

# Continuity and Change in the Industrial Age

*Capital is, therefore, not a personal, it is a social power.*

—Friedrich Engels and Karl Marx, *The Communist Manifesto* (1848)

**Essential Question:** How did the Industrial Revolution demonstrate both continuity and change?

The Industrial Revolution, an era that began in the late 18th century, produced economic, social, cultural, political, and environmental changes not seen since the first Agricultural Revolution, more than 10,000 years before. The Industrial Revolution changed how goods were produced, how people earned their living, and how businesses were structured. The Industrial Revolution also caused sweeping social changes.

An expansion of the middle class in industrial economies occurred. A working class, dependent on factory jobs, emerged. The role of women was transformed, as they made up a significant portion of the factory work force. Politically, the Enlightenment proved to be a long-lasting and influential intellectual movement that influenced events during the Industrial Revolution. The effects of the Industrial Revolution inspired the works of economic and political philosophers like Adam Smith and Karl Marx. The Industrial Revolution altered life locally as well as globally. Rivalries among nations, which had existed previously, continued into and throughout this era leading to political and economic conflict. Additionally, rigid social orders, based on economic or ethnic status, continued within industrial economies.

## Economic Continuities and Changes

The Industrial Revolution transformed the production and consumption of goods. In Western Europe, access to abundant natural resources, trans-oceanic trade routes, and financial capital combined with an increasing population resulted in a leadership role in industrialization. The Scientific Revolution, begun in the previous era and influenced by scientific knowledge transferred to the West from the Islamic world, helped to bring about inventions that would lead to the establishment of the factory system and the mass production of goods. However, the invention of the machines used to mass produce goods



meant a change from the era of skilled artisans working at their own pace to craft unique and well-built products. With automation, many factory jobs required only unskilled labor working on an assembly line doing repetitive tasks to produce identical goods. As a result, many consumer goods were now more readily available, more affordable, and in greater variety than ever before.

**Industrialization Around the World** New methods of industrial production associated with the Industrial Revolutions spread and changed the economies of other areas of the world outside of Western Europe. As a result, the United States, Russia, and Japan experienced increased industrial production and built more railroads. In the cases of Japan and Egypt, industrialization was encouraged through state sponsored efforts to modernize their economies with varying degrees of success. However, the industrial economies of Western Europe and the United States continued to dominate the global economy while the manufacturing output of Middle Eastern and Asian economies declined.

Share of Total World Manufacturing Output (Percentage)					
	1750	1800	1860	1880	1900
<b>Europe</b>	23.2	28.1	53.2	61.3	62.0
<b>United States</b>	0.1	0.8	7.2	14.7	23.6
<b>Japan</b>	3.8	3.5	2.6	2.4	2.4
<b>The Rest of the World</b>	73.0	67.7	36.6	20.9	11.0

Source: Paul Kennedy. *The Rise and Fall of the Great Powers*, page 149.

**Sources of Raw Materials** Some regions of the world continued to produce minerals, crops, and other resources as they had done in previous eras. Latin America and Africa were important sources of minerals and metals used in industrial processes. Cotton from Egypt, South Asia, and the Caribbean was grown and exported to Great Britain and other European countries. Southeast Asian areas continued to be sources for spices but also for rubber, tin, and timber.

New sources of raw materials were also made possible by the invention of the steam ship and steam locomotive. Maritime trade was made faster and cheaper due to steam power, and railroads built in interior regions helped to access and exploit previously untapped natural resources. Other inventions such as the telegraph helped to improve communication across these far flung and sometimes remote areas. These and other technological innovations made the movement of goods and people easier and cheaper and led to an increase in global trade.

**Western Europe** Western Europe began to change from a mercantilist economic system designed to make a country wealthy through tightly regulated trade to a capitalist system in which private companies were freer to pursue their own profits. Philosopher and political economist Adam Smith believed that the private pursuit of profit would result in general prosperity.



While industrialization and capitalism produced great wealth overall, many people had hard, short lives. In response to this suffering, many reformers argued for changes. One of these was the German philosopher Karl Marx. He argued that the working class, whom he called the proletariat, were being exploited by the capital class, or bourgeoisie. He called for workers to unite and take control of the means of production, a change that would revolutionize society.

## Social Continuities and Changes

Industrialization caused significant changes to social structures of Western Europe and, later, the United States. Prior to industrialization, the population of Western Europe was primarily rural and involved in farming. As factories were built in urban centers in greater numbers, mainly due to a new steam engine design invented by James Watt, agricultural workers soon migrated to find employment in these industrial cities.

