

9

CHAPTER

Transforming the Economy

1800–1860

THE AMERICAN INDUSTRIAL REVOLUTION

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In 1804, life turned grim for eleven-year-old Chauncey Jerome. His father died suddenly, and Jerome became an indentured servant on a Connecticut farm. Quickly learning that few farmers “would treat a poor boy like a human being,” Jerome bought out his indenture by making dials for clocks and then found a job with clockmaker Eli Terry. A manufacturing wizard, Terry used water power to drive precision saws and woodworking lathes. Soon his shop, and dozens of outworkers, were turning out thousands of tall clocks with wooden works. Then, in 1816, Terry patented an enormously popular desk clock with brass parts, an innovation that turned Waterbury, Connecticut, into the clockmaking center of the United States.

In 1822, Chauncey Jerome set up his own clock factory. By organizing work more efficiently and using new machines that stamped out interchangeable metal parts, he drove down the price of a simple clock from \$20 to \$5 and then to less than \$2. By the 1840s, Jerome was selling his clocks in England, the hub of the Industrial Revolution; a decade later, his workers were turning out 400,000 clocks a year, clear testimony to American industrial enterprise. By 1860, the United States was not only the world’s leading exporter of cotton and wheat but also the third-ranked manufacturing nation behind Britain and France.

“Business is the very soul of an American: the fountain of all human felicity,” author Francis Grund observed shortly after arriving from Europe. “It is as if all America were but one gigantic workshop, over the entrance of which there is the blazing inscription, ‘No admission here, except on business.’” Stimulated by the entrepreneurial culture of early-nineteenth-century America, thousands of artisan-inventors like Chauncey Jerome propelled the country into the Industrial Revolution, a new system of production based on water and steam power and machine technology. Simultaneously, thousands of traders fashioned a second great economic advance, a Market Revolution that exploited advances in transportation and business organization to expand trade in farm products and manufactured goods.

Not all Americans embraced the new business-dominated society, and many failed to share in the new prosperity. Moreover, the increase in manufacturing, commerce, and finance created class divisions that challenged the founders’ vision of an agricultural republic with few distinctions of wealth. As the philosopher Ralph Waldo Emerson warned in 1839: “The invasion of Nature by Trade with its Money, its Credit, its Steam, [and] its Railroad threatens to . . . establish a new, universal Monarchy.”

IDENTIFY THE BIG IDEA

What were the causes and consequences of the Industrial and Market revolutions, and how did they change the way ordinary Americans lived?



Women Weavers from Maine, c. 1860 Nineteenth-century workers were proud of their skills and, like these textiles operatives from Winthrop, Maine, often posed for photographs with the tools of their craft. This small tintype, 3 by 4 inches and printed on thin metal, dates from the mid-nineteenth century. Beginning in the 1830s, cotton textile entrepreneurs built factories in rural Maine, attracted by its abundant water power and the inexpensive labor of young farm women. The women wear striped dresses of cotton fabric, which they probably helped to manufacture. American Textile History Museum.

The American Industrial Revolution

The **Industrial Revolution** came to the United States between 1790 and 1860, as merchants and manufacturers reorganized work routines, built factories, and exploited a wide range of natural resources. As output increased, goods that once had been luxury items became part of everyday life (Figure 9.1). The rapid construction of turnpikes, canals, and railroads by state governments and private entrepreneurs, working together in the Commonwealth System (Chapter 8), distributed manufactures throughout the nation.

The Division of Labor and the Factory

Increased output stemmed initially from changes in the organization of work that turned independent artisans into wage laborers. Traditionally, New England shoemakers had turned leather hides into finished shoes and boots in small wooden shacks called “ten-footers,” where they worked at their own pace. During the 1820s and 1830s, merchants in Lynn, Massachusetts, destroyed the businesses of these artisans by introducing an outwork system and a **division of labor**. The merchants

hired semiskilled journeymen and set them up in large shops cutting leather into soles and uppers. They sent out the upper sections to rural Massachusetts towns, where women binders sewed in fabric linings. The manufacturers then had other journeymen attach the uppers to the soles and return the shoes to the central shop for inspection, packing, and sale. This more efficient system increased output and cut the price of shoes and boots, even as it turned employers into powerful “shoe bosses” and eroded workers’ wages and independence.

For products not suited to the outwork system, manufacturers created the modern factory, which concentrated production under one roof. For example, in the 1830s, Cincinnati merchants built large slaughterhouses that processed thousands of hogs every month. The technology remained simple, but a division of labor increased output. As a system of overhead rails moved the hog carcasses along a “disassembly” line, one worker split the animals, another removed the organs, and others trimmed the carcasses into pieces. Packers then stuffed the pork into barrels and salted it to prevent spoilage. Reported landscape architect and journalist Frederick Law Olmsted:

We entered an immense low-ceiling room and followed a vista of dead swine, upon their backs, their paws stretching mutely toward heaven. Walking down to the vanishing point, we found there a sort of human chopping-machine where the hogs were

IDENTIFY CAUSES

How did the division of labor increase output, and what was its impact on workers?

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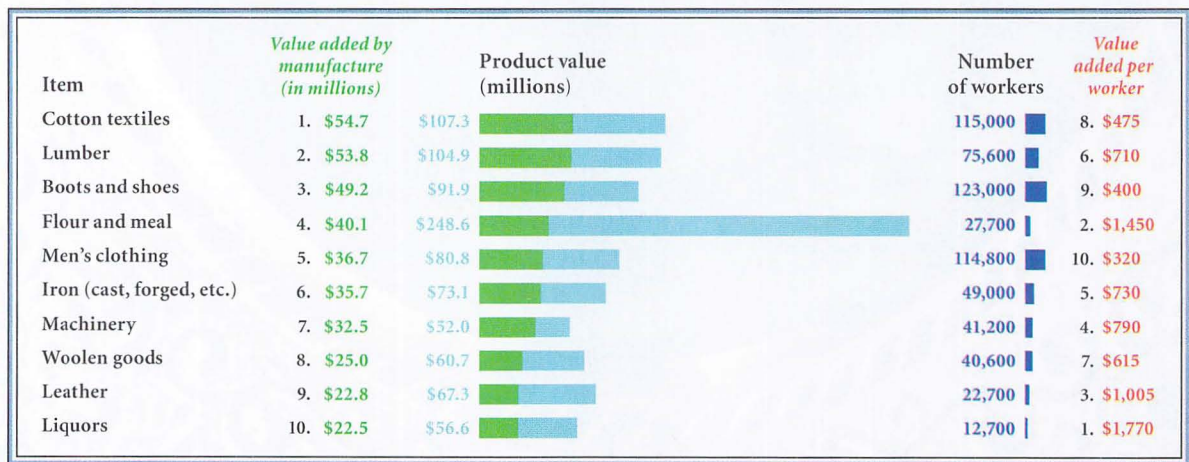


FIGURE 9.1
Leading Branches of Manufacture, 1860

This chart shows clearly that in 1860, three industries—boots and shoes, cotton textiles, and men’s clothing—each employed more than 100,000 workers. However, the workers in three other industries had the highest productivity, with each worker adding more than \$1,000 in value to the finished goods. What were these industries? Why were their workers more productive? Adapted from Douglass C. North, *Growth and Welfare in the American Past*, Second Edition. Copyright

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converted into commercial pork. . . . Plump falls the hog upon the table, chop, chop; chop, chop; chop, chop, fall the cleavers. . . . We took out our watches and counted thirty-five seconds, from the moment when one hog touched the table until the next occupied its place.

The Cincinnati system was so efficient—processing sixty hogs an hour—that by the 1840s the city was known as “Porkopolis.” By 1850, factories were slaughtering 334,000 hogs a year, and 400,000 by 1860.

Other factories boasted impressive new technology. In 1782, Oliver Evans, a prolific Delaware inventor, built a highly automated flour mill driven by water power. His machinery lifted the wheat to the top of the mill, cleaned the grain as it fell into hoppers, ground it into flour, and then cooled the flour as it was funneled into barrels. Evans’s factory, remarked one observer, “was as full of machinery as the case of a watch.” It needed only six men to mill 100,000 bushels of wheat a year—perhaps ten times as much as they could grind in a traditional mill.

By the 1830s, a new “**mineral-based economy**” of coal and metal began to emerge. Manufacturers increasingly ran their machinery with coal-burning stationary steam engines rather than with water power. And they now fabricated metal products—iron, brass, copper, and tinfoil (tin-coated rolled iron)—as well as pork, leather, wool, cotton, and other agricultural goods. In Chicago, Cyrus McCormick used steam-driven machines to make parts for farm reapers, which workers assembled on a conveyor belt. In Hartford, Connecticut, Samuel Colt built an assembly line to produce his invention, the six-shooter revolver. Other New England artisans designed machines that fabricated tinfoil into pails, pans, pots, and dozens of other inexpensive and useful household items. These advances in technology and factory organization alarmed British observers: “The contriving and making of machinery has become so common in this country . . . [that] it is to be feared that American manufacturers will become exporters not only to foreign countries, but even to England.”

The Textile Industry and British Competition

To protect the British textile industry from American competition, the British government prohibited the export of textile machinery and the emigration of **mechanics** (skilled craftsmen who invented and improved tools for industry). Lured by the prospect of higher wages, though, thousands of British mechanics

disguised themselves as laborers and sailed to the United States. By 1812, at least three hundred British mechanics worked in the Philadelphia area alone.

Samuel Slater, the most important émigré mechanic, came to America in 1789 after working for Richard Arkwright, who had invented the most advanced British machinery for spinning cotton. A year later, Slater reproduced Arkwright’s innovations in merchant Moses Brown’s cotton mill in Providence, Rhode Island.

In competing with British mills, American manufacturers had the advantage of an abundance of natural resources. The nation’s farmers produced huge amounts of cotton and wool, and the fast-flowing rivers that cascaded down from the Appalachian foothills to the Atlantic coastal plain provided a cheap source of energy. From Massachusetts to Delaware, these waterways were soon lined with industrial villages and textile mills as large as 150 feet long, 40 feet wide, and four stories high (Map 9.1).

American and British Advantages Still, British producers easily undersold their American competitors. Thanks to cheap transatlantic shipping and low interest rates in Britain, they could import raw cotton from the United States, manufacture it into cloth, and sell it in America at a bargain price. (As they did in India; see *America Compared* p. 289.) The most important British advantage was cheap labor: Britain had a larger population—about 12.6 million in 1810 compared to 7.3 million Americans—and thousands of landless laborers prepared to accept low-paying factory jobs. To offset these advantages, American entrepreneurs relied on help from the federal government: in 1816, 1824, and 1828, Congress passed tariff bills that taxed imported cotton and woolen cloth. However, in the 1830s, Congress reduced tariffs because southern planters, western farmers, and urban consumers demanded inexpensive imports.

