advertising to all comers his offer to exchange two bottles of beer for three barrels of oil. It is not necessary at this point to dwell upon the correspondingly low cost of other commodities. Perhaps the situation can best be summed up by the estimate of the Alexander Hamilton Institute that the wealth of the people of the nation shrank from \$365,000,000,000 in 1929 to \$239,000,000,000 in 1932. The 126 billion dollars difference had simply ceased to exist. It was represented by decreased real estate, capital, and commodity values. The home owner who was out of debt and retained his source of livelihood might write off his loss with stoic calm, but with some apprehension as to the tenure of his well-being. The debtors, whose obligations remained at the 1929 level, could see no ray of hope. The low cost of living was no consolation to the jobless city laborer who could not buy even at the sacrifice prices the farmers were receiving.

America Leads the World. Since America was the great creditor nation of the world, it was inevitable that the other countries should enter into the depression. The enforced cutting off of American credit automatically checked the buying power of foreign nations which could no longer even pay the interest on debts already contracted. World trade declined from 68 billion dollars in 1929 to 26 billion in 1932, while America's share sank from 9.6 billion to 2.9 billion. In percentages, the world mark had fallen off by 62 and America's portion by 69. International trade balances became so badly disturbed that in September, 1931, Great Britain, Sweden, Norway, and Egypt forsook the gold standard. Other countries had already slipped to a silver or paper basis. Of the leading commercial nations the United States, France, The Netherlands, Belgium, Czechoslovakia, and Poland alone remained firmly on the gold standard. The rapid shrinkage in markets and commodity prices had made it almost impossible for

nations to settle their debts in goods, while gold payment was out of the question so long as the United States and France together held three-fourths of the world's available gold. Abandonment of the gold standard seemed the only solution.

Gold Reserves Go Tumbling. Great Britain, for instance, no longer being the great creditor, could not keep up her gold reserve in the face of a persistently declining export business, and gold loans could at best merely postpone the crash. By forsaking gold payments the kingdom made her money merely a medium of barter—not an end in itself. The diminishing value of the pound sterling in international exchange meant that wages and other fixed costs of production were lowered because of decreased purchasing power. This caused a smaller relative cost of production and, hence, a better bargaining power in world markets. In other words, the laborer paid the cost of the blunders of national individualism. On the other hand, countries such as the United States which remained on the gold standard, being confronted by a more lively competition, began looking for means to meet the situation. Again the laboring man was the first to bear the cost. Ten days after Great Britain abandoned the gold standard the United States Steel Corporation set the pace for other industries by cutting wages a tenth. The general economic situation was such that this move was no surprise to the public. But there is strong presumptive evidence that the action of Great Britain had much to do in precipitating the wage-cutting orgy which the steel corporation only a short time before had opposed—at least as applied by others.

The War Debts. As the world depression became constantly more intense the question of European war debts to the United States assumed more significant proportions. Many people who hitherto had paid little attention to the matter or else supposed that ultimate payment was merely as a *sine qua non* of national honor, began to consider the commercial aspects of the question. American liberals long had agitated in favor of scaling the debts down to peace-time values, or even cancellation of them in exchange for similar European action on the matter of German reparations. Less altruistic persons then began to argue that the debts should be forgiven in proportion as the debtors favored American goods among their imports. Thus, bad debts could be exchanged for immediate commercial gains. But even Alfred E. Smith, chief advocate of this theory, failed to explain how any advantage could be gained from such an arrangement so long as the tariff barriers were not radically lowered. Even as the Democratic presidential candidate in 1928 he had proposed no genuinely moderate tariff policy. On this issue, as on the tariff, the lib-

erals had the unusual support of the international bankers. The purpose of the latter, however, was to shift the war-debt burden to American shoulders so as to render easier the collection of private obligations from the same European nations. When, in the summer of 1931, Germany showed signs of a total economic collapse, the fear of the consequences on American business led President Hoover to propose a one year's international debt holiday to ease the whole situation.

Conditions at home at the time were demanding legislative action. But the President seemed reluctant to call a special session of Congress of the opposite political faith. When Congress met in regular session in December the moratorium was ratified, but the public support of the issue which had arisen during the summer was waning, and neither the President nor the Congress were in a mood to instigate a more thoroughgoing debt and reparations settlement. Nevertheless, the indications were that the foreign governments would not readily reassume their obligations. When the moratorium expired in 1932 this expectation was realized. Great Britain made her annual payment, but on arranging her budget for the following year left no place for further remittances. France and her satellites defaulted outright. Before the close of the year it was announced that the creditors of Germany were proposing a virtual cancellation of indemnity, but it was understood that such action was dependent upon equivalent American concessions toward themselves. When June 15, 1933, arrived only Finland among all the debtors made payment in full. Great Britain, Italy, Czechoslovakia, Rumania, and Latvia each gave a small percentage as "token payments," while France and the rest defaulted outright. The only question which remained was as to whether the United States would cancel the debts, thus saving European credit, or would merely recognize the default of all the nations. Except in the language of politicians speaking for home consumption, all hope of eventual collection of the debts was ended.

Mounting Taxes. The concern of the American people over the question was the outgrowth of lack of understanding rather than of greed. Their individual debts were by no means being forgiven. They either paid or submitted to foreclosure. Consequently, they could not see eye to eye with bankers who took their houses and lands for overdue mortgages and then proposed to perpetuate high federal taxes by canceling the debts of foreign nations. Taxation was a sore point at best. The public was informed in 1930 that while the income of the people of the nation had grown from \$34,400,000,000 in 1913 to \$85,200,000,000 in 1929 the portion of this going to the maintenance of governments, national, state, and local, had increased from 8.5

to 15.3%. Though there had been much grumbling over this situation, the ease of securing incomes had been such that no violent protest had occurred. But in the next three years the income fell to \$37,200,000,000 while the cost of government rose from \$13,048,000,000 to \$15,090,000,000. In other words, in 1932 something like 40.6% of the income of the American people was going for taxes. Considering the fact that these figures were emitted by the Alexander Hamilton Institute, some consideration must be taken of a large amount of padding and duplication of items. Still, the hard-pressed farmers or home owners—those who could see from their tax receipts a good part of what they were paying—might be excused for accepting the figures at their full value.

Tax Dodging. Furthermore, there seemed to be little promise for the future. The federal government proved lax in the handling of its finances. Excessive bond retirements, even after the panic had occurred, and huge refunds to the payers of high income taxes sapped the Treasury, which in consequence had a deficit of a billion dollars in 1931. The falling off of receipts caused the deficit to reach three billion dollars in 1932, while faulty budget figures issued by the Treasury Department foretold a continued unbalanced budget for the next year. More bonds were sold to meet this emergency than were issued during the Civil War. The people saw the national debt rapidly approaching the level of 1919. Though federal expenditures accounted for only a minor part of the total taxation, the people did not view with any equanimity the shouldering of the war debts of Europe. Their rage was further stimulated in 1933 by the trial of Charles E. Mitchell of the National City Bank for defrauding the government of income taxes. It was disclosed that Mitchell had taken advantage of a loophole in the law to write off capital losses in his tax report. To do this he had transferred stock certificates to his wife and others at an 80% loss, taking notes in payment. Later he returned the notes and took the stock back. At about the same time it was found by a senatorial investigation that J. P. Morgan and his partners, by less questionable means, had avoided the payment of any income taxes for the years 1931 and 1932. A secret survey of 1932 income tax returns shortly afterward showed that many other wealthy persons had juggled their bookkeeping in such a way as to place themselves along with Mitchell and Morgan among the favored group. Mitchell was acquitted, Morgan proved the legality of his actions, but the effect upon the poorer people who had made their regular payments was to rouse rebellion against taxpaying in general. In 1934 the tax returns of Andrew Mellon himself were called into question by the Department of Justice.

Taxpayers' Strikes. Even before these disclosures taxpayers' strikes had occurred in several large cities, notably Chicago. Favoritism in the assessment of property had reached the point where those discriminated against neglected to make their payments. City officials, and school teachers in particular, served for months at a time without pay. Finally, their credit exhausted and facing starvation or the bread line, the Chicago teachers started public demonstrations. On April 24, 1933, they swarmed about the places of business of the more notorious tax dodgers, including the bank building of the former Vice-President Charles G. Dawes, demanding that the culprits pay their taxes. Two days later about 3,000 of the teachers and their sympathizers came in active collision with the police.

The Fallen Heroes. Needless to say, while the nation and the world were sinking into such depths of depression, the long-cherished public reverence for the omniscience of the captains of industry and finance was undergoing a fundamental revision. Because in an era of prosperity no ordinary amount of mismanagement could keep a corporation from making money, the people had come to feel that the heads of the nation's business were supermen. But the crash of 1929 revealed that the corporation presidents and their double files of vice-presidents were just as likely to blunder as the peanut vendor or boss shoeblack around the corner. Some savings in production could be traced to the larger concerns, but none in distribution. In cases of immense combinations the losses even in production often exceeded those of establishments of moderate size. There seemed to be a point beyond which bulkiness brought unwieldiness and inefficiency. Smaller businesses managed to keep going better during the depression than excessively large ones. The monopolies proved not even to be stabilizers of labor. Also, they were the least adapted to price changes. The savings which they effected were not divided with the consumers, nor were the wages they paid proportional to their profits.

The Power of the Corporations. Yet, the greater corporations had a strangle hold on economic activity. Two hundred of them in 1929 controlled 49% of all corporate wealth, 38% of all business wealth, and 22% of the total wealth of the nation. At their existing rate of growth, these 200 corporations would dominate half the wealth of the country in another score of years. By the diffusion of stocks among small investors, these corporations were hoping to build up a popular support of the system which would supply an effective opposition to further government regulation. Thus, 26% of their dividends in 1929 went to people with annual incomes of less than \$5,000, while half was paid to persons whose earnings were under \$25,000. What most

of the small stockholders did not realize till after the panic was that the cream of the profits had been skimmed before the dividends were declared, and that a very few persons who owned an infinitesimal share of the stock dominated the corporations for their own advantage.

But the methods of defrauding the stockholders as well as laborers and the general public were gradually made known as each succeeding month after October, 1929, brought greater distress to the country. The criminal activities of Ivar Kreuger in wrecking the great Swedish match trust furnished the first bomb to shatter public confidence in the integrity of the great leaders of business. Then, in 1932, Samuel Insull, after looting his immense public utility holdings, escaped to Greece and for two years defied extradition to the United States, thus bringing the lesson home to America. Along with these major defalcations, there were multitudes of instances where smaller corporations were manipulated into bankruptcy with raided treasuries while the overconfident investors were left like the snipe hunter of old, "holding the sack." Thus, it gradually became evident to many people that the small stockholders would be the next to demand more effective governmental regulation of business in order to protect their own interests.

Banking Weaknesses. The panic also revealed astonishing weaknesses in banking. Though the financial institutions were hedged about by stricter laws than in most any European country, the matter of personal responsibility was not so clearly fixed, the result being that the whole system was shaky. In the first place, there were too many banks and too few capable bankers. The only requirement for being a bank president ordinarily was that the man be the principal stockholder. The cashier usually was the second largest stockholder. Some intelligence was required of tellers and bookkeepers, but they had nothing to do with policies. Too often incompetence was alternated with actual dishonesty. The situation was reflected by *Judge* in the words: "And it's our opinion that banking in this country will never be safe until somebody invents a burglar alarm that will ring every time the directors are in session." The main fault of the bankers was speculation. They failed to differentiate between loans for commercial investment and for wild-cat schemes. In the Middle West they were as foolish as the real-estate agents during the land boom before 1920 in their supposition that the inflated prices of farm lands represented permanent earning power. Consequently, when the five-year mortgages fell due in 1924 and 1925 it was frequently found that the sale value of the farms was less than the outstanding loans against them. Prudent farmers therefore let the banks take the land, thus causing a whirlwind of bank failures. Even after this crisis had passed the remaining commercial bankers failed to stick to purely self-liquidating

transactions. The majority of them after 1923 used time, call, and savings deposits indiscriminately in the "glorified pawnshop business" of buying bonds. As often as not they were more attracted by the issues bearing high interest rates than by those backed by sound securities.

The smaller fry were not only encouraged but even forced on in this unsound business by an increasing pressure from the greater institutions with which they did business. As a special favor to the international bankers the State Department of the United States after 1920 began scrutinizing the bond issues of foreign nations offered for sale in the United States. When the credit of any particular government seemed especially doubtful a warning was given concerning the purchase of its bonds, in which case the bankers refused to handle them. On the other hand, when no such admonition was issued, the banks used this tacit indorsement for the sale of the bonds at good prices and high commissions. The international bankers, who very likely could estimate the credit of the debtor countries even better than could the State Department, kept none of these bonds in their own hands. They even declined responsibility for the falling values by pointing to the government's negative sanction. There was occasional criticism of this practice, but no general denunciation till after 1930. Then several of the debtor states, particularly in South America and Australia, became bankrupt; the holders of their bonds lost their investments; the international bankers were clear of the crash; and the State Department denied responsibility by saying it had not indorsed any of the issues.

Bank Failures. As a result of such practices there were 6,987 bank failures in the decade ending in 1930, involving a capital of \$332,466,000 and deposits of \$2,586,388,000. In 1930 alone the number of failures was 1,326. But this record dwindled in comparison with the happenings of 1931 when 2,290 banks were closed with deposits of \$1,759,484,000, or over twice the amount for 1930. Some parts of the country were hit harder than others by this banking debacle. Between 47 and 55% of the banks of Georgia, Arkansas, Montana, New Mexico, North Dakota, and South Carolina failed in the 1920's while the percentage reached 62.6 in South Dakota and 87.8 in Florida. Then, after the horse was stolen, the stable was locked. Getting a loan from a bank required proportionally as much collateral as if dealing with a pawn broker. The customer who had absolutely no security for his deposits was required to mortgage property to three or four times the value of the loan. There were cases where people had accumulated enough deposits in a bank to pay off debts to the same, but were advised to let both items stand in order to avoid the payment of extra

charges. Then the bank would fail and the customer would find that his note had been sold to another company just before the closure. Such actions tended further to lower the public esteem of bankers as well as industrialists. In 1929 an Insull or a Mitchell could have as many college commencement engagements as he cared to accept, while honorary degrees were conferred upon like persons in reams. By 1933 such names were conspicuously absent from the bulletins sent to the alumni. Even some highly esteemed public officials came under suspicion in the latter year, when the investigation of the Morgan banking house revealed that a former President of the United States and the incumbent Secretary of the Treasury had been sold securities below their market value. Though in each case the purchasers had been in private life at the time of the transactions, their presence on the "preferred list" raised questions as to their fitness for public office.

Unemployment. Most disastrous of all the effects of the panic was the blow struck at labor. Though no year since 1919 had showed a minimum of unemployment less than 5%, the situation following 1929 became infinitely worse. The census figures for 1930 were of no value because of the specious manner in which they were collected. But William Green, president of the American Federation of Labor since 1924, estimated unemployment for March of that year at 3,700,000. Thereafter, month by month the numbers increased till March, 1933, when between 13 and 14 million were out of work. This was about 40% of the wage and salary employees of the country. Of something like 150,000 persons graduating from college in June, 1933, not more than a fifth had positions awaiting them. The graduate schools, already overburdened with the left-overs of preceding years, were anticipating a further increase of bewildered recruits from the new army of the unemployed.

Wages vs. Dividends. Gompers from 1919 to 1924, and Green later, had stressed coöperation with the employers in the introduction of labor-saving machinery and the elimination of waste. The unions had also undergone a decided change of attitude toward the restriction of output. Then, when they asked for a shorter working week without any reduction in wages, in order to solve the unemployment problem, the proposal was spurned as impossible and impertinent, while wage cuts were demanded and enforced. As a result of unemployment and lowered pay, the nation's wage bill fell from 55 billion dollars in 1929 to 45 billion in 1930 and 33 billion in 1931. Yet, dividends and interest on capital increased by \$600,000,000 in 1930 and another \$300,000,000 in 1931. But what of the persons who still managed to retain their jobs? Daily wages were lowered far below the drop in commodity prices. Yet, from the decreased pay the workers had to support their

unemployed relatives. Many of the laborers were reduced to the sweatshop basis. In the spring of 1933 it was estimated that over 50,000 girls and women in the city of New York were sweated at wages no higher than \$3 a week and sometimes 60¢. Even school teaching was becoming a sweated industry, wages as low as \$17 a month being offered in some rural schools in Kansas as an alternative to dismissal. A great deal of wholesome advertisement of sweatshop methods was provided in May, 1933, when the wife of Governor Gifford Pinchot of Pennsylvania joined the picket line in a garment-makers' strike.

If in 1930 the employers had had the desire, wisdom, and organization to establish the 40-hour week, or even the 30-hour week if necessary, all persons needing employment could have had it. With the resulting increased demand for goods, the decline in prices would certainly have been checked. If some of the million-dollar bonuses, excess profits hidden by exorbitant salaries, and dividends on watered stock had been released to pay the additional labor cost caused by increased employment at the earlier wage level, no honest return on invested capital would have been endangered. The increased employment would undoubtedly have helped the market for agricultural products, thus relieving the farmer and making for larger sales of manufactures in rural districts. This picture of what might have been could be drawn to indefinite limits on the soundest of factual reasoning. But the rugged individualism of capitalism was too anarchical to permit of such coordination. So wage cuts came instead of a reduction of hours. Then, laborers' families could buy less instead of more. This made a smaller demand for manufactures and farm products. Consequently, there was more unemployment, lower wages, and greater distress. Thus the chasm continued to widen.

A Bewildered Leadership. The state governments did little to relieve the situation, and the federal government did less. There were constitutional limits beyond which the latter could not step to help the hungry laborer and his family. But such restrictions did not need to be heeded when direct relief was demanded by unsound banks and corporations with leaky stock. Nothing at all was done by the federal government prior to December, 1931, except to adopt a tariff measure which made things worse. Then, on the eve of a general election, there was plenty of political "rain making." Millions of former purchasers were in want, in the bread line, or exploited at low wages by municipalities to avoid the horrendous idea of pauperization by the dole. Therefore, the same orators who in 1928 had expounded upon the blessings of the "American System," explained how much better off Americans were than the Britons who were just beginning to enjoy the blessings of a protective tariff and were merely learning to substitute a bread

line for unemployment insurance. Unemployment insurance caused a moral ague among the men of power, but it was too late for that form of relief to help much anyway. The best the federal administration could suggest was that each state and every locality come to the relief of its own. This proposal was carried to its logical extreme—each city block was to help its own unemployed. The result was that the blocks of laborers got no aid except the thin soup of the charity kitchen, while the rich blocks were relieved from assessments. The government did its bit by “staggering” federal employment. That is, each person who had a job was laid off a portion of each week so that others could enjoy a part of his wages. There was some sort of an ingenuous assumption that this would increase consumption and relieve poverty.

By the summer of 1932 several states, having reached their constitutional limits in taxation and bond issues, were asking for federal aid so that the richer states could help. But when the progressives of both parties proposed a \$2,300,000,000 program of aid to the common man in the way of loans to states, expanded public improvements, and other direct assistance, the bill was denounced as the “greatest pork barrel in history.” Some features of the bill did in truth have a swinish savor, but disinterested liberals were inclined to observe that pork, even if tainted, was generally preferable to hunger or starvation.

The Bonus Marchers. The year was strikingly free of revolutionary disturbances or of anything which could be intelligently compared with the same. The nearest approach was a revival of the Coxey idea on a large scale. Before Congress adjourned in 1932 some 15,000 or more of veterans of the World War, including a few families, doubtless a sprinkling of professional hoboes, and a small scattering of communists, were encamped in Washington. They were allowed to reside on government property and were rather surreptitiously supplied with scant rations till Congress adjourned. Then, on the pretext that their camping ground was needed for the erection of new buildings, they were evicted with a small amount of bloodshed at the points of bayonets. Their demand had been for payment on their bonus certificates, for jobs, or for both. Early in 1934 there was still no evidence of the beginning of work on the government buildings. Though the laborers had remained remarkably peaceable, even in the meekest of mass meetings of the unemployed in 1932 doubt was expressed concerning the wisdom of the literally interpreted national text: “For unto everyone that hath shall be given and he shall have abundance; but from him that hath not shall be taken away even that which he hath.”

Tariff Reprisals. The first proposed effort of the federal government to repulse the onslaught of depression was the Hawley-Smoot

Tariff Act of 1930 (see p. 793). This was immediately followed by Canadian reprisal in the form of increased rates on goods the chief imports of which came from the United States. Other countries took similar precautions, and early in 1932 the Tory government of Great Britain completed its retreat from the venerable free-trade policy. The American public also, as in 1890 and 1910, was prompt in its expression of disapproval. Congress had spent eight months following the panic in making existence harder for the mass of the people, while the number of unemployed had been doubled. The farmers' debenture had been denied as uneconomic, but the manufacturers' demands had been granted. Few persons were heard to say that the tariff had caused the distress, but millions were beginning to realize that it was helping none and could not help. Moreover, they believed that the tariff was retarding recovery. In November, 1932, and the following by-elections the Democrats got control of the House of Representatives and within one vote of a tie in the Senate. The votes of progressive Republicans left the old guard helpless in both branches. But early in 1932 the defection of a handful of Democrats and progressives permitted the slipping of a few increased duties into an appropriation bill.

Meanwhile, the reprisals of foreign countries led American manufacturers to continue their practice of establishing branch factories abroad, thus competing by means of low wages against that same American labor which they had so long professed to help by high tariffs. By 1932 there was renewed talk of reciprocity, and the Democratic platform promised a return to competitive rates. But, in the generally disturbed economic conditions of the time, the realization of the ideal seemed more remote than when McKinley made his speech at the Buffalo exposition.¹ No effort was made to deal with the problem in the extra session of Congress in 1933. As will be seen later, the farm legislation of that session was of such a character as to make tariff reform of extensive proportions improbable in the near future. In the spring of 1934 some hope of a reciprocity tariff act was revived, but neither the President nor Congress proposed sweeping changes.

The Federal Farm Board. Since the Republican party in 1928 had promised an effective farm relief measure, the Seventy-first Congress took up the problem and an act was approved on June 15, 1929. A

¹ Some modifications had been made in the direction of uniform rates for the products of all nations. Commercial treaties of European countries had long contained the clause requiring that each contracting party should grant tariff rates to the other no higher than those charged for goods of nations receiving the greatest favors. Treaties of the United States before the World War had not generally included such unconditional "most-favored-nation clauses." By ratification of a commercial treaty with Germany on February 10, 1925, the United States took a stand along with other countries making such arrangements.

Federal Farm Board was created with wide authority to supervise the marketing of products between states and abroad. Various agricultural interests were represented on the board: wheat, cotton, dairy, tobacco, live stock, fruit, vegetables, and general farming. The purpose was to minimize speculation, provide marketing agencies, and limit surplus production. A capitalization of \$500,000,000 was allowed for the work, half being provided by the United States Treasury. Later an additional fund of \$1,500,000 was provided for administration. The most significant feature was the power of the board to buy surpluses, store them, and create stabilization corporations and other agencies for marketing.

The board was established on July 15, 1929, with Alexander Legge of the International Harvester Company as chairman. A Grain Stabilization Corporation was set up which in 1930 bought 60,000,000 bushels of wheat in an unsuccessful attempt to check falling prices. In November of that year the corporation renewed its purchases and continued operations in 1931 till on June 30 the reserve reached a peak of over 257,000,000 bushels. Late in June, 1930, a Cotton Stabilization Corporation began buying cotton, with the result that before the close of the year it had 1,300,000 bales on its hands, having no more succeeded in its efforts than had its sister corporation. It was argued that these purchases prevented American prices from falling quite as low as those on the world market, but such a showing was small consolation to the raisers of 25¢ wheat and 5¢ cotton. Excellent advice was given the farmers to reduce their planting so as to prevent further surpluses, but no power existed to enforce such suggestions. The wheat growers questioned how prices could ever advance while so huge a surplus was held over their heads for ultimate release. The sponsors of the measure themselves were ultimately compelled to admit that it had fallen short of the promises. Meanwhile the Farmers' Union in 1932 was giving publicity to the fact that, while the farmers were being herded into bankruptcy, some of the officials of the stabilization corporations had received salaries of \$75,000 a year.

In 1932 the pressure of public opinion impelled Congress to distribute a part of the reserves of wheat among the half-starving portion of the people, it being admitted that this could in no way diminish the demand for the current crop. But suggestions that the whole surplus be disposed of in like manner among persons who could not buy, were spurned by the administration as paternalistic and conducive to pauperization. Following the election of 1932 such admonitions were disregarded, and the distribution took place. By the time that the affairs of the Federal Farm Board had been wound up in 1933 its losses in operation had amounted to over \$184,000,000. The

purchases of wheat during the three years had totaled 908,615,449 bushels of which over 538,000,000 had been in futures. Of the wheat actually acquired by the corporation nearly 237,000,000 bushels had been disposed of by sale and gift through regular domestic and foreign market agencies. Fifteen million bushels had been sold to the Chinese government and $7\frac{1}{2}$ million bushels to an agency of the German government. Another 25,000,000 bushels had been exchanged with Brazil for coffee. The loss on wheat distributed through the Red Cross amounted to about \$24,000,000.

Farm Strikes. The dénouement of the Hoover plan for farm relief left the agricultural interests in a rebellious frame of mind. Inability to pay debts and taxes was leading to an appalling degree of changed ownership of property. A news item not receiving much front-page notice in April, 1932, was to the effect that 25% of all the land in the state of Mississippi was sold in one day by the sheriff. Even the carpetbag government of reconstruction days had not resulted in anything so startling as this.¹ A favorite method of forestalling farm foreclosure sales in the Middle West was for the local citizenry to exclude all serious buyers, bid in the real estate and movable belongings for an insignificant sum of money, and then return the property to its former owner as a "loan." A Farmers' Holiday Association was formed under the leadership of Milo Reno, and farmers' strikes were started particularly in the locality of Sioux City, Iowa. The state police and militia were used to break up crowds of pickets who were blockading the roads leading into Sioux City and dumping the contents of all milk trucks into the ditches. A demonstration was staged in Des Moines on the day President Hoover made his principal speech of the campaign in that city. So high was feeling running that admission to the address was only by tickets issued to persons who were known to be loyal to the chief executive. Before the new administration's policies could be tried out in 1933 a mob in Iowa, presumably under Farmers' Holiday leadership, abducted and assaulted a county judge for refusing to abandon the signing of further foreclosure orders.

Bipartisan "Rain Making." As the election of 1932 approached both the President and Congress became active in an effort to do something to lift the depression. The policy of waiting hopefully and watching for recovery had been protracted enough. The patronage for

¹ Bad as was the plight of the farmers, their debts in 1933 amounted to only \$9,000,000,000 out of a total of \$116,000,000,000 of the long-term indebtedness of the whole nation. The largest item was \$33,000,000,000 owed by governments. Then came \$27,000,000,000 in urban mortgages; \$22,000,000,000 in obligations of financial corporations; \$14,000,000,000 owed by railroads, mostly bonded; and \$11,000,000,000 for industrial and public utility corporations. Not counting shorter term loans, nearly half of the wealth of the nation was covered by debt.

another four years and possibly much longer was at stake. Surely the corner around which prosperity was hiding could not be far off. It was well to make some gesture toward federal assistance to the mired down economic machine before the road dried out to nobody's credit. If only the depression had about run its course most any kind of leverage applied by the federal government could be heralded as the deciding factor in the recovery. Consequently, both political parties were ready to hazard a trial. The Democrats in 1931 were, for the first time since 1920, in a position to influence legislation. But it was useless for them, even with progressive Republican help, to force through a plan which would certainly meet a presidential veto. Consequently, they followed blindly along the path charted by Hoover, not even striking a bargain with the President for reciprocal support of the public-works program which they were considering. The Democratic House as well as the Republican Senate accepted Hoover's plan for a Reconstruction Finance Corporation designed to make loans to railroads and banks, and for aid in "financing agriculture, commerce and industry, including facilitating the exportation of agricultural and other products." The act as approved on January 22, 1932, provided for a capitalization of half a billion dollars subscribed by the United States government, while the corporation was permitted to incur debts to three times that amount. A supervisory board of seven members was provided, the Secretary of the Treasury, the chairman of the Federal Reserve Board, and the Farm Loan Commissioner acting *ex officio*. In order to inspire confidence in the corporation Charles G. Dawes, who had frequently served as a figure-head in other enterprises, was made its president. Before retiring in 1932 he arranged for the salvaging of his own bank in Chicago.

Loans to Industry. There was an immediate scramble for loans, the railroad companies and banks leading in the rush. When the plan failed to check the decline in business activity, Congress compelled the President to accept a broader basis. In July, 1932, a new act authorized the lending of \$1,800,000,000 to the states, cities, and other governmental agencies for self-liquidating public projects and for direct relief. The federal government also was to spend \$322,000,000 on public works. Another act, passed at about the same time, provided for from eight to twelve banks to help people in the building of homes, each bank to have a capital of \$5,000,000 and a share in a government subsidy of \$125,000,000.

Much was expected of the R.F.C., with its new enlargement and resources of nearly four billion dollars. In order to stifle Democratic criticism, should the plan fail, the President took advantage of new legislation, altering the membership of the board of control, to put

Atlee Pomerene of Ohio in active management, thus making the R.F.C. a Democratic organization. There can be no denying that the corporation strove valiantly to bolster up the economic structure, but it had to work from the top of the pyramid in the anticipation that some of the benefits would trickle down to the common man who supported its base. By the close of September, 1932, over \$1,500,000,000 had been lent to 6,000 borrowers in all parts of the country and some of the outlying possessions. The great bulk of the money had gone to banks, trust and insurance companies, and other financial institutions. But the railroads had received over \$264,000,000. Great indignation was aroused when some irreverent members of Congress protested loans to any railroad company which paid excessive salaries to its officials. Mere mortals were not supposed to question the doings of the great business interests to which God had intrusted the welfare of the nation. A fact scarcely suspected by the sponsors of the R.F.C. was that, though advocates of individualism, they were paving the way for state capitalism, or, should control become more democratic, state socialism.

