

The Enlightenment

Except our own thoughts, there is nothing absolutely in our power.

—René Descartes (1596 -1650)

Essential Question: How did the Enlightenment shape the intellectual and ideological thinking that affected reform and revolution after 1750?

As empires expanded and trade routes led to more interactions, intellectuals in the 17th and 18th centuries such as Descartes began to emphasize reason over tradition and individualism over community values. These shifts were called the **Enlightenment**. The ideals of this movement, such as individualism, freedom, and self-determination, challenged the roles of monarchs and church leaders and planted the seeds of revolution in the United States, France, and around the world.

An Age of New Ideas

Growing out of the Scientific Revolution and the humanism of the Renaissance, Enlightenment thought was optimistic. Many writers believed that applying reason to natural laws would result in progress. While not denying the existence of God, they emphasized human accomplishments in understanding the natural world. Such beliefs led to the conclusion that natural laws governed the social and political spheres as well. While traditional religion did not disappear, it became less pervasive.

New ideas emerged about how to improve society. Schools of thought including *socialism* and *liberalism* arose, giving rise to the period being called “the Age of Isms.” Opposing socialism and liberalism were the currents of *conservatism*, particularly popular among the European ruling class. (All of these “isms” are defined later in this topic.)

The clash between new ideas and old political structures led to revolutions that often had two aims: independence from imperial powers and constitutional representation. The breakup of empires and the emergence of new forms of government often followed. These developed out of the concept of **nationalism**, a feeling of intense loyalty to others who share one’s language and culture. The idea that people who share a culture should also live in an independent nation-state threatened to destroy all of Europe’s multiethnic empires.

New Ideas and Their Roots

In the 17th century, Francis Bacon emphasized empirical methods of scientific inquiry. **Empiricism** is the belief that knowledge comes from sensed experience, from what you observe through your experience, including through experiments. Rather than relying on reasoning about principles provided by tradition or religion, Bacon based his conclusions on his observation of natural data.

Hobbes and Locke In the same century, philosophers Thomas Hobbes (author of *Leviathan*, 1651) and **John Locke** (author of *Two Treatises of Government*, 1690) viewed political life as the result of a **social contract**. Hobbes argued that people's natural state was to live in a bleak world in which life was "nasty, brutish, and short." However, by agreeing to a social contract, they gave up some rights to a strong central government in return for law and order.

Locke, on the other hand, argued that the social contract implied the right, even the responsibility, of citizens to revolt against unjust government. Locke thought that people had natural rights to life, liberty, and the pursuit of property. Another of Locke's influential ideas is found in *An Essay Concerning Human Understanding* (1690), in which he proposed that a child was born with a mind like a "blank slate" (**tabula rasa**) waiting to be filled with knowledge. In a world in which most people believed that an individual's intelligence, personality, and fate were heavily determined by their ancestry, Locke's emphasis on environment and education in shaping people was radical.

The Philosophes In the 18th century, a new group of thinkers and writers who came to be called the **philosophes** explored social, political, and economic theories in new ways. In doing so, they popularized concepts that they felt followed rationally upon those of the scientific thinkers of the 17th century. Taking their name from the French word *philosophe* ("philosopher"), these writers included Thomas Jefferson and Benjamin Franklin from America, Adam Smith from Scotland, and several French thinkers

Of particular importance to writers of the new constitutions in France and America in the 18th and 19th centuries were the ideas of **Baron Montesquieu**. His famous work *The Spirit of Laws* (1748) praised the British government's use of checks on power because it had a Parliament. Montesquieu thus influenced the American system, which adopted his ideas by separating its executive branch (the president) from its legislative branch (Congress) and both from its third branch (the federal judiciary).

Francois-Marie Arouet, pen name **Voltaire**, is perhaps best known for his social satire *Candide* (1762). He was famous during his lifetime for his wit and for his advocacy of civil liberties. Exiled for three years due to a conflict with a member of the French aristocracy, Voltaire lived in England long enough to develop an appreciation for its constitutional monarchy and a regard for civil rights. He brought these ideas back to France, where he campaigned for

religious liberty and judicial reform. His correspondence with heads of state (such as Catherine the Great of Russia and Frederick the Great of Prussia) and his extensive writings, including articles in Diderot's *Encyclopedia*, are still quoted today. His idea of religious liberty influenced the U.S. Constitution.

A contemporary of Voltaire was the writer **Jean-Jacques Rousseau**, who expanded on the idea of the social contract as it had passed down through the work of Hobbes and Locke. One of Rousseau's early works was *Emile, or On Education* (1762) in which he laid out his ideas on child-rearing and education. A later work, *The Social Contract* (1762), presented the concept of the General Will of a population and the obligation of a sovereign to carry out that General Will. An optimist who believed that society could improve, Rousseau inspired many revolutionaries of the late 18th century.

Adam Smith One of the most influential thinkers of the Enlightenment was **Adam Smith**. In his book *The Wealth of Nations* (1776), Smith responded to mercantilism by calling for freer trade. While Smith did support some government regulations and saw the benefits of taxes, he generally advocated for **laissez-faire**, a French phrase for "leave alone." This approach meant that governments should reduce their intervention in economic decisions. Smith believed that if businesses and consumers were allowed to make choices in their own interests, the "invisible hand" of the market would guide them to make choices beneficial for society. His ideas provided a foundation for **capitalism**, an economic system in which the means of production, such as factories and natural resources, are privately owned and are operated for profit. (Connect: Create a chart or Venn diagram that compares and contrasts mercantilism and the free market. See Topics 4.4 and 4.5.)



Source: Getty Images

Adam Smith was one of the first modern economists.

Deism The Enlightenment's emphasis on reason led some thinkers to reexamine the relationship of humans to God. Some adopted **Deism**, the belief that a divinity simply set natural laws in motion. Deists compared the divinity to a watchmaker who makes a watch but does not interfere in its day-to-day workings. Deists believed these laws could be best understood through

scientific inquiry rather than study of the Bible. Despite their unorthodox ideas, many Deists viewed regular church attendance as an important social obligation and a way people received moral guidance.

Thomas Paine, never one to shrink from conflict, was militant in his defense of Deism in the book *The Age of Reason* (1794). Paine's previous work, *Common Sense* (1776), made him popular in America for advocating liberty from Britain, but his anti-church writings damaged much of his popularity.

European Intellectual Life, 1250–1789		
Period	Representative Thinkers	Characteristics
Medieval Scholasticism	<ul style="list-style-type: none"> • St. Thomas Aquinas (1225–1274) 	<ul style="list-style-type: none"> • Used reason to defend faith • Argued through writing and debating • Relied heavily on Aristotle • Used little experimentation
Renaissance Humanism	<ul style="list-style-type: none"> • Erasmus (1466–1536) • Mirandola (1463–1494) 	<ul style="list-style-type: none"> • Wrote practical books, such as Machiavelli's <i>The Prince</i> • Emphasized human achievements • Focused on secularism and the individual
Scientific Revolution and Enlightenment	<ul style="list-style-type: none"> • Francis Bacon (1561–1626) • Isaac Newton (1642–1727) • Thomas Hobbes (1588–1679) • John Locke (1632–1704) • French philosophes 	<ul style="list-style-type: none"> • Emphasized use of empirical data • Believed in natural rights, progress, and reason • Wanted new constitutions • Supported religious toleration • Wrote for the reading public

The Age of New Ideas Continues

In Europe and America, Enlightenment thinkers reacted to the social ills caused by increasing urbanization and industrialization. Poverty in the cities increased. Poor workers lived in slums without proper sanitation and without political representation. Various writers proposed solutions to the observable problems. Some wanted more government regulations and programs, and many Christians called for greater private charity. But some conservatives blamed the poor themselves and called on them to change. **Conservatism** is a belief in traditional institutions, favoring reliance on practical experience over ideological theories, such as that of human perfectability.

Utopian Socialism The economic and political theory of **socialism** refers to a system of public or direct worker ownership of the means of production such as the mills to make cloth or the machinery and land needed to mine coal. Various branches of socialism developed in the 19th century, providing alternative visions of the social and economic future. Those who felt that society could be channeled in positive directions by setting up ideal communities were often called **utopian socialists**:

- **Henri de Saint-Simon**, of France, believed that scientists and engineers, working together with businesses, could operate clean, efficient, beautiful places to work that produced things useful to society. He also advocated for public works that would provide employment. He proposed building the Suez Canal in Egypt, a project that the French government later undertook and which opened in 1869.
- **Charles Fourier** identified some 810 passions that, when encouraged, would make work more enjoyable and workers less tired. Like other utopian socialists, Fourier believed that a fundamental principle of utopia was harmonious living in communities rather than the class struggle that was basic to the thinking of Karl Marx.
- **Robert Owen** was born in Great Britain. He established intentional communities—small societies governed by the principles of utopian socialism—in New Lanark, Scotland, and New Harmony, Indiana. He believed in education for children who worked, communal ownership of property, and community rules to govern work, education, and leisure time.

In the later 19th century, socialist groups such as the **Fabian Society** formed in England. The Fabians were gradual socialists: they favored reforming society by parliamentary means. Writers H. G. Wells, Virginia Woolf, and George Bernard Shaw were prominent Fabians. By the mid-20th century, socialist principles would influence most of Western Europe.

Classical Liberalism Others advocated **classical liberalism**, a belief in natural rights, constitutional government, laissez-faire economics, and reduced spending on armies and established churches. Most classical liberals were professionals, writers, or academics. In Britain they pursued changes in Parliament to reflect changing population patterns so that new industrial cities would have equal parliamentary representation. Classical liberals backed the Reform Bills of 1832, 1867, and 1884, all of which broadened male suffrage.

Feminism This period saw the emergence of the movement for women's rights and equality based on Enlightenment ideas. The French writer Olympe de Gouges fought for these rights in the era of the French Revolution. In 1789, France had adopted the "Declaration of the Rights of Man and of the (Male) Citizen," a pioneering document in the history of human rights. In 1791, de Gouges published a "Declaration of the Rights of Woman and of the (Female) Citizen," to point out that women's rights had not been addressed.

In 1792 in England, the pioneering writer **Mary Wollstonecraft** published *A Vindication of the Rights of Women*. In it, she argued that females should receive the same education as males. Universal education, she argued, would prepare women to participate in political and professional society, enabling them to support themselves rather than relying on men. Wollstonecraft's ultimate goal was for women to gain the same rights and abilities as men through the application of reason. Women won the full right to vote in 1928.



Source: Library of Congress
Mary Wollstonecraft,
engraving by James
Heath, c. 1797 after the
painting by John Opie

In 1848 in Seneca Falls, New York, activists gathered to promote women's rights and suffrage (the ability to vote). In the convention's "Declaration of Sentiments," organizers Lucretia Mott and Elizabeth Cady Stanton declared, "All men and women are created equal." They demanded women deserved the right to vote and hold office, hold property and manage their own incomes, and be the legal guardians of their children. The Seneca Falls Convention was a landmark in the history of the women's rights movement.

Abolitionism Reform movements to provide rights and equality extended to the freeing of slaves and the end of serfdom. **Abolitionism**, the movement to end the Atlantic slave trade and free all enslaved people, gained followers in the 18th century. Slave trading was banned earlier than slavery itself. The first states to ban the slave trade were with Denmark in 1803, Great Britain in 1807, and the United States in 1808. In most countries, the slave system depended on a steady supply of new enslaved people in order to function. As a result, as soon as the slave trade stopped, slavery began to decline. In most parts of the Americas, slavery was abolished within 30 years of the end of the slave trade. The United States was the rare country where the number of slaves increased after the importation of slaves was legally ended. The last country in the Americas to end slavery was Brazil, in 1888.

