CHAPTER 13
The Challenges of Modern Europe, 1850–1914

By 1914, Europe had reached the zenith of its power and influence in the world. Many observers hailed this era of technological advance, scientific discovery, democratic reform, and creativity in the arts as la belle époque, or Europe’s golden age. Optimists proclaimed the coming utopia where remaining problems would be solved by the application of the scientific method and tapping the energies of Europe’s industrial and political structures. Concurrent with Europe’s greatest accomplishments, modern trends toward mass politics, mass society, and mass production threatened to overwhelm classical Liberal ideas of individualism and rationality. Outsiders demanded inclusion in the political process and often used violence to liberate themselves from traditional restrictions. Intellectual trends emphasized themes of struggle and the irrational, and glorified violence and war. Art moved from the objective portrayal of reality to subjective emotional states and abstraction. Amid the power and prosperity, many sensed an impending explosion of either revolutionary violence or war. This fear provides a contrasting pessimistic perspective on this era of plenty—the fin de siècle, or the end of an era.

MASS SOCIETY

Demographic Trends
Industrialization and improved public health and medicine supported a rapidly expanding European population from 1850 to 1914. During the period, Europe’s population soared by 75 percent, from 260 to 450 million. Much of the increase was fueled by a drop in the death rate, not a rise in the birth rate. Europe began to adopt the modern population trend of smaller family sizes with an increasing life expectancy. Long the most populous nation in Europe, France first experienced a leveling off of its population around 1830 and eventually was surpassed by Germany and Britain by 1914. In addition to the rising population, more people congregated in industrial cities. By the end of the period, Great Britain housed more than half its population in urban areas. Cities ballooned in size, taxing infrastructure and causing a myriad of problems for governments to address. This new urban context formed the breeding ground for a culture of mass leisure and mass politics.

Medicine
The late nineteenth and early twentieth centuries stand as the heroic age of medicine. Central to this breakthrough was the discovery of bacteria and the germ theory of disease. Louis Pasteur (1822–1895) demonstrated how microorganisms caused disease and devised a method for killing them in liquids, called pasteurization. To combat infectious diseases, Pasteur advanced the field of vaccination, developing a rabies vaccine, and helped to create the modern field of immunology. Using Pasteur’s ideas, Joseph Lister (1827–1912) developed
the first antiseptic treatment for wounds and for use by physicians before surgery. Surgery itself became safer with the development of anesthetics by American William T. G. Morton, who pioneered the use of ether. Improved clinical training allowed for the continuation of such discoveries. In the United States, Johns Hopkins University was incorporated in Baltimore along the German university model, with a focus on research; its medical program and associated hospital set the standard for a new scientific and clinical approach to medicine. Governments recognized the importance of public health in an urban setting, wishing to avoid infectious disease outbreaks and potential unrest among the working classes. The British government, for example, tracked the spread of disease, established public health boards, sponsored vaccinations, and introduced modern sewage and sanitation.

**Urban Reform and Mass Leisure**

By 1870, most governments recognized the need for urban reform. In the late nineteenth and early twentieth centuries, states systematically began to address problems such as pollution, working and living conditions, and transportation. Moreover, urban planners advocated the development of public parks, architectural attractions, and cultural amenities. We have already addressed how Baron von Haussmann (1809–1891) helped rebuild Paris to include grand boulevards, opera houses, theaters, shopping areas, and modern sewage and sanitation to make it the cultural center of France. In the process, many workers and poorer residents lost their housing to the new grandiose buildings. This Haussmannization was completed in other major European cities, notably in Vienna with its Ringstrasse, a famous boulevard circling the city and an attraction with its architecture, history, and shopping. New technological developments, such as electricity, provided cleaner power sources and allowed for the construction of subways and streetcars. Social reformers addressed the need for public housing for the poorer classes, and though states responded slowly, they did provide increased inspection and higher minimum standards. They also encouraged municipal and private charitable efforts. In Britain, Octavia Hill symbolized a new public spirit by championing local associations in providing “social housing” for the poor.

An increase in leisure time coincided with urban reform. With the recognition of unions and protective legislation by governments, workers began to realize improved wages and shorter working hours. Many reformers were concerned about the lower classes using this time for excessive drinking, crime, or revolutionary agitation. Cities created organized leisure pursuits to meet this need, such as dance halls, amusement parks, and sporting contests. With their competitive ethos, team spirit, and regimentation, sports teams paralleled military discipline. Rules for soccer, tennis, cricket, and others were formalized in this period to allow for orderly play and avoid violence. Nationalists created gymnastics associations to promote discipline and physical fitness. The ideas of Racial Darwinism influenced notions of national health and spurred the physical fitness ethos. Not surprisingly, the competitive nations of Europe established the modern Olympiad first held in 1896 in Athens.

**Education and Literacy**

Literacy rates increased markedly in the period 1850–1914, with some states in western Europe achieving nearly universal literacy. Governments came to view state-supported compulsory education as essential to their national interests. Educated citizens could handle the more complex demands of an industrial and increasingly service-oriented economy. Under the Liberal administration of William Gladstone, the Parliament passed the Education Act of 1870, establishing the
basis for elementary education in Britain. For nations like Germany, the traditional Gymnasia and Realschule systems were expanded and extended to all classes. Literate citizens held political opinions and could read dissenting opinions; however, governments increasingly exploited nationalism and xenophobia (fear of foreigners) for purposes of national unity.