There is no doubt that for the time being the loans to banking and industry plugged the holes in many a sinking ship. But the question was as to whether the oakum would hold against the storm till the harbor of returned prosperity could be reached. Numerous corporations were enabled to continue dividend payments on watered stock when liquidation was the proper remedy. Banks and trust companies to the number of about 5,000 received aid, about seven-tenths of them being in towns of less than 5,000 population. But before election day it became clearly evident that the effect of the anodyne was wearing off. There was a decided decline in bank failures for a few months, then in June the number rose to a higher point than at any time since January. Throughout the remainder of the year the situation became more threatening. Depositors had special reasons for discontent. Had the banks closed their doors in time there would have been something to divide up among the customers. But the R.F.C. loans were secured by first mortgages on the assets. Consequently, when the banks sank in spite of the federal medicine, there was nothing left to distribute among the people who had gone ahead confidently depositing their money.

The Change of Leadership. Long before November, 1932, it was a foregone conclusion to all keen observers, except the party managers, that the Republican party would have to suffer the consequences of the depression, whether deservedly or not. Its leaders had taken credit for the prosperity before 1929, and hence had to shoulder the responsibility for the consequent distress. When the votes were counted

following the election it was seen that Franklin D. Roosevelt had carried all of the states of the Union except Pennsylvania, Delaware, and four in New England. The vote had been close even in these six, and there was some question as to the count in Pennsylvania. There was a shift of over 13,000,000 votes, thus giving Roosevelt a popular majority even greater than Hoover had received in 1928. Furthermore, the Democrats carried the House by better than two to one and had a more than generous majority in the Senate. Roosevelt had promised the people a "new deal" but had been rather vague about the details. The Socialists and Communists had been definite enough in their promises, but their gains over 1928 were not enough to lend them much encouragement for the near future. The people were wanting a change, but distrusted radical departures. They had confidence in the new leadership they chose, but even when they cast their votes they had little idea of the revolutionary expedients which were soon to be tried. Yet, when the time came, they were enthusiastic in their acceptance of the experiments, reserving their criticism till after a trial had been made.

The Spirit of the Masses. In 1928 they had been promised "a chicken in every pot and two cars in every garage," if they elected Hoover. In 1932, when the owner of a garage felt himself lucky to have a roof on it and a chicken to relieve its emptiness he had ceased to reverence the old shibboleths of "rugged individualism" and the "immutable laws of economics." Those who overrated their learning still shouted that the tinkering of man could not repeal or amend a single economic law. But the mass of the people were willing to see whether or not it was possible to smooth the law's progress, to regulate its course, to alter the basic conditions upon which it operated. Their whim, no doubt, was a passing one, stimulated by individual distress rather than altruistic idealism, and impatient of anything but spontaneous miracles. But it lasted long enough to permit the enactment of a volume of legislation for social regulation such as would not have been deemed possible in 1929, which would have been called socialistic in the days of the bolshevik scare, but from which there could be no complete retreat except into economic anarchy. The acts of the first session of the Seventy-third Congress were of rough-hewn character and subject to vast improvement, but they pointed to a future of national planning.

The Collapse of the Banks. The new administration took over the reins of office under conditions in some respects the most astounding the country had ever seen. For a generation or more, rustic wits had repeated the old saw that every bank in the country would be closed four months after the newly elected President took office, and

never had the prophecy failed. But none had been so rash as to forecast the closure of all the banks on inauguration day itself, yet this is what happened while F. D. Roosevelt was being inducted into office. Following the R.F.C. loans the government had done nothing to reform the banking situation, the result being, as Senator Carter Glass of Virginia stated it, that the money was merely "poured down a rat hole." The financial situation grew more critical as farm and other real-estate mortgages proved to be liabilities to the holders. Then, the first evidence of the major collapse came with the closing of all the banks in Michigan on February 14, 1933. People in the other states were immediately assured that their banks were in the soundest condition for years, but a different language was talked in the directors' meetings.

The situation in Michigan created a critical condition in the banks of all states in which the Michigan banks had credits. In three weeks the federal reserve increased the volume of its notes by \$860,000,000, the highest peace-time expansion to that time, without remedying the situation to any appreciable degree. First one state governor and then another issued decrees for bank holidays, the situation reaching a climax on the night of March 3. On the following morning the financial business of the country was at a standstill. The new President took the matter in hand immediately. Before the usual bank opening time on Monday, March 6, the proclamation had gone out ordering all banks closed for four days and forbidding the exportation of gold. The embargo came just in time to prevent the gold reserve from falling below the legal limit of \$150,000,000.

Congress, called into immediate session, met on March 9 and on the same day passed the legislation necessary for the emergency. The President's action was legalized and the Comptroller of the Currency was directed to take charge of insolvent banks. Just a week after the President's proclamation the sound banks began to reopen. About 3,000 of the 19,000 still remained closed while over 2,000 others were allowed to operate only on a partial basis. As late as the middle of June something like 4,000 banks, with deposits of three billion dollars, remained either closed or restricted. Meanwhile, the people had taken the bank holiday in surprisingly good spirit. They seemed to feel relief that the suspense over the banking situation was soon to be ended. The events of the preceding three years had diminished the credit facilities of the country by \$15,000,000,000. The public looked to the "new deal" to remedy this situation by as much inflation as should prove necessary, and to correct the evils of banking which the depression had brought under a glaring light.

New Banking Regulations. The further solution of the problem was not so easy. Some of the larger cities, such as Detroit and Cleveland, were left without enough banks to transact their shrunken business. The state-wide situation was worst in Maine, but all over the country there were people who were left handicapped by the loss or impounding of their deposits. An act of March 23 permitted non-members of the Federal Reserve to participate in its loans and allowed more credit from the R.F.C. to state banks. Then on June 16 the Glass-Steagall bill was signed by the President, with the remark that it had "more lives than a cat," having been "declared dead almost 14 times in the last few months. . . ." Many bankers and some others wished that the number had been increased to at least 15. Among other things, it included a guarantee of deposits. This principle had already failed in several of the states largely because of the weaknesses of the regulatory laws and the geniality of state bank examiners. Even Glass was not enthusiastic about the idea. Nevertheless, a Federal Deposit Insurance Corporation was ordained with a capital of about half a billion dollars, a third to come each from the federal Treasury, the Federal Reserve, and the insured banks, the latter to subscribe .5% of their deposits with additional increments half as large whenever the fund should sink too low. Beginning with January 1, 1934, all deposits in subscribing banks were to be guaranteed in full up to a maximum of \$2,500. Six months later the full liability would extend to deposits up to \$10,000, with a graduated scale for higher amounts, terminating at 50% for deposits above \$50,000. It was confidently predicted that before the guarantee should go into effect the Congress would either amend or abolish the whole scheme. Another possibly more permanent part of the law ordered private bankers who engaged in securities business to give up one or the other of their activities. Despite the grumblings and threats of the greater banks, the often mulcted public stood squarely behind this measure.

The Securities Act. A Securities Act, passed on May 27, promised a measure of protection to the buyers of stocks and bonds. Misstatements or other fraud perpetrated in the interstate sale of such securities were made punishable as federal offenses, the buyers being permitted to sue for the recovery of losses. Beginning on July 27, 1933, all persons offering securities for sale were required to register their proposals with the Federal Trade Commission. The registrations must contain all information necessary to establish the soundness of the securities, and be signed by all of the responsible officials of the corporation, these documents to be available to purchasers at the cost of printing and distribution. No guarantee against loss

was provided, but by placing the burden of honesty upon the corporation instead of letting all the risk fall upon the purchasers, it was hoped to prevent a vast amount of "blue-sky" dealings. As might have been expected, many corporations said these restrictions would retard even the soundest and most necessary of business expansions. By 1934 they were hopeful of being able to compel a modification of the law, having already spread a blanket of propaganda to the effect that the act was retarding recovery.

Off the Gold Standard. The proclamation of March 6, 1933, closing the banks of the nation, also put the government practically off the gold standard, though this fact was not officially stated till April 19. The reasons were not all clearly announced at the time. As the banking crisis of March approached, canny business men had withdrawn large sums of gold from their deposits, the amount in hiding on March 4 being about \$1,500,000,000. Long before this the small depositors, angered at the petty tax on checks, and distrustful of the banks, had been taking their wages and salaries in any form of currency available and putting them either in safety deposit boxes or in secret places around their homes. It was said of a Kansas bank whose vault had been flooded that when the safety deposit boxes were emptied to dry the contents, more money was disclosed than was on deposit in the regular way. Because of the effect of this hoarding of both kinds upon bank credit, the people were urged to place their currency in the banks, while the hoarders of gold were ordered to return their withdrawals on penalty of ten years' imprisonment and a \$10,000 fine. No person was to be allowed to hold more than \$100 in gold. Though this order was of extremely doubtful legality, all of the gold except about \$600,000,000 worth was returned to the Treasury by May 1. Then the bureau of investigation was assigned the job of securing information for the recovery of the rest. Since the Treasury did not need the whole nation's supply of gold to hold in reserve for notes, it seemed that the government hoarding could be only for the purpose of preventing the metal from leaving the country, unless there was some gestating scheme of inflation based upon a devaluated gold coinage.

A further retreat from the gold standard was made on June 5, 1933, when all clauses for gold payment of debts public or private were repealed. This caused violent protests from foreign governments which were already in default of their debts to the United States, and some consternation among American creditors who wished to collect in dollars worth far more than those lent. Yet, the country as a whole was not disturbed by the action. When the government offered nearly a billion dollars worth of bonds at low interest rates,

and shorn of the usual gold-payment clauses, they were oversubscribed six times in three days.

Inflation or Reflation. The Farm Relief Act, approved May 12, contained various provisions for inflation on the option of the chief executive. He could provide credit inflation by an expansion of federal reserve notes to the amount of three billion dollars, could use the greenback method by issuing as much as three billion dollars in Treasury notes, could authorize free and unlimited coinage of silver at any ratio he should choose—too bad Bryan was dead—could accept \$200,000,000 in silver in payment from the debtor countries of Europe, and might reduce the gold content of the dollar by as much as a half. All of these powers were permissive, not mandatory. Then for months the country awaited the program of inflation, creditors and salaried people with misgiving and debtors with impatience. The progressive fall of the American dollar on the international exchange was not accurately reflected by price increases in the United States. The first intimation of a change in the gold content of the dollar came on September 8, 1933, when the Treasury Department announced that the federal reserve banks might sell newly mined gold for use in the arts and crafts at \$29.62 an ounce. This meant that a premium of 43% was being paid, or that the dollar was worth about 70% of the old mint gold value. Yet, the index of nearly 800 commodities had risen only 15% above the level of February. The Treasury was holding about four billion dollars in gold, which on the new basis was worth approximately $5\frac{3}{4}$ billion dollars. Late in October the policy was launched for the buying of gold at a still higher rate. The movement toward a new price level and a managed currency, based on gold as a commodity but not as a coin, was begun. Too long the country had been bound to an inflexible currency system. The new policy was intended to give the dollar a long-time stable purchasing power by altering its hypothetical gold content as needed. Early in 1934 the dollar was definitely lowered to about 60% of its old gold content, but all gold money, even that of the Federal Reserve was called into the Treasury. Gold became merely a commodity whose price was fixed by the government.

The "Brain Trust." The Seventy-third Congress was willing to go to great lengths to restore prosperity, but it was equally anxious to shift the responsibility for any failure or blunders to other shoulders. This gave a splendid opportunity for Roosevelt to assume a leadership in legislative matters such as no other peace-time President had ever experienced. The authority delegated to him in the first three months left him in a position of power scarcely equaled by that of any European dictator, yet with a responsibility to the electorate and the opportunity

of later legislative curtailment of power which furnished a sharp contrast to fascism. In working out the program of legislation, and in the administration of it after enactment, the President leaned heavily upon experts in economics and political science selected from university faculties, most of whom were of a liberal turn of mind. These advisors soon came to be called the "brain trust." Strangely enough, having tried everything else, the public was at last even willing to trust "brains" in the working out of a system of economic control.

The Economy Act. Secure in its delegation of responsibility along with authority, the Congress broke all records in the speed with which it disposed of vital legislation. Having taken temporary care of the banking situation, and even before legalizing beer, an economy act was adopted on March 15. A big cut in pensions was made (modified by a later act of June 16), especially for veterans of the Spanish-American and World wars. Nearly half a million men who had been drawing pensions but who could show no direct disability as a consequence of their service in the wars were removed entirely from the rolls. Even those who could prove disablement were cut 25%. To federal officials and employees the government was more liberal. Congressmen took a cut from \$10,000 to \$8,500 a year, thus partially undoing a salary-grab act of Harding's day. Persons in the civil service also got a 15% reduction. More important in the long run, it would seem, was the authority given the President to reorganize the departments of government, abolishing and consolidating bureaus in the interest of efficiency and economy. As a suggestion of what might be expected in the future Roosevelt on March 27 created the Farm Credit Administration out of about eight former agencies. Altogether it was hoped to make an annual saving of a billion dollars a year from the various economies effected. For a time it was certain that this reduction of expenditures would result in still further raids on the nation's consuming power, provided of course that some better use was not made of the salvaged funds. Veterans cut off from the federal bounty were quick to note that a number of retired army and naval officers who were getting huge salaries from industrial concerns and elsewhere continued to receive large pensions from the government. In March, 1934, Congress overrode a presidential veto and restored a portion of the veterans' doles. Political fences again needed repairing.

The Return of Legal Liquor. Congress next turned its attention to the campaign pledge to legalize the manufacture and sale of light wines and beer in states which would permit it. The preceding session had submitted a constitutional amendment for ratification by state conventions for the purpose of annulling the Eighteenth Amendment.

Before the close of 1933, 37 of the first 39 states that had taken action on the new amendment had voted favorably and the ratification was completed. Even Maine, the pioneer of prohibition, turned her back on her traditional policy. Meanwhile Congress was determined to slake a part of the national thirst and secure some much needed revenue by replacing the Volstead Act by liberal legislation. On March 22 an act was passed legalizing vinous and malt liquors of an alcoholic content not more than 4% by volume (3.2% by weight). A tax of \$5 a barrel of 31 gallons was to be collected by the government, while brewers and wine makers were required to pay a license fee of \$1,000 annually. The restrictions on medical prescriptions for spirituous liquors was removed by another act of March 30. A large number of states immediately modified their own legislation to conform with the federal policy. Even in Kansas, another confirmed prohibition state, a supreme court interpretation pointed a way to legalize the new brew by leaving it to the county courts to decide upon its intoxicating qualities. The result was that beer was soon being sold in restaurants all over the state.

The effect of the beer act upon the federal revenue surpassed all anticipations, while many bootleggers began to look for some new form of more profitable endeavor. In anticipation of still further taxes to be collected when hard liquor should be legalized, the Congress adopted some other budget-balancing excises, to be removed as soon as the President should find that the whiskey revenue was sufficient to replace them. These included a 5% assessment on all stock dividends, to be collected before distribution, a slight increase in the corporation income taxes, and a 5% levy on all corporation profits above 12.5%. The federal gasoline tax was also increased $\frac{1}{2}$ ¢ for one year. The income tax legislation was amended to put a stop to the evasion of payment by subtracting capital losses from income—the loophole which had proved so helpful to Morgan, Mitchell, and others. A good part of the new revenue was going to be needed to pay interest and create a sinking fund for billions in bonds which would have to be issued to meet the requirements of the industrial recovery plan which was being projected. Further tax legislation seemed still necessary in order to provide an even flow of revenue in bad years as well as good.

Railroad Coördination. Another campaign pledge receiving legislative attention was to bring more order and security into the railroad transportation of the country. Following 1929 the railroads had participated in the general after effects of the decade of financial debauchery. The total revenue of the roads fell 16% in 1930, but this was partially offset by lowered operating costs, the wage bill alone

declining by \$350,594,000. Four railroads with a capitalization of \$277,324,000 went into receiverships in 1930. But this was very small compared with the \$1,070,809,000 tied up in a similar manner in 1915 when hardly anybody but the salaried man was crying hard times. In truth the railroads were still hit less than other businesses. Their stocks and bonds even in 1931 were paying better than industrials. But the peculiar relationship to the government, created by the Interstate Commerce Commission, gave the railroads a much better leverage for prying up federal aid. In 1932 they demanded a 15% flat increase in rates and a cut of a tenth in wages. The latter demand was conceded by the unions year by year, but the commission denied the additional rates. The dole from the Reconstruction Finance Corporation helped tide matters over till Congress could take the situation in hand.

A National Transportation Committee, composed of representatives of savings banks and insurance companies which held large blocks of railroad bonds, made a report on February 15, 1933, recommending in general that the government do everything possible for the railroads and look for nothing in return. Government support of competing services such as the inland waterways should be abandoned, while motor carriers should be regulated and taxed. More constructive was the suggestion for regional consolidation, a single national system, and the elimination of duplicating or obsolete lines and equipment. The most important action taken by Congress in 1933 (act of June 16) was the creation of the office of Coördinator of Transportation with certain wide powers. Its main business was to reduce costs and create efficiency. Three regions were established—Eastern, Southern, and Western—each with a separate subcoördinator to help work out problems of consolidation, subject to a review by the Interstate Commerce Commission. No railroad could reduce the number of its employees, except by failure to fill places vacated by death, resignation, or retirement up to 5% of the total employees in any one year. The federal coördinator, Joseph B. Eastman, at once began studies aimed at a reduction of fixed charges, for financial reorganization, and honest compliance with the labor provisions. He soon notified the railroad officials that they would have to accept reduced salaries more commensurate with their services.

Incidentally, the "recapture clause" of the Esch-Cummins Act, under which surplus incomes of profitable lines went to the support of needy carriers, was repealed. This provision had been inoperative since the Supreme Court decision in the St. Louis and O'Fallon case in 1929 (see p. 677, note). A fund of about \$13,500,000 already collected was returned to the roads from which it had been

received. More progressive in tendency was a three-word addition to the new Interstate Commerce Act. The phrase "or holding companies," in the enumeration of railroad combinations which came under the commission's control, put a stop to a long-standing method of evasion of responsibility. It was hoped that, as a result of the co-ordination to be effected by the new Interstate Commerce Act, the public as well as the railroads would in time be recipients of the benefits.¹

Voluntary Allotment. The farm legislation enacted in the "new deal" was based upon the assumption that overproduction rather than maldistribution and underconsumption lay at the bottom of the agricultural depression. The acts were largely in line with the demands of the new Secretary of Agriculture, Henry A. Wallace of Iowa. The Farm Relief Act of May 12, 1933, aside from carrying the optional inflation provisions before mentioned, put into effect the domestic allotment plan of agricultural control for wheat, cotton, corn, hogs, dairy products, leaf tobacco, and rice. None of these products got any real protection from the existing tariff rates. The purpose of the law was to encourage farmers to cut down on their production by paying them for the temporary sacrifice. As an example of the operation of the act, Secretary Wallace on July 9, 1933, put into effect a tax of 30¢ a bushel on wheat consumed domestically, collecting the sum from the millers and others who converted it into food. The proceeds were to be divided among such wheat growers as would voluntarily agree to cut their acreage for the following season according to a scale to be prepared by the agents of the Department of Agriculture. When the production should be cut to the needs of the country the net consequence of such legislation would be merely to make the tariff effective. The immediate rise in the cost of foodstuffs was, after all, no greater than the existing protection on other commodities, though the results were brought much more sharply before the public eye. The obvious weakness of the scheme was that when prices should rise to the point of a comfortable profit, the growers would almost certainly be tempted to abandon their voluntary crop restrictions and start overproduction anew.

On August 1 a tax of 4.2¢ a pound was assessed on the processing of lint cotton. Before this the Southern growers had already offered 10,000,000 acres of growing cotton to be plowed under so as to restrict the year's yield by about 3,500,000 bales. The reward of the cotton growers was to come through a distribution of the proceeds of the processing tax according to the number of acres they withdrew

¹ Two other acts, June 10 and 14, provided assistance to insurance companies and loans to building and loan associations.

from cultivation. Plans were also made to put a tax on the manufactures of tobacco to provide a fund of \$3,500,000 as a temptation to cut the crop of leaf tobacco in half. Then, before the close of September the government bought approximately 6,000,000 pigs weighing between 25 and 100 pounds and 200,000 sows. The pigs too small to be butchered were, according to the first intention, to be converted into tankage, which itself would be used for hog feed to stimulate further production. The farmers were quick to accept the offer of \$4 apiece for their pigs, but showed a distinct unwillingness to part with brood sows. On the insistence of Mrs. Roosevelt, it was said, one important change was made in the program. The pigs, instead of being uselessly slaughtered, were to be used for charity distribution among persons who could make good use of them but who otherwise would be unable to secure pork. Thus at least one effort was made at a more effective distribution instead of looking purely at the production end of the problem. Next, it became apparent that the reduced number of hogs would call for another effort to curb the corn crop.

This program alone would have indicated a callous unconcern for the undersupplied multitudes. However it was felt that by restoring the purchasing power of the farmers industrial activity would be stimulated, thus giving more industrial laborers an opportunity to fill their larders and provide a sufficiency of other necessities. At the same time the industrial recovery program was put into effect to add further stimulus in the same direction. It was apparent that when the time came that demand should exceed the supply of agricultural goods the farm program would have to be modified far enough to keep the two economic forces at a balance. A Farm Credit Act of June 16 was a plan to refinance farm mortgages at lower interest rates by federal subvention.

Putting the Men to Work. The efforts to restore industrial employment and bring a degree of order into the general business anarchy attracted more interest and excited more comment than anything else in the campaign against the depression. On June 6 the Wagner-Peyser Act was signed, providing for the setting up of a United States employment service in the Department of Labor. A fund of \$1,125,000 was appropriated for the first year's expenditure in this effort to help cooperating states in placing laborers where they might be needed, whether near at home or far away. This national employment bureau was expected to do away with the "racketeering" type of service under private control. Before this, on March 31, the President signed another bill authorizing the establishment of a Civilian Conservation Corps such as he had proposed before his election. He was allowed to enlist men for reforestation, flood prevention, soil erosion, and national

park work. The 275,000 men thus enrolled would receive food, clothing, shelter, and \$30 a month. Though the rate of pay was criticized as being in effect an exploitation of labor, it was pointed out that the men were in no sense military conscripts, but could quit whenever they found something better. The main purpose was to give employment to the multitudes of "panhandlers" and tramping young men who infested the country. The Costigan-Wagner-La-Follette bill for an appropriation of half a billion dollars for direct aid to the states was accepted on May 12. Grants to the states were to be equal to one-third of the amounts spent for relief work by the governments thereof in the preceding three months, with a chance for some elasticity in special cases. The purpose was to raise the standards of assistance so as to prevent the social consequences of an undernourished and demoralized unemployed population. A social experiment of much greater proportions and of far-reaching implications was begun as a result of the Tennessee Valley Authority Act of May 18. Not only was the Muscle Shoals project to come purely under government control, but the whole drainage basin was to be preserved against floods, erosion, and malign exploitation. The Tennessee Valley Authority, headed by Arthur E. Morgan, was especially interested in preserving the independence, welfare, and best traditions of the inhabitants, who otherwise were doomed to the dreary monotony of a capitalistic factory system.

The NRA. Far more sweeping in its scope was the National Industrial Recovery Act, signed on June 16, 1933. For immediate assistance the act appropriated \$3,300,000,000 for the construction of public works of permanent importance all over the country. Jacob M. Coxey's ideal had finally triumphed. Anywhere from one to three million men would be put to work, while thousands of other industrial enterprises would be speeded up to supply the necessary materials for construction, thus calling still more laborers back to work. Highways, waterways, public buildings, naval vessels, aircraft for the army and navy, and semipublic works such as hospitals, slum clearing, and cheap-housing projects—enterprises in which labor was the principal cost—were included in the program of building. Money spent for other than purely national projects was to be only 30% of the total cost, the rest being raised by the states or localities. The administration of the program was intrusted to Harold L. Ickes, Secretary of the Interior. Ickes, a political protégé of Senator Hiram Johnson of California, had all the zeal of an old-time Progressive, but found that the investigation and details necessary to prevent speculation and waste postponed the active prosecution of the public-works projects for an agonizingly long interval. As the winter of 1933-1934

drew near the movement was getting under way, promising relief at a time when it would be most needed. The winter was tided over more by the Civil Works Administration, which put 4,000,000 men at jobs paying about \$15 a week. Much of the effort was expended on mere "make work" projects.

The more significant part of the Recovery Act was the provision for industrial control. It was essentially a government-prodded coöperative movement to procure shorter working hours, higher wages, and more jobs, with precautions to prevent unfair competition and overproduction. Employers' associations had for years wanted to effect a greater amount of combination than was permitted by the antitrust laws. The textile industry, for example, had tried to secure voluntary action to prevent the operators who used underpaid labor from running night and day so as to flood the country with cheap goods to the detriment of employers who had to pay something like living wages. Representatives of some of these industries conferred with Roosevelt before his inauguration, asking him to secure some letting down of the antitrust bars. The President-elect then consulted with labor leaders and economists and finally worked out a plan far more comprehensive and benevolent to labor than that proposed by the industrialists. The new law permitted representative groups in any line of business to get together and draw up codes of fair competition. The codes were to fix minimum wages above the bare necessities of existence, establish maximum hours, and generally to eliminate selling at a loss or following other practices which might lead to sweating. All members of a given industry were bound by any such code which proved acceptable to the National Recovery Administration and the President, whether they signed it or not. Any industry which failed to present an acceptable code would have one handed it by the administration. In order to enforce the codes the President might require the entire industry to secure licenses, and then close down the establishments of the recalcitrants.

The greatest weakness of the act was that, because of constitutional restrictions, it could be made to apply only to businesses which engaged in interstate commerce. It would be of immense help to have all of these employing more men, with the assurance that such action would be so uniform that none would be placed at a disadvantage. But the mass of the unemployed could expect to find work only under small merchants, shopkeepers, and manufacturers who catered merely to local trade. Consequently, on July 24, 1933, Roosevelt made a nation-wide appeal over the radio for a concerted effort to make effective a "blanket" code for all employers who could not or were not yet included in the greater industrial agreements. This code,

which was promulgated on August 1, called for the abolition of child labor, fixed a 35-hour week for day labor and a 40-hour week for clerical and other "white-collar" employment. The minimum wage for the former was to be 40¢ an hour, for the latter from \$12 to \$15 a week according to local conditions. About 700,000 employers had signed this code by the time it went into effect, many fearing the effect of a boycott should they fail to display the emblem of the blue eagle which was the evidence of their adherence. The whole population, as consumers, were also asked to sign a pledge to patronize the firms which conformed with the national plan. The whole thing depended, as in war-time propaganda, upon an appeal to mass psychology. It was a movement which might become permanent only if it quickly proved successful. By the more outspoken critics the whole effort was labeled in the vernacular as "ballyhoo." Yet, should the feeling of enthusiasm last long enough, there was a hope that the states might make a concerted movement toward minimum-wage and child-labor laws and in the direction of state codes conforming to the national plan. The attitude of the courts remained to be discovered.

Industrial Codes. The cotton manufacturers were the first of the major industries to submit a code, hearings on it beginning on June 27. In its original form the code proved far from satisfactory to the labor group, and before final acceptance it had to be greatly liberalized. The administrator of the NRA, the crudely forceful Hugh S. Johnson, fought for still greater concessions to labor, but was finally constrained to accept a 40-hour week with minimum wages of \$12 a week in the South and \$13 in the North. In view of the fact that some wages in the industry had been as low as \$4.54 for a week of 62½ hours, quite a victory had been gained. Still, so long as the average wage of all industries in 1933 was \$17.50 a week, the minimum for the cotton group was placed at an absurdly low figure. Also, since the administration had been favoring a 30-hour week, it was seen that the initial retreat from that standard would set a precedent for all succeeding codes. By the close of September, 32 agreements had been approved by the President, mostly with hours and wages a little better than those of the cotton code, but falling short of the original aim. Public hearings had been completed on 70 more. Another tactical error was made in the automobile compact. The law forbade any employer to force the open-shop principle upon his laborers or to use coercive methods to get them into company unions. This would give the labor leaders a chance to secure organization in industries from which they had formerly been excluded by strong-arm methods of the employers. At the same time the law did not discriminate in favor of the closed shop, leaving the opposing parties to work out this problem in their own

way. But in the automobile code the manufacturers were given a little too much leeway to worm out of the open-shop restriction. The refusal of Henry Ford to sign the agreement also had an unsalutary effect.

Most difficult of all the industries to work out codes were steel and coal, the former because of its stubborn and hereditary opposition to labor unionism of any kind, and the latter because of dissensions between the unionized and nonunionized fields. It seemed finally that the steel operators would nominally accept the concession to the unions, awaiting an opportunity to nullify it later. In the coal men's dispute the operators of the unionized fields finally succeeded in forcing the owners of mines in Kentucky, West Virginia, and Alabama to submit. Also, partly as a result of the influence of Mrs. Roosevelt, the abominable system of truck and scrip payment of wages, which had prevailed in the South, was outlawed. The coal code alone justified the whole NRA program even if it should fail everywhere else.

