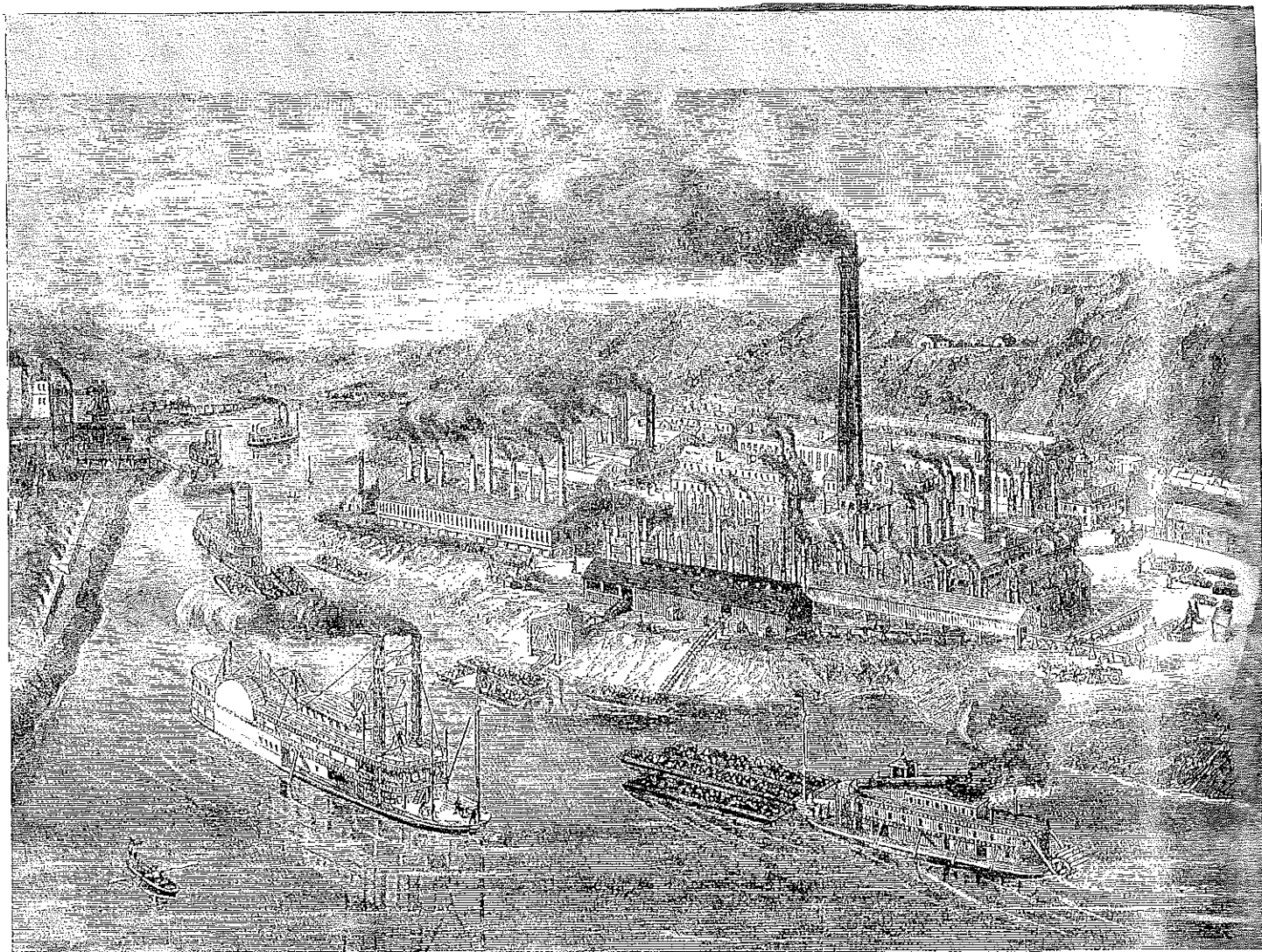


LIFE IN THE NORTH



19.2 Geography of the North

From the rocky shores of Maine to the gently rolling plains of Iowa, the North had a variety of climates and natural features. Northerners adapted to these geographical differences by creating different industries and ways of making a living.

Climate All the Northern states experienced four distinct seasons, from freezing winters to hot, humid summers. But the most northerly states, such as Maine and Minnesota, had colder winters and shorter summer growing seasons than states farther south, such as Pennsylvania and Ohio.

Natural Features Different areas of the North had distinctive natural features. The jagged New England coast, for example, had hundreds of bays and inlets that were perfect for use as harbors. Shipbuilding, fishing, and commerce flourished in this area, while towns such as Boston became busy seaports.

Inland from the sea lay a narrow, flat plain with a thin covering of rocky soil. Farming was not easy here. Instead, many people turned to trade and crafts. Others moved west in search of better farmland.

New England's hills rose sharply above V-shaped valleys carved by steep streams. The hillsides offered barely enough land for small farms, but they were covered with thick forests of spruce and fir. New Englanders found that they could make money by harvesting timber. The wood was used for shipbuilding and in trade with other countries.

