2

# Industrialization

Part 2 of 4

## Case Study: Manchester

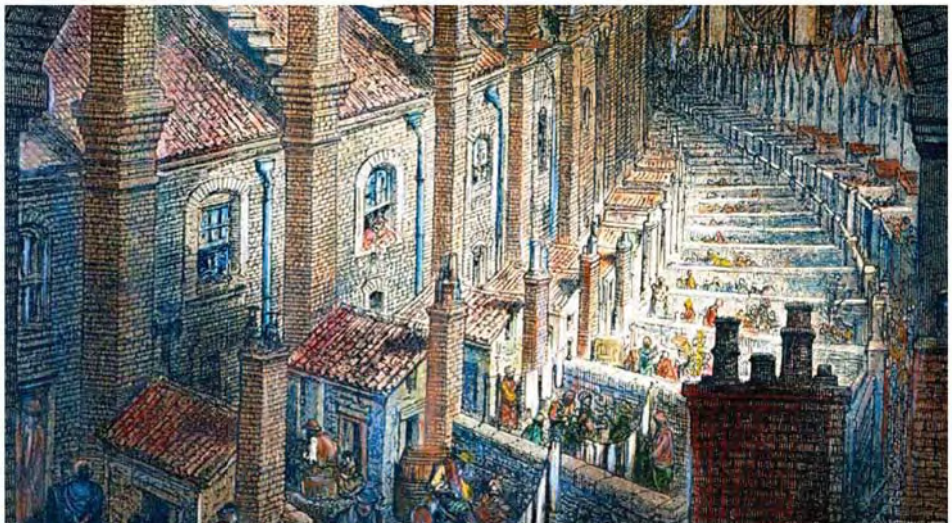
| MAIN IDEA | WHY IT MATTERS NOW | TERMS & NAMES |
|---|---|---|
| **ECONOMICS** The factory system changed the way people lived and worked, introducing a variety of problems. | Many less-developed countries are undergoing the difficult process of industrialization today. | • urbanization<br>• middle class |

**SETTING THE STAGE** The Industrial Revolution affected every part of life in Great Britain, but proved to be a mixed blessing. Eventually, industrialization led to a better quality of life for most people. But the change to machine production initially caused human suffering. Rapid industrialization brought plentiful jobs, but it also caused unhealthy working conditions, air and water pollution, and the ills of child labor. It also led to rising class tensions, especially between the working class and the middle class.

## Industrialization Changes Life

The pace of industrialization accelerated rapidly in Britain. By the 1800s, people could earn higher wages in factories than on farms. With this money, more people could afford to heat their homes with coal from Wales and dine on Scottish beef. They wore better clothing, too, woven on power looms in England's industrial cities. Cities swelled with waves of job seekers.

**Industrial Cities Rise** For centuries, most Europeans had lived in rural areas. After 1800, the balance shifted toward cities. This shift was caused by the growth of the factory system, where the manufacturing of goods was concentrated in a central location. Between 1800 and 1850, the number of European cities boasting more than 100,000 inhabitants rose from 22 to 47. Most of Europe's urban areas at least doubled in population; some even quadrupled. This period was one of **urbanization**—city building and the movement of people to cities.



◀ As cities grew, people crowded into tenements and row houses such as these in London.

## The Day of a Child Laborer, William Cooper

William Cooper began working in a textile factory at the age of ten. He had a sister who worked upstairs in the same factory. In 1832, Cooper was called to testify before a parliamentary committee about the conditions among child laborers in the textile industry. The following sketch of his day is based upon his testimony.





**5 A.M.** The workday began. Cooper and his sister rose as early as 4:00 or 4:30 in order to get to the factory by 5:00. Children usually ate their breakfast on the run.



**12 NOON** The children were given a 40-minute break for lunch. This was the only break they received all day.



Factories developed in clusters because entrepreneurs built them near sources of energy, such as water and coal. Major new industrial centers sprang up between the coal-rich area of southern Wales and the Clyde River valley in Scotland. But the biggest of these centers developed in England. (See map on page 715.)

