

The Dawn of the Industrial Age, 1750–1914



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THE OVERVIEW

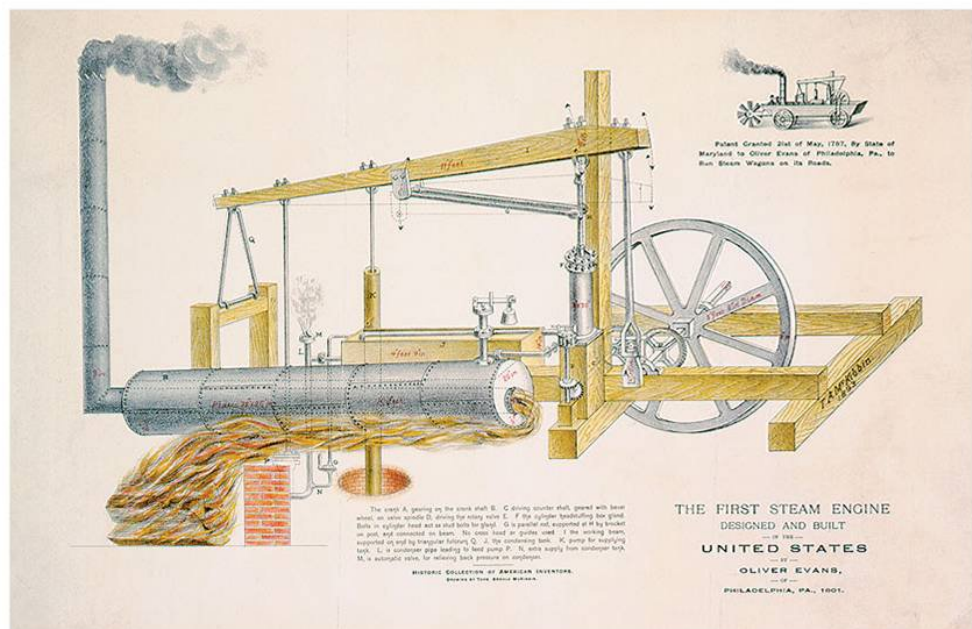
Maps tell a crucial story for the “long” 19th century—a period whose characteristics ran from the late 18th century to 1914. A radically new kind of technology and economy arose in a few parts of the world, in what began to be called the Industrial Revolution. The Industrial Revolution greatly increased industrial production as well as the speed and volume of transportation. Areas that industrialized early gained a huge economic lead over other parts of the world.

Industrial countries also gained power advantages over the rest of the world, thanks to new, mass-produced weaponry, steamships, and developments in communications. Western Europe led a new and unprecedented round of imperialism, taking over Africa, Oceania, and many parts of Asia. Even countries that began industrialization a bit later, like Russia and Japan, were adding to their empires by 1914.