The End of Serfdom Serfdom in Europe had been declining as the economy changed from agrarian to industrial. Peasant revolts pushed leaders toward reform. Queen Elizabeth I abolished serfdom in 1574. The French government abolished all feudal rights of the nobility in 1789. Alexander II

of Russia abolished serfdom in 1861. The Russian emancipation of 23 million serfs was the largest single emancipation of people in bondage in human history.

Zionism Yet another “ism” in the late 19th century was the emergence of **Zionism**—the desire of Jews to reestablish an independent homeland where their ancestors had lived in the Middle East. After centuries of battling **anti-Semitism**, hostility toward Jews, and pogroms—violent attacks against Jewish communities—many European Jews had concluded that living in peace and security was not a realistic hope. To be safe, Jews needed to control their own land. Leading the movement was an Austro-Hungarian Jew, **Theodor Herzl**.

Support for Zionism increased after a scandal in France known as the **Dreyfus Affair**. In 1894, Alfred Dreyfus, a military officer who was Jewish, was convicted of treason against the French government. However, the conviction had been based on forged documents by people promoting anti-Semitism. Dreyfus was ultimately pardoned after time in prison, but the case illustrated how widespread anti-Semitism was in France, one of the countries where Jews seemed least oppressed.

Zionists faced many obstacles. The land they wanted was controlled by the Ottoman Empire, and Palestinian Arabs were already living in the region. Both the Ottomans and the Palestinians were predominantly Muslim, which added a religious aspect to the conflict. However, the Zionist movement grew in strength until 1948, when the modern country of Israel was founded.

KEY TERMS BY THEME

GOVERNMENT: Reforms

John Locke
social contract
tabula rasa
philosophes
Baron Montesquieu
Voltaire
Jean-Jacques Rousseau

CULTURE: Isms

Enlightenment
deism
liberalism
conservatism
empiricism
nationalism
classical liberalism
feminism
abolitionism
Zionism
anti-Semitism
Theodor Herzl (Zionism)
Dreyfus Affair

ECONOMY: Reforms

Adam Smith
The Wealth of Nations
laissez-faire
capitalism
socialism
utopian socialists
Henri de Saint-Simon
Charles Fourier
Robert Owen
Fabian Society

Nationalism and Revolutions

Every nation gets the government it deserves.

—Joseph de Maistre (1753-1821)

Essential Question: What were the causes and effects of the various revolutions in the period from 1750 to 1900, including influences of the Enlightenment and emerging nationalism?

The age of new ideas led to political and philosophical conflicts. Like the English statesman Edmund Burke, the French thinker Joseph de Maistre was a conservative who went against the tide of Enlightenment thinking. In the view of conservative thinkers such as Burke and Maistre, revolutions were bloody, disruptive, and unlikely to yield positive results. However, try as conservatives might to quell revolutionary change, the desire of common people for constitutional government and democratic practices erupted in revolutions throughout the 19th century. And many nations did, indeed, get a new form of government that responded to the new wave of thinking with its key ideals: progress, reason, and natural law.

The American Revolution

The ideals that inspired the American Revolution had their roots in European Enlightenment philosophy. The economic ideas of the physiocrats also played a part in the American Revolution, providing a defense of free market ideas in opposition to English mercantilism. Additionally, the American colonists had become increasingly independent politically. Colonial legislatures were making decisions usually made by Parliament. Moreover, great distances separated the colonists from Parliament and the king in London. With economic and political desires for independence grew a new social spirit.

Declaration of Independence On July 4, 1776, the **Declaration of Independence** expressed the philosophy behind the colonists' fight against British rule. In the document, Thomas Jefferson picked up the phrase "unalienable rights" from John Locke. For Jefferson, these rights were to life, liberty, and the pursuit of happiness. In the war that followed, the colonists triumphed in 1783 with crucial help from Britain's long-time enemy, France.

The New Zealand Wars

New Zealand had been occupied by Polynesian people, the Maori, since at least the mid-1200s. In the period between their arrival and the arrival of Europeans the Maori developed a rich culture. The people were divided into individual tribes, or *iwi*, who sometimes engaged in warfare. After colonization by the British, made official by annexation of New Zealand in 1840, English control over Maori affairs increased, as did pressure for their land. These issues resulted in a series of wars between the Maori and British collectively known as the New Zealand Wars. Though the Maori tribes fought together, developing a sense of Maori nationalism, by 1872, the British had won.

The French Revolution

In France in the 1780s, revolutionary ideals took on their own spin, summarized in the slogan **liberté, égalité, et fraternité** (liberty, equality, and fraternity). These ideas, which struck many people as radical, were popularized throughout Europe in the writings of the **philosophes**.

Economic Woes However, additional causes led to the French Revolution. France had long spent more than it was taking in, partly to finance a series of wars. Among this spending was the economic aid that France supplied the Americans in their revolution. To address its financial situation, the French government called a meeting of the Estates-General in spring 1789. Three sectors of society, or estates, made up the Estates-General: the clergy (religious officials), the nobility, and the commoners. However, inequality in voting caused the commoners (who made up 97 percent of French society) to break away and form a new body, the National Assembly.

The Revolution Begins In the early days of the French Revolution, moderates such as Marquis de Lafayette seemed to be on the point of establishing a constitutional monarchy. The National Assembly began meeting in Paris, but then the King threatened to arrest the leaders. Angry crowds rioted in Paris and elsewhere in France. On July 14, 1789, a crowd in Paris stormed the **Bastille**, a former prison that symbolized the abuses of the monarchy and the corrupt aristocracy. In the French countryside, peasants rose up against nobles, even burning some manor houses. Some royal officials fled France. The king was forced to accept a new government with a National Assembly in charge.

The date July 14, 1789, became French Independence Day. The most permanent changes were enacted early in the Revolution—the abolition of feudalism and the adoption of the **Declaration of the Rights of Man**, a statement declaring basic human rights. Louis XVI and the nobility refused to accept the limited monarchy, which led to dissatisfaction among radical groups such as the Jacobins and inspired the establishment of the First French Republic in 1792. The **Reign of Terror**, a period during which the government executed thousands of opponents of the revolution, including the king and queen, sprang from the Jacobins. After a period of turmoil and war, the brilliant general Napoleon Bonaparte became emperor of France in 1804.

The Haitian Revolution

At the end of the 18th century, revolutionary forces were also at work in the rich French sugar and coffee colony of **Haiti** on the western third of the island of St. Domingue, also known as Hispaniola. Slaves revolted against their white masters, killing them and burning their houses. This slave revolt was soon joined by escaped slaves called **Maroons**. The examples of the recent American and French revolutions led former slave **Toussaint L'Ouverture** to join the revolts in 1791 and then to lead a general rebellion against slavery. Besides being well-read in Enlightenment thought, L'Ouverture proved to be a capable general. His army of enslaved Africans and Maroons established an independent government and played the French, Spanish, and British against each other.

Haiti In 1801, after taking control of the territory that would become the independent country of Haiti, L'Ouverture produced a constitution that granted equality and citizenship to all residents. He also declared himself governor for life. Haiti next enacted land reform: plantations were divided up, with the lands being distributed among formerly enslaved and free black people.

L'Ouverture worked with the French but they betrayed and imprisoned him. He died in France in 1803. But he had cemented the abolition of slavery in Haiti, which he set on the road to independence from France.

In 1804, L'Ouverture's successor, Jean-Jacques Dessalines, orchestrated a Haitian declaration of permanent independence. Thus, Haiti became the first country in Latin America to win its independence and the first black-led country in the Western Hemisphere. It was also the only country to become permanently independent as a result of a slave uprising.

Comparing the Haitian and French Revolutions Both the Haitian and French revolutions grew out of the Enlightenment's insistence that men had natural rights as citizens, and that legal restraints were limiting the freedom of people by forcing them into various estates (social classes). However, in the case of the Haitians, the restraints were more severe—the rebellion was led by slaves who had no rights at all.



Source: Wikimedia Commons

Toussaint L'Ouverture

Creole Revolutions in Latin America

On the Latin American mainland, revolutionary ideals were taken up by **creoles**. Born of European ancestry in the Americas, the creoles were well educated and aware of the ideas behind the revolutions in North America and France. They considered themselves superior to the **mestizos**, who were born of European and Indian parents. Colonists who were born in Spain or Portugal, known as **peninsulares**, felt superior to everyone. At the bottom of the social ladder were the African slaves, the indigenous population, and **mulattoes**, those of African and either European or indigenous ancestry. (Some of these social distinctions remain today.)

There were many reasons for discontent in the colonies, each of which encouraged some people to desire independence from Spain:

- Many creoles were wealthy owners of estates, mines, or businesses. They opposed Spain's mercantilism, which required colonists to buy manufactured goods only from Spain and sell products only to Spain.
- Creoles wanted more political power. They resented that Spain tended to give important government jobs in the colonies to peninsulares.
- Mestizos wanted political power and a share of the wealth of the colonies. Many had jobs in the towns or worked in the mines or on the estates of the peninsulares and creoles.

The Bolívar Revolutions In many parts of South America, the desire for independence from Spain grew among the creole class. Fearing the masses, the creoles refused the support of mestizos, indigenous people, and mulattos (people of mixed African and European heritage). The creoles had seen the result in Haiti of a slave uprising as well as the excesses of the French Revolution during the Reign of Terror. Some creoles, such as **Simón Bolívar**, continued to push for Enlightenment ideals in Latin America. He became instrumental in the independence of areas that became Venezuela, Colombia, Ecuador, and Peru.

Bolívar was born in Venezuela in 1783 to a family whose ancestors had been village aristocrats in Spain. The family had grown very wealthy in Venezuela, and Bolívar had access to this wealth for his revolutionary causes. After considerable military success in Latin America fighting the Spanish, his forces achieved the formation of a large area that he called Gran Colombia. He hoped it would become a federation similar to the United States, one based on Enlightenment ideals. He described himself as a liberal who believed in a free market and the abolition of slavery. Bolívar's goals and concerns for Latin America are outlined in his "Jamaica Letter" (1815): "Generous souls always interest themselves in the fate of a people who strive to recover the rights to which the Creator and Nature have entitled them, and one must be wedded to error and passion not to harbor this noble sentiment."

The new nations of Latin America suffered from the long wars of independence. Armies loyal to their generals led to the rise of the

caudillos—strong, local leaders with regional power bases. These men intervened in national politics to make or break governments. Sometimes the caudillos defended the interests of the regional elites and sometimes of the indigenous population and the peasants, but in general they disregarded representative forms of government and the rule of law.

Results of the Creole Revolutions Although the constitutions of the newly independent countries in Latin America legally ended some social distinctions and abolished slavery, governments were often conservative. The first constitution of Peru, for example, forbade voting by those who could not read or write in Spanish, which effectively denied most indigenous people the vote until the constitution was changed in 1860. The creoles continued to form a powerful and conservative upper class, as they had before the wars of independence from the European nations.