Britain's capital, London, was the country's most important city. It had a population of about one million people by 1800. During the 1800s, its population exploded, providing a vast labor pool and market for new industry. London became Europe's largest city, with twice as many people as its closest rival (Paris). Newer cities challenged London's industrial leadership. Birmingham and Sheffield became iron-smelting centers. Leeds and Manchester dominated textile manufacturing. Along with the port of Liverpool, Manchester formed the center of Britain's bustling cotton industry. During the 1800s, Manchester experienced rapid growth from around 45,000 in 1760 to 300,000 by 1850.

**Living Conditions** Because England's cities grew rapidly, they had no development plans, sanitary codes, or building codes. Moreover, they lacked adequate housing, education, and police protection for the people who poured in from the countryside to seek jobs. Most of the unpaved streets had no drains, and garbage collected in heaps on them. Workers lived in dark, dirty shelters, with whole families crowding into one bedroom. Sickness was widespread. Epidemics of the deadly disease cholera regularly swept through the slums of Great Britain's industrial cities. In 1842, a British government study showed an average life span to be 17 years for working-class people in one large city, compared with 38 years in a nearby rural area.

Elizabeth Gaskell's *Mary Barton* (1848) is a work of fiction. But it presents a startlingly accurate portrayal of urban life experienced by many at the time. Gaskell provides a realistic description of the dank cellar dwelling of one family in a Manchester slum:

▼ Elizabeth Gaskell (1810–1865) was a British writer whose novels show a sympathy for the working class.



**PRIMARY SOURCE** A

> You went down one step even from the foul area into the cellar in which a family of human beings lived. It was very dark inside. The window-panes many of them were broken and stuffed with rags . . . . the smell was so fetid [foul] as almost to knock the two men down. . . . they began to penetrate the thick darkness of the place, and to see three or four little children rolling on the damp, nay wet brick floor, through which the stagnant, filthy moisture of the street oozed up.

**ELIZABETH GASKELL,** *Mary Barton*

But not everyone in urban areas lived miserably. Well-to-do merchants and factory owners often built luxurious homes in the suburbs.

Complete this Section

MAIN IDEA

**Analyzing Primary Sources**

A How does Gaskell indicate her sympathy for the working class in this passage?



**3 P.M.** The children often became drowsy during the afternoon or evening hours. In order to keep them awake, adult overseers sometimes whipped the children.

**6 P.M.** There was no break allowed for an evening meal. Children again ate on the run.



**9 P.M.** William Cooper's day ended after an exhausting 16-hour shift at work.




**11 P.M.** Cooper's sister worked another two hours even though she had to be back at work at 5:00 the next morning.



**Working Conditions** To increase production, factory owners wanted to keep their machines running as many hours as possible. As a result, the average worker spent 14 hours a day at the job, 6 days a week. Work did not change with the seasons, as it did on the farm. Instead, work remained the same week after week, year after year.

Industry also posed new dangers for workers. Factories were seldom well lit or clean. Machines injured workers. A boiler might explode or a drive belt might catch an arm. And there was no government program to provide aid in case of injury. The most dangerous conditions of all were found in coal mines. Frequent accidents, damp conditions, and the constant breathing of coal dust made the average miner's life span ten years shorter than that of other workers. Many women and children were employed in the mining industry because they were the cheapest source of labor.

## Class Tensions Grow

Though poverty gripped Britain's working classes, the Industrial Revolution created enormous amounts of wealth in the nation. Most of this new money belonged to factory owners, shippers, and merchants. These people were part of a growing **middle class**, a social class made up of skilled workers, professionals, businesspeople, and wealthy farmers.

**The Middle Class** The new middle class transformed the social structure of Great Britain. In the past, landowners and aristocrats had occupied the top position in British society. With most of the wealth, they wielded the social and political power. Now some factory owners, merchants, and bankers grew wealthier than the landowners and aristocrats. Yet important social distinctions divided the two wealthy classes. Landowners looked down on those who had made their fortunes in the "vulgar" business world. Not until late in the 1800s were rich entrepreneurs considered the social equals of the lords of the countryside.

Gradually, a larger middle class—neither rich nor poor—emerged. The upper middle class consisted of government employees, doctors, lawyers, and managers of factories, mines, and shops. The lower middle class included factory overseers and such skilled workers as toolmakers, mechanical drafters, and printers. These people enjoyed a comfortable standard of living. B

**The Working Class** During the years 1800 to 1850, however, laborers, or the working class, saw little improvement in their living and working conditions. They watched their livelihoods disappear as machines replaced them. In frustration, some smashed the machines they thought were putting them out of work.