The midsummer activity, amounting almost to hysteria, in rushing through blanket and special codes, was the result of dire necessity. In anticipation of an era of higher wages, the manufacturers had got their plants into full operation, hoping to lay up a store of goods for profiteering purposes after the higher wages and shorter hours went into effect. Thus, in July, 1933, production reached about 92% of normal. But payrolls remained at half, factory employment at 68%, department-store sales something like 60%, and consumption of goods at 55%. If this situation continued there would soon be huge surpluses followed by another period of unemployment worse than anything before experienced. It was absolutely imperative that purchasing power be elevated to equal production. Consequently, all of the laws were pushed in application as fast as was compatible with care and watchfulness against dangerous blunders.¹ The results of the efforts were slow in accumulation. Between March and November about four million persons were put back to work, and it was confidently hoped that before many more months the number would reach 6,000,000. This, however, would merely half solve the unemployment problem. Yet, with the avalanche once started it was

¹ Another experiment which attracted less attention than it probably deserved was a new back-to-the-land movement. The sum of \$25,000,000 was set aside from the public-works fund to take families from the cities where they were dependent upon charity and allot them patches of land upon which they could grow most of their own food. The grant was to be used as a revolving loan fund to help put these people on their feet. It was expected that the people thus helped would make their land merely a supplement to their earnings as industrial laborers, leaving them well provided for in times of heavy employment and partially sustained even when out of other work, without at the same time adding to agricultural overproduction.

reasonable to expect that it would gather mass and momentum in its course. The winter of 1933-1934 was looked forward to with hope and apprehension. The success of the whole experiment depended upon getting through the season with an increase instead of a decline in general welfare. By April, 1934, recovery seemed definitely in progress.

Defects in the Legislation. It was apparent from the first that the governmental policies had defects which needed rectification, and that there were certain contradictions to be eliminated. While one agency lent money to farmers to buy seed and finance further crops, another tried to limit production. While the bankers were urged to be more liberal in extending credits, the bank examiners were showing more vigilance in preventing reckless action. While the Department of Agriculture strove to drive farm prices upward, the NRA was adding to farm costs at a still more lively rate. Furthermore, the salaried person proved to be the "forgotten man." For years his income had lagged behind rising costs of living. Then for two or three years he had managed to exist with some greater degree of comfort, provided he kept his position. But in 1932 and 1933 salaries became the target of all shafts. Just as recovery seemed on the way, salaries of teachers, professors, clerks, bookkeepers, and the like were slashed 25% and upward. As the cost of living began to rise, with inflation in the offing, the white-collar man saw only one comfort in the bleak years to come. A restoration of normal business activity would give him more security of tenure in his position and a greater chance of promotion. Perhaps he had spent years in trying to pay off the mortgage on the home he had bought when he settled down to his career. He still had a hope of meeting the future payments. One of the pieces of legislation which would be of help to him, along with the laboring man, was the Home Loan Act of June 13. A two billion dollar corporation took its place alongside the corps of other federal corporations, its business being to issue government bonds paying 4% interest to trade to loan companies for mortgages on homes valued at \$15,000 or less. The home owner was required to pay 5% to the corporation, a rate of interest well below the prevailing average.

The Road Ahead. The effect of the whole administration program, taking a long view of the situation, was the beginning of a system of national planning such as no nation outside Russia had thus far seriously attempted. Many feared and others hoped for its failure. Yet, it could not be replaced by going back to the planless, blind reliance upon economic forces that had dominated the past. Whatever the direction government regulation should take in the future, whether toward the socialized state or a state capitalism dominated

by a few great monopolies, the age of rugged individualism seemed a closed chapter. Perhaps economic recovery would have come just about as quickly without the "new deal." It may be that the political "rain makers" had finally performed their incantations at just the right moment to coincide with the coming of natural thundershowers. But at any rate, it was felt, the public for a few years would be on the alert to secure a better guided economic state than in the past. That it could succeed without a great deal more of international coöperation than was visible early in the year 1934 seemed very doubtful. The creation of a national economic self-sufficiency could be no solution for the problem of international economic ills. The future, like the past, depended upon the kind of leadership the people chose to select or indorse. Without far greater changes in the direction of equitable distribution than those begun in 1933 it was certain that periods of prosperity would again be followed by the depths of depression. The session of Congress which met in January, 1934, was more interested in restoring the price level of 1926 than in planning for the future, but it still showed a willingness to follow the leadership of the President.

But had the revolution gone far enough to make a clean break from the rubbish of the past? In March, 1933, bankers and industrialists were so terrified as to submit to far harsher regulation than they received. A year later, when the economic sky looked clearer, they were snarling with bared teeth at the new policies. The steel and automobile industries especially were openly flouting the labor provisions of the NRA. A major strike in the automobile industry was averted by Roosevelt's mediation in March, 1934, but the right of labor organization was not sufficiently recognized. Economic liberals were looking with troubled eyes toward the future. State capitalism under a fascist régime was still considered a possibility.

CHAPTER XXXV

COMMENTS ON AUTHORITIES

In this bibliography the sections correspond to subjects treated and do not follow the chapter numbers in the text.

I. DISCOVERY AND SETTLEMENT

The best comprehensive discussion of the European basis of colonization is Edward P. Cheyney, *European Background of American History, 1300-1600* (*The American Nation: A History*, Albert B. Hart, ed., Vol. I, New York, c. 1904). General treatments of European, and especially English, expansion are John R. Seeley, *Expansion of England* (Boston, 1883); Wilbur C. Abbott, *Expansion of Europe* (2 v., New York, 1918); and William H. Woodward, *A Short History of the Expansion of the British Empire, 1500-1870* (New York, 1899). British commercial motives are discussed in George L. Beer, *The Origins of the British Colonial System, 1578-1660* (New York, 1908). Old misconceptions concerning the closure of Eastern trade routes are laid to rest in Albert H. Lybyer, "The Ottoman Turks and the Routes of Oriental Trade," *English Historical Review*, Vol. 30 (October, 1915), pp. 577-588.

Among the numerous accounts of the voyages of discovery the most useful for the beginnings is Edgar Prestage, *The Portuguese Pioneers* (New York, 1933). The background of Spanish colonization can be pursued sufficiently in a general history such as Charles E. Chapman, *A History of Spain* (New York, 1918). Most illuminating in explaining the motives of Columbus is Henry Vignaud, *Toscanelli and Columbus* (London, 1902). An indispensable source collection for early English exploration and settlement is Richard Hakluyt, *Principall Navigations, Voyages, Traffiques, and Discoveries of the English Nation* (16 v., Edinburgh, 1885-1890). There are various other editions and abridgments. An excellent general view of the explorations of all nations is J. Bartlett Brebner, *The Explorers of North America, 1492-1806* (New York, 1933). The Caribbean colonies are ably discussed in Arthur P. Newton, *The European Nations in the West Indies, 1493-1688* (New York, 1933). A history of the Colonies which gives full credit to the efforts of non-English peoples is Herbert E. Bolton and Thomas M. Marshall, *The Colonization of North America* (New York, 1920).

The physical influences on settlement are discussed in Ellen C. Semple, *American History and Its Geographic Conditions* (Boston, c. 1903); Albert P. Brigham, *Geographic Influences in American History*

(Boston, 1903); and Charles C. Colby, ed., *Source Book for the Economic Geography of North America* (Chicago, c. 1926). An excellent summary is in Arthur M. Schlesinger, *New Viewpoints in American History* (New York, 1922). The life and influence of the aborigines is recorded in Livingston Farrand, *Basis of American History, 1500-1900* (*American Nation*, Vol. II, New York, c. 1904) and Ellsworth Huntington, *The Red Man's Continent* (*Chronicles of America Series*, Allen Johnson, ed., Vol. I, New Haven, c. 1919).

The work of settlement is discussed at length in any of the standard histories of the Colonies. Among special aspects of the matter Richard H. Gretton, *The English Middle Class* (London, 1918) is a brilliant exposition of the motivating forces of the Puritans. The influences governing the migration of the two principal peoples arriving in the eighteenth century are discussed in Henry J. Ford, *The Scotch-Irish in America* (Princeton, 1915); Charles A. Hanna, *The Scotch-Irish* (2 v., New York, 1902); Albert B. Faust, *The German Element in the United States* (2 v., Boston, 1909); and Levi O. Kuhns, *The German and Swiss Settlements of Colonial Pennsylvania* (New York, 1901). Evarts B. Greene, *American Population before the Federal Census of 1790* (New York, 1932) is unique in its field.

For detailed examples of general economic problems in the Southern and Northern Colonies respectively the following are very useful: Philip A. Bruce, *Economic History of Virginia in the Seventeenth Century* (2 v., New York, 1896) and William B. Weedon, *Economic and Social History of New England, 1620-1789* (Boston, c. 1891). Volumes 1-3 of *A History of American Life*, Arthur M. Schlesinger and Dixon R. Fox, eds., contain many passages relating to economic activity. They are, in order, Herbert I. Priestly, *The Coming of the White Man* (New York, 1929); Thomas J. Wertenbaker, *The First Americans, 1607-1690* (New York, 1927); and James T. Adams, *Provincial Society, 1690-1763* (New York, 1927). Charles A. Beard and Mary R. Beard, *The Rise of American Civilization* (2 v., New York, 1927) contains many suggestive generalizations concerning economic life both for the Colonial and later periods of American history.

II. COMMERCE AND THE MERCHANT MARINE

The most complete treatment of the subject is Emory R. Johnson and others, *History of Domestic and Foreign Commerce of the United States* (2 v., Washington, 1915). Briefer, but illuminating, is Clive Day, *History of Commerce of the United States* (New York, 1925). The most recent general view is John H. Frederick, *The Development of American Commerce* (New York, 1932), about half of which deals with the period since 1900. See also Avard L. Bishop, *Outlines of American Foreign Commerce* (Boston, 1923). The merchant's view of the matter is contained in Chauncey M. Depew, ed., *One Hundred Years of American Commerce, 1795-1895* (New York, 1896). Special phases of foreign trade are discussed in Edith M. Miller and others, *Some Great Com-*

modities (New York, 1922) and Emory R. Johnson and G. G. Huebner, *Principles of Ocean Transportation* (New York, 1918). Recent phases of this and other economic problems are ably treated in *Recent Economic Changes in the United States*, Edward E. Hunt, ed. (2 v., New York, 1929) and James C. Malin, *The United States after the World War* (Boston, c. 1930).

An excellent brief discussion of mercantilism is contained in Laurence B. Packard, *The Commercial Revolution, 1400-1776* (New York, c. 1927). More complete are John W. Horrocks, *Short History of Mercantilism* (London, 1925) and Gustav F. von Schmoller, *The Mercantile System and Its Historical Significance* (New York, ed. of 1910). The latter deals chiefly with the Prussian system. French mercantilism is discussed in Arthur J. Sargent, *The Economic Policy of Colbert* (New York, 1899). George L. Beer has treated the British phase of the subject exhaustively in his *Origins of the British Colonial System, 1578-1660*, mentioned above; *The Old Colonial System, 1660-1754* (2 v., New York, 1913); and *British Colonial Policy, 1754-1765* (New York, 1907). His "The Commercial Policy of England toward the American Colonies," *Columbia University Studies in History, Economics, and Public Law*, Vol. III, pt. 2 (New York, 1897) is a brief forecast of the later more extended studies. Other accounts of the British system are contained in Hugh E. Egerton, *A Short History of British Colonial Policy* (London, 1898); John R. Seeley, *Growth of British Policy* (2 v., New York, 1895); and Arthur D. Innes, *Britain and Her Rivals in the Eighteenth Century* (London, 1895). The attack on mercantilism is described in H. Higgs, *The Physiocrats* (New York, 1897) and Francis W. Hirst, *Adam Smith* (New York, 1904). Colonial opinion is depicted by E. A. J. Johnson, *American Economic Thought in the Seventeenth Century* (London, 1932).

For the shipping industry see Winthrop L. Marvin, *The American Merchant Marine* (New York, 1902); Willis J. Abbot, *The Story of Our Merchant Marine* (New York, 1919); and Ralph D. Paine, *The Old Merchant Marine* (*Chronicles of America*, Vol. 36, New Haven, c. 1919). Special phases or periods are considered in Samuel E. Morison, *Maritime History of Massachusetts, 1783-1860* (Boston, c. 1921); Kenneth S. LaTourette, *Voyages of American Ships to China, 1784-1844* (New Haven, 1927); Arthur H. Clark, *The Clipper Ship Era, 1843-1869* (New York, 1910); and Arthur Warner, "American Shipping since the War," *Current History*, Vol. 34 (September, 1931), pp. 862-866. For privateering see J. Franklin Jameson, ed., *Privateering and Piracy in the Colonial Period* (New York, 1924) and Edgar S. Maclay, *History of American Privateers* (New York, 1924). Another happily by-gone phase of commerce is depicted by John R. Spears, *The American Slave Trade* (New York, 1900). An older and sufficiently prejudiced account is Henry C. Carey, *The Slave Trade, Domestic and Foreign* (4th ed., Philadelphia, 1872). See also Theodore Canot, *Adventures of an African Slaver* (Garden City, 1928), dealing with the illegal

prosecution of the business shortly before the Civil War. Especially valuable is Elizabeth Donnan, ed., *Documents Illustrative of the History of the Slave Trade to America* (3 v. and a fourth in preparation, Washington, 1930-1932).

The foreign complications growing out of commercial restrictions during the wars of the French Revolution and Napoleon are treated in any standard diplomatic history of the United States. Special phases may be studied in Samuel F. Bemis, *Jay's Treaty, 1794* (New York, 1923); Louis M. Sears, *Jefferson and the Embargo* (Durham, 1927); Walter W. Jennings, *The American Embargo, 1807-1809* (Iowa City, 1921); Alfred T. Mahan, *Sea Power in Its Relation to the War of 1812* (2 v., Boston, 1919); and Edgar S. Maclay, *History of the United States Navy from 1775 to 1902* (3 v., New York, 1902). See also Maclay, *History of American Privateers*.

Imperialism is given considerable attention in Archibald C. Coolidge, *The United States as a World Power* (New York, 1908); John H. Latané, *The United States and Latin America* (Garden City, 1920); and Latané, *America as a World Power, 1897-1907* (*American Nation*, Vol. 25, New York, c. 1907). Special phases are considered in Walter Millis, *The Martial Spirit* (Boston, 1931), a deflating account of the Spanish-American War; Leland H. Jenks, *Our Cuban Colony* (New York, 1928), less vehement than its title suggests; Carleton Beals, *The Crime of Cuba* (Philadelphia, 1933); Charles C. Tansill, *The Purchase of the Danish West Indies* (Baltimore, 1932), mainly diplomatic; Scott Nearing and Joseph Freeman, *Dollar Diplomacy: A Study in American Imperialism* (New York, 1925), careful and thorough; Foster R. Dulles, *America in the Pacific* (Boston, 1932); and Benjamin H. Williams, *Economic Foreign Policy of the United States* (New York, 1929), especially good. On closely related subjects are Clyde W. Phelps, *The Foreign Expansion of American Banks* (New York, 1927); Robert W. Dunn, *American Foreign Investments* (New York, 1926); Julius Klein, *Frontiers of Trade* (New York, 1929), a smug presentation; William C. Redfield, *Dependent America* (Boston, c. 1926); George M. Fisk and P. S. Pierce, *International Commercial Policies* (New York, 1923); William S. Culbertson, *Commercial Policy in War Time and After* (New York, 1919) and *International Economic Policies* (New York, 1925), especially important; and Tracy H. Lay, *The Foreign Service of the United States* (New York, 1925).

Some phases of recent domestic commerce are treated by Daniel Bloomfield, compiler, *Selected Articles on Trends in Retail Distribution* (New York, 1930); Edwin R. A. Seligman, *The Economics of Installment Selling* (2 v., New York, 1927); Walter S. Hayward and Percival White, *Chain Stores, Their Management and Operation* (New York, 1925); and Gerald C. Henderson, *The Federal Trade Commission* (New Haven, 1924). Standing alone in its field is Frank Presbrey, *The History and Development of Advertising* (Garden City, 1929), profusely illustrated.

III. AGRICULTURE

The most recent and comprehensive bibliography is Everett E. Edwards, *Bibliography of the History of Agriculture in the United States* (U. S. Dept. of Ag. *Miscellaneous Publication*, No. 84, Washington, 1930). The only general history of importance is the somewhat elementary Albert H. Sanford, *Story of Agriculture in the United States* (Boston, c. 1916). A valuable collection from secondary sources is Louis B. Schmidt and Earle D. Ross, eds., *Readings in the Economic History of American Agriculture* (New York, 1925). The most satisfactory account of general Colonial agriculture is Lyman Carrier, *Beginnings of Agriculture in America* (New York, 1923), devoting more than the usual amount of space to Indian contributions. The most pretentious and exhaustive study for the Northern states is Percy W. Bidwell and John I. Falconer, *History of Agriculture in the Northern United States, 1620-1860* (Washington, 1925). For Southern agriculture see references under Section X.

An early and careful study of land policy is Shosuke Sato, *History of the Land Question in the United States* (Johns Hopkins University *Studies in Historical and Political Science*, Vol. 4, Baltimore, 1886). A general survey of the whole system is Benjamin H. Hibbard, *History of the Public Land Policies* (New York, 1924). Special phases and periods are treated in Beverly W. Bond, *Quitrent System in the American Colonies* (New Haven, 1919); Thomas C. Donaldson, *The Public Domain* (Washington, 1884), encyclopaedic for the early period; Payson J. Treat, *The National Land System, 1785-1820* (New York, 1910); and George M. Stephenson, *Political History of the Public Lands, 1840-1862* (Boston, c. 1917). Speculative ventures from the Colonial days to the present are considered in A. M. Sakolski, *The Great American Land Bubble* (New York, 1932). Development of the arid regions may be studied in F. H. Newell, "Irrigation," *Annual Report of the Smithsonian Institution, 1902* (Washington, 1902); G. W. James, *Reclaiming the Arid West* (New York, 1917); and a popular account by a commissioner of the reclamation bureau, Elwood Mead, "Making the American Desert Bloom," *Current History*, Vol. 31 (October, 1929), pp. 123-132. For the influence of transportation and improved machinery see the references in Sections V and VI.

Political uprisings of farmers are dealt with in a broad way in Nathan Fine, *Labor and Farmer Parties in the United States, 1828-1928* (New York, c. 1928). Most authoritative on the Patrons of Husbandry is Solon J. Buck, *The Granger Movement . . . , 1870-1880* (*Harvard Historical Studies*, Vol. 19, Cambridge, 1913). The earliest scholarly treatment of the Peoples' party was Frank L. McVey, *The Populist Movement* (New York, 1896). It has been superseded by the more definitive work of John D. Hicks, *The Populist Revolt* (Minneapolis, 1931). Special phases of the latter subject are ably handled

in Fred E. Haynes, *Third Party Movements since the Civil War* . . . (Iowa City, 1916); Herman C. Nixon, *The Populist Movement in Iowa* (a separate from the *Iowa Journal of History and Politics*, Vol. 24, pp. 3-107); Nixon, "The Cleavage within the Farmers' Alliance Movement," *Mississippi Valley Historical Review*, Vol. 15 (June, 1928), pp. 22-33; and Hallie Farmer, "The Economic Background of Frontier Populism," *Mississippi Valley Historical Review*, Vol. 10 (March, 1924), pp. 406-427. Later organizations and political activities are the subjects of Edward Wiest, *Agricultural Organization in the United States* (University of Kentucky Studies in Economics and Sociology, Vol. 2, 1923); B. H. Hibbard, "Recent Trends in Coöperative Marketing," *Annals of the American Academy of Political and Social Science*, Vol. 142 (March, 1929), pp. 414-418; Herbert E. Gaston, *The Nonpartisan League* (New York, 1920); Orville M. Kile, *The Farm Bureau Movement* (New York, 1921); Commodore B. Fisher, *The Farmers' Union* (University of Kentucky Studies . . . , Vol. 1, No. 2, 1920); and Arthur Capper, *The Agricultural Bloc* (New York, 1922). For federal financial assistance see items under Section VII.

Some aspects of the postwar depression are considered in George F. Warren and F. A. Pearson, *The Agricultural Situation* (New York, 1924); Edwin G. Nourse, *American Agriculture and the European Market* (New York, 1924); National Industrial Conference Board, *The Agricultural Problem in the United States* (New York, 1926); A. B. Genung, "The Post-War Depression in Agriculture," *Current History*, Vol. 33 (March, 1931), pp. 877-880, by an official of the Department of Agriculture; Edwin R. A. Seligman, *The Economics of Farm Relief* (New York, 1929); and Clyde L. King, "What a Federal Farm Board Can Do," *Annals of the American Academy of Political and Social Science*, Vol. 142 (March, 1929), pp. 439-447.

IV. LABOR

The most important general history of American labor is John R. Commons, ed., *History of Labour in the United States* (2 v., New York, 1918). Contributors to the book are Helen L. Sumner, E. B. Mittelman, H. E. Hoagland, John B. Andrews, and Selig Perlman. The free laborer in the Colonial period receives more than the usual attention. An excellent source collection is Commons and others, eds., *Documentary History of American Industrial Society* (11 v., Cleveland, 1910-1911). Mary Beard, *A Short History of the American Labor Movement* (New York, 1920) is a simplified abbreviation of Commons. Selig Perlman, *A History of Trade Unionism in the United States* (New York, 1922) is another adaptation from Commons with important additions. It is conservative in tone, saying little about such matters as labor injunctions. Frank T. Carlton, *The History and Problems Organized Labor* (rev. ed., Boston, c. 1920) is simply but effectively

written. See also James O'Neal, *The Workers in American Industry* (4th rev. ed., New York, 1921), liberal in tone, and Richard T. Ely, *The Labor Movement in America* (New York, 1886), a good early work. Somewhat more radical is Anthony Bimba, *The History of the American Working Class* (New York, 1927). An indispensable supplement to the list is Bureau of Labor Statistics, *History of Wages in the United States from Colonial Times to 1928* (Washington, 1929). A socialistic interpretation is in Algie M. Simons, *Social Forces in American History* (New York, 1911).

A valuable contribution for the Colonial period, but too brief on free labor, is Marcus W. Jernegan, *Laboring and Dependent Classes in Colonial America, 1607-1783* (Chicago, 1931). It should be supplemented by Lucy M. Salmon, *Domestic Service* (New York, 1897) and some of the following items. There are numerous extensive discussions of servile labor, both indentured servants and slaves. The most satisfactory general account of slavery is Ulrich B. Phillips, *American Negro Slavery* (New York, 1918). See also his *Life and Labor in the Old South* (Boston, 1929). The Johns Hopkins *Studies in Historical and Political Science* are rich in material on involuntary servitude. See especially James C. Ballagh, "White Servitude in the Colony of Virginia" (Series 13, Nos. 6, 7, Baltimore, 1895); Ballagh, *A History of Slavery in Virginia* (extra Vol. 24, Baltimore, 1902); John S. Bassett, "Servitude and Slavery in the Colony of North Carolina" (Series 14, Nos. 4, 5, Baltimore, 1896); and Eugene I. McCormac, "White Servitude in Maryland, 1634-1820" (Series 22, Nos. 3, 4, Baltimore, 1904). Bruce, *Economic History of Virginia in the Seventeenth Century* devotes much of Vol. 1 and pp. 1-130 of Vol. 2 to the labor question. Julian A. C. Chandler and others, eds., *The South in the Building of the Nation* (13 v., Richmond, 1919-1913) contains much of great and little importance. For slavery see especially Vol. 5 edited by J. C. Ballagh. T. J. Wertenbaker, *Planters of Colonial Virginia* (Princeton, 1922) is a colorful presentation. His *Patrician and Plebeian in Virginia* (Charlottesville, 1910) should be studied intently by persons obsessed with the idea of Cavalier ancestry.

The influences of immigration are set forth in George M. Stephenson, *History of American Immigration* (Boston, 1926); John R. Commons, ed., *Races and Immigrants in America* (New York, 1915); Edith Abbott, *Historical Aspects of the Immigration Problem* (Chicago, 1926); and Abbott, ed., *Immigration: Select Documents and Case Records* (Chicago, 1924). In popular style is S. P. Orth, *Our Foreigners* (*Chronicles of America*, Vol. 35, New Haven, 1920). Lawrence G. Brown, *Immigration: Cultural Conflicts and Social Adjustments* (New York, 1933) is a textbook. Special works include William F. Adams, *Ireland and Irish Emigration to the New World from 1815 to the Famine* (New Haven, 1932) and Yamato Ichihashi, *Japanese in the United States: A Critical Study of the Problems of the Japanese Immigrants and Their Children* (Stanford, 1932). A study of other exploited classes is Walter

Wilson, *Forced Labor in the United States* (New York, 1933), dealing with prison and convict labor and peonage, mainly in the South and from an anticapitalistic point of view.

A general survey of the political movements of labor is in Fine, *Labor and Farmer Parties in the United States, 1828-1928* and Fred E. Haynes, *Social Politics in the United States* (Boston, c. 1924). Somewhat different in approach is William J. Lauck, *Political and Industrial Democracy, 1776-1926* (New York, 1926). The standard work on socialism is Morris Hillquit, *History of Socialism in the United States* (5th ed. rev., New York, 1910), while the more radical movement is dealt with in James O'Neal, *American Communism* (New York, 1927). Paul F. Brissenden, *The I. W. W., A Study of American Syndicalism* (Columbia University Studies . . . , Vol. 83, New York, 1920) is the most scholarly study of the rise of the organization. It is continued by John S. Gambs, *The Decline of the I. W. W.* (New York, 1932).

The influence of the early labor movement on education is set forth by Frank T. Carlton, *Economic Influences upon Educational Progress in the United States, 1820-1850* (University of Wisconsin Bulletin, Madison, 1908). Other special phases are discussed in Norman J. Ware, *The Industrial Worker, 1840-1860* (Boston, c. 1924) and *The Labor Movement in the United States, 1860-1895* (New York, 1929), largely devoted to the Knights of Labor; Herman Schlüter, *Lincoln, Labor, and Slavery* (New York, 1914), a somewhat unorthodox side issue; Leo Wolman, *The Growth of American Trade Unions, 1880-1923* (New York, 1924), a statistical view sponsored by the National Bureau of Economic Research; N. J. Ware, *The Boycott in American Trade Unions* (Johns Hopkins University Studies . . . , Series 34, No. 1, Baltimore, 1916); Don D. Lescossier, *Knights of St. Crispin, 1867-1874* (University of Wisconsin Economic and Political Science Series, Vol. 7, No. 1, Madison, 1910); and Samuel P. Orth, *Armies of Labor (Chronicles of America, Vol. 40, New Haven, c. 1919)*. Donald L. McMurtry, *Coxey's Army* (Boston, 1929) is a fair presentation of an often misrepresented occurrence.

Lewis L. Lorwin, *The American Federation of Labor* (Washington, 1933) is the most thorough study of the subject, but Samuel Gompers, *Seventy Years of Life and Labor* (New York, 1925), an autobiography of one of the founders, is more revealing of the struggle. Histories of particular unions include Edgar Sydenstricker, *Collective Bargaining in the Anthracite Coal Industry* (Series 6, Bulletin 191 of the Conciliation and Arbitration Series, U. S. Department of Labor, Washington, 1915); Arthur Elliott, *Coal Miners' Struggle for Industrial Status* (New York, 1926), more comprehensive; Elliott, *Conciliation and Arbitration in the Coal Industry of America* (Boston, c. 1915); Herman Schlüter, *The Brewing Industry and the Brewery Workers' Movement in America* (Cincinnati, 1910); Edwin Clyde Robbins, *Railway Conductors* (Columbia University Studies . . . , No. 148, New York,

1914); Jacob M. Budish and George H. Soule, *The New Unionism in the Clothing Industry* (New York, 1920).

There have been numerous treatises on labor and the courts. A vindictive account of the Haymarket affair and the anarchist trials is by the presiding Judge Joseph E. Gary, "The Chicago Anarchists, 1886," *Century Magazine*, Vol. 23 N. S. (April, 1893), pp. 803-837. A much more sensible account is in Waldo R. Browne, *Altgeld of Illinois* (New York, 1924). H. W. Whicker, *Silver Strike: The True Story of Silver Mining in the Cœur d'Alenes* (Boston, 1932) is the story told by William T. Stoll, who participated in the legal battles. Felix Frankfurter, *The Labor Injunction* (New York, 1930) is a superior study of the legal aspects. Closely related is Ware, *The Boycott in American Trade Unions*, listed above. Edward Berman, *Labor and the Sherman Act* (New York, 1930) presents another vital phase in an interesting way. Charles A. Beard, *Contemporary American History, 1877-1913* (New York, 1914) devotes much space to the Fourteenth Amendment as applied to labor organizations. Osmond K. Fraenkel, *The Sacco-Vanzetti Case* (New York, 1931) is the most complete account of a famous instance of the baiting of radicals. A keen legal analysis of the same affair is Felix Frankfurter, *Case of Sacco and Vanzetti* (Boston, 1927). Along the same line is Ernest J. Hopkins, *What Happened in the Mooney Case* (New York, 1932). Interchurch World Movement Commission of Inquiry, *Report on the Steel Strike of 1919* (New York, 1920) is a striking defense of a lost cause. H. D. Wolf, *The Railroad Labor Board* (Chicago, 1927) records the career of a stifled attempt at arbitration.

In the recent labor movement, man's uncertain fight against machinery for a job is the subject of Stuart Chase, *Men and Machines* (New York, 1929). John A. Lapp, "Social Welfare Progress in the United States," *Current History*, Vol. 32 (June, 1930), pp. 506-509 deals with social insurance. Employers' fights against unionization are discussed in Clarence E. Bonnett, *Employers' Associations in the United States* (New York, 1922) and Horace B. Drury, *Scientific Management; A History and Criticism* (Columbia University Studies . . . , Vol. 65, No. 2, New York, 1915). The laborer's share of the fruits of his toil is examined in National Industrial Conference Board, *Wages in the United States, 1914-1927* (New York, 1928); *National Wealth and Income*, U. S. Senate Document No. 126, 69 Cong., 1 Sess. (Washington, 1926); and Wesley C. Mitchell and others (National Bureau of Economic Research), *Income in the United States, Its Amount and Distribution, 1909-1919* (2 v., New York, 1921-1922). The delusion of employee stock ownership is developed in Robert F. Foerster and E. H. Dietel, *Employee Stock Ownership in the United States* (Princeton, 1926) and National Industrial Conference Board, *Employee Stock Purchase Plans in the United States* (New York, 1928). Yearly reports on labor conditions may be found in Rand School of Social Science, *American Labor Year Books* (New York, 1921-).