Women gained little from the revolutions in Latin America. They were still unable to vote or enter into contracts. Most women received little education until late in the nineteenth century, and most remained submissive to men. One notable exception was Manuela Sáenz (1797–1856), who was the lover of Simón Bolívar. She actively participated in fighting alongside Bolívar, for example, in 1822 in a battle near Quito, Ecuador. An excellent rider as well as courageous fighter, she rose to the rank of colonel. On one occasion, she saved Bolívar's life, for which she received the nickname "Liberator of the Liberator." (Connect: In a brief paragraph or outline, trace the connections between creole elites and revolutions in Latin America. See Topic 4.5)

Later Challenges to Spanish Colonialism Spain's grip on parts of its empire lasted throughout the 19th century. In the Caribbean, Puerto Rico and Cuba were among its final colonial holdings. Both islands saw uprisings against Spanish rule beginning in the year 1868.

While many individuals and organizations contributed to the spirit of revolution in Puerto Rico, the role of **Lola Rodríguez de Tió** was unique. A recognized poet during an era of little educational opportunity for women, Rodríguez de Tió became famous for her eloquent critiques of Spain's exploitive rule over Puerto Rico. Her home became a meeting place for political thinkers and revolutionaries. At such meetings, she began to read lyrics to a revolutionary song, "La Boriqueña," which encouraged her fellow Puerto Ricans, "Awake from your sleep, for it's time to fight!"

The 1868 uprising forced Rodríguez de Tió into exile in Venezuela. She was allowed to return in 1885, but her critical writings again ended in exile—this time in Cuba. Once there, she wrote and worked for Cuban independence, earning her exile from there, too, to New York. She returned to Cuba in 1899 and spent her remaining years as a campaigner for social justice there.

Propaganda Movement The Philippines, too, remained a Spanish colony throughout the 19th century. Educational opportunities, even for well-to-do Filipinos, were limited and controlled by religious authorities. As a result, many young men (often creoles and mestizos) from wealthy families traveled to Europe, especially Madrid and Barcelona, to attend universities. An

atmosphere of nationalist fervor and republicanism, inspired by Enlightenment thinking, existed in 1880s Europe, and these Filipino students embraced it.

José Rizal became the most prominent of these young agitators, all of whom contributed to magazines, pamphlets, and other publications advocating for greater autonomy for the Philippines. Called the **Propaganda Movement**, it did not call for revolution or independence. But Spanish authorities viewed its members with suspicion. Rizal's arrest in 1892 and execution in 1896 shocked Filipinos and helped spur the first nationalist movement with the organization and strength to truly challenge Spanish rule. A serious military upheaval, the Philippine Revolution, began in 1896.

Nationalism and Unification in Europe

As nationalism spread beyond Europe, people often created an identity under one government where none had existed before. Nationalism increased in France and in other areas of Europe and in the Americas. More than in the past, people felt a common bond with others who spoke their language, shared their history, and followed their customs. Nationalism thrived in France and beyond its borders in areas conquered by Napoleon, particularly those in the Germanic areas of the declining Holy Roman Empire. Nationalism was a unifying force that not only threatened large empires, but it also drove efforts to unite people who shared a culture into one political state.

Italian Unification Count di Cavour, the prime minister of Piedmont-Sardinia, led the drive to unite the entire **Italian Peninsula** under the only native dynasty, the House of Savoy. At the time, the region was divided among a patchwork of kingdoms and city-states, and most people spoke regional languages rather than Italian. Cavour himself spoke French better than he spoke Italian. Like other classical liberals, he believed in natural rights, progress, and constitutional monarchy. But he also believed in the practical politics of reality, which came to be called **realpolitik**. Thus, he did not hesitate to advance the cause of Italian unity through manipulation. In 1858, he maneuvered Napoleon III of France into a war with Austria, hoping to weaken Austrian influence on the Italian Peninsula. Napoleon III backed out of the war after winning two important battles, partly because he feared the wrath of the Pope, who was not eager for his Papal States to come under the control of a central Italian government.

Nevertheless, it was too late to stop the revolutionary fervor, and soon several areas voted by plebiscite, or popular referendum, to join Piedmont (the Kingdom of Sardinia). To aid the unification effort, Cavour adopted the radical romantic revolutionary philosophy of **Giuseppe Mazzini**, who had been agitating for Italian resurgence (**Risorgimento**) since early in the nineteenth century. Cavour also allied with the Red Shirts military force led by **Giuseppe Garibaldi**, which was fighting farther south in the Kingdom of Naples.

German Unification In Germany, nationalist movements had already strengthened as a result of opposition to French occupation of German states

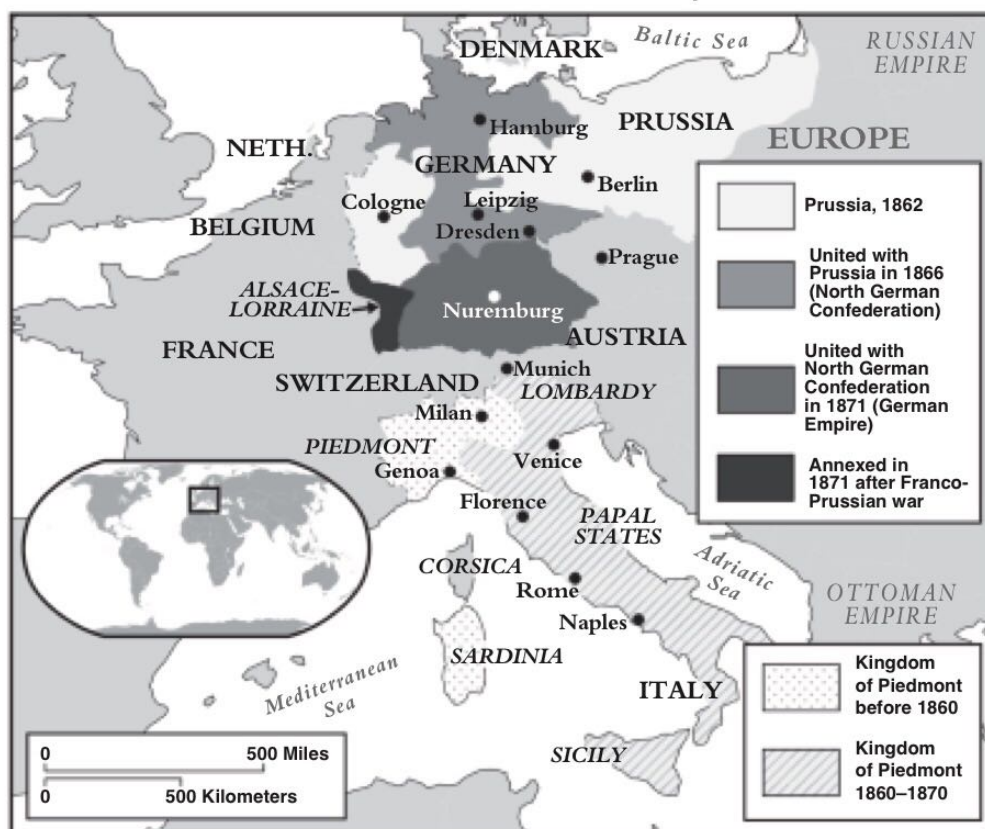
under Napoleon Bonaparte. Following the Congress of Vienna, which settled the Napoleonic Wars in 1815, revolutions occurred in a number of European states, including Prussia and Austria. The revolutions of 1848 were the result of both nationalism (especially a desire for independence) and liberalism (a desire for representation under constitutions that recognized civil liberties).

Prussian leader **Otto von Bismarck**, who like Cavour favored *realpolitik*, used nationalist feelings to engineer three wars to bring about German unification. Bismarck manipulated Austria into participating in two wars, the first with Prussia against Denmark (1864) and the second between Prussia and Austria (Seven Weeks' War of 1866). After winning both wars, Bismarck manipulated France into declaring war against Prussia. His armies beat the French soundly in the Franco-Prussian War (1870). In each of these three wars, Prussia gained territory. In 1871, Bismarck founded the new German Empire, made up of many territories gained from the wars, including Alsace-Lorraine, an area long part of France on the border between France and the new Germany.

Global Consequences By 1871, two new powers, Italy and Germany, were on the international stage in an environment of competing alliances. Balance of power would be achieved briefly through these alliances, but extreme nationalism would lead to World War I.

Unification did not solve all Italian troubles. Poverty in Italy, more in the south than in the north, led to considerable emigration in the late nineteenth century—particularly to the United States and to Argentina, where the constitution of 1853 specifically encouraged **immigration**, the movement of people into the country from other countries.

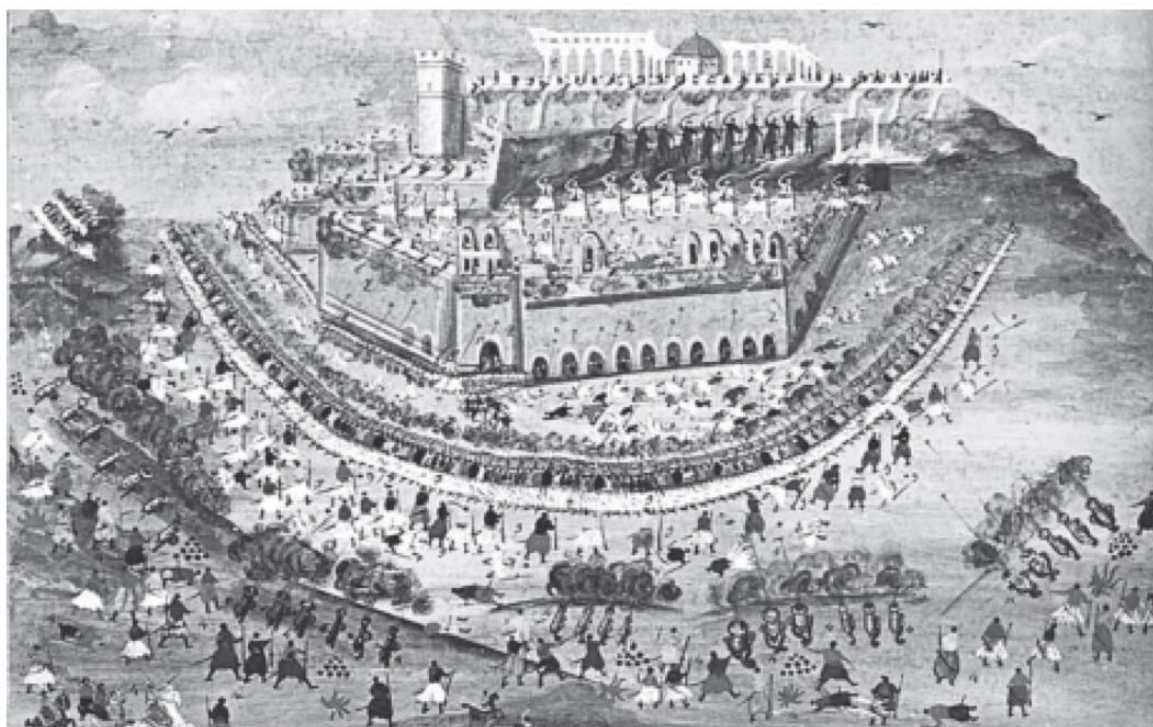
Wars of Unification in Europe



Balkan Nationalism The Ottoman Empire had been the dominant force in southeastern Europe for centuries. But for many reasons, the 17th century saw the beginning of its long, slow decline. A failed attempt to conquer Vienna in 1683 signaled the beginning of successful efforts by Austria and Russia to roll back Ottoman dominance in the Balkans. It was largely due to the increasing involvement and contact with Western European ideas and powers that Balkan nationalism developed.