Better Machines, Cheaper Workers American producers used two other strategies to compete with their British rivals. First, they improved on British technology. In 1811, Francis Cabot Lowell, a wealthy Boston merchant, toured British textile mills, secretly making detailed drawings of their power machinery. Paul Moody, an experienced American mechanic, then copied the machines and improved their design. In 1814, Lowell joined with merchants Nathan Appleton and Patrick

COMPARE AND CONTRAST

What were the advantages and strategies of British and American textile manufacturers?

**MAP 9.1****New England's Dominance in Cotton Spinning, 1840**

Although the South grew the nation's cotton, it did not process it. Prior to the Civil War, entrepreneurs in Massachusetts and Rhode Island built most of the factories that spun and wove raw cotton into cloth. Their factories made use of the abundant water power available in New England and the region's surplus labor force. Initially, factory managers hired young farm women to work the machines; later, they relied on immigrants from Ireland and the French-speaking Canadian province of Quebec.

Tracy Jackson to form the Boston Manufacturing Company. Having raised the staggering sum of \$400,000, they built a textile plant in Waltham, Massachusetts—the first American factory to perform all clothmaking operations under one roof. Thanks to Moody's improvements, Waltham's power looms operated at higher speeds than British looms and needed fewer workers.

The second strategy was to tap a cheaper source of labor. In the 1820s, the Boston Manufacturing Company recruited thousands of young women from farm families, providing them with rooms in boardinghouses and with evening lectures and other cultural activities. To reassure parents about their daughters' moral welfare, the mill owners enforced strict curfews, prohibited alcoholic beverages, and required regular church attendance. At Lowell (1822), Chicopee (1823), and other sites in Massachusetts and New Hampshire, the company built new factories that used this labor system, known as the **Waltham-Lowell System**.

By the early 1830s, more than 40,000 New England women were working in textile mills. As an observer noted, the wages were “more than could be obtained by the hitherto ordinary occupation of housework,” the living conditions were better than those in crowded farmhouses, and the women had greater independence.

Lucy Larcom became a Lowell textile operative at age eleven to avoid being “a trouble or burden or expense” to her widowed mother. Other women operatives used wages to pay off their father's farm mortgages, send brothers to school, or accumulate a marriage dowry for themselves.



To see a longer excerpt of the Lucy Larcom document, along with other primary sources from this period, see *Sources for America's History*.

Some operatives just had a good time. Susan Brown, who worked as a Lowell weaver for eight months, spent half her earnings on food and lodging and the rest on plays, concerts, lectures, and a two-day excursion to Boston. Like most textile workers, Brown soon tired of the rigors of factory work and the never-ceasing clatter of the machinery, which ran twelve hours a day, six days a week. After she quit, she lived at home for a time and then moved to another mill. Whatever the hardships, waged work gave young women a sense of freedom. “Don't I feel independent!” a woman mill worker wrote to her sister. “The thought that I am living on no one is a happy one indeed to me.” The owners of the Boston Manufacturing Company were even happier. By combining tariff protection with improved technology

Ezra Stiles Ely. Union activists agreed, organizing nearly fifty strikes for higher wages in 1836. Appealing to the spirit of the American Revolution, which had destroyed the aristocracy of birth, they called for a new revolution to demolish the aristocracy of capital.

Women textile operatives were equally active. Competition in the woolen and cotton textile industries was fierce because mechanization caused output to grow faster than consumer demand. As textile prices fell, manufacturers' revenues declined. To maintain profits, employers reduced workers' wages and imposed tougher work rules. In 1828 and again in 1834, women mill workers in Dover, New Hampshire, went on strike and won some relief. In Lowell, two thousand women operatives backed a strike by withdrawing their savings from an employer-owned bank. "One of the leaders mounted a pump," the *Boston Transcript* reported, "and made a flaming . . . speech on the rights of women and the iniquities of the 'monied aristocracy.'" Increasingly, young New England women refused to enter the mills, and impoverished Irish (and later French Canadian) immigrants took their places.

In 1857, the new economic system faltered, as overproduction and a financial panic sparked by the bankruptcies of several railroads pushed the economy into a recession. Urban unemployment soared to 10 percent and reminded Americans of the social costs of industrial production.

The Market Revolution

As American factories and farms churned out more goods, legislators and businessmen created faster and cheaper ways to get those products to consumers. Around 1820, they began constructing a massive system of canals and roads linking states along the Atlantic coast with new states in the trans-Appalachian west. This transportation system set in motion both a crucial **Market Revolution** and a massive migration of people to the Greater Mississippi River basin. This huge area, drained by six river systems (the Missouri, Arkansas, Red, Ohio, Tennessee, and Mississippi), contains the largest and most productive contiguous acreage of arable land in the world. By 1860, nearly one-third of the nation's citizens lived in eight of its states—the "Midwest," consisting of the five states carved out of the Northwest Territory (Ohio, Indiana, Illinois, Michigan, and Wisconsin) along with Missouri, Iowa, and Minnesota. There they created a rich agricultural economy and an industrializing society similar to that of the Northeast.

The Transportation Revolution Forges Regional Ties

With the Indian peoples in retreat, slave-owning planters from the Lower South settled in Missouri (admitted to the Union in 1821) and pushed on to Arkansas (admitted in 1836). Simultaneously, yeomen families from the Upper South joined migrants from New England and New York in farming the fertile lands near the Great Lakes. Once Indiana and Illinois were settled, land-hungry farmers poured into Michigan (1837), Iowa (1846), and Wisconsin (1848)—where they resided among tens of thousands of hardworking immigrants from Germany. To meet the demand for cheap farmsteads, Congress in 1820 reduced the price of federal land from \$2.00 an acre to \$1.25. For \$100, a farmer could buy 80 acres, the minimum required under federal law. By the 1840s, this generous policy had enticed about 5 million people to states and territories west of the Appalachians (Map 9.2).

To link the midwestern settlers to the seaboard states, Congress approved funds for a National Road constructed of compacted gravel. The project began in 1811 at Cumberland in western Maryland, at the head of navigation of the Potomac River; reached Wheeling, Virginia (now West Virginia), on the Ohio River in 1818; and ended in Vandalia, Illinois, in 1839. The National Road and other interregional highways carried migrants and their heavily loaded wagons westward; these migrants passed livestock herds heading in the opposite direction, destined for eastern markets. To link the settler communities with each other, state legislatures chartered private companies to build toll roads, or turnpikes.

Canals and Steamboats Shrink Distance Even on well-built gravel roads, overland travel was slow and expensive. To carry people, crops, and manufactures to and from the great Mississippi River basin, public money and private businesses developed a water-borne transportation system of unprecedented size, complexity, and cost. The key event was the New York legislature's 1817 financing of the **Erie Canal**, a 364-mile waterway connecting the Hudson River and Lake Erie. Previously, the longest canal in the United States was just 28 miles long—reflecting the huge capital cost of canals and the lack of American engineering expertise. New York's ambitious project had three things working in its favor: the vigorous support of New York City's merchants, who wanted access to western markets; the backing of New York's governor, De Witt Clinton, who proposed to finance the waterway from tax revenues,

View of the Erie Canal

This pastoral view of the Erie Canal near Lockport, New York, painted by artist John William Hill, hints at this waterway's profound impact on American life. Without the canal, the town in the background would not exist and farmers such as the man in the foreground would not have a regional market for their cattle and grain. The success of the Erie Canal had led to the construction of a vast system of canals by 1860. This infrastructure was as important to the nation as the railroad network of the late nineteenth century and the interstate highway and airport transportation systems of the late twentieth century. © Bettmann/Corbis.



moved along the canal at a steady 30 miles a day, cutting transportation costs and accelerating the flow of goods. In 1818, the mills in Rochester, New York, processed 26,000 barrels of flour for export east (and north to Montreal, for sale as “Canadian” produce to the West Indies); ten years later, their output soared to 200,000 barrels; and by 1840, it was at 500,000 barrels.

The spectacular benefits of the Erie Canal prompted a national canal boom. Civic and business leaders in Philadelphia and Baltimore proposed waterways to link their cities to the Midwest. Copying New York’s fiscal innovations, they persuaded their state legislatures to invest directly in canal companies or to force state-chartered banks to do so. They also won state guarantees that encouraged British and Dutch investors; as one observer noted in 1844, “The prosperity of America, her railroads, canals, steam navigation, and banks, are the fruit of English capital.” Soon, artificial waterways connected Washington to the fertile Shenandoah Valley, and Philadelphia, via the Pennsylvania Main Line Canal, to the Ohio River.

Equally important was the vast network of navigable rivers that drained into the Mississippi. Every year, 25,000 farmer-built flatboats used these waterways to carry produce to New Orleans. In 1848, the completion of the Michigan and Illinois Canal, which linked Chicago to the Mississippi River, completed an inland all-water route from New York City to New

Orleans, the two most important port cities in North America (Map 9.3).

The steamboat, another product of the industrial age, added crucial flexibility to the Mississippi basin’s river-based transportation system. In 1807, engineer-inventor Robert Fulton built the first American steamboat, the *Clermont*, which he piloted up the Hudson River. To navigate shallow western rivers, engineers broadened steamboats’ hulls to reduce their draft and enlarge their cargo capacity. These improved vessels halved the cost of upstream river transport along the Mississippi River and its tributaries and dramatically increased the flow of goods, people, and news. In 1830, a traveler or a letter from New York could reach Buffalo or Pittsburgh by water in less than a week and Detroit, Chicago, or St. Louis in two weeks. In 1800, the same journeys had taken twice as long.

The state and national governments played key roles in developing this interregional network of trade and travel. State legislatures subsidized canals, while the national government created a vast postal system, the first network for the exchange of information. Thanks to the Post Office Act of 1792, there were more than eight thousand post offices by 1830, and they safely delivered thousands of letters and banknotes worth millions of dollars. The U.S. Supreme Court, headed by John Marshall, likewise encouraged interstate trade by firmly establishing federal authority over



MAP 9.3

The Transportation Revolution: Roads and Canals, 1820–1850

By 1850, the United States had an efficient system of water-borne transportation with three distinct parts. Short canals and navigable rivers carried cotton, tobacco, and other products from the countryside of the southern seaboard states into the Atlantic commercial system. A second system, centered on the Erie, Chesapeake and Ohio, and Pennsylvania Mainline canals, linked northeastern seaports to the vast trans-Appalachian region. Finally, a set of regional canals in the Midwest connected most of the Great Lakes region to the Ohio and Mississippi rivers and the port of New Orleans.