**Family and Childhood**

In Britain, Queen Victoria (1837–1901) became the model of domestic propriety; this Victorian ideal reflected distinct gender roles for men and women. Males were to dominate the rough-and-tumble public sphere of business, politics, and war while women managed the domestic sphere. In this model, the home was viewed as a refuge from the harsh world outside and women were viewed as its moral guardians. Isabella Beeton published her *Book of Household Management* (1859) to introduce women to this fine art of domestic engineering.

With the decline in birth rates, European families invested increasing resources in the upbringing of their children. Enlightenment attitudes of childhood as a distinct phase of development seeped slowly down to all classes. New attitudes were reflected in governmental legislation restricting child labor and providing for compulsory schooling. Reformers and educators created special games, toys, books, clothing, and activities for children. Reflecting the trend toward mass leisure and physical fitness, the Boy Scouts and Girl Scouts were both founded in the first decade of the twentieth century.

**MASS POLITICS**

Historians speak of the rise of mass politics in the second half of the nineteenth century. Mass politics arose from the Dual Revolution—the ideal of representative government and public opinion as reflected in the French Revolution and the development of transportation and communication technologies as a product of industrialization. Three basic features characterize mass politics in the period 1850–1914:

- **Mass communication**—With telegraphs, telephones, radio, and cheap newspapers, governments both responded to and manipulated public opinion. Literate and educated citizens demonstrated awareness of political issues and expected governments to reflect national interests.

- **Democracy and Authoritarianism**—Despite democratic forms such as elections, representation, and constitutions, authoritarian structures (ruling dynasties, bureaucracies, the military) continued to play the decisive policy-making role in most states.

- **Increase in conflict**—Public opinion also sharpened ethnic and class conflict. “Outsiders,” such as women, workers, and ethnic/religious minorities, demanded inclusion in the political process while demagogues (those who appeal to prejudice and fear) fanned popular hatreds such as anti-Semitism and extreme nationalism.

**Liberal Accomplishments and Challenges**

The nineteenth century marked the high tide of classical Liberalism. By 1880, Liberals had accomplished many of the items on their economic, social, political, and religious agendas. Symbols of the Liberal achievement include:
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- Constitutional government
- Representative assemblies
- Free trade
- Expansion of suffrage (the vote)
- Guarantees of rights (though not always observed)
- Middle-class influence in government
- Spread of education and literacy
- Weakening of established churches
- Self-determination for nations (though not for all)

Most of these points reflect the Liberal concern for individual rights, representative government, economic freedom, and the expansion of opportunity. Despite these significant outward achievements, classical Liberalism was already weakening by 1880. Mass politics mobilized citizens in large groups and allowed authoritarian leaders to manipulate public sentiment; individual and minority rights were often threatened by this trend. With an increasingly complex industrial economy, it became difficult to sustain a laissez-faire approach to the side effects of industrialization—urban blight, crime, poor working conditions, and boom-and-bust cycles. Already by 1880, many governments had abandoned free trade in favor of protecting domestic markets. Many Liberal parties had by 1900 abandoned the notion of pure capitalism in favor of extending social welfare benefits to those in need. Finally, rising nationalism, imperial conflicts, and the militarization of society strengthened the hand of authoritarian interests, who seemed ready to subvert Liberal ideas and institutions in times of crisis or emergency. As you review the following discussions of nations, keep in mind these themes of mass politics and the successes and challenges to Liberalism.

**France and the Tensions of the Third Republic**

Ideological differences have marked French politics since 1789, and the Third Republic (1870–1940) proved no different. You may recall the poor start to the Third Republic—class conflict followed the end of the Second Empire and loss in the Franco-Prussian War. Moderate republicans crushed the revolutionary government of the Paris Commune and either shot or exiled 30,000 of its participants. By 1878 and after exploiting divisions within the royalist camp, moderates had succeeded in establishing the basis for a parliamentary democracy. Nonetheless, important groups, such as the Catholic Church and monarchists, never reconciled themselves to the existence of republican government, which they associated with the worst excesses of the French Revolution.

Two important public scandals highlighted the divisions within the Third Republic. Bringing together conservative elements and radical republicans who wished to avenge France’s recent defeat against Prussia, General Boulanger (1837–1891) seemed poised to take over the government and establish military rule. However, Boulanger lost his nerve at the last minute and fled the nation. The Dreyfus Affair proved even more serious and divisive. In 1894, a French military court found Captain Alfred Dreyfus, a Jewish officer, guilty of treason on very thin evidence. Despite indications Dreyfus was innocent and was the victim of anti-Semitism, he was sent to Devil’s Island, and the army refused to reopen the case. Republicans and even foreign governments rallied to Dreyfus’s cause, which became the legal case of its day. French author Émile Zola (1840–1902) condemned authoritarian institutions in his pamphlet *J’Accuse* (*I Accuse*) and made the issue a test of republican strength in France. Eventually the government pardoned Dreyfus, but the fallout continued. Republicans conducted an anticlerical campaign culminating in the complete separation of church and state in 1905 and the secularization of education by the state.
Parliamentary Democracy in Britain

Britain’s Victorian Age represented a period of prosperity, imperial greatness, and the evolution of a true parliamentary democracy. Unlike the continent, reform in Britain was driven by the competing visions of two mass political parties—the Conservatives and the Liberals—and was implemented locally rather than by a centralized bureaucracy. Parliament passed two further reform bills in 1867 and 1884, expanding the vote to almost all adult males. The brilliant though occasionally arrogant William Gladstone (1809–1898) led the Liberal reform effort, geared toward expanding opportunity and lifting religious and political restrictions on citizens. Under Gladstone’s first prime ministry, the Parliament enacted universal schooling, the secret ballot, and legalized unions; introduced civil service exams; and lifted religious requirements for universities. Conservatives under Benjamin Disraeli (1804–1881) pursued a philosophy of protecting workers from the worst effects of industrialization, passing acts regulating public housing and sanitation.