Farther south in New York, Pennsylvania, and New Jersey, broad rivers like the Hudson and the Delaware had deposited rich soil over

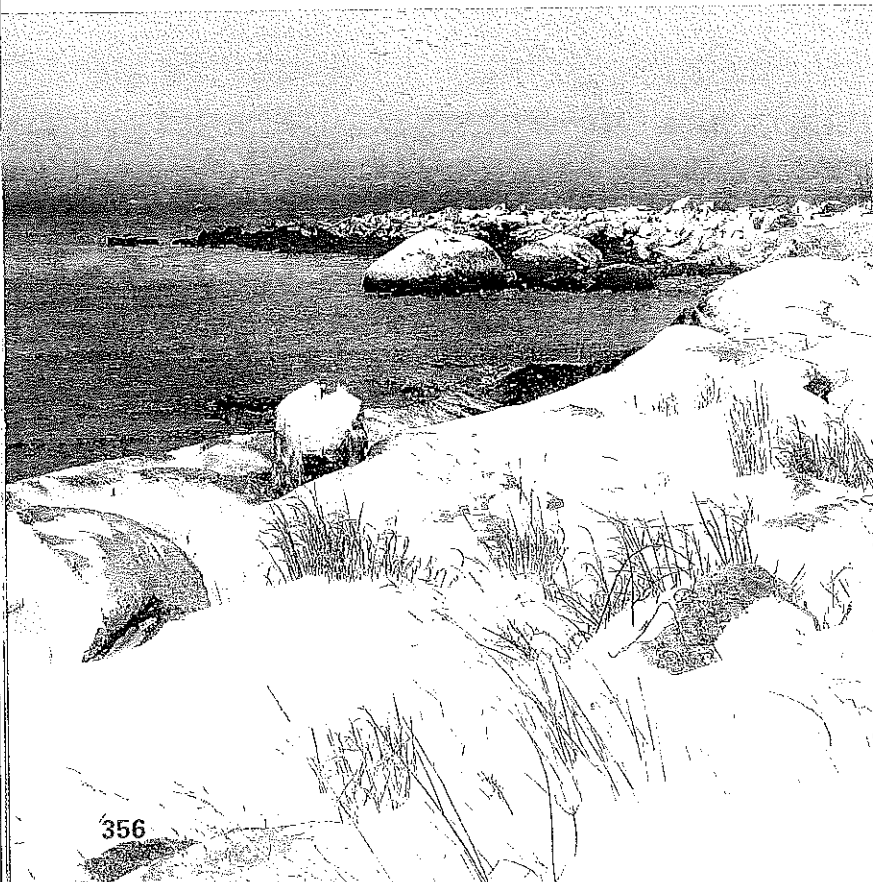
the plains. People living in these areas supported themselves by farming.

Across the Appalachian Mountains lay the Central Plains, a large, forested region drained by the Ohio and Mississippi rivers. The Central Plains boast some of the best agricultural soil in the world. From Ohio to Illinois, settlers cleared the forests to make way for farms.

Industrious Northerners were thus changing the landscape. One result was **deforestation**, or the clearing of forests. By 1850, Americans had cleared about 177,000 square miles of dense forest. And with the growth of industry, the demand for coal and other minerals led to a big increase in mining after about 1820, especially in Pennsylvania.

deforestation the clearing away of forests

This photograph shows a section of New England coastline. What geographic features can you identify?



Industrial Revolution the dramatic change in economies and cultures brought about by the use of machines to do work formerly done by hand

industrialist a person whose wealth comes from the ownership of industrial businesses and who favors government policies that support industry

