

## CHAPTER SEVENTEEN INDUSTRIAL SUPREMACY

### Objectives

A thorough study of Chapter Seventeen should enable the student to understand:

1. The reasons for the rapid industrial development of the United States in the late nineteenth century.
2. The specific impact of technological innovations in promoting industrial expansion.
3. The role of the individual entrepreneur in the development of particular industries.
4. The changes that were taking place in the organization and management of American business.
5. The ways in which classical economics and certain ideas of Darwin were used to justify, and defend the new industrial capitalism.
6. The critics of the new industrial capitalism, and the solutions they proposed.
7. The conditions of immigrants, women, and children in the work force.
8. The several efforts of organized labor to form national associations.
9. The reasons that organized labor generally failed in its efforts to achieve its objectives.

### Main Themes

1. How various factors (raw materials, labor supply, technology, business organization, growing markets, and friendly governments) combined to thrust the United States into worldwide industrial leadership.
2. How this explosion of industrial capitalism was both extolled for its accomplishments and attacked for its excesses.
3. How American workers, who on the average benefited, reacted to the physical and psychological realities of the new economic order.

### Glossary

1. **monopoly:** A business situation in which one company controls virtually the entire market for a particular good or service. The monopoly may be regional or national. (When a few businesses control the market, it is called an *oligopoly*.)
2. **patent:** An official government grant, given as an incentive for technological advancement, which entitles an inventor to exclusive right to the proceeds of his or her work for a limited number of years. (See U.S. Constitution, Article I, Section 8.)
3. **capitalism:** A national economic and business system in which the great majority of the basic means of production and distribution of goods are privately owned and managed for profit.
4. **law of supply and demand:** An economic axiom that asserts that when the demand for goods and services exceeds the supply, prices will rise, and when supply surpasses demand, prices will fall.
5. **socialism:** An economic theory that emphasizes the importance of class and argues that the interests of workers and capitalists are inherently antagonistic. Socialists believe that a more equitable distribution of the economic benefits of society will result if the people as a whole, through their government, own and manage the basic means of production and distribution.

6. **Marxism/communism:** A variety of extreme socialism, based on the writings of Karl Marx, that assumes that the inherent conflict between labor and capital will inevitably lead to socialist revolution, the collapse of capitalism, and the emergence of a classless society.
7. **collective bargaining:** A system in which a labor union negotiates with management to set the wages and working conditions of all members of the union. This is in contrast to the traditional system, in which each worker dealt individually with management.
8. **Adam Smith:** Scottish philosopher and economist who advocated *laissez faire*. Scottish-born Smith was the author of the extremely influential book *The Wealth of Nations* (1776), which argues that the "invisible hand" of competition will best produce wealth and that governments should not interfere with business.
9. **craft and industrial unionism:** Craft unions are organized according to a worker's skill—for example, plumbing. Industrial unions are organized according to the industry in which a worker toils, regardless of his or her particular responsibility—for example, coal mining.

### Pertinent Questions

#### SOURCES OF INDUSTRIAL GROWTH (474-483)

1. What technological innovations of the late nineteenth century transformed communications and business operations?
2. What new methods were developed for the large-scale production of durable steel? Where were the principal American centers of steel production and ore extraction?
3. What was the relationship between the steel industry and the railroads?
4. Describe the early oil industry in the United States, indicating what the main uses of petroleum were at first. What technological development profoundly changed the oil industry?
5. Although the age of the automobile would not fully arrive until the 1920s, what developments of the 1890s and early 1900s laid the basis for the later boom?
6. Although the Wright Brothers developed the first practical airplane in the U.S., what nation led in early development? What led to further development in America?
7. Describe the emergence of organized corporate research and its impact on American economic development. What role did universities play in this process?
8. Explain the concepts of "scientific management" and "mass production." Who were the leading pioneers of these new approaches to industry?
9. How did the railroad transform American economically and ecologically?
10. What was the main legal principle that made buying stock in the modern corporation attractive to investors?
11. Explain the new approach to management and business organization that accompanied the rise of large corporations. What industries led in these developments?
12. Compare and contrast the vertical and horizontal integration strategies of business combination. Which approaches did Andrew Carnegie and John D. Rockefeller use initially? How did they evolve toward using both strategies?
13. Explain how financiers and industrialists used pools, trusts, and holding companies to expand their control. What was the result of this trend toward corporate combination?

#### CAPITALISM AND ITS CRITICS (483-488)

14. How did popular culture keep alive the "rags-to-riches" and "self-made man" hopes of the American masses? How realistic were such dreams?

