

▼ Brooklyn Bridge under construction

WITNESS HISTORY

Building the Brooklyn Bridge

At the time of its dedication, in 1883, some hailed the Brooklyn Bridge as the “Eighth Wonder of the World.” The bridge, which linked Manhattan to Brooklyn, towered over New York City. Built largely of steel, it symbolized the new industrial era and still stands as a landmark achievement in the history of engineering.

“It is distinctly an American triumph. American genius designed it, American skill built it, and American workshops made it.”

—New York City Mayor Seth Low, “Dedication remarks,” 1883

The Triumph of Industry

Objectives

- Analyze the growth of the United States as an industrial power.
- Summarize the rise of big business.
- Understand the plight of the industrial worker and how workers tried to improve their condition.
- Identify reasons that workers and big business clashed.

Terms and People

Thomas Alva Edison	Gospel of Wealth
Andrew Carnegie	monopoly
John D. Rockefeller	Knights of Labor
trust	AFL
Social Darwinism	anarchist

NoteTaking

Reading Skill: Identify Causes and Effects

Fill in a table like the one below with the causes and effects of industrialization.

The Industrialization of America	
Causes	Effects
<ul style="list-style-type: none"> • Natural resources • 	<ul style="list-style-type: none"> • Growth of cities •

Why It Matters Although manufacturing and factory towns had sprung up in the Northeast before the Civil War, an even greater period of industrial growth occurred at the end of the century. Industrial towns soon dominated the landscape throughout much of the North and had established a presence in the South. Industrialization rapidly transformed the United States into one of the most powerful nations in the world and dramatically altered how Americans lived. **Section Focus Question:** What factors led to the industrialization of America, and what impact did industrialization have on society?

Industry and Technology Advance Rapidly


The numbers alone display the nation’s emergence as an industrial power. Between the end of the Civil War and the beginning of the twentieth century, coal production skyrocketed 800 percent and steel production increased even more. The nation built tens of thousands of miles of railroads and sprouted brand-new industries, including the production of petroleum and electricity. When the Civil War began, the majority of Americans worked as farmers. By 1900, those who made a living from farming were outnumbered by nearly three to one.

Causes of Industrial Expansion There were many reasons for rapid industrial expansion in the United States. First, the nation’s physical geography provided an abundance of natural resources—including lumber, coal, and oil—that manufacturers relied on to power their factories and lubricate their machines. Second, as

industries expanded, millions of immigrants from Southern and Eastern Europe, as well as from Asia, poured into the United States to fill the demand for labor. Third, government policies encouraged the success of businesses in the late 1800s. Finally, the nation's cultural climate, with its favorable view of entrepreneurs, contributed to the growth of industry.

New Technologies Transform the Economy The combination of factors just described contributed to an outbreak of creative inventions, many of which had a profound impact on the economy. No one better symbolizes this inventiveness than **Thomas Alva Edison**, who designed the electric light bulb and the phonograph, in addition to numerous other inventions. Large utility companies soon formed to power his light bulbs and machines. New and better railroads, improvements in the telegraph, and the invention of the telephone all made communication and transportation less costly and more efficient.

The Impact of Industrialization Industrialization had a broad and long-lasting impact on American society, including a rise in most people's standard of living. The nation's cities grew upward and outward. New and more efficient production techniques, as well as improvements in transportation and communication, paved the way for the rise of mass consumerism. For example, rather than making their own clothes, Americans increasingly bought ready-made garments.

 **Checkpoint** What factors contributed to the industrialization of America?

The Rise of Big Business

Before the Civil War, most businesses were small and family-owned. By the end of the nineteenth century, large corporations dominated the American scene. The owners of these firms amassed enormous fortunes and power over the lives of hundreds of thousands of workers and related small businesses. As they did, the nation grappled with the costs and benefits of big business.