By 1900, the Liberal party had abandoned its laissez-faire economic approach, and in an effort to combat support for the new Labour Party (see following discussion) moved toward the development of a social welfare state. Between 1906 and 1916, the Liberal Party initiated a wide-ranging welfare system of sickness, accident, old-age, and unemployment insurance (National Insurance Act—1911). To conciliate labor, restrictions on strikes and unions were lifted. To pay for these programs, Parliament passed progressive income and inheritance taxes. When the House of Lords attempted to block the legislation, its veto power was removed with the Parliament Act of 1911. Despite these efforts, workers continued to agitate for improved working conditions, initiating a wave of strikes in 1911 and 1912. Moreover, women’s groups pushing for the vote, called suffragettes (see following discussion), used militant tactics to gain publicity for their cause and provoked embarrassing conflicts with police and government. Britain’s most difficult issue, however, continued to be the situation in Ireland. Though Gladstone had disestablished the Anglican Church in Ireland and assisted tenant farmers there, the Catholic Irish demanded home rule. Home Rule split the Liberal Party and was not granted until 1914, but implementation was delayed until 1922 because of the outbreak of World War I. Though an age of greatness, the Victorian Age also saw Germany and the United States surpass Britain in industrial production and the increased tensions of mass parliamentary democracy.

Germany’s Growing Pains

After its unification, German industrial, political, and military power soared. However, this rapid development placed great strains on an authoritarian political system struggling to incorporate its democratic forms. One figure dominated German imperial politics until 1890—Chancellor Otto von Bismarck (r. 1862–1890). Bismarck successfully manipulated democratic politics and the party system in the Reichstag to enact his policies. First, Bismarck allied himself with the Liberal Party, which supported his attack on the Catholic Church in Germany. The Kulturkampf (struggle for culture) arose from the complex situation surrounding Italian unification. Pope Pius IX (r. 1846–1878), who lost the Papal States in 1870, condemned modern ideas such as religious toleration, nationalism, and Liberalism in his Syllabus of Errors (1864), and in 1870 called the First Vatican Council to enunciate the doctrine of papal infallibility (that is, the acceptance of papal decrees on doctrine without question). In response, Bismarck pushed through the Reichstag laws restricting the powers of the clergy, expelled the Jesuits, and jailed a number of bishops. When the campaign proved unsuccessful, and after Pius died in 1878, Bismarck abandoned it and formed an alliance with the Catholic Center Party.
Bismarck now moved to restrict the power of the Social Democratic Party (SPD). Though Marxist in theory, the SPD, in fact, operated as a moderate socialist party interested in obtaining benefits for the working class through the exercise of political power. Using several assassination attempts against Kaiser William I (r. 1861–1888) as pretext, Bismarck won approval for several Antisocialist Laws, which restricted the ability of the SPD to meet and publish its newspaper. To win over workers, Bismarck initiated a welfare program (what he called “state socialism”), the first in Europe, of old age, accident, unemployment, and health benefits. Despite these efforts, support for the SPD continued to grow. To appease extreme nationalists such as the Pan-German League and industrialists, Bismarck moved further away from Liberalism in the 1880s with protective tariffs and the pursuit of colonies in Africa. When the young, erratic, and ambitious Kaiser William II (r. 1888–1918) ascended to the throne upon the unexpected death of his father, he soon dismissed Bismarck and embarked on a more conciliatory policy toward the SPD at home and a more aggressive foreign policy abroad. With immense potential power, emerging conflicts at home, and an insecure ruler, Germany was poised for entrance into World War I.

**Austria-Hungary: Ethnic Tensions**

Austria-Hungary continued to experience ethnic tensions after the creation of the Dual Monarchy in 1867. Within Hungary, large landholders continued to dominate, and the Magyars imposed their language and culture on the many Slavic minorities in their section of the empire. To manage the political situation in Austria, Prime Minister Edward von Taaffe (1833–1895) expanded voting rights and tried to win over the Czechs, Slovaks, and Poles by including them in the Imperial Parliament (Reichsrat) and appealing to their loyalty toward the Habsburg emperor. German nationalists resented these policies, and the resulting tensions often led to the breakdown of parliamentary function. Anti-Semitism emerged as a political force in Austrian politics with the rise of the Christian Social Party. From 1897 to 1910, Karl Lueger (1844–1910) served as mayor of Vienna and pursued policies of restriction and exclusion against Jews. It seemed that on the eve of World War I, the Habsburg Empire was fracturing along nationalist and ethnic lines.

**Sidebar:** While Lueger was mayor, Adolph Hitler lived in Vienna as a struggling artist. It was here that Hitler first encountered members of the Jewish community and developed his anti-Semitic views, taking Lueger as a model of an uncompromising anti-Semite.

**Other Areas and Developments**

To develop the theme of mass politics, the nations just discussed should prove sufficient for purposes of the AP Exam. To complete the picture, we review Italy and Spain as well.