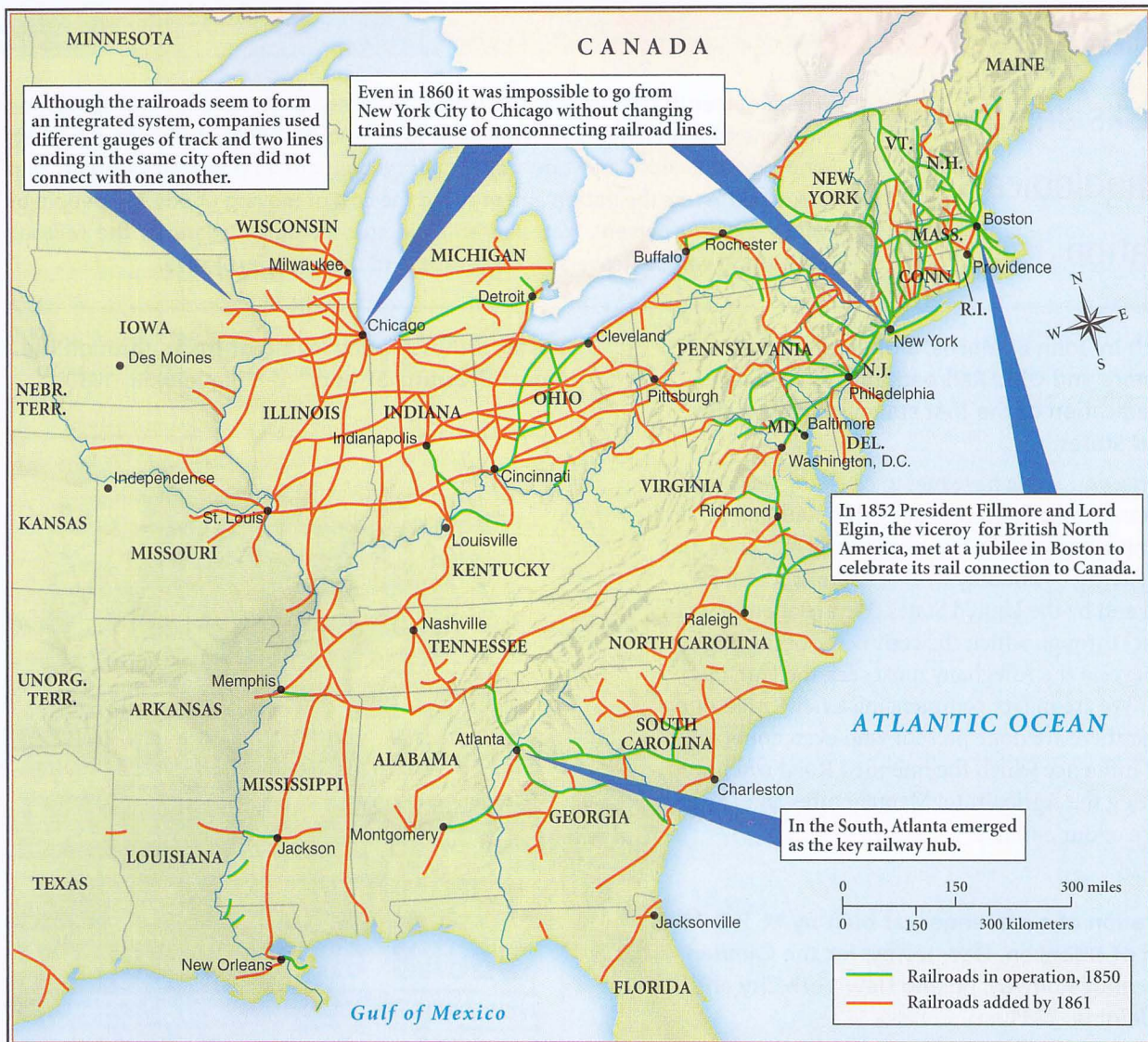
interstate commerce (Chapter 7). In *Gibbons v. Ogden* (1824), the Court voided a New York law that created a monopoly on steamboat travel into New York City. That decision prevented local or state monopolies — or tariffs — from impeding the flow of goods, people, and news across the nation.

Railroads Link the North and Midwest In the 1850s, railroads, another technological innovation, joined canals as the core of the national transportation system (Map 9.4). In 1852, canals carried twice the tonnage transported by railroads. Then, capitalists in Boston, New York, and London secured state charters for railroads and invested heavily in new lines, which by 1860 had become the main carriers of wheat and freight from the Midwest to the Northeast. Serviced by a vast network of locomotive and freight-car repair shops, the Erie, Pennsylvania, New York Central, and the Baltimore and Ohio railroads connected the Atlantic ports — New York, Philadelphia, and Baltimore — with the rapidly expanding Great Lakes cities of Cleveland and Chicago (Thinking Like a Historian, p. 298).

The railroad boom also linked these western cities to adjacent states. Chicago-based railroads carried huge quantities of lumber from Michigan to the treeless prairies of Indiana, Illinois, Iowa, and Missouri, where settlers built 250,000 new farms (covering 19 million acres) and hundreds of small towns. On their

return journey, the trains moved millions of bushels of wheat to Chicago for transport to eastern markets. Increasingly, they also carried livestock to Chicago's slaughterhouses. In Jacksonville, Illinois, a farmer decided to feed his entire corn crop of 1,500 bushels "to hogs & cattle, as we think it is more profitable than to sell the corn." A Chicago newspaper boasted, "In ancient times all roads led to Rome; in modern times all roads lead to Chicago."

Initially, midwestern settlers relied on manufactured goods imported from the Northeast. They bought high-quality shovels and spades fabricated at the Delaware Iron Works and the Oliver Ames Company in Easton, Massachusetts; axes forged in Connecticut factories; and steel horseshoes manufactured in Troy, New York. However, by the 1840s, midwestern entrepreneurs were also producing machine tools, hardware, furniture, and especially agricultural implements. Working as a blacksmith in Grand Detour, Illinois, John Deere made his first steel plow out of old saws in 1837; ten years later, he opened a factory in Moline, Illinois, that mass-produced the plows. Stronger than the existing cast-iron models built in New York, Deere's steel plows allowed farmers to cut through the thick sod of the prairies. Other midwestern companies — such as McCormick and Hussey — mass-produced self-raking reapers that harvested 12 acres of grain a day (rather than the 2 acres that an adult worker could

**MAP 9.4****Railroads of the North and South, 1850 and 1861**

In the decade before the Civil War, entrepreneurs in the Northeast and the Midwest financed thousands of miles of new railroad lines, creating an extensive and dense transportation system that stimulated economic development. The South built a more limited railroad system. In all regions, railroad companies used different track gauges, which prevented the efficient flow of traffic.

cut by hand). With the harvest bottleneck removed, farmers planted more acres and grew even more wheat. Flour soon accounted for 10 percent of all American exports to foreign markets.

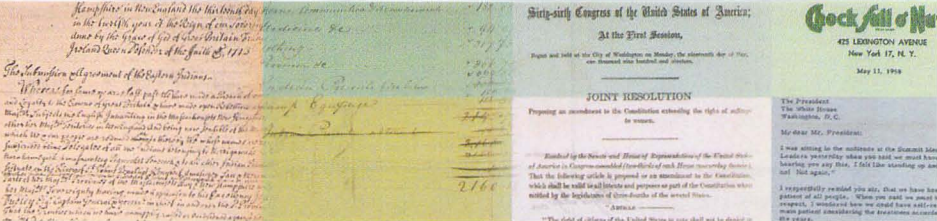
Interregional trade also linked southern cotton planters to northeastern textile plants and foreign markets. This commerce in raw cotton bolstered the wealth of white southerners but did not transform their economic and social order as it did in the Midwest. With the exception of Richmond, Virginia, and a few other places, southern planters did not invest their

profits in manufacturing. Lacking cities, factories, and highly trained workers, the South remained tied to agriculture, even as the commerce in wheat, corn, and livestock promoted diversified economies in the Northeast and Midwest.

The Growth of Cities and Towns

The expansion of industry and trade dramatically increased America's urban population. In 1820, there were 58 towns with more than 2,500 inhabitants; by

THINKING LIKE A HISTORIAN



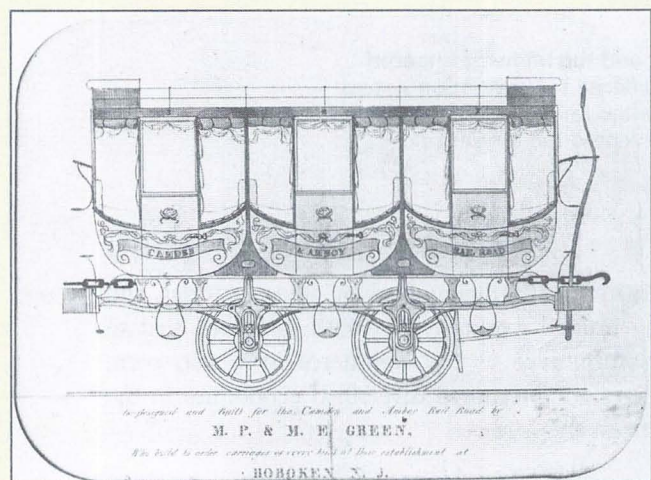
The Risks and Rewards of Technological Innovation

The nineteenth century was the Age of Progress, and improved transportation was one of its hallmarks. Between the 1830s and the 1860s, American capitalists and workers, aided by state governments, built steam-powered railroads that stretched across the nation and reduced the cost of moving goods and people by more than 90 percent. Yet, like all major technological changes, the railroad revolution was controversial, expensive, and politically explosive.

1. Speech by John B. Morris, a director of the Baltimore and Ohio Railroad, July 4, 1828, at the dedication of the first steam railway in the United States.

Fellow-Citizens. . . . We have met to celebrate the laying of the first stone of the Baltimore and Ohio Railroad. . . . The result of our labors will be felt, not only by ourselves, but also by posterity, — not only by Baltimore, but also by Maryland and by the United States. We are about opening the channel through which the commerce of the mighty country beyond the Alleghany must seek the [Atlantic] ocean. . . . We are in fact commencing a new era in our history; for there are none present who even doubt the beneficial influence which the intended Road will have in promoting the Agriculture, Manufactures and Inland Commerce of our country.

2. Illustration of a passenger car built by M. P. & M. E. Green of Hoboken, New Jersey, for the Camden and Amboy Railway, linking New York City and Philadelphia, 1831.



Source: Division of Work & Industry, National Museum of American History, Smithsonian Institution.

3. Poster protesting the laying of tracks through the “most Beautiful Streets” of Philadelphia, 1839.



Source: National Archives.