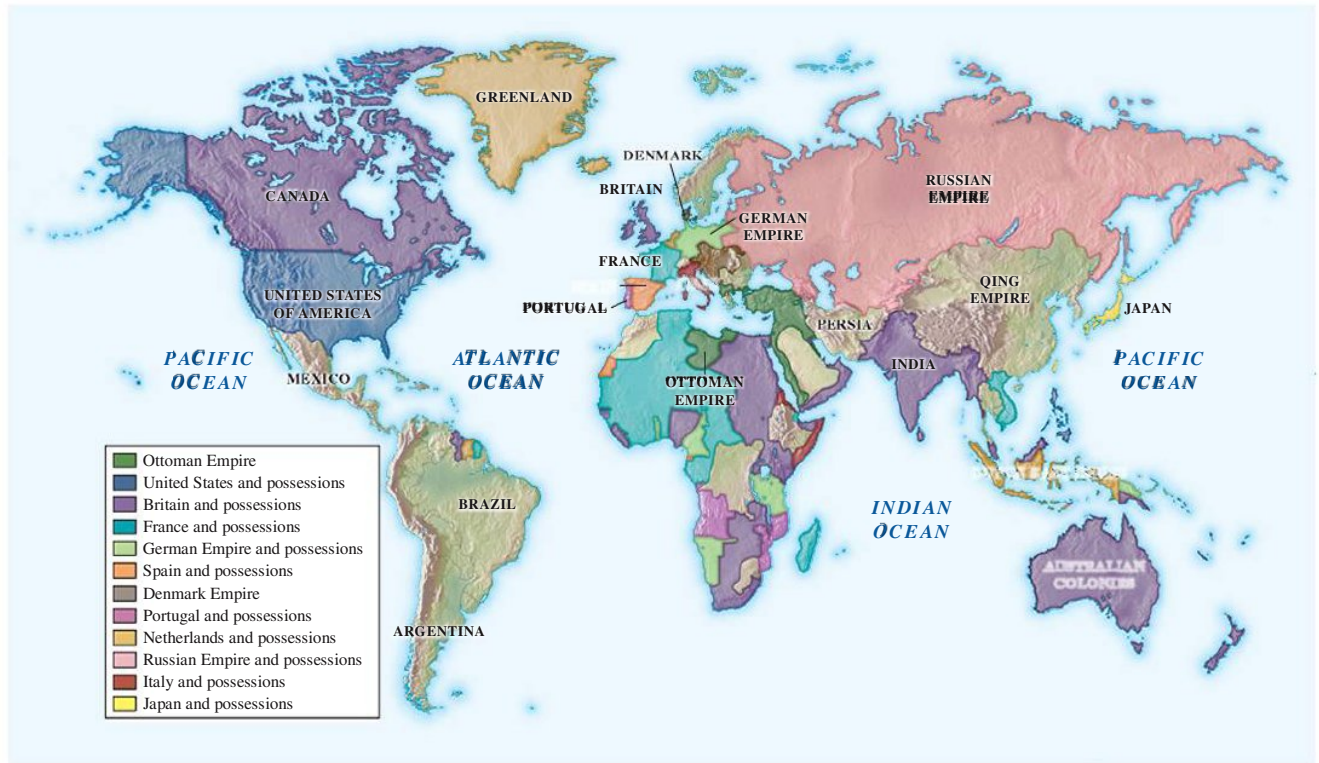
Industrialization was not the only fundamental current in the long 19th century. Dramatic political changes in the Atlantic world competed for attention, though imperialism overshadowed liberal reform ideals in other parts of the world. Industrialization, however, was the dominant force. Its impact spread to art, as some artists sought to capture the energies of the new machines while others, even stylistic innovators, emphasized nostalgic scenes of nature as a contrast to industrial reality. Industrialization also supported a new level of global contacts, turning the proto-industrial framework of the early modern period into globalization outright.

