3 Industrialization and Workers

SECTION PREVIEW

Objectives

1. Identify the sources of the growing American work force and the reasons why entire families worked.
2. Describe factory work in the late 1800s.
3. Explain the roles that women and children played in the work force.
4. *Key Terms* Define: piecework; division of labor.

Main Idea

Industry relied on its laborers, who worked for low wages and often in unsafe factories.

Reading Strategy

Predicting Content Look at the pictures and the main headings in this section. Write a prediction of what life was like for factory workers. As you read, compare your predictions with the information presented in the text.

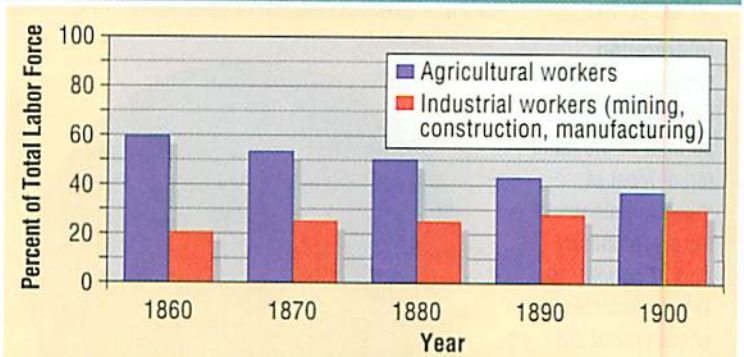
The United States was ripe for economic prosperity after the Civil War. Its abundant natural resources, inventive minds, and risk-taking entrepreneurs all played central roles in the nation's industrial expansion. This expansion would not have been possible, however, without the millions of workers who toiled in the factories.

The Growing Work Force

Around 14 million people immigrated to the United States between 1860 and 1900. Most came in the hope of finding work in America's booming industrial centers. During the Civil War, when labor was scarce, the federal government encouraged immigration by passing what has been called the Contract Labor Act. This law, passed in 1864, allowed employers to enter into contracts with immigrants. Employers would pay their cost of passage, and in return, immigrants had to work for a certain amount of time, up to a year. Employers soon began actively recruiting foreign laborers.

In another dramatic population shift, some 8 or 9 million Americans moved to cities during the late 1800s. (See graph at right.) Most of them fled poor economic conditions on the nation's farms. A long drought beginning in 1887, combined with low prices and more competition from foreign wheat producers, left many farm families penniless. Plentiful work in the factories lured the former farmers, as did the faster-paced life of the city.

Shifts in U.S. Labor Force, 1860–1900



Source: *Historical Statistics of the United States, Colonial Times to 1970*

Interpreting Graphs The growth of industry in the mid- to late 1800s changed the distribution of the work force. *Economics Compare the percentage of the labor force engaged in agricultural work with the percentage engaged in industrial work for 1860 and 1900.*

During the 1800s, few African Americans took part in this migration. Although some moved into southern cities, the better job opportunities there were closed to them.

Working Families

For those who labored in the factories, work was a family affair. Every family member worked in some way. Because wages were low, no one person could earn enough to provide for a household.

As a result, children often left school at the age of 12 or 13 to work. Girls sometimes took factory jobs so that their brothers could stay in school. If a mother could not make money working at home, she might take a factory job, leaving her children with relatives or neighbors. If an adult became ill, died, or could not find or keep a job, children as young as 6 or 7 had to bring in cash or go hungry.

In the 1800s needy families were largely on their own. During that century Americans did not believe that government should provide public assistance, except in rare cases. Unemployment insurance, for example, did not exist, so workers received no payments as a result of layoffs or factory closings. The popular theory of social Darwinism held that poverty resulted from personal weakness. Many thought offering relief to the unemployed would encourage idleness.

Families in need relied on private charities. These charities could not afford to help everyone, however. They had limited resources, so only the neediest received the food, clot and shelter that charities had to offer.

Factory Work

By 1860 most states had established a ten-hour workday, yet they rarely enforced it. Thus, most laborers worked twelve hours, six days a week—and even more when they had to meet production goals. An 1868 federal law granted government employees an eight-hour day, but this did not affect private industry. In fact, workers would fight for the eight-hour day well into the 1900s.

In many industries, employers paid workers not by the time worked but by what they produced. Workers received a fixed amount for each finished piece they produced—for example, a few cents for a garment or a number of cigars. This system of **piecework** meant that those who worked fastest and produced the most pieces earned the most money. Piecework favored young and strong workers; older or less able workers suffered.

Increasing Efficiency In 1881 Frederick Winslow Taylor set out to improve worker efficiency in the steel plant where he was chief engineer. He began to study the workers, trying to see how much time it took to do various jobs. Then he broke down each task into a number of steps and determined how long each step should take. In the same way he also studied each motion needed in a task. The goal of Taylor's time and motion studies was to get workers to produce more in less time.

Workers hated Taylor's ideas, which imposed an outside control on the way they did their work. They also feared that increased efficiency would result in layoffs or a lower rate of pay for each piece of work.