4. Opposition to the state financing of railroads from the *Republican Compiler*, Gettysburg, Pennsylvania, October 6, 1851. As American track mileage grew from 3,000 miles in 1840 to 30,000 miles by 1860, entrepreneurs in Pennsylvania, assisted by the state legislature, led the nation in laying rail.

The Governor's organ [newspaper] is still harping about the Governor having paid off the State debt, and reducing the taxes. If the taxes have been reduced, why is it that every farmer finds that he has paid MORE TAXES the last year than he has ever paid in a single year

before? . . . The true issue is that Gov. Johnston and his friends created the [huge state] debt. . . .

The people remember that Gov. Johnston voted \$405,000 to the Gettysburg railroad. . . .

They remember that he voted \$150,000 to the Danville and Pottsville railroad.

They remember that he voted \$140,000 to the Laughlinton and Pittsburg railroad, that never was incorporated.

They remember that he voted \$120,000 to the Norristown railroad.

They remember that he voted for a bill appropriating over THREE MILLIONS OF DOLLARS to State and company improvements in one year, and that Gov. Ritner said that such appropriations would increase the State debt, in four years, to \$45,000,000.

5. Lyrics to "The Waggoner's Curse," c. 1850.

Come all ye bold wagoners turn out man by man
That's opposed to the railroad or any such a plan;
'Tis once I made money by driving my team
But the goods are now hauled on the railroad by steam. . . .

If we go to Philadelphia, inquiring for a load,
They'll tell us quite directly it's gone out on the railroad.
The rich folks, the plan they may justly admire,
But it ruins us poor wag'ners and it makes our taxes
higher . . .

It ruins wheelwrights, blacksmiths, and every other trade,
So damned be all the railroads that ever was made.
It ruins our mechanics, what think you of it, then?
And it fills our country full of just a lot of great rich men.

The ships they will be coming with Irishmen by loads,
All with their picks and shovels, to work on the railroads;
When they get on the railroad, it is then that they are fixed
They'll fight just like the devil with their cudgels and their
sticks.

The American with safety can scarcely ever pass,
For they will blacken both his eyes for one word of his sass
If it wasn't for the torment I as life would be in hell,
As upon the cursed railroad, or upon the canal.

6. **Henry David Thoreau, *Walden, or, Life in the Woods*, 1854.** *The workers who built and ran the railroads suffered high rates of injury and death—facts noted by Henry David Thoreau, a critic of the market, transportation, and industrial revolutions of his day.*

We do not ride on the railroad; it rides upon us. Did you ever think what those sleepers are that underlie the railroad? Each one is a man. . . . The rails are laid

on them, and they are covered with sand, and the cars run smoothly over them . . . ; so that, if some have the pleasure of riding on a rail, others have the misfortune to be ridden upon.

7. **Senator L. J. Rose, from *Testimony Taken by the United States Pacific Railway Commission*, 1887.**

The railroads have made Southern California what it is to-day. Before the completion of the . . . Union and Central Pacific roads the southern half of California, which is now famous the world over as the most favored quarter in America in point of climate and soil conditions, was no more nor less than a barren sheep pasture. . . . Our redemption came in 1869, when the railroad people completed that gigantic and wonderful work . . . , giving California a direct rail connection with the East. The effect was marvelous and immediate. . . . We beheld ourselves in a day, as it were, surrounded by possibilities which made us a new and different people, in a new and completely changed land.

Sources: (1) Eli Bowen, *Rambles in the Path of the Steam-Horse* (Philadelphia: Wm. Bromwell and Wm. White Smith, 1855), 37; (4) Adapted from ExplorePAhistory.com; (5) George Korson, ed., *Pennsylvania Songs and Legends* (Philadelphia: University of Pennsylvania Press, 1949), 255–257; (6) Henry David Thoreau, *Walden, or, Life in the Woods*, 1854 (Boston, 1910), 102; (7) *Testimony Taken by the United States Pacific Railway Commission*, Vol. 5 (Washington, D.C.: Government Printing Office, 1887), 2505.

ANALYZING THE EVIDENCE

1. What does source 1 tell us about the hopes of steam railroad pioneers? Do the other sources suggest their hopes were achieved?
2. What does source 2 suggest about early railroad design and marketing? How does this image contrast with source 3? What threats does source 3 highlight? What audiences were the targets of these illustrations, and how successful are their respective messages?
3. According to source 4, how did Pennsylvania raise the money for these subsidies? Who was left holding the bag? Why would governments fund such private enterprises?
4. What social tensions do the lyrics to source 5 reveal? What other conflicts are manifest in the documents presented here?
5. Who are the "sleepers" in source 6? How does Thoreau calculate the cost of progress? How are these costs similar to or different from the ones described by the author of source 5?

PUTTING IT ALL TOGETHER

After re-reading the section in this chapter on the transportation revolution, answer the following questions: Why did the transportation revolution take place? What roles in the spread of the railway, canals, and turnpikes were played by entrepreneurs and capitalists? By governments, taxpayers, and various groups of workers? What were some of the unintended consequences? Who won? Lost? Using these documents and your answers, write an essay assessing the benefits and costs of the transition to new transportation technologies.

1840, there were 126 such towns, located mostly in the Northeast and Midwest. During those two decades, the total number of city dwellers grew more than fourfold, from 443,000 to 1,844,000.

The fastest growth occurred in the new industrial towns that sprouted along the “fall line,” where rivers descended rapidly from the Appalachian Mountains to the coastal plain. In 1822, the Boston Manufacturing

Company built a complex of mills in a sleepy Merrimack River village that quickly became the bustling textile factory town of Lowell, Massachusetts. The towns of Hartford, Connecticut; Trenton, New Jersey; and Wilmington, Delaware, also became urban centers

as mill owners exploited the water power of their rivers and recruited workers from the countryside.

Western commercial cities such as Pittsburgh, Cincinnati, and New Orleans grew almost as rapidly. These cities expanded initially as transit centers, where workers transferred goods from farmers’ rafts and wagons to steamboats or railroads. As the midwestern population grew during the 1830s and 1840s, St. Louis, Detroit, and especially Buffalo and Chicago also emerged as dynamic centers of commerce. “There can

be no two places in the world,” journalist Margaret Fuller wrote from Chicago in 1843, “more completely thoroughfares than this place and Buffalo. . . . The life-blood [of commerce] rushes from east to west, and back again from west to east.” To a German visitor, Chicago seemed “for the most part to consist of shops . . . [as if] people came here merely to trade, to make money, and not to live.” Chicago’s merchants and bankers developed the marketing, provisioning, and financial services essential to farmers and small-town shopkeepers in its vast hinterland. “There can be no better [market] any where in the Union,” declared a farmer in Paw Paw, Illinois.

These midwestern hubs quickly became manufacturing centers. Capitalizing on the cities’ links to rivers, canals, and railroads, entrepreneurs built warehouses, flour mills, packing plants, and machine shops, creating work for hundreds of artisans and factory laborers. In 1846, Cyrus McCormick moved his reaper factory from western Virginia to Chicago to be closer to his midwestern customers. By 1860, St. Louis and Chicago had become the nation’s eighth- and ninth-largest cities; by 1870, they were the fourth and fifth, behind New York, Philadelphia, and Brooklyn (Map 9.5).

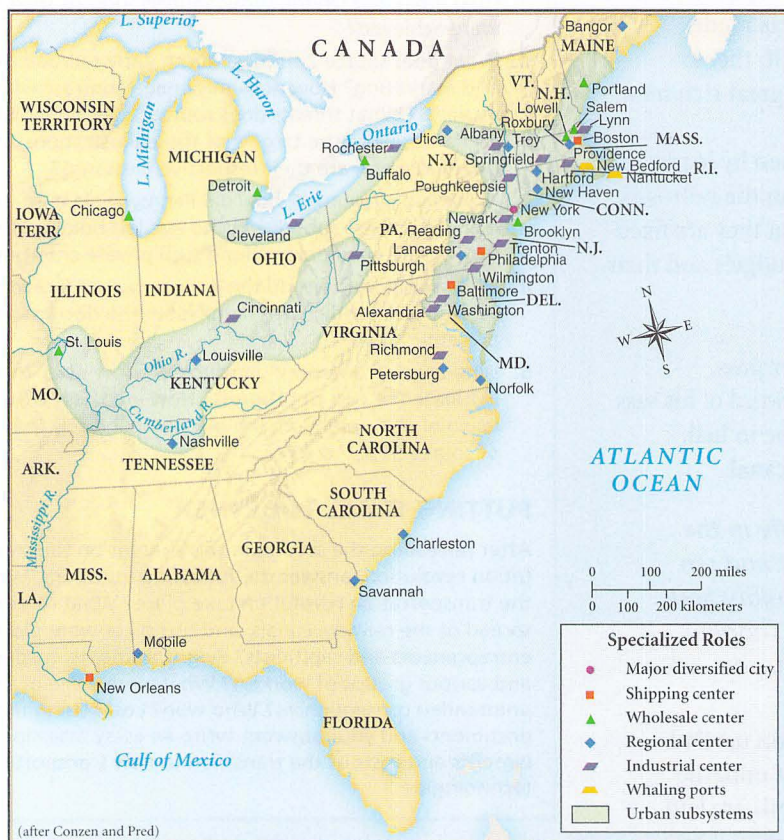
The old Atlantic seaports—Boston, Philadelphia, Baltimore, Charleston, and especially New York City—

COMPARE AND CONTRAST

What different types of cities emerged between 1820 and 1860, and what caused their growth?

MAP 9.5
The Nation’s Major Cities, 1840

By 1840, the United States boasted three major conglomerations of cities. The long-settled ports on the Atlantic—from Boston to Baltimore—served as centers for import merchants, banks, insurance companies, and manufacturers of ready-made clothing, and their financial reach extended far into the interior—nationwide in the case of New York City. A second group of cities stretched along the Great Lakes and included the commercial hubs of Buffalo, Detroit, and Chicago, as well as the manufacturing center of Cleveland. A third urban system extended along the Ohio River, comprising the industrial cities of Pittsburgh and Cincinnati and the wholesale centers of Louisville and St. Louis.



remained important for their foreign commerce and, increasingly, as centers of finance and small-scale manufacturing. New York City and nearby Brooklyn grew at a phenomenal rate: between 1820 and 1860, their combined populations increased nearly tenfold to 1 million people, thanks to the arrival of hundreds of thousands of German and Irish immigrants. Drawing on these workers, New York became a center of the ready-made clothing industry, which relied on thousands of low-paid seamstresses. “The wholesale clothing establishments are . . . absorbing the business of the country,” a “Country Tailor” complained to the *New York Tribune*, “casting many an honest and hard-working man out of employment [and helping] . . . the large cities to swallow up the small towns.”