15. Explain how the theories of Social Darwinism and classical economics complemented each other. Who formulated these theories? How did the great industrialists embody such concepts?
16. Describe the "alternative visions" to the business-dominated view of society. How influential were such radical voices?
17. What were the visible symptoms that many Americans blamed on the trend toward "monopoly?"
18. **INDUSTRIAL WORKERS IN THE NEW ECONOMY (488-496)**  
What were the two sources of the massive migration into the industrial cities of the late nineteenth and early twentieth centuries?
19. Contrast the earlier immigrants to the United States with those who dominated after the 1880s? What attracted these migrants? What tensions ensued?
20. What happened to the standard of living of the average worker in the late nineteenth century? What physical hardships and psychological adjustments did many workers face?
21. Why did industry increasingly employ women and children? How were they treated? What attitudes toward working women were exhibited by many adult male workers and their unions?
22. What was the significance of the railroad strike of 1877?
23. Compare and contrast the organization, leadership, membership (especially the role of women) and programs of the Knights of Labor and the American Federation of Labor. Why did the AFL succeed, while the Knights disappeared?
24. Compare and contrast the Haymarket affair, Homestead Strike, and Pullman Strike. On balance, what was their effect on the organized labor movement?
25. What several factors combined to help explain why organized labor remained relatively weak before World War I?
26. **THE AMERICAN ENVIRONMENT: THE LOCOMOTIVE'S MAGIC WAND (480-481)**  
Describe how the railroad created a truly national market and explain the ecological changes that accompanied this transformation. Were the advantages worth the costs?
27. **PATTERNS OF POPULAR CULTURE: THE NOVELS OF HORATIO ALGER (486)**  
What parts of Horatio Alger's message often got lost in the public's mind at the time he wrote and later? Why?

#### Identification

Identify each of the following, and explain why it is important within the context of the chapter.

1. Alexander Graham Bell
2. Thomas A. Edison
3. Bessemer Process
4. Charles and Frank Duryea
5. Henry Ford
6. Wilbur and Orville Wright
7. Frederick Winslow Taylor
8. Cornelius Vanderbilt
9. I. M. Singer
10. J. P. Morgan
11. Chicago Union Stockyard

12. standard time
13. Herbert Spencer
14. "invisible hand"
15. *The Gospel of Wealth*
16. Henry Georgia
17. Socialist Labor Party/American Socialist Party
18. Ellis Island
19. padrones
20. National Labor Union
21. Molly Maguires
22. Samuel Gompers
23. "anarchism"
24. Eugene V. Debs
25. Women's Trade Union League

#### Document 1

Refer back to the section of the chapter under the heading "Capitalism and its Critics." The great industrialist Andrew Carnegie built his fortune on steel, but he also built a lasting reputation as a philanthropist because he spent millions of dollars on the establishment of libraries. Carnegie's *Gospel of Wealth* was a call for other rich people to share their wealth with the worthy poor. Consider the following questions: How does Carnegie's view exemplify Social Darwinism? What is the essence of Carnegie's argument against socialism? On what social values and assumptions about human nature was the gospel of wealth based?

The price which society pays for the law of competition, like the price it pays for cheap comforts and luxuries, is also great; but the advantages of this law are also greater still, for it is to this law that we owe our wonderful material development, which brings improved conditions in its train. But, whether the law be benign or not, we must say of it, as we say of the change in the conditions of men to which we have referred: it is here; we cannot evade it; no substitutes for it have been found, and while the law may be sometimes hard for the individual, it is best for the race, because it insures the survival of the fittest in every department. We accept and welcome, therefore, as conditions to which we must accommodate ourselves, great inequality of environment, the concentration of business, industrial and commercial, in the hands of a few, and the law of competition between these, as being not only beneficial, but essential for the future progress of the race. . . .

Objections to the foundations upon which society is based are not in order, because the condition of the race is better with these than it has been with any others which have been tried. Of the effect of any new substitutes proposed we cannot be sure. The Socialist or Anarchist who seeks to overturn present conditions is to be regarded as attacking the foundation upon which civilization itself rests, for civilization took its start from the day that the capable, industrious workman said to his incompetent and lazy fellow, "If dost not sow, thou shalt not reap," and thus ended primitive Communism by separating the drones from the bees. One who studies this subject will soon be brought face to face with the conclusion that upon the sacredness of property civilization itself depends—the right of the laborer to his hundred dollars in the savings bank, and equally the legal right of the millionaire to his millions. . . .