As noted in the previous chapter, Italy faced a rocky road after unification. Liberal parties in the parliament engaged in the suspect practice of trasformismo, whereby political leaders attempted to keep out extremist nationalists on the right and socialists on the left by use of bribery and personal alliances. As a result, Italy did not develop political parties around consistent ideas or programs but along shifting personal relationships. To illustrate, the leader most associated with the practice of trasformismo, Giovanni Giolitti, served as prime minister five different times between 1892 and 1922. Economically, northern Italy industrialized while the south remained mired in poverty and illiteracy. Irrational antiparlamentary ideologies and an active anarchist movement also plagued Italian political life.

Spain lingered on the periphery of European events in nineteenth century. Despite its constitutional monarchy and parliamentary democracy, Spain continued to be dominated by conservative
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interests, such as large landowners and the Catholic Church. Spain’s defeat in 1898 in the Spanish-American War led to a loss of its empire and calls for social reform, led by a group of intellectuals known as the Generation of 1898. Like other less-developed nations, Spain encountered anarchist violence. In 1909, anarchists in Barcelona resisted government efforts to call up army reserves, leading to an armed clash. Because of its preoccupation with internal divisions, Spain did not enter either of the world wars in the twentieth century.

Parliamentary democracy had taken root in most European nations by 1914. All but Romania and Hungary allowed universal male suffrage prior to World War I. Political parties developed modern techniques of electioneering, communication, and institutional organization. In short, political life in many ways was more stable and democratic than it had ever been. However, many still felt excluded from the political process and agitated for change, often straining the new foundations of democratic government.

Outsiders in Mass Politics

Workers and Socialist Variants

By the late nineteenth century, workers were able to leverage their growing numbers into political influence. This influence expressed itself in a variety of ways. Early unions faced the difficulties of government opposition and small numbers. By the 1870s and 1880s, most states had recognized the rights of unions to bargain collectively for better wages and working conditions. Many trade unions supported such a “bread-and-butter” approach. Workers suffered from the boom-and-bust cycles of the period 1873–1896 and used strikes to achieve their demands. Strikes became more violent and persistent in many nations on the eve of World War I.

With the expansion of suffrage, the working classes also created political movements to agitate for change. One of the more successful efforts occurred in Germany with the Social Democratic Party (SPD), founded in the 1870s by moderate socialists. Though officially adhering to the Marxist doctrine of class warfare, the SPD in reality acted as a mass-based political party dedicated to winning seats in the German Reichstag. Despite Bismarck’s efforts to eliminate their party, the SPD grew into the largest party in the Reichstag by 1912. Other socialist parties were founded in France, Italy, and Russia in the late nineteenth century. To organize for the coming socialist revolution, the leaders of these parties formed the Second International in 1889, which eventually broke up during the nationalism unleashed by World War I. British labor leaders and intellectuals, such as H. G. Wells (1866–1946) and George Bernard Shaw (1856–1950), advanced a more moderate, or Fabian, socialist movement. In 1900, Scottish worker James Keir Hardie (1856–1915) helped organize the movement into the Labour Party, which won 29 seats in 1906 and eventually became Britain’s second political party.

By 1900, it was clear to many socialists that the Marxist prediction of impending revolution was a way off in the future. In addition, many believed that participation in democratic processes might better secure workers’ rights than violent means. These insights led to the development of Revisionist socialism, or the brand of socialism represented by most of the western and central European socialist parties. In Germany, the primary voice of this evolutionary path was Eduard Bernstein (1850–1932), and in France, Jean Jaurès (1859–1914). Militant socialists condemned this “sell-out” to capitalism and worked to expel them from the International.

In less-developed nations where workers were smaller in numbers, revolutionary movements focused more on violent tactics or mass political agitation. French workers boasted a strong tra-
dition of militant action stemming from the French revolution. Influenced by the ideas of French philosopher Georges Sorel (1847–1922), anarcho-syndicalists worked to create a single industrial union aimed at shutting down the nation through the General Strike, an act that gained a force of mythological proportions. Pure anarchism arose out of the Russian experience—no democratic tradition or social institutions. Mikhail Bakunin (1814–76) opposed all governmental systems as a corruption of human freedom and a tool of the privileged classes. Anarchists believed that assassination (“the Act”) would sever the “head” of the leader from the body of the government, thus opening the way for voluntary and mutual associations of free individuals. Despite thousands of assassinations across Russia of other European leaders, anarchism seemed only to deepen government repression in the face of such “terrorism.”

The “New Woman” and Feminism

During this period, feminists articulated a clear agenda for change and achieved some significant economic and political gains. Economic developments during the Second Industrial Revolution allowed women to establish a measure of autonomy. “White-collar” jobs in new economic sectors—telephone operators, clerks, nurses, teachers—provided many women with income and better working conditions. However, many working-class women found themselves strapped with the dual responsibility of raising children at home while aiding the family income through the assembly of simple items, known as “sweating.” The measure of autonomy from these jobs led many women, particularly those in the middle classes, to demand economic and legal reforms.

The first area women targeted for reform was the legal system. In some western nations between 1850 and 1914, women gained the right to control property, divorce, and gain custody of their children. Most states prohibited the publication and distribution of information regarding birth control. Annie Besant of Britain (1847–1933) and Margaret Sanger of the United States (1879–1966) both championed the cause of birth control in the face of obscenity laws, believing female control of reproduction a vital element of the feminist program. Reflecting the double standard regarding sex, the British Parliament in the 1860s passed the Contagious Diseases Acts, which required prostitutes to submit to tests for venereal disease and be confined to prison hospitals if found to be infected. Due to the unyielding efforts of reformer Josephine Butler (1828–1906), Parliament repealed the laws in 1886.