By the early years of the 1900s, Taylor had used his studies as the foundation of an entire system for the scientific management of workers. In 1911, in his book *The Principles of Scientific Management,* he described his system:

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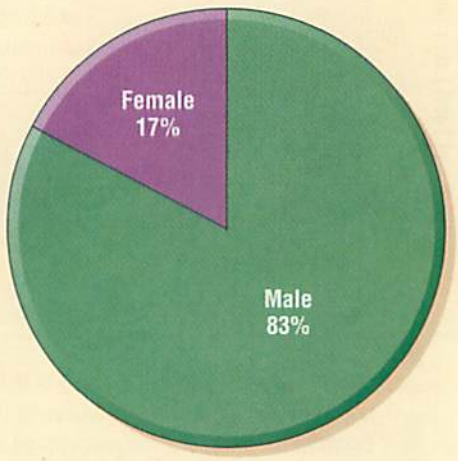
"The work of every workman is fully planned out by the management at least one day in advance, and each man receives in most cases complete written instructions, describing in detail the task which he is to accomplish, as well as the means to be used in doing the work . . . and the exact time allowed for doing it."

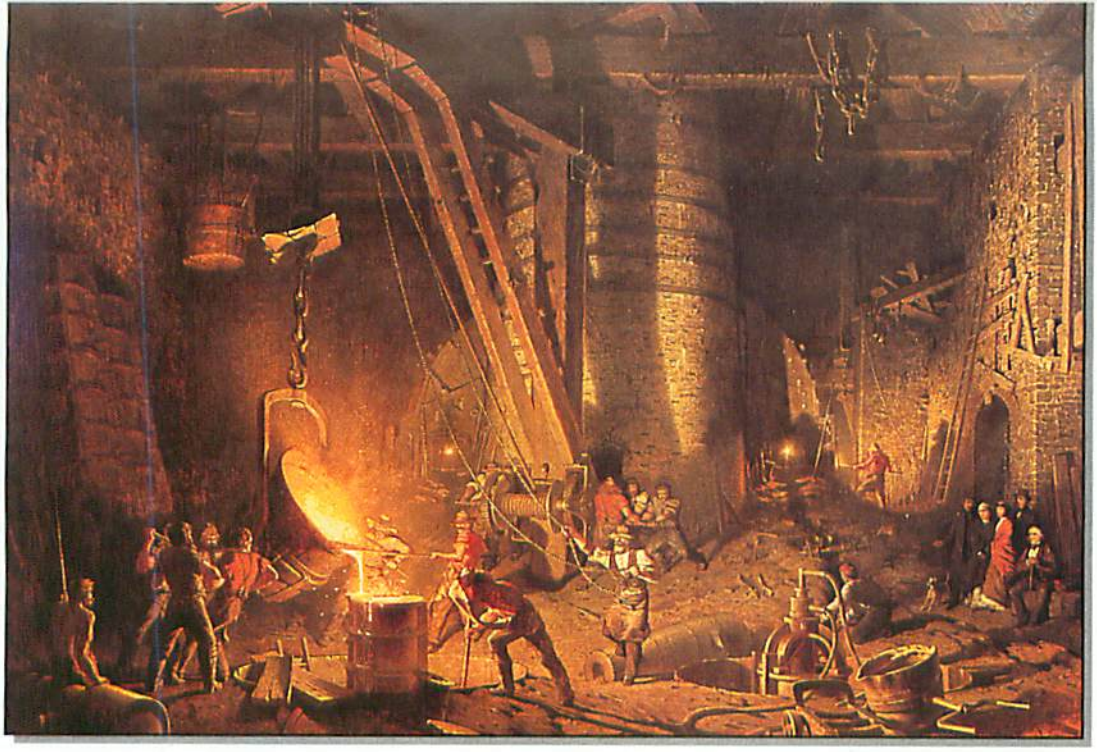
—Frederick Winslow Taylor

Male and Female Workers, 1890



Source: *Historical Statistics of the United States, Colonial Times to 1970*

Interpreting Graphs In 1890 women formed 17 percent of the labor force. Most of these female workers were unmarried. ***Economics*** *What obstacles to employment did women industrial workers face?*



John Furguson Weir's painting *Gun Foundry* presents a vivid image of the nation's industrial might. ***Economics*** *What does the painting suggest about the conditions faced by workers?*

Some employers had their own, unscientific methods of improving efficiency. They simply increased the speed of factory machines or gave each employee more work. Yet they did not increase workers' pay. The additional workload endangered workers' health and safety.

A Strict Work Environment The routines of factory work differed greatly from those of earlier kinds of work. Factory workers were ruled by the clock, which told them when to start, take any breaks, and stop work. On the farm, in contrast, workers had labored at their own pace.

Less obvious, but equally important, was a change in the relationship between the worker and the product. Craftsworkers traditionally made a product from start to finish, which required them to perform a variety of tasks. Factory workers performed only one small task, over and over, and rarely even saw the finished product. This **division of labor** into separate tasks proved to be efficient, but it took much of the joy out of the work.