Big Concepts

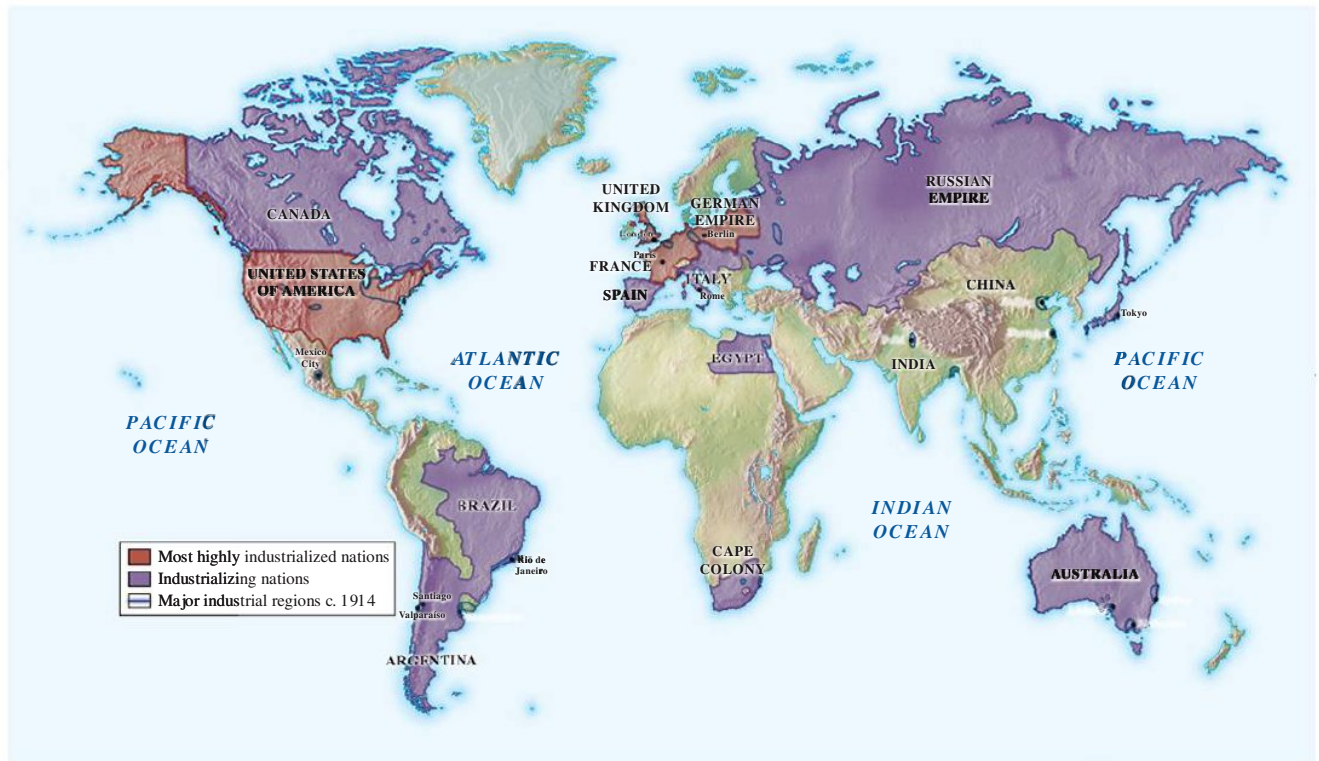
Industrialization was the dominant force in the long 19th century, but it helped spawn several more specific changes that in turn organize a series of Big Concepts. Western companies used their industrial manufacturing power, plus new systems of transportation and communication, to spread their form of capitalism on a global basis. On a global basis also, capitalists helped organize a growing segment of human labor. This was encouraged also by new patterns of global migration, reflecting population growth, new disruptions to established economies, and the changes in available global transportation. Western industrial dominance also fueled the new forms of imperialism and territorial expansion. Finally, new ideologies and political revolutions promoted reform currents of various sorts, some of them directed against the impacts of industrialization or imperialism. Industrialization and the growing globalization of capital and labor,



A sketch of the first successful steam powered locomotive.



Major World Empires, c. 1910



World Centers of Industrialization, c. 1914

imperialism, and the mix of new ideologies and reform currents—here were the Big Concepts that help organize a period of fundamental change.

TRIGGERS FOR CHANGE

By 1750 Europe's trading advantage over much of the rest of the world was increasing. Other gunpowder empires that had flourished during the Early Modern period were encountering difficulties; for example, the Ottoman Empire began to lose territory in wars with Russia. In this context, Great Britain began to introduce revolutionary new technologies, most notably the steam engine. This core innovation soon led to further inventions that increased western Europe's economic advantage over most other parts of the world.

An impressive series of inventions emerged from Britain, France, the United States, and a few other countries at this time in world history, because Europeans knew they could make money in the world economy by selling manufactured goods to other societies in return for cheap foods and raw materials (including silver and gold). Therefore businesses worked to accelerate the manufacturing process in order to increase their profits. European governments also began to create conditions designed to encourage industrial growth by improving roads and canals, developing new central banks, holding technology expositions, and limiting the rights of labor. In addition,

about 1730, the population of western Europe began to grow very rapidly. This created new markets for goods and new workers who had no choice but to accept factory jobs. Finally, cultural changes encouraged invention and entrepreneurship. The rise of science and the European Enlightenment created an environment in which new discoveries seemed both possible and desirable. A rising appreciation of secular achievement encouraged businesspeople to undertake new ventures, and a growing number of western Europeans were interested in and could afford new goods.