**Physical Labor** As the Industrial Revolution spread, the need for factory labor increased. An industrial working class emerged. Members of this class were paid low wages, worked long hours in poor conditions, lived in squalid housing, and resided in crowded and polluted parts of the new industrial cities. Much of their daily lives revolved around their jobs in the factories. This was a change from the agricultural economy of the previous era, when farmers and farm laborers could more or less set their own work schedule based on the seasons. In response to their working and living conditions, the working class formed worker associations, or labor unions, that used labor strikes and collective bargaining to win concessions on wages, working conditions, and hours from the factory owners.

**Office Labor** Along with the emergence of the industrial working class, the Industrial Revolution also changed the size and make-up of the middle class. In pre-industrial society, the middle class was often made up of professionals such as doctors and lawyers as well as local merchants or shopkeepers. As industrialization occurred, while these pre-industrial occupations continued to be part of the middle class, other occupations were added to it, including the middle-management of factories, banks, insurance companies, shipping agents, and, of course, trading companies.

Growth of the Non-Agricultural Labor Force in Europe			
Country	1800	1850	1900
England	68	78	84
France	41	57	69
Italy	42	56	67
Poland	44	53	58

Source: Adapted from World Bank data.

**The Wealthy** The Industrial Revolution also transformed social hierarchies in the period from 1750 to 1900. Wealthy owners of industrial companies who made money from investments rather than from land overtook the aristocracy in wealth and prestige. These capitalists soon made up the highest of the upper class in industrial societies.

**Gender and Industrialization** The role of women changed significantly during the Industrial Revolution. In an agricultural economy, women provided labor at critical times during the planting and harvesting season but were rarely paid for their labor. In a proto-industrial system, women were able to earn some extra money in the manufacturing of textiles.

Despite these activities, women were still mainly supported by the labor and income of their male family members. This pattern began to change with the Industrial Revolution. Due to the low wages paid by the factories, all family needed to work. Hence, a woman's income was just as important to the welfare of the family as a man's. Despite the importance of female labor, women were often paid less than men for the same work and denied high-wage jobs.

## Political Continuities and Changes

As during the Enlightenment, philosophers living through the Industrial Revolution era developed new political ideas about the individual and government. During the Industrial Revolution, most people had little to no formal voice in government such as the right to vote, but they demanded the ability to exercise their "natural rights." Among these were the rights to petition, protest, and rebel against their governments. Sometimes these protests were based on nationalism and the right of people to choose their own governments.

However, political movements of the Industrial Revolution were almost always connected to the interests of the growing middle and working classes. For example, labor leaders advocated formation of international unions so that workers in various countries could unite to demand higher wages. But the vast majority of the protests were for the right to vote and to end aristocratic privileges. A series of uprising throughout European cities in 1848, known as the Revolution of 1848, were a sign of the growing interest in more pluralistic, more democratic governments :

- In Paris , protesters called for greater freedom of the press.
- In Berlin, people wanted a parliament to check the monarch's power.
- In cities in Hungary, people demanded freedom from Austrian control.

People wanted not just general natural rights, but specific rights recognized by their government.

**Voting Rights** As the number of wealthy capitalists and the middle class grew, more frequent calls for greater political participation were made. As a result, some political reforms were enacted that included the extension of voting rights to city dwellers, non-landowners, and, eventually, to the working



class. However, the voting franchise was extended to male voters only. Women would not gain the right to vote in Western industrial countries until the early 20th century. Sometimes voting rights were extended through the legislative process, as in Great Britain. However, in other instances, protests and revolutions forced governments to enact political reforms.

One factor in all of these political reforms was the size and influence of the middle class. In countries where the middle class was large and economically significant, democracy emerged. However, in regions where the middle class was small or insignificant, dictatorships remained in place.



*Solidarity*, June 30, 1917. The Hand That Will Rule the World—One Big Union.

Source: Public Domain

The economic changes of industrial capitalism countered the laborer's vision of social equality, citizenship, and independence. As two distinct classes developed, the rich and the poor, advocating for equal rights became a movement that spanned the 19th century.

**Protections for Workers** Reforms that began in one country often spread. For example, Otto Von Bismarck's social reforms spread throughout Europe and eventually the world. All industrializing nations grappled with the new challenges that factory life introduced. Among these nations, Germany implemented the most comprehensive set of social reforms to protect industrial workers. Under the leadership of Chancellor Otto von Bismarck, Germany started workers' accident compensation insurance, unemployment insurance, and old age pensions for employees. Bismarck was concerned that if his government did not address these problems, socialists and more radical citizens would demand stronger government action.



Another effect of the expansion of voting rights was the emergence of political parties that represented the working class. These “labor parties” advocated for minimum wages, shorter work days, paid sick and holiday leave, better working conditions, and health and unemployment insurance.