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# Industrialization Spreads

TERMS &amp; NAMES

• corporation

## MAIN IDEA

The industrialization that began in Great Britain spread to other parts of the world.

## WHY IT MATTERS NOW

The Industrial Revolution set the stage for the growth of modern cities.

**SETTING THE STAGE** Britain's favorable location, geography, financial systems, political stability, and natural resources sparked its industrialization. British power-driven machinery began to mass-produce textiles and other goods at the end of the 1700s. Paying low wages to many workers, British merchants built the world's first factories. When these factories prospered, wealthy business leaders invented more labor-saving machines. They also built more factories, and eventually industrialized the country. The Industrial Revolution that began in Britain soon spread to other countries. They had similar conditions that made them ripe for industrialization.

## Industrial Development in the United States

The United States possessed the same resources that allowed Britain to mechanize its industries and develop large-scale factories. America also had rushing rivers, rich deposits of coal and iron ore, and a supply of immigrant laborers. During the War of 1812, Britain blockaded the United States in an attempt to keep it from engaging in international trade. This blockade forced the young country to use its own resources to develop independent industries. Those industries would manufacture the goods the United States could no longer import.

**Industrialization in the United States** As in Britain, industrialization in the United States began in the textile industry. Eager to keep the secrets of industrialization to itself, Britain had forbidden engineers, mechanics, and toolmakers to leave the country. In 1789, however, a young British mill worker named Samuel Slater emigrated to the United States. There Slater built a spinning machine from memory and a partial design. The following year, Moses Brown opened the first factory in the United States to house Slater's machines in Pawtucket, Rhode Island. But the Pawtucket factory mass-produced only one part of finished cloth, the thread.

In 1813, Francis Cabot Lowell and four other investors revolutionized the American textile industry. They mechanized every stage in the manufacture of cloth. Their weaving factory in Waltham, Massachusetts, earned the partners enough money to fund a larger operation in another Massachusetts town. When Francis Lowell died, the remaining partners named the town after him. By the late 1820s, Lowell, Massachusetts, had become a booming manufacturing center and a model for other such towns.

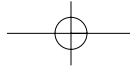
Thousands of workers, mostly young single women, flocked from their rural homes to work as mill girls in factory towns like Lowell. To ensure proper behavior, the young women were watched closely inside and outside the factory. The mill girls toiled over 12 hours a day, six days a week, for

### Background

The War of 1812 began over British interference with America's merchant ships. It ended in a draw between Britain and the United States.

These Massachusetts women of the mid-19th century are shown holding shuttles that were used during weaving.





decent wages. For some young women, the mill job meant a welcome alternative to becoming a servant, often the only other job open to them:

#### A VOICE FROM THE PAST

Country girls were naturally independent, and the feeling that at this new work the few hours they had of everyday leisure were entirely their own was a satisfaction to them. They preferred it to going out as “hired help.” It was like a young man’s pleasure in entering upon business for himself. Girls had never tried that experiment before, and they liked it.

LUCY LARCOM, *A New England Girlhood*

#### THINK THROUGH HISTORY

##### A. Forming and Supporting Opinions

Why did Lucy Larcom think mill work benefited young women?

Textiles led the way, but clothing manufacture and shoemaking also underwent mechanization. Especially in the Northeast, skilled workers and farmers had formerly worked at home. Now they labored in factories in towns and cities such as Waltham, Lowell, and Lawrence, Massachusetts.

**Later Expansion of U.S. Industry** There was a great deal of industrial growth in the Northeast in the early 1800s. Nonetheless, the United States remained primarily an agricultural nation until the Civil War ended in 1865. During the last third of the 1800s, however, the country experienced a technological boom. As in Britain, a number of causes contributed to this boom. These included a wealth of natural resources, among them oil, coal, and iron; a burst of inventions, such as the electric light bulb and the telephone; and a swelling urban population that consumed the new manufactured goods.

Also as in Britain, railroads played a major role in America’s industrialization. Cities like Chicago and Minneapolis expanded rapidly during the late 1800s. This was due to their location along the nation’s expanding railroad lines. Chicago’s stockyards and Minneapolis’s grain industries prospered by selling their products to the rest of the country.

Indeed, the railroads themselves proved to be a profitable business. By the end of the 1800s, a limited number of large, powerful companies controlled over two-thirds of the nation’s railroad tracks. Businesses of all kinds began to merge as the railroads had. Smaller companies joined together to form a larger one.

