On October 21, 1892, before a crowd of more than two hundred thousand onlookers, presidential candidate Grover Cleveland proudly opened the World’s Columbian Exposition in Chicago. Grasping a small electric key connected to a two-thousand-horsepower engine, he proclaimed, “As by a touch the machinery that gives life to this vast Exposition is now set in motion, so in the same instant let our hopes and aspirations awaken forces which in all time to come shall influence the welfare, the dignity, and the freedom of mankind.” A moment later, electric fountains shot streams of water high into the air, officially marking the exposition’s start.

The Chicago world’s fair represented the triumph of fifty years of industrial development. The country’s largest corporations displayed their newest products: Westinghouse Company’s dynamos mysteriously lit a tower of incandescent light bulbs; American Bell Telephone offered the first long-distance telephone calls to the East Coast; and inventor Thomas A. Edison exhibited his latest phonograph. The fair dazzled its more than 25 million visitors. But Isabelle Garland, mother of writer Hamlin Garland, who visited the fair from a small midwestern farm community, was simply stunned. “[M]y mother sat in her chair, visioning it all yet comprehending little of its meaning,” Garland later observed. “Her life had been spent among homely small things, and these gorgeous scenes dazzled her, . . . letting in upon her

CHAPTER OUTLINE
The Rise of Corporate America
Stimulating Economic Growth
The New South
Factories and the Work Force
Labor Unions and Industrial Conflict
in one mighty flood a thousand stupefying suggestions of art and history and poetry of the world. . . . At last utterly overcome, she leaned her head against my arm, closed her eyes and said, ‘Take me home, I can’t stand any more of it.’ 

Isabelle Garland’s emotional reaction captured the ambivalence of many late-nineteenth-century Americans who found themselves both unsettled and exhilarated as the nation was transformed by industrialization. At midcentury, the United States had played a minor role in world economy. Five decades later, innovations in management, technology, production, and transportation had expanded manufacturing output fivefold. The United States now produced 35 percent of the world’s manufactured goods—more than England, Germany, and France combined. It had become the world’s greatest industrial power.

Although the hallmark of this prodigious growth had been the rise of giant corporations that brought mass production and national distribution of oil, steel, and a variety of other products, important though less visible strides forward were made in numerous other areas of the economy. In countless small industries, new technologies were developed, manufacturing output soared, and innovative advertising and marketing techniques were created. By 1900 new enterprises both large and small, supported by investment bankers and using a nationwide railroad distribution system, offered a dazzling array of goods for national and international markets.

This stunning industrial growth came at a high cost to all involved. New manufacturing processes transformed the nature of work, undercutting skilled labor and creating mind-numbing assembly-line routines. Large-scale manufacturing companies often polluted their immediate environment, spewing noxious smoke into the air and dumping toxic waste into nearby streams and rivers. The challenges of new business practices made the American economy difficult to control. Rather than smoothly rolling forward, it lurched between booms and busts in business cycles that produced labor unrest and crippling depressions in 1873–1879 and 1893–1897.

This chapter will focus on five major questions:

- What innovations in technology and business practices helped launch vast increases in industrial production in the post-Civil War period?
- Why did the South’s experience with industrialization differ from that of the North and the Midwest?
- How did workers respond to the changing nature of work and the growth of national corporations?
- In the clash between industry and labor, what tactics enabled corporate executives in the 1890s to undercut labor’s bargaining power?
- In the clash between industry and labor, what tactics enabled corporate executives in the 1890s to undercut labor’s bargaining power?

**The Rise of Corporate America**

In the early nineteenth century, the corporate form of business organization had been used to raise large amounts of start-up capital for transportation enterprises such as turnpikes and canals. By selling stocks and bonds to raise money, the corporation separated the company’s managers, who guided its day-to-day operation, from the owners—those who had purchased the stocks and bonds as investments. After the Civil War, American business leaders pioneered new forms of corporate organization that combined innovative technologies, creative management structures, and limited liability should the enterprise fail. The rise of corporate America in this period is a story of risk-taking and innovation as well as of rapacity and ruthlessness.

**The Character of Industrial Change**

Six features dominated the world of large-scale manufacturing after the Civil War: first, the exploitation of immense coal deposits as a source of cheap energy; second, the rapid spread of technological innovation in transportation, communication, and factory systems; third, the need for enormous numbers of new workers who could be carefully controlled; fourth, the constant pressure on firms to compete tooth-and-nail by cutting costs and prices, as well as the impulse to eliminate rivals and create monopolies; fifth, the relentless drop in price levels (a stark contrast to the inflation of other eras); and finally, the failure of the money supply to keep pace with productivity, a development that drove up interest rates and restricted the availability of credit.

All six factors were closely related. The great coal deposits in Pennsylvania, West Virginia, and Kentucky provided the cheap energy that fueled the railroads, the factories, and explosive urban growth. Exploiting these inexpensive energy sources, new technologies stimulated productivity and catalyzed breathtaking industrial expansion. Technology also enabled manufacturers to cut costs and hire cheap unskilled or semiskilled labor. This cost cutting enabled firms to undersell one another,
destroying weaker competitors and prompting stronger, more efficient, and more ruthless firms to consolidate. At least until the mid-1890s, cost reduction, new technology, and fierce competition forced down overall price levels.

But almost everyone suffered terribly during the depression years, when the government debated whether it should get involved but did nothing to relieve distress. “The sufferings of the working classes are daily increasing,” wrote a Philadelphia worker in 1874. “Famine has broken into the home of many of us, and is at the door of all.” Above all, business leaders’ unflagging drive to maximize efficiency both created colossal fortunes at the top of the economic ladder and forced millions of wage earners to live near the subsistence level.

Out of the new industrial system poured dismal clouds of haze and soot, as well as the first tantalizing trickle of what would become an avalanche of consumer goods. In turn, mounting demands for consumer goods stimulated heavy industry’s production of capital goods—machines to boost farm and factory output even further. Together with the railroads, the corporations that manufactured capital goods, refined petroleum, and made steel became driving forces in the nation’s economic growth.

**Railroad Innovations**

Competition among the aggressive and innovative capitalists who headed American heavy industry was intense. As the post-Civil War era opened, nowhere was it more intense than among the nation’s railroads, which to many Americans most symbolized industrial progress. By 1900, 193,000 miles of railroad track criss-crossed the United States—more than in all of Europe including Russia. These rail lines connected every state in the Union and opened up an immense new internal market. Most important, railroad companies pioneered crucial aspects of large-scale corporate enterprise. These included the issuance of stock to meet their huge capital needs, the separation of ownership from management, the creation of national distribution and marketing systems, and the formation of new organizational and management structures.

Railroad entrepreneurs such as Collis P. Huntington of the Central Pacific Railroad, Jay Gould of the Union Pacific, and James J. Hill of the Northern Pacific faced enormous financial and organizational problems. To raise the staggering sums necessary for laying track, building engines, and buying out competitors, railroads at first appealed for generous land and loan subsidies from federal, state, and local governments (see Chapter 17). Even so, the larger lines had to borrow heavily by selling stocks and bonds to the public. Bond holders earned a fixed rate of interest; stockholders received dividends only when the company earned a profit. By 1900 the yearly interest repayments required by the combined debt of all U.S. railroads (which stood at an astounding $5.1 billion—nearly five times that of the federal government) cut heavily into their earnings.
In addition to developing ways to raise large amounts of capital, the railroads created new systems for collecting and using information. To coordinate the complex flow of cars across the country, railroads relied heavily on the magnetic telegraph, invented in 1837. To improve efficiency, the railroads set up clearly defined, hierarchical organizational structures and divided their lines into separate geographic units, each with its own superintendent. Elaborate accounting systems documented the cost of every operation for each division, from coal consumption to the repair of engines and cars. Using these reports, railroad officials could set rates and accurately predict profits as early as the 1860s, a time when most businesses had no idea of their total profit until they closed their books at year’s end. Railroad management innovations thus became a model for many other businesses seeking a national market.

**Consolidating the Railroad Industry**

The expansion and consolidation of railroading reflected both the ingenuity and the dishonesty flourishing on the corporate management scene. Although by the 1870s railroads had replaced the patchwork of canal and stagecoach operations that dominated domestic transportation before the Civil War, the industry itself was in a state of chaos. Hundreds of small companies used widely different standards for car couplers, rails, track width, and engine size. Financed by large eastern and British banks, Huntington, Gould, and others devoured these smaller lines to create large, integrated track networks. In the Northeast four major trunk lines were completed. West of the Mississippi five great lines—the Union Pacific (1869); the Northern Pacific (1883); the Atchison, Topeka, and Santa Fe (1883); the Southern Pacific (1883); and the Great Northern (1893)—controlled most of the track by 1893.

Huntington, Gould, and the other larger-than-life figures who reorganized and expanded the railroad industry in the 1870s and 1880s were often depicted by their contemporaries as villains and robber barons who manipulated stock markets and company policies to line their own pockets. For example, newspaper publisher Joseph Pulitzer called Jay Gould, the short, secretive president of the Union Pacific, “one of the most sinister figures that have ever flitted batlike across the vision of the American people.” Recent historians, however, have pointed out that the great industrialists were a diverse group. Although some were ironfisted pirates who engaged in fraudulent practices, others were upstanding businessmen who managed their companies with sophistication and innovation. Indeed, some of their ideas were startling in their originality and inventiveness.

The massive trunk systems created by these entrepreneurs became the largest business enterprises in the world, towering over state and federal governments in the size and scale of their operations. As they consolidated a hodgepodge of small railroads into a few interlocking systems, these masterminds pioneered the most advanced methods of accounting and large-scale organization. They also standardized all basic equipment and facilities, from engines and cars to automatic couplers, air brakes, signal systems, and outhouses (now provided in standard one-, two-, and three-hole sizes). In 1883,
independently of the federal government, the railroads corrected scheduling problems by dividing the country into four time zones. In May 1886 all railroads shifted simultaneously to the new standard 4′ 8 1/2″-gauge track. Finally, cooperative billing arrangements enabled the railroads to ship cars from other roads, including dining and sleeping cars owned by the Pullman Palace Car Company, at uniform rates nationwide.

But the systemization and consolidation of the railroads had its costs. Heavy indebtedness, overextended systems, and crooked business practices forced the railroads to compete recklessly with each other for traffic. They cut rates for large shippers, offered special arrangements for handling bulk goods, showered free passes on politicians who supported their operations, and granted substantial rebates and kickbacks to favored clients. None of these tactics, however, shored up the railroads’ precarious financial position. And the continuous push to expand drove some overbuilt lines into bankruptcy.

Caught in the middle of the railroads’ tug-of-war and stung by exorbitant rates and secret kickbacks, farmers and small business owners turned to state governments for help. In the 1870s many midwestern state legislatures responded by outlawing rate discrimination. Initially upheld by the Supreme Court, these and other decisions were negated in the 1880s when the Court ruled that states could not regulate interstate commerce. In response in 1887, Congress, persuaded by Illinois Senator Shelby M. Cullom’s detailed study of devious railroad practices, passed the Interstate Commerce Act. A five-member Interstate Commerce Commission (ICC) was established to oversee the practices of interstate railroads. The law banned monopolistic activity like pooling, rebates, and discriminatory short-distance rates.