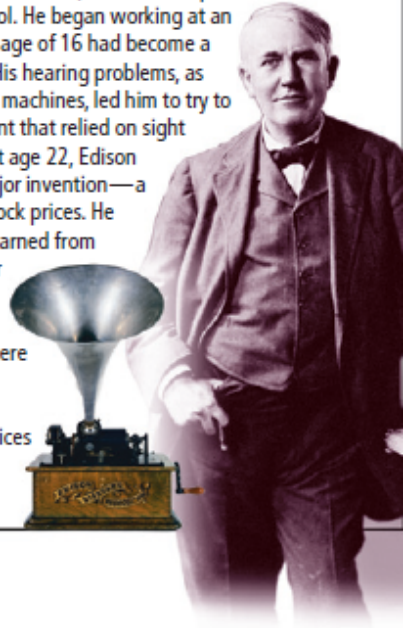
Corporations Amass Huge Fortunes In 1901, **Andrew Carnegie** sold his steel business to the newly formed United States Steel Corporation. At the time, investors valued U.S. Steel at \$1.5 billion, making it the richest corporation in the world. It also made Carnegie one of the wealthiest men in the world—but he was not alone. During the latter decades of the nineteenth century, **John D. Rockefeller** gained control of the oil industry through his company Standard Oil, while Gustavus Swift and Philip Armour came to dominate meatpacking. Other powerful industrialists dominated the sale and production of tobacco, farm machinery, and sewing machines. These industrialists and financiers were often called robber barons, implying they “stole” their fortunes by paying their workers low wages. Others considered these men to be “captains of industry”—steering the country in the direction of economic prosperity.

Part of the success of these corporations lay in the development of new forms of business arrangements, such as cartels, or associations of producers that coordinate prices and production. Industrialists also established trusts. In a

HISTORY MAKERS

Thomas Edison (1847–1931)

Thomas Edison, one of history's most prolific inventors, lost much of his hearing as a child, which led to poor performance in school. He began working at an early age and by the age of 16 had become a telegraph operator. His hearing problems, as well as an interest in machines, led him to try to invent new equipment that relied on sight rather than sound. At age 22, Edison produced his first major invention—a machine to report stock prices. He used the money he earned from selling this and other machines to build a complex in Menlo Park, New Jersey, where he and his team of workers developed hundreds of new devices and improved older ones.