This, then, is held to be the duty of the man of Wealth: First, to set an example of modest, unostentatious living, shunning display or extravagance; to provide moderately for the legitimate wants of those dependent upon him, and after doing so to consider all surplus revenues which come

to him simply as trust funds, which he is called upon to administer, and strictly bound as a matter of duty to administer in the manner which, in his judgment, is best calculated to produce the most beneficial results for the community—the man of wealth thus becoming the mere agent and trustee for his poorer brethren, bringing to their service his superior wisdom, experience, and ability to administer, doing for them better than they would or could do for themselves.

Andrew Carnegie, *The Gospel of Wealth* (1889).

## Document 2

In 1883, the United States Senate Committee on Education and Labor conducted hearings on labor-management relations. The committee took testimony from labor leaders, factory owners, and other observers. The following selection excerpts the testimony of Dr. Timothy D. Stow, a physician in Fall River, Massachusetts, an important textile-mill center since before the Civil War. In 1890, almost half the population of Fall River was foreign-born. Read this document and refer to the section in the text called “Wages and Working Conditions,” and consider the following questions: Was the Fall River experience typical of industrial centers? How does Dr. Stow recognize the psychological as well as the physical problems of the Fall River workers? Would Fall River have been a fertile field for labor-union organizers?

*The Chairman:* We want to find out how the working people of Fall River are living and doing. You can tell us that in the way in which one gentleman would talk to another, the one understanding the subject and the other not understanding it. Just tell us the condition of the operatives there, in your own way, bearing in mind that we would rather have it without premeditation than as a prepared statement.

*The Witness:* I have been in Fall River about eleven years, though I have been one year absent during that time. As a physician and surgeon, of course, I have been brought into contact with all classes of people there, particularly the laboring classes, the operatives of the city.

With regard to the effect of the present industrial system upon their physical and moral welfare, I should say it was of such a character as to need mending, to say the least. It needs some radical remedy. Our laboring population is made up very largely of foreigners, men, women, and children, who have either voluntarily come to Fall River or who have been induced to come there by the manufacturers.

As a class they are dwarfed physically. Of course there are exceptions to that; some notable ones. On looking over their condition and weighing it as carefully as I have been able to, I have come to the conclusion that the character and quality of the labor which they have been doing in times past, and most of them from childhood up, has been and is such as to bring this condition upon them slowly and steadily.

They are dwarfed, in my estimation, sir, as the majority of men and women who are brought up in factories must be dwarfed under the present industrial system; because by their long hours of indoor labor and their hard work they are cut off from the benefit of breathing fresh air and from the sights that surround a workman outside a mill. Being shut up all day long in the noise and in the high temperature of these mills they become physically weak.

Then, most of them are obliged to live from hand to mouth, or, at least, they do not have sufficient food to nourish them as they need to be nourished. Those things, together with the fact that they have to limit their clothing supply—this constant strain upon the operative—all tend to make him, on the one hand, uneasy and restless, or, on the other hand, to produce discouragement and recklessness. They make him careless in regard to his own condition. All those things combined tend to produce what we have in Fall River.

Now, first, as to the moral condition of the operatives of Fall River. I think so far as crime is concerned we have quite as little crime there as in any city of its size. We have a population rising on 50,000. There is a disposition at times, and under certain pressure, for some operatives to violate the law, to pilfer, or something of that kind, and I think it grows out of not what is called “pure cussedness” but a desire to relieve some physical want. For instance, a man wants a coat and has not the means of earning it, and he is out of employment, and being pinched with the cold, and with no prospect of getting employment, or of getting a coat by honest means, he steals one. Or perhaps he steals food on the same principle.

But so far as crime is concerned, we have comparatively little. But what I do say, and what has been on my mind ever since I came to Fall River, with reference to operatives there, is the peculiar impress they seem to bear, a sort of dejected, tired, worn-out, discouraged appearance, growing out of the bad influences of long hours of labor, the close confinement of the mills, the din of the machinery, [and] their exclusion from social intercourse, except at night.

U.S. Congress, Senate Committee on Education and Labor, *Report of the Committee of the Senate Upon the Relations Between Labor and Capital* (Washington, D.C., 1885).

## Map Exercise

Fill in or identify the following on the blank map provided.

1. Area of the country best served by railroads as of 1870.
2. Area of the country that experienced the most significant railroad development from 1870 to 1890.
3. Main area of the early iron and steel industry.
4. Main region of the petroleum industry into the early twentieth century.



### Interpretive Questions

Based on what you have filled in, answer the following. On some of the questions you will need to consult the narrative in your text for information or explanation.