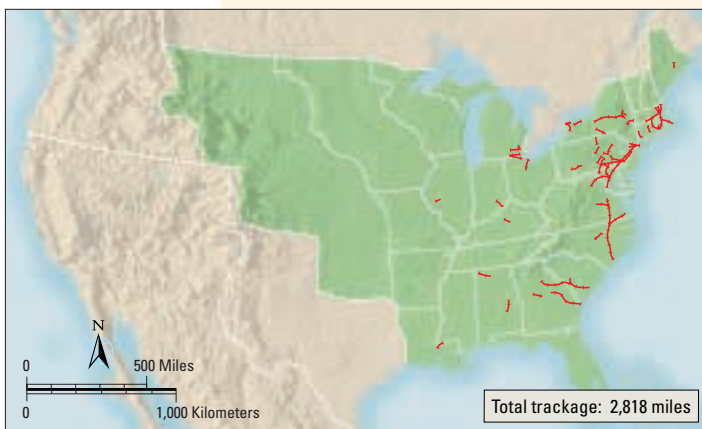
Building large businesses like railroads required a great deal of money. To raise the money, entrepreneurs sold shares of stock. People who bought stock became

#### Vocabulary

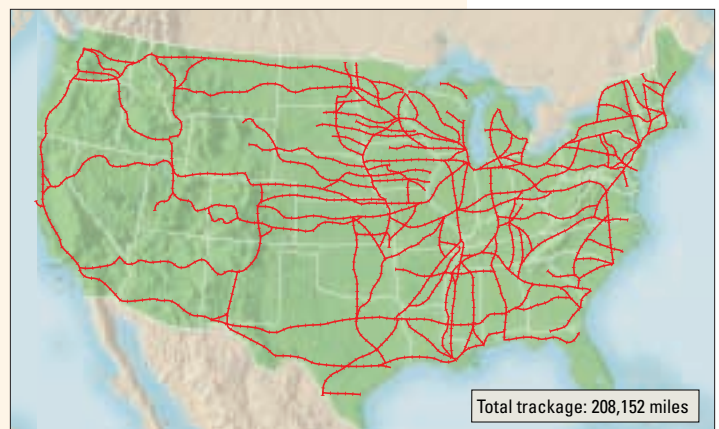
**stock:** a share in certain rights of ownership of a business.

## The Growth of the United States

Railroad System, 1840

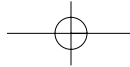


Railroad System, 1890



### SKILLBUILDER: Interpreting Maps

- Region** In what part of the country were the first railroads built?  
By 1890, what other part of the country was densely covered by railroad tracks?
- Movement** In what direction did the railroads help people move across the country?



part-owners of these businesses called corporations. A **corporation** is a business owned by stockholders who share in its profits but are not personally responsible for its debts. In the late 1800s large corporations such as Standard Oil (founded by John D. Rockefeller) and the Carnegie Steel Company (founded by Andrew Carnegie) sprang up. They sought to control every aspect of their own industries in order to make big profits.

Big business—the giants that controlled entire industries—also made big profits by cutting the cost of producing goods. While workers earned small wages for long hours at hard labor, stockholders earned high profits and corporate leaders made fortunes.

## Industrialization Reaches Continental Europe

European businesses yearned to adopt the “British miracle,” the result of Britain’s profitable new methods of manufacturing goods. Yet the troubles sparked by the French Revolution and the Napoleonic wars had halted trade, interrupted communication, and caused inflation in some parts of the continent. European countries were absorbed in the French Revolution and the Napoleonic wars between 1789 and 1815. They watched the gap widen between themselves and Britain. Nonetheless, industrialization eventually reached continental Europe.

**Beginnings in Belgium** Belgium led Europe in adopting Britain’s new technology. Belgium had rich deposits of iron and coal as well as fine waterways for transportation.

Samuel Slater had smuggled to the United States the design of a spinning machine. Like him, British skilled workers played a key role in carrying industrialization to Belgium. A Lancashire carpenter named William Cockerill made his way to Belgium in 1799. He carried secret plans for building spinning machinery. Cockerill’s son John eventually built an enormous industrial enterprise in eastern Belgium. It produced machinery, steam engines, and railway locomotives. Carrying the latest British advances, more British workers came to work with Cockerill. Several then founded their own companies in Europe.



German workers labor in a steel mill in this 1875 painting by Adolph von Menzel.

**Germany Industrializes** Germany was a politically divided empire. Economic isolation and scattered resources hampered countrywide industrialization in the early 1800s. Instead, pockets of industrialization appeared, as in the coal-rich Ruhr Valley of west-central Germany. Beginning around 1835, Germany began to copy the British model. Germany imported British equipment and engineers. German manufacturers also sent their children to England to learn industrial management.