In Greece, which by 1800 had been under Ottoman control for more than 350 years, increased contact with Western ideas meant exposure to Enlightenment principles. It also meant exposure to the reverence with which Greece and its ancient culture were viewed across Europe. Together, these developments helped reawaken Greek cultural pride and stoke the fires of Greek nationalism. A protracted civil war against Ottoman forces brought some success. However, it took the intervention of a British, French, and Russian fleet, which destroyed an Ottoman fleet in 1827, to help assure Greek independence.

Events in other Balkan regions, such as Serbia, Bulgaria, and Romania, followed a similar, but by no means identical, course. The waning of Ottoman control led to greater freedom and an influx of new ideas, including nationalism. People began to rally around important cultural markers, such as language, folk traditions, shared history, and religion. Later, outside powers, such as Russia or Austria, aided in achieving independence.



Source: Wikimedia Commons

This painting by Panagiotis Zografos shows the Ottoman siege of the Acropolis. Aided by British, French, and Russian forces, the Greeks won their independence by 1832.

Ottoman Nationalism The 1870s and 1880s saw the development in the Ottoman state of **Ottomanism**—a movement that aimed to create a more modern, unified state. Officials sought to do this by minimizing the ethnic, linguistic, and religious differences across the empire. Taking control of local schools and mandating a standard curriculum was a major part of this drive. But the effects of nationalism were not limited to Balkan territories and Ottoman officials. Ethnic and religious groups within the Ottoman Empire had nationalist urges of their own, and they viewed Ottomanism with suspicion. Ironically, this attempt to create a more unified state actually served to highlight and intensify subject people’s feelings of difference and promote their desire for independence.

The Future of Nationalism While nationalism continues to shape how people view themselves and their political allegiances, some signs suggest that nationalism might be starting to decline. In Europe, many countries have agreed to use the same currency, to allow people to travel freely across borders, and to coordinate public policies. These changes might reflect a shift away from nationalism and toward a larger political grouping. Like city-states and empires, nations might someday give way to other forms of political organization.

KEY TERMS BY THEME

GOVERNMENT: American Revolution
Declaration of Independence

GOVERNMENT: French Revolution
philosophes
Declaration of the Rights of Man
Reign of Terror

CULTURE: France
liberté, égalité, et fraternité

GOVERNMENT: Haitian Revolution
Haiti
Toussaint L’Ouverture

GOVERNMENT: Bolivar Revolutions
Simón Bolívar

GOVERNMENT: Puerto Rico
Lola Rodríguez de Tió

GOVERNMENT: Philippines
Propaganda Movement

GOVERNMENT: Italian Unification
realpolitik
Giuseppe Mazzini
Risorgimento
Giuseppe Garibaldi

CULTURE: Italy
immigration

GOVERNMENT: German Unification
Otto Von Bismarck

GOVERNMENT: Balkans
Ottomanism

SOCIETY: Classes
Maroons
mestizos
peninsulares
mulattoes

SOCIETY: Europe
Bastille
Italian Peninsula

Industrial Revolution Begins

One man draws out the wire, another straightens it, a third cuts it, a fourth points it, a fifth grinds it at the top for receiving the head; . . . and the important business of making a pin is, in this manner, divided into about eighteen distinct operations.

—Adam Smith, *Wealth of Nations* (1776)

Essential Question: What factors contributed to and characterized industrialization in the period from 1750 to 1900?

In addition to new ideas, new technologies were reshaping societies. These technologies led to a dramatic change in society and economies. This change was so dramatic that it is called the **Industrial Revolution**. The rigid structure of early factory work described by Adam Smith, Scottish economist and philosopher, is one of the most enduring images of the Industrial Revolution. **Industrialization**, the increased mechanization of production, and the social changes that accompanied this shift, had their roots in several influences. Among these were the Columbian Exchange and rise of maritime trading empires, increased agricultural productivity, and greater individual accumulation of capital. As the Industrial Revolution spread from Great Britain to Europe and North America, and then to the world, it reshaped society, increasing world population, shifting people from farm to city, and expanding the production and consumption of goods.

Agricultural Improvements

Just before the Industrial Revolution, in the early 1700s, an **agricultural revolution** resulted in increased productivity. **Crop rotation** (rotating different crops in and out of a field each year) and the **seed drill** (a device that efficiently places seeds in a designated spot in the ground) both increased food production. Also, the introduction of the potato from South America contributed more calories to people's diets. As nations industrialized, their populations grew because more food was available to more people. And because of improved medical care, infant mortality rates declined and people lived longer. With these demographic changes, more people were available to work in factories and to provide a market for manufactured goods.

Preindustrial Societies

During the early 18th century, most British families lived in rural areas, grew most of their food, and made most of their clothes. For centuries, wool and flax had been raised domestically, and people spun fabrics they needed.

However, one result of the commercial revolution and the establishment of maritime empires (see Topic 4.5) was that Indian cotton became available in Britain, and before long it was in high demand. Wool and flax could not be produced quickly enough or in a large enough quantity to compete with cotton imports. To compete with Indian cotton, investors in Britain began to build their nation's own cotton cloth industry. Using imported raw cotton produced by slave labor in the Americas, the British developed the **cottage industry** system, also known as the putting-out system, in which merchants provided raw cotton to women who spun it into finished cloth in their own homes.

Home spinning was hard work and pay was low, but cottage industries gave women weavers some independence. While working in their own homes, they were also close to children. But cottage industry production was slow. Investors demanded faster production, spurring the development of technologies and machinery that turned out cloth in more efficient ways.

Growth of Technology

By the mid-eighteenth century, the **spinning jenny** and the **water frame** reduced the time needed to spin yarn and weave cloth. The spinning jenny, invented by **James Hargreaves** in the 1760s, allowed a weaver to spin more than one thread at a time. The water frame, patented by **Richard Arkwright** in 1769, used waterpower to drive the spinning wheel. The water frame was more efficient than a single person's labor, and this mechanization doomed the household textile cottage industry, as textile production was moved to factories big enough to house these bulky machines. Arkwright was thus considered the father of the **factory system**.

Interchangeable Parts In 1798, inventor **Eli Whitney** created a system of **interchangeable parts** for manufacturing firearms for the U.S. military. In Whitney's system, if a particular component of a machine were to break, the broken component could easily be replaced with a new, identical part. Entrepreneurs adapted this method of making firearms to the manufacture of other products. The system of interchangeable parts was a pivotal contribution to industrial technology.

Whitney's system directly led to the **division of labor**. Factory owners no longer had to rely on skilled laborers to craft every component of a product. Instead, with **specialization of labor**, each worker could focus on one type of task. For example, one worker might cast a part, and then another worker would install the part on the finished product. In the early 20th century, Henry Ford expanded the concept of the division of labor, developing the moving **assembly line** to manufacture his Model T automobiles. (Connect: Compare the technological improvements of Islamic and Asian states with those in the Western world during the Industrial Revolution. See Topic 4.1.)

The Growth of British Cities, c. 1800



Britain's Industrial Advantages

Britain had many environmental and geographic advantages that made it a leader in industrialization. Located on the Atlantic Ocean with its many **seaways**, the country was well placed to import **raw materials** and export finished goods.

Mineral Resources Britain also had the geographic luck of being located atop immense coal deposits. Coal was vital to industrialization because when burned it could power the steam engine. The burning of this fossil fuel, an energy source derived from plant and animal remains, was also essential in the process of separating iron from its ore. Iron production (and later steel production) allowed the building of larger bridges, taller buildings, and stronger ships. Coal mining became the major industry of northern and western Britain, including South Wales, Yorkshire, and Lancashire. When the United States industrialized, coal-mining areas developed in West Virginia, Pennsylvania, and Kentucky.

Resources from the Colonies As a colonizing power, Britain also had access to resources available in its colonies, including timber for ships. Largely because of the wealth they accumulated during the trans-Atlantic slave trade,

enough British capitalists had excess **capital** (money available to invest in businesses). Without this capital, private entrepreneurs could not have created new commercial ventures.

Abundant Rivers Britain, the northeastern United States, and other regions also had a natural network of rivers supplemented by publicly funded canals and harbors. These water routes made transport of raw materials and finished products inexpensive.

Strong Fleets Britain also had the world's strongest fleet of ships, including naval ships for defense and commercial ships for trade. These ships brought agricultural products to Britain to be used to make finished products for consumers.

Protection of Private Property A vital factor that aided industrialization in Britain was the legal protection of private property. Entrepreneurs needed the assurance that the business they created and built up would not be taken away, either by other businesspeople or by the government. Not all nations offered these legal guarantees.

Growing Population and Urbanization The increases in agricultural production caused two shifts in society. As farmers grew more food, they could support more people. As they grew it more efficiently, society needed a smaller percentage of the population working in agriculture.

This growing population in rural areas did not remain there. Migration was sometimes the best of bad options. English towns had traditionally allowed farmers to cultivate land or tend sheep on government property known as “the commons.” However, this custom ended with the **enclosure movement** as the government fenced off the commons to give exclusive use of it to people who paid for the privilege or who purchased the land. Many farmers became landless and destitute. The enclosure movement was thus instrumental in a wave of demographic change—forcing small farmers to move from rural areas to urban areas such as **Manchester** and **Liverpool**. The people who moved then became the workforce for the new and growing industries.

KEY TERMS BY THEME

TECHNOLOGY: Textiles

spinning jenny
water frame
James Hargreaves
Richard Arkwright
factory system

TECHNOLOGY:

Agriculture
agricultural revolution
crop rotation
seed drill

ECONOMY: Manufacturing

Industrial Revolution
industrialization
cottage industry
Eli Whitney
interchangeable parts
division of labor
specialization of labor
assembly line
enclosure movement
capital

ENVIRONMENT: Britain

seaways
raw materials
Manchester
Liverpool

Industrialization Spreads

No exertions of the masters or workmen could have answered the demands of trade without the introduction of spinning machines.

—John Aiken, *A Description of the Country . . . Around Manchester*, 1795

Essential Question: How did different types and locations of production develop and change over time?

Although the Industrial Revolution began in Britain, it soon spread elsewhere. The British cottage industry system for the production of cotton, in which merchants provided raw cotton to be spun into cloth in workers' homes, was supplanted by the industrialization of cotton manufacture in factories. Cotton became an increasingly valuable commodity in the world economy as industrialized Britain, with higher productivity, was able to replace Indian and Middle Eastern goods. After Britain industrialized, Belgium and then France and Germany followed, and eventually Russia and Japan became industrialized. These countries possessed many of the characteristics that allowed Britain to industrialize, including capital, natural resources, and water transportation.

Spread of Industrialization

After Britain industrialized, Belgium, and then France and Germany followed. Like Britain, these countries possessed capital, natural resources, and water transportation. The United States, Japan, and Russia also transformed as industrialization spread.

France and Germany Despite some favorable factors for industrialization, France had sparsely populated urban centers, which limited the amount of labor available for factories. Also, the French Revolution (1789–1799) and subsequent wars involving France and its neighbors consumed both the attention and the capital of France's elites. These factors delayed the Industrial Revolution in France.

Germany was politically fragmented into numerous small states, which delayed its industrialization. However, once Germany unified in 1871, it quickly became a leading producer of steel and coal.

The United States The United States began its industrial revolution in the 19th century. By 1900, the United States was a leading industrial force

in the world. **Human capital** (the workforce) was a key factor in U.S. success. Political upheaval and widespread poverty brought a large number of immigrants to the United States from Europe and East Asia. These immigrants, as well as migrants from rural areas in the United States, provided the labor force to work in the factories.

