A New Industrial Age
Laborers blasted tunnels and constructed bridges to send the railroad through the rugged Sierra Nevada mountains.

- **1870**: Central Pacific and Union Pacific complete the transcontinental railroad.
- **1876**: Alexander Graham Bell invents the telephone.
- **1877**: In re Munn v. Illinois, the U.S. Supreme Court establishes government regulation of railroads.
- **1875**: British labor unions win right to strike.
- **1879**: Thomas A. Edison invents a workable light bulb.
- **1880**: Grover Cleveland is elected president.
- **1882**: United States restricts Chinese immigration.
- **1883**: Germany becomes the first nation to provide national health insurance.

**USA**

**1870**

- **1870**: Franco-Prussian War breaks out.

**1880**

- **1882**: United States restricts Chinese immigration.
The year is 1863 and railroad construction is booming. In six years, the U.S. will be linked by rail from coast to coast. Central Pacific Railroad employs mainly Chinese immigrants to blast tunnels, lay track, and drive spikes, all for low wages. You are a journalist assigned to describe this monumental construction project for your readers.

**What are the pros and cons of railroad expansion?**

**Examine the Issues**

- What dangers do the railroad workers encounter?
- How will businesses and the general public benefit from the transcontinental railroad?
- How might railroad construction affect the environment?

Visit the Chapter 6 links for more information about A New Industrial Age.
One day, Pattillo Higgins noticed bubbles in the springs around Spindletop, a hill near Beaumont in southeastern Texas. This and other signs convinced him that oil was underground. If Higgins found oil, it could serve as a fuel source around which a vibrant industrial city would develop.

Higgins, who had been a mechanic and a lumber merchant, couldn’t convince geologists or investors that oil was present, but he didn’t give up. A magazine ad seeking investors got one response—from Captain Anthony F. Lucas, an experienced prospector who also believed that there was oil at Spindletop. When other investors were slow to send money, Higgins kept his faith, not only in Spindletop, but in Lucas.

“A Personal Voice  Pattillo Higgins

“Captain Lucas, . . . these experts come and tell you this or that can’t happen because it has never happened before. You believe there is oil here, . . . and I think you are right. I know there is oil here in greater quantities than man has ever found before.”

—quoted in Spindletop

In 1900, the two men found investors, and they began to drill that autumn. After months of difficult, frustrating work, on the morning of January 10, 1901, oil gushed from their well. The Texas oil boom had begun.

Natural Resources Fuel Industrialization

After the Civil War, the United States was still largely an agricultural nation. By the 1920s—a mere 60 years later—it had become the leading industrial power in the world. This immense industrial boom was due to several factors, including: a wealth of natural resources, government support for business, and a growing urban population that provided both cheap labor and markets for new products.
BLACK GOLD  Though eastern Native American tribes had made fuel and medicine from crude oil long before Europeans arrived on the continent, early American settlers had little use for oil. In the 1840s, Americans began using kerosene to light lamps after the Canadian geologist Abraham Gesner discovered how to distill the fuel from oil or coal.

It wasn’t until 1859, however, when Edwin L. Drake successfully used a steam engine to drill for oil near Titusville, Pennsylvania, that removing oil from beneath the earth’s surface became practical. This breakthrough started an oil boom that spread to Kentucky, Ohio, Illinois, Indiana, and, later, Texas. Petroleum-refining industries arose in Cleveland and Pittsburgh as entrepreneurs rushed to transform the oil into kerosene. Gasoline, a byproduct of the refining process, originally was thrown away. But after the automobile became popular, gasoline became the most important form of oil.

BESSEMER STEEL PROCESS  Oil was not the only natural resource that was plentiful in the United States. There were also abundant deposits of coal and iron. In 1887, prospectors discovered iron ore deposits more than 100 miles long and up to 3 miles wide in the Mesabi Range of Minnesota. At the same time, coal production skyrocketed—from 33 million tons in 1870 to more than 250 million tons in 1900.

Iron is a dense metal, but it is soft and tends to break and rust. It also usually contains other elements, such as carbon. Removing the carbon from iron produces a lighter, more flexible, and rust-resistant metal—steel. The raw materials needed to make steel were readily available; all that was needed was a cheap and efficient manufacturing process. The Bessemer process, developed independently by the British manufacturer Henry Bessemer and American ironmaker William Kelly around 1850, soon became widely used. This technique involved injecting air into molten iron to remove the carbon and other impurities. By 1880, American manufacturers were using the new method to produce more than 90 percent of the nation’s steel. In this age of rapid change and innovation, even...
the successful Bessemer process was bettered by the 1860s. It was eventually replaced by the open-hearth process, enabling manufacturers to produce quality steel from scrap metal as well as from raw materials.