1. Aside from the sparsely populated areas of the West, what part of the country lagged in railroad expansion? Why?
2. What geographic barriers and economic realities impeded railroad development in the West? How were they overcome?
3. Why was the Pullman railroad strike in the Chicago area so disruptive of the national transportation system?
4. What factors combined to make the region from Pittsburgh to Chicago into America's industrial heartland?

### Summary

Although some economists place the industrial "take-off" of America in the years before the Civil War, it was in the three decades following that great conflict that the United States became the world's leading industrial power. A fortunate combination of sufficient raw materials, adequate labor, enviable technological accomplishments, effective business and entrepreneurial leadership, nationwide markets, and supportive state and national governments boosted America past its international rivals. The industrial transformation had a profound impact on the lives of the millions of workers who made the production revolution possible. Some who were distrustful of industrial power turned toward socialism; others tried to organize workers into powerful unions. But in these early years of industrial conflict, the forces of business usually triumphed.

### Review Questions

These questions are to be answered with essays. This will allow you to explore relationships between individuals, events, and attitudes of the period under review.

1. What were the several main factors that combined to produce America's impressive rise to industrial supremacy?
2. Both the success-oriented novels of Horatio Alger and the utopian works of Edward Bellamy were best sellers in late-nineteenth-century America. What might explain this paradox of Americans' wanting to read about both how great their country was and how greatly it needed to improve?
3. The great industrialists and financiers praised unfettered free enterprise while at the same time they tried to eliminate competition through corporate consolidation. How can these apparently conflicting positions be reconciled?

### Chapter Self Test

After you have read the chapter in the text and done the exercises in the Study Guide, take the following self test to see if you understand the material you have covered. Answers appear at the end of the Study Guide.

### MULTIPLE-CHOICE QUESTIONS

Circle the letter of the response that best answers the question or completes the statement.

1. Three of the following are advantages that the United States enjoyed in its rise to industrial supremacy in the late nineteenth century. Which is the *exception*?
  - a. favorable government policies
  - b. an abundance of basic raw materials
  - c. a growing labor supply and expanding market
  - d. a high level of basic research in pure science
2. Both the Bessemer-Kelly process and the open-hearth process are methods of:
  - a. mining coal.
  - b. producing steel.
  - c. pasteurizing milk.
  - d. refining petroleum.
3. The internal combustion engine was invented
  - a. in the late 19<sup>th</sup> century
  - b. 1901-1910
  - c. 1911-1920
  - d. in the 1920s
4. Charles and Frank Duryea were pioneers in what industry?
  - a. railroads
  - b. petroleum
  - c. aircraft
  - d. automobile

5. The term "Taylorism" refers to:
- scientific management in industry.
  - a revival of pride in craftsmanship.
  - a movement to organize unskilled labor.
  - a movement away from mass-produced clothing.
6. Henry Ford's main contribution to American industrialism was his:
- invention of the internal combustion engine.
  - introduction of structured management organization.
  - investment in research and development.
  - use of the moving assembly line to achieve mass production.
7. Andrew Carnegie made his principal fortune in the field of:
- steel.
  - banking.
  - shipping.
  - petroleum.
8. The legal principle that made investment in corporations attractive and made the growth of huge corporations possible was:
- caveat emptor*.
  - accelerated depreciation.
  - limited liability.
  - exemption allowances.
9. A "vertically integrated" system of production is one in which:
- all the employees belong to one big union organized by industry rather than by craft.
  - management and labor share equally in the profits through an elaborate sharing arrangement.
  - employees of different ethnic origins work together on the assembly line.
  - a single company controls the entire industrial process from source of raw materials to the final market.
10. John D. Rockefeller made his principal fortune in the field of:
- steel.
  - banking.
  - shipping.
  - petroleum.
11. What new type of business organization permitted a small group of capitalists to control the stock of a large number of individual corporations without actually becoming one company? The term later came to refer generally to any huge economic concentration.
- trust
  - monopoly
  - holding company
  - joint-stock company
12. "Social Darwinism" was based on what aspect of Charles Darwin's theory of biological evolution?
- social gospel
  - intelligent creation
  - biblical inerrancy
  - survival of the fittest
13. Both Social Darwinism and classical economics agree that:
- humans are descended from lower animals.
  - free competition promotes human progress.
  - the government should ease the lot of the poor.
  - government ownership of the majority of the means of production is desirable.
14. Which of the following emphasizes most strongly the duty of the rich to do good works for the public?
- socialism
  - social Darwinism
  - classical economics
  - gospel of wealth
15. The theme of virtually all of Horatio Alger's novels was:
- the rich get richer, the poor get poorer.
  - poor boy makes good by hard work, perseverance, and luck.
  - average guy gets wealthy through cunning, guile, and questionable business practices.
  - rich man has conversion and realizes that philanthropy and government regulation are the only ways to promote an equitable society.
16. In the late nineteenth century, the American working classes suffered from three of the following conditions. Which is the *exception*?
- Little or no worker's compensation for injury.
  - No government health and safety regulations.
  - Declining standard of living, in both absolute and relative terms.
  - No job security; layoffs due to seasonal, cyclical, or technological factors.
17. The significance of the railroad strikes of 1877 was that:
- the workers won union recognition on most lines.
  - anarchists rose to domination of the railroad unions.
  - it was the first strike to be so national in scope
  - the federal government for the first time served as neutral mediator
18. A major feature of the program of the American Federation of Labor was its emphasis on:
- encouraging females to join the industrial workforce.
  - reforming and altering the capitalist system so that workers would own part of the corporations they worked for.
  - immediate gains for its members, such as higher wages, shorter hours, and better working conditions.
  - mass organization of all laborers—skilled, unskilled, and agricultural.