Some women viewed suffrage as the logical culmination of the advance toward women’s equality. Suffragettes, as they were called, established a transatlantic movement to push for the right to vote. These suffragettes were led in Britain by the Pankhurst family—Emmeline (1858–1928) and her daughters Christabel and Sylvia (1882–1960). The Pankhurts’ organization, the Women’s Social and Political Union (WSPU), participated in militant actions to gain the vote—throwing eggs at public officials, arson, chaining themselves to public buildings, hunger strikes, and in the case of Emily Davison, throwing herself in front of the king’s horse at a racing event. Government officials even attempted to force-feed the jailed protestors. Eventually, many nations in western and northern Europe granted women the vote immediately after World War I, a recognition of their contributions to that conflict.

The independent figures just highlighted earned the designation of New Women. Though many if not most women accepted as natural the dependent and domestic role prescribed by tradition, these females articulated and lived an autonomous existence. They were not confined to an explicitly feminist agenda. Italian education reformer Maria Montessori (1870–1952) pioneered a child-centered elementary curriculum. Florence Nightingale (1820–1910) and others
founded the modern nursing profession. British-born Elizabeth Blackwell (1821–1910) became the first women in the United States to earn an M.D. degree and established a hospital for the poor in 1857. Literature also reflected themes of independent women. In Henrik Ibsen’s play “A Doll’s House,” his character Nora Helmer eventually leaves her traditional marriage and children to establish her own personhood; the play provoked controversy for its scathing critique of the sexual double standard inherit in the Victorian ideal.

**Sidebar:** Is Judaism a religion or a race? Clearly, Judaism consists primarily in a set of religious beliefs, one of the oldest such sets in the world today. Saying Jews are a race strikes many as reminiscent of Nazi ideology designed to stigmatize Jews as “alien.” Because race is genetically inherited, it would seem clear that Judaism is not a race; but it does seem more than a religion. Many secular Jews still consider themselves part of the Jewish “nation” or “people,” which may be the best way to think of this identity.

**Jews, Anti-Semitism, and Zionism**

With the Enlightenment and French Revolution, many governments liberated Jews from their segregated existence in ghettos and from legal restrictions. Throughout the nineteenth century, this emancipation led to the assimilation of Jews into business, medicine, law, and academia. Prominent Jewish intellectuals, such as Marx, Freud, and Einstein, not only contributed significantly to developments in the period but also seemed to provoke a backlash of anti-Semitism. Anti-Semitism was nothing new to Europe and traditionally was based on religious discrimination. In the late nineteenth century, anti-Semitism took on a new racial tone, indirectly influenced by Charles Darwin’s ideas of struggle among species. Mass politics fed the creation of popular anti-Semitic political movements, especially strong in central Europe. In response to anti-Semitism, some prominent Jews called for the creation of a Jewish homeland. Appalled by the Dreyfus Affair in France, Austrian journalist Theodor Herzl (1860–1904) founded Zionism in the 1890s, which resulted in the immigration of thousands of Jews to Palestine, then controlled by the Ottoman Empire. Some nations, such as Russia, organized persecutions against Jews, called pogroms, to divert popular energies away from potential antistate activities. Despite the assimilation of millions of Jews into European cultural and economic life, they remained a vulnerable religious and ethnic minority. It is not difficult to see the outlines of the future Holocaust already taking shape in the nineteenth century.

**MODERN IDEAS**

As an intellectual framework, modernism was born in the period 1850–1914. In philosophy, the sciences, and the social sciences, many thinkers helped fulfill the Enlightenment project of using reason to discover the laws of nature in various fields. However, many cherished Enlightenment notions were called into question by the emerging trends of irrationality, subjectivity, randomness, and struggle. As you read the following discussion, attend not only to specific intellectuals and their ideas but also how their contributions represent a challenge to Enlightenment beliefs in progress, rationality, and objectivity.
New Ideas in Science

Darwinian Evolution

Evolution was not a new idea in the nineteenth century. Previous versions explained evolution by the inheritance of acquired characteristics. After studying the diversity of bird species on the Galapagos Islands (off the coast of Ecuador), Charles Darwin (1809–1882) concluded that the finches he observed descended from a common ancestor. Knowing his theory would be controversial, Darwin waited 25 years to work out the details before publishing On the Origin of the Species (1859), easily one of the most influential scientific works ever published. Darwin borrowed from Malthus’s population theories to argue that species are locked in a constant struggle for resources and survival. Through random variations (what we would call mutations, but Darwin did not understand the mechanism that produced them), some individuals gained a survival advantage in a local environment. If an evolutionary change was “successful,” the mutation would spread within a species population through reproduction, eventually producing new species. What Darwin called natural selection, and others later termed survival of the fittest, suggested that biological development occurred randomly, not through design or purpose. All of nature seemed in chaotic flux, with no role for the permanent and the “good,” as defined in theological terms.

Darwin’s theory caused an immediate uproar and was condemned by religious figures, particularly those committed to biblical literalism. Not only did Darwin reject the hand of God in creation, his theory suggested that the earth was millions, not thousands, of years in age. Geological developments in the nineteenth century seemed to provide confirmation for Darwin’s rejection of a “young earth.” Many scientists and intellectuals, such as T. H. Huxley (1825–1894), known as “Darwin’s Bulldog,” rushed to Darwin’s defense. Austrian monk Gregor Mendel (1822–1884) later provided additional support for natural selection by articulating the gene theory of reproduction. With The Descent of Man (1871), Darwin applied his theory to the evolution of the human race from earlier primate species, once again undermining humanity’s special place in the universe. Though some counseled dialogue between religion and science, partisans on both sides drew the cultural lines sharply between “atheistic science” and “superstitious religion.”