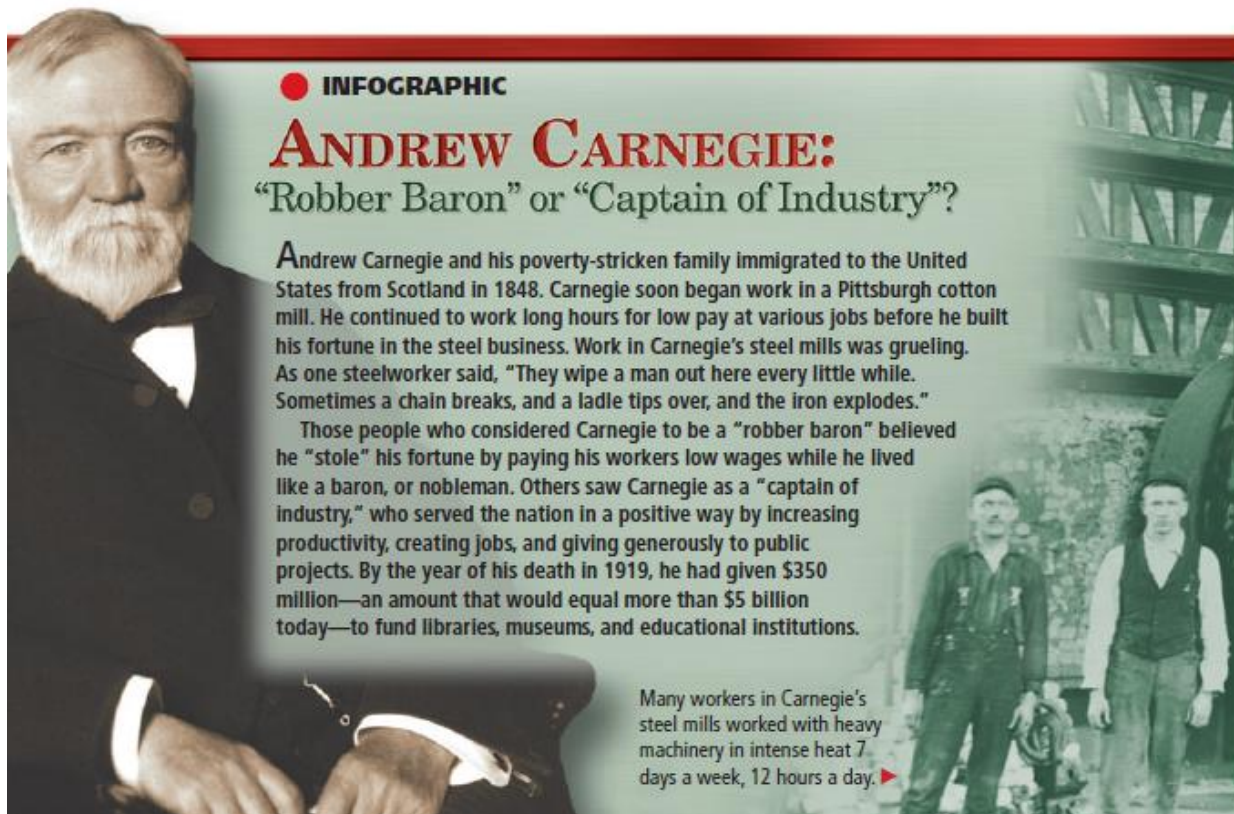


Vocabulary Builder
doctrine—(DAHK trihn) *n.*
teachings, principles, or beliefs

trust, companies assign their stock to a board of trustees, who combine the stocks into a new organization. The trustees then run the organization, paying the shareholders dividends on profits. To form cartels and trusts, corporations often bought out or merged with smaller firms. By joining with firms involved in different aspects of the steel industry, such as the mining of iron, Carnegie gained an edge on his competitors. In a similar manner, by taking advantage of special deals he had arranged with the railroads, Rockefeller compelled his competitors to join his firm or risk bankruptcy.

Carnegie and the Gospel of Wealth Carnegie and others developed sophisticated explanations to defend their business methods and the accumulation of massive sums of money. Borrowing from Darwin's theory of evolution, they applied the principle of natural selection to society, arguing that life consisted of a struggle in which only the fittest survived. This view of the world was known as **Social Darwinism**. Carnegie added to this a **doctrine** that came to be known as the **Gospel of Wealth**, which called on those who accumulated wealth to share their riches for the betterment of society.

Federal Regulations Target Corporate Abuses Even though politicians from both political parties tended to agree with the Social Darwinist view of life, pressure developed to combat the growing power of the biggest corporations. Small businessmen complained about the dangers of **monopolies**, whereby single corporations came to control entire industries. As George Rice, the owner of a small oil firm put it, John D. Rockefeller had "ruined" him by using his "great power and wealth" to run him out of business.

An infographic about Andrew Carnegie. On the left is a portrait of Carnegie, an older man with a white beard, wearing a dark suit and a white shirt with a dark bow tie. On the right is a black and white photograph of two men in work clothes standing in front of industrial machinery, likely in a steel mill. The background of the infographic is a light greenish-grey with a faint image of a steel mill structure.

● INFOGRAPHIC

ANDREW CARNEGIE:

"Robber Baron" or "Captain of Industry"?

Andrew Carnegie and his poverty-stricken family immigrated to the United States from Scotland in 1848. Carnegie soon began work in a Pittsburgh cotton mill. He continued to work long hours for low pay at various jobs before he built his fortune in the steel business. Work in Carnegie's steel mills was grueling. As one steelworker said, "They wipe a man out here every little while. Sometimes a chain breaks, and a ladle tips over, and the iron explodes."