Agricultural Products for Trade in the Nineteenth Century		
Product	Producers	Users (Finished Products)
Wheat	Russia, Britain	Britain (food)
Rubber	Brazilian Amazon	Britain (tires, footwear, fabrics)
Palm Oil	West Africa, Indonesia	Britain (cooking oil, soap)
Sugar	Caribbean Islands, Brazil	Britain (refined sugar)
Cattle and Hogs	United States, Ireland, Argentina	Britain, United States (meat)
Cotton	United States	Britain (textiles)

Russia Russia also began to industrialize, focusing particularly on railroads and exports. By 1900, Russia had more than 36,000 miles of railroad connecting its commercial and industrial areas. The **Trans-Siberian Railroad** stretched from Moscow to the Pacific Ocean, allowing Russia to trade easily with countries in East Asia, such as China and Japan. The Russian coal, iron, and steel industries developed with the railroad, mostly in the 1890s. By 1900, Russia had become the fourth largest producer of steel in the world. However, the economy remained overwhelmingly agricultural until after the Communists seized power in 1917.

Japan The first country in Asia to industrialize was the one that had the least contact with Europe since the 17th century: Japan. In the mid-19th century, Japan went through a process of defensive modernization. That is, it consciously adapted technology and institutions developed in Europe and the United States in order to protect its traditional culture. By learning from the West, Japan built up its military and economic strength so it could maintain its own domestic traditions. In the last four decades of the 19th century, Japan emerged as a leading world power. For more details on Japan, see Topic 5.6.

Shifts in Manufacturing

While Middle Eastern and Asian countries continued to produce manufactured goods, these regions' share in global manufacturing declined.

Shipbuilding in India and Southeast Asia Shipbuilding initially saw a resurgence in India at the end of the 17th century, largely due to the political alliances formed between India and western countries. However, Indian shipbuilding ultimately suffered as a result of British officials'

mismanagement of resources and ineffective leadership during the period of British colonization in the late 17th and 18th centuries. In 1830, Britain designated ships of the British East India Company as the Indian Navy. The Indian Navy was disbanded by 1863, however, when Britain's Royal Navy took complete control of the Indian Ocean.

Iron Works in India British colonial rule in India also affected the country's mineral production. During the period of **company rule**—British East India Company control over parts of the Indian subcontinent from 1757 to 1858—steep British tariffs led to the decline of India's ability to mine and work metals. The British also began to close mines completely, especially after the Rebellion of 1857, because they perceived that the mines were being used to extract lead for ammunition.

The ongoing fear of another uprising led to the Arms Act of 1878, which restricted not only access to minerals, but also to the subsequent production of firearms. British colonizers limited India's ability to mine and work metals in areas such as the mineral-rich state of Rajasthan. By the early 19th century, most of the mines in Rajasthan were abandoned and the mining industry was extinct.

Even though British colonial rule ended in 1948, mining and metalworking remained practically nonexistent in India until the early 20th century. Lack of technological innovation after so many years of abandoned mines led to a relatively crude, labor-intensive method of mining, which created the false impression that India's mineral resources were inaccessible. (Connect: Identify the similarities in how Britain treated its colonies in South Asia and its colonies in the Americas. See Topic 4.8.)

Textile Production in India and Egypt India and Egypt were both among the first to engage in the production and trade of textiles. Just as it stifled the production of ships and iron, British colonization also affected textile production in India. As the textile industry flourished in India, it undermined the British textile mills in Britain, specifically in Lancaster. The owners of the Lancaster textile mills pressured the British government in India to impose an “equalizing” five percent tax on all textiles produced at the more than 80 mills operating in Bombay, thus undermining their profitability.

Egypt's textile industry, too, experienced difficulties as a result of Europe's worldwide economic reach. In the 18th century, Egypt exported carpets, silks, and other textiles to Europe. By the mid-19th century, however, the huge growth in European textile production had changed matters. Egypt had lost not only its export market in textiles, but much of its domestic market as well.

KEY TERMS BY THEME

ECONOMY: Railroads
Trans-Siberian Railroad

ECONOMY: Manufacturing
human capital
company rule

Technology in the Industrial Age

Railroad iron is a magician's rod, in its power to evoke the sleeping energies of land and water.

—Ralph Waldo Emerson (1803-1882)

Essential Question: How did technology shape economic production during the period from 1750 to 1900?

As the Industrial Revolution spread, it became increasingly important economically. Although he later came to be troubled by the role of technology, Ralph Waldo Emerson initially saw the innovations of the industrial age as a delightful way to mold nature in the service of humankind. The steam engine and then the internal combustion engine, powering railroads, ships, and factories, increased access to resources and increased the distribution of goods those resources helped produce.

The next technological wave, known as the second industrial revolution, came in the late 19th and early 20th centuries and involved chemicals, steel, precision machinery, and electronics. Electrification lit the streets, and the telephone and radio made world-wide, instantaneous communication a reality.

The Coal Revolution

The new machinery of the Industrial Revolution benefitted from a new power source, one more mobile than the streams that had powered the first factories with their water power. The version of the **steam engine** made by **James Watt** in 1765 provided an inexpensive way to harness **coal** power to create steam, which in turn generated energy for machinery in textile factories. Within 50 years, steam was producing power for steam powered trains.

Water Transportation Steamships revolutionized sailing. The use of coal made energy production mobile and dependable. Instead of being fixed in one place as a river was, coal-powered steam engines could be built anywhere and could be used on ships and trains. Further, unlike the wind, engines could be turned on by people when needed and turned off when not. As a result, ocean-going ships and boats on lakes were no longer dependent on winds for power. On rivers, steam-powered ships were able to travel quickly upstream on rivers, up to five miles per hour, instead of having to sail up or be towed by

people and animals along the shore. Over time, steam-powered ships replaced sailing ships in worldwide travel. As a result, **coaling stations**, especially at critical points on trade routes, such as Cape Colony in South Africa and various islands in the Pacific, became important refueling points.



Source: Hunter Wood, 1819. Wikimedia Commons.

The *SS Savannah* (upper) was the first steam-powered ship to cross the Atlantic Ocean (1819)



Source: U.S. Post Office.

The first transcontinental railroad (lower) was completed in 1869 in Utah.

Iron In addition to powering steam engines, coal made possible the mass production of iron. Throughout the 1700s and into the early 1800s, improved processes helped iron producers increase outputs. One of these was the introduction of coke, a refined form of coal that made possible the use of much larger iron producing furnaces. Cast iron was strong but brittle, making it difficult to stretch and shape. But in 1794, Englishman Henry Cort patented the process for making the less strong but much more workable wrought iron. Each was a valuable component in transportation and industry, but greater improvements were still to come.

A Second Industrial Revolution

The United States, Great Britain, and Germany were key players in what is known as the **second industrial revolution**, which occurred in the late 19th and early 20th centuries. The innovations of the first industrial revolution were in textiles, steam power, and iron. The developments of the second industrial revolution were in **steel**, chemicals, precision machinery, and electronics.

Steel Production The mass production of steel, an alloy of iron and carbon, became possible with the introduction of the Bessemer Process in 1856. This process involved blasting the molten metal with air as a means of removing impurities as well as helping keep the metal from solidifying. Over the years, Bessemer's innovation was refined and improved, allowing steel to become the strong and versatile backbone of the industrial society.

Oil In the mid-1800s, the first commercial oil wells were drilled, tapping into a vast new resource of energy. Petroleum, like coal, is a fossil fuel, an energy source derived from plant and animal remains. At first, the most important product from petroleum was kerosene, which was used for lighting and heaters. In 1847, inventors developed chemical techniques to extract kerosene from petroleum.

These techniques led to other developments, such as precision machinery and the internal combustion engine, which in turn led to automobile and airplane technologies. When automobiles were introduced in the early 1900s, gasoline as fuel became a more important product from petroleum than kerosene.

Electricity The harnessing of electrical power had to wait for the development of an effective electrical generator. In 1882 in London, the first public power station began production. Electrification led to street lighting and electric street trains in the 1890s.

Communications The development of electricity and electronics over the years helped lead to important developments in communication technology. Inventors had been working with the idea of transmitting sound by electrical means since the early 19th century. Finally, a patent for the telephone was issued to **Alexander Graham Bell** in 1876. Early phone systems were notoriously low in quality, but Thomas Edison's 1886 design of a refined voice transmitter made telephone use more practical.

Radio developed after the experiments of Italian physicist **Guglielmo Marconi**. In 1901, he was able to send and receive a radio signal across the Atlantic Ocean. After further refinements and inventions, radio became a form of popular mass media with an impact unlike any previously seen.

Global Trade and Migration

Railroads, steamships, and a new invention called the telegraph made exploration, development, and communication possible. The telegraph allowed immediate communication. The construction of railroads, including the **Transcontinental Railroad** that connected the Atlantic and Pacific oceans when it was completed in 1869, facilitated U.S. industrial growth. Like the canals, the railroads were heavily subsidized by public funds. The vast natural resources of the United States (timber, coal, iron, and **oil**, for example) and the ability to transport them efficiently contributed to the development of the United States as an industrial nation.

The desire for **capital**, money available to invest in a business, was a driving force domestically and abroad. Products of industrialization, such as the railroad, steamship, and the telegraph, directly linked farmers, miners, manufacturers, customers, and investors globally for the first time in history.

With the development of the railroad and steamships, such countries as Great Britain, Germany, and the United States intensified industrialization, increasing the need for resources. Industrialized countries sought to protect their access to resources and markets by establishing colonies.

Whereas earlier trade and migration often centered on coastal cities, railroads, steamships, and the telegraph also opened up to exploration and development the interior regions around the globe. Access to these areas increased trade and migration. (Connect: Write a paragraph describing how the Silk Roads set the stage for the industrial developments of the 1800s. See Topic 2.1.)

KEY TERMS BY THEME

ENVIRONMENT: Resources

coal
coaling stations

TECHNOLOGY:

Transportation and
Communication
Alexander Graham Bell
Guglielmo Marconi
Transcontinental Railroad

ECONOMY: Industry

steam engine
James Watt
steel
oil
capital

SOCIETY:

second industrial
revolution

Industrialization: Government's Role

It is our purpose to select from the various institutions prevailing among enlightened nations such as are best suited to our present conditions, and adapt them in gradual reforms and improvements of our policy and customs so as to be upon an equality with them.

—Emperor Meiji, letter to President Ulysses Grant, 1871

Essential Question: What economic strategies did different states and empires adopt, and what were the causes and effects of those strategies?

As Western domination and technology spread, they met with varying degrees of acceptance in different nations. Each country experienced competing pressures between preservation of traditional values and modernization. Egypt and some other countries early adopted policies that encouraged the use of industrialized innovations, such as the steam engine, to boost textile productivity. Others, such as China, had weakened central governments under European ascendancy that were unable to promote industrialization effectively.

The Ottoman Empire The Ottoman Empire, although bordering Europe, had not adopted Western technology or Enlightenment ideas. Moreover, rampant corruption led to rapid decline, and ethnic nationalism among the empire's diverse population led to widespread unrest. The empire earned the nickname “the sick man of Europe.” Europeans, particularly Russians, saw opportunities to expand their own empires at the expense of the weakening Ottomans. Though they feared the results of a power vacuum from a total collapse of the Ottoman Empire, they dismantled it after World War I. A smaller nation-state, the Republic of Turkey, and several independent countries replaced the former empire.

China China suffered two great humiliations at the hands of Europeans in the 19th century: the Opium War and the split into “spheres of influence.” In the 20th century, China shook off foreign domination and briefly became a republic. However, its traumatic 19th century left a central government too weak to promote industrialization effectively for decades. (See Topic 6.5.)