The New Physics

Newtonian physics ruled the world of science for two centuries. In addition to providing accurate explanations of natural phenomena, Newtonian mechanics offered an appealing vision of the cosmos as orderly and predictable. Quantum mechanics and relativity theory undermined this confidence. Accepted theory held that the atom was the simplest particle and indestructible, the fundamental building block of reality. Accumulating scientific evidence proved this atomic theory incorrect. Marie Curie (1867–1934) demonstrated how atoms emitted radioactive energy as they disintegrated. British scientists J. J. Thomson and Ernest Rutherford elaborated a more complex view of the atom as made up mostly of empty space and comprising subatomic particles. Such discoveries provided practical applications, as with William Röntgen’s (1845–1923) discovery of the x-ray and its ability to see within the human body.

German physicist Max Planck (1858–1947) in 1900 articulated the quantum theory. According to Planck, particles did not emit or absorb energy in constant streams but in bundles, or “packets,” of energy. Further, experiments demonstrated how light acted sometimes as a particle and
sometimes as a wave, depending on the circumstances of observation. More jarring to the Newtonian view, it was demonstrated that the behavior of many particles could only be expressed by probability, not with objective certainty.

It took the great physicist Albert Einstein (1879–1955) to transform our commonsense assumptions regarding time and space. Through a series of scholarly articles, Einstein argued that absolute time and space do not exist, but rather are relative to the observer and his or her status of motion. For example, Einstein showed how for objects that traveled at or near the speed of light, time slows down relative to a “stationary” observer. To our three-dimensional universe, Einstein’s relativity theory thus added another dimension—space-time. In the presence of a massive object, such as the sun, space and time both curve, as was confirmed from observations of a solar eclipse in 1919. In addition, Einstein expressed how matter and energy were interconvertible in the famous formula, \( e = mc^2 \). This discovery suggested how the destruction of an atom might potentially liberate massive amounts of energy and/or destruction.

Advance of the Social Sciences

As European civilization became more complex, the social sciences offered further explanation for human behavior. Many of the social sciences were born during the Enlightenment but reached their modern expression during this period. Psychology, political science, anthropology, criminology, and sociology each demonstrated how human behavior resulted from impersonal economic, political, and social forces. And many of these theories radically altered Europeans’ conception of human nature.

Freudian Psychology and the Irrational

Enlightenment philosophés fairly glorified human reason. Sigmund Freud (1856–1939), in contrast, revealed the instinctual and unconscious nature of human behavior. Based on his systematic clinical studies, Freud developed his theory and practice of psychoanalysis, wherein the therapist attempted to “unlock” the hidden desires, fears, and memories of the patient that caused his mental illness. Freud divided the psyche into the id (the “pleasure principle”), the ego (reason), and superego (conscience), and claimed that unresolved conflicts among these parts created neuroses. Unpleasant or painful memories might be buried in the subconscious, though such memories could be explored through hypnosis and analysis of the patient’s dreams, a conclusion articulated in The Interpretation of Dreams (1900). Perhaps most controversially, Freud claimed that sexual feelings occurred early in life, with children developing through a series of stages, each marked by a conflict, such as the hidden desire to replace the parent of the same sex in the eyes of the parent of opposite sex (the Oedipal or Electra complex). Freud’s ideas gained increasing currency during the twentieth century and added an entirely new psychological vocabulary to everyday experiences.

Sociology

Freud’s work showed that human action often resulted from factors other than human choice. His work found additional support. Russian psychologist Ivan Pavlov (1849–1936) famously demonstrated how he could condition dogs to salivate automatically at a particular signal, and suggested that human behavior could also be controlled through the appropriate stimuli. Criminologists gathered statistics and performed studies to show that criminal behavior might result from genetic inheritance rather than deliberate choice, a conclusion subversive to the cherished notion of free will. Sociologists such as Max Weber (1864–1920) and Emile Durkheim explored the influences of impersonal bureaucratic structures and crowd mentalities on the in-
individual. In Weber’s study, he determined that only a charismatic individual could overcome the inertia of large institutions.

Social scientists borrowed the methods and ideas of science. Many recognized the power of Darwinian theory to explain cultural and historical evolution. British sociologist Herbert Spencer (1820–1903) applied Darwin’s ideas to society to produce Social Darwinism. Spencer argued that inequalities and divisions with classes or races resulted from the same process of natural selection as applied to human affairs. Public aid and charity for the destitute would only weaken the genetic pool and cause more suffering in the long run; it was Spencer who coined the phrase “survival of the fittest.” Nationalists distorted Darwinian science to advance their ideas of racial inferiority, producing a Racial Darwinist support for European imperialism of Africa and Asia. Francis Galton, a cousin of Darwin’s, developed the pseudoscience of race, known as eugenics, in attempt to better the human race through selective breeding. In the context of competitive nation-states, Darwin’s ideas eventually found their way into justifications for war as a natural mechanism to separate the fit from the unfit.