NEW USES FOR STEEL The railroads, with thousands of miles of track, became the biggest customers for steel, but inventors soon found additional uses for it. Joseph Glidden’s barbed wire and McCormick’s and Deere’s farm machines helped transform the plains into the food producer of the nation.

Steel changed the face of the nation as well, as it made innovative construction possible. One of the most remarkable structures was the Brooklyn Bridge. Completed in 1883, it spanned 1,595 feet of the East River in New York City. Its steel cables were supported by towers higher than any man-made and weight-bearing structure except the pyramids of Egypt. Like those ancient marvels, the completed bridge was called a wonder of the world.

Around this time, setting the stage for a new era of expansion upward as well as outward, William Le Baron Jenney designed the first skyscraper with a steel frame—the Home Insurance Building in Chicago. Before Jenney had his pioneering idea, the weight of large buildings was supported entirely by their walls or by iron frames, which limited the buildings’ height. With a steel frame to support the weight, however, architects could build as high as they wanted. As structures soared into the air, not even the sky seemed to limit what Americans could achieve.

Inventions Promote Change

By capitalizing on natural resources and their own ingenuity, inventors changed more than the landscape. Their inventions affected the very way people lived and worked.

THE POWER OF ELECTRICITY In 1876, Thomas Alva Edison became a pioneer on the new industrial frontier when he established the world’s first research laboratory in Menlo Park, New Jersey. There Edison perfected the incandescent light bulb—patented in 1880—and later invented an entire system for producing and distributing electrical power. Another inventor, George Westinghouse, along with Edison, added innovations that made electricity safer and less expensive.

The harnessing of electricity completely changed the nature of business in America. By 1890, electric power ran numerous machines, from fans to printing presses. This inexpensive, convenient source of energy soon became available in homes and spurred the invention of time-saving appliances. Electric streetcars made urban travel cheap and efficient and also promoted the outward spread of cities.

More important, electricity allowed manufacturers to locate their plants
wherever they wanted—not just near sources of power, such as rivers. This enabled industry to grow as never before. Huge operations, such as the Armour and Swift meatpacking plants, and the efficient processes that they used became the models for new consumer industries.

INVENTIONS CHANGE LIFESTYLES

Edison’s light bulb was only one of several revolutionary inventions. Christopher Sholes invented the typewriter in 1867 and changed the world of work. Next to the light bulb, however, perhaps the most dramatic invention was the telephone, unveiled by Alexander Graham Bell and Thomas Watson in 1876. It opened the way for a worldwide communications network.

The typewriter and the telephone particularly affected office work and created new jobs for women. Although women made up less than 5 percent of all office workers in 1870, by 1910 they accounted for nearly 40 percent of the clerical work force. New inventions also had a tremendous impact on factory work, as well as on jobs that traditionally had been done at home. For example, women had previously sewn clothing by hand for their families. With industrialization, clothing could be mass-produced in factories, creating a need for garment workers, many of whom were women.

Industrialization freed some factory workers from backbreaking labor and helped improve workers’ standard of living. By 1890, the average workweek had been reduced by about ten hours. However, many laborers felt that the mechanization of so many tasks reduced human workers’ worth. As consumers, though, workers regained some of their lost power in the marketplace. The country’s expanding urban population provided a vast potential market for the new inventions and products of the late 1800s.

A New Industrial Age

MAIN IDEA

Analyzing Effects

How did electricity change American life?

INVENTIONS CHANGE LIFESTYLES

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One American’s Story

In October 1884, the economist Richard Ely visited the town of Pullman, Illinois, to write about it for Harper’s magazine. At first, Ely was impressed with the atmosphere of order, planning, and well-being in the town George M. Pullman had designed for the employees of his railroad-car factory. But after talking at length with a dissatisfied company officer, Ely concluded the town had a fatal flaw: it too greatly restricted its residents. Pullman employees were compelled to obey rules in which they had no say. Ely concluded that “the idea of Pullman is un-American.”

A PERSONAL VOICE RICHARD T. ELY

“It is benevolent, well-wishing feudalism [a medieval social system], which desires the happiness of the people, but in such way as shall please the authorities. . . . If free American institutions are to be preserved, we want no race of men reared as underlings.”