The railroads challenged the commission’s rulings in the federal courts. Of the sixteen cases brought to the Supreme Court before 1905, the justices found in favor of the railroads in all but one, essentially nullifying the ICC’s regulatory clout. The Hepburn Act (see Chapter 21), passed in 1906, strengthened the ICC by finally empowering it to set rates.

The railroads’ vicious competition did not abate until a national depression that began in 1893 forced a number of roads into the hands of J. Pierpont Morgan and other investment bankers. Morgan, a massively built man with piercing eyes and a commanding presence, took over the weakened systems, reorganized their administration, refinanced their debts, and built inter-system alliances. By 1906, thanks to the bankers’ central-ized management, seven giant networks controlled two-thirds of the nation’s rail mileage.

**Applying the Lessons of the Railroads to Steel**

The close connections between railroad expansion, which absorbed millions of tons of steel for tracks, and the growth of corporate organization and management are well illustrated in the career of Andrew Carnegie. A diminutive dynamo of a man, only 5′3″ tall, Carnegie was born in Scotland and immigrated to America in 1848 at the age of twelve, in the company of his father, a skilled handloom weaver who never found steady employment once the industry mechanized.

Ambitious and hard-working, Carnegie took a job at $1.20 a week as a bobbin boy in a Pittsburgh textile mill. Although he worked a sixty-hour week, the aspiring youngster also enrolled in a night course to learn bookkeeping. The following year, Carnegie became a Western Union messenger boy. Taking over when the telegraph operators wanted a break, he soon became the city’s fastest telegraph operator. Because he had to decode the messages for every major business in Pittsburgh, Carnegie gained an insider’s view of their operations.

Carnegie’s big break came in 1852 when Tom Scott, superintendent of the Pennsylvania Railroad’s western division, hired him as his secretary and personal telegrapher. When Scott became vice president of the Pennsylvania Railroad seven years later, the twenty-four-year-old Carnegie took over as head of the line’s western division. A daring innovator, Carnegie, in his six years as division chief, used the complex cost-analysis techniques developed by Scott to more than double the road’s mileage and quadruple its traffic. He slashed commuter fares to keep ridership at capacity and developed various cost-cutting techniques. Having invested his earnings in the railroads, by 1868 Carnegie was earning more than $56,000 a year from his investments, a substantial fortune in that era.

In the early 1870s Carnegie decided to build his own steel mill. His connections within the railroad industry, the country’s largest purchaser of steel, made this a logical choice. Starting with his first mill, he introduced a production technology named after its English inventor, Henry Bessemer, which shot a blast of air through an enormous crucible of molten iron to burn off carbon and impurities. Combining this new technology with the cost-analysis approach learned from his railroad experience, Carnegie became the first steelmaker to know the actual production cost of each ton of steel.
Carnegie’s philosophy was deceptively simple: “Watch the costs, and the profits will take care of themselves.” From the start he priced his rails below the competition. Then, through rigorous cost accounting and by limiting wage increases to his workers, he lowered his production costs even further. Moreover, he was not above asking for favors from his railroad-president friends or giving “commissions” to railroad purchasing agents.

As output climbed, Carnegie discovered the benefits of vertical integration—that is, controlling all aspects of manufacturing from extracting raw materials to selling the finished product. In Carnegie’s case, this control embraced every stage from the mining and smelting of ore to the selling of steel rails. Carnegie Steel thus became the classic example of how sophisticated new technology might be combined with innovative management (and brutally low wages) to create a mass-production system that could slash consumer prices (see Figure 18.1).

The management of daily operations by his close associates left Carnegie free to pursue philanthropic activities. While still in his early thirties, Carnegie resolved to donate his money to charitable projects. (He knew full well that such actions would buttress his popularity.) Carnegie set up foundations and eventually gave more than $300 million to libraries, universities, and international-peace causes.

By 1900 Carnegie Steel, employing twenty thousand people, had become the world’s largest industrial corporation. Carnegie’s competitors, worried about the wily Scot’s domination of the market, decided to buy him out. In 1901 J. Pierpont Morgan, who controlled Federal Steel, asked Charles Schwab, Carnegie Steel’s president, to inquire what Carnegie wanted for his share of Carnegie Steel. The next day Carnegie gave Schwab a penciled note asking for nearly half a billion dollars. Morgan’s response was simple: “Tell Carnegie I accept his price.” Combining Carnegie’s companies with Federal Steel, Morgan set up the United States Steel Corporation, the first business capitalized at more than $1 billion. The corporation, made up of two hundred member companies employing 168,000 people, marked a new scale in industrial enterprise.

Andrew Carnegie Sums Up the Cost Savings of Vertical Integration*

The eighth wonder of the world is this: two pounds of iron-stone purchased on the shores of lake Superior and transported to Pittsburgh; two pounds of coal mined in Connellsville and manufactured into coke and brought to Pittsburgh; one half pound of limestone mined east of the Alleghenies and brought to Pittsburgh; a little manganese ore, mined in Virginia and brought to Pittsburgh. And these four and one half pounds of material manufactured into one pound of solid steel and sold for one cent. That’s all that need be said about the steel business.

*Vertical integration: The control of all aspects of production from the mining of raw materials to the selling of the final product.

Throughout his chain of corporate-world triumphs, Carnegie consistently portrayed his success as the result of self-discipline and hard work. The full story was more complex. Carnegie did not mention his uncanny ability to see the larger picture, his cleverness in hiring talented associates who would drive themselves (and the company’s factory workers) mercilessly, his ingenuity in transferring organizational systems and cost-accounting methods from railroads to steel, and his callousness in keeping wages as low as possible. To a public unaware of corporate management techniques, however, Carnegie’s success reaffirmed the openness of the American economic system. For the new immigrants flooding the nation’s shores, Carnegie’s career gave credence to the idea that anyone might rise from rags to riches.

**The Trust: Creating New Forms of Corporate Organization**

Between 1870 and 1900, the same fierce competition that had stimulated consolidation in the railroad and steel industries (see Table 18.1) also swept the oil, salt, sugar, tobacco, and meatpacking industries. Like steel, these highly competitive businesses required large capital investments. Entrepreneurs in each industry therefore raced to reduce costs, lower prices, and drive their rivals out of the market. Chicago meatpackers Philip Armour and Gustavus Swift, for example, raised the process of making bacon, pork chops, and steak from hogs and cattle to a high level of efficiency by using every part of the animal. Hides were tanned into leather, bones became fertilizer, and hooves were turned into gelatin. When lowering costs failed to drive out rivals, new organizational methods were pioneered to control competition and preserve market share.

The evolution of the oil industry illustrates the process by which new corporate structures evolved. After Edwin L. Drake drilled the first successful petroleum (or “crude-oil”) well in 1859 near Titusville in northwestern Pennsylvania, competitors rushed into the business, sinking wells and erecting small refineries nearby. Petroleum was distilled into oil, which soon replaced animal tallow as the major lubricant, and into kerosene, which became the leading fuel for household and public lighting. By the 1870s the landscape near Pittsburgh and Cleveland, the sites of the first discoveries, was littered with rickety drilling rigs, assorted collection tanks, and ramshackle refineries. Oil spills were a constant problem. “So much oil is produced,” reported one Pennsylvania newspaper in 1861, “that it is impossible to care for it, and thousands of barrels are running into the creek; the surface of the river is covered with oil for miles.”

In this rush for riches, John D. Rockefeller, a young Cleveland merchant, gradually achieved dominance. Although he did not share Andrew Carnegie’s outgoing personality, the solemn Rockefeller resembled the opportunistic steelmaker in other respects. Having gotten his start as a bookkeeper and opened his first refinery in 1863, Rockefeller, like Carnegie, had a passion for cost cutting and efficiency. When he became the head of

**TABLE 18.1 Industrial Consolidation: Iron and Steel Firms, 1870 and 1900**

<table>
<thead>
<tr>
<th></th>
<th>1870</th>
<th>1900</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of firms</td>
<td>808</td>
<td>669</td>
</tr>
<tr>
<td>No. of employees</td>
<td>78,000</td>
<td>272,000</td>
</tr>
<tr>
<td>Output (tons)</td>
<td>3,200,000</td>
<td>29,500,000</td>
</tr>
<tr>
<td>Capital invested</td>
<td>$121,000,000</td>
<td>$590,000,000</td>
</tr>
</tbody>
</table>

the Standard Oil Company in 1873, he scrutinized every aspect of its operation. In one case he insisted that a manager find 750 missing barrel stoppers. He realized that in a mass production enterprise, small changes could save thousands of dollars.

Rockefeller resembled Carnegie, too, in his ability to understand the inner workings of an entire industry and the benefits of vertical integration. The firm that controlled the shipment of oil between the well and the refinery and between the refinery and the retailers, he realized, could dominate the industry. In 1872 he purchased his own tanker cars and obtained not only a 10 percent rebate from the railroads for hauling his oil shipments but also a kickback on his competitors’ shipments. When new pipeline technology became available, Rockefeller set up his own massive interregional pipeline network.

Like Carnegie, Rockefeller aggressively forced out his competitors. When local refineries rejected his offers to buy them out, he priced his products below cost and strangled their businesses. When rival firms teamed up against him, Rockefeller set up a pool—an agreement among several companies—that established production quotas and fixed prices. By 1879 Rockefeller had seized control of 90 percent of the country’s oil-refining capacity.

Worried about competition, Rockefeller in 1882 decided to eliminate it by establishing a new form of corporate organization, the Standard Oil Trust. In place of the “pool” or verbal agreement among companies to control prices and markets, which lacked legal status, the trust created an umbrella corporation that ran them all. To implement his trust, Rockefeller and his associates persuaded the stockholders of forty companies to exchange their stock for trust certificates. Under this arrangement, stockholders retained their share of the trust’s profits while enabling the trust to control production. Within three years the Standard Oil Trust had consolidated crude-oil buying throughout its member firms and slashed the number of refineries in half. In this way Rockefeller integrated the petroleum industry both vertically, by controlling every function from production to local retailing, and horizontally, by merging the competing oil companies into one giant system.

Taking a leaf from Rockefeller’s book, companies in the copper, sugar, whiskey, lead, and other industries established their own trust arrangements. By limiting the number of competitors, the trusts created an oligopoly, the market condition that exists when the limited number of sellers can greatly influence price and other market factors. But their rapacious tactics, semimonopolistic control, and sky-high earnings provoked a public outcry. Beginning in New York State in 1879 and progressing to the federal level, legislative committees exposed the unscrupulous practices of the trusts, and

![Figure 18.2: Mergers in Mining and Manufacturing, 1895–1910](image)

A wave of business mergers occurred after the Supreme Court’s 1897 and 1898 rulings that any firms concluding price-fixing or market-allocating agreements violated the Sherman Anti-Trust Act. But the merger mania died down when business leaders quickly discovered that companies could remain profitable only through vertical integration.
both parties denounced them in the presidential election of 1888.