**Philosophy: A Flight to the Irrational**

Philosophy had long upheld reason, but in the late nineteenth century, the most influential philosophers showed the power of irrationality. French thinker Henri Bergson (1859–1941) introduced his theory of “vitalism,” which held that nature could not be divided into analyzable units or discrete parts, as practiced by the scientific method. According to Bergson, irreducible vital forces pervaded the natural world, suggesting that human behavior was driven by the same forces and therefore not capable of being reduced to any set of explanatory factors. Beginning with the provocative assertion “God is dead,” German philosopher Friedrich Nietzsche (1844–1900) embraced in his thinking the chaos and flux inherent in nature. Ideas did not actually represent reality, which was inaccessible to human reason. Human systems of thought and morality represented a “will to power,” and constituted tools for the individual to overcome himself. Nietzsche also recognized that human nature comprised both the rational and the instinctual. Christianity twisted human nature by teaching people to suppress their natural tendencies toward domination and self-assertion. Morality, for Nietzsche, was personal and beyond common conceptions of good and evil. Ultimately, Nietzsche called on the best Europeans—not the “herdlike masses”—to create a new, more honest system of values and to make of their lives a “work of art.”

**Religion: The Challenge of Modernism**

Modern ideas produced a crisis for Protestant and Catholic Christianity. As is clear from the previous descriptions, scientific and philosophical works stressed secular if not openly anti-Christian approaches to knowledge. Even within religious communities, some scholars attempted to update religious beliefs to reflect modern techniques of understanding. French historian Ernest Renan (1823–1892) in his *Life of Jesus* explained the origins of Christianity as if Jesus were merely human and a result of historical, not providential, forces. Being more committed to the Bible as the source of authority, Protestants found it difficult to shield members from such ideas. As a result, Protestant denominations began to split between modernists and fundamentalists, as church attendance declined in Europe or merely expressed adherence to customs.

*Sidebar:* The division within Protestantism between modernists and fundamentalists continues to this day; however, this conflict is primarily an American, rather than a European, phenomenon. Battles over Darwinian theory are unknown in Europe, as growing secularism and miniscule church attendance has virtually settled the issue.
The long and conservative pontificate of Pope Pius IX (r. 1846–1878) represented the high tide of the Catholic Church’s reaction to modernism. His successor, Leo XIII (r. 1878–1903), attempted to tone down antimodern attacks and advance the cause of social justice. Leo ended the prohibition of Catholics’ participation in Italian politics and formulated a social doctrine that combined a belief in private property with a concern for poverty and inequality. In the encyclical Rerum Novarum (“of modern things”), Leo suggested that much in socialism reflected Christian teachings, but he firmly rejected Marxist ideology as materialist and antireligious. Perhaps with the Galileo incident firmly in mind, the Church refrained from issuing any condemnations of Darwinian theory, adopting a wait-and-see attitude. Catholic Church attendance remained fairly stable through the period, but the Church’s full reconciliation with modern trends would not occur until the second half of the twentieth century.

THE AVANT-GARDE IN THE ARTS

A diversity of cutting-edge artistic movements marked the period 1850–1914. Artists placed a premium on experimentation and self-expression within the media of paint, architecture, print, and music. For purposes of preparing for the AP Exam, it is helpful to consider art as a reflection on the economic, political, and social context in which it was created. As you review the following discussion, keep in mind the dominant themes of industrialization, nationalism, mass politics, and imperialism.

Painting: Beyond Representation

Photography altered the purpose of the artist. By 1860, the technology of picture-taking was perfected, and photography emerged as both an artistic medium and a means of photojournalism. Danish-American Jacob Riis (1849–1914) used his camera to document the underworld of New York City’s slums and back alleys in his book How the Other Half Lives. While photography provided new tools to journalists, it seemed to undermine a traditional purpose of painting—to represent life and nature—as the camera could accomplish this more directly.

Impressionism

The first major artistic trend following the invention of photography was Impressionism. A self-named movement, Impressionism attempted to capture “how the eye really sees,” with off-center positioning, visible brushstrokes, fleeting glimpses of street scenes, and exploration of light and shadow. Claude Monet (1840–1926) named the French-centered movement and became famous for his many depictions of water lilies, haystacks, and Notre Dame Cathedral at different times of day. For good depictions of the Impressionist interest in middle-class scenes of urban life and its interest in glimpses of reality, see Pierre-Auguste Renoir’s (1841–1919) Dance at Le Moulin de la Galette or Luncheon of the Boating Party. In Edgar Degas’s (1834–1917) paintings of ballet studios, we appreciate the Impressionist experimentation with perspective and off-centered framing. Demonstrating the international flavor of the movement, American Mary Cassatt (1844–1926) exhibited her works of domestic scenes, such as a mother bathing her child, with her European compatriots in Impressionism.

Postimpressionism

Postimpressionists moved away from the Impressionist fascination with light and shadow. More interested in form and structure, major postimpressionist painters included Vincent Van Gogh (1853–1890), Paul Cézanne (1839–1906), Paul Gauguin (1848–1903), and George Seurat (1859–1891). Though Van Gogh sold only one painting in his lifetime, his paintings today sell for tens of
millions of dollars. Expressing his inner psychological torment, Van Gogh painted with swirling brushstrokes and, showing the influence of Japanese woodblock prints, distorted perspective and a strong palette of yellows. Van Gogh’s unique style is best seen in *Starry Night* and the *Night Café*. Van Gogh’s suicide in 1890 seemed to capture the archetype of the tortured artist. Cézanne incorporated a geometric approach in his paintings and with his still lifes, how depth and the passage of time might be captured if we look at an object with a binocular vision, first with one eye and then the other. Frustrated by what he considered the overly artificial nature of European painting, Paul Gauguin traveled to Tahiti and developed a primitive style of bulky figures and simple lines reminiscent of the artistic styles of the Pacific. Georges Seurat created a related movement named *pointillism*, after the small “dots” of color, which when combined formed a clear picture of shade and light. Seurat’s *Sunday Afternoon on the Island of La Grande Jatte* provides a view of the individualistic leisure of the modern city.