—“Pullman: A Social Study”

As the railroads grew, they came to influence many facets of American life, including, as in the town of Pullman, the personal lives of the country’s citizens. They caused the standard time and time zones to be set and influenced the growth of towns and communities. However, the unchecked power of railroad companies led to widespread abuses that spurred citizens to demand federal regulation of the industry.

Railroads Span Time and Space

Rails made local transit reliable and westward expansion possible for business as well as for people. Realizing how important railroads were for settling the West and developing the country, the government made huge land grants and loans to the railroad companies.
A NATIONAL NETWORK  By 1856, the railroads extended west to the Mississippi River, and three years later, they crossed the Missouri. Just over a decade later, crowds across the United States cheered as the Central Pacific and Union Pacific Railroads met at Promontory, Utah, on May 10, 1869. A golden spike marked the spanning of the nation by the first transcontinental railroad. Other transcontinental lines followed, and regional lines multiplied as well. At the start of the Civil War, the nation had had about 30,000 miles of track. By 1890, that figure was nearly six times greater.

ROMANCE AND REALITY The railroads brought the dreams of available land, adventure, and a fresh start within the grasp of many Americans. This romance was made possible, however, only by the harsh lives of railroad workers.

The Central Pacific Railroad employed thousands of Chinese immigrants. The Union Pacific hired Irish immigrants and desperate, out-of-work Civil War veterans to lay track across treacherous terrain while enduring attacks by Native Americans. Accidents and diseases disabled and killed thousands of men each year. In 1888, when the first railroad statistics were published, the casualties totaled more than 2,000 employees killed and 20,000 injured.

RAILROAD TIME In spite of these difficult working conditions, the railroad laborers helped to transform the diverse regions of the country into a united nation. Though linked in space, each community still operated on its own time, with noon when the sun was directly overhead. Noon in Boston, for example, was almost 12 minutes later than noon in New York. Travelers riding from Maine to California might reset their watches 20 times.

In 1869, to remedy this problem, Professor C. F. Dowd proposed that the earth’s surface be divided into 24 time zones, one for each hour of the day. Under his plan, the United States would contain four zones: the Eastern, Central, Mountain, and Pacific time zones. The railroad companies endorsed Dowd’s plan enthusiastically, and many towns followed suit.

Finally, on November 18, 1883, railroad crews and towns across the country synchronized their watches. In 1884, an international conference set worldwide time zones that incorporated railroad time. The U.S. Congress, however, didn’t officially adopt railroad time as the standard for the nation until 1918. As strong a unifying force as the railroads were, however, they also opened the way for abuses that led to social and economic unrest.

Opportunities and Opportunists

The growth of the railroads influenced the industries and businesses in which Americans worked. Iron, coal, steel, lumber, and glass industries grew rapidly as they tried to keep pace with the railroads’ demand for materials and parts. The rapid spread of railroad lines also fostered the growth of towns, helped establish new markets, and offered rich opportunities for both visionaries and profiteers.
NEW TOWNS AND MARKETS  By linking previously isolated cities, towns, and settlements, the railroads promoted trade and interdependence. As part of a nationwide network of suppliers and markets, individual towns began to specialize in particular products. Chicago soon became known for its stockyards and Minneapolis for its grain industries. These cities prospered by selling large quantities of their products to the entire country. New towns and communities also grew up along the railroad lines. Cities as diverse as Abilene, Kansas; Flagstaff, Arizona; Denver, Colorado; and Seattle, Washington, owed their prosperity, if not their very existence, to the railroads.

PULLMAN  The railroads helped cities not only grow up but branch out. In 1880, for example, George M. Pullman built a factory for manufacturing sleepers and other railroad cars on the Illinois prairie. The nearby town that Pullman built for his employees followed in part the models of earlier industrial experiments in Europe. Whereas New England textile manufacturers had traditionally provided housing for their workers, the town of Pullman provided for almost all of workers’ basic needs. Pullman residents lived in clean, well-constructed brick houses and apartment buildings with at least one window in every room—a luxury for city dwellers. As Richard Ely observed, however, the town of Pullman remained firmly under company control. Residents were not allowed to loiter on their front steps or to drink alcohol. Pullman hoped that his tightly controlled environment would ensure a stable work force. However, Pullman’s refusal to lower rents after cutting his employees’ pay led to a violent strike in 1894.