So a combination of factors set the context for the replacement of the long-standing agricultural economy with a new industrial order. This order, in turn, would spark further changes, including the rapid growth of European imperialism.

THE BIG CHANGES

Industrialization meant new sources of power, founded initially on the use of coal. The steam engine was the crucial development. It was used to transmit power to machines that produced textiles, metal products, and other goods. Industrialization also involved new forms of work organization, particularly massing and disciplining labor within a factory system.

By 1840 the value of manufactured goods produced each year began to surpass that of agriculture, and the number of people engaged in manufacturing began to exceed the number who worked on the land.

1700 C.E.	1800 C.E.	1825 C.E.
1730–1850 Population boom in western Europe 1770 James Watt's steam engine; beginning of Industrial Revolution 1776–1783 American Revolution 1786–1790 First British reforms in India 1788 Australian colonization begins 1789–1815 French Revolution and Napoleon 1789 Napoleon's invasion of Egypt	1805–1849 Muhammad Ali rules Egypt 1808–1825 Latin American wars of independence 1815 Vienna settlement 1815 British annexation of Cape Town and region of southern Africa 1822 Brazil declares independence 1823 Monroe Doctrine	1825–1855 Repression in Russia 1826 New Zealand colonization begins 1830, 1848 Revolutions in Europe 1835 English education in India 1838 Ottoman trade treaty with Britain 1839–1841 Opium War between England and China 1839–1876 Reforms in Ottoman Empire 1840 Semiautonomous government in Canada 1846–1848 Mexican-American War 1848 ff. Beginnings of Marxism

Improvements in agricultural production were vital supports to the process of industrialization.

The Industrial Revolution had two broad sets of consequences in the 19th century. First, in the industrial countries, the rise of the factory system changed many aspects of life. Work became more specialized and more closely supervised. The changes in work brought about by industrialization deeply affected families. Work moved out of the home, challenging traditional family life, in which all family members had participated in production. Though child labor was used early in the process of industrialization, increasingly childhood was redefined in industrial societies, away from work and toward schooling. Industrialization spurred the growth of cities. While new opportunities were involved, there was also great tension and, for a time, pockets of dreadful misery amid urban slums and machine-driven labor conditions.

Industrialization changed politics. New, middle-class groups, expanding on the basis of industrial growth, sought a political voice. As urban workers grew restive, governments had to strengthen police forces and also, gradually, to expand the right to vote among the lower classes. New nationalist loyalties involved ideological change away from primarily local and religious attachments, but they also provided identities for people whose traditional values were disrupted by industrial life and movement to the cities.

A few societies outside the West sought to industrialize early on. Egypt tried and largely failed, in the

first half of the 19th century; a bit later, Japan and Russia launched industrial revolutions of their own. For most societies during the 19th century, the main effect of industrialization was to increase pressures to turn out food supplies and cheap raw materials for the industrial world, even though these societies were largely non-industrial. Western dominance in the world economy increased, and involvement in this economy became more widespread. For Latin America this meant even more such production, with newly introduced products like coffee and increased output of resources like copper. Parts of Asia that had previously profited from the world economy were now pressed into more low-cost production. All over the world, cheap manufactured goods from Western factories put hundreds of thousands of traditional manufacturing workers, many of them women, out of a job.

While industrial transformations of the world economy exerted the greatest pressure for change, they also provided the context for European imperial expansion into many new areas. When they took over in places like Africa, Europeans moved quickly to intensify low-cost production of foods, minerals, and (sometimes) simple manufactured goods.

Two other key changes accompanied this process of global economic change. First, the institution of slavery increasingly came under attack. The Atlantic slave trade was legally abolished early in the 19th century. Then slave and serf systems were progressively eliminated in the Americas, Europe, Russia, and Africa.