New York City’s growth stemmed primarily from its dominant position in foreign and domestic trade. It had the best harbor in the United States and, thanks to the Erie Canal, was the best gateway to the Midwest and the best outlet for western grain. Recognizing the city’s advantages, in 1818 four English Quaker merchants founded the Black Ball Line to carry cargo, people, and mail between New York and London, Liverpool, and Le Havre, establishing the first regularly scheduled transatlantic shipping service. By 1840, its port handled almost two-thirds of foreign imports into the United States, almost half of all foreign trade, and much of the immigrant traffic. New York likewise monopolized trade with the newly independent South American nations of Brazil, Peru, and Venezuela, and its merchants took over the trade in cotton by offering finance, insurance, and shipping to southern planters and merchants.

New Social Classes and Cultures

The Industrial Revolution and the Market Revolution improved the lives of many Americans, who now lived in larger houses, cooked on iron stoves, and wore better-made clothes. Yet in the booming cities, the new economic order spawned distinct social classes: a small but wealthy business elite, a substantial middle class, and a mass of propertyless wage earners. By creating a class-divided society, industrialization posed a momentous challenge to America’s republican ideals.

The Business Elite

Before industrialization, white Americans thought of their society in terms of rank: “notable” families had higher status than those from the “lower orders.” Yet in

rural areas, people of different ranks often shared a common culture. Gentlemen farmers talked easily with yeomen about crop yields, while their wives conversed about the art of quilting. In the South, humble tenants and aristocratic slave owners enjoyed the same amusements: gambling, cockfighting, and horse racing. Rich and poor attended the same Quaker meeting-house or Presbyterian church. “Almost everyone eats, drinks, and dresses in the same way,” a European visitor to Hartford, Connecticut, reported in 1798, “and one can see the most obvious inequality only in the dwellings.”

The Industrial Revolution shattered this agrarian social order and fragmented society into distinct classes and cultures. The urban economy made a few city residents—the merchants, manufacturers, bankers, and landlords who made up the business elite—very rich. In 1800, the richest 10 percent of the nation’s families owned about 40 percent of the wealth; by 1860, they held nearly 70 percent. In New York, Chicago, Baltimore, and New Orleans, the super-rich—the top 1 percent—owned more than 40 percent of the land, buildings, and other tangible property and an even higher share of intangible property, such as stocks and bonds.

Government tax policies facilitated the accumulation of wealth. There were no federal taxes on individual and corporate income. Rather, the U.S. Treasury raised most of its revenue from tariffs: regressive taxes on textiles and other imported goods purchased mostly by ordinary citizens. State and local governments also favored the wealthy. They taxed real estate (farms, city lots, and buildings) and tangible personal property (furniture, tools, and machinery), but almost never taxed stocks and bonds or the inheritances the rich passed on to their children.

As cities expanded in size and wealth, affluent families consciously set themselves apart. They dressed in well-tailored clothes, rode in fancy carriages, and bought expensively furnished houses tended by butlers, cooks, and other servants. The women no longer socialized with those of lesser wealth, and the men no longer labored side by side with their employees. Instead, they became managers and directors and relied on trusted subordinates to supervise hundreds of factory operatives. Increasingly, merchants, manufacturers, and bankers placed a premium on privacy and lived in separate neighborhoods, often in exclusive central areas or at the city’s edge. The geographic isolation of privileged families and the massive flow of immigrants into separate districts

TRACE CHANGE OVER TIME

How and why did elite families change between 1800 and 1860?



Hartford Family

Completely at home in their elegant drawing room, this elite family in Hartford, Connecticut, enjoys the fruits of the father's business success. As the father lounges in his silk robe, his eldest son (and presumptive heir) adopts an air of studied nonchalance, and his daughter fingers a piano, signaling her musical accomplishments and the family's gentility. A diminutive African American servant (her size suggesting her status) serves fruit to the lavishly attired woman of the house. The sumptuously appointed drawing room reflects the owners' prosperity and their aesthetic and cultural interests. © White House Historical Association/Photo by National Geographic Society.

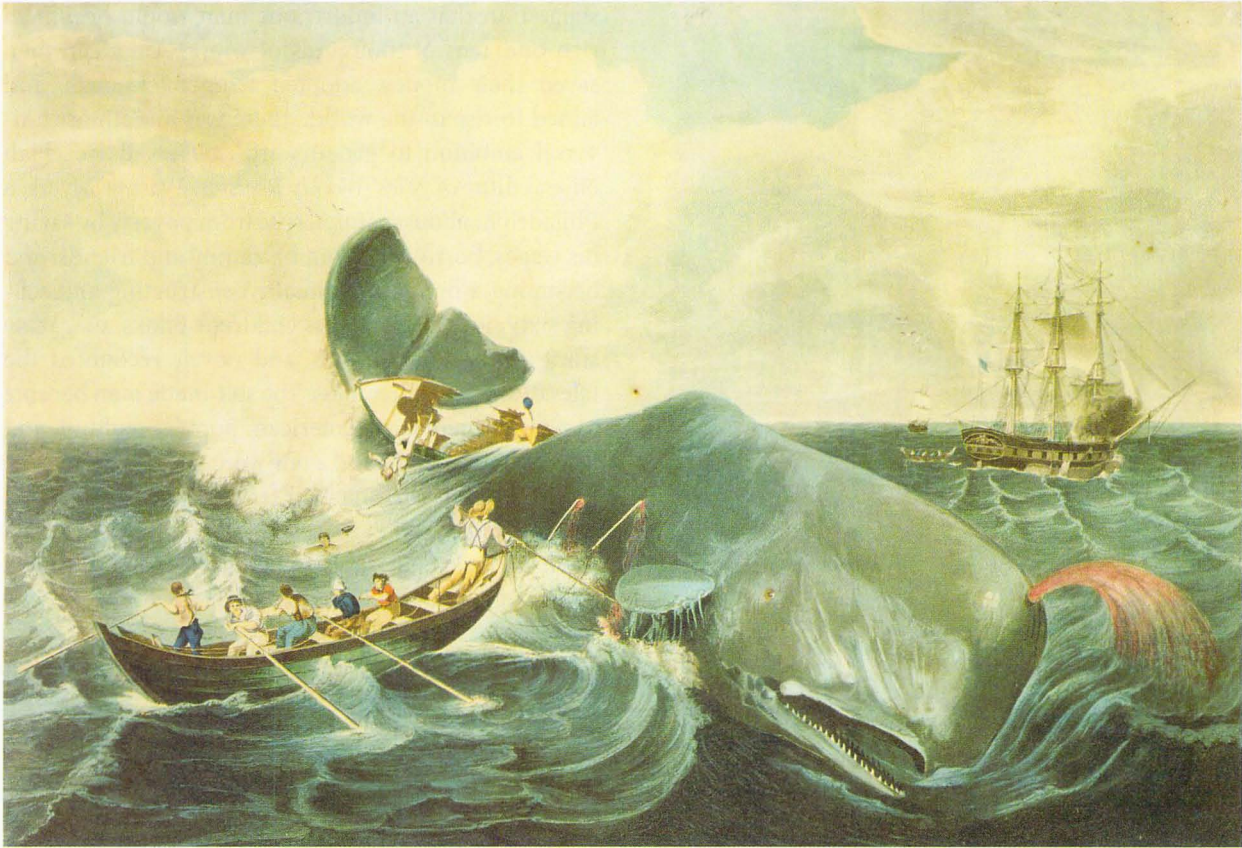
divided cities spatially along lines of class, race, and ethnicity.

The Middle Class

Standing between wealthy owners and propertyless wage earners was a growing **middle class** — the social product of increased commerce. The “middling class,” a Boston printer explained, was made up of “the farmers, the mechanics, the manufacturers, the traders, who carry on professionally the ordinary operations of buying, selling, and exchanging merchandize.” Professionals with other skills — building contractors, lawyers,

surveyors, and so on — were suddenly in great demand and well compensated, as were middling business owners and white-collar clerks. In the Northeast, men with these qualifications numbered about 30 percent of the population in the 1840s. But they also could be found in small towns of the agrarian Midwest and South. In 1854, the cotton boomtown of Oglethorpe, Georgia (population 2,500), boasted eighty “business houses” and eight hotels.

The emergence of the middle class reflected a dramatic rise in prosperity. Between 1830 and 1857, the per capita income of Americans increased by about 2.5 percent a year, a remarkable rate that has never since



The Social Dimensions of Whaling

Whale oil fueled the lamps that illuminated the houses of well-to-do Americans in the early nineteenth century, and bright spermaceti candles made from the waxy substance in the heads of sperm whales graced their dining tables. To provide these luxuries, five hundred ships from New Bedford, Massachusetts, and the nearby island of Nantucket roamed the world on voyages lasting up to three years. Ten thousand workers—young men seeking adventure and veteran white and black sailors—manned the ships. As this painting, *Capturing a Sperm Whale* by William Page (1835, from a sketch by whaler C. B. Hulsart), suggests, whaling was a dangerous trade that took the lives of many men. © Peabody Essex Museum, Salem, Massachusetts, USA/The Bridgeman Art Library.

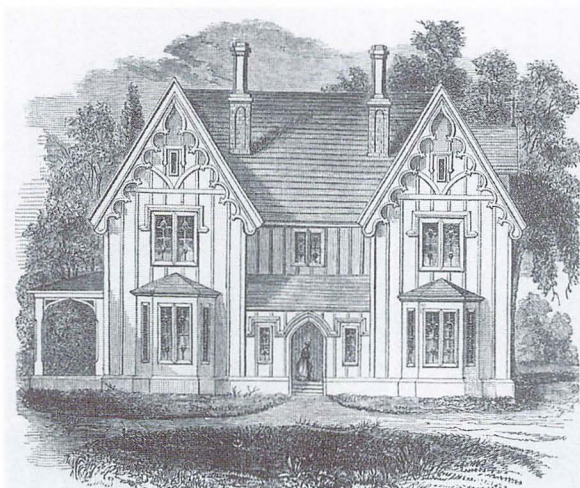
been matched. This surge in income, along with an abundance of inexpensive mass-produced goods, fostered a distinct middle-class urban culture. Middle-class husbands earned enough to save about 15 percent of their income, which they used to buy well-built houses in a “respectable part of town.” They purchased handsome clothes and drove to work and play in smart carriages. Middle-class wives became purveyors of genteel culture, buying books, pianos, lithographs, and comfortable furniture for their front parlors. Upper-middle-class families hired Irish or African American domestic servants, while less prosperous folk enjoyed the comforts provided by new industrial goods. The middle class outfitted their residences with furnaces (to warm the entire house and heat water for bathing), cooking stoves with ovens, and Singer’s treadle-operated sewing machines. Some urban families now kept their perishable food in iceboxes, which

ice-company wagons periodically refilled, and bought many varieties of packaged goods. As early as 1825, the Underwood Company of Boston was marketing jars of well-preserved Atlantic salmon.