CRÉDIT MOBILIER  Pullman created his company town out of the desire for control and profit. In some other railroad magnates, or powerful and influential industrialists, these desires turned into self-serving corruption. In one of the most infamous schemes, stockholders in the Union Pacific Railroad formed, in 1864, a construction company called Crédit Mobilier (kréd’it mó-bê’ye). The stockholders gave this company a contract to lay track at two to three times the actual cost—and pocketed the profits. They donated shares of stock to about 20 representatives in Congress in 1867.

A congressional investigation of the company, spurred by reports in the New York Sun, eventually found that the officers of the Union Pacific had taken up to $23 million in stocks, bonds, and cash. Testimony implicated such well-known and respected federal officials as Vice-President Schuyler Colfax and Congressman James Garfield, who later became president. Although these public figures kept their profits and received little more than a slap on the wrist, the reputation of the Republican Party was tarnished.

The Grange and the Railroads  Farmers were especially affected by corruption in the railroads. The Grangers—members of the Grange, a farmers’ organization founded in 1867—began demanding governmental control over the railroad industry.
RAILROAD ABUSES  Farmers were angry with railroad companies for a host of reasons. They were upset by misuse of government land grants, which the railroads sold to other businesses rather than to settlers, as the government intended. The railroads also entered into formal agreements to fix prices, which helped keep farmers in their debt. In addition, they charged different customers different rates, often demanding more for short hauls—for which there was no alternative carrier—than they did for long hauls.

GRANGER LAWS  In response to these abuses by the railroads, the Grangers took political action. They sponsored state and local political candidates, elected legislators, and successfully pressed for laws to protect their interests. In 1871 Illinois authorized a commission “to establish maximum freight and passenger rates and prohibit discrimination.” Grangers throughout the West, Midwest, and Southeast convinced state legislators to pass similar laws, called Granger laws.

The railroads fought back, challenging the constitutionality of the regulatory laws. In 1877, however, in the case of Munn v. Illinois, the Supreme Court upheld the Granger laws by a vote of seven to two. The states thus won the right to regulate the railroads for the benefit of farmers and consumers. The Grangers also helped establish an important principle—the federal government’s right to regulate private industry to serve the public interest.

INTERSTATE COMMERCE ACT  The Grangers’ triumph was short-lived, however. In 1886, the Supreme Court ruled that a state could not set rates on interstate commerce—railroad traffic that either came from or was going to another state. In response to public outrage, Congress passed the Interstate Commerce Act in 1887. This act reestablished the right of the federal government to supervise railroad activities and established a five-member Interstate Commerce Commission (ICC) for that purpose. The ICC had difficulty regulating railroad rates because of a long legal process and resistance from the railroads. The final
Rapid Growth

How did the growth of railroads affect people’s everyday lives? How did it affect farmers?

CRITICAL THINKING

Do you think the government and private citizens could have done more to curb the corruption and power of the railroads? Give examples to support your opinion. Think About:
- why the railroads had power
- the rights of railroad customers and workers
- the scope of government regulations

ANALYZING MOTIVES

Reread “Another Perspective” on railroads (page 238). Why do you think that some Americans disliked this new means of transportation?
Born in Scotland to penniless parents, Andrew Carnegie came to this country in 1848, at age 12. Six years later, he worked his way up to become private secretary to the local superintendent of the Pennsylvania Railroad. One morning, Carnegie single-handedly relayed messages that unsnarled a tangle of freight and passenger trains. His boss, Thomas A. Scott, rewarded Carnegie by giving him a chance to buy stock. Carnegie's mother mortgaged the family home to make the purchase possible. Soon Carnegie received his first dividend.

A PERSONAL VOICE

ANDREW CARNEGIE

“One morning a white envelope was lying upon my desk, addressed in a big John Hancock hand, to 'Andrew Carnegie, Esquire.' . . . All it contained was a check for ten dollars upon the Gold Exchange Bank of New York. I shall remember that check as long as I live. . . . It gave me the first penny of revenue from capital—something that I had not worked for with the sweat of my brow. 'Eureka!' I cried. 'Here's the goose that lays the golden eggs.'”

—Autobiography of Andrew Carnegie

Andrew Carnegie was one of the first industrial moguls to make his own fortune. His rise from rags to riches, along with his passion for supporting charities, made him a model of the American success story.