Fearful that the trusts would stamp out all competition, Congress, under the leadership of Senator John Sherman of Ohio, passed the Sherman Anti-Trust Act in 1890. The Sherman Act outlawed trusts and any other monopolies that fixed prices in restraint of trade and slapped violators with fines of up to five thousand dollars and a year in jail. But the act failed to define clearly either trust or restraint of trade. The government prosecuted only eighteen antitrust suits between 1890 and 1904. When Standard Oil’s structure was challenged in 1892, its lawyers simply reorganized the trust as an enormous holding company. Unlike a trust, which literally owned other businesses, a holding company simply owned a controlling share of the stock of one or more firms. The new board of directors for Standard Oil (New Jersey), the new holding company, made more money than ever.

The Supreme Court further hamstrung congressional antitrust efforts by interpreting the Sherman Act in ways sympathetic to big business. In 1895, for example, the federal government brought suit against the sugar trust in United States v. E. C. Knight Company. It argued that the Knight firm, which controlled more than 90 percent of all U.S. sugar refining, operated in illegal restraint of trade. Asserting that manufacturing was not interstate commerce and ignoring the company’s vast distribution network that enabled it to dominate the market, the Court threw out the suit. Thus vindicated, corporate mergers and consolidations surged ahead at the turn of the century. By 1900 these mammoth firms accounted for nearly two-fifths of the capital invested in the nation’s manufacturing sector (see Figure 18.2).

**Stimulating Economic Growth**

Although large-scale corporate enterprise significantly increased the volume of manufactured goods in the late nineteenth century, it alone did not account for the colossal growth of the U.S. economy in this period. Other factors proved equally important, including new inventions, specialty production, and innovations in advertising and marketing. In fact, the resourcefulness of small enterprises, which combined innovative technology with new methods of advertising and merchandising, enabled many sectors of the economy to grow dramatically by adapting quickly to changing fashions and consumer preferences.

**The Triumph of Technology**

New inventions not only streamlined the manufacture of traditional products but also frequently stimulated consumer demand by creating entirely new product lines. The development of a safe, practical way to generate electricity, for example, made possible a vast number of electrical motors, household appliances, and lighting systems.

Many of the major inventions that stimulated industrial output and underlay mass production in these years were largely hidden from public view. Few Americans had heard of the Bessemer process for manufacturing steel or of the improved technologies that facilitated bottle making and glassmaking, canning, flour milling, match production, and petroleum refining. Fewer still knew much about the refrigerated railcars that enabled Gustavus Swift’s company to slaughter beef in Chicago and ship it east or about the Bonsack cigarette-making machine that could roll 120,000 cigarettes a day, replacing sixty skilled handworkers.
The inventions that people did see were ones that changed the patterns of everyday life and encouraged consumer demand. Inventions like the sewing machine, mass-produced by the Singer Sewing Machine Company beginning in the 1860s; the telephone, developed by Alexander Graham Bell in 1876; and the light bulb, perfected by Thomas A. Edison in 1879 eased household drudgery and, in some cases, reshaped social interactions. With the advent of the sewing machine, many women were relieved of the tedium of sewing the family’s apparel by hand; inexpensive mass-produced clothing thus led to a considerable expansion in personal wardrobes. The spread of telephones—by 1900 the Bell Telephone Company had installed almost eight hundred thousand in the United States—not only transformed communication but also undermined social conventions for polite behavior that had been premised on face-to-face or written exchanges. The light bulb, by further freeing people from dependence on daylight, made it possible to shop after work.

In the eyes of many, Thomas A. Edison epitomized the inventive impulse and the capacity for the creation of new consumer products. Born in 1847 in Milan, Ohio, Edison, like Andrew Carnegie, had little formal education and got his start in the telegraphic industry. Also like the shrewd Scot, Edison was a born salesman and self-promoter. When he modestly said that “genius is one percent inspiration and ninety-nine percent perspiration,” he tacitly accepted the popular identification of himself as an inventing “wizard.” Edison moreover shared Carnegie’s vision of a large, interconnected industrial system resting on a foundation of technological innovation.

In his early work, Edison concentrated on the telegraph. His experimentation led to his first major invention, a stock-quotation printer, in 1868. The money earned from the patents on this machine enabled Edison to set up his first “invention factory” in Newark, New Jersey, a research facility that he moved to nearby Menlo Park in 1876. Assembling a staff that included university-trained scientists, Edison boastfully predicted “a minor invention every ten days, and a big one every six months.”

Buoyed by the success and popularity of his invention in 1877 of a phonograph, or “sound writer” (*phono*: “sound”; *graph*: “writer”), Edison set out to develop a new filament for incandescent light bulbs. Characteristically, he announced his plans for an electricity-generation process before he perfected his inventions and then worked feverishly, testing hundreds of materials before he found a carbon filament that would glow dependably in a vacuum.

Edison realized that practical electrical lighting had to be part of a complete system containing generators,
voltage regulators, electric meters, and insulated wiring and that the system needed to be easy to install and repair. It also had to be cheaper and more convenient than kerosene or natural gas lighting, its main competitors. In 1882, having built this system with the support of banker J. Pierpont Morgan, the Edison Illuminating Company opened a power plant in the heart of New York City's financial district, furnishing lighting for eighty-five buildings.

On the heels of Edison's achievement, other inventors rushed into the electrical field. Edison angrily sued many of his competitors for patent violations. Embittered by the legal battles that cost him more than $2 million, Edison relinquished control of his enterprises in the late 1880s. In 1892, with Morgan's help, Edison's company merged with a major competitor to form the General Electric Company (GE). Four years later, GE and Westinghouse agreed to exchange patents under a joint Board of Patent Control. Such corporate patent-pooling agreements became yet another mechanism of market domination.

In the following years, Edison and his researchers pumped out invention after invention, including the mimeograph machine, the microphone, the motion-picture camera and film, and the storage battery. By the time of his death in 1931, he had patented 1,093 inventions and amassed an estate worth more than $6 million. Yet Edison's greatest achievement remained his laboratory at Menlo Park. A model for the industrial research labs later established by Kodak, General Electric, and Du Pont, Edison's laboratory demonstrated that the systematic use of science in support of industrial technology paid large dividends. Invention had become big business.

**Custom-Made Products**

Along with inventors, manufacturers of custom and specialized products such as machinery, jewelry, furniture, and women's clothes dramatically expanded economic output. Using skilled labor, these companies crafted one-of-a-kind or small batches of articles that ranged in size from large steam engines and machine tools to silverware, furniture, and custom-made dresses. Keenly attuned to innovations in technology and design, they constantly created new products tailored to the needs of individual buyers.

Although they were vastly different in terms of size and number of employees, Philadelphia's Baldwin Locomotive Works and small dressmaking shops were typical of flexible specialization displayed by small batch processors. Both faced sharp fluctuations in the demand for their products as well as the necessity of employing skilled workers to make small numbers of specialized items. Founded before the Civil War, by the 1890s the Baldwin Locomotive Works employed two thousand workers and produced about nine hundred engines a year. Each machine was custom designed to meet the needs of its purchaser. Construction was systematized through precision plans for every part of an engine, but standardization was not possible since no single engine could meet the needs of every railroad.

Until the turn of the twentieth century, when ready-to-wear clothes came to dominate the market, most women's apparel was custom produced in small shops run by women proprietors. Unlike the tenement sweatshops that produced men's shirts and pants, dressmakers and milliners (a term derived from fancy goods vendors in sixteenth- and seventeenth-century Milan, Italy) paid good wages to highly skilled seamstresses. The small size of the shops together with the skill of the workers enabled them to shift styles quickly to follow the latest fashions.

Thus, alongside of the increasingly rationalized and bureaucratic big businesses like steel and oil in the late nineteenth-century, American productivity was also stimulated by custom and batch producers who provided a variety of goods that supplemented the bulk-manufactured staples of everyday life.

**Advertising and Marketing**

As small and large factories alike spewed out a dazzling array of new products, business leaders often discovered that their output exceeded what the market could absorb. This was particularly true in two kinds of businesses—those that manufactured devices for individual use such as sewing machines and farm implements, and those that mass-produced consumer goods such as matches, flour, soap, canned foods, and processed meats. Not surprisingly, these industries were trailblazers in developing advertising and marketing techniques. Strategies for whetting consumer demand and for differentiating one product from another represented a critical component of industrial expansion in the post-Civil War era.

The growth of the flour industry illustrates both the spread of mass production and the emergence of new marketing concepts. In the 1870s the nation's flour mills adopted the most advanced European manufacturing technologies and installed continuous-process machines that graded, cleaned, hulled, ground, and packaged the product in one rapid operation. These
The development of indoor plumbing was typical of the technological breakthroughs that simplified everyday life in the late nineteenth century. In the 1860s only about 5 percent of American houses had running water. Most Americans used chamber pots or outhouses that emptied into slimy, smelly cesspools. Two decades later, indoor plumbing standards had been established in most major U.S. cities, and wealthier urban Americans used flush toilets connected to municipal sewer systems.

The driving force for change came from outbreaks of cholera, typhoid, and yellow fever, diseases spread by polluted water, that periodically terrorized American cities. Building upon the discovery of germs by Louis Pasteur and Robert Koch, sanitary reformers established stringent metropolitan health laws, created state boards of health, and mandated the licensing of plumbers and the inspection of their work. By the turn of the century, George E. Waring, Jr., a prominent sanitary engineer, could confidently declare that “Plumbing, as we know it, is essentially and almost exclusively an American Institution.”

The decision to adopt a water-based system for the removal of human wastes depended on a series of inventions. First, municipal water systems had to be built with reservoirs, pumps, and water towers to provide water to the pipes that supplied buildings. A sewage system of interconnected pipes was also necessary to remove and process wastes. Machines to manufacture lead, cast-iron, and glazed stoneware pipes had to be created, as did a uniform system of pipe threads and melted lead joints to create a reliable standardized system for connecting them. Finally, a porcelain toilet with a built-in gas trap was needed because the bacteria in feces produce methane or sewer gas. (A trap is a U-shaped joint that uses the water at the low part of the U to prevent gas from seeping back into the bathroom. The gas is then vented through a pipe in the roof.)
Despite its usefulness, the new technology was adopted only slowly by Americans. In 1890 only 24 percent of American dwellings had running water. As late as 1897, over 90 percent of the families in tenements had no baths and had to wash in hallway sinks or courtyard hydrants. By 1920, 80 percent of American houses, particularly those in rural areas, still lacked indoor flush toilets. The reason was simple: indoor plumbing was expensive and depended on the availability of water and sewer systems. Adding indoor plumbing increased the price of a new house by 20 percent.

Advertisers did their best to increase demand. They skillfully used the findings of science to advocate new standards of cleanliness or “hygiene,” as it was called, which they associated with upper-class principles of respectability and decorum. Bathing and washing one’s hands were touted as symbols of upper-class refinement.

Indoor plumbing not only reinforced higher standards for personal hygiene; it also enmeshed the homeowner in a web of local and state regulations. As sewage and water systems expanded to cover larger constituencies, political control moved from local to state and sometimes national arenas. Once largely independent, the homeowner now had to deal with water and power companies that often functioned regionally.