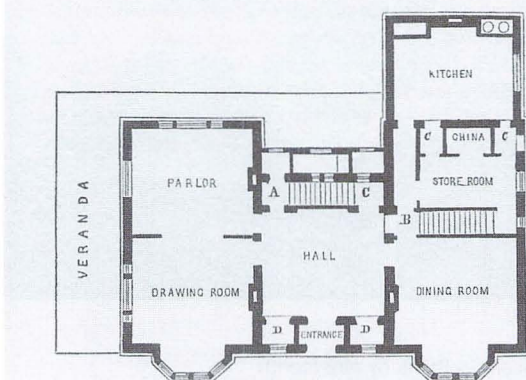
If material comfort was one distinguishing mark of the middle class, moral and mental discipline was another. Middle-class writers denounced raucous carnivals and festivals as a “chaos of sin and folly, of misery and fun” and, by the 1830s, had largely suppressed them. Ambitious parents were equally concerned with their children’s moral and intellectual development. To help their offspring succeed in life, middle-class parents often provided them with a high school education (in an era when most white children received only five years of schooling) and stressed the importance of discipline and hard work. American Protestants had long

UNDERSTAND POINTS OF VIEW

What were the moral values and material culture of the urban middle class?



[Fig. 130. Plain Timber Cottage-Villa.]



[Fig. 131. Principal Floor.]

Architecture for the Emergent Middle Class

This dwelling was well suited for a “farmer of wealth” or a middle-class suburbanite, according to Andrew Downing, author of *The Architecture of Country Houses* (1850). The exterior of the house exhibited “a considerable degree of elegance,” while the interior boasted a substantial drawing room and dining room, for the entertainment of guests, and a parlor for more intimate conversations among family and friends. Downing’s books helped to define the culture of the growing middle class and diffuse it across the nation.

Andrew J. Downing, *The Architecture of Country Houses*, 1850.

believed that diligent work in an earthly “calling” was a duty owed to God. Now the business elite and the middle class gave this idea a secular twist by celebrating work as the key to individual social mobility and national prosperity.

Benjamin Franklin gave the classic expression of this secular work ethic in his *Autobiography*, which was published in full in 1818 (thirty years after his death) and immediately found a huge audience. Heeding Franklin’s

suggestion that an industrious man would become a rich one, tens of thousands of young American men saved their money, adopted temperate habits, and aimed to rise in the world. There was an “almost universal ambition to get forward,” observed Hezekiah Niles, editor of *Niles’ Weekly Register*. Warner Myers, a Philadelphia housepainter, rose from poverty by saving his wages, borrowing from his family and friends, and becoming a builder, eventually constructing and selling sixty houses. Countless children’s books, magazine stories, self-help manuals, and novels recounted the tales of similar individuals. The **self-made man** became a central theme of American popular culture and inspired many men (and a few women) to seek success. Just as the yeoman ethic had served as a unifying ideal in pre-1800 agrarian America, so the gospel of personal achievement linked the middle and business classes of the new industrializing society.

Urban Workers and the Poor

As thoughtful business leaders surveyed their society, they concluded that the yeoman farmer and artisan-republican ideal—a social order of independent producers—was no longer possible. “Entire independence ought not to be wished for,” Ithamar A. Beard, the paymaster of the Hamilton Manufacturing Company (in Lowell, Massachusetts), told a mechanics’ association in 1827. “In large manufacturing towns, many more must fill subordinate stations and must be under the immediate direction and control of a master or superintendent, than in the farming towns.”

Beard had a point. In 1840, all of the nation’s slaves, some 2.5 million people, and about half of its adult white workers, another 3 million, were laboring for others. The bottom 10 percent of white wage earners consisted of casual workers hired on a short-term basis for arduous jobs. Poor women washed clothes; their husbands and sons carried lumber and bricks for construction projects, loaded ships, and dug out dirt and stones to build canals. When they could find jobs, these men earned “their dollar per diem,” a longtime resident told readers of the *Baltimore American*, but they could never save enough “to pay rent, buy fire wood and eatables” when the job market or the harbor froze up. During business depressions, casual laborers suffered and died; in good times, their jobs were temporary and dangerous.

Other laborers had greater security of employment, but few were prospering. In Massachusetts in 1825, an unskilled worker earned about two-thirds as much as a mechanic did; two decades later, it was less than half

PLACE EVENTS IN CONTEXT

How did the increasingly urban, capitalist economy of the northeastern states affect the lives of poor workers?

as much. A journeyman carpenter in Philadelphia reported that he was about “even with the World” after several years of work but that many of his coworkers were in debt. The 18,000 women who sewed men’s ready-made clothing in New York City in the 1850s earned just a few pennies a day, less than \$100 a year (about \$3,000 today). Such meager wages barely paid for food and rent, so poorer workers could not take advantage of the rapidly falling prices of manufactured goods. Only the most fortunate working-class families could afford to educate their children, buy apprenticeships for their sons, or accumulate small dowries for their daughters. Most families sent ten-year-old children out to work, and the death of a parent often threw the survivors into dire poverty. As a charity worker noted, “What can a bereaved widow do, with 5 or 6 little children, destitute of every means of support but what her own hands can furnish (which in a general way does not amount to more than 25 cents a day)?”

Impoverished workers congregated in dilapidated housing in bad neighborhoods. Single men and women lived in crowded boardinghouses, while families jammed themselves into tiny apartments in the basements and attics of small houses. As immigrants poured in after 1840, urban populations soared, and developers squeezed more and more dwellings and foul-smelling outhouses onto a single lot. Venturing into the New York City slums in the 1850s, shocked state legislators found gaunt, shivering people with “wild ghastly faces” living amid “hideous squalor and deadly effluvia, the dim, undrained courts oozing with pollution, the dark, narrow stairways, decayed with age, reeking with filth, overrun with vermin.” Many wage earners sought solace in alcohol, leading to fist-fights, brawls, and robberies. The urban police, mostly low-paid watchmen and untrained constables, were unable to contain the lawlessness.

The Benevolent Empire

The disorder among wage earners alarmed the rising middle classes, who wanted safe cities and a disciplined workforce. To improve the world around them, many upwardly mobile men and women embraced religious benevolence. Led by Congregational and Presbyterian ministers, they created organizations of conservative social reform that historians call the **Benevolent Empire**, which became prominent in the 1820s. The reformers’ goal was to restore “the moral government of God” by reducing the consumption of alcohol and other vices that resulted in poverty, explained Presbyterian minister Lyman Beecher. Reform-minded

individuals had regulated their own behavior; now they tried to control the lives of working people — by persuasion if possible, by law if necessary.

The Benevolent Empire targeted age-old evils such as drunkenness, adultery, prostitution, and crime, but its methods were new. Instead of relying on church sermons and admonitions from community leaders to combat evil, the reformers created large-scale organizations: the Prison Discipline Society and the American Society for the Promotion of Temperance, among many others. Each organization had a managing staff, a network of hundreds of chapters, thousands of volunteer members, and a newspaper.

Often acting in concert, these benevolent groups worked to improve society. First, they encouraged people to lead disciplined lives and acquire “regular habits.” They persuaded local governments to ban carnivals of drink and dancing, such as Negro Election Day (festivities in which African Americans symbolically took control of the government), which had been enjoyed by whites as well as blacks. Second, they devised new institutions to help the needy and control the unruly. Reformers provided homes of refuge for abandoned children and asylums for the insane, who previously had been confined by their families in attics and cellars. They campaigned to end corporal punishment of criminals and to rehabilitate them in specially designed penitentiaries.

Women formed a crucial part of the Benevolent Empire. Since the 1790s, upper-class women had sponsored charitable organizations such as the Society for the Relief of Poor Widows with Small Children, founded in 1797 in New York by Isabella Graham, a devout Presbyterian widow. Her daughter Joanna Bethune set up other charitable institutions, including the Orphan Asylum Society and the Society for the Promotion of Industry, which found jobs for hundreds of poor women as spinners and seamstresses.

Some reformers believed that declining observance by Christians of the Sabbath (Sunday) as a day devoted to religion was the greatest threat to the “moral government of God.” As the Market Revolution spread, merchants and storekeepers conducted business on Sundays, and urban saloons provided drink and entertainment. To halt these profane activities, Lyman Beecher and other ministers founded the General Union for Promoting the Observance of the Christian Sabbath in 1828. General Union chapters, replete with women’s auxiliaries, sprang up from Maine to

IDENTIFY CAUSES

What was the Benevolent Empire, and why did it emerge at this specific historical moment?

Cincinnati and beyond. The General Union demanded that Congress repeal an 1810 law allowing mail to be transported — though not delivered — on Sundays. Members boycotted shipping companies that did business on the Sabbath and campaigned for municipal laws forbidding games and festivals on the Lord's day.

The Benevolent Empire's efforts to impose its **Sabbatarian values** provoked opposition from workers and freethinkers. Men who labored twelve to fourteen hours a day, six days a week, wanted the freedom to

spend their one day of leisure as they wished. To keep goods moving, shipping company managers demanded that the Erie Canal provide lockkeepers on Sundays; using laws to enforce a particular

set of moral beliefs was “contrary to the free spirit of our institutions,” they said. When evangelical reformers proposed teaching Christianity to slaves, they aroused hostility among white southerners. This popular resistance by workers and planters limited the success of the Benevolent Empire.

IDENTIFY CAUSES

Who opposed the work of the Benevolent Empire and why?

Charles Grandison Finney: Revivalism and Reform

Presbyterian minister Charles Grandison Finney found a new way to propagate religious values. Finney was not part of the traditional religious elite. Born into a poor farming family in Connecticut, he had planned to become a lawyer and rise into the middle class. But in 1823, Finney underwent an intense religious experience and chose the ministry as his career. Beginning in towns along the Erie Canal, the young minister conducted emotional revival meetings that stressed conversion rather than doctrine. Repudiating Calvinist beliefs, he preached that God would welcome any sinner who submitted to the Holy Spirit. Finney's ministry drew on — and greatly accelerated — the Second Great Awakening, the wave of Protestant revivalism that had begun after the Revolution (Chapter 8).