Carnegie’s Innovations

By 1865, Carnegie was so busy managing the money he had earned in dividends that he happily left his job at the Pennsylvania Railroad. He entered the steel business in 1873 after touring a British steel mill and witnessing the awesome spectacle of the Bessemer process in action. By 1899, the Carnegie Steel Company
A manufacturer more steel than all the factories in Great Britain.

**NEW BUSINESS STRATEGIES**

Carnegie’s success was due in part to management practices that he initiated and that soon became widespread. First, he continually searched for ways to make better products more cheaply. He incorporated new machinery and techniques, such as accounting systems that enabled him to track precise costs. Second, he attracted talented people by offering them stock in the company, and he encouraged competition among his assistants.

In addition to improving his own manufacturing operation, Carnegie attempted to control as much of the steel industry as he could. He did this mainly by **vertical integration**, a process in which he bought out his suppliers—coal fields and iron mines, ore freighters, and railroad lines—in order to control the raw materials and transportation systems. Carnegie also attempted to buy out competing steel producers. In this process, known as **horizontal integration**, companies producing similar products merge. Having gained control over his suppliers and having limited his competition, Carnegie controlled almost the entire steel industry. By the time he sold his business in 1901, Carnegie’s companies produced by far the largest portion of the nation’s steel.

**Social Darwinism and Business**

Andrew Carnegie explained his extraordinary success by pointing to his hard work, shrewd investments, and innovative business practices. Late-19th-century social philosophers thought that Carnegie’s achievement could be explained scientifically by a new theory—Social Darwinism.

**PRINCIPLES OF SOCIAL DARWINISM** The philosophy called Social Darwinism grew out of the English naturalist Charles Darwin’s theory of biological evolution. In his book *On the Origin of Species*, published in 1859, Darwin described his observations that some individuals of a species flourish and pass their traits along to the next generation, while others do not. He explained that a process of “natural selection” weeded out less-suited individuals and enabled the best-adapted to survive.

The English philosopher Herbert Spencer used Darwin’s biological theories to explain the evolution of human society. Soon, economists found in Social Darwinism a way to justify the doctrine of laissez faire (a French term meaning “allow to do”). According to this doctrine, the marketplace should not be regulated. William G. Sumner, a political science professor at Yale University, promoted the theory that success and failure in business were governed by natural law and that no one had the right to intervene.

**A NEW DEFINITION OF SUCCESS** The premise of the survival and success of the most capable naturally made sense to the 4,000 millionaires who had emerged since the Civil War. Because the theory supported the notion of individual responsibility and blame, it also appealed to the Protestant work ethic of...
many Americans. According to Social Darwinism, riches were a sign of God’s favor, and therefore the poor must be lazy or inferior people who deserved their lot in life.

**Fewer Control More**

Although some business owners endorsed the “natural law” in theory, in practice most entrepreneurs did everything they could to control the competition that threatened the growth of their business empires.

**GROWTH AND CONSOLIDATION** Many industrialists took the approach “If you can’t beat ‘em, join ‘em.” They often pursued horizontal integration in the form of mergers. A merger usually occurred when one corporation bought out the stock of another. A firm that bought out all its competitors could achieve a monopoly, or complete control over its industry’s production, wages, and prices.

One way to create a monopoly was to set up a holding company, a corporation that did nothing but buy out the stock of other companies. Headed by banker J. P. Morgan, United States Steel was one of the most successful holding companies. In 1901, when it bought the largest manufacturer, Carnegie Steel, it became the world’s largest business.

Corporations such as the Standard Oil Company, established by John D. Rockefeller, took a different approach to mergers: they joined with competing companies in trust agreements. Participants in a trust turned their stock over to a group of trustees—people who ran the separate companies as one large corporation. In return, the companies were entitled to dividends on profits earned by the trust. Trusts were not legal mergers, however. Rockefeller used a trust to gain total control of the oil industry in America.

**ROCKEFELLER AND THE “ROBBER BARONS”** In 1870, Rockefeller’s Standard Oil Company of Ohio processed two or three percent of the country’s crude oil. Within a decade, it controlled 90 percent of the refining business. Rockefeller reaped huge profits by paying his employees extremely low wages and driving his competitors out of business by selling his oil at a lower price than it cost to produce it. Then, when he controlled the market, he hiked prices far above original levels.