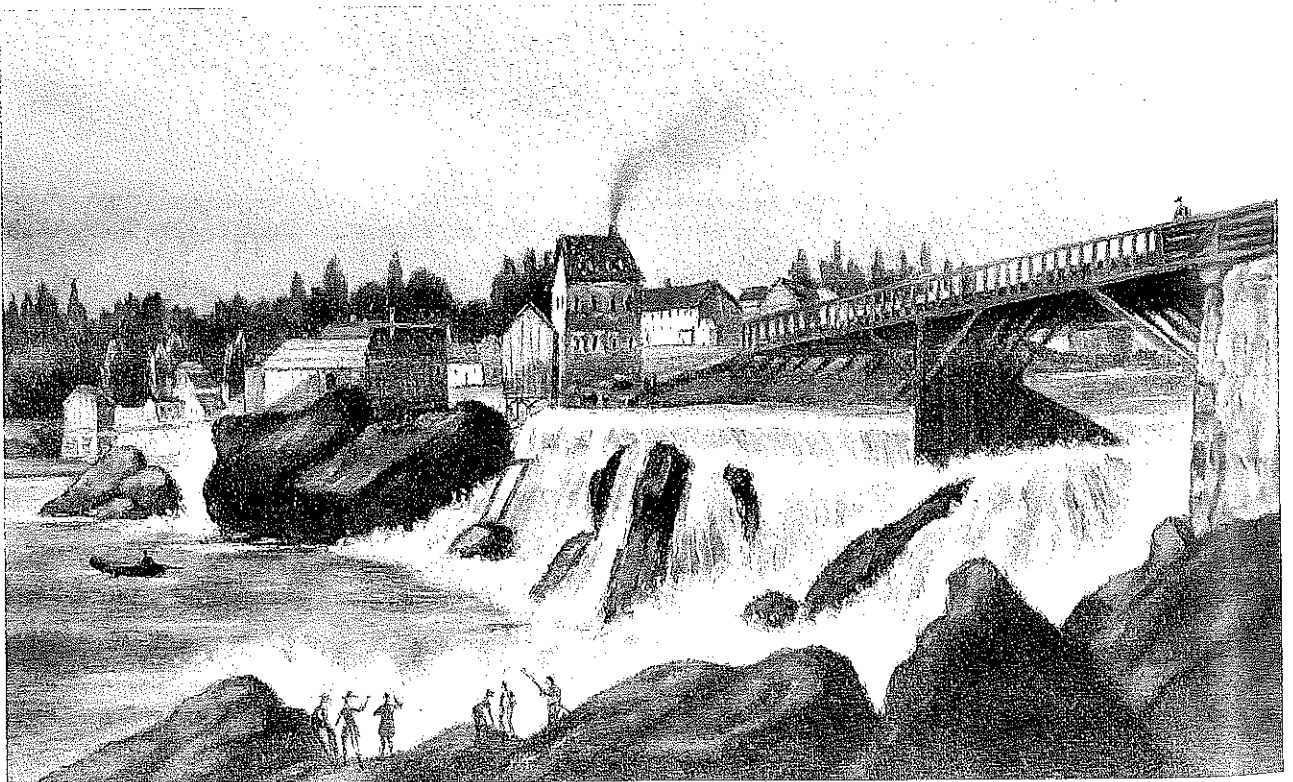
19.5 Economy of the North

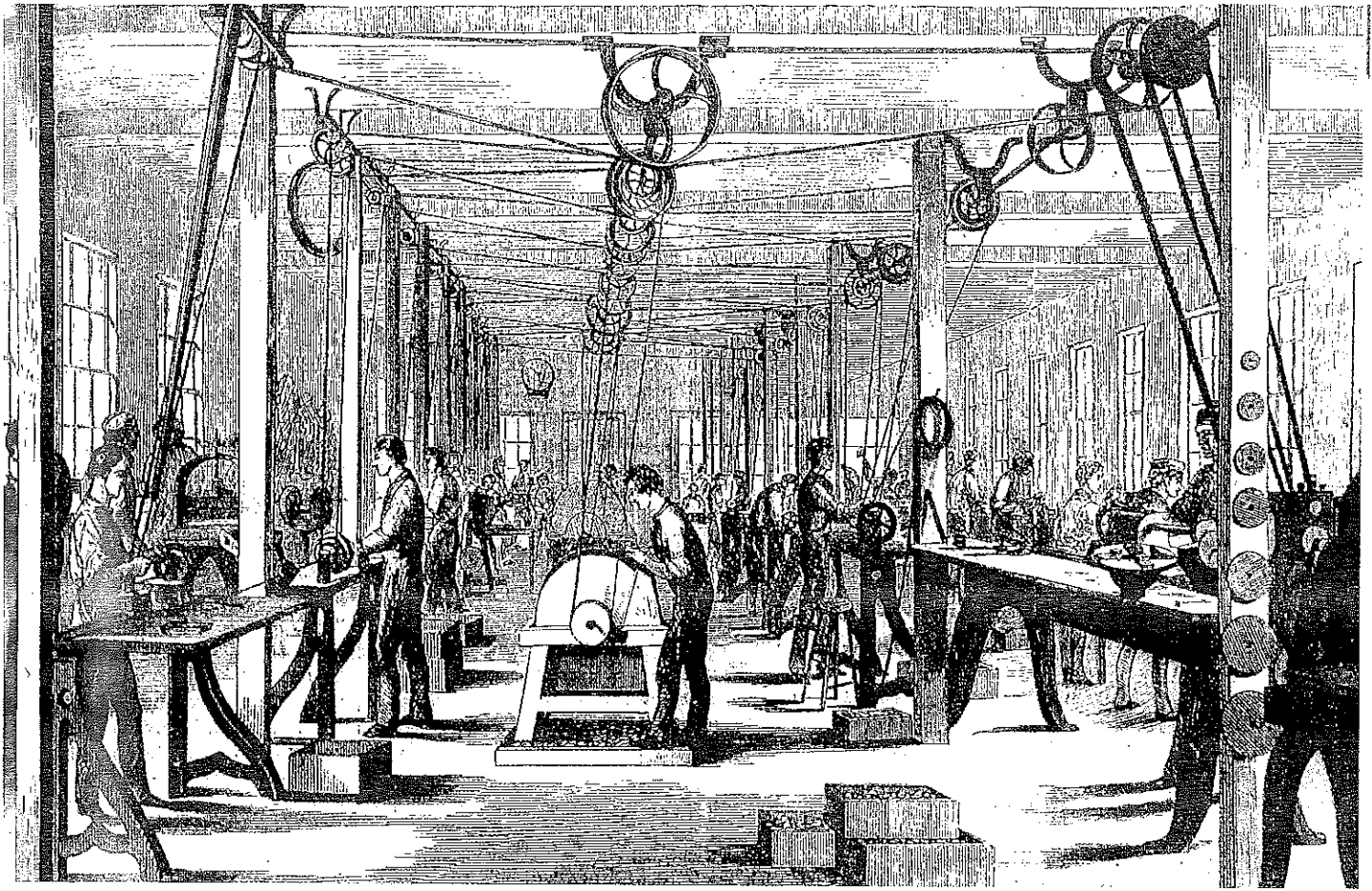
While the cotton gin made cotton the South's dominant crop, other types of machines were causing changes in the North. The people and the ideas behind these machines were part of the **Industrial Revolution**, which began in England in the late 1700s and spread to the United States and the rest of the world by the early 1800s. During the Industrial Revolution, people shifted from making things and doing work by hand to making things and doing work with machines. It created a new class of workers as well as a new class of **industrialists**, owners of large factories and other businesses based on manufacturing.