The adoption of strict sanitation systems and the use of indoor plumbing did achieve their intended result: they dramatically reduced the spread of disease. But the advances had unintended consequences. Indoor plumbing encouraged the phenomenal waste of water. A single faulty toilet could easily leak a hundred gallons of water a day. Not until the 1990s with the development of new low-water-usage toilets, which could save between 18,000 and 26,400 gallons of water a year, would new standards be established to reduce the use of water, an increasingly precious natural resource.

Focus Question:
- Why does the successful introduction of new technologies often involve a system of inventions rather than a single invention?
companies, however, soon produced more flour than they could sell. To unload this excess, the mills thought up new product lines such as cake flours and breakfast cereals and sold them using easy-to-remember brand names like Quaker Oats.

Through the use of brand names, trademarks, guarantees, slogans, endorsements, and other gimmicks, manufacturers built demand for their products and won enduring consumer loyalty. Americans bought Ivory Soap, first made in 1879 by Procter and Gamble of Cincinnati, because of the absurdly overprecise but impressive pledge that it was “99 and 44/100ths percent pure.” James B. (“Buck”) Duke’s American Tobacco Company used trading cards, circulars, box-top premiums, prizes, testimonials, and scientific endorsements to convert Americans to cigarette smoking.

In the 1880s in the photographic field, George Eastman developed a paper-based photographic film as an alternative to the bulky, fragile glass plates then in use. Manufacturing a cheap camera for the masses, the Kodak, and devising a catchy slogan (“You press the button, we do the rest”), Eastman introduced a system whereby customers returned the one-hundred-exposure film and the camera to his Rochester factory. There, for a charge of ten dollars, the film was developed and printed, the camera reloaded, and everything shipped back. In marketing a new technology, Eastman had revolutionized an industry and democratized a visual medium previously confined to a few.
Economic Growth: Costs and Benefits

By 1900 the chaos of early industrial competition, when thousands of companies had struggled to enter a national market, had given way to the most productive economy in the world, supported by a legion of small, specialized companies and dominated by a few enormous ones. An industrial transformation that had originated in railroading and expanded to steel and petroleum had spread to every nook and cranny of American business and raised the United States to a position of world leadership.

For those who fell by the wayside in this era of spectacular economic growth, the cost could be measured in bankrupted companies and shattered dreams. John D. Rockefeller put things with characteristic bluntness when he said he wanted “only the big ones, only those who have already proved they can do a big business” in the Standard Oil Trust. “As for the others, unfortunately they will have to die.”

The cost was high, too, for millions of American workers, immigrant and native-born alike. The vast expansion of new products was built on the backs of an army of laborers who were paid subsistence wages and who could be fired on a moment's notice when hard times or new technologies made them expendable.

Industrial growth often devastated the environment as well. Rivers fouled by oil or chemical waste, skies filled with clouds of soot, and a landscape littered with reeking garbage and toxic materials bore mute witness to the relentless drive for efficiency and profit.

To be sure, the vast expansion of economic output brought social benefits as well, in the form of labor-saving products, lower prices, and advances in transportation and communications. The benefits and liabilities sometimes seemed inextricably interconnected. The sewing machine, for example, created thousands of new factory jobs, made available a wider variety of clothing, and eased the lives of millions of housewives. At the same time, it encouraged avaricious entrepreneurs to operate sweatshops in which the immigrant poor—often vulnerable young women—toiled long hours for pitifully low wages (see Chapter 21).

Whatever the final balance sheet of social gains and costs, one thing was clear: the United States had muscled its way onto the world stage as an industrial titan. The ambition and drive of countless inventors, financiers, managerial innovators, and marketing wizards had combined to lay the groundwork for a new social and economic order in the twentieth century.

The New South

The South entered the industrial era far more slowly than the Northeast. As late as 1900, total southern cotton-mill output, for example, remained little more than half that of the mills within a thirty-mile radius of Providence, Rhode Island. Moreover, the South's $509 average per capita income was less than half that of northerners.

The reasons for the South's late economic blossoming are not hard to discern. The Civil War's physical devastation, the scarcity of southern towns and cities, lack of capital, illiteracy, northern control of financial markets and patents, and a low rate of technological innovation crippled efforts by southern business leaders to promote industrialization. Economic progress was also impeded by the myth of the Lost Cause, which, through its nostalgic portrayal of pre-Civil War society, perpetuated an image of the South as traditional and unchanging. As a result, southern industrialization inched forward haltingly and was shaped in distinctive ways.
Obstacles to Economic Development

Much of the South’s difficulty in industrializing arose from its lack of capital and the devastation of the Civil War. So many southern banks failed during the Civil War that by 1865 the South, with more than a quarter of the nation’s population, possessed just 2 percent of its banks.

Federal government policies adopted during the war further restricted the expansion of the southern banking system. The Republican-dominated wartime Congress, which had created a national currency and banking structure, required anyone wishing to start a bank to have fifty thousand dollars in capital. Few southerners could meet this standard.

With banks in short supply, country merchants and storekeepers became bankers by default, lending supplies rather than cash to local farmers in return for a lien, or mortgage, on their crops (see Chapter 16). As farmers sank in debt, they increased their production of cotton and tobacco in an effort to stay afloat, and became trapped on the land. As a result, the labor needed for industrial expansion remained in short supply.

The shift from planting corn to specializing in either cotton or tobacco made small southern farmers particularly vulnerable to the fluctuations of commercial agriculture. When the price of cotton tumbled in national and international markets from eleven cents per pound in 1875 to less than five cents in 1894, well under the cost of production, many southern farmers grew desperate.

The South also continued to be the victim of federal policies designed to aid northern industry. High protective tariffs raised the price of machine technology imported from abroad; the demonetization of silver (see Chapter 20) further limited capital availability; and discriminatory railroad freight rates hiked the expense of shipping finished goods and raw materials.

The South’s chronic shortage of funds affected the economy in indirect ways as well, by limiting the resources available for education. During Reconstruction northern philanthropists together with the Freedmen’s Bureau, the American Missionary Association, and other relief agencies had begun a modest expansion of public schooling for both blacks and whites. But Georgia and many other southern states operated segregated schools and refused to tax property for school support until 1889. As a result, school attendance remained low, severely limiting the number of educated people able to staff technical and managerial positions in business and industry.

Southern states, like those in the North, often contributed the modest funds they had to war veterans’ pensions. In this way, southern state governments built a white patronage system for Confederate veterans and helped reinforce southerners’ idealization of the old Confederacy—the South’s Lost Cause. As late as 1911, veterans’ pensions in Georgia ate up 22 percent of the state’s entire budget, leaving little for economic or educational development.

The New South Creed and Southern Industrialization

Despite the limited availability of private capital for investment in industrialization, energetic southern newspaper editors such as Henry W. Grady of the Atlanta Constitution and Henry Watterson of the Louisville Courier Journal championed the doctrine that became known as the New South creed. The South’s rich coal and timber resources and cheap labor, they proclaimed in their papers, made it a natural site for industrial development. As one editor declared, “The El Dorado [the fabled land of riches] of the next half century is the South. The wise recognize it; the dull and the timid will ere long regret their sloth or their hesitancy.”

The movement to industrialize the South gained momentum in the 1880s. To attract northern capital, southern states offered tax exemptions for new businesses, set up industrial and agricultural expositions, and leased prison convicts to serve as cheap labor. Florida, Texas, and other states gave huge tracts of lands to railroads, which expanded dramatically throughout the South and in turn stimulated the birth of new towns and villages. Other states sold forest and mineral rights on nearly 6 million acres of federal lands to speculators, mostly from the North, who significantly expanded the production of iron, sulfur, coal, and lumber.

Following the lead of their northern counterparts, the southern iron and steel industries expanded as well. Birmingham, Alabama, founded in 1871 in the heart of a region blessed with rich deposits of coal, limestone, and iron ore, grew in less than three decades to a bustling city with noisy railroad yards and roaring blast furnaces. By 1900 it was the nation’s largest pig-iron shipper. In these same years, Chattanooga, Tennessee, housed nine furnaces, seventeen foundries, and numerous machine shops.

As large-scale recruiters of black workers, the southern iron and steel mills contributed to the migration of blacks to the cities. By 1900, 20 percent of the southern black population was urban. Many urban blacks toiled as domestics or in similar menial capacities, but others entered the industrial work force. Southern industry reflected the patterns of racial segregation in southern
life. Tobacco companies used black workers, particularly women, to clean the tobacco leaves while white women, at a different location, ran the machines that made cigarettes. The burgeoning textile mills were lily-white. In the iron and steel industry, blacks, who comprised 60 percent of the unskilled work force by 1900, had practically no chance of advancement. Nevertheless, in a rare reversal of the usual pattern, southern blacks in the iron and steel industry on average earned more than did southern white textile workers.

**The Southern Mill Economy**

Unlike the urban-based southern iron and steel industry, the textile mills that mushroomed in the southern countryside in the 1880s often became catalysts for the formation of new towns and villages. (This same pattern had occurred in rural New England in the 1820s.) In those southern districts that underwent the gradual transition from an agricultural to a mill economy, country ways and values suffused the new industrial workplace.

The cotton-mill economy grew largely in the Piedmont, a beautiful highland country of rolling hills and rushing rivers stretching from central Virginia to northern Georgia and Alabama. The Piedmont had long been the South’s backcountry, a land of subsistence farming and limited roads. But postwar railroad construction opened the region to outside markets and sparked a period of intense town building and textile-mill expansion. Between 1880 and 1900 track mileage in North Carolina grew dramatically; the number of towns and villages jumped, quickening the pulse of commerce; and the construction of textile mills accelerated. Between 1860 and 1900 cotton-mill capacity shot up 1,400 percent, and by 1920 the South was the nation’s leading textile-mill center. Augusta, Georgia, with 2,800 mill workers, became known as the Lowell of the South, named after the mill town in Massachusetts where industrialization had flourished since the 1820s. The expansion of the textile industry nurtured promoters’ visions of a new, more prosperous, industrialized South.

Even sharecroppers and tenant farmers at first hailed the new cotton mills as a way out of rural poverty. But appearances were deceptive. The chief cotton-mill promoters were drawn from the same ranks of merchants, lawyers, doctors, and bankers who had profited from the commercialization of southern agriculture (and from the misfortunes of poor black and white tenant farmers and sharecroppers enmeshed in the new system). R. R. Haynes, a planter and merchant from North Carolina’s Rutherford County, was typical of the new entrepreneurs. Starting out as a storekeeper, he purchased land and water rights on Second Broad Creek in 1884 and formed a company to finance construction of the Henrietta Mills. By 1913 Haynes owned not only one of the South’s largest gingham-producing operations but also banks, railroads, lumber businesses, and general stores.

To run the mills, mill superintendents commonly hired poor whites from impoverished nearby farms. They promised that textile work would free these farming families from poverty and instill in them the virtues of punctuality and industrial discipline. The reality was different. Cotton-mill entrepreneurs shamelessly exploited their workers, paying just seven to eleven cents an hour, 30 percent to 50 percent less than what comparable mill workers in New England were paid.