Alarmed at the tactics of industrialists, critics began to call them robber barons. But industrialists were also philanthropists. Although Rockefeller kept most of his assets, he still gave away over $500 million, establishing the Rockefeller Foundation, providing funds to found the University of Chicago, and creating a medical institute that helped find a cure for yellow fever.
Andrew Carnegie donated about 90 percent of the wealth he accumulated during his lifetime; his fortune still supports the arts and learning today. “It will be a great mistake for the community to shoot the millionaires,” he said, “for they are the bees that make the most honey, and contribute most to the hive even after they have gorged themselves full.”

**SHERMAN ANTITRUST ACT** Despite Carnegie’s defense of millionaires, the government was concerned that expanding corporations would stifle free competition. In 1890, the Sherman Antitrust Act made it illegal to form a trust that interfered with free trade between states or with other countries. Prosecuting companies under the Sherman act was not easy, however, because the act didn’t clearly define terms such as *trust*. In addition, if firms such as Standard Oil felt pressure from the government, they simply reorganized into single corporations. The Supreme Court threw out seven of the eight cases the federal government brought against trusts. Eventually, the government stopped trying to enforce the Sherman act, and the consolidation of businesses continued.

**BUSINESS BOOM BYPASSES THE SOUTH** Industrial growth concentrated in the North, where natural and urban resources were plentiful. The South was still trying to recover from the Civil War, hindered by a lack of capital—money for investment. After the war, people were unwilling to invest in risky ventures. Northern businesses already owned 90 percent of the stock in the most profitable Southern enterprise, the railroads, thereby keeping the South in a stranglehold. The South remained mostly agricultural, with farmers at the mercy of railroad rates. Entrepreneurs suffered not only from excessive transportation costs, but also from high tariffs on raw materials and imported goods, and from a lack of skilled workers. The post-Reconstruction South seemed to have no way out of economic stagnation. However, growth in forestry and mining, and in the tobacco, furniture, and textile industries, offered hope.

**Labor Unions Emerge**

As business leaders merged and consolidated their forces, it seemed necessary for workers to do the same. Although Northern wages were generally higher than Southern wages, exploitation and unsafe working conditions drew workers together across regions in a nationwide labor movement. Laborers—skilled and unskilled, female and male, black and white—joined together in unions to try to improve their lot.

**LONG HOURS AND DANGER** One of the largest employers, the steel mills, often demanded a seven-day workweek. Seamstresses, like factory workers in most industries, worked 12 or more hours a day, six days a week. Employees were not entitled to vacation, sick leave, unemployment compensation, or reimbursement for injuries suffered on the job.

Yet injuries were common. In dirty, poorly ventilated factories, workers had to perform repetitive, mind-dulling tasks, sometimes with dangerous or faulty equipment. In 1882, an average of 675 laborers were killed in work-related accidents each week. In addition, wages were so low that most families could not survive unless everyone held a job. Between 1890 and 1910, for example, the number of women working for wages...
doubled, from 4 million to more than 8 million. Twenty percent of the boys and 10 percent of the girls under age 15—some as young as five years old—also held full-time jobs. With little time or energy left for school, child laborers forfeited their futures to help their families make ends meet.

In sweatshops, or workshops in tenements rather than in factories, workers had little choice but to put up with the conditions. Sweatshop employment, which was tedious and required few skills, was often the only avenue open to women and children. Jacob Riis described the conditions faced by “sweaters.”

**A Personal Voice**  
**Jacob Riis**

“The bulk of the sweater’s work is done in the tenements, which the law that regulates factory labor does not reach. . . . In [them] the child works unchallenged from the day he is old enough to pull a thread. There is no such thing as a dinner hour; men and women eat while they work, and the ‘day’ is lengthened at both ends far into the night.”

—*How the Other Half Lives*

Not surprisingly, sweatshop jobs paid the lowest wages—often as little as 27 cents for a child’s 14-hour day. In 1899, women earned an average of $267 a year, nearly half of men’s average pay of $498. The very next year Andrew Carnegie made $23 million—with no income tax.

**EARLY LABOR ORGANIZING**  
Skilled workers had formed small, local unions since the late 1700s. The first large-scale national organization of laborers, the National Labor Union (NLU), was formed in 1866 by ironworker William H. Sylvis. The refusal of some NLU local chapters to admit African Americans led to the creation of the Colored National Labor Union (CNLU). Nevertheless, NLU membership grew to 640,000. In 1868, the NLU persuaded Congress to legalize an eight-hour day for government workers.