The Growth of Industry in the North One of the people who helped bring the Industrial Revolution to the United States was Francis Cabot Lowell, a Boston business owner. In 1810, Lowell visited England. There he saw how textile mill owners were using machines to spin cotton into thread and weave the thread into cloth. To power these devices, they used fast-moving streams to turn a wheel, which in turn supplied energy to the machinery.

Lowell memorized the design of the British machines. When he returned to Massachusetts, he built even better ones. By 1815, he and his partners had built one of the first American textile factories, along the Merrimack River outside Boston. This factory combined spinning and weaving machinery in the same building. One observer marveled that Lowell's mill "took your bale of cotton in at one end and gave out yards of cloth at the other, after goodness knows what digestive process."

The fast-flowing rivers of the North provided the power source for textile mills, like the one pictured here.





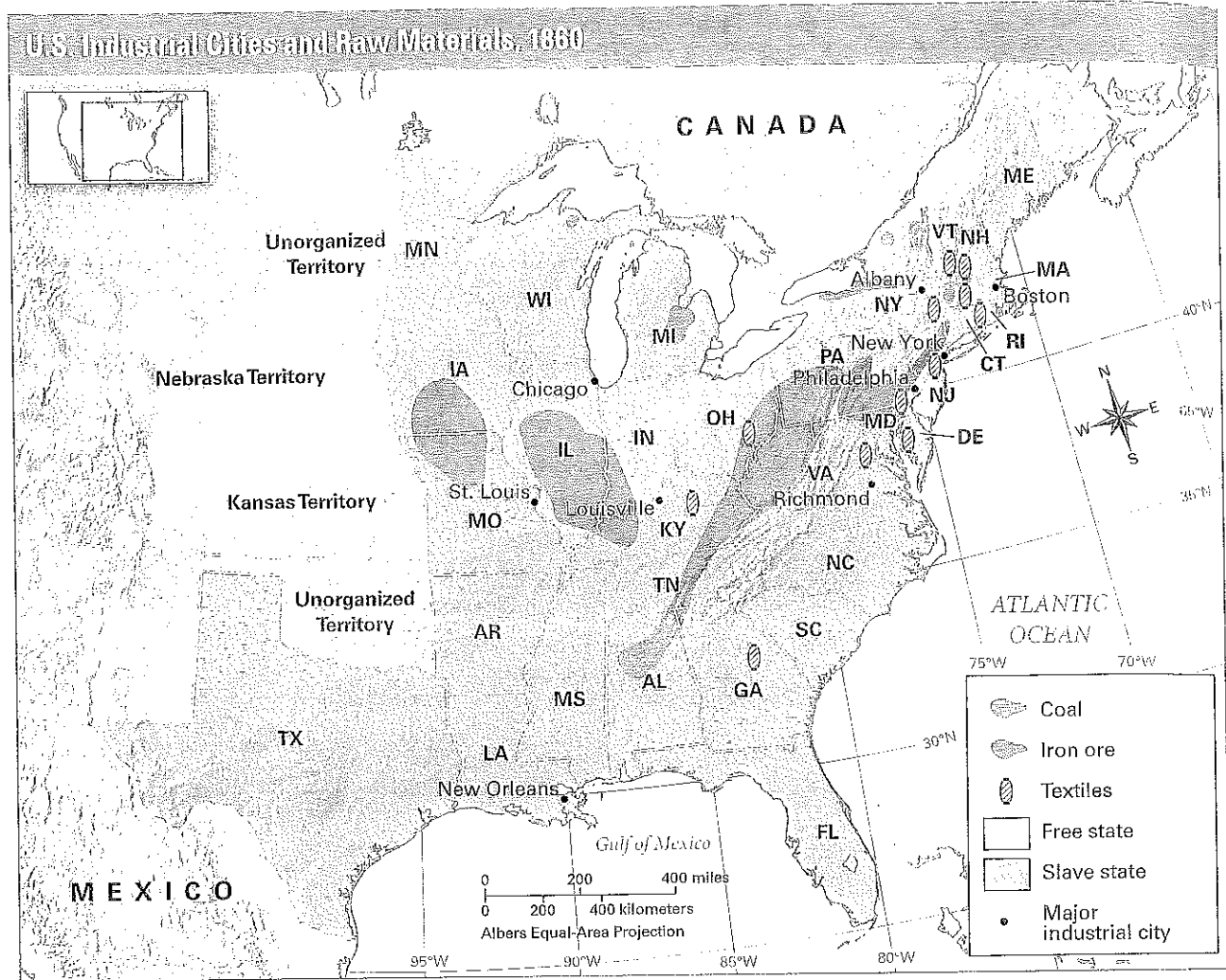
To run his machinery, Lowell hired young women, who jumped at the chance to earn cash wages. The “Lowell girls” toiled 12 to 15 hours each day, with only Sundays off. Soon textile mills were springing up all along other Northern rivers.