V. MANUFACTURING AND EXTRACTIVE INDUSTRIES

The most painstaking and comprehensive single work on American manufactures is Victor S. Clark, *History of Manufactures in the United States* (2 v., 1607–1860 and 1860–1914, Washington, 1916, 1928, later ed., 3 v., New York, 1929, with some additional material to 1928). Clark contains an extensive bibliography of printed sources and monographs. A pioneer but still important contribution is James L. Bishop, *History of American Manufactures, 1608–1860* (3 v., Philadelphia, 1866). Of a popular nature is Malcolm Keir, *Manufacturing* (New York, 1928). Most recent is John G. Glover and W. B. Cornell, eds., *Development of American Industries* (New York, 1932). An often neglected field is well treated in Rolla M. Tryon, *Household Manufactures in the United States, 1640–1860* (Chicago, 1917). Interesting sections relating to the influence of manufactures and other economic developments on social growth can be found in the various volumes of A. M. Schlesinger and D. R. Fox, eds., *History of American Life* (12 v., New York, 1927–, in progress). Recent happenings in manufactures and other economic lines may be traced in Malin, *The United States after the World War* and in *Recent Economic Changes*.

The relation of England to Colonial manufactures can be gleaned from William Cunningham, *Growth of English Industry and Commerce in Modern Times* (4th ed., London, 1904); the various volumes by G. L. Beer listed in Section II above; Weeden, *Economic and Social History of New England, 1620–1789*; and Bruce, *Economic History of Virginia in the Seventeenth Century*. Eleanor L. Lord, *Industrial Experiments in the British Colonies of North America* (Baltimore, 1898) describes the trial and error method whereby Colonial manufactures became stabilized.

Frederick C. Dietz, *The Industrial Revolution* (New York, 1927) is a good introduction to the corresponding movement in America. See also Gilbert Slater, *The Making of Modern England* (Boston, c. 1915) and Edward P. Cheyney, *An Introduction to the Industrial and Social History of England* (rev. ed., New York, 1920). Mechanical progress in America is shown by Waldemar Kaempffert, ed., *Popular History of American Invention* (2 v., New York, c. 1924); George Iles, *Leading American Inventors* (New York, 1912); Philip G. Hubert, *Inventors* (2d ed., New York, 1904); Holland Thompson, *The Age of Inventions* (*Chronicles of America*, Vol. 37, New Haven, 1921); and Edward Cressy, *Discoveries and Inventions of the Twentieth Century* (2d ed., New York, 1923). Special works include Robert H. Thurston, *A Century's Progress of the Steam Engine* (Washington, 1899); Edward Butler, *Evolution of the Internal Combustion Engine* (Philadelphia, 1913); Herkimer County Historical Society, *The Story of the Typewriter* (New York, 1923); and parts of William T. Hutchinson, *Cyrus Hall McCormick: Seed-Time, 1809–1856* (New York, 1930).

The histories of individual industries are numerous but not com-

plete. The following list is representative but far from exhaustive. T. A. Rickard, *A History of American Mining* (New York, 1932) is rather technical and devoted mainly to the metallic ores. James M. Swank, *History of the Manufacture of Iron in All Ages . . . to 1891* (2d ed., Philadelphia, 1892) covers too much territory to do justice to any country or age. It may be supplemented by Stephen L. Goodale, *Chronology of Iron and Steel* (Pittsburgh, c. 1920); Herbert N. Casson, *The Romance of Steel* (New York, 1907); and Joseph G. Butler, *Fifty Years of Iron and Steel* (7th ed., Youngstown, 1923). James E. Defebaugh, *History of the Lumber Industry of America* (4 v., Chicago, 1906-1909) is sufficiently detailed. The works by Abbot, Marvin, and Morison, listed above in Section II, give much information on ship-building. Other basic industries are discussed in Lester T. Sunderland, *Fifty Years of Portland Cement* (Chicago, 1923); Christian A. Barman, *A Chapter in the History of Building* (New York, 1926); and Henry G. Tyrrell, *History of Bridge Engineering* (Evanston, 1911). The efforts to preserve the natural resources are recorded by Charles R. Van Hise, *The Conservation of Natural Resources in the United States* (New York, 1910); John Ise, *United States Forest Policy* (New Haven, 1920); and Ise, *United States Oil Policy* (New Haven, 1927).

The textile industries have been especially well treated by Melvin T. Copeland, *The Cotton Manufacturing Industry of the United States* (Harvard Economic Studies, Vol. 8, Cambridge, 1912) and Arthur H. Cole, *The American Wool Manufacture* (2 v., Cambridge, 1926). Matthew B. Hammond, *The Cotton Industry* (New York, 1897) is useful for some phases of the subject. Frederick J. Allen, *The Shoe Industry* (New York, 1916) stands alone in its field. Raymond McFarland, *A History of the New England Fisheries* (New York, 1911) is definitive for the area included. A closely related industry is discussed in Edward K. Chatterton, *Whalers and Whaling* (Philadelphia, 1926). Among the list for food manufactures are Rudolf A. Clemen, *The American Livestock and Meat Industry* (New York, 1923); Institute of American Meat Packers, *The Packing Industry* (Chicago, 1924); James H. Collins, *The Story of Canned Foods* (New York, 1924); C. B. Kuhlman, *Development of the Flour Milling Industry in the United States* (Boston, 1929); and Paul L. Vogt, *Sugar Refining Industry in the United States* (Philadelphia, 1908). The American Tobacco Company would probably insist that Meyer Jacobstein, *The Tobacco Industry in the United States* (New York, 1907) should precede instead of follow sugar. Other activities include Arthur P. Van Gelder and Hugo Schlatter, *History of the Explosives Industry in America* (New York, 1927), a Columbia University rather than a DuPont contribution; Edward Orton, *Progress of the Ceramic Industry* (Madison, 1903); Lyman H. Weeks, *A History of Paper Manufacturing in the United States, 1690-1916* (New York, 1916); Robert Hunt, *History of Photography* (Washington, 1907); Alfred T. Story, *The Story of Photography* (New York, 1902); Isaiah Thomas, *History of Printing in America* (2 v., Albany,

1875); and Benjamin B. Hampton, *History of the Movies* (New York, 1931). For items on monopolies and their regulation see Section XI following.

VI. TRANSPORTATION AND COMMUNICATION

A good introduction to this subject is contained in Seymour Dunbar, *A History of Travel in America* (4 v., Indianapolis, 1915). General facilities and their development are discussed in detail but with some lack of care in organization in Caroline E. MacGill, *History of Transportation in the United States before 1860* (B. H. Meyer, ed., Washington, 1917). Johnson, *History of Domestic and Foreign Commerce of the United States*, gives some attention to this problem. Roads, canals, and rivers receive copious treatment by Archer B. Hulbert, *Historic Highways* (16 v., with separate titles, Cleveland, 1902-1904). A brief treatment by the same author is *The Paths of Inland Commerce (Chronicles of America, Vol. 21, New Haven, 1920)*. An entertaining illustrated account of highways and taverns in the North Atlantic states of early days is Marion N. Ramson, *From Here to Yonder* (New York, 1932). Transportation in the far West from earliest days is described by Rockwell D. Hunt and William S. Ament, *Oxcart to Airplane* (Los Angeles, 1929). See also Harlow Lindley, "Western Travel, 1800-1820," *Mississippi Valley Historical Review*, Vol. 6 (September, 1919), pp. 167-191. Ulrich B. Phillips, *History of Transportation in the Eastern Cotton Belt to 1860* (New York, 1908) is an excellent sectional study.

A highly satisfactory history of river traffic, but limited to the river carrying the greatest commerce, is Charles H. Ambler, *History of Transportation in the Ohio Valley* (Glendale, 1932). Early boat and raft business is considered by William W. Carson, "Transportation and Traffic on the Ohio and Mississippi before the Steamboat," *Mississippi Valley Historical Review*, Vol. 7 (June, 1920), pp. 26-38. The use of the Missouri River is voluminously depicted in Hiram M. Chittenden, *History of Early Steamboat Navigation on the Missouri River* (2 v., New York, 1903) and *American Fur Trade of the Far West* (3 v., New York, 1902). Other water traffic is considered in Alfred H. Ritter, *Transportation Economics of the Great Lakes-St. Lawrence Ship Channel* (Washington, 1925) and a symposium entitled "Great Inland Waterway Projects," in *Annals of the American Academy of Political and Social Science*, Vol. 135 (January, 1928), whole number, 184 pp.

The centennial of American railroads conjured forth a series of railroad histories, mostly inspired by the various companies. Slason Thompson, *Short History of American Railways* (Chicago, 1925) is elementary and one-sided in viewpoint but valuable for its pictures. Others are John W. Starr, *One Hundred Years of American Railroad* (New York, 1929) and Edward Hungerford, *Story of the Baltimore and Ohio Railroad, 1827-1927* (New York, 1928). A brief series of

lectures, important within its scope, is printed in Winthrop M. Daniels, *Railroads: Four Phases of Their History* (Princeton, 1932). Robert S. Cotterill has contributed a series of articles on early Southern railroads including: "The Beginnings of Railroads in the Southwest," *Mississippi Valley Historical Review*, Vol. 8 (June, 1921), pp. 318-326; "Southern Railroads and Western Trade, 1840-1850," *idem*, Vol. 3 (March, 1917), pp. 427-441; and "Southern Railroads, 1850-1860," *idem*, Vol. 10 (March, 1924), pp. 396-405. An article by Robert E. Riegel, "Trans-Mississippi Railroads during the Fifties," *ibid.* (September, 1923), pp. 153-172, supplements the preceding. Riegel's *magnum opus* on the subject is his *Story of Western Railroads* (New York, 1926). John Moody, *The Railroad Builders (Chronicles of America)*, Vol. 38, New Haven, c. 1919) relates largely to the trans-continental systems. For land grants to the railroads see Lewis H. Haney, *Congressional History of Railways in the United States to 1850 and same 1850-1887* (University of Wisconsin *Economic and Political Science Series*, Vol. 3, No. 2, Vol. 6, No. 1, Madison, 1908, 1910) and John Bell Sanborn, *Congressional Grants of Land in Aid of Railways* (*idem*, Vol. 2, No. 3, Madison, 1899). Ellis P. Oberholtzer, *A History of the United States since the Civil War* (4 v., New York, 1917-1931, and a 5th vol. promised) discusses the *Crédit Mobilier* at length in Vol. 2, while Harry J. Carman and Charles H. Mueller, "The Contract and Finance Company and the Central Pacific Railroad," *Mississippi Valley Historical Review*, Vol. 14 (December, 1927), pp. 326-341, shows an even greater misappropriation of money west of Promontory Point. Other phases of railroad transportation are discussed in William Z. Ripley, *Railroads: Rates and Regulation* (New York, 1912); Ripley, *Railroads: Finance and Organization* (New York, 1915); and E. R. Johnson and T. W. Van Metre, *Principles of Railroad Transportation* (New York, 1921).

Some other forms of transportation and communication are discussed by Herbert L. Barber, *The Story of the Automobile* (Chicago, 1917); E. C. H. Vivian, *History of Aeronautics* (New York, 1921); John Goldstrom, *Narrative History of Aviation* (New York, 1930); Thomas A. Watson, *The Birth and Babyhood of the Telephone* (New York, 1926), by one of the obstetricians; Frederick L. Rhodes, *Beginnings of Telephony* (New York, 1929); Herbert N. Casson, *History of the Telephone* (Chicago, 1910); Frank B. Jewett, "Some Recent Developments in Telephony and Telegraphy," *Annual Report of the Smithsonian Institution, 1915* (Washington, 1916), pp. 489-509; Hiram L. Jome, *Economics of the Radio Industry* (New York, 1925); and Stephen B. Davis, *The Law of Radio Communication* (New York, 1927).

VII. FEDERAL FINANCES AND THE TARIFF

Davis R. Dewey, *Financial History of the United States* (10th ed., New York, 1928) is a good general account of fiscal problems. Albert

S. Bolles, *Financial History of the United States* (3 v., New York, 1880-1886) is so biased as to be useful only for detached facts. For early federal finances William G. Sumner, *Alexander Hamilton* (New York, 1890) is very useful, but Claude G. Bowers, *Jefferson and Hamilton* (Boston, c. 1925) is a healthful counter-irritant. A good biography of the next outstanding Secretary of the Treasury is John A. Stevens, *Albert Gallatin* (Boston, ed. of 1917). On general money problems W. G. Sumner, *History of American Currency* (New York, 1884) is brief and somewhat doctrinaire. A more rounded discussion is Alonzo B. Hepburn, *History of Currency in the United States* (New York, ed. of 1915). J. S. Bassett, *The Life of Andrew Jackson* (2 v., New York, 1911), the best biography of the seventh President, contains much on the financial policy of the period. Ralph C. H. Catterall, *The Second Bank of the United States* (Chicago, 1903) is the best for his subject. A most illuminating account of the contest between Jackson and Biddle is in William E. Dodd, *Expansion and Conflict* (Boston, c. 1915). For the Independent Treasury see David Kinley, *History of the Organization and Influence of the Independent Treasury of the United States* (New York, 1892). For Revolutionary and Civil War finances see the sections devoted to those periods.

Fiscal affairs following 1865 are treated in detail in Alexander D. Noyes, *Forty Years of American Finance* (New York, 1909) and *The War Period of American Finance, 1908-1925* (New York, 1926). Wesley C. Mitchell, *A History of the Greenbacks* (Chicago, 1903) is most satisfactory for that subject. For the free-silver movement see Section III above for the works on Populism. Additional items include: Frank W. Taussig, *The Silver Situation in the United States* (Baltimore, 1892), an exposition of the international free-silver point of view; J. Laurence Laughlin, *The History of Bimetallism in the United States* (4th ed., New York, 1897) for the gold-standard argument; W. J. Bryan, *The First Battle* (Chicago, 1896); and Elmer Ellis, "The Silver Republicans in the Election of 1896," *Mississippi Valley Historical Review*, Vol. 18 (March, 1932), pp. 519-534. The bond sales of the 1890's are ably discussed by James A. Barnes, *John G. Carlisle, Financial Statesman* (New York, 1931). The general inflation movements are recorded in Murray S. Wildman, *Money Inflation in the United States* (New York, 1905). General currency problems are discussed in Horace White, *Money and Banking* (Boston, 1914). Some rather dismal subjects, necessary to study, are ably treated in Ernest L. Bogart, *War Costs and Their Financing* (New York, 1921); John M. Clark, *The Cost of the World War to the American People* (New Haven, 1931), a definitive account none too easy to read; and Harvey E. Fisk, *Inter-Ally Debts, 1914-1923* (New York, 1924). Very recent affairs are treated in a statistical way by Lewis H. Kemmel, *Federal Finances, 1923-1933* (New York, 1933), a National Industrial Conference Board publication.

The Federal Reserve System has had numerous historians including

Edwin W. Kemmerer, *The A B C of the Federal Reserve System* (Princeton, 1920); Harold L. Reed, *The Development of Federal Reserve Policy* (Boston, c. 1922); William P. G. Harding, *The Formative Period of the Federal Reserve System* (Boston, c. 1925); Emanuel A. Goldenweiser, *The Federal Reserve System in Operation* (New York, 1925); J. L. Laughlin, *The Federal Reserve Act* (New York, 1933); and S. E. Harris, *Twenty Years of Federal Reserve Policy; Including an Extended Discussion of the Monetary Crisis, 1927-1933* (Cambridge, 1933). Other banking problems are treated in H. H. Preston, "The McFadden Banking Act," *American Economic Review*, Vol. 17 (June, 1927), pp. 201-218; Claude L. Benner, *The Federal Intermediate Credit System* (New York, 1926); and Phelps, *The Foreign Expansion of American Banks*.

The most satisfactory general treatment of the tariff is Frank W. Taussig, *Tariff History of the United States* (8th ed., New York, c. 1931). It may be supplemented by Taussig, ed., *Selected Readings in International Trade and Tariff Problems* (Boston, c. 1921). A less comprehensive but more readable account is Ida M. Tarbell, *The Tariff in Our Own Times* (New York, 1911). A lengthy account of the congressional debates, with a strongly protectionist leaning, is Edward Stanwood, *Tariff Controversies in the Nineteenth Century* (2 v., Boston, 1903). International aspects are considered by Percy W. L. Ashley, *Modern Tariff History, Germany, United States, France* (London, 1904). An excellent symposium is "Tariff Problems of the United States," *Annals of the American Academy of Political and Social Science*, Vol. 141 (January, 1929), whole number, 270 pp.

Several of the histories and biographies listed under "Finances" are also useful for the tariff. A critical period is ably handled by Chauncey S. Boucher, *The Nullification Controversy in South Carolina* (Chicago, 1916). This may be supplemented by John L. Conger, "South Carolina and the Early Tariffs," *Mississippi Valley Historical Review*, Vol. 5 (March, 1919), pp. 415-433. Among biographies of leading participants are Carl Schurz, *Henry Clay* (2 v., Boston, 1899); Gaillard Hunt, *John C. Calhoun* (Philadelphia, 1908); Frederic A. Ogg, *Daniel Webster* (Philadelphia, 1914); William M. Meigs, *Life of Thomas Hart Benton* (Philadelphia, 1904); and Lyon G. Tyler, *The Letters and Times of the Tylers* (3 v., Richmond, 1884-1896), a filial defense of John Tyler. Special phases of the tariff are considered in Philip G. Wright, *American Tariff and Oriental Trade* (Chicago, 1931); *Protection Benefits and Burdens* (Freeport, Ill., 1930); *Sugar in Relation to the Tariff* (Washington, 1924); Fisk and Pierce, *International Commercial Policies*; and Dunn, *American Foreign Investments* (New York, 1926). The recent situation may be studied in F. W. Taussig, *Some Aspects of the Tariff Question* (3d ed., Cambridge, 1931); "The Tariff," *Quarterly Journal of Economics*, Vol. 44 (February, 1930), pp. 175-204; and "The Tariff Act of 1930," *idem*, Vol. 45 (November, 1931), pp. 1-21. A conscientious attempt to justify the Act of 1930,

by one of its authors, is Reed Smoot, "Our Tariff and the Depression," *Current History*, Vol. 35 (November, 1931), pp. 173-181. Several works have been written on protection for various industries, mostly polemic in character.

VIII. THE REVOLUTION AND THE CONSTITUTION

Too much of the early writing on the Revolution was purely partisan in character. Beginning with W. E. H. Lecky, James A. Woodburn, and Sydney G. Fisher, a new school of writers began revealing the two-sided character of the struggle. The culmination of this new viewpoint was reached by Claude H. Van Tyne in *The Causes of the War of Independence* (Boston, c. 1922); *England and America; Rivals in the American Revolution* (New York, 1927); and *The War of Independence; American Phase* (Boston, c. 1929). Van Tyne's *Loyalists in the American Revolution* (New York, 1902) remains the principal work on that subject. His greater work was cut short by death. Carl L. Becker, *The Eve of the Revolution (Chronicles of America, Vol. 11, New Haven, c. 1918)* is keenly analytical. A vital debate over the constitutionality of the revolutionary movement is contained in Charles H. McIlwain, *The American Revolution: A Constitutional Interpretation* (New York, 1923) and Robert L. Schuyler, *Parliament and the British Empire* (New York, 1929). The former supports and the latter refutes the Colonial contention.

Much material of an economic character covering the years 1763-1789 is listed in the foregoing sections. See especially Johnson, *History of Domestic and Foreign Commerce of the United States*; Clark, *History of Manufactures in the United States*; Bidwell and Falconer, *History of Agriculture in the Northern United States*; Commons, *History of Labour in the United States*; and MacGill, *History of Transportation in the United States*. Beer, *British Colonial Policy, 1754-1765* reviews the imperial problems at the beginning of the movement. Arthur M. Schlesinger, *The Colonial Merchants and the American Revolution, 1763-1776* (Columbia University Studies . . . , Vol. 78, New York, 1918) is a landmark in the historiography of the Revolution. A history of the Revolution from a new and much-needed angle is Clarence W. Alvord, *The Mississippi Valley in British Politics, 1763-1775* (2 v., Cleveland, 1917). The French alliance is discussed by James B. Perkins, *France in the American Revolution* (Boston, 1911) and Edward S. Corwin, *French Policy and the American Alliance of 1778* (Princeton, 1916), but their conclusions as to the cause of the alliance should be checked by the later works of Van Tyne. Some aspects of Western influences in the period of agitation and conflict are considered in John S. Bassett, "The Regulators of North Carolina, 1765-1771," *American Historical Association Annual Report, 1894* (Washington, 1895), pp. 141-212; Justin Winsor, *The Westward Movement . . . 1763-1798* (Boston, c. 1897); Archibald Henderson, *The Conquest of the Old Southwest . . . 1740-1790* (New York, 1920),

mainly concerned with the activities of Richard Henderson; and James A. James, *Life of George Rogers Clark* (Chicago, 1928), the best biography of the Western Revolutionary leader, but probably overconfident of the consequences of the Clark campaign. The importance of naval affairs on the outcome of the war is made clear by Charles O. Paullin, *The Navy of the American Revolution* (Cleveland, 1906); the highly authoritative work of Alfred T. Mahan, *Influence of Sea Power upon History, 1660-1783* (Boston, 1897); Maclay, *History of American Privateers* and *History of the United States Navy*. Financial problems of the Continental Congress and of the states are reliably treated in Charles J. Bullock, *Finances of the United States from 1775 to 1789* (Madison, 1895); William G. Sumner, *The Financier and Finances of the American Revolution* (New York, 1891); and Ellis P. Oberholtzer, *Robert Morris, Patriot and Financier* (New York, 1903).

For early attempts at intercolonial union see Richard Frothingham, *Rise of the Republic of the United States* (10th ed., Boston, 1910). Delay in ratification of the Articles of Confederation is amply explained by Herbert B. Adams, "Maryland's Influence upon Land Cessions to the United States," *Johns Hopkins Studies . . .*, Series 3, No. 1 (Baltimore, 1885), pp. 7-54. The best rounded discussions of the adoption of the Constitution are R. L. Schuyler, *The Constitution of the United States* (New York, 1928) and especially Max Farrand, *The Framing of the Constitution of the United States* (New Haven, 1913). Farrand has also edited the debates and journals in *The Records of the Federal Convention of 1787* (3 v., New Haven, 1911). A very important sidelight on the motives of the convention members is Charles A. Beard, *An Economic Interpretation of the Constitution of the United States* (New York, 1913). The best edition of *The Federalist* is by Paul L. Ford (New York, 1898). Accounts of ratification have been written for several of the states. One of the most illuminating and charming is Samuel B. Harding, *The Contest over the Ratification of the Federal Constitution in the State of Massachusetts* (*Harvard Historical Studies*, No. 2, New York, 1896). An excellent interpretation of the whole period is in Schlesinger, *New Viewpoints in American History*.

IX. THE WESTWARD MOVEMENT

The most complete bibliography of Western history is Frederick J. Turner and Frederick Merk, *List of References on the History of the West* (rev. ed., Cambridge, 1922). The brilliant essays which made Turner a foremost American historian are collected in his *Frontier in American History* (New York, 1921). The first comprehensive history of the West was Frederic L. Paxson, *History of the American Frontier, 1763-1893* (Boston, 1924). Cardinal L. Goodwin, *The Trans-Mississippi West, 1803-1853* (New York, 1922) is mainly devoted to expansion. See also E. Douglas Branch, *Westward* (New York, 1930), brilliantly written, and Robert E. Riegel, *America Moves West* (New York, 1930), somewhat more comprehensive than the

preceding. C. W. Alvord and Lee Bidgood, *First Exploration of the Trans-Alleghany Region by the Virginians, 1650-1674* (Cleveland, 1912) reveals the early interest in future possibilities of the Mississippi Valley. Lois C. K. Mathews, *The Expansion of New England* (Boston, c. 1919) is a good study of sectional influences. For the revolutionary period see references in the preceding section.

The problems of the territory north of the Ohio River are presented in Burke A. Hinsdale, *The Old Northwest . . .* (2 v., New York, 1888) and Frederic A. Ogg, *The Old Northwest (Chronicles of America, Vol. 19, New Haven, c. 1919)*. Bemis, *Jay's Treaty*, explains the solution of an important diplomatic problem relating to the territory. The Old Southwest is considered by F. A. Ogg, *The Opening of the Mississippi* (New York, 1904); James K. Hosmer, *History of the Louisiana Purchase* (New York, 1902); Isaac J. Cox, *The West Florida Controversy, 1798-1813* (Baltimore, 1918); and S. F. Bemis, *Pinckney's Treaty* (Baltimore, 1926). In connection with the latter, Arthur P. Whitaker, "New Light on the Treaty of San Lorenzo," *Mississippi Valley Historical Review*, Vol. 15 (March, 1929), pp. 435-454, should be studied. The most extensive collection on Western explorations is Reuben G. Thwaites, ed., *Early Western Travels, 1748-1846* (31 v., Cleveland, 1904-1907). See also his edition of *Original Journals of the Lewis and Clark Expedition, 1804-1806* (8 v., New York, 1904) and his *Brief History of Rocky Mountain Exploration, with Especial Reference to the Expedition of Lewis and Clark* (New York, 1904). Certain phases of the Texas, Oregon, and Northeastern boundary disputes are ably handled in Jesse S. Reeves, *American Diplomacy under Tyler and Polk* (Baltimore, 1907). George L. Rives, *The United States and Mexico, 1821-1848* (2 v., New York, 1913) was the first complete and relatively impartial consideration of that phase of expansion. In some ways it has been supplanted by Justin H. Smith, *The Annexation of Texas* (New York, 1911) and *The War with Mexico* (2 v., New York, 1919). Smith was the first to make extensive use of Mexican sources, but his work is rather dogmatic and controversial. Special phases of early far Western development are treated in Chittenden, *American Fur Trade of the Far West and History of Early Steamboat Navigation on the Missouri River*; Katherine Coman, *Economic Beginnings of the Far West* (2 v., New York, 1912); Robert G. Cleland, *Pathfinders* (Los Angeles, 1929), for the pioneers of California; Stewart E. White, *The Forty-Niners (Chronicles of America, Vol. 25, New Haven, c. 1918)*; and Owen C. Coy, *The Great Trek* (Los Angeles, 1931), probably the best account of the gold rush of 1849.

A new interpretation of the far West has been given in Walter P. Webb, *The Great Plains* (Boston, 1931). Emerson Hough, *The Passing of the Frontier (Chronicles of America, Vol. 26, New Haven, c. 1918)* is a popular account. The Indian question is dealt with by Francis E. Leupp, *The Indian and His Problem* (New York, 1910) and Gustavus E. E. Lindquist, *The Red Man in the United States* (New York, 1923).

The Indian wars are well and sufficiently portrayed in F. L. Paxson, *The Last American Frontier* (New York, 1910). For the Pacific railroads see references in Section VI above. The range and ranch cattle business has been treated in Ernest S. Osgood, *The Day of the Cattleman* (Minneapolis, 1929) and Edward E. Dale, *The Range Cattle Industry* (Norman, Oklahoma, 1930). Special phases have been developed in F. L. Paxson, "The Cow Country," *American Historical Review*, Vol. 22 (October, 1926), pp. 65-82; Louis Pelzer, "A Cattlemen's Commonwealth on the Western Range," *Mississippi Valley Historical Review*, Vol. 13 (June, 1926), pp. 30-49, and "Financial Management of the Cattle Ranges," *Journal of Economic and Business History*, Vol. 2 (August, 1930), pp. 723-742; Clemen, *The American Livestock and Meat Industry*; Emerson Hough, *The Story of the Cowboy* (New York, 1897); and E. D. Branch, *The Cowboy and His Interpreters* (New York, 1926). Branch has also written *The Hunting of the Buffalo* (New York, 1929). The disposal of land is discussed in Hibbard, *A History of the Public Lands*. Population movements are considered in various places in Schlesinger and Fox, eds., *History of American Life*.

X. THE SOUTH AND ECONOMIC SECTIONALISM

The most complete general discussions of Southern agricultural life before 1933 were Phillips, *American Negro Slavery and Life and Labor in the Old South*. The former includes a good deal more than its title indicates. The Southerner's viewpoint is foremost in both, while the latter has probably too much of the perpendicular pronoun. A much briefer but scholarly discussion, containing a keen analysis of the slaveholder's philosophy, is William E. Dodd, *The Cotton Kingdom* (*Chronicles of America*, Vol. 27, New Haven, c. 1919). Lewis Cecil Gray, *History of Agriculture in the Southern United States to 1860* (2 vols., Washington, 1933), is the most comprehensive and authoritative for the period covered. *The South in the Building of the Nation*, Vol. 5, contains extended discussions of agriculture and labor. The planter's improvidence is revealed in the scholarly study by Avery O. Craven, *Soil Exhaustion as a Factor in the Agricultural History of Virginia and Maryland, 1606-1860* (*University of Illinois Studies in the Social Sciences*, Vol. 13, No. 1, Urbana, 1926). For problems of transportation, commerce, and manufacturing see the titles under preceding sections. James A. B. Scherer, *Cotton as a World Power* (New York, c. 1916); Hammond, *The Cotton Industry*; and Jacobstein, *The Tobacco Industry*, are useful for the crops mentioned. The best work on the slave trade is William E. B. DuBois, *Suppression of the African Slave Trade* (Cambridge, 1896), but see also the works by Canot, Carey, and Spears listed in Section II. William H. Smith, *Political History of Slavery* (2 v., New York, 1903) is correctly designated in the title. Ballagh, *History of Slavery in Virginia*, is valuable for an understanding of the border-state problem. A. B. Hart, *Slavery*

and Abolition, 1831-1841, and Theodore C. Smith, *Parties and Slavery* (Vols. 16 and 18 respectively of *The American Nation*, New York, each c. 1906) are mainly political. The free Negro is treated statistically by one of his race in Carter G. Woodson, *Free Negro Owners of Slaves in the United States in 1830* (Washington, 1924) and *Free Negro Heads of Families in the United States* (Washington, 1925).