Those people who considered Carnegie to be a "robber baron" believed he "stole" his fortune by paying his workers low wages while he lived like a baron, or nobleman. Others saw Carnegie as a "captain of industry," who served the nation in a positive way by increasing productivity, creating jobs, and giving generously to public projects. By the year of his death in 1919, he had given \$350 million—an amount that would equal more than \$5 billion today—to fund libraries, museums, and educational institutions.

Many workers in Carnegie's steel mills worked with heavy machinery in intense heat 7 days a week, 12 hours a day. ▶

Partly in response to the complaints of small businesses, the federal government created the Interstate Commerce Commission in 1887 to oversee railroad operations. Railroad owners were often considered the worst abusers of their monopoly status. The federal government then became involved in regulating trusts and enacted the Sherman Antitrust Act in 1890, which outlawed mergers and monopolies. Initially, these reforms had little impact, in part because the nation's leaders chose not to strongly enforce them. In the spirit of Social Darwinism, leading economists such as William Graham Sumner promoted a policy of laissez faire, in which businesses operate with little or no government interference.

✓ **Checkpoint** What factors explained the emergence of large corporations, and what did Americans think of them?

Workers Organize

The United States had been created as a land of opportunity, free from the corruption and exploitation that had existed in Europe. But as the nation industrialized, the extremes of wealth and poverty so apparent in industrial England began to appear in the United States as well.

Workers Endure Hardships Most industrial workers endured long days in poor conditions for low pay. Whereas Carnegie amassed a fortune, steelworkers in his plants labored 10 to 12 hours a day, six days a week, for about 15 cents an hour. They received no health benefits, no vacation time, and suffered from

▼ Carnegie devoted himself to philanthropic endeavors after his retirement. Today, people across the country enjoy the more than 2,800 libraries (top) and many museums (bottom) that he funded.

From his article "Wealth," this quote reflects Carnegie's belief that the wealthy had a responsibility to improve society with their riches:

"It is . . . essential for the progress of the race that the houses of some should be homes for all that is highest and best in literature and the arts . . . Much better this great irregularity than universal squalor."

—Andrew Carnegie, "Gospel of Wealth," 1889

Thinking Critically

- 1. Synthesize Information** How might Carnegie's belief in Social Darwinism have affected his views on how to run a business?
- 1. Draw Conclusions** Do you think Carnegie's dedication to philanthropy offset his reputation as a "robber baron"? Explain.

History Interactive ★

For: Interactive Steel Mill
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TRACK THE ISSUE



What are the benefits and costs of technology?

Technology has had a great impact on American life. It has produced economic and social benefits for the nation, yet has also had some negative effects. What are the benefits and costs of technological change? Use the timeline below to explore this enduring issue.

Late 1700s Factory System

Water-powered mills boost production but worsen conditions for workers.

1859 Oil Refining

Oil fuels industrial growth and raises standard of living but encourages American dependence on a single resource and worsens pollution.

1930s Polymers

Manufactured materials like plastics have many uses but also increase pollution.

1940s Nuclear Reactor

Nuclear energy holds promise but carries the threat of radioactive meltdown and nuclear waste.

2000s Genetic Engineering

Biotechnology offers benefits but may also have harmful effects.

Factory workers circa 1900



Nuclear power plant, Illinois

DEBATE THE ISSUE

Nuclear Energy Building more nuclear plants would help meet our energy needs and limit fossil-fuel emissions that contribute to global warming. But the radioactive material used may pose grave risks to human health and safety.

“Nuclear energy supplies clean, reliable, affordable and safe electricity and is the only emission-free source that can be readily expanded to meet our nation’s growing energy needs. . . . Nuclear power plants produce electricity that otherwise would be supplied by oil-, gas-, or coal-fired generating capacity, and thus *prevent* the emissions associated with that fossil-fueled capacity.”

—John E. Kane, Senior Vice President,
Nuclear Energy Institute

“There is strong skepticism . . . [about] the promises of the nuclear industry. . . . This is an industry that on a daily basis, as a direct result of its work, generates the most toxic and long-lived substances known to humans. It is an industry that poses a grievous threat to the health of humans and to the wider biosphere.”