1850 C.E.	1875 C.E.	1900 C.E.
1850–1864 Taiping Rebellion in China	1877–1878 Ottomans out of most of Balkans;	1901 Commonwealth of Australia
1853 Perry expedition to Edo Bay in Japan	Treaty of San Stefano	1903 Construction of Panama Canal begins
1854–1856 Crimean War	1879–1890s Partition of west Africa	1904–1905 Russo-Japanese War
1858 British assume control over India	1882 British takeover of Egypt	1905–1906 Revolution in Russia; limited reforms
1860–1868 Civil strife in Japan	1885 Formation of National Congress Party in India	1908 Young Turk rising
1861 Emancipation of serfs in Russia	1886–1888 Slavery abolished in Cuba and Brazil	1910 Japan annexes Korea
1861–1865 American Civil War	1890 Japanese constitution	1911–1912 Revolution in China; end of empire
1863 Emancipation of slaves in U.S.	1890s Partition of east Africa	1914–1918 World War I
1864–1871 German unification	1894–1895 Sino Japanese War	
1868–1912 Meiji (reform) era in Japan	1895 Cuban revolt against Spain	
1870–1910 Acceleration of "demographic transition" in western Europe and the U.S.	1898 Formation of Marxist Social Democratic Party in Russia	
1870–1910 Expansion of commercial export economy in Latin America	1898 Spanish–American War; U.S. acquires the Philippines, Puerto Rico, and Hawaii; United States intervenes in Cuba	
1871–1912 High point of European imperialism	1898–1901 Boxer Rebellion in China	

New ideas about human rights and new confidence in “free wage labor” facilitated the change. Significant population growth provided new sources of labor to replace slaves. Immigrants poured out of Europe to the Americas and Australia. Indenture systems brought massive numbers of Asians to Oceania, the Americas, and Africa. As slavery ended, harsh, low-paid “free” labor intensified in many places. Second, the massive economic changes brought about by the Industrial Revolution impacted the environment. In industrial societies, smoke and the steady increase of chemical and urban wastes worsened regional air and water quality. The expansion of export production in other parts of the world also affected the environment in negative ways. The introduction of crops like coffee and cotton, for example, to new parts of Africa and Latin America often caused significant soil erosion.

GLOBALIZATION

Western industrial and military power, when joined with new technologies in transportation and communication, helped generate the first full emergence of globalization after the 1850s. The telegraph, railroads and above all steam shipping greatly speeded the movement of goods and news around the world. Construction of the Suez Canal and then, early in the 20th century, the Panama Canal, cut massive amounts of time off oceanic shipping. Exchanges of bulk goods—wheat and meats from the Americas, metal ores, as well as expensive manufactured products—soared beyond any previous precedent.

Modern globalization differed from earlier proto-globalization not only because of the volume of goods exchanged and the impact of exports and imports on local economies from Hawaii to Mozambique to Honduras. Economic contacts were now enhanced by efforts as transnational political agreements. Some agreements, on international mails for example, obviously related closely to economic relationships. Other efforts, however, like the new Geneva Conventions on the treatment of military prisoners, began to globalize some ideas about human rights. New levels of cultural globalization showed particularly in the clear emergence of transnational sports interests, particularly around soccer, football and American baseball. Finally, global economic exchange began to have significant regional environmental impacts. Development of a rubber industry in Brazil, to meet needs in industrial countries, led to important levels of deforestation. The advent of globalization thus involved changes on various fronts.

Different societies participated variously in globalization, which raises important issues of comparison and continuity. New debates arose in Egypt about whether the veiling of women represented Islamic identity or an offense to global standards for women. Many countries, even though they could not resist global involvements, deplored Western dominance, and disproportionate western benefit, from the process. Some societies, like Japan, managed to encounter globalization while preserving a sense of separate identity. The variations, and the widespread sense of resentment against too much foreign control and influence, were significant in their own right.