The most coherent statement of the causes for secession is Robert R. Russel, *Economic Aspects of Southern Sectionalism* (University of Illinois Studies in the Social Sciences, Vol. 11, Nos. 1, 2, Urbana, c. 1924). The influences of soil, climate, and resources receive due consideration in F. J. Turner, *The Significance of Sections in American History* (New York, 1932) and Rupert B. Vance, *Human Geography of the South: A Study in Regional Resources and Human Adequacy* (Chapel Hill, 1932). The disadvantages of planters in marketing staples are mentioned briefly in Alfred Holt Stone, "Some Problems of Southern Economic History," *American Historical Review*, Vol. 13 (July, 1908), pp. 779-797. The abolition movement is sympathetically treated and sufficiently abridged in Jesse Macy, *The Anti-Slavery Crusade (Chronicles of America)*, Vol. 28, New Haven, 1921). The border-state abolition problem is presented by Asa E. Martin, *The Anti-Slavery Movement in Kentucky* (Louisville, 1918). The disintegration and conversion of the Southern Whigs to disunionism is told in detail by Arthur C. Cole, *The Whig Party in the South* (Washington, 1913). Another study of the sectional philosophy is U. B. Phillips, "Georgia and State Rights," *American Historical Association Annual Report, 1901* (Washington, 1902), Vol. 2. The secession dilemma of the border states is presented in Edward C. Smith, *The Borderland in the Civil War* (New York, 1927). The naiveté of the assumption of a slaveholders' conspiracy is exposed by Chauncey S. Boucher, "In Re that Aggressive Slavocracy," *Mississippi Valley Historical Review*, Vol. 8 (June, 1921), pp. 13-79. The tragic error of political controversy over the arid West and alien possessions to the southward is revealed by Charles W. Ramsdell, "The Natural Limits of Slavery Expansion," *Mississippi Valley Historical Review*, Vol. 16 (September, 1929), pp. 151-171. New light is shed on the Kansas struggle by Frank H. Hodder, "The Railroad Background of the Kansas-Nebraska Act," *Mississippi Valley Historical Review*, Vol. 12 (June, 1925), pp. 3-22, and James C. Malin, "The Pro-Slavery Background of the Kansas Struggle," *Mississippi Valley Historical Review*, Vol. 10 (December, 1923), pp. 285-305. The most lucid discussion of the Dred Scott decision is F. H. Hodder, "Some Phases of the Dred Scott Case," *Mississippi Valley Historical Review*, Vol. 16 (June, 1929), pp. 3-22. The influence of the railroads is shown in Robert R. Russel, "A Revaluation of the Period before the Civil War: Railroads," *Mississippi Valley Historical Review*, Vol. 15 (December, 1928), pp. 341-354. Schlüter, *Lincoln, Labor, and Slavery*, presents the labor viewpoint. The next two articles give differing views of the threat to the South

conveyed by the election of Lincoln: A. C. Cole, "Lincoln's Election an Immediate Menace to Slavery in the States?", *American Historical Review*, Vol. 36 (July, 1931), pp. 740-767, and J. G. de Roulhac Hamilton, "Lincoln's Election an Immediate Menace to Slavery in the States?", *American Historical Review*, Vol. 37 (July, 1932), pp. 700-711. The final acts of secession are recorded in Dwight L. Dumond, *The Secession Movement, 1860-1861* (New York, 1931).

General histories of the Civil War are inclined to ignore all economic aspects except the fiscal problems. The most comprehensive discussion of economic conditions in the North is Emerson D. Fite, *Social and Industrial Conditions in the North during the Civil War* (New York, 1910). For purely fiscal affairs see Dewey, *Financial History of the United States*; Ellis P. Oberholtzer, *Jay Cooke, Financier of the Civil War* (2 v., Philadelphia, 1907); and the various works on currency and the greenbacks listed in Section VII above. Problems of feeding, clothing, and supplying the army are included in Fred A. Shannon, *The Organization and Administration of the Union Army, 1861-1865* (2 v., Cleveland, 1928). Other economic problems are treated in the general works on commerce, agriculture, labor, transportation, and manufacturing listed in preceding sections. There is no general history of the Confederacy aside from military affairs, but Charles W. Ramsdell has one in preparation. John C. Schwab, *The Confederate States of America, 1861-1865* (New York, c. 1901) is an account of finances, with slight attention to other matters. Albert B. Moore, *Conscription and Conflict in the Confederacy* (New York, 1924) and Frank L. Owsley, *State Rights in the Confederacy* (Chicago, 1925) reveal some of the outstanding weaknesses. Owsley, in his *King Cotton Diplomacy: Foreign Relations of the Confederate States of America* (Chicago, 1931) gives the most reasonable account of the causes for failure to receive foreign recognition. James L. Sellers, "Economic Incidence of the Civil War in the South," *Mississippi Valley Historical Review*, Vol. 14 (September, 1927), pp. 179-191, reveals the unequal economic burden of the war.

On the reconstruction period William A. Dunning, *Reconstruction, Political and Economic, 1865-1877* (*American Nation*, Vol. 22, New York, 1907) stresses Northern conditions. Walter L. Fleming, *The Sequel of Appomattox* (*Chronicles of America*, Vol. 32, New Haven, c. 1919) reveals the suffering of the South. Claude G. Bowers, *The Tragic Era* (Boston, c. 1929) knocks heads right and left in a rather justifiable condemnation of the whole proceedings. There are several accounts of reconstruction in the various states. Economic recovery in the South is discussed in infinite detail, with plenty of prophecy and a certain amount of Southern white bias, in Philip A. Bruce, *The Rise of the New South* (*History of North America*, G. C. Lee, ed., Vol. 17, Philadelphia, c. 1905). Briefer but more readable is Holland Thompson, *The New South* (*Chronicles of America*, Vol. 42, New Haven, c. 1919). *The South in the Building of the Nation*, Vol. 6, is also useful.

The general accounts of agriculture, transportation, and manufacturing listed in preceding sections have scattered paragraphs on Southern development. Stone, "Some Problems of Southern Economic History," *loc. cit.*, is quite suggestive. Features of the new manufacturing are treated in Broadus Mitchell, "The Rise of Cotton Mills in the South," *Johns Hopkins Studies . . .*, Series 39, No. 2 (Baltimore, 1921), pp. 115-382, and Gerald W. Johnson, "Service in the Cotton Mills," *American Mercury*, Vol. 5 (June, 1925), pp. 219-223.

XI. CAPITALISM AND MONOPOLIES

Some history of the consolidation and regulation of railroads is contained along with the economics of the movement in Ripley, *Railroads: Rates and Regulation*; Eliot Jones, *Principles of Railway Transportation* (New York, 1924); Stuart Daggett, *Principles of Inland Transportation* (New York, 1928); Johnson and Van Metre, *Principles of Railroad Transportation*. Moody, *The Railroad Builders*, gives the history of several important roads. Later phases of regulation are given much attention in Isaac Lippincott, *Problems of Reconstruction* (New York, 1919); Rogers MacVeagh, *The Transportation Act, 1920* (New York, 1920); David P. Locklin, *Railroad Regulation since 1920* (New York, 1928); and from the railroad point of view in William J. Cunningham, *American Railroads: Government Control and Reconstruction Policies* (Chicago, 1922). Other material is contained in some of the works listed in Section VI above, in Malin, *The United States after the World War*, and in *Recent Economic Changes*.

The literature on trust growth and regulation is so voluminous as to make selection rather arbitrary. A good source collection for the early period is William Z. Ripley, ed., *Trusts, Pools and Corporations* (Boston, 1905). General economic studies are Lewis H. Haney, *Business Organization and Combination* (New York, 1913) and Jeremiah W. Jenks, *The Trust Problem* (New York, 1902). Contemporary analyses of the trend at the turn of the century are William F. Willoughby, "The Concentration of Industry in the United States," *Yale Review*, Vol. 7 (1898), pp. 72-94, and "The Integration of Industry in the United States," *Quarterly Journal of Economics*, Vol. 16 (November, 1901), pp. 94-115. A statistical study of about the same time is John Moody, *The Truth about the Trusts* (New York, 1904). See also United States Industrial Commission *Final Report* (19 v., Washington, 1900-1902), summary and conclusions in Vol. 19. Interesting accounts of the rise of monopolies are Burton J. Hendrick, *The Age of Big Business* (*Chronicles of America*, Vol. 39, New Haven, c. 1919), somewhat superficial and given to hero worship, and John Moody, *The Masters of Capital* (*Chronicles of America*, Vol. 41, New Haven, c. 1919). The story of the first trust is fearlessly told in Ida M. Tarbell, *History of the Standard Oil Company* (2 v., New York, 1904). Another good account is Gilbert H. Montague, *The Rise and Progress of the Standard*

Oil Company (New York, 1903). The growth of other trusts is recorded in Abraham Berglund, *The United States Steel Corporation* (Columbia University Studies . . . , Vol. 27, No. 2, New York, 1907), mainly economic; B. J. Hendrick, *The Life of Andrew Carnegie* (Garden City, 1932); and Eliot Jones, *The Anthracite Coal Combination in the United States* (Harvard Economic Studies, Vol. 11, Cambridge, 1914). Edward Bellamy, *Looking Backward, 2000-1887* (Boston, 1888) is a Rip Van Winkle view of the period of early consolidation, written for general readers. Henry D. Lloyd, *Wealth against Commonwealth* (New York, 1894) is a more "highbrow" presentation of the same problem. Cornelius C. Regier, *The Era of the Muckrakers* (Chapel Hill, 1932) is a good summary of the activities of the later group of exposers of industrial conditions.

An excellent collection of readings on the newer trust movement is Herbert B. Dorau, ed., *Materials for the Study of Public Utility Economics* (New York, 1930). A historical introduction is included, also some helpful chronologies. A good brief article is Harry W. Laidler, "The Growth of American Monopolies," *Current History*, Vol. 35 (November, 1931), pp. 204-209. Jerome G. Kerwin, *Federal Water Power Legislation* (Columbia University Studies, No. 274, New York, 1926) introduces one of the recent giants. A statistical analysis of power monopoly is Gifford Pinchot, "The Giant Strides of Power Monopoly in the United States," *Current History*, Vol. 30 (April, 1929), pp. 38-42. For the Federal Trade Commission before its decline Henderson, *The Federal Trade Commission*, may be used. For the Benjamin of the trust family see John F. Fowler, *American Investment Trusts* (New York, 1928). A rather suggestive survey of legislative activities of big business is Peter H. Odegard, "Lobbies and American Legislation," *Current History*, Vol. 31 (January, 1930), pp. 690-697.

The distribution of wealth is discussed in *Recent Economic Changes*. Earlier very thorough studies are Willford I. King, *The Wealth and Income of the People of the United States* (New York, 1915); Mitchell and others, *Income in the United States, Its Amount and Distribution, 1909-1919*; and "National Wealth and Income," U. S. Senate Document No. 126, 69 Cong., I Sess. As a response to Gerard's crude attempt to list the persons who run the country, Norman S. B. Gras, in "The Rulers of America," *Current History*, Vol. 33 (December, 1930), pp. 351-355, suggests a reaction against big business.

XII. RECENT YEARS

An exhaustive study by 117 leading authorities in various fields of social research is included in *Recent Social Trends in the United States* (2 v., New York, 1933), an indispensable work for study of the very recent years. The links between the situation in the United States and the rest of the world is furnished by Ernest M. Patterson,

The World's Economic Dilemma (New York, 1930). American fiscal policies and practices are summed up in Kemmel, *Federal Finances, 1923-1933*. Trade relations and restrictions are considered in James W. Angell, *Financial Foreign Policy of the United States* (National Council on Foreign Relations, 1933) and Percy W. Bidwell, *Tariff Policy of The United States: A Study of Recent Experiences* (National Council on Foreign Relations, 1933). Franklin Escher, *Modern Foreign Exchange* (New York, 1932) discusses the gold standard and related topics. Evans Clark, ed., *The Internal Debts of the United States* (New York, 1933) is an authoritative study. The significance of the growing concentration of industry and capital is shown in Adolf A. Berle and Gardiner C. Means, *The Modern Corporation and Private Property* (New York, 1933). Taking the St. Paul railroad as an example of high finance in business reorganization Max Lowenthal shows how *The Investor Pays* (New York, 1933). Harvey O'Connor, *Mellon's Millions* (New York, 1933) incited the ire of the former Secretary of the Treasury. Recent banking problems are discussed by Laughlin, *The Federal Reserve Act*; Harris, *Twenty Years of Federal Reserve Policy: Including an Extended Discussion of the Monetary Crisis, 1927-1933*; Gaines T. Cartinhour, *Branch, Group and Chain Banking* (New York, 1932); Charles W. Collins, *Rural Banking Reform* (New York, 1932); Jules J. Bogen and Marcus Nadler, *The Banking Crisis: The End of an Epoch* (New York, 1933), covering the period 1919-1933. Arthur O. Dalberg, *Jobs, Machines and Capitalism* (New York, 1932) paints a Utopian capitalism. Carroll R. Daugherty, *Labor Problems in American Industry* (Boston, 1933) brings another problem down to date. Mauritz A. Hallgren, *Seeds of Revolt* (New York, 1933) is a timely warning, revealing especially the effect of the years 1929-1933 on the lower middle class.

Stuart Chase, *A New Deal* (New York, 1932) explains the ills of the economic system and points a way out. Rexford G. Tugwell, *The Industrial Discipline and the Governmental Arts* (New York, 1933) is an exposition of the need of federal control and supervision of industry. George Soule, *A Planned Society* (New York, 1932) also points to a solution of industrial anarchy. William C. Schlüter, *Economic Cycles and Crises: An American Plan of Control* (New York, 1933) is historical as well as didactic. Howard S. Picquet, *Outline of the New Deal Legislation of 1933* (New York, 1933) followed closely on the heels of the code. Further explanations of the acts and their working are Benjamin . Kirsh, *The National Industrial Recovery Act* (New York, 1933), showing the relation to the history and practices of trade associations; James D. Magee, Willard E. Atkins, and Emanuel Stein, *The National Recovery Program* (New York, 1933), a small handbook; Lawrence Alenstein and E. B. Weiss, *Business under the Recovery Act* (New York, 1933); Ordway Tead and Henry C. Metcalf, *Labor Relations under the Recovery Act* (New York, 1933); Edward Mead and Bernhard Stoltenk, *Voluntary Allotment* (Philadelphia, 1933), an explanation of

the farm program; and George F. Warren and Frank Pearson, *Prices* (New York, 1933), an argument for a managed currency. A pamphlet by Norman Thomas entitled *The New Deal: A Socialist Analysis* (Chicago, 1934) reveals what the author considers to be the shortcomings of the policies.

INDEX

- Abolition movement, 317-318, 324, 328, 363.
- Acadians, 74.
- Accidents, automobile, 714-715.
- Acklen, Joseph, example of extravagance, 317.
- Adams, Charles Francis, railroad president, 493, 516.
- Adams, Henry C., and agriculture, 458.
- Adams, John, 123, 131; on manufactures, 242.
- Adams, John Quincy, and Florida purchase, 155; and Texas question, 157; Oregon question, 161; on internal improvements, 176; tariff views, 229, 233.
- Adams, Samuel, 121, 122, 138.
- Adamson Act of 1916, 519, 675, 815.
- Addyston Pipe and Steel Company, price fixing, 547.
- Adkins *vs.* Children's Hospital, 799.
- Advertising, rise and growth, 623-625.
- Africa, slave trade with, 43-45.
- Agrarianism, 281, 283, 289-290.
- Agricultural colleges, 457-458.
- Agricultural engineering, 829.
- Agricultural press, 305.
- Agricultural societies and education, 303-304, 305. See agricultural colleges.
- Agriculture, 47-72, 292-309; effect of Embargo, 1807, 210; in Civil War, 386-388, 397-398; in New South, 403, 408-413; 1860-1900, 444-459; since 1900, 825-850, 866-868, 879-880; Department of, 305, 456-457.
- Air Commerce Act of 1926, 719.
- Air mail, 719-720.
- Airplanes, early experiments, 529-530; development, 718-721.
- Alaska, purchase of, 641; territorial status, 646; trade with, 647.
- Albany Congress, 126-127.
- Alcock, John, trans-Atlantic flight, 720.
- Alcoholic beverages, production, 96, 103-105, 253-254, 555-556, 755-756.
- Aldrich, Nelson B., bank policy, 775; tariff views, 782. See tariff and Aldrich-Vreeland Act.
- Aldrich-Vreeland Act, 774.
- Alexandria Convention, 134.
- Allen, Henry, compulsory arbitration of labor disputes, 818.
- Allison, William B., and railroads, 461.
- Alloys, in steel, 735.
- Almanac farming, 53-54.
- Altgeld, John P., and Haymarket trials, 612; and Chicago strike, 617-618.
- Aluminum, production, 548, 549, 740.
- Amalgamated Clothing Workers, industrial union, 812, 819, 822.
- Amalgamated Copper Company, 511.
- American Bicycle Company, 527.
- American Federation of Labor, rise of, 613-614, 616, 619-620; since 1900, 809-810, 813-816, 819, 821-822.
- American Harvester Company, 446.
- American Protective Association, 591.
- American Railway Union, and Chicago strike, 615-619.
- American Society of Equity, 834.
- American system, tariff argument, 228.
- American Telephone and Telegraph Company, magnitude, 697; fall in stock value, 855.
- American Tobacco Company, 510.
- American valuation, in tariff, 791.
- Ames, Fisher, on tariff, 224.
- Ames, Oakes, 427.
- Ammon, Robert H., labor leader, 605-606.
- Anaesthetics, 267-268.
- Anarchism, in 1880's, 610-612.
- Andrews, Samuel, oil business, 501.
- Andros, Edmund, on printing, 113.

- Annapolis Convention, 134.
 Anthony, Susan B., greenbacker, 474;
 labor movement, 595, 599.
 Anthracite coal strike, 1902, 811-812.
 Anti-Monopoly party, 507.
 Antitrust Acts, 506-510, 687; and
 labor, 618; Clayton Act, 682-683.
 Appleby, John F., inventor, 446.
 Apples, colonial production, 68.
 Apprentices, 88; control of, 277-278.
 Archbold, John D., Standard Oil, 502,
 506-507.
 Arkwright, Richard, the water frame,
 244.
 Armed Neutrality League, 124.
 Armour, Philip D., meat packer, 554.
 Army, plans of 1816, 342.
 Arnold, Benedict, trading in Canada,
 96.
 Arthur, Chester A., and navy, 543;
 and tariff, 575.
 Articles of Confederation, 127, 128-
 134.
 Artists, 91, 271-272.
 Asiatic Exclusion Act, 803.
Asiento of 1713, 80.
 Astor, William, 390.
 Atkinson, Edward, on tariff, 574.
 Atlantic cable, 1858, 220; after 1860,
 530-531.
 Austin, Stephen F., 156.
 Australia, trade with, 219.
 Automobile, 527-529, 712-718; code
 for industry, 884, 886.
 Babcock, S. M., inventor, 454-455.
 Bagnell Dam, 694, 695.
 Bahama Islands, Loyalist refuge, 124.
 Baker, Ray S., exposes railroads,
 669.
 Bakewell, Robert, agricultural ex-
 periments, 47.
 Bakunin, Mikhail, influence of, 609.
 Balance of trade, colonial, 34-37;
 around 1837, 352; in 1920's, 666.
 Balloons and airships, 529, 718.
 Baltimore, Lord. See Cecil Calvert.
 Bank of United States, failure, 777.
 Bankruptcy, regulation of, 137.
 Banks, of England, 25; effect of panic
 of 1857, 240; of North America,
 336; First U. S. Bank, 337-339;
 Second U. S. Bank, 343-348; state
 banks, 336, 337, 343, 345, 348, 356-
 357; "Pet" banks, 348-349; "Wild-
 cat," 350-351; Southern, 359-360;
 in Civil War, 385-386, 392, 396; in
 Reconstruction period, 402; Na-
 tional, 469, 470; and money trust,
 689-690; 1900-1929, 773-774, 776-
 777; recent troubles, 861-863, 870,
 871-873.
 Barbed wire, 423.
 Barge trade, on interval rivers, 708-
 709.
 Barnum, Phineas T., transportation
 problem of, 520.
 Batchelder, Samuel, inventor, 259.
 Beecher, Henry Ward, and immigra-
 tion, 590.
 Beef. See meat packing.
 Beef Trust, 510.
 Beer, production, 104, 253-254, 556,
 755, 756; legalized, 876-877.
 Belknap, William W., bribery of, 431.
 Bell, Alexander G., telephones, 531;
 talking machines, 569.
 Bell Telephone Company, early hold-
 ing company, 511; development of,
 530-531; magnitude of, 691.
 Bellamy, Edward, *Looking Backward*,
 507.
 Bellmont, Earl of. See Richard
 Coote.
 Bellonte, Maurice, trans-Atlantic
 flight, 720.
 Belmont, August, and bond sales, 483.
 Benton, Thomas Hart, coinage act,
 351.
 Benz, Carl, automobiles, 527.
 Berger, Victor, Socialism, 619, 818,
 819.
 Bergh, Henry, 595-596.
 Bering, Vitus, exploration, 6.
 Berkeley, William, on printing, 113.
 Berlin Decree, 208, 209, 211.
 Berliner, Emile, gramophone, 569.
 Bessemer, Henry, 264, 542-543.
 Bicycles, 526-527.
 Biddle, Nicholas, and U. S. Bank,
 345-348.
 Bigelow, Erastus, inventor, 259.
 Bill of Rights, in Constitution, 138.
 Billie the Kid, 424.

- Bills of exchange, colonial, 32; in cotton marketing, 360.
 Bingham, Hiram, and lobbying, 685.
 Birmingham, iron manufacture, 416, 539, 547, 732.
 Black Ball Line, 215-216.
 Black Friday of 1869, 492.
 Black International, 610-612.
 Black Kettle, Indian wars, 433, 434.
 Blacklist, employers' coercion, 278.
 Blaine, James G., tariff views, 240, 579-580; and Latin America, 642.
 Blake, Lyman R., as inventor, 389, 563.
 Bland-Allison Act, 474, 476-477, 480.
 Block, Adriaen, 109.
 Block signals, 518.
 Blockades, continental, 1806-1807, 207-208; War of 1812, 212-213; Civil War, 392-393.
 Bloomeries, 111, 542.
 Boll Weevil, 413.
 Bolshevik scare, 818-819.
 Bonaparte, Napoleon, Louisiana Purchase, 150-152; Berlin and Milan decrees, 208-209, 211.
 Bond Sales, of 1890's, 482-483.
 Bonus bill, 176.
 Bonus marchers, 865.
 Boone, Daniel, 142, 170.
 Borah, William E., denounces Trade Commission, 686.
 Borden, Gail, condensed milk, 557.
 Border states, attitude on slavery extension, 369-370.
 Boré, Etienne, sugar growing, 315.
 Boston, population, 73; fire of 1871, 463, 564.
 Boston Port Act, 123.
 Boulder Dam, 695-696.
 Boulton, Matthew, 247.
 Boundary disputes, 126, 154-155, 160-162.
 Bounties, 67, 71-72, 77, 98-99, 109-110, 118, 299; for soldiers, 380-381. See subsidies.
 Boutwell, George S., on greenbacks, 473-474.
 Boxley, George, slave revolt, 324.
 Boycott, beginnings, 277, 285; and courts, 798.
 Braddock, Edward, road builder, 170.
 Bradford, William, 12.
 Brain Trust, 875-876.
 Branch banking, 776-777.
 Brandeis, Louis D., 814.
 Bread, production, 104, 556-557.
 Brick, production, 112, 550-551, 742.
 Bridger, Jim, 161.
 Bridges, 170, 172, 195-197, 546, 737-738.
 Brisbane, Albert, social theories, 287-288.
 Brougham, Henry, 225.
 Brown, Arthur W., trans-Atlantic flight, 720.
 Brown, John, 374, 376.
 Brown, Joseph E., 394.
 Brownson, Orestes A., social theories, 289.
 Brush, Charles, electric-arc system, 536.
 Bryan, William Jennings, free silver, 485; campaign of 1900, 486.
 Buchanan, James, and tariff of 1861, 241; policy on secession, 377-378.
 Buck's Stove and Range Company, boycott, 798.
 Buffalo, extermination of, 430.
 Building materials, production, 550-552, 741, 742-746.
 Burgoyne, John, 125.
 Burke Act, 435.
 Burleson, Albert S., Bolshevik scare, 818.
 Burlington railroad, building of, 429.
 Burr, Aaron, Western expedition, 153.
 Busch, Adolph, Diesel engines, 535-536.
 Business cycle, 621-622. See depressions, panics.
 Business geniuses, 490.
 Busses, 703, 716-718.
 Butler, Benjamin F., and Civil War trade, 393; greenbacker, 474.
 Butter, production, 453-455.
 Byllesby and Company, power monopoly, 692.
 Byrd, Richard E., polar expedition, 720.
 Byrd, William, fur trader, 42; on manufactures, 102, 112.
 Byrd, William, II, landholdings, 58.

- Cable cars, 520.
 Cables, transoceanic, 220, 530-531, 723.
 Cabot, John, 105.
 Cabral, Pedro Álvarez, voyage of 1500, 6.
 Calhoun, John C., tariff views, 226, 228, 229, 230, 233-235; nationalist plans, 342; and Bank, 344; on Southern trade, 365.
 Calvert, Cecil, founding of Maryland, 14; feudal experiments, 57.
 Camels, in far West, 425.
 Cameron, Andrew C., labor leader, 598, 600.
 Campbell, Malcolm, speed, 713.
 Canada, rival in fisheries and fur trade, 38, 40-42; Loyalist refuge, 124; objective in War of 1812, 147, 212; proposed reciprocity, 785.
 Canals, 177-183, 198, 390, 514-515, 525, 710, 711-712.
 Canning, George, 206.
 Canning of foods, 255, 557, 756-757.
 Capital, sources of, 250.
 Capitalism, beginnings, 13, 88, 243-244; control of labor, 272-273.
 Capper, Arthur, farm bloc, 848.
 Carey, Mathew, 273, 274.
 Carey Act, 825-826.
 Caribbean, spheres of influence, 648-650.
 Carnegie, Andrew, steel business, 540-541.
 Carolinas, settlement, 15-16; trade balances, 34-35; fur trade, 42; slave trade, 45; landholding, 58, 81; manufactures, 103. See North and South Carolina.
 Carpenters, colonial, 88; wages, 274.
 Carpetbaggers, 406-407.
 Carpets, manufacture, 559, 760.
 Carroll, Charles, landholdings, 58; and quitrents, 63; slaves, 81; manufactures, 115.
 Cartels, 654.
 Carter, Robert, landholdings, 58.
 Cartier, Jacques, explorations of, 6, 48, 105.
 Cartwright, Edmund, inventor, 244-245.
 Case, Jerome I., threshing machines, 302.
 Cash registers, 568.
 Cass, Lewis, popular sovereignty, 372.
 Castings, 264-265.
 Castner, H. F., aluminum, 549.
 Cattle, efforts to improve, 47, 55-56, 302; production, 69-70, 296, 298, 452; drive to markets, 254; on western range, 421-425; dairy, 454. See farm animals, livestock.
 Cement, production, 551, 742.
 Century of Progress Exposition, 750.
 Cereal products, 103-105, 253-254, 555-556, 754-756.
 Chain farming, 846-847.
 Chain stores, 625, 628-631.
 Chamber of Commerce, U. S., 687, 817.
 Chandler, William E., and railroad regulation, 671.
 Channing, William H., social theories, 289.
 Charles, Jacques A. C., balloons, 529.
 Charles II, 17; and navigation laws, 26-27; and colonial regulation, 30.
 Charleston, S. C., population, 74; slaves, 81; Loyalists in, 123.
 Chase, Salmon P., Civil War finances, 381, 385; on greenbacks, 471; and immigration, 590.
 Chase National Bank, magnitude, 690.
 Cheese, production, 453-454.
 Chemicals, production, 549-550, 741-742, 749-750.
 Chemistry, industrial, 749-750.
 Chesapeake affair, 207.
 Cheves, Langdon, nationalist plans, 342; and U. S. Bank, 345.
 Chicago fire, 463, 564.
 Chicago railroad strike of 1894, 615-619.
 Chief Joseph, Indian wars, 434.
 Child-labor, legislation, 284, 805-806; conditions, 596-597; abolished, 883.
 China, trade with, 131, 215; Open Door policy, 644.
 Chinese question, 167, 426, 592-594.
 Chisholm, John, cattle war, 424.