By the 1830s, inventors in both the United States and Europe had learned to use steam engines to power machinery. With steam engines, businesspeople could build factories anywhere, not just along rivers. Meanwhile, the inventive Eli Whitney showed manufacturers how they could assemble products even more cheaply by making them from identical, interchangeable parts.

New inventions and manufacturing methods made goods cheaper and more plentiful. But these **innovations** also shifted work from skilled craftspeople to less-skilled laborers. When Elias Howe developed the sewing machine in 1846, for example, skilled seamstresses could not compete. Some took jobs in garment factories, but they earned much less money working the sewing machines than they had sewing by hand.

For Northern industrialists, the new machines and production methods were a source of great wealth. Factory owners tended to favor a strong national government that could promote improvements in manufacturing, trade, and transportation. Southern agrarians, however, looked down on the newly rich industrialists and the laborers who worked for them. Proud Southerners called factory workers “wage slaves.” But they also worried that Northern interests might grow too powerful and threaten the South’s way of life.

Factories such as this one produced more goods and made them more affordable. However, they also put many skilled craftspeople out of work.



This map shows industries and raw materials in the United States in 1860. What relationship do you see between where coal and iron ore are found and where industries are primarily located?

Machines Make Agriculture More Efficient The Industrial Revolution had effects on farming as well. New machines increased the rate at which agricultural goods could be produced. In 1831, Virginia farmer Cyrus McCormick built a working model of “a right smart” machine called a reaper. A reaper could cut 28 times more grain than a single man using a scythe, which is a hand tool with a long, curved blade.

In 1847, McCormick built a reaper factory in Chicago, Illinois. Using interchangeable parts, his factory was soon producing several thousand reapers a year.

Around the same time, John Deere invented the steel-tipped plow. This innovation **drastically** reduced the amount of labor needed to plow a field. By making it easier to plant and harvest large quantities of wheat, inventions like the steel-tipped plow and the reaper helped transform the Central Plains into America’s “bread basket.”

Thanks to the Industrial Revolution, the Northern economy grew rapidly after 1800. By 1860, the value of manufacturing in the North was ten times greater than in the South.

19.6 Transportation in the North

Factory owners needed fast, inexpensive ways to deliver their goods to distant customers. South Carolina congressman John C. Calhoun had a solution. "Let us bind the republic together," he said, "with a perfect system of roads and canals." Calhoun called such projects **internal improvements**.

Building Better Roads In the early 1800s, most American roads were rutted boneshakers. In 1806, Congress funded the construction of a National Road across the Appalachian Mountains. The purpose of this highway was to connect the new western states with the East. With its smooth gravel surface, the National Road was a joy to travel.

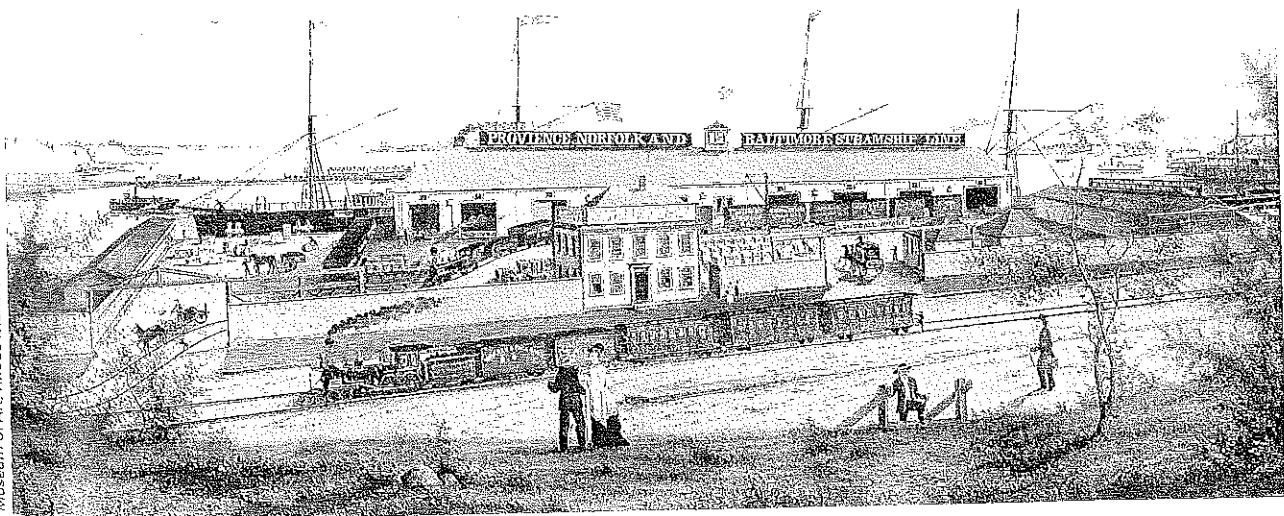
As popular as the National Road was, in 1816 President James Monroe vetoed a bill that would have given states money to build more roads. Monroe argued that spending federal money for a state's internal improvements was unconstitutional.