Evangelical Beliefs Finney's central message was that “God has made man a **moral free agent**” who could choose salvation. This doctrine of free will was particularly attractive to members of the new middle class, who had accepted personal responsibility for their lives, improved their material condition, and welcomed Finney's assurance that heaven was also within their grasp. But Finney also had great success in converting people at both ends of the social spectrum, from the haughty rich who had placed themselves



Charles Grandison Finney, Evangelist (1792–1875)

When an unknown artist painted this flattering portrait in 1834, Finney was forty-two years old and at the height of his career as an evangelist. Handsome and charismatic, Finney had just led a series of enormously successful revivals in Rochester, New York, and other cities along the Erie Canal. In 1835, he established a theology department at newly founded Oberlin College in Ohio, where he trained a generation of ministers and served as president from 1851 to 1866. Oberlin College Archives.

above God, to the abject poor who seemed lost to drink and sloth. Finney celebrated their common fellowship in Christ and identified them spiritually with pious middle-class respectability.

Finney's most spectacular triumph came in 1830, when he moved his revivals from small towns to Rochester, New York, now a major milling and commercial city on the Erie Canal. Preaching every day for six months and promoting group prayer meetings in family homes, Finney won over the influential merchants and manufacturers of Rochester. They promised to attend church, give up intoxicating beverages, and work hard. To encourage their employees to do the same, wealthy businessmen founded a Free Presbyterian Church — “free” because members did not have to pay for pew space. Other evangelical Protestants founded churches to serve transient canal laborers, and pious businessmen set up a savings bank to encourage thrift among the working classes. Meanwhile, Finney's wife,

Lydia, and other middle-class women carried the Christian message to the wives of the unconverted, set up Sunday schools for poor children, and formed the Female Charitable Society to assist the unemployed.

Finney's efforts to create a spiritual Christian community were not completely successful. Skilled workers in strong craft organizations—boot makers, carpenters, stonemasons, and boatbuilders—protested that they needed higher wages and better schools more urgently than sermons and prayers. Poor people ignored Finney's revival, as did Irish Catholic immigrants, many of whom hated Protestants as religious heretics and political oppressors.

Nonetheless, revivalists from New England to the Midwest copied Finney's evangelical message and techniques. In New York City, wealthy silk merchants Arthur and Lewis Tappan founded a magazine, *The Christian Evangelist*, that promoted Finney's ideas. The revivals swept through Pennsylvania, North Carolina, Tennessee, and Indiana, where, a convert reported, "you could not go upon the street and hear any conversation,

except upon religion." The success of the revivals "has been so general and thorough," concluded a Presbyterian general assembly, "that the whole customs of society have changed."

EXPLAIN CONSEQUENCES

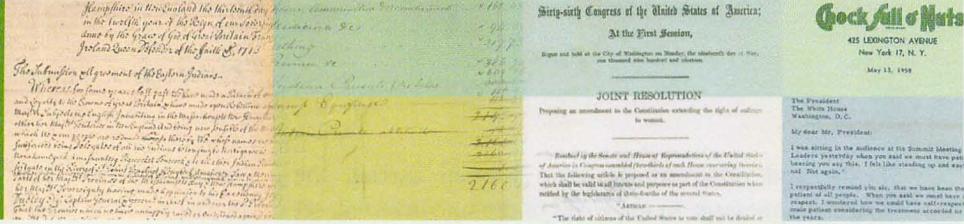
What was Finney's central message, and how did it influence the work of reform movements?

Temperance The temperance movement was the most successful social reform. Beer and rum had long been standard fare in American rituals: patriotic ceremonies, work breaks, barn raisings, and games. Long before the arrival of spirit-drinking Irish and beer-drinking German immigrants, grogshops dotted almost every block in working-class districts and were centers of disorder. During the 1820s and 1830s, alcohol consumption reached new heights, even among the elite; alcoholism killed Daniel Tompkins, vice president under James Monroe, and undermined Henry Clay's bid for the presidency. Heavy drinking was especially devastating for wage earners, who could ill afford its costs. Although Methodist artisans and ambitious



The Drunkard's Progress: From the First Glass to the Grave

This 1846 lithograph, published by N. Currier, suggests the inevitable fate of those who drink. The drunkard's descent into "Poverty and Disease" ends with "Death by suicide," leaving a grieving and destitute wife and child. Temperance reformers urged Americans to take "The Cold Water Cure" by drinking water instead of alcoholic beverages. To promote abstinence among the young, in 1836 revivalist preacher Reverend Thomas Poage Hunt founded the Cold Water Army, an organization that grew to embrace several hundred thousand children, all of whom pledged "perpetual hate to all that can Intoxicate." Library of Congress.



A Debate over Catholic Immigration

Between 1776 and 1830, few immigrants came to the United States. Then, increasing population and poverty in Europe prompted the migration of hundreds of thousands of Germans (both Catholics and Protestants) and Irish Catholics. The sudden arrival of foreign Catholics amidst the intense Protestantism of the Second Great Awakening led to religious riots, the formation of the nativist American Party, and sharp debates in the public press. Contemporary pamphlets and books offer historians access to the public rhetoric (and the private passions) of the time.

Lyman Beecher **Catholicism Is Incompatible with Republicanism**

Lyman Beecher (1775–1863) was a leading Protestant minister and the father of a remarkable family: the influential minister Henry Ward Beecher and authors Harriet Beecher Stowe (*Uncle Tom's Cabin*) and Catharine Beecher (*A Treatise on Domestic Economy*). In *A Plea for the West* (1835), Lyman Beecher warned Protestants of the powerful priestly hierarchy of the Roman Catholic Church and its opposition to republicanism. Papal encyclicals issued by Pope Gregory XVI (*Mirari Vos*, 1832) and Pope Pius IX (*Quanta Cura*, 1864) condemned republicanism, freedom of conscience, and the separation of church and state as false political ideologies.

Since the irruption of the northern barbarians, the world has never witnessed such a rush of dark-minded population from one country to another, as is now leaving Europe, and dashing upon our shores. . . . They come, also, not undirected. . . . [They] are led or followed quickly by a Catholic priesthood, who maintain over them in the land of strangers and unknown tongues an [absolute] ascendancy. . . .

The ministers of no Protestant sect could or would dare to attempt to regulate the votes of their people as the Catholic priests can do, who . . . have almost unlimited power over the conscience as it respects the performance of every civil or social duty.

There is another point of dissimilarity. . . . The opinions of the Protestant clergy are congenial with

liberty — they are chosen by the people who have been educated as freemen, and they are dependent on them for patronage and support. The Catholic system is adverse to liberty, and the clergy to a great extent are dependent on foreigners [the pope and European bishops] opposed to the principles of our government.

Nor is this all. . . . How many mechanics, merchants, lawyers, physicians, in any political crisis, might [the priests] reach and render timid . . . ? A tenth part of the suffrage of the nation, thus condensed and wielded by the Catholic powers of Europe, might decide our elections, perplex our policy, inflame and divide the nation, break the bond of our union, and throw down our free institutions. . . .

[Catholicism is] a religion which never prospered but in alliance with despotic governments, has always been and still is the inflexible enemy of Liberty of conscience and free inquiry, and at this moment is the main stay of the battle against republican institutions.

Source: Lyman Beecher, *A Plea for the West* (Cincinnati: Truman & Smith, 1835), 72–73, 126, 59–63, 85–86, 59.

Orestes Brownson **Catholicism as a Necessity for Popular Government**

Like Lyman Beecher, Orestes Brownson was born into the Presbyterian Church, but he quickly grew dissatisfied with its doctrines. After experimenting with Unitarianism, communalism, socialism, and transcendentalism, Brownson

converted to Catholicism in 1844. A zealous convert, Brownson defended Catholicism with rigorous, provocative arguments in this article, "Catholicity Necessary to Sustain Popular Liberty" (1845).

Without the Roman Catholic religion it is impossible to preserve a democratic government, and secure its free, orderly, and wholesome action. . . . The theory of democracy is, Construct your government and commit it to the people to be taken care of . . . as they shall think proper.

It is a beautiful theory, and would work admirably, if it were not for one little difficulty, namely, the people are fallible, both individually and collectively, and governed by their passions and interests, which not unfrequently lead them far astray, and produce much mischief.

We know of but one solution of the difficulty, and that is in RELIGION. There is no foundation for virtue but in religion, and it is only religion that can command the degree of popular virtue and intelligence requisite to insure to popular government the right direction. . . . But what religion? It must be a religion which is above the people and controls them, or it will not answer the purpose. It cannot be Protestantism, [because] . . . the faith and discipline of a [Protestant] sect take any and every direction the public opinion of that sect demands. All is loose, floating, — is here to-day, is there tomorrow, and, next day, may be nowhere . . . according to the prejudices, interests, or habits of the people. . . .

Here, then, is the reason why Protestantism, though it may institute, cannot sustain popular liberty. It is itself subject to popular control, and must follow in all things the popular will, passion, interest, ignorance, prejudice, or caprice.

If Protestantism will not answer the purpose, what religion will? The Roman Catholic, or none. The Roman Catholic religion assumes, as its point of departure, that it is instituted not to be taken care of by the people, but

to take care of the people; not to be governed by them, but to govern them. The word is harsh in democratic ears, we admit; but it is not the office of religion to say soft or pleasing words. . . . The people need governing, and must be governed, or nothing but anarchy and destruction await them. They must have a master. . . .

Quote our expression, THE PEOPLE MUST HAVE A MASTER, as you doubtless will; hold it up in glaring capitals, to excite the unthinking and unreasoning multitude, and to doubly fortify their prejudices against Catholicity . . . [even as you] seek to bring the people into subjection to your banks or moneyed corporations. . . .

The Roman Catholic religion, then, is necessary to sustain popular liberty, because popular liberty can be sustained only by a religion free from popular control, above the people, speaking from above and able to command them.

Source: Orestes A. Brownson, *Essays and Reviews, Chiefly on Theology, Politics, and Socialism* (New York: D. & J. Sadlier, 1852), 368–370, 372–373, 376, 379–381.

QUESTIONS FOR ANALYSIS

1. According to Beecher, what specific dangers does Catholicism pose to American republican institutions? Why do Protestant churches not pose the same dangers?
2. Compare and contrast Brownson's and Beecher's views of the social and political impact of Catholicism. How does Brownson defend the values and practices of the Catholic Church?
3. Given Brownson's statement that "the people must have a master," what would be his view of popular democratic government? Would the leaders of the Protestant Benevolent Empire agree with any aspects of Brownson's social and political philosophy?

craft workers swore off liquor to protect their work skills, health, and finances, other workers drank heavily on the job — and not just during the traditional 11 A.M. and 4 P.M. “refreshers.” A baker recalled how “one man was stationed at the window to watch, while the rest drank.”