One group of such workers was called the Luddites. They were named after Ned Ludd. Ludd, probably a mythical English laborer, was said to have destroyed weaving machinery around 1779. The Luddites attacked whole factories in northern England beginning in 1811, destroying laborsaving machinery. Outside the factories, mobs of workers rioted, mainly because of poor living and working conditions.

## Positive Effects of the Industrial Revolution

Despite the problems that followed industrialization, the Industrial Revolution had a number of positive effects. It created jobs for workers. It contributed to the wealth of the nation. It fostered technological progress and invention. It greatly increased the production of goods and raised the standard of living. Perhaps most important, it provided the hope of improvement in people's lives.

The Industrial Revolution produced a number of other benefits as well. These included healthier diets, better housing, and cheaper, mass-produced clothing. Because the Industrial Revolution created a demand for engineers as well as clerical and professional workers, it expanded educational opportunities.

The middle and upper classes prospered immediately from the Industrial Revolution. For the workers it took longer, but their lives gradually improved during the 1800s. Laborers eventually won higher wages, shorter hours, and better working conditions after they joined together to form labor unions.

**Long-Term Effects** The long-term effects of the Industrial Revolution are still evident. Most people today in industrialized countries can afford consumer goods that would have been considered luxuries 50 or 60 years ago. In addition, their living and working conditions are much improved over those of workers in the 19th century. Also, profits derived from industrialization produced tax revenues. These funds have allowed local, state, and federal governments to invest in urban improvements and raise the standard of living of most city dwellers.

The economic successes of the Industrial Revolution, and also the problems created by it, were clearly evident in one of Britain's new industrial cities in the 1800s—Manchester.

CASE STUDY: Manchester

## The Mills of Manchester

Manchester's unique advantages made it a leading example of the new industrial city. This northern English town had ready access to waterpower. It also had available labor from the nearby countryside and an outlet to the sea at Liverpool.

"From this filthy sewer pure gold flows," wrote Alexis de Tocqueville (ah•lehk•SEE duh TOHK•vihl), the French writer, after he visited Manchester in 1835. Indeed, the industrial giant showed the best and worst of the Industrial Revolution. Manchester's rapid, unplanned growth made it an unhealthy place for the poor people who lived and worked there. But wealth flowed from its factories. It went first to the mill owners and the new middle class. Eventually, although not immediately, the working class saw their standard of living rise as well.

Manchester's business owners took pride in mastering each detail of the manufacturing process. They worked many hours and risked their own money. For their efforts, they were rewarded with high profits. Many erected gracious homes on the outskirts of town.

To provide the mill owners with high profits, workers labored under terrible conditions. Children as young as six joined their parents in the factories. There, for six days a week, they toiled from 6 A.M. to 7 or 8 P.M., with only half an hour for

# Industrialization

Industrialization is the process of developing industries that use machines to produce goods. This process not only revolutionizes a country's economy, it also transforms social conditions and class structures.

## Effects of Industrialization

**Industrialization**

**Working Conditions**
- Industry created many new jobs.
- Factories were dirty, unsafe, and dangerous.
- Factory bosses exercised harsh discipline.
- ▶ **Long-Term Effect** Workers won higher wages, shorter hours, better conditions.

**Social Classes**
- Factory workers were overworked and underpaid.
- Overseers and skilled workers rose to lower middle class. Factory owners and merchants formed upper middle class.
- Upper class resented those in middle class who became wealthier than they were.
- ▶ **Long-Term Effect** Standard of living generally rose.

**Size of Cities**
- Factories brought job seekers to cities.
- Urban areas doubled, tripled, or quadrupled in size.
- Many cities specialized in certain industries.
- ▶ **Long-Term Effect** Suburbs grew as people fled crowded cities.

**Living Conditions**
- Cities lacked sanitary codes or building controls.
- Housing, water, and social services were scarce.
- Epidemics swept through the city.
- ▶ **Long-Term Effect** Housing, diet, and clothing improved.

▼ This engraving shows urban growth and industrial pollution in Manchester.