The mills dominated most Piedmont textile communities. The mill operator not only built and owned the workers’ housing and the company store but also supported the village church, financed the local elementary school, and pried into the morals and behavior of the mill hands. To prevent workers from moving from one mill to another seeking better opportunities, the mill owner usually paid them just once a month, often in scrip—a certificate redeemable only in goods from the company store. Since few families had enough money to get through a month, they usually overspent and fell behind in their payments. The charges were deducted from workers’ wages the following month. In this way, the mill drew workers and their families into a cycle of indebtedness very much like that faced by sharecroppers and tenant farmers.

Since farm families had shared farm responsibilities together, Southern mill superintendents accommodated themselves to local customs and hired whole families, including the children. Mothers commonly brought babies into the mills and kept them in baskets nearby while tending their machines. Little children who were visiting older siblings in the mills sometimes learned to operate the machines themselves. Laboring a twelve-hour day, the mill hands relieved their tedium by stationing themselves near friends so that they might talk as they worked. Ties among the workers were strong. One employee put it simply, “The mill community was a close bunch of people . . . like one big family. We just loved one another.”

To help make ends meet, mill workers kept their own garden patches and raised chickens, cows, and pigs. Southern mill hands thus brought communal farm values, nurtured through cooperative planting and harvesting, into the mills and mill villages. Although they had to adapt to machine-paced work and received barely
enough pay to live on, the working poor in the mill districts, like their prewar counterparts in the North, eased the shift from rural to village-industrial life by clinging to a cooperative country ethic.

As northern cotton mills did before the Civil War, southern textile companies exploited the cheap rural labor around them, settling transplanted farm people in paternalistic company-run villages. Using these tactics, the industry underwent a period of steady growth.

**The Southern Industrial Lag**

Industrialization occurred on a smaller scale and at a slower rate in the South than in the North and also depended far more on outside financing, technology, and expertise. The late-nineteenth-century southern economy remained essentially in a colonial status, subject to control by northern industries and financial syndicates. U.S. Steel, for example, controlled the foundries in Birmingham, and in 1900 its executives began to price Birmingham steel according to the “Pittsburgh plus” formula based on the price of Pittsburgh steel, plus the freight costs of shipping from Pittsburgh. As a result, southerners paid higher prices for steel than did northerners, despite the cheaper production costs.

An array of factors thus combined to retard industrialization in the South. Banking regulations requiring large reserves, scarce capital, absentee ownership, unfavorable railroad rates, cautious state governments, wartime debts, lack of industrial experience, and control by profit-hungry northern enterprises all hampered the region’s economic development. Dragged down by a poorly educated white population unskilled in modern technology and by an equally poorly trained, indigent black population excluded from skilled jobs, southern industry languished. Not until after the turn of the century did southern industry undergo the restructuring and consolidation that had occurred in northern business enterprise two decades earlier.

As in the North, industrialization brought significant environmental damage, including polluted rivers and streams, decimated forests, grimy coal-mining towns, and soot-infested steel-making cities. Although Henry Grady’s vision of a New South may have inspired many southerners to work toward industrialization, economic growth in the South, limited as it was by outside forces, progressed in its own distinctly regional way.

**Factories and the Work Force**

Industrialization proceeded unevenly nationwide, and most late-nineteenth-century Americans still worked in small shops. But as the century unfolded, large factories with armies of workers sprang onto the industrial scene in more and more locales. The pattern of change was evident. Between 1860 and 1900, the number of industrial workers jumped from 885,000 to 3.2 million, and the trend toward large-scale production became unmistakable.

**From Workshop to Factory**

The transition to a factory economy came not as a major earthquake but rather as a series of jolts varying in strength and duration. Whether they occurred quickly or slowly, the changes in factory production had a profound impact on artisans and unskilled laborers alike, for they involved a fundamental restructuring of work habits and a new emphasis on workplace discipline. The impact of these changes can be seen by examining the
boots and shoes. As late as the 1840s, almost every shoe was custom-made by a skilled artisan who worked in a small, independent shop. Shoemakers were aristocrats in the world of labor. Taught in an apprentice system, they took pride in their work and controlled the quality of their products. In some cases they hired and paid their own helpers.

A distinctive working-class culture subdivided along ethnic lines evolved among these shoemakers. Foreign-born English, German, and Irish workers set up ethnic trade organizations and joined affiliated benevolent associations. Bound together by their potent religious and ethnic ties, they observed weddings and funerals according to old-country traditions and relaxed together at the local saloon after work. Living in tenements and boardinghouses within the same tight-knit ethnic neighborhood, they developed a strong ethnic and community pride and helped one another weather accidents or sicknesses.

As early as the 1850s, even before the widespread use of machinery, changes in the ready-made shoe trade had eroded the status of skilled labor. The manufacturing process was broken down into a sequence of repetitive, easily mastered tasks. Skilled shoe artisans now worked in “teams” of four men, each responsible for one function: putting the shoe on the last (a form shaped like a person’s foot), attaching the heel, trimming the sole, “finishing” the leather with stain and polish, and so forth. Thus instead of crafting a pair of shoes from start to finish, each team member specialized in only one part of the process.

Under the new factory system of shoe manufacture, workers also lost the freedom to drink on the job and to take time off for special occasions. A working-class culture that had reinforced group solidarity was now dismissed by owners and shop foremen as wasteful and inefficient.

In the 1880s, shoe factories became larger and more mechanized, and traditional skills largely vanished. Sophisticated sewing and buffing machines allowed shoe companies to replace skilled operatives with lower-paid, less-skilled women and children. By 1890 women made up more than 35 percent of the workforce in an industry once dominated by men. In many other industries, skilled artisans found their responsibilities and relation to the production process changing. With the exception of some skilled construction crafts such as carpentry and bricklaying, artisans no longer participated in the production process as a whole. Like the laborer whose machine nailed heels on 4,800 shoes a day, even “skilled” workers in the new factories specializing in consumer goods found themselves performing numbingly repetitive tasks.

The Hardships of Industrial Labor

The expansion of the factory system spawned an unprecedented demand for unskilled labor. By the 1880s nearly one-third of the 750,000 workers employed in the railroad and steel industries, for example, were common laborers.

In the construction trades, the machine and tool industries, and garment making, the services of unskilled laborers were procured under the so-called contract system. To avoid the problems of hiring, managing, and firing their own workers, large companies negotiated an agreement with a subcontractor who took responsibility for employee relations. A foreman or boss employed by the subcontractor supervised gangs of unskilled day laborers. These common workers were seasonal help, hired in times of need and laid off in slack periods. The steel industry employed them to shovel ore in the yards and to move ingots inside the mills. The foremen drove the gangs hard; in the Pittsburgh area, the workers called the foremen “pushers.”

Notoriously transient, unskilled laborers drifted from city to city and from industry to industry. In the late 1870s unskilled laborers earned $1.30 a day, while bricklayers and blacksmiths earned more than $3. Only unskilled southern mill workers, whose wages averaged a meager eighty-four cents a day, earned less.

Unskilled and skilled workers alike not only worked up to twelve-hour shifts but also faced grave hazards to their health and safety. The alarming incidence of industrial accidents stemmed from a variety of circumstances, including dangerous factory conditions, workers’ inexperience, and the rapid pace of the production process. Author Hamlin Garland described the perilous environment of a steel-rail mill at Carnegie’s Homestead Steel Works in Pittsburgh. One steelworker recalled that on his first day at the mill, “I looked up and a big train carrying a big vessel with fire was making towards me. I stood numb, afraid to move, until a man came to me and led me out of the mill.” Under such conditions the accident rate in the steel mills was extremely high.

In the coal mines and cotton mills, child laborers typically entered the work force at age eight or nine. These youngsters not only faced the same environmental hazards as adults but were especially prone to injury because of the pranks and play that they engaged in on the job. When supervision was lax in the cotton mills, for example, child workers would grab the belts that
powered the machines and see who could ride them farthest up toward the drive shaft in the ceiling before letting go and falling to the floor. In the coal industry, children were commonly employed as slate pickers. Sitting at a chute beneath the breakers that crushed the coal, they removed pieces of slate and other impurities. The cloud of coal dust that swirled around them made them vulnerable to black lung disease—a disorder that could progress into emphysema and tuberculosis. Children and others who toiled in the cotton mills, constantly breathing in cotton dust, fell ill with brown lung, another crippling disease.

For adult workers, the railroad industry was one of the most perilous. In 1889, the first year that the Interstate Commerce Commission compiled reliable statistics, almost two thousand rail workers were killed on the job and more than twenty thousand were injured.

Disabled workers and widows received only minimal financial aid from employers. Until the 1890s the courts considered employer negligence to be one of the normal risks borne by employees. Railroad and factory owners regularly fought against the adoption of state safety and health standards on the grounds that the economic costs would be excessive. For sickness and accident benefits, workers joined fraternal organizations and ethnic clubs, part of whose monthly dues benefited those in need. But in most cases, the amounts set aside were too low to be of much help. When a worker was killed or maimed in an accident, the family became dependent on relatives or kindly neighbors for assistance and support.

**Immigrant Labor**

In their search for cheap labor, factory owners turned to unskilled immigrant workers for the muscle needed in the booming factories, mills, and railroads and in heavy-construction industries. In Philadelphia, where native-born Americans and recent German immigrants dominated the highly skilled metalworking trades, Irish newcomers remained mired in unskilled horse-carting and construction occupations until the 1890s, when the “new immigrants” from southern and eastern Europe replaced them (see Chapter 19). Poverty-stricken French Canadians filled the most menial positions in the textile mills of the Northeast. On the West Coast, Chinese immigrants performed the dirtiest and most physically demanding jobs in mining, canning, and railroad construction.

Writing home in the 1890s, eastern European immigrants described the hazardous and draining work in the steel mills. “Wherever the heat is most insupportable, the flames most scorching, the smoke and soot most choking, there we are certain to find compatriots bent and wasted in toil,” reported one Hungarian. Yet those immigrants disposed to live frugally in a boardinghouse and to work an eighty-four-hour week could save fifteen dollars a month, far more than they could have earned in their homeland.

Although most immigrants worked hard, few adjusted easily to the frantic pace of the factory. Rural peasants from southern and eastern Europe who immigrated after 1890 found it especially difficult to abandon their irregular work habits for the unrelenting factory schedules. Where farm routines had followed a seasonal pace, slowing in the winter, factory operations were relentless, dictated by the invariable speed of the machines. A brochure that the International Harvester Corporation used to teach English to its Polish
workers attempted to instill the “proper” values. Lesson 1 read:

I hear the whistle. I must hurry.
I hear the five minute whistle.
It is time to go into the shop.
I take my check from the gate board and hang it on the department board.
I change my clothes and get ready to work.
The starting whistle blows.
I eat my lunch.
It is forbidden to eat until then.
The whistle blows at five minutes of starting time.
I get ready to go to work.
I work until the whistle blows to quit.
I leave my place nice and clean.
I put all my clothes in the locker.
I must go home.