Japan In Japan, in contrast, the central government grew stronger in its struggle to maintain independence and territorial integrity in the face of Western

challenges. As the quote at the beginning of this chapter from Emperor Meiji's letter to President Grant indicates, Japan actively sought Western innovations that it felt would help make it the equal of Western countries.

Ottoman Industrialization

Suffering from problems of overexpansion and failure to modernize, the Ottoman Empire underwent palace coups, declining trade, and weakening leadership in the 1800s. The empire no longer covered the grand areas of Suleiman the Magnificent, who had taken his army to the gates of Vienna in 1529.

The Rise of Muhammad Ali One part of the Ottoman Empire where the sultan ruled in name but had little power was Egypt. In fact, the **Mamluks**, former Turkish slaves who formed a military class, had ruled there for some 600 years. In 1801, the sultan sent an Ottoman army to retake Egypt. In the conflict with the Mamluks, an Albanian Ottoman officer, **Muhammad Ali**, rose to prominence, and local leaders selected him to be the new governor of Egypt. The sultan lacked the power to do anything but agree.

Because of his power, Ali was able to act somewhat independently of the sultan. He joined the sultan's military campaigns when it benefited him, and also undertook several campaigns without the sultan's permission, including in the Sudan and Syria. He also began his own reforms in Egypt. He began by making over the country's military on a European model. He also established schools, sent military officers to be educated in France, and started an official newspaper—the first in the Islamic world.



Source: Wikimedia Commons.

Jean-François Portaels, portrait of Muhammad Ali, 1847

As part of his reform of the Egyptian economy, Ali taxed the peasants at such a high rate that they were forced to give up their lands to the state. The government could then control the valuable cotton production and make money on the export of cotton and other agricultural products. Secularizing religious lands put more agricultural produce in the hands of the government, resulting in large profits during the period of the Napoleonic wars (1799–1815), when prices for wheat were high in Europe.

Muhammad Ali also pushed Egypt to industrialize. He had textile factories built to compete with those of the French and British. In Cairo, he had factories built to produce armaments. In Alexandria, he set up facilities to build ships so that Egypt could have its own navy. The city of Cairo had dozens of small shops turning out locks, bolts of cloth, and other parts for uniforms and weaponry. Ali is called the first great modern ruler of Egypt partly because of his vision of state-sponsored industrialization.

Japan and the Meiji Restoration

Japan's transition to a modern, industrialized country took less than half a century to accomplish. No country made such a rapid change.

A Challenge to Isolation Between 1600 and 1854, Japan had very little contact with the rest of the world. However, the rising imperial powers in the world were not content to let Japan keep to itself. The great powers of Europe, such as Great Britain, the Netherlands, and Russia, all wanted to sell goods in Japan. Further, in the age of coal-powered ships, trading states wanted to be able to refuel in Japan as they sailed to and from China and other parts of East Asia.

Japan Confronts Foreigners In 1853, a naval squad led by **Commodore Matthew Perry** in 1853 sailed into Yedo and Tokyo Bay, asking for trade privileges. The next year, Perry returned with even more ships, demanding that the Japanese engage in trade with the United States. Faced with the power of the U.S. warships, the Japanese gave in to U.S. demands. Soon they yielded to similar demands by other foreign states.

The arrival of Perry, and the threat he posed, caused Japanese leaders to realize the danger they and their culture were in. They had seen how even a large, traditionally powerful country such as China had been humiliated by Westerners. They had watched as the British had gone to war to force the Chinese to accept opium imports. While some Japanese argued that the country could defend itself, many reformers feared it could not. They argued that the country should adopt enough Western technology and methods so it could protect its traditional culture. To accomplish this goal, they overthrew the shogun and restored power to the emperor in 1868, an event known as the **Meiji Restoration**.

Reforms by the Meiji State Japan systematically visited Europe and the United States and invited experts to Japan in order to study Western institutions. Then, Japan adopted reforms based on what it admired:

- It formally abolished feudalism in 1868 by the **Charter Oath**.
- It established a constitutional monarchy based on the Prussian model in which the emperor ruled through a subordinate political leader.
- It established equality before the law and abolished cruel punishments.
- It reorganized the military based on the Prussian army, building a new navy and instituting conscription.
- It created a new school system that expanded educational opportunities, particularly in technical fields.
- It built railroads and roads.
- It subsidized industrialization, particularly in the key industries of tea, silk, weaponry, shipbuilding, and a rice wine called sake.

The government financed all of these reforms with a high agricultural tax. The taxes proved a good investment because they stimulated rapid economic growth. The government's ability to collect increased taxes also provided revenue for the bureaucracy, now centered in Tokyo.

However, in replicating the methods of Western countries, the Japanese also replicated some of industrial society's problems. For example, accounts of abuse and exploitation of female Japanese mill workers are similar to the experiences that British female mill workers had recorded decades earlier. (Connect: Write a brief paragraph comparing Japan's industrialization with developments in the West. See Topic 5.3.)

China and Japan in the 19th Century



The Role of Private Investments While the relationship between industry and centralized government was key to modernization in Japan, private investment from overseas also became important. Once new industries were flourishing, they were sometimes sold to **zaibatsu**, powerful Japanese family business organizations like the conglomerates in the United States. The prospect of attracting investors encouraged innovation in technology. For example, a carpenter founded a company in 1906 called Toyoda Loom Works that made an **automatic loom**. The company prospered, modified its name, and grew into today's Toyota Motor Company.

Japan's Economic Transformation, 1872–1914			
Year	Coal Production (metric tons)	Steamships (total number)	Railroads (miles)
1872	----	----	18
1873	----	26	----
1875	600,000	----	----
1885	1,200,000	----	----
1887	----	----	640
1894	----	169	2,100
1895	5,000,000	----	----
1904	----	797	4,700
1913	21,300,000	1,514	----
1914	----	----	7,100

Source: Thayer Watkins, "Meiji Restoration/Revolution," sjsu.edu. Data not available for all categories for all years.

KEY TERMS BY THEME

GOVERNMENT: Ottoman
Mamluks
Muhammad Ali

ECONOMY: Japan
Commodore Matthew Perry
zaibatsu

TECHNOLOGY: Japan
automatic loom

GOVERNMENT: Japan
Meiji Restoration
Charter Oath

Economic Developments and Innovations

Man is an animal that makes bargains: no other animal does this - no dog exchanges bones with another.

—Adam Smith (1723-1790)

Essential Question: How did the development of economic systems, ideologies, and institutions contribute to change between 1750 and 1900?

Industrialization and modernization led to new philosophies and business structures. In the *Wealth of Nations* (1776), Adam Smith, arguing that humans are naturally transactional, provided a foundational text in support of capitalism and the establishment of private entrepreneurship and shaped the economics and politics of the industrial age and the centuries to follow. Mercantilism, a system of economic protectionism, was replaced by a laissez-faire (“leave alone” in French) policy that promoted minimal governmental involvement in commerce and encouraged countries to reduce tariffs on trade.

These economic ideas were reflected in, and supported by, emerging transnational institutions, including banks such as the Hong Kong and Shanghai Banking Corporation (HSBC) and manufacturers such as Unilever. As trade increased, so did the availability, affordability, and variety of consumer goods.

Effects on Business Organization

New ways of organizing businesses arose during the Industrial Revolution. Some manufacturers formed giant **corporations** in order to minimize risk. A corporation is a business chartered by a government as a legal entity owned by **stockholders** (individuals who buy partial ownership directly from the company when it is formed or later through a **stock market**). Stockholders might receive sums of money, known as dividends, from a corporation when it makes a profit. If a corporation experiences a loss or goes bankrupt, the stockholders are not liable for the losses. The most that stockholders can lose is what they paid for the stock in the first place.

Markets with One Seller Some corporations became so powerful that they could form a **monopoly**, control of a specific business and elimination of all competition. For example, Alfred Krupp of Essen, Germany, ran a gigantic company that used the **Bessemer process**, a more efficient way to produce

steel, gaining a monopoly in the German steel industry. In the United States, John D. Rockefeller created a monopoly in the oil industry.

Companies Working Across Boundaries British-born **Cecil Rhodes**, founder of De Beers Diamonds, was an especially enthusiastic investor in a railroad project that was to stretch from Cape Town, in modern-day South Africa, to Cairo, Egypt. Connecting all of the British-held colonies with a transportation network could make governance easier and aid in conducting a war, if necessary. The project was never completed because Britain never gained control over all the land on which such a railroad was to be built. The overwhelming majority of railway workers in Africa were natives who were paid far lower wages than their European counterparts. Thus, railroad technology was a means of extracting as many resources as possible from subject lands while paying colonial laborers as little as possible.

De Beers was one of many **transnational** companies—those that operated across national boundaries—that emerged in the 19th century. For example, the **Hong Kong and Shanghai Banking Corporation**, a British-owned bank opened in its colony of Hong Kong in 1865, focused on finance, corporate investments, and global banking. The **Unilever Corporation**, a British and Dutch venture, focused on household goods—most famously, soap. By 1890 it had soap factories in Australia, Switzerland, the United States, and beyond. Unilever sourced the palm oil for its soaps first from British West Africa and later the Belgian Congo, where it operated huge plantations. Because these companies were transnational, they gained wealth and influence on a scale rarely approached before. (Connect: Defend or refute the claim—mercantilism was necessary for the eventual growth of transnational companies. See Topic 4.4.)

Corporations A sole proprietorship is a business owned by a single person, and a partnership is a small group of people who make all business decisions. A corporation differs from these two other major forms of business ownership in that a corporation is a more flexible structure for large-scale economic activity. It replaced the traditional system of a single entrepreneur engaging in high-risk business endeavors with a system of larger companies, collectively engaging in lower-risk efforts. By spreading risk, investments became much safer and more attractive.

Four Features of a Corporation	
Feature	Description
Limited Liability	Capital suppliers are not subject to losses greater than the amount of their investment.
Transferability of Shares	Voting rights in the enterprise may be transferred easily from one investor to another.
Juridical Personality	The corporation itself acts as a “person” and may therefore sue and be sued, may make contracts, and may hold property.
Indefinite Duration	The life of the corporation may extend beyond the participation of any of its incorporators.

Despite critics' charges that corporations undermined individual responsibility, they became a common form of business organization. They eventually dominated many areas of business, from banking to manufacturing to providing services. With their growth, corporations gained great economic and political power. For example, the decision by a corporation about where to build a new factory could create thousands of new jobs for a community.

Banking and Finance Another way to reduce risk was through insurance, especially marine insurance. Lloyd's of London, with beginnings in a coffee house where merchants and sailors went for the most reliable shipping news, helped establish the insurance industry. The number of banks rose as merchants and entrepreneurs looked for a reliable place to deposit money and to borrow it when needed to build a factory or hire workers for a new enterprise.

Effect on Mass Culture

A culture of **consumerism** as well as of leisure developed among the working and middle classes of society in Great Britain, and for some people, living standards rose. Consumption needed to keep up with production, so producers began to advertise heavily, particularly to the middle class whose members had some disposable income, money that can be spent on nonessential goods.

Leisure activities such as biking and boating became popular during the late 1800s. In the 1880s, the penny-farthing bicycle (below left) was replaced by the newer safety bicycle (below right). The older style featured one large wheel and one small one. This allowed riders to travel fast, but the danger of falling over was high. The newer style, by using a chain connecting different sized gears on the wheels, could go the same speed, but with less risk.



Source: Getty Images

Companies encouraged their workers to participate in athletics, because they believed that sports rewarded virtues such as self-discipline and playing by the rules. The sales of athletic equipment also generated business for those who made everything from soccer balls to sports stadiums.