Fast Ships and Canals Even with better roads, river travel was still faster and cheaper than travel by land. But moving upstream against a river's current was hard work. To solve this problem, inventors in both the United States and Europe experimented with boats powered by steam engines.

In 1807, Robert Fulton showed that steamboats were practical by racing the steamboat *Clermont* upstream on New York's Hudson River. Said Fulton, "I overtook many boats and passed them as if they had been at anchor." A Dutchman watching the strange craft from the shore shouted, "The devil is on his way up-river with a sawmill on a boat!" By the 1820s, smoke-belching steamboats were chugging up and down major rivers and across the Great Lakes.

Many new and faster forms of transportation were put to use in the North. How many of them can you identify in this painting?

Museum of Art, Rhode Island School of Design/Mary S. Jackson Fund



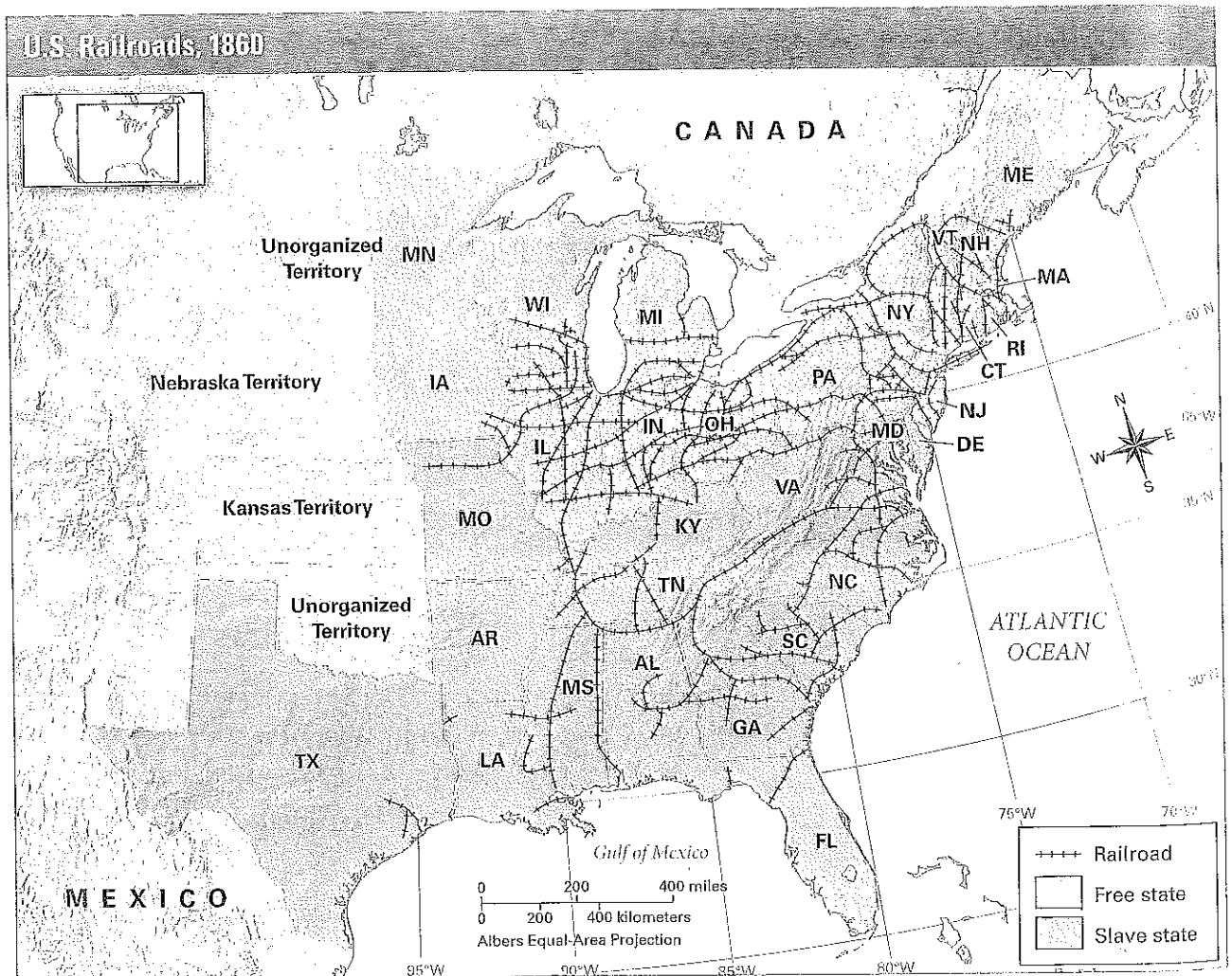
Of course, rivers weren't always located where people needed them. In 1817, the state of New York hired engineers and workers to build a 363-mile canal from the Hudson River to Lake Erie. The Erie Canal provided the first all-water link between farms on the Central Plains and East Coast cities. It was so successful that other states built canals as well.

Overseas traders also needed faster ways to travel. Sailing ships sometimes took so long to cross the Pacific Ocean that the goods they carried spoiled. In the 1840s, sleek clipper ships were introduced that cut ocean travel time in half. The clipper ships led to increased Northern trade with foreign ports around the world.