As this “lesson” reveals, factory work tied the immigrants to a rigid timetable very different from the pace of farm life.

When immigrant workers resisted the tempo of factory work, drank on the job, or took unexcused absences, employers used a variety of tactics to enforce discipline. Some sponsored temperance societies and Sunday schools to teach punctuality and sobriety. Others cut wages and put workers on the piecework system, paying them only for the items produced. Employers sometimes also provided low-cost housing to gain leverage against work stoppages; if workers went on strike, the boss could simply evict them.

In the case of immigrants from southern Europe whose skin colors were often darker than northern Europeans, employers asserted that the workers were nonwhite and thus did not deserve the same compensation as native-born Americans. Because the concept of “whiteness” in the United States bestowed a sense of privilege and the automatic extension of the rights of citizenship, Irish, Greek, Italian, Jewish, and a host of other immigrants, although of the Caucasian race, were also considered nonwhite. Rather than being a fixed category based on biological differences, the concept of race was thus used to justify the harsh treatment of foreign-born labor.

**Women and Work in Industrial America**

Women’s work experiences, like those of men, were shaped by marital status, social class, and race. White married women in all classes widely accepted an ideology of “separate spheres” (see Chapter 19) and remained at home, raised children, and looked after the household. The well-to-do hired maids and cooks to ease their burdens. Working-class married women, in contrast, not only lacked such assistance but also often had the added
responsibility of earning money at home to make ends meet.

For working-class married women, working for wages at home by sewing, button-making, taking in boarders, or doing laundry had predated industrialization. In the late nineteenth century, urbanization and economic expansion enabled unscrupulous entrepreneurs to exploit this captive work force. Cigar manufacturers would buy or lease a tenement and require their twenty families to live and work there. In the clothing industry, manufacturers hired out finishing tasks to lower-class married women and their children, who labored long hours in crowded apartments.

Young, working-class single women often viewed factory work as an opportunity. In 1870, 13 percent of all women worked outside the home, the majority as cooks, maids, cleaning ladies, and laundresses. But most working women intensely disliked the long hours, dismally low pay, and social stigma of being a “servant.” When jobs in industry expanded in the last quarter of the century, growing numbers of single white women abandoned domestic employment for better-paying work in the textile, food-processing, and garment industries. Discrimination barred black working women from following this path. Between 1870 and 1900, the number of women of all races working outside the home nearly tripled, and by the turn of the century, women made up 17 percent of the country’s labor force.

A variety of factors propelled the rise in the employment of single women. Changes in agriculture prompted many young farm women to seek employment in the industrial sector (see Chapter 19), and immigrant parents often sent their daughters to the factories to supplement meager family incomes. Plant managers welcomed young immigrant women as a ready source of inexpensive unskilled labor. But factory owners assumed that many of these women would marry within a short time and thus treated them as temporary help and kept their wages low. Late in the century, young women in the clothing industry were earning as little as five dollars for seventy hours of work.

Despite their paltry wages, long hours, and often unpleasant working conditions, many young women relished earning their own income and joined the work force in increasing numbers. Although the financial support that these working women contributed to their families was significant, few working women were paid enough to provide homes for themselves. Rather than fostering their independence, industrial work enmeshed them more deeply in a family economy that depended on their earnings.

When the typewriter and the telephone came into general use in the 1890s, office work provided new employment opportunities, and women with a high school education moved into clerical and secretarial jobs earlier filled primarily by men. They were attracted by the clean, safe working conditions and relatively good pay. First-rate typists could earn six to eight dollars a week, which compared favorably with factory wages. Even though women were excluded from managerial positions, office work carried higher prestige and was generally steadier than work in the factory or shop.

Despite the growing number of women workers, the late-nineteenth-century popular press portrayed women’s work outside the home as temporary. Few people even considered the possibility that a woman could attain local or even national prominence in the emerging corporate order.

**Hard Work and the Gospel of Success**

Although women were generally excluded from the equation, influential opinion molders in these years preached that any man could achieve success in the new industrial era. In *Ragged Dick* (1867) and scores of later
tales, Horatio Alger, a Unitarian minister turned dime novelist, recounted the adventures of poor but honest lads who rose through ambition, initiative, and self-discipline. In his stories shoeshine boys stopped runaway horses and were rewarded by rich benefactors who gave them a start in business. The career of Andrew Carnegie was often offered as proof that the United States remained the land of opportunity and “rags to riches.”

Not everyone embraced this belief. In an 1871 essay, Mark Twain chided the public for its naïveté and suggested that business success was more likely to come to those who lied and cheated. In testimony given in 1883 before a Senate committee investigating labor conditions, a New Yorker named Thomas B. McGuire dolefully recounted how he had been forced out of the horse-cart business by larger, better-financed concerns. Declared McGuire, “I live in a tenement house, three stories up, where the water comes in through the roof, and I cannot better myself. My children will have to go to work before they are able to work. Why? Simply because this present system . . . is all for the privileged classes, nothing for the man who produces the wealth.” Only with starting capital of ten thousand dollars—then a large sum—said McGuire, could the independent entrepreneur hope to compete with the large companies.

What are the facts? Certainly Carnegie’s rise from abject poverty to colossal wealth was the rare exception, as studies of nearly two hundred of the largest corporations reveal. Ninety-five percent of the industrial leaders came from middle- and upper-class backgrounds. However, even if skilled immigrants and native-born working-class Americans had little chance to move into management in the largest corporations, they did have considerable opportunity to rise to the top in small companies. Although few of them reaped immense fortunes, many attained substantial incomes.

The different fates of immigrant workers in San Francisco show the possibilities and perils of moving up within the working class. In the 1860s the Irish-born Donahue brothers grew wealthy from the Union Iron Works they had founded, where six hundred men built heavy equipment for the mining industry. In contrast, the nearly fifteen thousand Chinese workers who returned to the city after the Central Pacific’s rail line was completed in 1869 were consigned by prejudice to work in cigar, textile, and other light-industry factories. Even successful Chinese entrepreneurs faced discrimination. When a Chinese merchant, Mr. Yung, refused to sell out to the wealthy Charles Crocker, a dry-goods merchant turned railroad entrepreneur who was building a mansion on Nob Hill, Crocker built a thirty-foot-high “spite fence” around Yung’s house so that it would be completely sealed from view.

Thus, while some skilled workers became owners of their own companies, the opportunities for advancement for unskilled immigrant workers were considerably more limited. Some did move to semiskilled or skilled positions. Yet most immigrants, particularly the Irish, Italians, and Chinese, moved far more slowly than the sons of middle- and upper-class Americans who began with greater educational advantages and family financial backing. The upward mobility possible for such unskilled workers was generally mobility within the working class. Immigrants who got ahead in the late nineteenth century went from rags to respectability, not rags to riches.

One positive economic trend in these years was the rise in real wages, representing gains in actual buying power. Average real wages climbed 31 percent for unskilled workers and 74 percent for skilled workers between 1860 and 1900. Overall gains in purchasing power, however, were often undercut by injuries and unemployment during slack times or economic slumps. The position of unskilled immigrant laborers was particularly shaky. Even during a prosperous year like 1890, one out of every five nonagricultural workers was unemployed at least one month of the year. During the depressions of the 1870s and 1890s, wage cuts, extended layoffs, and irregular employment pushed those at the bottom of the industrial work force to the brink of starvation.

Thus the overall picture of late-nineteenth-century economic mobility is complex. At the top of the scale, a mere 10 percent of American families owned 73 percent of the nation’s wealth in 1890, while less than half of industrial laborers earned more than the five-hundred-dollar poverty line annually. In between the very rich and the very poor, skilled immigrants and small shopkeepers swelled the ranks of the middle class. So although the standard of living for millions of Americans rose, the gap between the poor and the well-off remained a yawning abyss.
unprecedented power to control the workplace, labor leaders searched for ways to create broad-based, national organizations that could protect their members and resist corporate power.

From the outset, the drive to create a nationwide labor movement faced many problems. Ethnic and racial divisions within the work force, including competition between immigrant groups, hampered unionizing efforts. Skilled craftsmen, moreover, felt little kinship with low-paid common laborers. Divided into different trades, they often saw little reason to work together. Thus, unionization efforts moved forward slowly and experienced many setbacks.

Two groups, the National Labor Union and the Knights of Labor, struggled to build a mass labor movement that would unite skilled and unskilled workers regardless of their specialties. After impressive initial growth, however, both efforts collapsed. Far more effective was the American Federation of Labor (AFL), which represented an amalgamation of powerful independent craft unions. The AFL survived and grew, but it still represented only a small portion of the total labor force.

With unions so weak, labor unrest reached crisis proportions. When working conditions became intolerable, laborers walked off the job. These actions, born of desperation, often exploded into violence. The labor crisis of the 1890s, with its strikes and bloodshed, would reshape the legal environment, increase the demand for state regulation, and eventually contribute to a movement for progressive reform.

Organizing the Workers

The Civil War marked a watershed in the development of labor organizations. From the eighteenth century on, skilled workers had organized local trade unions to fight wage reductions and provide benefits for their members in times of illness or accident. By the 1850s some tradesmen had even organized national associations along craft lines. But the effectiveness of these organizations was limited. The main challenge that labor leaders faced in the postwar period was how to boost the unions’ clout. Some believed that this goal could be achieved by forming one big association that would transcend craft lines and pull in a mass membership.

One person inspired by this vision was Philadelphian William H. Sylvis, who in 1863 was elected president of the Iron Molders’ International Union, an organization of iron-foundry workers. Strongly built and bearded, with a “face and eyes beaming with intelligence,” Sylvis traveled the country exhorting iron molders to organize. Within a few years, Sylvis had built his union from “a mere pygmy” to a membership of eighty-five hundred.

In 1866, acting on his dream of a nationwide association to represent all workers, Sylvis called a convention in Baltimore that formed a new organization, the National Labor Union (NLU). Reflecting the lingering aura of pre-Civil War utopianism, the NLU endorsed the eight-hour-day movement, which insisted that labor deserved eight hours for work, eight hours for sleep, and eight hours for personal affairs. Leaders also called for an end to convict labor, for the establishment of a federal department of labor, and for currency and banking reform. To push wage scales higher, they endorsed restriction on immigration, especially of Chinese migrants, whom native-born workers blamed for undercutting prevailing wage levels. The NLU under Sylvis’s leadership supported the cause of working women and elected a woman as one of its national officers. It urged black workers to organize as well, though in racially separate unions.

In the winter of 1866–1867, Sylvis’s own union became locked in a harrowing strike against the nation’s foundry owners. When the strike failed miserably, Sylvis turned to national political reform. He invited a number of reformers to the 1868 NLU convention, including woman suffrage advocates Susan B. Anthony and Elizabeth Cady Stanton who, according to a reporter, made “no mean impression on the bearded delegates.” But the NLU suffered a shattering blow when Sylvis suddenly died in 1869. Despite a claim of three hundred thousand members, it faded quickly. After a brief incarnation in 1872 as the National Labor Reform party, it vanished from the scene.