CONTINUITY

Industrialization’s global impact did not destroy continuities from the past. In the first place, although industrialization and early globalization were indeed revolutionary, their consequences were spread out over many decades. Dramatic innovations such as department stores and ocean-going steamships should not conceal the fact that such stores controlled only about 5 percent of all retail commerce in major Western cities—the rest centered on more traditional shops, peddling, and outdoor markets.

Continuity also shows in the different ways specific groups and regions reacted to change. The need to respond to Western economic and, often, military pressure was quite real around the world. But reactions varied in part with local conditions. Japanese society adapted considerably to facilitate industrialization. The feudal system was abolished outright, while its legacy helped to shape Japanese business organizations. The absence of a comparable organizational legacy may have reduced Chinese flexibility for some time. The spread of literacy in Russia in the later 19th century—part of Russia’s efforts to reform—created new opportunities for popular literature, as had occurred earlier in the West. But in contrast to Western literature, which often celebrated outlaws, Russian adventure stories always included the triumph of the state over disorder. The cultural differences illustrated by these comparisons did not necessarily persist without alteration, but they continued to influence regional patterns.

Response to change also included the “invention” of traditions. Many societies sought to compensate for disruption by appealing to apparent sources of stability that drew on traditional themes. Many Western leaders emphasized the sanctity of the family and domestic roles for women, hoping that the home

would provide a “haven” amid rapid economic change. The ideas of the family as a haven and of the special domestic virtues of women were partly myths, even as both took on the status of tradition. In the 1860s the U.S. government instituted Thanksgiving as a national holiday, and many Americans assumed that this was simply an official recognition of a long-standing celebration; in fact, Thanksgiving had been only rarely and fitfully observed before this new holiday, designed to promote family and national unity, was newly established. Japanese leaders by the 1880s invented new traditions about the importance of the emperor as a divinely appointed ruler, again as a means of counterbalancing rapid change.

IMPACT ON DAILY LIFE: LEISURE

The Industrial Revolution transformed leisure. Leaders in industrial centers wanted to discourage traditional festivals, because they took too much time away from work and sometimes led to rowdiness on the part of workers. Factory rules also limited napping, chatting, wandering around, and drinking on the job. In the early decades of industrialization, leisure declined at first—replaced by long and exhausting work days—just as it had when agriculture replaced hunting and gathering.

With time, however, industrial societies introduced new kinds of leisure. Professional sports began to take shape around the middle of the 19th century. A bit later, new forms of popular theater attracted many people in the cities. The idea of vacations also spread: workers took same-day train excursions to beaches and travel companies formed to assist the middle classes in more ambitious trips. Much of the new leisure depended on professional entertainers, with the bulk of the population turning into spectators.

While the most dramatic innovations in leisure occurred in industrial societies, here too there was quick connection to the wider world—another sign of early globalization. Many mine and plantation owners sought to curb traditional forms of leisure activity in the interests of more efficient production. Although they had less success than factory owners did, they did have some impact. New forms of leisure pioneered in western Europe or the United States also caught on elsewhere. Soccer began to win interest in Latin America by the 1860s. Baseball began to spread from the United States to the rest of the Americas and Japan by the 1890s. By the 1920s, movies had won global attention as well. While most societies retained traditional, regional leisure forms, something of a global leisure culture was beginning to emerge.

SOCIETIES AND TRENDS

Chapters in this section begin with developments in the West, where industrialization and new political ideas first emerged. The West also spawned new settler societies in the United States, Canada, Australia, and New Zealand. These developments are described in Chapter 28. Chapter 29 focuses on the world economy and imperialism, tracing the effects of Western industrialization on the nonindustrial world. Chapter 30 describes the balance between new forces within Latin America. Chapter 31 describes developments in key parts of Asia as they responded to the challenges of Western power and economic change. Chapter 32 deals with two non-Western societies, Russia and Japan, that launched ambitious plans for industrialization in the late 19th century; the comparative study of the processes of industrialization in Russia, Japan, and the West sheds new light on the varied forms this process could take. ■