NLU organizers concentrated on linking existing local unions. In 1869, Uriah Stephens focused his attention on individual workers and organized the Noble Order of the Knights of Labor. Its motto was “An injury to one is the concern of all.” Membership in the Knights of Labor was officially open to all workers, regardless of race, gender, or degree of skill. Like the NLU, the Knights supported an eight-hour workday and advocated “equal pay for equal work” by men and women. They saw strikes, or refusals to work, as a last resort and instead advocated arbitration. At its height in 1886, the Knights of Labor had about 700,000 members. Although the Knights declined after the failure of a series of strikes, other unions continued to organize.

**Union Movements Diverge**

As labor activism spread, it diversified. Two major types of unions made great gains under forceful leaders.

**CRAFT UNIONISM**  
One approach to the organization of labor was craft unionism, which included skilled workers from one or more trades. Samuel Gompers led the Cigar Makers’ International Union to join with other craft unions in 1886. The **American Federation of Labor (AFL)**,
with Gompers as its president, focused on collective bargaining, or negotiation between representatives of labor and management, to reach written agreements on wages, hours, and working conditions. Unlike the Knights of Labor, the AFL used strikes as a major tactic. Successful strikes helped the AFL win higher wages and shorter workweeks. Between 1890 and 1915, the average weekly wages in unionized industries rose from $17.50 to $24, and the average workweek fell from almost 54.5 hours to just under 49 hours.

INDUSTRIAL UNIONISM Some labor leaders felt that unions should include all laborers—skilled and unskilled—in a specific industry. This concept captured the imagination of Eugene V. Debs, who made the first major attempt to form such an industrial union—the American Railway Union (ARU). Most of the new union’s members were unskilled and semiskilled laborers, but skilled engineers and firemen joined too. In 1894, the new union won a strike for higher wages. Within two months, its membership climbed to 150,000, dwarfing the 90,000 enrolled in the four skilled railroad brotherhoods. Though the ARU, like the Knights of Labor, never recovered after the failure of a major strike, it added to the momentum of union organizing.

SOCIALISM AND THE IWW In an attempt to solve the problems faced by workers, Eugene Debs and some other labor activists eventually turned to socialism, an economic and political system based on government control of business and property and equal distribution of wealth. Socialism, carried to its extreme form—communism, as advocated by the German philosopher Karl Marx—would result in the overthrow of the capitalist system. Most socialists in late-19th-century America drew back from this goal, however, and worked within the labor movement to achieve better conditions for workers. In 1905, a group of radical unionists and socialists in Chicago organized the Industrial Workers of the World (IWW), or the Wobblies. Headed by William “Big Bill” Haywood, the Wobblies included miners, lumberers, and cannery and dock workers. Unlike the ARU, the IWW welcomed African Americans, but membership never topped 100,000. Its only major strike victory occurred in 1912. Yet the Wobblies, like other industrial unions, gave dignity and a sense of solidarity to unskilled workers.

OTHER LABOR ACTIVISM IN THE WEST In April 1903, about 1,000 Japanese and Mexican workers organized a successful strike in the sugar-beet fields of Ventura County, California. They formed the Sugar Beet and Farm Laborers’ Union of Oxnard. In Wyoming, the State Federation of Labor supported a union of Chinese and Japanese miners who sought the same wages and treatment as other union miners. These small, independent unions increased both the overall strength of the labor movement and the tension between labor and management.
Strikes Turn Violent

Industry and government responded forcefully to union activity, which they saw as a threat to the entire capitalist system.

**THE GREAT STRIKE OF 1877** In July 1877, workers for the Baltimore and Ohio Railroad (B&O) struck to protest their second wage cut in two months. The work stoppage spread to other lines. Most freight and even some passenger traffic, covering over 50,000 miles, was stopped for more than a week. After several state governors asked President Rutherford B. Hayes to intervene, saying that the strikers were impeding interstate commerce, federal troops ended the strike.

**THE HAYMARKET AFFAIR** Encouraged by the impact of the 1877 strike, labor leaders continued to press for change. On the evening of May 4, 1886, 3,000 people gathered at Chicago’s Haymarket Square to protest police brutality—a striker had been killed and several had been wounded at the McCormick Harvester plant the day before. Rain began to fall at about 10 o’clock, and the crowd was dispersing when police arrived. Then someone tossed a bomb into the police line. Police fired on the workers; seven police officers and several workers died in the chaos that followed. No one ever learned who threw the bomb, but the three speakers at the demonstration and five other radicals were charged with inciting a riot. All eight were convicted; four were hanged and one committed suicide in prison. After Haymarket, the public began to turn against the labor movement.