- Chivington, J. M., Indian fighter, 433.
 Choate, Joseph H., defends Standard Oil Company, 505.
 Christian, George M., flour milling, 555.
 Cigar Makers' International Union, 612-613.
 Cities and towns, colonial, 73-74; growth in number and size, 165, 167, 183, 442-443.
 Civil War, causes, 358-378, problems of, 379-399; effect on South, 400-403; effect on growth of monopolies, 488-489; effect on public morals, 490.
 Civil Works Administration, 882.
 Civilian Conservation Corps, 880-881.
 Clark, Champ, and reciprocity, 786.
 Clark, George Rogers, 125, 148.
 Clark, William A., 421.
 Clarke, John H., 814.
 Clay, Henry, Texas question, 158; on internal improvements, 177; on tariff, 228, 229, 230, 233, 236, 237; nationalist plans, 342; and bank, 344, 347, 348; and Independent Treasury, 354; compromiser, 370, 372.
 Clay products, 550-551, 742.
 Clayton Antitrust Act, 682-683; labor provision, 798; cooperation, 835.
 Cleaveland, Moses, 145.
 Clergy, social standing, 85; in middle period, 270.
 Cleveland, Grover, attitude toward South, 402; and Indian question, 435; and Oklahoma land race, 441; elected President, 481; bond sales, 482-483; and tariff, 577-579, 582-585; suppression of Chicago strike, 617-619; and consular service, 654; and conservation, 744; and immigration, 802.
 Climate, of Atlantic seaboard, 31.
 Clinton, De Witt, canal builder, 178.
 Clipper ships, 220.
 Clocks, manufacture, 250, 567, 766.
 Closed shop, beginnings, 277; efforts to abolish, 812-813; in World War, 815; under NRA, 883-884, 886.
 Clothing, 100-101; machine production, 259, 389, 559, 561-562, 761-763.
 Coal, trade, 185, 188, 705-706; and coke, production, 248, 416, 534, 726-729; code for, 884.
 Coastwise trade, colonial, 38-40; 1783-1860, 220-222; since 1860, 636-637; and intercoastal trade, 222, 636-637.
 Cody, William F. (Buffalo Bill), 430.
 Cœur D'Alene strike, 615, 809.
 Colden, Cadwallader, on internal navigation, 178.
 Colfax, Schuyler, and Crédit Mobilier, 427.
 Collective bargaining, 277-278.
 Collins line, steamships, 219.
 Colombia, canal diplomacy, 645.
 Colonization of America, 7-18.
 Colorado, settlement, 421.
 Colorado Fuel and Iron Company, 538.
 Columbus, Christopher, 5-6.
 Commerce, medieval, 1-3; by trading monopolies, 10; in colonies, 24-46; in Confederation, 128, 131-132; foreign, 1783-1860, 201-222; Southern before 1860, 359-362, 364-365; 1860-1929, 462, 621-667; after 1929, 856.
 Commerce Court of 1910, 674-675.
 Commercial Convention, Southern, 365-366.
 Commercial regulations, colonial, 26-30.
 Committees of Correspondence, 122.
 Commodities clause, in Hepburn Act, 673.
 Common carriers, 215-216.
 Communism, American, 819-821, 871.
 Compact theory, 234.
 Company unions, 817.
 Compromise of 1850, 371-373.
 Comstock Lode, 421, 549.
 Concentration of manufactures, 750-751.
 Conestoga wagons, 171.
 Confederacy, 379, 392-399.
 Confederation period, 126-135.
 Confiscation Acts, 397.

- Connecticut, settlement, 14; law to eradicate barberry, 56; land speculation, 60-61; slavery, 82; wages, 89; trade regulations, 97, 98; manufactures, 101, 109, 112.
- Conservation movement, 693-694, 744-746.
- Conspiracy trials, labor, 278-280, 286-287.
- Constitution of U. S., 128, 129, 133-139; amendments, 401, 489, 508, 789.
- Construction work, 564-565. See bridges, skyscrapers, roads, houses and buildings.
- Consumers' goods, production, 552-571, 746-771. See manufactures.
- Continental Congresses, 123, 127, 128.
- Contract business, Civil War, 380, 388; Reconstruction, 406.
- Contract labor, in South, 419; Act of 1885, 607.
- Convict and pauper laborers, 76-77, 273, 278, 286.
- Cooke, Jay, Civil War finances, 381; failure of, 463; railroad builder, 428, 515.
- Coolidge, Calvin, and merchant marine, 639; *laissez faire* policy, 686; and Muscle Shoals, 694; and Boulder Dam, 695; and conservation, 744; war cost estimate, 777.
- Cooper, Peter, locomotive inventor, 192.
- Cooperative organizations, 287-290, 467-468; in Knights of Labor, 604-605, 608; farmers', 833-837.
- Coopers, colonial, 88.
- Coote, Richard, land reform, 58.
- Copley, John Singleton, 91.
- Copper, production, 112, 266, 548, 739-740; tariff on, 573.
- Copying machines, 768.
- Cordage, manufacture, 560-561.
- Corduroy roads, 172.
- Cordwainers, conspiracy cases, 278-280.
- Corliss, George H., inventor, 265.
- Corn, Indian, aboriginal cultivation, 48, 50-52; growing of, in timberland, 295-296; on prairies, 297; corn belt, 451-452.
- Corn laws, British, 217-218.
- Cornbury, Lord. See Edward Hyde.
- Cornell, Ezra, 457.
- Corners, on markets, 623.
- Cornwallis, Charles, 125.
- Coronado, Francisco Vásquez, 6.
- Coronado decision, 798.
- Corporations, beginnings, 250-252, 263, 488, 500; New Jersey laws, 508, 510-512, 679; earning, 689; growth of power, 698, 860-861; for farming, 846-847. See holding companies, trusts, monopolies.
- Coste, Dieudonne, trans-Atlantic flight, 720.
- Costigan-Wagner-La Follette bill, 881.
- Cotton, in Navigation Acts, 26; in colonies, 66, 102; in foreign trade, 215-216; in coastwise trade, 221; consumption of, 261; production, 310-315; marketing of, 359; in Civil War, 393, 394, 398; in Reconstruction period, 403, 412; since 1860, 447-448; power in growing, 831; voluntary allotment, 879-880.
- Cotton gins, colonial, 102; Whitney's, 246, 247, 310-312.
- Cotton goods, production, 102, 260-261, 557-558, 759; effect of tariff, 225, 227, 229, 237, 238; manufacture in New South, 413-415.
- Cotton Stabilization Corporation, 867.
- Cottonseed products, 314, 415, 757.
- Couch, Darius N., and Molly Maguires, 602.
- Council for National Defense, 748.
- Council for New England, 12, 107; and quitrents, 62.
- Counterfeiting, in Civil War, 385.
- Cow towns, 422.
- Cowles, E. H. and A. H., aluminum, 549.
- Coxey, Jacob M., industrial army, 484; triumph of idea, 881.
- Crawford, William H., tariff views, 229.
- Crédit Mobilier, 426-427, 464.
- "Crime of '73," 475-476.
- Criminal code, British, 76; for slaves, 84-85.

- Crocker, Charles, railroad builder, 427.
- Crompton, Samuel, inventor, 244.
- Cromwell, Oliver, Navigation Act of 1651, 26.
- Crop-lien system, 410-411.
- Crops, tables of production, 306-307, 448.
- Crusades, 2.
- Cuba, American intervention and control, 641, 642-643; Platt Amendment and trade, 648; sugar tariff, 783.
- Cugnot, Nicholas Joseph, locomotive builder, 192, 527.
- Cullom, Shelby M., railroad regulation, 497, 671.
- Cultivators. See soil-working implements.
- Cumberland Gap, 170.
- Cumberland Road, 175-176.
- Cummins, Albert B., railroad regulation, 677-678.
- Cunard Line, steamships, 219, 640.
- Curtin, John, 391.
- Curtis, Benjamin R., Dred Scott case, 374.
- Custer, George A., 434.
- Cutler, Manasseh, 144.
- Daguerre, Louis, J. M., inventor, 267, 569.
- Daimler, Gottlieb, gasoline engines, 527.
- Dairying, 70, 105, 303, 453-455.
- Dale, Thomas, 11.
- Dallas, Alexander J., the tariff, 226.
- Danbury Hatters' case, 618, 681, 831.
- Dante, Giovanni B., gliders, 529.
- Daugherty, Harry M., betrayal of trust, 684; use of injunction, 798.
- Davis, David, greenback support, 474; labor candidate, 600.
- Davis, Jefferson, railroad survey, 200; treatment of slaves, 323.
- Davy, Humphrey, photography, 569; safety lamp, 728.
- Dawes, Charles G., tax evasion, 860; on Reconstruction Finance Corporation, 869.
- Dawes Severalty Act, 435.
- Debs, Eugene V., Chicago strike, 616-619; Socialism, 619-620, 808-809, 819.
- Debtors' prisons, 283-284.
- Debts, as cause of Revolution, 117; in Confederation period, 130-132; to foreign nations, 130; pre-Revolutionary, 205-206; Hamiltonian policy, 331-334; Gallatin's policy, 338-340; of War of 1812, 340-341; payment of, 341-342; Southern, 358-368 *passim*; Civil War, 381, 384, 395-396; repudiation in South, 407; of farmers, 477; of Europe to U. S., 779-780, 851, 857-858; farm, since 1920, 839-843; in 1933, 868.
- Deere, John, inventor, 300.
- DeForest, Lee, inventor, 724-725.
- Delaware, settlement, 18.
- De Leon, Daniel, Socialism, 619.
- Democrats, beginning of party, 338.
- Denby, Edwin, incompetence, 684.
- Department of Commerce, work of, 654-655, 688.
- Department stores, 627-628.
- Deportation Act, 804.
- Depressions, 1865-1900, 553-554, 746. See panics.
- Derby, Elias Hasket, merchant, 203, 215.
- Desert Land Act, 437, 444-445, 828.
- Dew, Thomas R., on slave system, 328.
- Dexter, Samuel, 338.
- Díaz, Bartholomew, 5.
- Dickinson, John, 123; Articles of Confederation, 127.
- Dictograph, 768.
- Diesel engines, 535-536, 640; on locomotives, 700; on steam barges, 708; efficiency, 730.
- Dingley, Nelson, and tariff, 585-586.
- Distribution Act of 1836, 177, 349, 352.
- Dividends, 1930-1931, 863-864.
- Dodge, Grenville M., railroad builder, 426.
- Doheny, Edward L., and Elk Hills scandal, 684.
- Doherty, Henry L., power monopoly, 692; natural gas business, 729.
- Dollar, Robert S., ship owner, 639.

- Dollar Diplomacy, 651-654.
 Domestic system, 114, 244; in America, 249.
 Domestic trade, colonial, 38-39.
 Dominion of New England, 126.
 Dongan, Thomas, on printing, 113.
 Donnelly, Ignatius, farmers' parties, 468; Populism, 485.
 Douai, Adolph, labor leader, 610.
 Douglas, Stephen A., and railroads, 199; and compromise of 1850, 372; and repeal of Compromise of 1820, 373-374; on Dred Scott case, 375.
 Draft animals, breeding of, 56; production, 69, 70, 303; survival of, 831; decline of use, 844.
 Drake, Francis, piracy, 46; introduction of potatoes, 48.
 Dred Scott case, 374-375.
 Dreiser, Theodore, and coal strikes, 820.
 Drew, Daniel, stock manipulations, 462, 491-492.
 Drills. See seed planters.
 Dry farming, 444, 827.
 Duke, James B., and power development, 414.
 Dulany, Daniel, 110.
 Dumping, in 1815, 225, 260; in 1783, 242-243.
 Duplex Printing case, 798.
 Dupont Company, 747.
 Duryea, Charles E., automobiles, 527.
 Dutch West Indies, trade with, 38.
 Dyes, 761.
 Dynamos, 536, 730-731.
 Eads, James B., river improvements, 525.
 East, the, attitude on slavery extension, 368-369.
 East India Company, 122.
 East Indies, trade with, 215.
 Eastman, Joseph B., coordinator of transportation, 878.
 Eastman Kodak Company, 569.
 Economy Act of 1933, 876.
 Edison, Thomas A., electric cars, 521; electric light, 536; phonograph, 569; moving pictures, 569-570.
 Education, 91; labor attitude, 282-283.
 Electric appliances, 766.
 Electric power, light, and communication, 517, 536-537; street cars, 520-521; railways, 699-700; hydroelectric power, 730-732.
 Electromagnets, 750.
 Elevated railways, 520, 705.
 Eliot, Jared, grain drill, 55; *Essays on Field Husbandry*, 56.
 Elk Hills scandal, 684.
 Elkins, William L., traction finances, 521-522.
 Elkins Act, 669-670.
 Ellsworth, Henry L., and agriculture, 305, 456.
 Embargoes, colonial, 30, 87; of 1807, 204, 209-210.
 Emergency Fleet Corporation, 638-640.
 Emerson, Ralph W., social theories, 289.
 Emery, Lewis, Pure Oil Company, 506.
 Employer responsibility laws, 800-801.
 Enameled ware, 566.
 Endecott, John, 12.
 Engel, George, Haymarket Trial, 612.
 England, colonies in America, 9-18; conquest of New France, 22; colonial trade with, 33 *et seq.*; bounties to colonies, 67; and colonial manufacturers, 94-98. See Great Britain.
 Entail, 61-62, 126.
 Equity Union, 834.
 Erie war, 491-493.
 Erlanger and Company, loan to Confederacy, 395.
 Esch-Cummins Act, 676-678, 701, 709, 878.
 Essex decision, 206.
 Esterly, George, inventor, 301.
 Evans, George Henry, agrarianism, 289-290.
 Evans, Oliver, steamboat inventor, 186; locomotive inventor, 192; steam engine, 247; flour mill improvements, 253.
 Exchanges, business, 622-623; farmers', 835-836; New York Stock, 854.

- Exploration, of America, 5-7.
 Export duties, colonial, 30, 87, 97.
 Exports, colonial, Chap. II *passim*;
 tables of, 36, 204, 214, 218, 656-
 663; of cotton, 314; in World War,
 788. See commerce.
 Express companies, 219, 425, 702,
 721-722; banking operations, 776.
 Factors, colonial, 65; in South, 359.
 Factory inspection, 800-801.
 Factory system, beginnings, 248-252.
 Fairbanks, Thaddeus, inventor, 300.
 Fairs, agricultural, 55.
 Fall, Albert B., bribery of, 684.
 Fall line, defined, 49.
 Fallowing, 55.
 Farm animals, improvements in, 47;
 table of production, 306-307, 448,
 840. See livestock, cattle, hogs,
 horses, sheep.
 Farm bloc, 848-849.
 Farm bureaus, 835.
 Farm Credit Administration, 876,
 880.
 Farm implements, Indian, 51; colo-
 nial, 54-55; development, 297, 299-
 302; in Civil War years, 388; 1860-
 1900, 445-447, 468; since 1900,
 828-832; 838-839, 846.
 Farm Relief Act of 1933, 875, 879-
 880.
 Farmer-Labor party, 848.
 Farmers' Alliances, 478-479, 480-
 481, 833-834.
 Farmers' Holiday Association, 868.
 Farmers' National Headquarters, 834.
 Farmers' parties, 465-467, 468.
 Farmers' Union, 834.
 Fascism, danger of, 886.
 Federal aid, to road building, 176-
 177; to railroads, 199-200.
 Federal Convention at Philadelphia,
 135.
 Federal Farm Board, 866-868.
 Federal farm loans, 832-834, 838-
 839, 842.
 Federal farm relief, 847-850.
 Federal Power Commission, 693-
 694; crippled, 696.
 Federal Reserve System, 690, 774-
 776, 833, 854.
 Federal Trade Commission, and
 advertising, 625; work of, 655, 687,
 697; crippled, 686.
 Federalists, opposition to Louisiana
 Purchase, 152-153; attitude on
 impressment, etc., 207; in War of
 1812, 212; decline of, 338.
 Fellow-servant doctrine, 801.
 Fences, colonial, 69; prairie, 298;
 barbed wire, 547.
 Fertilizer, used in colonies, 51, 55,
 64; in middle period, 300, 302-303,
 314; in New South, 415; 1860-1900,
 550; since 1900, 741.
 Fessenden, William Pitt, Civil War
 finances, 381.
 Field, Cyrus, trans-Atlantic cables,
 530-531.
 Field, Marshall, department store,
 627.
 Fielden, Samuel, anarchist, 611-
 612.
 Finances, 1776-1789, 129-131, 134;
 1789-1860, 331-357; Civil War,
 381-384, 394-397; 1865-1900, 460-
 487; since 1900, 772-780, 851-886
 passim.
 Fincher, Jonathan C., labor leader,
 598.
 Fink, Albert, and Southern railroads,
 494.
 Fink, Mike, 184.
 Fischer, Adolph, Haymarket trial,
 612.
 Fisheries and fish products, colonial,
 35, 105-106; 1783-1860, 256; since
 1865, 753-754.
 Fisk, Jim, railroad piracy, 491-492.
 Fitch, James, land holding, 60.
 Fitch, John, steamboat builder, 186.
 Fitzhugh, George, on slavery, 328.
 Fitzhugh, William, 57.
 Fitzsimons, Thomas, tariff of 1789,
 223.
 Flagler, Henry M., Standard Oil
 Company, 501, 504, 505.
 Flatboats, 183-185.
 Fletcher, Benjamin, land scandals,
 58.
 Flexible clause, in tariff, 789, 791.
 Flint Hills, cattle growing, 425.
 Flood control, 707-708.

- Florida, Loyalist refuge, 124, 141; objective in War of 1812, 147; boundary settlements, 147, 154-155.
- Flour, production, 103-104, 253, 555, 754.
- Food Administration, 836, 838.
- Food products, preparation, 103-106, 253-255, 554-557, 752-757.
- Forage crops, introduced, 48.
- Forbes, Charles R., malfeasance of, 684.
- Forbes, John, road builder, 170.
- Force bill, 235-236.
- Ford, Henry, automobiles, 527, 528, 712-713; buys steamships, 639; and Muscle Shoals, 694; example of vertical trust, 696; labor policy, 817-818; tractors, 839; automobile code, 884.
- Foreign bonds, sale in U. S., 862.
- Foreign investments of U. S., 652.
- Forests, Indian clearings, 50. See lumber.
- Forsyth, John, on secession, 367.
- Foster, William Z., steel strike of 1919, 816; Communist leader, 819.
- Fox, Charles James, paper blockade, 207.
- France, colonies in America, 8-9, 140-141; loss of colonies to England, 22; West Indian colonies, trade with, 37-38, 202, 206; fur trade, 40-42; American alliance, 124; debts to, 130; trade with, 131; Louisiana Purchase, 150-152; Wars of Revolution and Napoleon, 207-210; seizure of American ships, 212; war scare of 1898, 339; reparations to U. S., 348; and recognition of Confederacy, 393.
- Franklin, Benjamin, in fur trading company, 42; as apprentice, 88; paper manufacture, 113; Albany plan of Union, 127; on manufactures, 242.
- Freedmen's Bureau, 403-405.
- Freedom of seas, issue 1793-1812, 204-210.
- Free-silver movement, 475-487.
- Freight costs, colonial, 97; 1783-1860, 176, 197-198; in West, 429-430; 1865-1900, 461, 524; discriminations, 495-499; and business since 1900, 702, 709, 710.
- Fremont, John C., railroad promoter, 515.
- French and Indian War, 38.
- French Revolution and Napoleonic Wars, effect on American trade, 203-204.
- Frick, Henry C., foe of labor, 540, 614.
- Frontier, in colonial period, 20-22, 92-93; in the Revolution, 117-118, 120, 125, 126; 1783-1853, 140-167; farming on, 295-299.
- Fruits, native to America, 48.
- Frye, L. C., industrial army, 484.
- Fugitive-slave Act, 1850, 372.
- Fulton, Robert, steamboats, 186-187.
- Fur trade, colonial, 16, 40-43; on Western rivers, 185; since 1865, 762-763.
- Furniture, production, 257-258, 565, 764-766.
- Gadsden Purchase, 160.
- Gallatin, Albert, on internal improvements, 174; on land laws, 294; and U. S. Bank, 337; financial policies, 338-340.
- Galloway, Joseph, 123.
- Gama, Vasco da, 5.
- Garay, Blasco de, steamboat builder, 186.
- Gardoqui, Don Diego de, 147.
- Garfield, James A., and *Crédit Mobilier*, 427.
- Garnett, Muscoe R. H., on secession, 367.
- Garrison, William Lloyd, 324.
- Gary, Indiana, rise of, 733.
- Gary, Joseph E., anarchist trials, 611-612.
- Gas, production, 267, 534-535, 728-729; use, 390.
- Gastonia strikes, 415, 418-419, 820.
- Gates, John W., barbed wire, 547.
- Geary, John W., 374.
- General Electric Company, power monopoly, 692; foreign factories, 747.
- General Foods Corporation, circular trust, 696.

- General Motors Company, horizontal trust, 696; competition with Ford, 712.
- Genêt, Edmond Charles, 148.
- Geissenhainer, Frederick, anthracite smelting, 263.
- Geographic influences, on colonial trade, 31; on agriculture, 48-50.
- George, Henry, *Progress and Poverty*, 507; labor candidate, 608.
- Georgia, settlement, 16-17; agricultural experiments in, 56; slaves in, 81; in Revolution, 118, 123.
- Gerard, James W., 698.
- Germans, in the colonies, 18-19; wages in colonies, 89-90; population element, 167.
- Germany, in Samoa, 644.
- Gerry, Elbridge, on Treasury Dept., 331.
- Gibbons *vs.* Ogden, 187.
- Gilbert, Humphrey, 6, 48.
- Gilds, European, 2, 243; in colonies, 88.
- Girard, Stephen, merchant, 203; founds school, 270.
- Glass, Carter, Federal Reserve Act, 775; on guarantee of bank deposits, 873.
- Glass, production, 112, 551, 566, 766.
- Glass-Steagall Act, 873.
- Gleaners, the, 834.
- Godoy, Manuel, Treaty of 1795, 148.
- Gold, motive for colonization, 6-7; rushes, 189, 217, 219, 240, 421; new discoveries, 487, 549; coinage, 477; Black Friday, 492; production, 549, 740.
- Gold reserve, 473, 474, 857, 872.
- Gold standard, established, 485; Act of 1900, 486-487, 774; abandoned in Europe, 857; abandoned in U. S., 872, 874-875.
- Gomez, Maximo, 642.
- Gompers, Samuel, and A. F. L., 612, 619; labor injunctions, 798; International Labor Office, 814.
- Goodyear, Charles, inventor, 267, 563-564.
- Gorman, Arthur P., and tariff, 583-584.
- Gould, Jay, characteristics, 462; railroad piracy, 491-493; public opinion concerning, 607.
- Government regulation of railroads, 198-199, 496-499, 668-678, 877-879. See Granger cases.
- Grain crops, colonial, 67-68. See crops.
- Grain Futures Act, 849.
- Grain Stabilization Corporation, 867-868.
- Granger cases, 467, 497.
- Granger movement, 464-469, 525; revival of, 833.
- Grant, Ulysses S., election as President, 401; scandals of administration, 464; and coinage act of 1873, 475; and Santo Domingo, 641.
- Gray, Robert, to Oregon, 154.
- Great American Desert, 420, 425.
- Great Britain, and American lumber, 108; and American Revolution, 116-126 *passim*; and American trade, 131-132; and Old Northwest, 146; and Florida question, 155; Texas question, 157-158; and northern boundary, 160-162; and neutral rights, 203-211 *passim*; War of 1812, 211-214; industrial revolution, 243-245; and cotton buying, 362; and recognition of Confederacy, 386-387, 395; in Samoa, 644.
- Great Lakes traffic, 191-192, 515, 710-711.
- Great Western*, steam navigation, 219.
- Greeley, Horace, on greenbacks, 471.
- Green, William, A. F. L., 863.
- Greenbacks, 382-383, 385, 388, 392, 469-475; in labor movement, 600.
- Grenville Acts, 119-121.
- Gristmills. See flour.
- Grundy, Joseph, lobbying, 685.
- Guadeloupe, significance in 1763, 22, 119; cotton growing, 66.
- Guam, acquired, 643.
- Guarantee of bank deposits, 873.
- Guaranty Trust Company, magnitude, 690.
- Guthrie, James, Secretary of Treasury, 355-356.

- Hairston, Samuel, slave management, 321.
- Haiti, American control, 649.
- Hakluyt, Richard, 107.
- Hales Bar Dam, 691.
- Hall, C. M., aluminum, 549.
- Hamilton, Alexander, funding of debt, 135, 331-334; on theory of government, 234; opposes preemption, 294; and excise, 334-335; U. S. Bank, 335-337; and coinage, 337; effect of politics, 338.
- Hammond, James H., on slavery, 328; on Panic of 1857, 360.
- Hancock, John, 138.
- Hanna, Marcus A., election of 1896, 485; and Standard Oil Company, 505; street car magnate, 521; and coal strike of 1900, 728, 811.
- Hanseatic League, 2.
- Harbors, Atlantic coast, 31.
- Harding, Warren G., scandals of administration, 683-684, *laissez faire* policy, 686; election, 789; farm bloc, 848.
- Hardware, production, 266, 565-566, 765-766.
- Hargreaves, James, inventor, 244.
- Harlan, John M., on railroad regulation, 499.
- Harlan, Kentucky, labor trouble, 820.
- Harnden, William F., express business, 219.
- Harper, William, on slavery, 328.
- Harriman, Edward H., railroad monopolist, 496, 516, 669.
- Harris, Benjamin, printer, 114.
- Harrison, Benjamin, Oklahoma land race, 441; treasury surplus, 482; election of, 578-579; suppression of strikes, 615.
- Harrison, Carter, and Haymarket affair, 611.
- Harrison, William Henry, at Tippecanoe, 146; election as President, 354.
- Harrod, James, 142.
- Harrows. See soil-working implements.
- Hartford, George H., chain stores, 629.
- Hartford Convention, 212.
- Harvey, Henry A., inventor, 544.
- Harvey, William H., *Coin's Financial School*, 483-484.
- Hasenclever, Peter, 111; steel maker, 264.
- Hats, British act of 1732, 97; manufacture, 103.
- Hawaii, trade with, 131, 215, 219, 647-648; whaling base, 257; secured by U. S., 643; territorial status, 646; sugar tariff, 783.
- Hawkins, John, in slave trade, 43; pirate, 46.
- Hawley, Jesse, on need of canals, 178.
- Hay, 71, 297.
- Hay, John, Oriental policy, 644; and canal diplomacy, 645.
- Hayes, John L., lobbyist, 574, 575, 576.
- Hayes, Rutherford B., and Indian question, 435; and Chinese exclusion, 593; suppression of strikes, 606.
- Haying implements and machines, 301.
- Haymarket Affair, 611-612, 614.
- Hayne, Robert Y., nullification, 230, 234.
- Haynes, Elwood, automobiles, 527.
- Haywood, William D., I. W. W., 809.
- Headrights, 56-58.
- Hearst, William R., jingoism, 642.
- Helmont, Jan Baptista van, 267.
- Helper, Hinton R., 375-376.
- Hemp, production, 260.
- Henderson, Richard, 142-143.
- Henry, Patrick, the Parson's Cause, 32; in Revolution, 121; and ratification of Constitution, 138; frees slaves, 317.
- Henry, Prince, the Navigator, 4-5.
- Henson, W. S., gliders, 529.
- Hepburn Act, 671-673.
- Herrin, Illinois, strike disturbance, 817.
- Hertz, Heinrich, scientist, 724.
- Highs, Thomas, inventor, 244.
- Hill, James J., railroad monopolist, 496.
- Hilliard, Henry W., 366.
- Hinchcliffe, John, labor leader, 600.

- Hines, Walker D., railroad administrator, 675.
 Historians, 271.
 Hitchman Coal case, 811.
 Hoar, George F., agricultural education, 458.
 Hoe, Richard, inventor, 268.
 Hogs, production, 69, 296, 321. See livestock, farm animals.
 Holding companies, first, 493; growth of, 510-512; since 1900, 678, 879; in public utilities, 692; pyramiding, 697-698.
 Holladay, Ben, stage business, 425, 433.
 Holland. See Netherlands.
 Home Loan Act of 1933, 885.
 Home-market argument, in tariff, 227-228, 746.
 Homestead Act, agitation for, 289-290; adoption, 387; abuse of, 422-423; operation of, 437-439; modifications of, 827-828.
 Homestead strike, 537, 582, 614-615.
 Hoover, Herbert C., in Department of Commerce, 688; and radio communication, 691; and Muscle Shoals, 694; curbs Federal Power Commission, 696; tariff promise, 793; Food Commissioner, 836; farm support of, in 1928, 850.
 Hopkins, Esek, and American navy, 124.
 Hopkins, Mark, railroad builder, 427.
 Horses. See draft animals, livestock, farm animals.
 Hours of labor, efforts to shorten, 278, 291; laws, 799-800.
 Household manufactures, 99-100, 114, 248.
 Houses and buildings, 74, 99, 108-109, 113, 564-565, 764.
 Houston, Sam, 157.
 Howard, Oliver O., Indian fighter, 434.
 Howe, Elias, inventor, 265, 389.
 Hudson, Henry, 6.
 Huguenots, in S. Carolina, 16.
 Hull, Jonathan, steamboat designer, 186.
 Humphreys, David, scientific agriculture, 303.
 Huntington, Collis P., railroad builder, 427; shipbuilding, 547.
 Hussey, Obed, inventor, 301.
 Hutchinson, Thomas, 91, 122.
 Huygens, Christian, experiments with internal combustion, 535.
 Hyde, Edward, land scandals, 58.
 Hydro-electric power, 536-537, 731-732.
 Ickes, Harold L., Public Works Administration, 881-882.
 Idaho, settlement, 421.
 Illinois, canals, 182.
 Illumination, colonial means, 113; development, 267. See petroleum, electric power, light, etc.
 Immigration, before 1860, 274; in Civil War, 387; effect of Negro population on, 329; in New South, 417-418; 1865-1900, 588-594; since 1900, 801-805.
 Imperialism, 641-654.
 Imports, Chap. II *passim*; tables of, 36, 204, 214, 218, 656-663; in World War, 788. See commerce.
 Impressment, 206-207.
 Income tax, Civil War, 383; of 1894, 584; since 1913, 787.
 Indented servants, 75-79; apprentices, 88.
 Independent Treasury, proposed by Jackson, 346; in operation, 353-356.
 Indiana, canals, 181-183.
 Indians, fur trade with, 40-43, 118; as slaves, 43, 79-80; as farmers, 50-53; massacre of 1622, 64, 95; land claims, 127; in Old Northwest, 146-147; in Old Southwest, 147-148, 149-150; trails, 170; Western problem, 425, 430-435.
 Indigo, in Navigation Acts, 26; in colonies, 66-67.
 Industrial codes, 882-885.
 Industrial Relations Court, 818.
 Industrial Revolution, in America, 533 *et seq.*
 Industrial Unions, 812, 822.
 Industrial Workers of the World, 808-809, 815.
 Infant-industries, tariff argument, 224-226.