—Dave Sweeney, nuclear campaign,
Australian Conservation Foundation



TRANSFER Activities

- 1. Compare** Why does Mr. Kane support nuclear energy? Why does Mr. Sweeney oppose it?
- 2. Analyze** Which of the authors cited above would be more likely to question the factory system’s impact on workers?
- 3. Transfer** Use the following Web site to see a video, try a WebQuest, and write in your journal. www.pearsonschool.com/ushist

periodic layoffs because of downturns in the business cycle. In addition, workers took little pride in what they did and often performed the same repetitive task day after day.


Women and children toiled in the nation's factories alongside the men. Mines hired young boys, known as breaker boys, to separate coal needed for fuel from slate and other rocks. Textile mills employed young girls to help operate their power looms around the clock. Women worked in textile mills, as well as in many light industries, such as manufacturing light bulbs. Nearly all women and child laborers were paid even less than men.

Labor Unions Promote Workers' Rights To improve their conditions, workers formed unions. The **Knights of Labor**, which sought to organize all workers—male and female, black and white, skilled and unskilled—grew rapidly in the early 1880s. Reaching a peak membership of about 700,000 in 1885, the Knights sought broad social reforms, such as transcending the wage labor system by creating cooperatives in which workers would own the factories where they labored.

In the mid-1880s, the Knights rallied tens of thousands of workers around obtaining an eight-hour workday. "Eight hours of work, eight hours of sleep, eight hours for what we will," supporters of the Knights would chant at mass rallies. For a variety of reasons, including the Haymarket Riot that you will soon read about, the Knights of Labor fell apart in the late 1880s, leaving it to others to forge a successful labor movement.

No sooner had the Knights collapsed than the **American Federation of Labor (AFL)** emerged. Unlike the Knights, the AFL did not aim for larger social gains for workers. Instead, it focused on very specific workers' issues such as wages, working hours, and working conditions. Led by Samuel Gompers, the AFL operated like a business. It was a loose organization of skilled workers from some 100 local craft unions, each devoted to a specific craft or trade.

Workers and Socialism In addition to unions, some workers became attracted to socialism as a means to improve their condition and place in society. They considered the Social Darwinist rationalization of cutthroat business practices inhumane and antidemocratic. Eugene V. Debs, who ran for President on the Socialist Party ticket five times, demanded government ownership of the railroads and called for workers to organize industrial unions to counter the power of big business. Although socialists enjoyed some success in local politics, they never attained nearly as large a following as did Socialist parties in Europe.

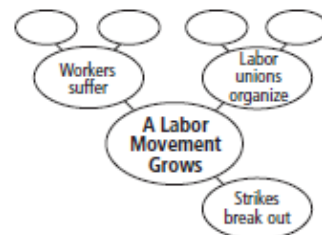
 **Checkpoint** How did workers respond to the rise of industrialization?

Workers and Big Business Clash

Workers and big business often clashed violently in the latter decades of the nineteenth century. On May 4, 1886, an event known as the Haymarket Riot erupted during a labor rally in Haymarket Square, in Chicago. It began when someone threw a bomb that killed a police officer. More police officers and civilians died in the bloody fight that followed. Government authorities reacted by rounding up eight **anarchists**, political radicals opposed to any form of government, and convicted them of conspiracy to commit murder.

NoteTaking

Reading Skill: Identify Main Ideas Record the main ideas about the rise of organized labor in a concept web like the one below.



The following excerpt is from the Preamble of the Knights of Labor's Constitution. *What "power" do the Knights of Labor want to place limits on?*


Primary Source "The recent alarming development and aggression of aggregated wealth, which, unless checked, will inevitably lead to the pauperization and hopeless degradation of the toiling masses, render it imperative, if we desire to enjoy the blessings of life, that a check should be placed upon its power and upon unjust accumulation."