Owners seldom visited the factory floor where their workers toiled. Called "hands" or "operatives," the workers were viewed as interchangeable parts in a vast and impersonal machine. One factory manager in 1883 declared, "I regard my people as I regard my machinery. So long as they can do my work for what I choose to pay them, I keep them, getting out of them all I can."

Discipline was strict. A manager might fine or fire a worker for being late, answering back, refusing to do a task, talking, or other minor offenses. The work was boring, and the noise of the machines was deafening. Lighting and ventilation were poor. Fatigue, faulty equipment, and careless training resulted in frequent fires and accidents. In 1882, the average number of workers killed on the job each week was 675—compared to about 120 today. Despite the harsh conditions, employers suffered no shortage of labor. Factory work offered higher pay and more opportunities than most people could hope to find elsewhere.

Working Women and Children

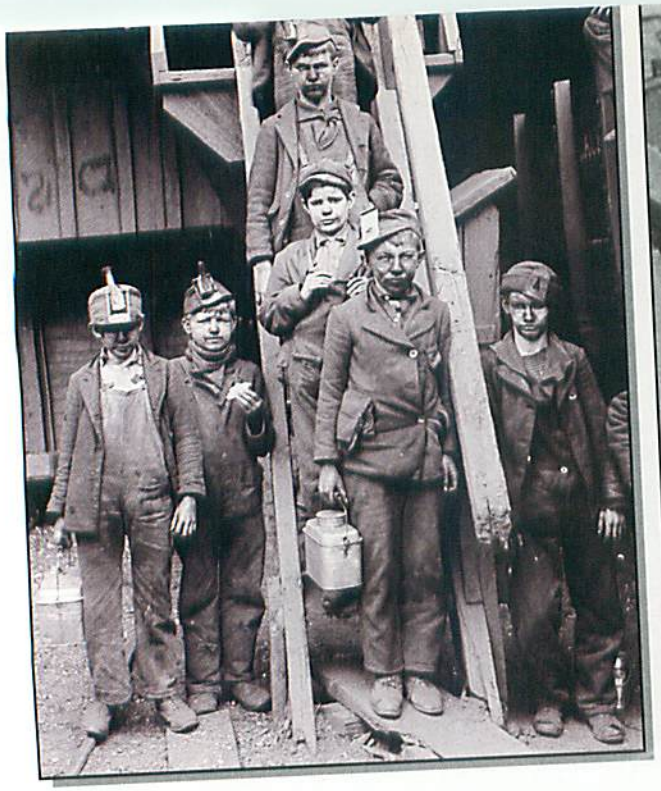
Employers in industry excluded women from the most-skilled and highest-paying jobs. Of course, not all men had good jobs, either. But factory owners usually assigned women to the operation of simple machines. More complex machines required machinists and engineers. These were almost always men, for only they had access to training in such fields.

Women had almost no chance to advance in factory work. In the garment industry, for example, running the machines that cut large stacks of fabric was defined as a man's job. Typically, women performed only one part of the process of sewing a garment.

In the 1880s, children made up more than 5 percent of the industrial labor force. For many households, children's wages meant the difference between going hungry or having food on the table.

Main Idea CONNECTIONS

Why did women have little chance for advancement in factory work?



Many children worked under hazardous conditions. The boys at left worked in coal mines. The grime that covers their faces also clogged their lungs, leading to disease. Industrial growth created jobs for African Americans, though opportunities were limited. The men at right were hired for the low-paying job of carrying bricks. White men got the higher-paying jobs as masons. ***Economics*** *Why were so many children put to work?*

Laboring in factories or mines and performing dangerous work was unhealthful for all workers. But it especially threatened growing children. Many children became stunted in both body and mind. In 1892 social reformer Jacob Riis tried to explain the impact of factory work on children in a book titled *Children of the Poor*. Riis wrote that people who spent their whole childhood on the factory floor grew "to manhood and womanhood . . . with the years that should have prepared them for life's work gone in hopeless and profitless drudgery." Thanks to Riis and others, the practice of child labor came under broad attack in the 1890s and early 1900s when states began curbing this practice through legislation†.

† Illinois limited children's time at work to 8 hours a day and 48 hours a week in 1893. By 1912, three fourths of the states had similar laws.

SECTION 3 REVIEW

Comprehension

1. ***Key Terms*** Define: (a) piecework; (b) division of labor.
2. ***Summarizing the Main Idea*** What made factory work difficult in the late 1800s?
3. ***Organizing Information*** Create a web diagram to show the two major sources of the growing work force. Use smaller circles to provide details about each of these sources.

Critical Thinking

4. ***Analyzing Time Lines*** Review the time line at the start of the section. Which of the events do you think helped factory owners the most? Explain.
5. ***Identifying Alternatives*** Would the problems faced by women and children in the work force, as described in this section, have been solved by a law banning women and children from working? Explain your answer.

Writing Activity

6. ***Writing an Expository Essay*** Write an essay describing the day-to-day life of a typical factory worker in the late 1800s.