The dream of a national labor movement lived on in a new organization, the Noble and Holy Order of the Knights of Labor, founded in 1869 by nine Philadelphia tailors led by Uriah H. Stephens, head of the Garment Cutters of Philadelphia. A secret society modeled on the Masonic order, the Knights welcomed all wage earners or former wage earners; they excluded only bankers, doctors, lawyers, stockbrokers, professional gamblers, and liquor dealers. Calling for a great association of all workers, the Knights demanded equal pay for women, an end to child labor and convict labor, and the cooperative employer-employee ownership of factories, mines, and other businesses. At a time when no federal income tax existed, they called for a tax on all earnings, graduated so that higher income earners would pay more.

The Knights grew slowly at first. But membership rocketed in the 1880s after Terence V. Powderly replaced...
Stephens as the organization’s head. A young Pennsylvania machinist of Irish-Catholic immigrant origins, Powderly was an unlikely labor leader. He was short and slight, with a blond drooping mustache, elegant attire, and a fastidious, somewhat aloof manner. One journalist expressed surprise at finding such a fashionable man as the leader of “the horny-fisted sons of toil.” But Powderly’s eloquence, coupled with a series of successes in labor clashes, brought in thousands of new members.

During its growth years in the early 1880s, the Knights of Labor reflected both its idealistic origins and Powderly’s collaborative vision. Powderly opposed strikes, which he considered “a relic of barbarism,” and organized producer and consumer cooperatives. A teetotaler, he also urged temperance upon the membership. Powderly advocated the admission of blacks into local Knights of Labor assemblies, although he recognized the strength of racism and allowed local assemblies to be segregated in the South. Under his leadership the Knights welcomed women members; by 1886 women organizers such as the feisty Irish-born Mary Harris Jones, known as Mother Jones, had recruited thousands of workers, and women made up an estimated 10 percent of the union’s membership.

Powderly supported restrictions on immigration and a total ban on Chinese immigration. Union members feared that immigrants would work so cheaply that they would steal their jobs. In the West such fears were directed particularly against the Chinese, and they were heightened when California railroad magnate Leland Stanford declared, “[O]pen the door and let everybody come who wants to come...until you get enough [immigrants] here to reduce the price of labor to such a point that its cheapness will stop their coming.” In 1877 San Francisco workers demonstrating for an eight-hour workday destroyed twenty-five Chinese-run laundries and terrorized the local Chinese population. In 1880 both major party platforms included anti-Chinese immigration plans. Two years later, Congress passed the Chinese Exclusion Act, placing a ten-year moratorium on Chinese immigration. The ban was made permanent in 1902.

Although inspired by Powderly’s vision of a harmonious and cooperative future, most rank-and-file Knights of Labor strongly disagreed with Powderly’s antistrike position. In 1883–1884 local branches of the Knights led a series of spontaneous strikes that elicited only reluctant support from the national leadership. In 1885, however, when Jay Gould tried to eradicate the Knights of Labor from his Wabash railroad by firing active union members, Powderly and his executive board instructed all Knights employed by the Wabash line to walk off the job and those working for other lines to refuse to handle Wabash cars. This highly effective action crippled the Wabash’s operations. To the nation’s amazement, the arrogant Jay Gould met with Powderly and cancelled his campaign against the Knights of Labor. “The Wabash victory is with the Knights,” declared a St. Louis newspaper; “no such victory has ever before been secured in this or any other country.”
With this apparent triumph, membership in the Knights of Labor soared. By 1886 more than seven hundred thousand workers were organized in nearly six thousand locals. Turning to political action that fall, the Knights mounted campaigns in nearly two hundred towns and cities nationwide, electing several mayors and judges (Powderly himself had served as mayor of Scranton since 1878) and claimed a role in electing a dozen congressmen. In state legislatures they secured passage of laws banning convict labor, and at the national level they lobbied successfully for a law against the importation of foreign contract labor. Business executives warned darkly that the Knights could cripple the economy and take over the country if they chose.

But the organization’s strength soon waned. Workers became disillusioned when a series of unauthorized strikes failed in 1886. The national reaction to the Haymarket riot (see below) also contributed to the decline. By the late 1880s, the Knights of Labor was a shadow of its former self. Nevertheless, the organization had served as a major impetus to the labor movement and had awakened in thousands of workers a sense of group solidarity and potential strength. Powderly, who survived to 1924, always remained proud of his role “in forcing to the forefront the cause of misunderstood and downtrodden humanity.”

As the Knights of Labor weakened, another national labor organization, pursuing more immediate and practical goals, was gaining strength. The skilled craft unions had long been uncomfortable with labor organizations like the Knights that welcomed skilled and unskilled alike. They were also concerned that the Knights’ emphasis on broad reform goals would undercut their own commitment to better wages and protecting the interests of their particular crafts. The break came in May 1886 when the craft unions left the Knights of Labor to form the American Federation of Labor (AFL).

The AFL replaced the Knights’ grand visions with practical tactics aimed at bread-and-butter issues. This philosophy was vigorously pursued by Samuel Gompers, the immigrant cigar maker who became head of the AFL in 1886 and led it until his death in 1924. Gompers believed in “trade unionism, pure and simple.” For Gompers, higher wages were not simply an end in themselves but were rather the necessary base to enable working-class families to exist decently, with respect and dignity. The stocky, mustachioed labor leader had lost faith in utopian social reforms and recognized that “the poor, the hungry, have not the strength to engage in a conflict even when life is at stake.” To stand up to the corporations, Gompers asserted, labor would have to harness the bargaining power of skilled workers, whom employers could not easily replace, and concentrate on the practical goals of raising wages and reducing hours.

A master tactician, Gompers believed that the trend toward large-scale industrial organization necessitated a comparable degree of organization by labor. He also recognized, however, that the skilled craft unions that made up the AFL retained a strong sense of independence. He knew that he had to persuade craftworkers from the various trades to join forces without violating their sense of craft autonomy. Gompers’s solution was to organize the AFL as a federation of trade unions, each retaining control of its own members but all linked by an executive council that coordinated strategy during boycotts and strike actions. “We want to make the trade union movement under the AFL as distinct as the billows, yet one as the sea,” he told a national convention.

Focusing the federation’s efforts on short-term improvements in wages and hours, Gompers at first sidestepped divisive political issues. The new organiza-
tion's platform did, however, demand an eight-hour workday, employers' liability for workers' injuries, and mine-safety laws. Although women participated in many craft unions, the AFL did little to recruit women workers after 1894 because Gompers and others believed that women's place was in the home. By 1904, under Gompers's careful tutelage, the AFL had grown to more than 1.6 million strong.

Although the unions held up an ideal toward which many might strive, labor organizations before 1900 remained weak. Less than 5 percent of the work force joined union ranks. Split between skilled artisans and common laborers, separated along ethnic and religious lines, and divided over tactics, the unions battled with only occasional effectiveness against the growing power of corporate enterprise. Lacking financial resources, they typically watched from the sidelines when unorganized workers launched wildcat strikes that sometimes turned violent.

**Strikes and Labor Violence**

Americans had lived with a high level of violence from the nation's beginnings, and the nineteenth century, with its international and civil wars, urban riots, and Indian-white conflict, was no exception. Terrible labor clashes toward the end of the century were part of this continuing pattern, but they nevertheless shocked and dismayed contemporaries. From 1881 to 1905, close to 37,000 strikes erupted, in which nearly 7 million workers participated.

The first major wave of strikes began in 1873 when a Wall Street crash triggered a stock market panic and a major depression. Six thousand businesses closed the following year, and many more cut wages and laid off workers. Striking Pennsylvania coal miners were fired and evicted from their homes. Tramps roamed the streets in New York and Chicago. The tension took a deadly turn in 1877 during a wildcat railroad strike. Ignited by a wage reduction on the Baltimore and Ohio Railroad in July, the strike exploded up and down the railroad lines, spreading to New York, Pittsburgh, St. Louis, Kansas City, Chicago, and San Francisco. Rioters in Pittsburgh torched Union Depot and the Pennsylvania Railroad roundhouse. By the time newly installed President Rutherford B. Hayes had called out the troops and quelled the strike two weeks later, nearly one hundred people had died, and two-thirds of the nation's railroads stood idle.

The railroad strike stunned middle-class America. The religious press responded hysterically. "If the club of the policeman, knocking out the brains of the rioter, will answer, then well and good," declared one Congregational journal, "[but if not] then bullets and bayonets...constitute the one remedy...Napoleon was right when he said that the way to deal with a mob was to exterminate it." The same middle-class Americans who worried about corporate abuse of power at the top echelons grew terrified of mob violence from the bottom ranks of society.

Employers capitalized on the public hysteria to crack down on labor. Many required their workers to sign "yellow dog" contracts in which they promised not to strike or join a union. Some hired Pinkerton agents to serve as their own private police force and, when necessary, turned to the federal government and the U.S. Army to suppress labor unrest.

Although the economy had recovered, more strikes and violence followed in the 1880s. On May 1, 1886, 340,000 workers walked off their jobs in support of the campaign for an eight-hour workday. Strikers in Cincinnati virtually shut down the city for nearly a month. Also in 1886, Chicago police shot and killed four strikers at the McCormick Harvester plant on May 3. At a protest rally the next evening in the city's Haymarket Square, someone threw a bomb from a nearby building, killing or fatally wounding seven policemen. In response, the police fired wildly into the crowd and killed four demonstrators.

Public reaction was immediate. Business leaders and middle-class citizens lashed out at labor activists and particularly at the sponsors of the Haymarket meeting, most of whom were associated with a German-language anarchist newspaper that advocated the violent overthrow of capitalism. Eight men were arrested. Although no evidence connected them directly to the bomb throwing, all were convicted of murder, and four were executed. One committed suicide in prison. In Haymarket's aftermath, still more Americans became convinced that the nation was in the grip of a deadly foreign conspiracy, and animosity toward labor unions intensified.

Confrontations between capital and labor became particularly violent in the West. When the Mine Owners' Protective Association cut wages at work sites along Idaho's Coeur d'Alene River in 1892, the miners, who were skilled in the use of dynamite, blew up a mill and captured the guards sent to defend it. Mine owners responded by mustering the Idaho National Guard to round up more than three hundred men and cripple their union.

Back east that same year, armed conflict broke out at the Carnegie Steel Company plant in Homestead, Pennsylvania, when managers cut wages and locked out
the workers to destroy their union. When workers responded by firing on the armed men from the Pinkerton Detective Agency who came to protect the plant, a battle broke out. Seven union members and three Pinkertons died. A week later the governor sent eight thousand National Guardsmen to restore order. The union crushed, the mills resumed full operation a month later.

The most systematic use of troops to smash union power came in 1894 during a strike against the Pullman Palace Car Company. In 1880 George Pullman, a manufacturer of elegant dining, parlor, and sleeping cars for the nation’s railroads, had constructed a factory and town, called Pullman, ten miles south of Chicago. The carefully planned community provided solid brick houses for the workers, beautiful parks and playgrounds, and even its own sewage-treatment plant. Pullman also closely policed workers’ activities, outlawed saloons, and insisted that his properties turn a profit.