**Expressionism**

Near the turn of the century, artistic experimentation accelerated. A group of French painters known as the Fauves, or “wild beasts,” emphasized strong fields of color and simple lines to convey expression over detail. When *Henri Matisse* (1869–1954) received criticism for his work *Green Stripe*, a portrait of his wife with a green stripe down the middle of her face, he replied, “I have not made a woman, I have painted a painting.” Like the later *expressionists*, Matisse demonstrated that the key task of the artist was not to represent but to convey an emotional stance. To appreciate the intensity of expressionist distortion and use of color to capture the angst and alienation of modern Europe, one must view Norwegian Edvard Munch’s (1863–1944) *The Scream*, in which a ghostly figure’s silent scream wafts into an ominous red sky. Painting gradually moved toward abstraction, as with the Russian Wassily Kandinsky’s (1866–1944) canvases exploding with color, designed to convey musical compositions in visual form—a genre known as abstract expressionism.

**Cubism and Futurism**

Prior to World War I, the movements of Cubism and futurism most directly show the influence of technology on artistic representation. Founded by Georges Braque and Pablo Picasso (1881–1973), *Cubism* broke apart scenes into analyzable parts and reassembled them in unique ways to provide the viewer with simultaneous multiple perspectives. In this way, Cubists employed the revolutionary insights of Einstein’s theory of relativity to art. One of the first paintings in the Cubist style was Picasso’s *Les Demoiselles d’Avignon* (1907), which stirred controversy for its unconventional depiction of female beauty by portraying a group of prostitutes with African and Oceanic masks for faces. Picasso painted in many styles, creating one of the most prolific and influential collection of works by any artist. The Italian *futurists* F. T. Marinetti and Umberto Boccioni (1882–1916) glorified speed and technology in art as a means to achieve political change. Not content simply with artistic creation, the futurists published manifestos calling for the abolition of traditional aesthetics (such as nudes, religion, and historical paintings) in favor of automobiles, airplanes, and industrial plants, though many of Boccioni’s works, such as *Dynamism of a Cyclist*, actually have **motion** as their subject. Futurism fizzled out in the technological nightmare that was World War I.

**Modern Architecture**

Modern buildings express the ideal that “**form follows function**.” Instead of employing ornamentation or classical motifs, modern architects allow the functional requirements of a building to determine its shape and logic. The first modern architects were American and used the
new building materials of concrete, reinforced steel, and glass. Louis Sullivan (1856–1924) created the first skyscrapers and designed buildings with simple, clean lines and few decorative elements. Frank Lloyd Wright (1867–1959) strove to create a new aesthetic for single-family homes, replacing “Victorian monstrosities” by emphasizing horizontal lines and earth tones, called the Prairie Style. After World War I, modernism emerged as the dominant architectural style.

**Literary Trends**
Like art, literature reflected the larger social and intellectual context of the time. Darwin’s ideas influenced the literary movement of Naturalism. French author Emile Zola (1840–1902) wrote a series of novels portraying the destructive influence of heredity on the lives of his characters, as they seemed unable to determine their actions freely. Zola’s frank depiction of sex, alcoholism, and violence brought him condemnation from traditionalists. This period also represents the great age of Russian literary genius, best shown in the works of Leo Tolstoy (1828–1910) and Fyodor Dostoevski (1821–1881), both of whom explored the themes of suffering and spirituality. Tolstoy’s *War and Peace* presents the reader with a tapestry of events and characters designed to show how social and economic forces trump the designs of great men. In *Crime and Punishment*, Dostoevski raised the moral dilemma of whether good ends justify evil acts. Dostoevski’s lifelong theme of the individual struggling to find meaning in a world of suffering and alienation helped lay the foundations for existential philosophy in the twentieth century.

**Music: Romanticism and Nationalism**
Romanticism did not die in music after 1848. Many composers worked to establish national styles and continued to explore national traditions. The most influential of these figures was the German Richard Wagner (1813–1883), who used his music to express his vision of a revolutionary and nationalist Germany. Wagner envisioned music as a Gesamtkunstwerk, or “total work of art,” combining all artistic genres and capable of transforming national culture. Wagner synthesized music and drama through the use of leitmotifs—musical themes that coincided with particular characters or plot lines. The *Ring Cycle*, a series of four operas spanning 16 hours, represents the culmination of Wagner’s grandiose vision and is one of the most ambitious pieces of music ever written. Russian Igor Stravinsky (1882–1971) also explored national themes in his *Rites of Spring*. When the ballet was first performed in 1913 in Paris, its theme of pagan Russian rituals, dissonant primitive music, and unorthodox dance maneuvers caused a riot in the theater.

**POSTSCRIPT—THE ROAD TO WORLD WAR I**
The riot following the performance of *Rites of Spring* demonstrates the divided legacy of modernism. On one hand, advances in industry, technology, ideas, and the arts demonstrate the intense dynamism of modern European civilization. On the other hand, the themes of