- Inflation and deflation, 94, 382, 395-396, 460-461, 469-487 *passim*, 621, 749, 774; 1933-1934, 874-875.
- Ingersoll, Jared, conspiracy cases, 279.
- Injunctions in labor disputes, 617, 618, 619, 797-798, 814, 816.
- Inland Waterways Commission, 708-709.
- Installment selling, 625-627.
- Insular Cases, 645-646.
- Insull, Samuel, power monopoly, 692; flight to Greece, 861.
- Insurance, marine, 220; companies, Panic of 1857, 240; in Reconstruction period, 402; loans to companies, 870.
- Insurgent Republicans, 787.
- Interchangeable parts, 250, 265, 300.
- Interchurch World Movement, and steel strike of 1919, 816.
- Intercoastal trade. See coastwise trade.
- Interior, Department of, and Indian problem, 431; and agricultural education, 458.
- Interlocking directorates, broken up, 682-683.
- Intermediate credits, 833, 849.
- Internal Improvements, 169-200; Southern, 365.
- Internal-combustion engines, 527, 535-536; gasoline tractors, 829-832.
- International Harvester Company, 446, 545; foreign factories, 747.
- International Labor Office, 813-814.
- Interstate Commerce Act, 1887, 497-499; of 1933, 878-879.
- Interstate Commerce Commission, difficulties of, 498-499; attempts to regulate railroads, 668-678 *passim*, 701, 704; and water transportation, 705, 709; control over telegraphs, 723.
- Inventions, in 18th century, 244-246.
- Investment trusts, 697.
- Irish, population element, 167.
- Iron and steel, colonial manufacture, 95, 110-112; British Act of 1750, 97; effect of tariff, 225, 227, 229, 231-232, 237, 238; production, 1789-1860, 262-264, 389, 398, 416; Bessemer rails, 516-517; 1865-1900, 537-548; tariff on, see various tariff acts; since 1900, 732-739; code for, 884, 886.
- Ironclad oath, employers' coercion, 278, 811, 813.
- Iroquois, fur trade, 41; as farmers, 50.
- Irrigation, 444-445, 825-827.
- Italy, trade with Orient, 2-3.
- J. Murphy wagons, 189.
- Jackson, Andrew, Indian question, 150; Texas question, 157; on internal improvements, 177; on railroad regulation, 199; treaty with Great Britain, 1830, 205; tariff views, 229, 231, 235; nullification controversy, 235; and labor movement, 280; and U. S. Bank, 346-349; and coinage, 351; specie circular, 351-352.
- Jackson, Charles T., anaesthetics, 267.
- Jackson, Claiborn F., on militia call, 378.
- James I, 20; and tobacco growing, 64.
- James II, control of New York, 17; and colonial regulation, 30; and the fur trade, 40.
- Jamestown, settlement, 6, 10-11; climate, 48; beginnings of agriculture, 52-53; tobacco growing, 64; manufactures, 112.
- Janney couplers, 518-519.
- Japanese immigration, 802-803.
- Jay, John, negotiations with Spain, 131, 147; treaty of 1794, 146, 205.
- Jefferson, Thomas, on slave trade, 45; home of, 112; progressive legislation, 126; in founding of new government, 139; Ordinance of 1784, 143; purchase of Louisiana, 150-152; internal improvements, 174; European diplomacy, 1806-1809, 206; Embargo Act, etc., 209-210; tariff views, 224, 226; labor trials, 278-279; plow, 299; frees slaves, 317; and debt policy, 333, 338-339; and U. S. Bank, 336-337; and coinage, 337.
- Jews, expulsion from Spain, 4.
- Jim Crow laws, 405, 419.

- Johnson, Andrew, Homestead advocate, 290; reconstruction policy, 400.
- Jones, John Paul, 124.
- Jones, William, and U. S. Bank, 344-345.
- Journeymen, colonial organization, 90.
- Judah, Theodore D., railroad builder, 426.
- Kansas, early exploration, 6.
- Kansas-Nebraska Act, 200, 373-374.
- Kansas Pacific Railroad, and cattle shipments, 422, 427-428.
- Kay, John, inventor, 244.
- Kay, Robert, inventor, 244.
- Kearney, Dennis, anti-Chinese movement, 593.
- Keelboats, 183-185.
- Kelley, Oliver H., 464-465.
- Kelley, William D., 553, 579.
- Kellogg, Edward, greenbackism, 600.
- Kelly, C. T., industrial army, 484.
- Kelly, William, Bessemer process, 264, 542-543.
- Kemble, William H., traction finances, 521-522.
- Kent, James, on use of injunction, 619.
- Kentucky, settlement of, 142, 146; conditions in coal mines, 820.
- Kenyon, William S., farm bloc, 848.
- Keokuk Dam, 691, 731.
- King, Charles B., automobiles, 527.
- King Philip's War, 40, 53.
- Knapp, Seaman A., Southern Agriculture, 413.
- Knights of Labor, and Farmers' Alliance, 481; in steel industry, 537; career of, 602-608, 613-614.
- Knights of St. Crispin, 592, 600, 601.
- Knights of the White Camellia, 405.
- Knit goods, production, 559, 562, 762.
- Know Nothing Party, and labor, 288; revival of idea, 591, 803-804.
- Knox, Philander C., on antitrust prosecution, 510.
- Kreuger, Ivar, match trust, 768; frauds, 861.
- Ku Klux Klan, Reconstruction period, 405-406; recent revival, 803-804.
- Kuhn, Loeb, and Company, railroad financiers, 516.
- Labor, Indian, 51; and occupations, 73-93; under domestic system, 244; in middle period, 269-291; in Civil War, 391-392; on farms, 299, 305-307, 387-388, 408-410; on plantations, 310-330 *passim*; attitude on abolition, 363, 370; in New South, 417-419; in iron and steel industry, 537-538; 1865-1900, 588-620; on ships, 635, 639; denounces Esch-Cummins Act, 677; and Clayton Act, 683; since 1900, 703, 796-824; displaced by machines, 726; in coal industry, 728; efforts to improve, 1933, 880-883.
- Labor ownership of stock, 817-818.
- Labor parties, 280-284, 288-290, 473-474.
- Labor press, 281.
- La Follette, Robert M., Seamen's Act, 639-640; railroad regulation, 672; and money trust, 689; labor support, 814; Socialist indorsement, 819; Farmer-Labor support, 848.
- Laissez faire*, American model, 489, 686.
- Lancaster Turnpike, 171-172.
- Land Acts, 1785, 293; 1796, 293; 1800, 293; 1820, 294; 1841, 295; 1862-1890, 387, 435-439.
- Land butchery, 55.
- Land grants, to railroads, 199-200, 426-429, 436-437, 489; to schools, 435-436, 457-458; to states, 435.
- Land monopolies, colonial, 20, 58-60.
- Landholding, colonial, 56-63; of states before 1781, 127; surrender of Western claims, 143; state land grants, 292; federal policies, 293-295; in Reconstruction period, 407-408; by Negroes, 410.
- Landis, K. M., fines Standard Oil Company, 670, 673.
- Langley, Samuel P., airplanes, 530.
- Latin America, relations with U. S., 641-642, 650; trade with, 664.

- Lawson, Thomas W., muckraking, 669.
- Lawyers, 91, 270.
- Lead, production, 112, 141, 266, 548, 740; trade in, 185.
- Lease, Mary E., Populism, 480.
- Leather, production, 103; goods, 562-563, 763.
- Legal Tender Act, 120, 121.
- Legge, Alexander, farm board, 867.
- Levant, medieval trade with, 2-3.
- Lewis and Clark Expedition, 153-154.
- Liberal Republicans, and tariff, 576.
- Liberty and Property clause, and labor, 798-800.
- Liberty engine, 719.
- Liberty Loans, 777-778.
- Lilienthal, Otto, gliders, 529.
- Liliuokalani, 643.
- Lincoln, Abraham, tariff issue in campaign of 1860, 241; on race relations, 325; on self-determination of states, 371; on Dred Scott decision, 375; opposition of South to, 376; and secession, 377-378; delay in Civil War, 379-380; Reconstruction policy, 400.
- Lindbergh, Charles A., trans-Atlantic flight, 720.
- Linen, production, 100, 102, 260, 560.
- Lingg, Louis, Haymarket trial, 612.
- Linoleum, production, 760.
- Linotype, invention, 571.
- Livestock, colonial, 69-71; driven to market, 171, 254; production of, 295-296; in South, 313, 402; since 1860, 448, 452-453.
- Living conditions, of laborers, 274-275.
- Livingston, Robert R., Louisiana Purchase, 150; steamboats, 187; agriculture, 303.
- Lloyd, Henry D., 507.
- Lobbying, 634-635, 685, 784, 790.
- Loco Focoes, and labor, 288.
- Locomotives, development, 191-193; production, 265, 545, 736; improvement of, 517; electric, 700.
- Logan, James, agricultural experiments, 56.
- London Company, 10, 95.
- Long-and-short-haul problem, 494-495, 674.
- Long drive, 423.
- Long Island, woolens production, 101.
- Louisiana, purchase of, 150-153; boundary disputes, 154-155.
- Lowndes, William, the tariff, 226.
- Loyalists, 118, 123-124, 126.
- Lucas, Eliza, 66.
- Lumber, production, 95, 107-109; 257, 415-416, 551-552, 743-746.
- Luther, Seth, social theories, 283.
- MacAdam, John L., 172.
- McAdoo, William G., administration of railroads, 675-676; Federal Reserve Act, 775; tax proposal, 777.
- McClellan, George B., railroad president, 493.
- McCormick, Cyrus, 301, 446.
- McCulloch, Hugh, on Reconstruction frauds, 403.
- McCumber, Porter J., wheat grading, 847.
- McDuffie, George, and U. S. Bank, 346; on secession, 366-367.
- McFadden Banking Act, 777, 833.
- McGuire, Peter J., and A. F. L., 612.
- MacKay, Gordon, shoemaking, 389, 563.
- McKinley, William, and tariff, 479, 485-486, 579-583, 585-586, 780; elected President, 485; and Spanish War, 642-643.
- McLean, John, Dred Scott case, 374.
- McMurray, Louis, inventor, 557.
- McNary-Haugen bills, 849-850.
- McParlan, James, and Molly Maguires, 602.
- Machinery, production, 114, 242-248, 265-266, 544-546, 558, 560, 561, 563, 736-737, 759, 766, 768; for canal building, 178; for offices, 567-568; for printing, 570; effect on labor, 588; exports of, 653-654.
- Macon's bill no. 2, 210, 211.
- Macune, C. W., farm organizer, 478.
- Madison, James, Florida question, 154; internal improvements, 174, 176; tariff of 1789, 223; tariff views, 224, 226; debt views, 332.

- Magnetos, 713.
 Magoffin, Beriah, on militia call, 378.
 Mail-order houses, 469, 628-629.
 Maine, settlement, 13; manufactures, 108.
 Mallary, Rollin C., tariff bill, 230.
 Mann-Elkins Act, 673-674; and radio communication, 691.
 Manning, William, inventor, 301.
 Manufactures, in colonies, 24, 75, 93-115; used in fur trade, 40-41; under Walker Act, 239; 1783-1860, 242-268; Southern, 362, 363-364, 398; in Civil War, 388-389, 398-400; in New South, 413-417; monopolies in, 499-512; 1865-1900, 488, 533-571; since 1900, 726-771.
 Manumission of slaves, 318-319.
 Marconi, Guglielmo, wireless telegraphy, 724.
 Markets, business, 622-623; world, loss of, 843-844.
 Marshall, John, on U. S. Bank question, 345-346; *obiter dicta*, 375.
 Marshall Field and Company, cotton mills, 414.
 Martin, Pierre and Emil, steel making, 543.
 Martineau, Harriet, observer of slavery, 322.
 Marx, Karl, 609.
 Maryland, settlement, 14; beginnings of agriculture, 53; quitrents, 63; tobacco, 63-65; wheat, 67; trade regulations, 98; manufactures, 110, 111, 115; and Articles of Confederation, 128; canal building, 181.
 Mason, John, sawmilling, 108.
 Mason and Dixon line, surveyed, 18.
 Massachusetts, settlement, 11-13; land speculation, 60; slave code, 84; wages, 89; trade regulations, 97-99; fisheries, 105-106; manufactures, 107, 108, 109, 110, 112; printing, 113-114.
 Massachusetts Charter Act, 123.
 Matches, production, 767-768.
 Mather, Cotton, slave owner, 81-82.
 Maxim, Hiram, airplanes, 529.
 Maxwell, James Clerk, scientist, 724.
 Maysville Road veto, 177.
 Meat packing, 105, 254-255, 554-555, 752-753.
 Mellon, Andrew, aluminum monopoly, 686; power monopoly, 692; tax policy, 779; tax evasion, 859.
 Memminger, Charles G., Confederate finances, 394.
 Mercantilism, in colonial period, 24-29.
 Merchant Fleet Corporation, 640.
 Merchant marine, 201, 203, 204, 208, 215-216, 219-220, 390; since 1860, 632-636, 638-641.
 Merchants, medieval, 1-3; social standing, 85; in the Revolution, 120-126; and War of 1812, 208; domestic system, 243-244; Southern, 359, 360-362, 402, 410-411. See commerce.
 Mexico, American relations, 156-160, 650; petroleum diplomacy, 653; immigrants from, 805.
 Michigan, bank collapse, 872.
 Middle colonies, colonial trade of, 33-34, 35; landholding in, 58-59; agriculture, 67-71; slavery, 82; wages, 89.
 Middlemen, and farmers, 462.
 Milan Decree, 208, 209, 211.
 Miles, Nelson A., Indian fighter, 434; and Chicago strike, 618.
 Military government, in Massachusetts, 123; in South, 401.
 Milk, production, 455, 557.
 Miller, Thomas W., conspiracy, 684.
 Millinery, 561.
 Millionaires, 390.
 Mills, Roger Q., and tariff, 578-579.
 Minimum-wage laws, 799.
 Mining, in colonies, 112; 1789-1860, 248, 266; during Civil War, 388; in New South, 416; in far West, 421; 1865-1900, 534, 548-549; since 1900, 726-729, 740, 820-821.
 Mississippi River, closure to American trade, 131; steamboat trade, 187-188, 190-191; government shipping on, 708.
 Mississippi Valley, fur trade, 42; settlement, 140-153.
 Missouri Compromise, 370-371.
 Missouri River, improvement of, 707.

- Mitchell, Charles E., and panic of 1929, 854; tax evasion, 859.
- Mitchell, John, and labor injunction, 798; United Mine Workers, 811.
- Molasses, in Navigation Acts, 26, 28-29; imports, 37; in slave trade, 44.
- Molineux, William, 115.
- Molly Maguires, 602.
- Mondell Act, 827.
- Money, problem of late Middle Ages, 3-4; in mercantile theory, 25; problem of colonies, 31-32; in Revolutionary period, 117, 120; in Confederation period, 132-133; 1789-1860, 337-338, 343-353 *passim*, 356-357; in Civil War, 382-383, 385-386, 394-397; 1865-1900, 460-487 *passim*; since 1900, 772-780 *passim*; provisions of 1933, 874-875. See finances, banking, greenbacks, inflation, national bank notes.
- Money trust, 689-690.
- Monongahela River, settlements along, 143.
- Monopolies, colonial, 87, 98-99; fear of rise, 251; and Reconstruction policies, 401; inducements to, 488-490; in railroad business, 491-499, 668-678; industrial and public utility, 499-512, 678-698, 734-735.
- Monroe, James, Louisiana Purchase, 151; Florida dispute, 155; Oregon question, 161; internal improvements, 174, 176.
- Monroe Doctrine, 160, 641-642.
- Montgolfier brothers, balloons, 529.
- Montgomery Ward and Company, 469.
- Mooney, Thomas, case of, 819.
- Moore, Ely, labor leader, 285.
- Moors, expulsion from Spain, 4.
- Moratorium, on European debts, 858.
- Morgan, Arthur E., Tennessee Valley Authority, 881.
- Morgan, J. P., and bond sales, 483; railroad monopolist, 496; banking company investigated, 689; power of, 690; power monopoly, 692.
- Morgan, J. P., Jr., tax evasion, 859; preferred list, 863.
- Mormons, 189, 420-421, 440-441, 444.
- Morrill, Justin S., tariff of 1861, 240-241; industrial education, 282, 457; and agriculture, 457-458; tariff opinions, 572, 573.
- Morris, Gouverneur, 117, 178; coinage plan, 337.
- Morris, Nelson, meat packer, 554.
- Morris, Robert, Confederation finances, 130, 331; Bank of North America, 336.
- Morrison, William R., and tariff, 577.
- Morse, Samuel F. B., inventor, 266.
- Morton, William T. G., anaesthetics, 267.
- Moses, F. J., bribery, 406.
- Most, Johann, anarchist, 610.
- Most-favored-nation treaties, 866.
- Moving pictures, 569-570, 769-770; monopoly, 690.
- Mowing implements and machines. See haying implements and machines.
- Muckrakers, 669.
- Mules. See draft animals, farm animals.
- Multigraph, 768.
- Municipal ownership, of a railroad, 514.
- Munitions, in Civil War, 380, 398; in World War, 747, 748.
- Munn *vs.* Illinois, 467.
- Murdock, William, locomotive designer, 192; steam engines, 247.
- Muscle Shoals, 692, 694-695, 881.
- Musical instruments, 568-569, 768-769.
- Musicians, 272.
- Narkus, Siegfried, automobiles, 527.
- Nashville convention, 367.
- National Association of Wool Manufacturers, 389.
- National bank notes, 385-386; problems, 1865-1900, 460-489; problems since 1900, 772-780.
- National Board of Farm Organizations, 834.
- National Child Labor Commission 806.
- National City Bank, 690.
- National income, 858-859.

- National Labor Union, 599-600.
National Recovery Act, 881-883.
National Trades' Union, 285.
"Nationalists," 342.
Native Americanism, 288.
Naval stores, 16; in navigation acts, 27; trade in, 39; production, 95, 107, 108, 743-744.
Navigation Acts, 26-29, 39, 106.
Navy, plans of 1816, 342; steel construction, 543-544; expenses of, 772-773.
Neebe, Oscar W., Haymarket trial, 612.
Negroes, population element, 167, 311, 379; free, in Old South, 318, 324-328; as slave owners, 326-327; in Reconstruction period, 403-406; as croppers, 408-410; as industrial laborers, 417-419; in labor movement, 599. See slaves.
Netherlands, colonies, 9; trade rival of England, 26, 27, 97; in West Indian trade, 37; in coastwise trade, 39; in fur trade, 40; in slave trade, 43, 80; in American Revolution, 124; debt to, 130; trade with, 131; commercial treaty, 202.
Neutrals, controversy over rights of, 204-210.
Nevada, settlement, 421.
New England, settlement of, 12-14; colonial trade of, 33-36; slave trade, 44, 81; landholding, 59-61, 92; quitrents, 62; agriculture, 67-71; labor, 77 *et seq.*; slavery, 82 *et seq.*; manufactures, 98, 105, 107, 109-110.
New England Confederation, 82, 176.
New England Protective Union, 287-288.
New Hampshire, settlement, 13-14; manufactures, 108.
New Harmony, 281.
New Jersey, colonization, 17; quitrents, 62; manufactures, 110-111; in Confederation, 132; corporation law, 679.
New Mexico, population, 420.
New Netherland. See New York.
New Orleans, fur trade, 42; and early Western commerce, 147-148; right of deposit, 150-152; river trade, 182, 184, 188, 190; exports of cotton, 216, 217.
New Ulm, massacre, 432-433.
New York, Dutch beginnings, 9; English colonization, 17; fur trade, 40-42; patroons, 9, 57; land scandals, 58-59; quitrents, 62; agriculture, 67; slavery, 82, 84; manufactures, 102, 113; printing, 113; in Revolution, 121; surrenders Western lands, 128; Erie Canal, 178-180.
New York City, population, 73; Loyalists, 123.
Newbold, Charles, inventor, 299.
Newfoundland, fishing banks, 105.
Newspapers, colonial, 114; labor, 281, 598, 610; yellow press, 571; anarchist, 610, 611; advertising, 624; recent expansion, 771.
Nicaragua, and canal project, 645; American intervention, 649-650.
Niepce, Joseph N., photography, 569.
Nonferrous metals, production, 112, 266, 548-549, 739-740.
Nonimportation, in Revolution, 122, 123; Act of 1806, 206, 209.
Nonintercourse Act, of 1809, 210; of 1811, 211.
Nonpartisan League, 847-848.
Norris, George W., denounces Trade Commission, 686; and Muscle Shoals, 694.
North, in the Revolution, 117; in Civil War, 379-392.
North, Frederick, and American Revolution, 122.
North Carolina, landholding, 58; tobacco growing, 65; manufactures, 108, 109; industrialization, 414-415.
Northern Pacific railroad, building of, 428.
Northern Securities Company, 511, 668, 678, 681.
Nullification controversy, 234-235.
Occupations and Professions, 270-272.
Oglesby, Richard J., and Chicago street car franchise, 522.
Oglethorpe, James, 16; agricultural experiments, 56.

- Ohio, canals, 181-183.
 Ohio Company, 144-145.
 "Ohio idea," 472.
 Ohio River, settlements, 143; boat trade, 187-188, 190-191; canalized, 707.
 Oklahoma, Indian reservations, 432; land races, 441.
 Old Northwest, in Revolution, 125; in Confederation period, 128, 129; settlement of, 143-147; canals, 181-183; on slavery extension, 370.
 Old Southwest, problems of settlement, 147-153.
 Olds, Ransom E., automobiles, 528.
 Oleomargarine, 753.
 Oliver, James, plow maker, 446.
 Olney, Richard, and Chicago strike, 617.
 Opium War, 219.
 Orders in council, 1783, 131, 201, 202; 1806 and 1807, 207, 208, 211.
 Ordinances of 1784-1787, 143-145, 293.
 Oregon, early claims to, 153-154; division of, 160-162.
 Oriental trade, before 1500, 2-3, 5; of U. S., 131, 215, 219, 644, 664; favored by tariff of 1789, 223.
 Ormsbee, Elijah, steamboat builder, 186.
 Otis, James, in Revolution, 121.
 Overland Stage, 189.
 Overproduction, in South, 359, 360-361; grain, 462; agricultural, 843-844.
 Owen, Robert, 281.
 Owen, Robert Dale, social theories, 281, 282, 285.
 Owen, Robert L., Federal Reserve Act, 775.
 Oxen. See draft animals.
- Pacific Railroads, 426-430.
 Packers and Stockyards Act, 1921, 752, 849.
 Packing houses. See meat packing.
 Palmer, A. Mitchell, labor injunction, 816; and Soviet ark, 818.
 Panama, route to Pacific Coast, 222; trade by, 636.
 Panama Canal, 637; diplomacy, 644-645; Toll Act of 1912, 635; control of Canal Zone, 649; effect on freight rates, 709.
 Panics, 1785, 132, 202; 1819, 216, 345; Biddles, 347-348; 1837, 217, 287, 290-291, 295, 352-353; 1857, 240, 291, 356, 360; 1873, 463, 465, 523, 553, 558, 574, 601; 1893, 481-482, 483-484, 515, 554, 615; 1907, 673, 700, 746, 774, 781, 812; 1929, 818, 851-886 *passim*.
 Paper, production, 113, 570, 770; pulp, 743.
 Parcel-post system, 721.
 Paris, Treaty of, 1763, 22.
 Parsons, Albert R., anarchist, 611-612.
 Passenger fares, 198; and business, 702.
 Patent laws, 246.
 Patrons of Husbandry. See Granger movement.
 Patroons, 9, 57, 61.
 Paul, Lewis, inventor, 244.
 Payne, Henry B., Standard Oil influence, 504.
 Peddlers, in colonial trade, 38; former planters, 403.
 Peik *vs.* Chicago and Northwestern Railroad, 467.
 Pelham, Thomas, colonial policy, 28.
 Pendleton, George H., "Ohio idea," 472.
 Penn, William, 17-18, 19.
 Pennock, Moses, inventor, 300.
 Pennsylvania, colonization, 17-18; Germans and Scotch-Irish in, 19-20; colonial paper money, 32; fur trade, 42; slave trade, 45; landholdings, 59; quitrents, 63; agriculture, 67-71; roads, 96; manufactures, 101-102, 107, 108, 109, 113; in Revolution, 118; canals, 180-181.
 Pennsylvania Company, holding company, 493, 511.
 Pepper, George W., on labor injunction, 798.
 Perry, Matthew C., 219.
 Personnel management, 817.
 Peru, potatoes from, 48.
 Petroleum, production, 257, 267, 388, 534-535, 730; trust control, 501-507; in American diplomacy, 653.

- Phantom circuit, 532.
 Philadelphia, settled, 18; population, 73.
 Philippines, trade with, 215, 647-648; secured by U. S., 643; Jones Act, 646; cost of, 773; sugar tariff, 783.
 Phillips, David G., muckraking, 669.
 Phillips, Wendell, labor movement, 600.
 Phonographs, 569, 769.
 Photoelectric cell, 750.
 Photography, development, 267, 569-570.
 Physicians and surgeons, 91-92, 270.
 Pianos, production, 568-569, 768-769.
 Piedmont region, described, 49.
 Pierce, Franklin, elected President, 373.
 Pike, Zebulon M., expeditions, 154.
 Pillsbury, Charles A., flour milling, 555.
 Pinchot, Gifford, investigates power monopoly, 692, controversy with Ballinger, 693.
 Pinckney Thomas, Treaty of 1795, 148.
 Pinkerton Detective Agency, 602, 605, 608, 615-616.
 Pipe lines, petroleum, 506; natural gas, 729-730.
 Piracy, 45-46, 132.
 Pitt, Hiram and John, inventors, 301.
 Pittman Act, 778.
 Pittsburgh, in steel industry, 539, 540, 733.
 Plank roads, 172.
 Plantations, size of, in colonies, 57-58; staple crops, 63-67; and slave labor, 79-84, 310-330.
 Platt, Orville H., and Sherman Antitrust Act, 508; Platt Amendment, 648-650.
 Plows, colonial, 54; for prairie land, 297; development, 299-300, 446, 447.
 Plymouth, settlement, 11-12; beginnings of agriculture, 53, 67; fisheries, 105.
 Polk, James K., Texas question, 158; Mexican War, 158-160; Oregon question, 162; tariff of 1846, 238; and Independent Treasury, 355.
Polly decision, 206.
 Pomerene, Atlee, Reconstruction Finance Corporation, 870.
 Pony Express, 189.
 Pools, railroad, 495, 498, 677; industrial, 500-501.
 Pope, Albert A., bicycles, 526; good roads movement, 715.
 Popular sovereignty, 372-375.
 Population, Europe in 16th century, 7; England, 17th century, 10; colonies, 9, 15, 17, 18, 19-20, 22, 73-74; 1783-1860, 162-167, 298-299, 311-312; 1860-1900, 439-443.
 Populist movement, 480-481.
 Pork, production, 105.
 Pork-barrel, for river improvements, etc., 524-525, 574; bill of 1932, 865.
 Portugal, explorations of, 4-5.
 Post, Wiley, round-the-world flight, 720.
 Postal Express Federation, 834.
 Postal Savings Banks, 720, 775.
 Post Office, business of, 530, 721-723; and air mail, 720.
 Potash, production, 108-109.
 Potatoes, origin of, 48; growing of, 68.
 Pottery, production, 112, 566.
 Powderly, Terence V., labor leader, 601-602; in Knights of Labor, 604, 608.
 Power, 246-248, 534-538, 552-553; monopolized, 691-696; sources of, 726-731.
 Prairie farming, 296-298.
 Preemption of land, 294-295, 437.
 Prepared foods, production, 556-557.
 Price fixing, 71-72; middle period, 251; after 1865, 547; in World War, 683.
 Price wars, 499-500.
 Prices, in colonial period, 103; in Revolution, 130; effect of blockade, 22; of farm products, 308-309, 310-311, 314, 487; of slaves, 329; in Confederacy, 396-397; in New South, 412; 1860-1900, 463, 466, 549, 570; effect of McKinley tariff, 582-583; since 1900, 734, 867.

- Primogeniture, 61-62, 126.
 Principio Company, 111.
 Printing, 91, 113-114, 268, 570-571, 770-771.
 Privateering, 45-46, 124-125, 212, 213, 391.
 Proclamation of 1763, effect on land monopolies, 61; and the Revolution, 120.
 Professions, in colonies, 90-92; in middle period, 270-272.
 Profiteering, in Civil War, 380, 404; by monopolies, 489; in World War, 748.
 Profits, excess, 251; from early factories, 252-253.
 Prohibition, 555-556, 755-756; end of, 876-877.
 Public service commissions, 679-680; leniency to power companies, 692.
 Public utilities, monopoly, 691-696.
 Public Works Administration, 881-882.
 Puddling furnaces, 263.
 Puerto Rico, and American trade, 643, 647-648; territorial status, 646.
 Pullman, George M., sleeping cars, 517; Chicago strike, 616.
 Pupin, Michael I., inventor, 532.
 Pure Food and Drugs Act, 1906, 457, 625, 752.
 Puritans, 10-13, 19.