The evangelical Protestants who took over the **American Temperance Society** in 1832 set out to curb the consumption of alcoholic beverages. The society grew quickly to two thousand chapters and more than 200,000 members. Its nationwide campaign employed revivalist methods—group confession and prayer, using women as spiritual guides, and sudden emotional conversion—and was a stunning success. On one day in New York City in 1841, more than 4,000 people took the temperance “pledge.” The annual consumption of spirits fell dramatically, from an average of 5 gallons per person in 1830 to 2 gallons in 1845.

Evangelical reformers celebrated religion as the key to moral improvement. Laziness and drinking might be cured by self-discipline, as Benjamin Franklin had argued, but religious conversion would ensure a profound change of heart. Religious discipline and the ideology of social mobility thus served as powerful cements, bonding middle-class Americans and wage-earning citizens as they grappled with the economic divisions created by industrialization, market expansion, and increasing cultural diversity.

Immigration and Cultural Conflict

Cultural diversity was the result of a vast wave of immigration. Between 1840 and 1860, about 2 million Irish, 1.5 million Germans, and 750,000 Britons poured into the United States. The British migrants were primarily Protestants and relatively prosperous—trained professionals, propertied farmers, and skilled workers. Many German immigrants also came from propertied farming and artisan families and had sufficient resources to move to the midwestern states of Wisconsin, Iowa, and Missouri. Poorer Germans and most of the Irish settled in the Northeast, where by 1860 they numbered nearly one-third of white adults. Most immigrants avoided the South because they feared competition from enslaved workers.

destroyed much of the Irish potato crop. They settled mostly in the cities of New England and New York. The men took low-paying jobs as factory hands, construction workers, and canal diggers, while the women became washerwomen and domestic servants. Irish families crowded into cheap tenement buildings with primitive sanitation systems and were the first to die when disease struck a city. In the summer of 1849, cholera epidemics took the lives of thousands of poor immigrants in St. Louis and New York City.

In times of hardship and sorrow, immigrants turned to their churches. Many Germans and virtually all the Irish were Catholics, and they fueled the growth of the American Catholic Church. In 1840, there were 16 Catholic dioceses and 700 churches; by 1860, there were 45 dioceses and 2,500 churches. Guided by their priests and bishops, Catholics built an impressive network of institutions—charitable societies, orphanages, militia companies, parochial schools, and political organizations—that maintained both their religion and their German or Irish identity.

Nativism Confronted by Catholic and German-speaking immigrants, some American-born citizens formed **nativist movements** that condemned immigration and asserted the superiority of Protestant religious and cultural values. In 1834, artist and inventor Samuel F. B. Morse published *Foreign Conspiracy Against the Liberties of the United States*, which warned of a Catholic threat to American republican institutions. Morse argued that Catholic immigrants would obey the dictates of Pope Gregory XVI (1831–1846), who urged Catholics to repudiate republicanism and acknowledge the “submission due to princes” and to the papacy. Republican-minded Protestants of many denominations shared Morse’s fears of papal interference in American life and politics, and *Foreign Conspiracy* became their handbook (American Voices, p. 308).

The social tensions stemming from industrialization intensified nativist and anti-Catholic attitudes. Unemployed Protestant mechanics and factory workers joined mobs that attacked Catholic immigrants, accusing them of taking jobs and driving down wages. These cultural conflicts undercut trade unionism, because many Protestant wage earners sided more with their Protestant employers than with their Catholic coworkers. Benevolent-minded Protestants supported the anti-Catholic movement for reasons of public policy. As crusaders for public education, they opposed the use of tax resources for Catholic schools; as advocates of temperance and civilized manners, they condemned the rowdiness of drunken Irish men.

UNDERSTAND POINTS OF VIEW

Why did the Catholic hierarchy consider republicanism a threat? Why did Morse think the same of Catholicism?

Irish Poverty The poorest migrants, Irish peasants and laborers, were fleeing a famine caused by severe overpopulation and a devastating blight that

Religious and cultural tensions led to violence. In 1834, in Charlestown, Massachusetts, a quarrel between Catholic laborers repairing a convent and Protestant workers in a neighboring brickyard led to a full-scale riot and the convent's destruction. In 1844, in Philadelphia, riots erupted when the Catholic bishop persuaded public-school officials to use both Catholic and Protestant versions of the Bible. Anti-Irish violence incited by the city's nativist clubs eventually escalated into open warfare between Protestants and the Pennsylvania militia. Thus even as the American economic revolution attracted millions of European immigrants, it divided society along lines of ethnicity and religion as well as class.

expansion of commerce—the Market Revolution. Water, steam, and minerals such as coal and iron were crucial ingredients in both revolutions—driving factory machinery, carrying goods to market on canals and rivers, and propelling steamboats and railroad engines.

We also explored the consequences of that transformation: the rise of an urban society, the increasing similarity between the Northeast and Midwest and their growing difference from the South, and the creation of a society divided by class and ethnicity. To shape this emerging society, benevolent reformers and evangelical revivalists worked to instill moral discipline and Christian values. However, artisan republicans, unionized workers, and Irish and German immigrants had their own cultural values and economic interests. The result was a fragmented society. As the next chapter suggests, Americans looked to their political system, which was becoming increasingly democratic, to address these social divisions. In fact, the tensions among economic inequality, cultural diversity, and political democracy became a troubling—and enduring—part of American life.

SUMMARY

This chapter examined the causes of the economic transformation of the first half of the nineteenth century. That transformation had two facets: a major increase in production—the Industrial Revolution—and the

CHAPTER REVIEW

MAKE IT STICK Go to **LearningCurve** to retain what you've read.



TERMS TO KNOW

Identify and explain the significance of each term below.

Key Concepts & Events

Industrial Revolution (p. 286)
division of labor (p. 286)
mineral-based economy (p. 287)
mechanics (p. 287)
Waltham-Lowell System (p. 288)
machine tools (p. 290)
artisan republicanism (p. 291)
unions (p. 291)
labor theory of value (p. 292)
Market Revolution (p. 293)

Erie Canal (p. 293)
middle class (p. 302)
self-made man (p. 304)
Benevolent Empire (p. 305)
Sabbatarian values (p. 306)
moral free agency (p. 306)
American Temperance Society
 (p. 310)
nativist movements (p. 310)

Key People

Samuel Slater (p. 287)
Francis Cabot Lowell (p. 287)
Sellars Family (p. 290)
Eli Whitney (p. 290)
Cyrus McCormick (p. 300)
Lyman Beecher (p. 305)
Charles Grandison Finney and Lydia Finney (p. 305)

REVIEW QUESTIONS

Answer these questions to demonstrate your understanding of the chapter's main ideas.

1. What was the impact of the economic revolution on the various social groups and classes?
2. What different types of reform movements arose during this period, and what types of change did they advocate? What strategies did they use, and how successful were they in their efforts?
3. Did the Industrial and Market revolutions make America a more “republican” society? Or did they undermine republicanism? Defend your interpretation by reference to specific events and developments.
4. **THEMATIC UNDERSTANDING** Review the events listed under “Work, Exchange, and Technology” on the thematic timeline on page 283. In what ways was the economy different in 1860 from what it had been in 1800? Which factors listed in the thematic timeline best explain the changes?

MAKING CONNECTIONS

Recognize the larger developments and continuities within and across chapters by answering these questions.

1. **ACROSS TIME AND PLACE** How did the economic revolution described in Chapter 9 affect the lives of women in various social groups, and how did it make their experiences different from those of their mothers, whose political and social lives were explored in Chapter 6 on the American Revolution, and their grandmothers, whose work lives and cultural experiences were considered in Chapter 4?
2. **VISUAL EVIDENCE** Look again at three images, the women weavers from Maine (p. 285), the woodworker (p. 292), and the Hartford family (p. 302). Taken together, what insights do they provide into the different aspects and social consequences of the Economic Revolution?

MORE TO EXPLORE

Start here to learn more about the events discussed in this chapter.

Stuart M. Blumin, *The Emergence of the Middle Class* (1989). Discusses urban class formation during the nineteenth century.

Stephen P. Rice, *Minding the Machine* (2004). Analyzes the ways in which language reflects and undergirds changing social and cultural relationships.

Scott A. Sandage, *Born Losers: A History of Failure in America* (2005). Focuses on failed entrepreneurs and the changing cultural meaning of failure.

Charles G. Sellers, *The Market Revolution: Jacksonian America, 1815–1846* (1991). Explores the social impact of economic change.

Laurel Thatcher Ulrich, *The Age of Homespun* (2001). Uses objects of early craft production to tell absorbing stories that reveal broad historical developments.

For a textile operative's account of mill life, see fordham.edu/halsall/mod/robinson-lowell.html. For religion and benevolent societies, consult loc.gov/exhibits/religion/rel07.html.

TIMELINE

Ask yourself why this chapter begins and ends with these dates and then identify the links among related events.

1782	<ul style="list-style-type: none"> • Oliver Evans builds automated flour mill
1790	<ul style="list-style-type: none"> • Samuel Slater opens spinning mill in Providence, Rhode Island
1792	<ul style="list-style-type: none"> • Congress passes Post Office Act
1793	<ul style="list-style-type: none"> • Eli Whitney devises cotton gin
1814	<ul style="list-style-type: none"> • Boston Manufacturing Company opens factory in Waltham, Massachusetts
1816–1828	<ul style="list-style-type: none"> • Congress levies protective tariffs
1817	<ul style="list-style-type: none"> • Erie Canal begun (completed in 1825)
1820–1840	<ul style="list-style-type: none"> • Urban population surges in Northeast and Midwest; shoe entrepreneurs adopt division of labor
1820s	<ul style="list-style-type: none"> • New England women take textile jobs • Rise of Benevolent Empire spurs conservative social reforms
1824	<ul style="list-style-type: none"> • <i>Gibbons v. Ogden</i> promotes interstate trade
1830s	<ul style="list-style-type: none"> • Emergence of western commercial cities • Labor movement gains strength • Middle-class culture emerges • Growth of temperance movement
1830	<ul style="list-style-type: none"> • Charles G. Finney begins Rochester revivals
1840s	<ul style="list-style-type: none"> • Irish and German immigration sparks ethnic riots • Maturation of machine-tool industry
1842	<ul style="list-style-type: none"> • <i>Commonwealth v. Hunt</i> legitimizes trade unions
1850s	<ul style="list-style-type: none"> • Expansion of railroads in Northeast and Midwest
1857	<ul style="list-style-type: none"> • Overproduction and speculation trigger a business recession

KEY TURNING POINT: Many of the early timeline entries concern economic matters, while later entries refer to other subjects. Based on your reading of the chapter, when and why does this change in emphasis occur?