When the depression of 1893 hit, Pullman slashed workers’ wages without reducing their rents. In reaction thousands of workers joined the newly formed American Railway Union and went on strike. They were led by a fiery young organizer, Eugene V. Debs, who vowed “to strip the mask of hypocrisy from the pretend-
ed philanthropist and show him to the world as an oppressor of labor.” Union members working for the nation’s largest railroads refused to switch Pullman cars, paralyzing rail traffic in and out of Chicago, one of the nation’s premier rail hubs.

In response, the General Managers’ Association, an organization of top railroad executives, set out to break the union. The General Managers imported strikebreakers from among jobless easterners and asked U.S. attorney general Richard Olney, who sat on the board of directors of three major railroad networks, for a federal injunction (court order) against the strikers for allegedly refusing to move railroad cars carrying U.S. mail.

In fact, union members had volunteered to switch mail cars onto any trains that did not carry Pullman cars, and it was the railroads’ managers who were delaying the mail by refusing to send their trains without the full complement of cars. Nevertheless, Olney, supported by President Grover Cleveland and citing the Sherman Anti-Trust Act, secured an injunction against the leaders of the American Railway Union for restraint of commerce. When the union refused to order its members back to work, Debs was arrested, and federal troops poured in. During the ensuing riot, seven hundred freight cars were burned, thirteen people died, and fifty-three were wounded. By July 18 the strike had been crushed.

By playing upon a popular identification of strikers with anarchism and violence, crafty corporate leaders persuaded state and federal officials to cripple organized labor’s ability to bargain with business. When the Supreme Court (in the 1895 case In re Debs) upheld Debs’s prison sentence and legalized the use of injunctions against labor unions, the judicial system gave business a potent new weapon with which to restrain labor organizers.

Despite successive attempts by the National Labor Union, Knights of Labor, American Federation of Labor, and American Railway Union to build a strong working-class movement, aggressive employer associations and conservative state and local officials hamstrung their efforts. In sharp contrast to Great Britain and Germany, where state officials often mediated disputes between labor and capital, federal and state officials in the United States increasingly sided with manufacturers. Ineffective in the political arena, blocked by state officials, and frustrated by court decisions, American unions failed to expand their base of support. Post-Civil War labor turmoil had sapped the vitality of organized labor and given it a negative public image that it would not shed until the 1930s.
**Social Thinkers Probe for Alternatives**

Widespread industrial violence was particularly unsettling when examined in the context of working-class poverty. In 1879, after observing three men rummaging through garbage to find food, the poet and journalist Walt Whitman wrote, “If the United States, like the countries of the Old World, are also to grow vast crops of poor, desperate, dissatisfied, nomadic, miserably-waged populations, such as we see looming upon us of late years... then our republican experiment, notwithstanding all its surface-successes, is at heart an unhealthy failure.” Whitman’s bleak speculation was part of a general public debate over the social meaning of the new industrial order. At stake was a larger issue: should government become the mechanism for helping the poor and regulating big business?

Defenders of capitalism preached the laissez-faire (“hands-off”) argument, insisting that government should never attempt to control business. They buttressed their case by citing Scottish economist Adam Smith, who had argued in *The Wealth of Nations* (1776) that self-interest acted as an “invisible hand” in the marketplace, automatically regulating the supply of and demand for goods and services. In “The Gospel of Wealth,” an influential essay published in 1889, Andrew Carnegie justified laissez-faire by applying the evolutionary theories of British scientist Charles Darwin to human society. “The law of competition,” Carnegie argued, “may be sometimes hard for the individual, [but] it is best for the race, because it insures the survival of the fittest in every department.” Ignoring the scramble among businesses in the late nineteenth century to eliminate competition, Carnegie praised an unregulated competitive environment as a source of positive long-term social benefits.

Tough-minded Yale professor William Graham Sumner shared Carnegie’s disapproval of government interference. In his combative book *What Social Classes Owe to Each Other* (1883), Sumner asserted that inexorable natural laws controlled the social order: “A drunkard in the gutter is just where he ought to be... The law of survival of the fittest was not made by man, and it cannot be abrogated by man. We can only, by interfering with it, produce the survival of the unfittest.” The state, declared Sumner, owed its citizens nothing but law, order, and basic political rights.

This conservative, laissez-faire brand of Social Darwinism (as such ideas came to be called) did not go unchallenged. In *Dynamic Sociology* (1883), Lester Frank Ward, a geologist with the U.S. Geological Survey, argued that contrary to Sumner’s claim, the supposed “laws” of nature could be circumvented by human will. Just as scientists had applied their knowledge to breeding superior livestock, government experts could use the power of the state to regulate big business, protect society’s weaker members, and prevent the heedless exploitation of natural resources.

Henry George, a self-taught San Francisco newspaper editor and economic theorist, proposed to solve the nation’s uneven distribution of wealth through what he called the single tax. In *Progress and Poverty* (1879), he noted that speculators reaped huge profits from the rising price of land that they neither developed nor improved. By taxing this “unearned increment,” the government could obtain the funds necessary to ameliorate the misery caused by industrialization. The result would bring the benefits of socialism—a state-controlled economic system that distributed resources according to need—without socialism’s great disadvantage, the stifling of individual initiative. George’s program was so popular that he lectured around the country and only narrowly missed being elected mayor of New York in 1886.

The vision of a harmonious industrialized society was vividly expressed in the utopian novel *Looking Backward* (1888) by Massachusetts newspaper editor Edward Bellamy. Cast as a glimpse into the future, Bellamy’s novel tells of Julian West, who falls asleep in 1888 and awakens in the year 2000 to find a nation without poverty or strife. In this future world, West learns, a completely centralized, state-run economy and a new religion of solidarity have combined to create a society in which everyone works for the common welfare. Bellamy’s vision of a conflict-free society where all share equally in industrialization’s benefits so inspired middle-class Americans fearful of corporate power and working-class violence that nearly five hundred local Bellamyite organizations, called Nationalist clubs, sprang up to try to turn his dream into reality.

Ward, George, and Bellamy did not deny the benefits of the existing industrial order; they simply sought to humanize it. These utopian reformers envisioned a harmonious society whose members all worked together. Marxist socialists advanced a different view. Elaborated by German philosopher and radical agitator Karl Marx (1818–1883) in *Das Kapital* (1867) and other works, Marxism rested on the proposition (which Adam Smith had also accepted) that the labor required to produce a commodity was the only true measure of that commodity’s value. Any profit made by the capitalist employer
was “surplus value” appropriated from the exploited workers. As competition among capitalists increased, Marx predicted, wages would decline to starvation levels, and more and more capitalists would be driven out of business. At last society would be divided between a shrinking bourgeoisie (capitalists, merchants, and middle-class professionals) and an impoverished proletariat (the workers). At this point the proletariat would revolt and seize control of the state and of the economy. Although Marx’s thought was dominated by an insistence on class struggle as the essence of modern history, his eyes were also fixed on the shining vision of the communist millennium that the revolution would eventually usher in—a classless utopia in which the state would “wither away” and all exploitation would cease. To lead the working class in its coming showdown with capitalism, Marx and his collaborator Friedrich Engels helped found socialist parties in Europe, whose strength grew steadily beginning in the 1870s.

Despite Marx’s keen interest in the United States, Marxism proved to have little appeal in late-nineteenth-century America other than for a tiny group of primarily German-born immigrants. The Marxist-oriented Socialist Labor party (1877) had attracted only about fifteen hundred members by 1890. More alarming to the public at large was the handful of anarchists, again mostly immigrants, who rejected Marxist discipline and preached the destruction of capitalism, the violent overthrow of the state, and the immediate introduction of a stateless utopia. In 1892 Alexander Berkman, a Russian immigrant anarchist, attempted to assassinate Henry Clay Frick, the manager of Andrew Carnegie’s Homestead Steel Works. Entering Frick’s office with a pistol, Berkman shot him in the neck and then tried to stab him. A carpenter working in Frick’s office overpowered the assailant. Rather than igniting a workers’ insurrection that would usher in a new social order as he had hoped, Berkman came away with a long prison sentence, and his act confirmed the middle-class stereotype of “labor agitators” as lawless and violent.

**Conclusion**

By 1900 industrialization had propelled the United States into the forefront of the world’s major powers, lowered the cost of goods through mass production, generated thousands of jobs, and made available a wide range of new consumer products. Using accounting systems first developed by the railroads and sophisticated new technologies, national corporations had pioneered innovative systems for distributing and marketing their goods. In the steel and oil industries, Andrew Carnegie and John D. Rockefeller had vertically integrated their companies, controlling production from the raw materials to the finished product. Through systematic cost-cutting and ruthless underselling of their competitors, they had gained control of most of their industry and lowered prices.

Despite these advantages, all thinking people recognized that industrialization’s cost was high. The rise of...
the giant corporations had been achieved through savage competition, exploited workers, shady business practices, polluted factory sites, and the collapse of an economic order built on craft skills. In the South in particular, the devastation of the Civil War and the control of banking and raw materials by northern capitalists encouraged industrialists to adopt a paternalistic, family-oriented approach in the cotton mills and to pay exceedingly low wages.

Outbursts of labor violence and the ominous phenomenon of urban slums and grinding poverty showed starkly that all was not well in industrial America. Although the Knights of Labor and the American Federation of Labor attempted to organize workers nationally, the labor movement could not control spontaneous wildcat strikes and violence. In response, government authorities sided with company owners, arrested strikers, obtained court injunctions, and crippled the ability of labor leaders to expand their organizations.

As a result, Americans remained profoundly ambivalent about the new industrial order. Caught between their desire for the higher standard of living that industrialization made possible and their fears of capitalist power and social chaos, Americans of the 1880s and 1890s sought strategies that would preserve the benefits while alleviating the undesirable social by-products. Efforts to regulate railroads at the state level and such national measures as the Interstate Commerce Act and the Sherman Anti-Trust Act, as well as the fervor with which the ideas of a utopian theorist like Edward Bellamy were embraced, represented early manifestations of this impulse. In the Progressive Era of the early twentieth century, Americans would redouble their efforts to formulate political and social responses to the nation’s economic transformation after the Civil War.

For Further Reference

Readings


Websites


http://memory.loc.gov/ammem/bellhtml/bellhome.html

Part of the Library of Congress American Memory Series, this site contains correspondence, notebooks, and articles about the famous scientist and inventor.

America at Work, America at Leisure: Motion Pictures from 1894–1915

http://memory.loc.gov/ammem/awlhtml/awlwork.html

Part of the Library of Congress American Memory Series, this site provides information about cattle breeding, coal mining, and a variety of manufacturing companies.

The Emergence of Advertising in America, 1850–1920

http://memory.loc.gov/ammem/award98/ncdhhtml/eaahome.html

Part of the Library of Congress American Memory Series, this site has a useful timeline organized by decade.

The Haymarket Riot

http://www.chipublib.org/004chicago/timeline/haymarket.html

Information about the Haymarket riot of 1886 from the Chicago Public Library.