Most important, Germany built railroads that linked its growing manufacturing cities, such as Frankfurt, with the Ruhr Valley’s coal and iron deposits. In 1858, a German economist wrote, “Railroads and machine shops, coal mines and iron foundries, spinneries and rolling mills seem to spring up out of the ground, and smokestacks sprout from the earth like mushrooms.”

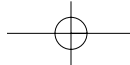
Germany’s economic strength spurred its ability to develop as a military power. By the late 19th century, Germany had become both an industrial and a military giant.

**Expansion Throughout Europe** In the rest of Europe, as in Germany, industrialization during the early 1800s proceeded by region rather than by country. Even in countries where agriculture dominated, pockets of industrialization arose. For example, Bohemia developed its spinning industry. Spain’s Catalonia processed more cotton than Belgium. Northern Italy mechanized its textile production, specializing in silk spinning. Serf labor ran factories in regions around Moscow and St. Petersburg.

In France, continual industrial growth occurred only after 1850, when the central government constructed railroads. These railroads created a thriving national market for new French products.

**THINK THROUGH HISTORY**  
**B. Analyzing**  
**Causes** What factors slowed industrialization in Germany?



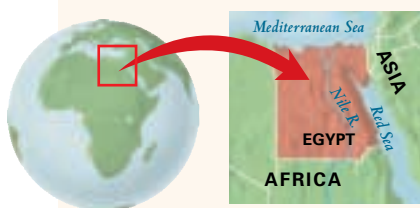


For a variety of reasons, many European countries did not industrialize. In some nations, the social structure delayed the adoption of new methods of production. The accidents of geography held back others. In Austria-Hungary and Spain, transportation posed great obstacles. Austria-Hungary's mountains defeated railroad builders. Spain lacked both good roads and waterways for canals.

## Worldwide Impact of Industrialization

The Industrial Revolution shifted the world balance of power. It promoted competition between industrialized nations and increased poverty in less developed nations.

**Global Impact**



**Industrialism Spreads to Egypt**

When an Ottoman officer named Muhammad Ali (1769–1849) took power in Egypt, the new ruler sought to propel his country into the industrialized world. Muhammad Ali reformed Egypt's government and improved communications. He also established cotton mills, a glass factory, and a sugar refinery.

To earn the money required to purchase European goods and services, Muhammad Ali also advanced the development of commercial agriculture. During his rule, landlords forced peasants to become tenant farmers and grow cash crops for European markets. The modernizing and industrializing of Egypt was often done at the expense of the peasants.

**Rise of Global Inequality** Industrialization widened the gap between industrialized and non-industrialized countries, even while it strengthened their economic ties. To keep factories running and workers fed, industrialized countries required a steady supply of raw materials from less developed lands. In turn, industrialized countries viewed poor countries as markets for their manufactured products. A large inequality developed between the industrialized West and the rest of the world.

Britain led in exploiting its overseas colonies for resources and markets. Soon other European countries, the United States, Russia, and Japan followed Britain's lead, seizing colonies for their economic resources. Imperialism, the policy of extending one country's rule over many other lands, gave even more power and wealth to these already wealthy nations. Imperialism was born out of the cycle of industrialization, the development of new markets around the world, and the need for resources to supply the factories of Europe. (See Chapter 11.)

**THINK THROUGH HISTORY**  
**C. Clarifying** Why did imperialism grow out of industrialization?

**Transformation of Society** Between 1700 and 1900, revolutions in agriculture, production, transportation, and communication changed the lives of people in Western Europe and the United States. Industrialization gave Europe tremendous economic power. Much of Europe was gaining the capability to produce many goods faster and more cheaply. In contrast, the economies of Asia and Africa were still based on agriculture and small workshops.

The industrialization that took place in the 1700s and 1800s revolutionized every aspect of society, from daily life to life expectancy. Despite the hardships early urban workers suffered, population, health, and wealth eventually rose dramatically in all industrialized countries. The development of a middle class created great opportunities for education and democratic participation. Greater democratic participation, in turn, fueled a powerful movement for social reform.

## Section 3 Assessment

### 1. TERMS & NAMES

Identify

- corporation

### 2. TAKING NOTES

Using a web diagram like the one below, show the effects of industrialization on the world.



### 3. RECOGNIZING BIAS

Go back to the quote from Lucy Larcom on page 644. Do you think her feelings about working in the mill are typical? Why or why not?

**THINK ABOUT**

- her experiences in a mill
- her possible bias

### 4. THEME ACTIVITY

**Empire Building** Draw a political cartoon that could have been used by the British government. It should show their sense of their own superiority over non-industrialized nations that they planned to colonize.