 Quakers, landholdings, 59.
 Quarantines, for agriculture, 456-457.
 Quartering Act, of 1765, 119-121; of 1774, 123.
 Quay, Matthew S., political ethics of, 583.
 Quebec Act, 122-123.
 Quitrents, 19, 20, 57-58, 61-63, 126.
 Quota restrictions, immigration, 803-804.

 Race relations, 323.
 Radio, monopolized, 690; development, 724-725, 769.
 Radio Corporation of America, 725.
 Railroads, in connection with Panama Canal, 180; to 1860, 191-200; effect of tariff on rails, 239; in slave trade, 320; Southern, 365-367; in Kansas-Nebraska contest, 373-374; in Civil War, 390-391, 399; in Reconstruction period, 407, 417; far Western, 425-430; practices, 461-462; regulation, 466-467, 496-499; monopolies, 490-496; 1865-1900, 513-520; and coastwise trade, 636; since 1900, 699-704, 712; bus business, 717; coordination, 1933, 877-878.
 Rails, early designs, 193; tariff on, 239; production, 263, 736; improvement of, 516-517.
 Railway Brotherhoods, 615-616, 810, 819.
 Railway Labor Board, and strike of 1922, 817.
 Raleigh, Walter, 6.
 Randall, Samuel J., and tariff, 577.
 Randolph, Edmund, 139; frees slaves, 317.
 Randolph, Edward, 109.
 Randolph, John, 209; tariff views, 226, 228, 230; frees slaves, 325; and U. S. Bank, 344.
 Rate wars, on railroads, 198, 461, 494, 515-516.
 Read, A. C., trans-Atlantic flight, 720.
 Reagan, John H., railroad regulation, 497.
 Reaping implements and machine, 54, 300-302, 445-446, 468, 830.
 Rebates, by railroads, 494, 670-671; to Standard Oil Company, 502-507 *passim*.
 Recapture clause, Esch-Cummins Act, 677, 878.
 Reciprocity, in 1890, 579-580; in 1897, 586; proposal of 1934, 866.
 Reclamation, Act of 1902, 438; work of, 444-445, 825-827.
 Reconstruction, Southern, 400-408.
 Reconstruction Finance Corporation, 869-870.
 Reed, Thomas B., czar of House, 585.
 Refrigeration, development, 554.
 Relief measures, after 1929, 865 *et seq*.
 Reno, Milo, farmers' strikes, 868.
 Resumption Act, 1875, 470-473, 474.

- Retail trade, 631.
Revere, Paul, 75.
Revolution, American, 116-122.
Rhode Island, settlement, 14; colonial paper money, 32; slave trade, 44; slave code, 84; landholding, 60; agriculture, 68; manufactures, 105, 109; in confederation period, 131.
Rice, in Navigation Acts, 27; in colonies, 66-67; in New South, 412.
Richardson, William A., on greenbacks, 473.
River improvements, 706-707.
River traffic, 183-188, 190-191; endangered by railroads, 197; Southern, 365-366; 1865-1900, 514-515, 522-525; since 1900, 705-710.
Roads and trails, 95, 169-177, 425, 525-527, 715-716.
Robertson, James, 142-143, 148.
Robinson, Andrew, invents schooner, 106.
Robots, 750.
Rochdale plan, 468.
Rockefeller, John D., railroad monopolist, 496; and Standard Oil Company, 501-507.
Rodney, Caesar A., conspiracy cases, 279.
Rogers, Henry H., Standard Oil, 502, 504.
Rolfe, John, and tobacco growing, 64.
Rolling mills, 263-264, 542, 544-545, 736-738.
Roosevelt, Franklin D., and Caribbean policy, 649; and Tennessee Valley project, 695; and conservation, 744, 746; election, 871; policies, 871-886.
Roosevelt, Nicholas J., steamboat builder, 187.
Roosevelt, Theodore, canal diplomacy, 645; Venezuela incident, 649; and consular service, 655; and muckrakers, 669; and railroad regulation, 671-672; trust dissolution, 680-681; and conservation, 744; and tariff, 781, 785; Japanese Exclusion Act, 803; and anthracite coal strike, 811.
Roper, S. H., automobiles, 527.
Rotation of crops, 55.
Royal African Company, 43, 44, 80.
Royal William, the, steamship, 219.
Rubber goods, vulcanizing process, 267; production, 563-564, 763.
Ruffin, Edmund, on slavery, 328; on secession, 367.
Ruggles, Timothy, land grab, 60.
Rule of 1756, 38, 205-206.
Rum, in Navigation Acts, 28; in slave trade, 44; production, 105, 253.
Rumsey, James, steamboat builder, 186.
Rural Credit League, 834.
Rural mail routes, 722.
Rural Post Roads Act, 715.
Russell, John, Oregon question, 162.
Russia, and recognition of Confederacy, 393.
Ryan, Thomas F., traction finances, 521-522.
Sacco-Vanzetti case, 818-819.
Sackett, Frederick M., exposes power rates, 692.
Safety devices, on railroads, 517-519.
Sailors, in colonies, 86.
St. Augustine, Florida, 6-7.
St. Lawrence waterway, 695.
St. Louis and O'Fallon case, 677, 878.
Saltpeter, production, 112.
Samoa, secured by U. S., 643-644.
Sand Creek massacre, 433, 434.
Santa Anna, Antonio López, 156 *et seq.*
Santa Fé, early importance, 7; trade with, 188-189.
Santa Fé Railroad, building of, 428.
Santo Domingo, American control, 641, 649.
Savage, Edward, 91.
Savannah, the, steamship, 219.
Sawmills, 107-108, 257, 743-744; improvements in, 552.
Schools, 92; labor attitude, 282-283.
Schwab, Charles M., steel industry, 540; shipbuilding, 547.
Scientific apparatus, production, 766.
Scientific management, 750.
Scientists, 270-271.
Scioto Company, 145.

- Scotch-Irish, in colonies, 19-20, 101;
use of potatoes, 68.
- Scott, Leon, inventor, 569.
- Scribner, Charles E., inventor, 531.
- Scrip, for wages, 418.
- Secession, threatened in 1832, 236;
movement, 366-368.
- Securities Act of 1933, 873-874.
- Seed planters, 47, 54-55, 300, 301,
447.
- Selden, George B., automobiles, 528.
- Separatists, 11-12.
- Sevier, John, 142-143, 148.
- Seward, William H., expansion atti-
tude, 371, 641.
- Sewing machines, 265-266.
- Seymour, Horatio, campaign of 1868,
401, 472.
- Share-tenancy system, New South,
409-410.
- Shaw, Leslie M., financial policies,
773-774.
- Shays's rebellion, 132-133.
- Shearer, William B., lobbyist, 685.
- Sheep, efforts to improve, 47, 54-55,
303-304; production, 70, 452. See
farm animals.
- Shenandoah Valley, settlement, 22.
- Sheridan, Philip H., vandalism, 398.
- Sherman, John, on resumption of
specie payments, 471, 472, 474;
Silver Purchase Act, 479-480; re-
placed by Hanna, 485; Antitrust
Act, 508-510.
- Sherman, William T., vandalism of
army, 398.
- Sherman Silver Purchase Act, 479-
480, 486; repeal of, 482.
- Shinplasters, 382-383, 774.
- Shipbuilding, in mercantile theory,
25, 26-27; in colonies, 95, 109-110;
on Ohio River, 185-186; 1783-
1860, 258-259; 1860-1900, 546-
547; tonnage since 1860, 634, 638-
640, 738-739.
- Shipping Board, 638-639.
- Shipstead, Henrik, 848.
- Shoddy, production, 260, 388-389,
760.
- Shoemakers, colonial, 88; wages, 274.
- Shoes, manufacture, 103, 389, 562-
563, 763.
- Sholes, C. L., inventor, 568.
- Shop committees, 817.
- Shreve, Henry, steamboat inventor,
187.
- Sibley, Henry H., Indian wars, 433.
- Sibley, Hiram, telegraphic lines, 530.
- Siemens, Charles W. and Ernest W.,
steel making, 543.
- Silk, production, 71, 262.
- Silk goods, production, 560, 760-761.
- Silver, production, 388, 476, 549, 740;
ratio to gold, 486; Pittman Act,
778-779; coinage provision of 1933,
875. See free silver.
- Silversmiths, 91.
- Simonds, George, inventor, 544.
- Simpson, Jerry, 480.
- Sinclair, Harry F., and Teapot Dome
scandal, 684.
- Sinclair, Upton, muckraking, 669,
752.
- Sirius*, steam navigation, 219
- Sitting Bull, 436.
- Skidmore, Thomas, agrarianism, 281,
283, 285, 289.
- Skyscrapers, 565, 738.
- Slater, Samuel, cotton mills, 246;
capitalist, 252.
- Slaves, expense to colonial South, 35;
on tobacco plantations, 57; devel-
opment and growth, 79-85, 310-
330; in Texas, 156; management,
320-321; treatment, 321-323; con-
spiracies, 324; economics of sys-
tem, 328-330; in factories, 363;
contest over slavery in territories,
368-375; natural limits of expan-
sion, 373; trade in, 4, 37, 43-45,
319-320, 369-370.
- Sleeping cars, for slaves, 320; in
Civil War, 390; Pullman cars, 517,
702; busses, 717.
- Slitting mills, 111, 548.
- Slums, conditions in, 595.
- Smith, Alfred E., and Muscle Shoals,
695; and European debts, 857.
- Smith, John, as colonial leader, 52-
53; explorations, 53, 105, 107.
- Smith-Lever Act, 1914, 458.
- Smuggling, colonial, 46.
- Social discrimination, 77-79, 85-86,
126.

- Socialism, beginnings, 288, 290-291, 604; 1865-1900, 609-610, 612, 619-620; since 1900, 808-809, 818-819, 871.
- Soil working implements, development, 54, 300, 446-447, 831.
- Sorge, F. A., Socialism, 609.
- South, the, colonial trade of, 32-33; trade balances, 34-35; landholding in, 56-58; agriculture, 63-67, 69-70; slavery and labor, 75-84; wages, 89; manufactures, 102; in the Revolution, 117, 118, 121, 126; canals, 182; and secession movement, 358-378; in Civil War, 379, 392-399; rebuilding of, 400-419, 494, 516; iron manufacture, 538-539, 732.
- South Carolina, colonial crops, 66-67; manufactures, 102, 109, 113, 115; in Revolution, 118; Confederation taxes, 130; nullification, 234-235. See also Carolina.
- South Improvement Company, 501-502.
- Southern Europe, in colonial trade, 36-37.
- Southern Pacific Company, early holding company, 511.
- Southern Pacific railroad, building of, 428.
- Southern Rights Associations, 363.
- Spain, explorations of, 5-6; colonies, 8, 140-142; slavery, 79; in American Revolution, 124; debt to, 130; trade with, 131, 202, 206; boundary settlements with, 147-148; Louisiana Purchase, 150-152; Florida Purchase, 154-155; war of 1898, 642-643, 773.
- Spanish Succession, War of, 43-44.
- Spanish West Indies, trade with, 38.
- Specialization belts in farming, 447-452.
- Specie circular, 351-352.
- Speculators, in colonial land, 58-61; in Confederation period, 133; makers of Constitution, 135; in Ohio Valley, 144-147; and debt funding, 332-333; before 1837, 349-351; in cotton, 359; in Civil War, 381; in New South, 407, 409; before 1929, 850, 853-854.
- Spies, August V. T., anarchist, 611-612.
- Spotswood, Alexander, in fur trade, 42; manufacturer, 110-111; proposes a canal, 178.
- Sprague, Frank J., street cars, 521.
- Squatters, colonial, 60-61; before 1860, 294-295; in Kansas, 374.
- Stamp Act, 117, 119-121; Congress, 127.
- Standard Oil Company, 489; rebates, 494; career to 1900, 501-507; fine for rebating, 670, 673; dissolved and reorganized, 681; vertical trust, 696-697.
- Stanfield, Robert N., protectionist, 790.
- Stanford, Leland, railroad builder, 427.
- Stanton, Edward, and river traffic, 172.
- Stanton, Elizabeth C., suffrage movement, 599.
- Staple Act of 1663, 27.
- State and agriculture, 304-305, 455-458.
- States, admission to union, 147, 149, 150, 162, 439-442; assumption of debts of, 333.
- Steamboats, 186-188, 190-191, 425, 522-524, 706 *et seq.*, 709.
- Steam engines, 247-248, 316.
- Steamships, 219-220; parts, 265.
- Steffens, Lincoln, muckraking, 669.
- Stephens, Uriah S., labor leader, 602-603.
- Stephenson, George, locomotive inventor, 192, 518.
- Stevens, John, steamboat builder, 186; locomotive builder, 192.
- Stevens, Thaddeus, theory of reconstruction, 400; on greenbacks, 472; and tariff, 572.
- Steward, Ira, labor leader, 599, 600.
- Stewart, Alexander T., merchant, 390; department store, 627.
- Stiegel, Henrick Wilhelm von, 110, 113.
- Stock-raising Homestead Act, 827-828.
- Stock watering and manipulation, 491-493.

- Stoves, production, 565-566.
 Stowe, Harriet Beecher, 375.
 Strasser, Adolph, Socialism, 609; and A. F. L., 612.
 Street railways, 390, 520-522, 704-705; use of busses, 717.
 Strikes and lockouts, 275-276, 286-287, 291, 537, 605-608, 614-619, 810, 816-817; of farmers, 868. See Homestead Strike, Chicago Railroad strike, etc.
 Stringfellow, John, gliders, 529.
 Structural iron and steel, 263.
 Stuart, Gilbert, 91.
 Studebaker brothers, 258, 526.
 Subsidies, to ship builders, 634-635, 635-636; to air lines, 719-720; to railroads, 722.
 Subways, 705.
 Sugar, in West Indies, 15, 28; in Louisiana, 141, 315-317; steam power in making, 247; refining of, 255-256, 556, 756; in New South, 412; tariff on, see various tariff acts.
 Sugar Act, 119, 120.
 Sugar Trust, 505, 507, 509-510; tariff for, 583; prosecution of, 681.
 Sumner, Charles, theory of reconstruction, 400; on greenbacks, 471; and immigration, 590.
 Sweatshops, 561, 562, 594-596, 762, 805, 864.
 Sweden, treaty of commerce, 202.
 Swedes, in Delaware, 9.
 Swift, Gustavus F., meat packer, 554-555.
 Sylvis, William H., labor leader, 598, 600, 609.
 Symmes, John Cleves, 145, 294.
 Syndicalism, in 1880's, 610.
 Taft, William H., and railroad regulation, 673; and trust prosecution, 681-682; opinion on anti-trust cases, 688; tariff promises, 782, 784; tariff board, 784; campaign of 1912, 784-785; reciprocity, 785; and immigration, 802; antilabor, 814.
 Tammany, and labor, 285, 288, 290.
 Taney, Roger B., removal of deposits, 347-348; Dred Scott decision, 375.
 Tanner, John R., refusal to suppress strike, 810.
 Tanners, colonial, 88.
 Tarbell, Ida M., exposes Standard Oil Company, 669.
 Tariff Commission, 789, 792.
 Tariffs, colonial, 30, 87, 97, 104; under Confederation, 128, 132; Act of 1789, 203, 220; in War of 1812, 224; Act of 1816, 226-227; bill of 1820, 228-229; Act of 1824, 229-230; Mallary bill, 230-231; Act of 1828, 231-233; Act of 1832, 233-234; Act of 1833, 235-236; Act of 1842, 237-238; Walker Act, 1846, 217, 238-239, 362-363; Act of 1857, 239-240; Morrill Act, 240-241, 384; and trade, 216; and Old South, 362-363; Civil War, 572-573; popgun bills, 573; 1872 and 1875, 574; 1883, 575-576; Morrison bills, 577; Mills bill, 578-579, McKinley Act, 1890, 479, 482, 556, 579-583; Wilson-Gorman Act, 1894, 559, 583-585; Dingley Act, 1897, 585-586, 781; Payne-Aldrich Act, 682, 783-785; Underwood Act, 785-788; Act of 1921, 789-790; Fordney-McCumber Act, 790-792; Hawley-Smoot Act, 793-795, 865-866; "average" rates, 580-581; reprisal, 632, 653, 665-666, 844, 852-853, 865-866; and exportation of capital, 746-747; renewal of controversy, 780-782; effect of World War, 788-789; Tariff Commission, 792; proposals of 1934, 867.
 Taussig, Frank W., Tariff Commission, 788.
 Taverns, colonial, 74.
 Tax dodging, 859.
 Taxation, colonial, 27, 29-30; in Revolutionary period, 117-126; in Confederation period, 127-131; excise of 1791, 334-335; 1812-1814, 340-341; Southern objections, 362-363; in Civil War, 383-384, 389, 394-396; in Reconstruction period, 402-403, 407; gasoline, 714; recent, 772, 858-860.
 Taxpayers' strikes, 860.

- Taylor, Zachary, Mexican War, 159; elected President, 371-372.
- Tea Act, 122.
- Teachers, 92, 271; sweated, 808, 864; strike of, 860.
- Teapot Dome scandal, 684.
- Technical improvements, in manufactures, 749-750.
- Tehuantepec, trade by Isthmus of, 637.
- Telegraph, beginnings, 266; in Civil War, 391, 399; development of, 530; monopoly, 691; recent years, 723.
- Telephones, development, 531-532, 723-724.
- Telford, Thomas, 172.
- Tennessee, settlement of, 143, 149.
- Tennessee Valley Authority, 881.
- Terzi-Lana, Francesco, balloon theories, 529.
- Texas, in American policy, 1819-1845, 155-158; in slavery controversy, 371; cattle business, 421-425.
- Textiles, production, 100-102, 248, 259-262, 557-561, 758-761; inventions for manufacture, 244-246; corporation control, 251; factory system, 252; tariffs on, see various tariff acts.
- Theater, 272; moving picture, 769-770.
- Thomas, Norman, Socialist leader, 819.
- Thomson, Elihu, inventor, 544.
- Thomson, J. Edgar, railroad president, 493.
- Thoreau, Henry D., social theories, 289.
- Thrashing devices and machines, 54, 300-301.
- Tidewater region, described, 49.
- Tilden, Samuel J., 440.
- Timber and Stone Act, 1878, 437.
- Timber Culture Act of 1873, 437, 744.
- Tires, production, 759, 763.
- Tobacco, prices, 11; in West Indies, 15; in Navigation Acts, 25-26, 27; exports, 29, 32-33; as money, 32; Indian cultivation, 52; growth of plantations, 57; culture of, 63-65; manufactures, 255, 415-416, 557, 757-758.
- Tocqueville, Alexis de, observer of America, 304.
- Tolls, on roads, bridges, etc., 176.
- Tonnage duties, colonial, 30.
- Toombs, Robert, 366.
- Townley, Arthur C., Nonpartisan League, 847.
- Townshend, Charles, taxation of Colonies, 121.
- Townshend, Viscount Charles, agricultural experiments, 47.
- Townships, establishment in New England, 20; extension of, 59-61.
- Toys and sporting goods, production, 767.
- Tractors, on farms, 829-832.
- Trade-practice conferences, 687.
- Trails to far West, 188-190.
- Tramways, 192.
- Transportation, colonial, 95-96; 1783-1860, 169-200, 298; Civil War, 390-391, 398-399; far West, 425-430; 1865-1900, 513-532; since 1900, 699-725, 737.
- Travel, colonial, 74.
- Treasury, U. S. Dept. of, created, 331; under Gallatin, 338-339; in Civil War, 381-383; greenback problems, 469-473; silver question, 475-487; and panic of 1929, 854; surplus and deficits, 341, 349, 574-575, 577, 579, 581, 774; notes, 353, 382, 482-483; Confederate States, 393, 394-396. See Independent Treasury.
- Treaties, Utrecht, 22, 41; with Great Britain, 1783, 124, 125-126; Fort Stanwix, 1768, 127, 142; Commercial, 131; Hard Labour, 142; Greenville, 146; Jay's, 146, 205; Pinckney's, 148; San Ildefonso, 150, 154; Louisiana Purchase, 151-152; Florida Purchase, 155; Mexico, 1848, 159; Mexico, 1853, 160; Great Britain, 1818 and 1828, 161; Webster-Ashburton, 160; Oregon, 162; Sweden, 202; Prussia, 202; Great Britain, 1830, 205; Ghent, 213; Burlingame, 592.

- Trenholm, George A., Confederate finances, 394.
- Trevellick, Richard F., labor leader, 599.
- Trevithick, Richard, locomotive builder, 192; steam engine, 247.
- Truck farming, 299.
- Trucks, owned by railroads, 703; business, 716-718.
- Trunk lines, building of, 493-494.
- Trusts, government favors to, 489; growth and attempts to regulate, 501-512, 680-685; new types, 689-696; supertrusts, 696-698; changed tactics, 747. See monopolies.
- Tull, Jethro, and agriculture, 47, 54.
- Tupper, Benjamin, screw propeller, 186.
- Turner, Nat, insurrection, 318, 324.
- Turnips, as forage crop, 47.
- Tweed Ring, 464.
- Tyler, John, Texas question, 157-158; tariff views, 236-237; and Independent Treasury, 354; and U. S. Bank, 354-355.
- Typewriters, development, 567-568, 768.
- Underwood, Oscar W., and tariff, 785.
- Unemployment, 1920-1927, 824, 863.
- Unemployment insurance, 801.
- Union Pacific railroad, construction, 426-427.
- Unions, labor, before 1860, 90, 275-280, 284-287, 290-291; 1860-1900, 597-620 *passim*; since 1900, 797, 812-818, 821-822.
- United Mine Workers, 615, 728, 810-812, 820-821.
- United States Rubber Company, 511.
- United States Steel Corporation, 510, 537, 540, 541-542, 732 *et seq.*; and raw materials, 650-651; twelve-hour day, 805; open shop practices, 813.
- Utah, settlement, 421.
- Vail, Theodore N., telephones, 531.
- Van Buren, Martin, ten-hour law, 281-282; and Distribution Act, 349; and Panic of 1837, 352-353; Independent Treasury, 353-354.
- Vance, Zebulon B., 394.
- Vanderbilt, Cornelius, Nicaraguan transportation, 200; wealth of, 390; stock manipulations, 462; business methods, 490-492; railroad holdings, 496.
- Vanderbilt, William H., 491.
- Vegetables, native to America, 48.
- Vehicles, production, 258; 1860-1900, 526.
- Venezuela, in American diplomacy, 649.
- Venice, in Levant trade, 3.
- Vergennes, Gravier de, 130.
- Verplanck, Gulian C., tariff bill, 235.
- Verrazano, Giovanni da, explorations of, 6.
- Vesey, Denmark, slave revolt, 324.
- Villard, Henry, railroad builder, 428.
- Vinci, Leonardo da, *Treatise on Flight of Birds*, 529.
- Virgin Islands, 646.
- Virginia, settlement, 10-11; trade balances, 34; slave trade, 45; tobacco growing, 52, 63-65; colonial land system, 57; quitrents, 62-63; wheat, 67; trade regulations, 97-98; manufactures, 109, 110-111; surrender of Western lands, 128; canals, 181.
- Voluntary allotment, 879-880.
- Wabash decision, 467, 497.
- Wages, England in seventeenth century, 9-10, 75; colonial, 89-90; 1783-1860, 197, 273-274, 276, 278, 291; in Civil War, 392; of seamen, 206, 639; on farms, 306-307, 841; in New South, 414, 418; 1865-1900, 554, 606, 608; effect of tariff, 587; since 1900, 703, 805, 807-808, 820-821, 822-824, 863-864, 883.
- Wages argument, the tariff, 236-237.
- Wagner-Peyser Act, 880.
- Walker, Robert J., tariff bill, 238; Secretary of Treasury, 355-356.
- Walker, William, filibuster, 200.
- Wallace, Henry A., agricultural policy, 879.
- Walpole, Robert, colonial policy, 28.
- Walsh, Thomas J., and power monopoly, 695.

- Wanamaker, John, department store, 627.
- War Department, handling of Indian problem, 432; expenses of, 772-773.
- War Finance Corporation, 849.
- War for Independence, 122-126; effect on commerce, 201-202; manufactures, 242, 259.
- "War Hawks," 147, 212, 340, 342.
- War Industries Board, 683.
- War Labor Board, 815.
- War of Decrees and Orders, 207-208.
- War of 1812, 211-214.
- War Savings Stamps, 778.
- Warren, Josiah, time stores, 288.
- Warrior River, government shipping on, 708.
- Washburn, Cadwallader C., flour milling, 555.
- Washington, Augustine, 110.
- Washington, George, farmer, 55-56; slaves, 81; salary as President, 93; and coal, 112; as President, 139; on road building, 171; canal building, 177; and steamboats, 186; and whiskey rebellion, 335; and U. S. Bank, 337.
- Watauga, settlement, 121, 142.
- Watches, production, 266, 567, 766.
- Water works, 390.
- Watered stock, 461.
- Waterpower, 114, 246-247; monopolized, 691 *et seq.*
- Watson, David K., prosecution of Standard Oil Trust, 505.
- Watson, Elkanah, canal builder, 178; agriculturist, 304.
- Watson, James E., tariff prophecy, 795.
- Watt, James, steam engine, 247.
- Wayne, Anthony, 146.
- Wealth, distribution, 92-93, 269, 822-824, 856.
- Weaver, James B., Greenbacker, 474.
- Webb Act, 803.
- Webster, Daniel, tariff views, 226, 230, 232; debate with Hayne, 234-235; and U. S. Bank, 344, 348; on Specie circular, 352-353; and Compromise of 1850, 372.
- Wedgwood, Thomas, photography, 569.
- Weitling, William, cooperative efforts, 287.
- Welles, Gideon, and immigration, 590.
- Wells, David A., on Civil War taxes, 383; on tariff, 573, 574.
- Wentworth, Mark Huntington, 108.
- West, the, in Confederation period, 127; 1783-1853, 140-167; canals in, 181-182; railroads in, 194-197; cotton growing in, 311-312; attitude on slavery extension, 369; 1860-1890, 420-443; transportation, 514.
- West, Benjamin, 91.
- West, Joseph, agricultural experiments, 56.
- West Indies, settlement of, 14-15; trade with, 28, 37-38, 131, 201-202, 204-206, 217; money from, 32; slave trade, 43-45; tobacco, 64; slavery, 79.
- West Virginia, conditions in mines, 811, 820.
- Western Reserve, 143.
- Westinghouse, George, air brake, 518.
- Westsylvania, 143.
- Weydemeyer, Joseph, 291, 609.
- Weyler, Valeriano, 642.
- Whale products, 34, 106-107, 256-257, 754.
- Wharton, Joseph, nickel mine, 574.
- Wheat, exports of, 34, 462-463; canal shipments, 180; production, 67-68, 296, 298, 302, 449-451, 462-463; World War control, 838; world production, 843; voluntary allotment, 879.
- Wheeler, Burton K., prosecutes in oil scandals, 684; candidate with La Follette, 848.
- Whiskey, production, 105, 253-254, 389, 556, 755, 756; in trans-Alleghany region, 171, 334-335; Civil War taxes, 384, 399.
- "Whiskey Rebellion," 253, 335.
- Whiskey Trust, 505, 507, 509, 511.
- Whitney, Eli, 205; cotton gin, 246, 310-311; interchangeable parts, 265.
- Whitney, William C., traction finances, 521-522.

- Wholesale trade, 631.
Widener, Peter A. B., traction finances, 521-522.
Wilder, Marshall P., and agriculture, 456.
Wiley, Harvey, and pure foods, 752.
Wilkinson, James, 148.
William III, 46.
Willing, Thomas, First U. S. Bank, 337.
Wilmot Proviso, 372.
Wilson, Henry, and *Crédit Mobilier*, 427.
Wilson, William B., Secretary of Labor, 814.
Wilson, William L., and tariff, 583.
Wilson, Woodrow, corporation laws, 508, 686; merchant marine, 639; Panama Canal Act, 645; Haiti, 649; Mexico, 650; Adamson Act, 1916; railroad question, 675-676; trust prosecution, 682-683; money trust, 689; conservation, 693; Muscle Shoals, 694; conservation, 744; Federal Reserve Act, 775; immigration, 802, 804; labor, 814-816; irrigation work, 827.
Windom, William, railroad regulation, 497, 525.
Winthrop, John, 109.
Withington, Charles B., inventor, 446.
Wolcott, Oliver, 338.
Women, legal standing in colonies, 86; laborers, 392, 596-597, 806-808.
Wood, Jethro, inventor, 299-300.
Wool, production, 55-56, 452; tariff rates, 227, 229, 237, 238.
Woolens, production, 100-102, 261-262, 558-560, 759-760; effect of tariff, 225, 227, 229, 232, 237, 238.
Woolens Act, 97.
Workingmen's insurance, 801.
Workmen's Compensation laws, 801.
World War, and commerce, 638; and railroads, 675-676; and business consolidation, 683; and aviation, 719; and manufactures, 747-748; finances, 777-779; effect on protection, 788-789; labor progress, 815-816; agriculture, 836-839.
Wright, Frances, social theories, 281, 283.
Wright, Wilbur and Orville, airplanes, 718.
Wyatt, John, inventor, 244.
Xylophones, 769.
Yancey, William L., 366.
Yazoo question, 149.
Yeardley, George, 11, 64.
"Yellow-dog" contracts, 811.
Yellow journalism, 571.
Yerkes, Charles T., traction finances, 521.
Young, Arthur, agricultural experiments, 47; judge of wool, 55.
Young, Brigham, 425.
Zeppelin, Ferdinand von, airships, 529.
Zinc, production, 548-549.