—Preamble to the Constitution of the Knights of Labor, 1878

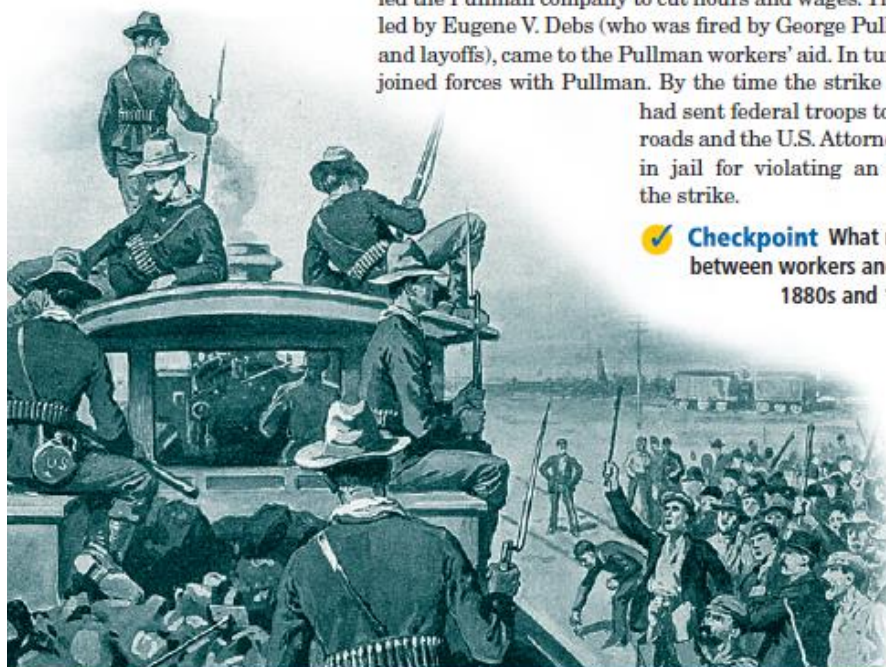
In 1892, fighting broke out between steelworkers and Andrew Carnegie's business partner, Henry Frick, in Homestead, Pennsylvania. With the help of strikebreakers, or those sent to break up the strike, and members of the National Guard, Frick and Carnegie crushed the Homestead Strike and broke apart a union that represented skilled workers in the plant. As a result, steelworkers went without a union for decades.

Two years later, in 1894, a nationwide strike erupted against the railroad companies. The Pullman Strike began with a walkout in the Illinois town where the famous Pullman passenger cars were manufactured when an economic downturn led the Pullman company to cut hours and wages. The American Railway Union, led by Eugene V. Debs (who was fired by George Pullman for protesting pay cuts and layoffs), came to the Pullman workers' aid. In turn, other railroad companies joined forces with Pullman. By the time the strike ended, President Cleveland

had sent federal troops to Chicago to protect the railroads and the U.S. Attorney General had thrown Debs in jail for violating an injunction against leading the strike.

 **Checkpoint** What resulted from the clashes between workers and big business during the 1880s and 1890s?

▼ Soldiers guard a mail train against rioters during the Pullman Strike, 1894.



SECTION 1 Assessment

Progress Monitoring Online

For: Self-test with vocabulary practice
www.pearsonschool.com/ushist

Comprehension

1. Terms and People For each item below, write a sentence explaining how it related to the rise of big business.

- Andrew Carnegie
- John D. Rockefeller
- trust
- Social Darwinism
- Gospel of Wealth
- monopoly

2. NoteTaking Reading Skill:

Identify Causes and Effects Use your table to answer the Section Focus Question: What factors led to the industrialization of America, and what impact did industrialization have on society?

Writing About History

3. Quick Write: Select a Topic Choose a topic from this section that interests you, such as America's industrial growth or the rise of big business. To prepare for an oral presentation, write what you already know about the topic in one or two paragraphs.

Critical Thinking

- 4. Determine Relevance** How did technology impact the growth of the United States?
- 5. Draw Inferences** How did the rise of big business lead to the formation of labor unions?
- 6. Summarize** What occurred during the Pullman Strike?