Perhaps because workers spent most of their waking hours in a bleak industrial environment, material goods and leisure entertainment became important escapes. In Europe, soccer (known there as football), became popular, while baseball dominated sports in the United States. Particular sports developed along class lines: tennis and golf in England, for example, were played by the upper classes, while certain types of rugby were played only by the lower classes.

The commercialization of the demand for public culture was also seen in the construction of music halls and public parks, particularly during the second half of the 19th century. Both the halls and the parks were built to accommodate a wide range of social classes. One aim of this mingling of classes was for the lower classes to see more civilized, rational behavior so that they would be encouraged to emulate it. The manner in which one class may have ultimately influenced the other is difficult to quantify, yet the enduring presence of such public mingling places remains intact.

KEY TERMS BY THEME

ECONOMY: Structures

corporations
stockholders
stock market
monopoly
Cecil Rhodes
transnational

ECONOMY: Businesses

Hong Kong and Shanghai
Banking Corporation
Unilever Corporation

CULTURE: Population

consumerism
urbanization

TECHNOLOGY: Industry

Bessemer process

Reactions to the Industrial Economy

For a second's sunlight, men must fight like tigers. For the privilege of seeing the color of their children's eyes by the light of the sun, fathers must fight like beasts in the jungle.

—Mary Harris “Mother” Jones, (1837-1930)

Essential Question: What conditions led to calls for change in industrial societies, and what were the effects of those efforts?

The harsh conditions of industrial life provoked resistance and calls for reform. “Mother” Jones, a labor organizer, described the severe deprivations of the coal miners working underground all day, and other activists told of the horrors of factory work. Philosophers such as John Stuart Mill sought to address this growing inhumanity of the industrial era through social reforms. Others, such as the utopian socialists, argued for completely changing a system they considered to be basically flawed. Workers formed trade unions to advocate for higher pay and safer working conditions. Various ideologies and political movements emerged, some promoting alternative visions of society.

The Ottoman Empire in the Mediterranean Basin, China, and Japan also instituted reforms to promote industrialization. In response, in each, faced reactions against the results of economic change.

Labor Unions

Dangerous and unsanitary working conditions, low wages, and long hours were common in factory work in the 19th century. A committee of Britain's Parliament released a study called the Sadler Report in 1833. The report described these conditions. It made many people in Britain, particularly in Parliament, aware of the need for reforms.

Workers also responded to low pay and harsh conditions. They began to form **labor unions**—organizations of workers that advocated for the right to bargain with employers and put the resulting agreements in a contract. For most of the 19th century, unions in Great Britain had to organize in secret because the government treated them as enemies of trade. However, by the 20th century, unions became more acceptable and membership increased.

Unions improved workers' lives by winning minimum wage laws, limits on the number of hours worked, overtime pay, and the establishment of a five-day work week.

Voting Rights Unions sparked a larger movement for empowerment among the working class. In 1832, 1867, and 1884, the British parliament passed reform bills to expand the pool of men who could vote, thereby giving more representation to British cities. The acts reduced property ownership qualifications as a requirement for voting. These reforms laid the foundation for expansion of the franchise (right to vote) to all men in 1918. British women would not gain equal suffrage (voting rights) until 1928.

Child Labor Along with unions, social activists and reformers hoped to improve the living conditions of the least powerful in society. Reformers' achievements especially benefited children. A law in 1843 declared that children under the age of 10 were banned from working in the coal mines. In 1881, education became mandatory for British children between the ages of 5 and 10. This focus on education, as opposed to work for monetary gain, permanently redefined the role of children in urban society.

The Intellectual Reaction

As trade and production became increasingly global, the ideas of early economists such as Adam Smith (see Topic 5.1) were taken in new directions. While Smith wrote in an age of individual entrepreneurs and small businesses, people of the 19th century witnessed the rise of large-scale transnational businesses. This shift caused people to think about society in new ways. For example, utopian socialists tried to create new communities to demonstrate alternatives to capitalism.

John Stuart Mill Some economists, clergy, and intellectuals criticized laissez-faire capitalism as inhumane to workers. One of these was a British philosopher, **John Stuart Mill** (1806–1873). He championed legal reforms to allow labor unions, limit child labor, and ensure safe working conditions in factories. While his ideas were controversial in his time, many of them eventually become widely adopted in industrial societies.

Mill's philosophy was called **utilitarianism**. Rather than state a set of timeless moral rules, as many religions or ethicists did, utilitarianism sought "the greatest good for the greatest number of people." Unlike utopian socialists, who wanted to replace capitalism, utilitarians wanted to address the growing problems they saw with it. They viewed themselves as moderate, rational advocates of gradual reform.

Karl Marx

While most reformers wanted to fix what they considered problems with capitalism, some people wanted more extensive changes. **Karl Marx** (1818–1883) was a German scholar and writer who argued for socialism. Unlike utopian socialists, whom he scorned because he thought they wanted to escape problems rather than confront them, he wanted to look at how the world actually operated. He called his approach to economics “scientific socialism.”

In 1848, Karl Marx and his wealthy supporter **Friedrich Engels** published a pamphlet (now called the **Communist Manifesto**) that summarized their critique of capitalism. According to Marx, capitalism was an advance on feudalism because it produced tremendous wealth, but that it also produced needless poverty and misery. This contradiction between wealth and poverty occurred because capitalism divided society into two basic classes.

- The **proletariat** was essentially the working class, working in factories and mines, often for little compensation.
- The **bourgeoisie** included the middle class and investors who owned machinery and factories where workers produced goods.

Marx said that market competition drove the bourgeoisie to exploit the proletariat for the sake of higher profits. Because the bourgeoisie owned the **means of production**, such as machines, factories, mines, and land, they received most of the wealth produced. The proletariat, who did the physical and dangerous work, received very little, just enough to survive. Marx exhorted the proletariat to recognize their shared interest as a class and take control of the means of production and share the wealth they created fairly.

For Marx, socialism would replace capitalism. It, then, would later be replaced by a final stage of economic development, **communism**, in which all class distinctions would end. (Connect: Create a chart comparing utopian and Marxist thought. See Topic 5.1.)

Ottoman Response to Industrialization

In the 19th century, the Ottoman Empire was no longer at the peak of its political power. However, it maintained some economic power. Sultan **Mahmud II** (ruled 1808–1839) reformed the Ottoman system. In 1826, he abolished the corps of Janissaries, which had opposed him, and developed a new artillery unit trained by Europeans. When the Istanbul Janissaries revolted, he had them massacred. The abolition of the feudal system in 1831 marked the final defeat of the Janissaries’ power. Military officers were no longer able to collect taxes directly from the populace for their salaries. Instead, tax collections went directly to the central government, which paid military personnel, thus ensuring their loyalty.

Mahmud's reforms also included building roads and setting up a postal service. To fight the power of popular religious charities, he set up a government directory of charities. To operate the central administration of government, Mahmud II created European-style ministries.

Reorganization Reforms after Mahmud (during the years 1839–1876) are called **Tanzimat** (reorganization) and include the following changes:

- The sultans in this period worked to root out long-standing and widespread corruption in the central government.
- Education had long been under the control of the ulama, the educated class of Muslim scholars. Now the sultans created a secular system of primary and secondary schools. Secular colleges were also gradually set up, one for each special purpose: military, engineering, translation, civil service, and so on.
- The sultans codified Ottoman laws and created new ones, including a commercial code (1850) and a penal code (1858). These codes made it easier for foreigners to do business in the empire.
- In 1856, the sultan issued an edict known as the **Hatt-i Humayun** (Ottoman Reform Edict) that updated the legal system, declaring equality for all men in education, government appointments, and justice regardless of religion or ethnicity. The new legal system also regulated the **millets**, which were separate legal courts established by different religious communities, each using its own set of religious laws. Christians in the Balkans protested the new regulations because they felt that their autonomy was being threatened. Muslims, on the other hand, protested the reforms because they conflicted with traditional values and practice.

Although not achieving religious equality, the Tanzimat reforms continued to have wide effects in areas such as the military and education. These effects continued even when succeeding sultans blocked other reforms.

Ottoman Economy and Society The reforms under Mahmud II and the Tanzimat occurred during a period of economic change in Turkey. After the Napoleonic wars ended in 1815, prices for food and other crops declined in the Ottoman Empire. However, a global economy was in place, built partially on the flow of wealth into the Mediterranean from European colonial expansion in the Americas. Ottoman workers were increasingly paid in cash rather than in goods. Financial enterprises such as banking increased. These economic changes occurred along with the slow spread of industrialization. The growth of industry affected men and women differently. For example, most new industrial jobs went to men.

Legal reforms also benefited men more than women. Traditionally, under shariah, women had been allowed to hold money, to gain from inheritance, and to receive some education. The reforms of Mahmud II made the law more secular, and ended the right of women to distribute their property or cash through trusts to family members.

Although women had indirect control of their property, the new nonreligious courts ended even these limited rights. Many reforms had no effect on women. Since women were excluded from the army, the professions, higher education, and commerce, reforms in these areas did not affect them directly. The Tanzimat reforms of 1839 did not even mention women.

Opposition to Reform When Sultan Abdulhamid took power in 1876, he supported the efforts at internal reforms. He accepted a new constitution for the Ottoman Empire and he continued to emphasize primary education and secularization of the law. A few girls were allowed to attend girls' secondary schools by the beginning of the 20th century.

However, fearful of any "seditious" reform, the sultan and the central government maintained tight control over the empire. Abdulhamid eventually drove the advocates for reform, known as "Young Turks" into exile. Further, his government whipped up anger against minority groups, particularly Armenians and Assyrian Christians. Between 1894 and 1896, between 100,000 and 250,000 Armenians were killed throughout several provinces in what has become known as the Hamidian massacres. For this bloodshed, he received the nickname the Red Sultan.

Reform Efforts in China

Like other powers, China under the Qing Dynasty felt pressure to modernize. Its major reform effort of the late 19th century was known as the **Self-Strengthening Movement**. It developed as a way for the government to face the internal and external problems confronting China. Government officials hoped to strengthen China in its competition with foreign powers by advancing its military technology and readiness and by training Chinese artisans in the manufacture of items for shipyards and arsenals. French and British advisors helped Chinese reform efforts. A stable government capable of collecting revenue allowed China to repay debts and participate in trade. For the Chinese, their existence as an independent state depended upon economic solvency. Reform in the name of modernization seemed inevitable.

As another step toward reform, the Chinese government set up its own diplomatic corps and a customs service to help collect taxes on imports and exports. The government's strategy was to graft some modern ideas and technology onto Chinese tradition rather than to create major change.

Demand for reform increased after China's defeat in the Sino-Japanese War (1894–1895). People formed clubs to call for change. One club, led by a civil servant named Kang Youwei, was able to meet with **Emperor Guangxu**. Kang convinced the ruler to support a set of sweeping reforms known as the **Hundred Days of Reform**. The reforms included the abolition of the outdated civil service exam, the elimination of corruption, and the establishment of Western-style industrial, commercial, and medical systems.

Cixi's Initial Conservatism However, the emperor's aunt and adopted mother and the most powerful political figure in the country, **Empress**

Dowager Cixi, was a conservative. At first, she opposed the reforms and wanted to protect traditional social and governmental systems. In a coup d'état, Cixi imprisoned the emperor and immediately repealed his reform edicts. She feared the influence of foreigners, so she resisted any new technology that would extend their reach into her country. For example, she stopped the extension of railroad lines and telegraph networks into the Chinese interior.