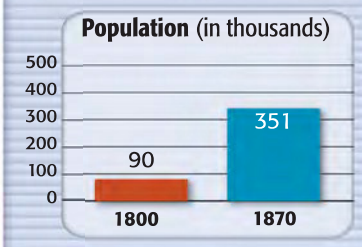


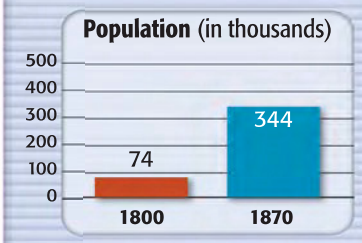
**INTEGRATED TECHNOLOGY**

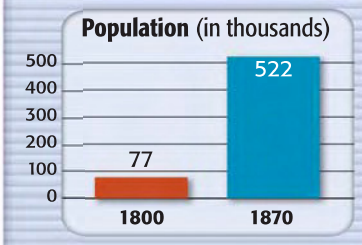
**RESEARCH LINKS** For more on industrialization, go to **classzone.com**

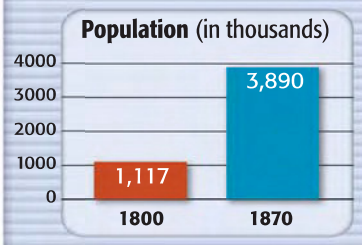
## DATA FILE

### GROWTH OF CITIES




*Source: European Historical Statistics, 1750–1975*

## Connect *to* Today

1. **Recognizing Effects** What were some advantages and disadvantages of industrialization?

See Skillbuilder Handbook, page R6.

2. **Making Inferences** Many nations around the world today are trying to industrialize. What do you think they hope to gain from that process?


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## Connect to Today



### Child Labor Today

To save on labor costs, many corporations have moved their operations to developing countries, where young children work long hours under wretched conditions. In 2007, their number was estimated at 218 million children aged 5–17. They are unprotected by labor laws. For mere pennies per hour, children weave carpets, sort vegetables, or assemble expensive athletic shoes.

Several organizations are working to end child labor, including the Child Welfare League of America and the International Labor Rights Fund.

lunch and an hour for dinner. To keep the children awake, mill supervisors beat them. Tiny hands repaired broken threads in Manchester's spinning machines, replaced thread in the bobbins, or swept up cotton fluff. The dangerous machinery injured many children. The fluff filled their lungs and made them cough.

Until the first Factory Act passed in 1819, the British government exerted little control over child labor in Manchester and other factory cities. The act restricted working age and hours. For years after the act passed, young children still did heavy, dangerous work in Manchester's factories. C

Putting so much industry into one place polluted the natural environment. The coal that powered factories and warmed houses blackened the air. Textile dyes and other wastes poisoned Manchester's Irwell River. An eyewitness observer wrote the following description of the river in 1862:

**PRIMARY SOURCE**

Steam boilers discharge into it their seething contents, and drains and sewers their fetid impurities; till at length it rolls on—here between tall dingy walls, there under precipices of red sandstone—considerably less a river than a flood of liquid manure.

**HUGH MILLER,** *"Old Red Sandstone"*

Like other new industrial cities of the 19th century, Manchester produced consumer goods and created wealth on a grand scale. Yet, it also stood as a reminder of the ills of rapid and unplanned industrialization.

As you will learn in Section 3, the industrialization that began in Great Britain spread to the United States and to continental Europe in the 1800s.

Complete this Section

## SECTION 2 ASSESSMENT

**TERMS & NAMES** **1.** For each term or name, write a sentence explaining its significance.

- urbanization
- middle class

### USING YOUR NOTES

**2.** Which change brought about by industrialization had the greatest impact?

I. Industrialization Changes Life
A.
B.
II. Class Tensions Grow

### MAIN IDEAS

**3.** Why did people flock to British cities and towns during the Industrial Revolution?

**4.** What social class expanded as a result of industrialization?

**5.** What were some of the negative effects of the rapid growth of Manchester?

### CRITICAL THINKING & WRITING

**6. SUMMARIZING** How did industrialization contribute to city growth?

**7. EVALUATING** How were class tensions affected by the Industrial Revolution?

**8. FORMING AND SUPPORTING OPINIONS** The Industrial Revolution has been described as a mixed blessing. Do you agree or disagree? Support your answer with text references.

**9. WRITING ACTIVITY** ECONOMICS As a factory owner during the Industrial Revolution, write a **letter** to a newspaper justifying working conditions in your factory.