**THE HOMESTEAD STRIKE** Despite the violence and rising public anger, workers continued to strike. The writer Hamlin Garland described conditions at the Carnegie Steel Company’s Homestead plant in Pennsylvania.

*A Personal Voice* HAMLIN GARLAND

“Everywhere . . . groups of pale, lean men slouched in faded garments, grimy with the soot and grease of the mills. . . . A roar as of a hundred lions, a thunder as of cannons, . . . jarring clang of falling iron . . . !”

—quoted in McClure’s Magazine

The steelworkers finally called a strike on June 29, 1892, after the company president, Henry Clay Frick, announced his plan to cut wages. Frick hired armed
guards from the Pinkerton Detective Agency to protect the plant so that he could hire scabs, or strikebreakers, to keep it operating. In a pitched battle that left at least three detectives and nine workers dead, the steelworkers forced out the Pinkertons and kept the plant closed until the Pennsylvania National Guard arrived on July 12. The strike continued until November, but by then the union had lost much of its support and gave in to the company. It would take 45 years for steelworkers to mobilize once again.

**THE PULLMAN COMPANY STRIKE** Strikes continued in other industries, however. During the panic of 1893 and the economic depression that followed, the Pullman company laid off more than 3,000 of its 5,800 employees and cut the wages of the rest by 25 to 50 percent, without cutting the cost of its employee housing. After paying their rent, many workers took home less than $6 a week. A strike was called in the spring of 1894, when the economy improved and the Pullman company failed to restore wages or decrease rents. Eugene Debs asked for arbitration, but Pullman refused to negotiate with the strikers. So the ARU began boycotting Pullman trains.

After Pullman hired strikebreakers, the strike turned violent, and President Grover Cleveland sent in federal troops. In the bitter aftermath, Debs was jailed. Pullman fired most of the strikers, and the railroads blacklisted many others, so they could never again get railroad jobs.

**WOMEN ORGANIZE** Although women were barred from many unions, they united behind powerful leaders to demand better working conditions, equal pay for equal work, and an end to child labor. Perhaps the most prominent organizer in the women’s labor movement was Mary Harris Jones. Jones supported the Great Strike of 1877 and later organized for the United Mine Workers of America (UMW). She endured death threats and jail with the coal miners, who gave her the nickname Mother Jones. In 1903, to expose the cruelties of child labor, she led 80 mill children—many with hideous injuries—on a march to the home of President Theodore Roosevelt. Their crusade influenced the passage of child labor laws.

Other organizers also achieved significant gains for women. In 1909, Pauline Newman, just 16 years old, became the first female organizer of the International Ladies’ Garment Workers’ Union (ILGWU). A garment worker from the age of eight, Newman also supported...
the “Uprising of the 20,000,” a 1909 seamstresses’ strike that won labor agreements and improved working conditions for some strikers.

The public could no longer ignore conditions in garment factories after a fire broke out at the Triangle Shirtwaist Factory in New York City on March 25, 1911. The fire spread swiftly through the oil-soaked machines and piles of cloth, engulfing the eighth, ninth, and tenth floors. As workers attempted to flee, they discovered that the company had locked all but one of the exit doors to prevent theft. The unlocked door was blocked by fire. The factory had no sprinkler system, and the single fire escape collapsed almost immediately. In all, 146 women died; some were found huddled with their faces raised to a small window. Public outrage flared after a jury acquitted the factory owners of manslaughter. In response, the state of New York set up a task force to study factory working conditions.

**MAIN IDEA**

**Summarizing**

What factors made the Triangle Shirtwaist fire so lethal?

**MANAGEMENT AND GOVERNMENT PRESSURE UNIONS**

The more powerful the unions became, the more employers came to fear them. Management refused to recognize unions as representatives of the workers. Many employers forbade union meetings, fired union members, and forced new employees to sign “yellow-dog contracts,” swearing that they would not join a union.

Finally, industrial leaders, with the help of the courts, turned the Sherman Antitrust Act against labor. All a company had to do was say that a strike, picket line, or boycott would hurt interstate trade, and the state or federal government would issue an injunction against the labor action. Legal limitations made it more and more difficult for unions to be effective. Despite these pressures, workers—especially those in skilled jobs—continued to view unions as a powerful tool. By 1904, the AFL had about 1,700,000 members in its affiliated unions; by the eve of World War I, AFL membership would climb to over 2 million.