Traveling by Rail The future of transportation, however, lay not on water, but on rails. Inspired by the success of steamboats, inventors developed steam-powered locomotives. These trains traveled faster than steamboats and could go wherever tracks could be laid—even across mountains.

So many railroad companies were laying tracks that, by the 1840s, railroads were the North's biggest business. By 1860, more than 20,000 miles of rail linked Northern factories to cities hundreds of miles away.

This map shows the locations of railroads in 1860. Notice that the railroad lines in the North connect to one another more than those in the South. How might this difference have affected the growth of trade and industry in the two areas?



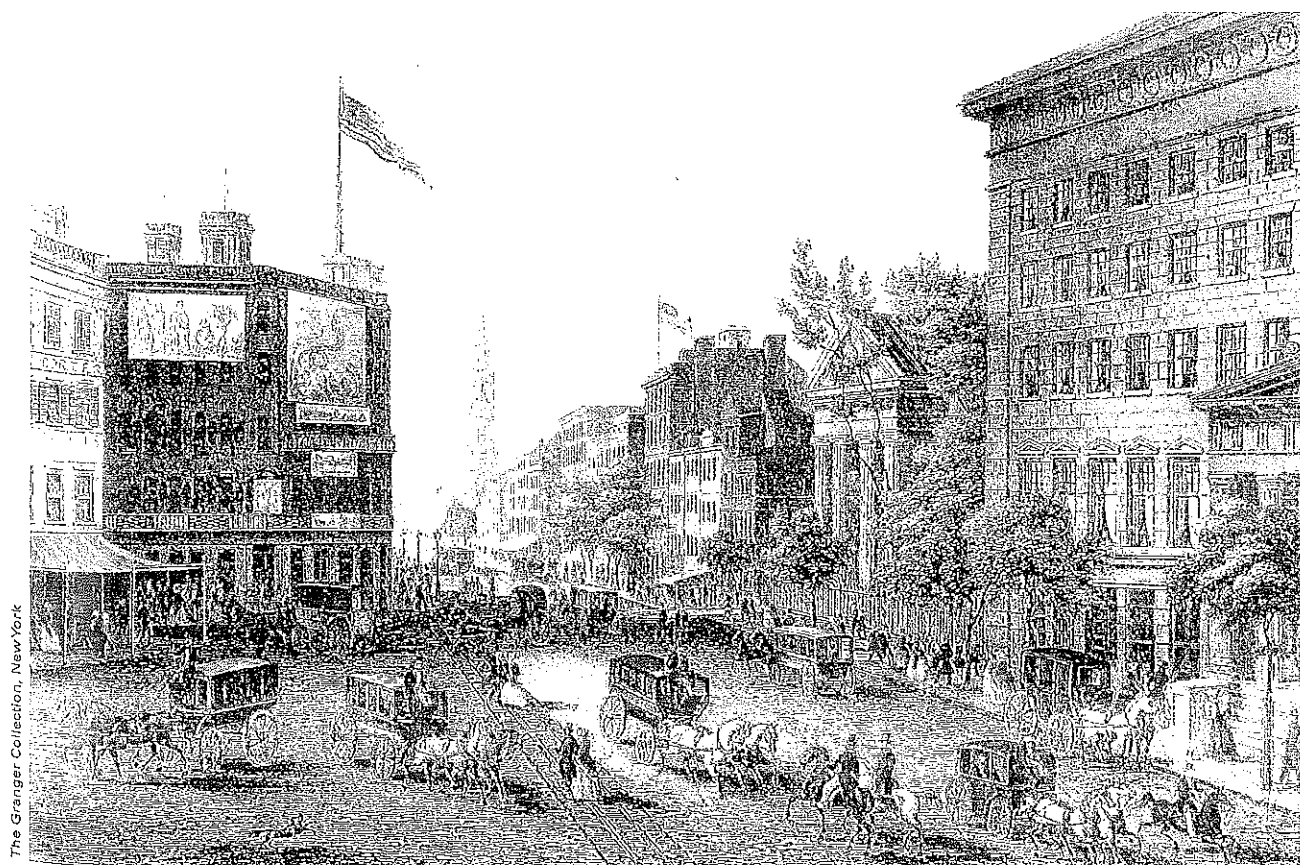
19.9 Society in the North

As in the South, most people in the North were neither wealthy nor powerful. By 1860, about seven in ten Northerners still lived on farms. But more and more Northerners were moving to towns and cities. Between 1800 and 1850, the number of cities with populations of at least 2,500 had increased from 33 to 237. Except for a few cities around the Great Lakes, such as Chicago and Detroit, nearly all of the 50 largest urban areas were in the Northeast. Only 12 were in the slave states of the South. And Northern cities were growing rapidly. Between 1840 and 1860, the populations of New York, Philadelphia, and Boston nearly tripled. By 1860, more than a million people lived in New York.