Reform of the Civil Service However, toward the end of Cixi's rule, she came to recognize the problems with the civil service system. It was designed according to Confucian ideals of respect for rank and hierarchy as well as values of civic participation and action. By the 19th century, though, the wealthy were using the civil servants to get favors. Revenue dropped off for the government as a result of bribes going into the pockets of corrupt civil servants. Moreover, non-qualified persons were purchasing civil service posts. China abandoned nearly 2,500 years of tradition, one that had yielded an educated bureaucracy of scholar-gentry. In spite of this concession, the empress's overall conservatism caused her to fail to cope with demands of modernity in China.

China and Foreign Powers Unlike Turkey, where Europeans had little to gain from either passage or opposition to progressive reforms, in China, Europeans encouraged change. When reforms were met with the conservatism of Empress Cixi and the 1900 Boxer Rebellion against foreign influence (see Topic 6.2), the Chinese government, including its provincial governors, continued to modernize, with some help from American and European advisors. Weakened by internal rebellion and fearing encroachment from Japan, China had to accept territorial "protection" from Western powers, who in return demanded trade concessions.

In 1911, the Chinese chose to become a republic. (See Topic 7.1.) In addition, they resisted being swallowed up by their external enemies. China's attempts to preserve its territorial integrity benefited from the efforts of the United States to maintain stability in Asia by preventing Japan from encroaching farther on its territory after the Russo-Japanese War of 1905. U.S. efforts were exemplified by the Treaty of Portsmouth, which settled the war and was negotiated with the help of President Theodore Roosevelt.

Resistance to Reform in Japan

Just as China ended its long-standing civil service system, the Japanese also ended a traditional system of exercising authority. In 1871, Japan gave samurai a final lump-sum payment and legally dissolved their position. They were no longer fighting men and were not allowed to carry their swords. The **bushido**, their code of conduct, was now a personal matter, no longer officially condoned by the government.

Some samurai adjusted to the change by serving the government as **genros**, or elder statesmen. Others, particularly those from the provinces of Satsuma and Choshu, resisted the change. They defended their right to dress and wear their hair in traditional ways and to enjoy relative autonomy from

the centralized government. The last battle between the samurai shogunate forces and those loyal to the emperor occurred in the 1870s. Dismayed by defeat, the samurai became the main victims of Japan's rapid modernization. Ironically, some of their leaders were the same people who had supported the Meiji Restoration in the 1860s.

Rise and Decline of Liberalization Some reforms in Japan worked better than others. The new schools quickly improved literacy rates, the economy rapidly industrialized, and the country began to develop traits of democracy such as a free press, strong labor unions, and respect for individual liberties. However, by the 1920s, army officers again began to dominate the government.



Source: Wikimedia Commons

Samurai from southern Japan led the reaction against the rapid changes in Japanese society in the 1860s and 1870s.

Limits to Reform

Turkey, China, and Japan each followed its own path in responding to industrialization in the 19th century. Of the three, Turkey began to make changes earliest. However, Sultan Abdulhamid, though he supported reforms at first, became more conservative during his time as ruler. China began to make changes only later in the century. In contrast to Abdulhamid, China's Cixi started as skeptical of reform but became more liberal during her reign. Japan responded to industrialization with dramatic, rapid changes beginning with the Meiji Restoration in 1868. However, the speed and depth of its reforms prompted a backlash from conservative members of society.

KEY TERMS BY THEME

ECONOMICS: Communists

socialism

Karl Marx

Friedrich Engels

Communist Manifesto

means of production

communism

ECONOMICS: Theory

John Stuart Mill

utilitarianism

SOCIETY: Workers

labor unions

proletariat

bourgeoisie

CULTURE: Japan

bushido

genros

GOVERNMENT: Ottomans

Mahmud II

Tanzimat

Hatt-i Humayan

millet

GOVERNMENT: China

Self-Strengthening

Movement

Emperor Guanxu

Hundred Days of Reform

Empress Cixi

Society and the Industrial Age

Bleak, dark, and piercing cold, it was a night for the well-housed and fed to draw round the bright fire and thank God they were at home; and for the homeless, starving wretch to lay him down and die.

—Charles Dickens, *Oliver Twist* (1839)

Essential Question: How did industrialization cause change in existing social hierarchies and standards of living?

Industrialization affected not only governments and economies but also people's everyday lives. Dickens illustrated the sharp contrasts in the industrial age between the emerging middle class, who enjoyed the benefits of the new prosperity, and the urban poor, who were ill-treated. Young children worked in factories. Women experienced substantial changes in their lifestyle. Poor women took jobs in domestic service and the textile industries, spending less time at home. Middle-class women, with no economic responsibilities, felt limited by household roles. The middle classes also started spending their free time seeking entertainment in theaters, concert halls, and sports facilities.

Effects on Urban Areas

For the first half of the 19th century, urban areas grew rapidly and with little planning by governments. This development left a damaging ecological footprint and created inhumane living conditions for the cities' poorest residents, members of the working class. Working families crowded into shoddily constructed **tenement** apartment buildings, often owned by factory owners themselves. Tenements were often located in urban **slums** (areas of cities where low-income families were forced to live), where industrial by-products such as polluted water supplies and open sewers were common.

In conditions like these, disease, including the much-feared cholera, spread quickly. So did other public health menaces, such as fire and crime and violence. Over time, municipalities created police and fire departments, and several public health acts were passed to implement sanitation reform by creating better drainage and sewage systems, supplying cleaner water, removing rubbish, and building standards to reduce accidents and fire.

Eventually, industrialization led to increased living standards for many. While life could be very hard for poor and working class people, the growing middle class had increased access to goods, housing, culture, and education.

The wealth and opportunities of the middle class were among the reasons people continued to stream into cities from rural areas. People living in poverty on farms or in villages hoped to find a better life in an urban center. Many did.

Effects on Class Structure As industrialization spread, new classes of society emerged in Britain. At the bottom rungs of the social hierarchy were those who labored in factories and coal mines. They were known as the **working class**. Though they helped construct goods rapidly, the technology of interchangeable parts and the factory system's division of labor had deprived workers of the experience of crafting a complete product. In comparison to the artisans of earlier generations, workers needed fewer skills, so managers viewed them as easily replaceable. Competition for jobs kept wages low. (Connect: Examine the changes in class structure from 17th century Europe to the second industrial revolution. See Topic 4.7.)



Source: Thinkstock



Source: Library of Congress

Industrialization created new jobs in factories (upper) and offices (lower) that pulled people from rural areas into urban areas, a process that continues around the world today.

While industrialization created low-skilled jobs, it also required those who managed the production of goods to have education and sophisticated skills. A new middle class emerged, consisting of factory and office managers, small business owners, and professionals. They were **white-collar** workers, those held by office workers. Most were literate and considered middle class.

At the top of the new class hierarchy were the industrialists and owners of large corporations. These so-called captains of industry soon overshadowed the landed aristocracy as the power brokers and leaders of modern society.

Farm Work Versus Factory Work Before industrialization, family members worked in close proximity to one another. Whether women spun fabric in their own homes or landless workers farmed the fields of a landlord, parents and children usually spent their working hours close to each other. Industrialization disrupted this pattern. Industrial machinery was used in large factories, making it impossible to work from home. Thus, individuals had to leave their families and neighborhoods for a long workday in order to earn enough money to survive.

In a factory, work schedules were nothing like they were on a farm or in a cottage industry. The shrill sounds of the factory whistle told workers when they could take a break, which was obviously a culture shock to former-farmers who had previously completed tasks according to their own needs and schedules. Considering that workers commonly spent 14 hours a day, six days a week in a factory, exhaustion was common. Some of these exhausted workers operated dangerous heavy machinery. Injuries and death were common.

Effects on Children The low wages of factory workers forced them to send their children to work also. In the early decades of industrialization, children as young as five worked in textile mills. Because of their small size and nimble fingers, children could climb into equipment to make repairs or into tight spots in mines. However, the dust from the textile machinery damaged their lungs just as much as it did to adults' lungs.

Children who worked in coal mines faced even more dangerous conditions than those in mills:

- They labored in oppressive heat, carting heavy loads of coal.
- Coal dust was even more unhealthy to breathe than factory dust.
- Mine collapses and floods loomed as constant threats to life.

Effect on Women's Lives The Industrial Revolution affected women in different ways, depending on their class position. Because their families needed the money, working-class women worked in coal mines (until the practice of hiring women for coal mining was declared illegal in Britain in the 1840s) and were the primary laborers in textile factories. Factory owners preferred to hire women because they could pay them half of what they paid men.

Middle-class women were spared factory work, yet in many ways they lived more limited lives than working-class women. Middle-class men had to

leave the house and work at an office to provide for their families. If a wife stayed at home, it was an indication that her husband was capable of being the family's sole provider. Being a housewife thus became a status symbol.

By the late 1800s, advertising and consumer culture contributed to a "cult of domesticity" that idealized the female homemaker. Advertising encouraged women to buy household products that would supposedly make the home a husband's place of respite from a harsh modern world. Pamphlets instructed middle-class women on how to care for the home, raise children, and behave in polite society and urged them to be pious, submissive, pure, and domestic. For working-class women the cult of domesticity was even more taxing, as they had to manage the household, care for their children, and work full time.

Industrialization also spurred feminism. When men left a community to take a job, their absence opened up new opportunities for the women who remained home. One political sign of this feminism came in 1848 at Seneca Falls, New York, when 300 people met to call for equality for women.

Effects on the Environment The Industrial Revolution was powered by fossil fuels such as coal, petroleum, and natural gas. Although burning coal produced more energy than burning wood, the effects were extremely harmful. Industrial towns during the late 19th century were choked by toxic air pollution produced by coal-burning factories. Smog (smoke and fog) from factories led to deadly respiratory problems. Water became polluted, also, as the new industries dumped their waste into streams, rivers, and lakes. Cholera, typhoid, and other diseases ravaged neighborhoods.



Source: John Leech, *Punch*, July 3, 1858.

Before London built a system of public sanitation, the Thames River, the source of the city's drinking water, was filled with sewage and industrial pollution. The river spread deadly diseases throughout the city.



Industrial Revolution’s Legacy

The Industrial Revolution brought about profound changes. **Mass production** made goods cheaper, more abundant, and more easily accessible to a greater number of people than ever before. Growth of factories attracted people to move, both from rural areas to cities and from agrarian countries to industrial ones. Both low-skilled workers and high-skilled professionals moved to take advantage of new opportunities provided by industrialization.

However, the natural by-products of industrial production polluted air and water supplies. Industry forever changed the nature of work and the lives of workers. Working populations became concentrated in urban centers, as opposed to being spread among rural areas. The workplace shifted from homes to factories, dramatically altering family life. The Industrial Revolution created a new—and many said unequal—working relationship between workers and owners. More crowding and more poverty brought more crime.

Global inequalities also increased because of industrialization. States that industrialized early desired more raw materials to power their production. They searched the world for items such as cotton and rubber. By exploiting overseas natural resources, they undercut early industrialization in Egypt, China, and India, and ushered in a second wave of colonization.

KEY TERMS BY THEME		
ECONOMICS: Industrialization mass production	CULTURE: City Life tenement slums	SOCIETY: Hierarchy working class white-collar

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
Europe	23.2	28.1	53.2	61.3	62.0
United States	0.1	0.8	7.2	14.7	23.6
Japan	3.8	3.5	2.6	2.4	2.4
The Rest of the World	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.