19. The significance of the Haymarket Square incident in 1886 was that:
  - a. unions won their demand for an eight-hour day.
  - b. the American socialist movement received a great boost.
  - c. the use of Pinkerton guards as strikebreakers was outlawed.
  - d. it stimulated a hysterical wave of fear of anarchism and its alleged connection with unionism.
20. The Homestead strike of 1892 and the Pullman strike of 1894 were similar in that:
  - a. both involved the American Railway Union.
  - b. federal troops were used to restore order in both.
  - c. both started when management ordered pay cuts for some workers.
  - d. strikers fought Pinkerton guards in violent pitched battles at both locations.

#### TRUE-FALSE QUESTIONS

Read each statement carefully. Mark true statements "T" and false statements "F."

1. The principal use of petroleum up to the 1890s was as oil for lubrication of machines rather than for fuel.
2. The early steel industry concentrated in western Pennsylvania and eastern Ohio because iron ore and coal deposits were abundant in that area.
3. J. P. Morgan is credited with inventing the most efficient technology for mass production of steel.
4. Many Americans were reluctant to invest in corporations in the late nineteenth century because if the corporation went bankrupt the creditors of the corporation had a legal claim to all the personal assets of the investor.
5. John D. Rockefeller began building Standard Oil by concentrating on the refining stage of the petroleum industry.
6. Although the term "trust" technically referred to a specific form of business organization, the term came to be generally applied to any great economic combination.
7. In the developing economy of the late nineteenth century, the majority of the business tycoons accurately personified the "rags-to-riches" rise to wealth and power.
8. The theory of Social Darwinism argued that great concentrations of wealth in the late nineteenth century violated the principles of evolution and that a great economic collapse was inevitable.
9. The "Gospel of Wealth" referred to the idea that the rich had a responsibility to use their money to promote social well-being.
10. The Knights of Labor favored a broad program of social reform including a cooperative system whereby workers would control much of the economy.
11. Although there were significant problems facing workers and there were many areas of poverty, the average standard of living for the American worker increased during the late nineteenth century.
12. Most European immigrants who came to the eastern United States up to the 1880s arrived from northern Europe and the British Isles, but by 1900 southern and eastern Europeans dominated.
13. In general, railroads, mining companies, and industrial employers tried to discourage the immigration of workers from Europe.
14. Because most industrial work required mechanical skills and body strength, few women and children were employed in factories in late-nineteenth-century America.

#### TERMS, CONCEPTS, NAMES

Patents	"Horizontal Integration"	Chinese Exclusion Act
Cyrus W. Field	"Vertical Integration"	Child labor laws
Alexander Graham Bell	John D. Rockefeller	National Labor Union
Thomas Edison	Monopoly	"Molly Maguires"
Bessemer process	Pool arrangements	Great Railroad Strike
George Bissell	Trust	Knights of Labor
"Black gold"	Holding Company	Terence Powderly
Standard Oil	Corporate mergers	American Federation of Labor
"Internal combustion engine"	Capitalism	Samuel Gompers
Henry Ford	Herbert Spencer	Haymarket Riot
"Taylorism"	Adam Smith	"Anarchism"
Cornelius Vanderbilt	<i>Gospel of Wealth</i>	Homestead Strike
Corporation	Horatio Alger	Social Darwinism
Stock	Laissez-faire	Pullman Strike
"Limited liability"	<i>Socialist Labor Party</i>	Eugene V. Debs
Andrew Carnegie	Edward Bellamy	Women's Trade Union League
J. Pierpont Morgan	Henry George	
Consolidation	"Nationalism"	