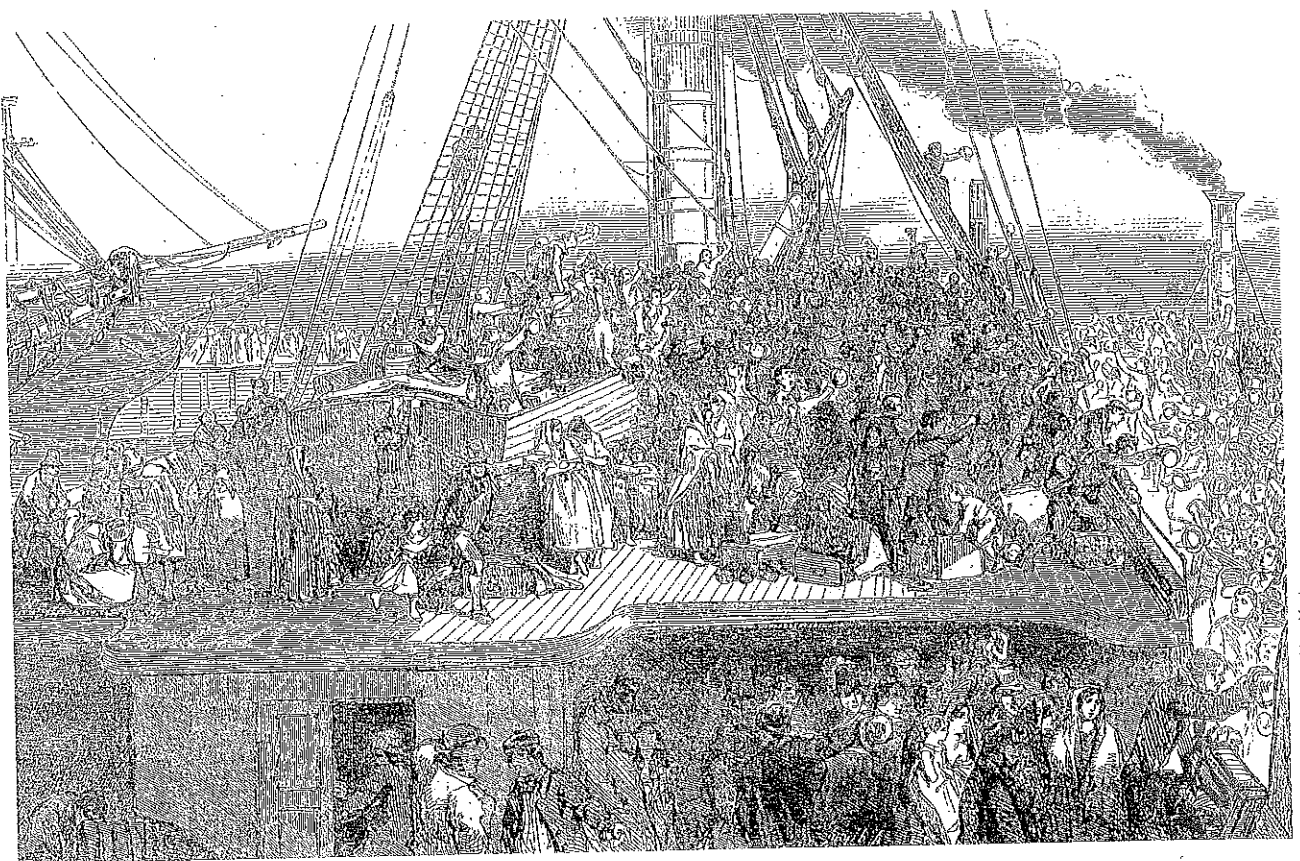
New or old, Northern cities often lacked sewers and paved streets. In dirty and crowded neighborhoods, diseases spread rapidly. "The streets are filthy," wrote one observer about New York City, "and the stranger is not a little surprised to meet the hogs walking about in them, for the purpose of devouring the vegetables and offal [trash] thrown into the gutter."

African Americans in the North After the American Revolution, all of the Northern states had taken steps to end slavery. Although blacks in the North were free, they were not treated as equal to whites. In most states, they could not vote, hold office, serve on juries, or attend white churches and schools.

In 1860, most Northerners still lived on farms, but more and more people were moving to towns and cities like this one. These cities often sprang up near factories and railroad hubs.



The Granger Collection, New York



The Granger Collection, New York

This engraving shows Irish immigrants aboard a ship bound for the United States in 1850. Most Irish immigrants settled in northeastern cities.

African Americans responded by forming their own churches and starting their own businesses. Because few employers would give them skilled jobs, African Americans often worked as laborers or servants.

Immigrants Arrive in the North Between 1845 and 1860, four million immigrants—most of them from Ireland and Germany—swelled the North's growing population. In Ireland, a potato famine from 1845 to 1849 drove hundreds of thousands of families to the United States. In the German states, failed revolutions sent people fleeing overseas. Some immigrants had enough money to buy land and farm. But most settled in cities, where they found jobs in mills and factories.

Some Americans resented the newcomers, especially the Irish. Irish immigrants faced **hostility** because they were Roman Catholic. The United States at the time was mostly Protestant. In addition, many Irish immigrants were poor. Because they would accept very low wages, they were thought to take jobs away from native-born workers. German immigrants did not experience the same hostility that Irish immigrants endured. Most German immigrants were Protestant and middle class.

Between 1820 and 1860, more than one-third of all U.S. immigrants came from Ireland. More than 1 million Irish immigrants came to the United States between 1846 and 1855. Too poor to travel, most of them settled in northeastern cities, including New York, Boston, and Philadelphia.

immigrant a person who moves from one country to another. Such a movement is called immigration.