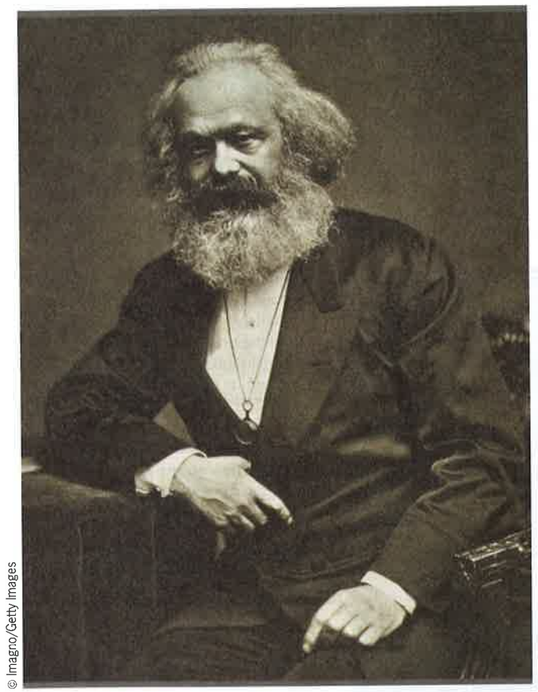
unions tended to represent only a small part of the industrial working class and proved largely ineffective. Real change for the industrial proletariat would come only with the development of socialist parties and socialist trade unions. These emerged after 1870, but the theory that made them possible had already been developed by midcentury in the work of Karl Marx.

Marx and Marxism

The beginnings of Marxism can be traced to the 1848 publication of *The Communist Manifesto*, a short treatise written by two Germans, Karl Marx (1818–1883) and Friedrich Engels (FREE-drikh ENG-ulz) (1820–1895). Marx was born into a relatively prosperous middle-class family in Trier in western Germany. He descended from a long line of rabbis, although his father, a lawyer, had become a Protestant to keep his job. Marx enrolled at the University of Bonn in 1835, but his carefree student ways soon led his father to send him to the more serious-minded University of Berlin, where he encountered the ideas of the German philosopher Georg Wilhelm Friedrich Hegel (GAY-awrk VIL-helm FREE-drikh HAY-guhl) (1770–1831). After receiving a Ph.D. in philosophy, Marx planned to teach at a university. Unable to obtain a position because of his professed atheism, Marx decided on a career in journalism and eventually became the editor of a liberal bourgeois newspaper in Cologne in 1842. After the newspaper was suppressed because of his radical views, Marx moved to Paris. There he met Friedrich Engels, who became his lifelong friend and financial patron.



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Karl Marx. Karl Marx was a radical journalist who joined with Friedrich Engels to write *The Communist Manifesto*, which proclaimed the ideas of a revolutionary socialism. After the failure of the 1848 revolution in Germany, Marx fled to Britain, where he continued to write and became involved in the work of the first International Working Men's Association.

Engels, the son of a wealthy German cotton manufacturer, had worked in Britain at one of his father's factories in Manchester. There he had acquired a firsthand knowledge of what he came to call the "wage slavery" of the British working classes, which he detailed in *The Conditions of the Working Class in England*, a damning indictment of industrial life written in 1844. Engels would contribute his knowledge of actual working conditions as well as monetary assistance to the financially strapped Marx.

In 1847, Marx and Engels joined a tiny group of primarily German socialist revolutionaries known as the Communist League. By this time, both Marx and Engels were enthusiastic advocates of the radical working-class movement and agreed to draft a statement of their ideas for the league. The resulting *Communist Manifesto*, published in German in January 1848, appeared on the eve of the revolutions of 1848. One would think from the opening lines of the preface that the pamphlet alone had caused this revolutionary upheaval: "A spectre is haunting Europe—the spectre of Communism. All the Powers of Old Europe have entered into a holy alliance to exorcise this spectre: Pope and Czar, Metternich and Guizot, French Radicals and German police spies."[8] In fact, *The Communist Manifesto* was known to only a few of Marx's friends. Although its closing words—"The proletarians have nothing to lose but their chains. They have a world to win. WORKING MEN OF ALL COUNTRIES, UNITE!"— were clearly intended to rouse the working classes to action, they passed unnoticed in 1848. The work, however, became one of the most influential political treatises in modern European history.

According to Engels, Marx's ideas were partly a synthesis of French and German thought. The French provided Marx with ample documentation for his assertion that a revolution could totally restructure society. They also provided him with several examples of socialism. From the German idealistic philosophers such as Hegel, Marx took the idea of dialectic: everything evolves, and all change in history is the result of conflicts between antagonistic elements. Marx was particularly impressed by Hegel, but he disagreed with Hegel's belief that history is determined by ideas manifesting themselves in historical forces. Instead, said Marx, the course of history is determined by material forces.

IDEAS OF *THE COMMUNIST MANIFESTO* Marx and Engels began the *Manifesto* with the statement that "the history of all hitherto existing society is the history of class struggles." Throughout history, oppressed and oppressor have "stood in constant opposition to one another." In an earlier struggle, the feudal classes of the Middle Ages were forced to accede to the emerging middle class or bourgeoisie. As the bourgeoisie took control in turn, its ideas became the dominant views of the era,

The Classless Society

IN *THE COMMUNIST MANIFESTO*, KARL MARX and Friedrich Engels projected the creation of a classless society as the end product of the struggle between the bourgeoisie and the proletariat. In this selection, they discuss the steps by which that classless society would be reached.

Karl Marx and Friedrich Engels, *The Communist Manifesto*

We have seen . . . that the first step in the revolution by the working class is to raise the proletariat to the position of ruling class. . . . The proletariat will use its political supremacy to wrest, by degrees, all capital from the bourgeoisie, to centralize all instruments of production in the hands of the State, i.e., of the proletariat organized as the ruling class; and to increase the total of productive forces as rapidly as possible.

Of course, in the beginning, this cannot be effected except by means of despotic inroads on the rights of property, and on the conditions of bourgeois production; by means of measures, therefore, which appear economically insufficient and untenable, but which, in the course of the movement, outstrip themselves, necessitate further inroads upon the old social order, and are unavoidable as a means of entirely revolutionizing the mode of production.

These measures will of course be different in different countries.

Nevertheless, in the most advanced countries, the following will be pretty generally applicable:

1. Abolition of property in land and application of all rents of land to public purposes.
2. A heavy progressive or graduated income tax.
3. Abolition of all right of inheritance. . . .
5. Centralization of credit in the hands of the State, by means of a national bank with State capital and an exclusive monopoly.
6. Centralization of the means of communication and transport in the hands of the State.
7. Extension of factories and instruments of production owned by the State. . . .
8. Equal liability of all to labor. Establishment of industrial armies, especially for agriculture.
9. Combination of agriculture with manufacturing industries; gradual abolition of the distinction between town and country, by a more equable distribution of the population over the country.
10. Free education for all children in public schools. Abolition of children's factory labor in its present form. . . .

When, in the course of development, class distinctions have disappeared, and all production has been concentrated in the whole nation, the public power will lose its political character. Political power, properly so called, is merely the organized power of one class for oppressing another. If the proletariat during its contest with the bourgeoisie is compelled, by the force of circumstances, to organize itself as a class, if, by means of a revolution, it makes itself the ruling class, and, as such, sweeps away by force the old conditions of production, then it will, along with these conditions, have swept away the conditions for the existence of class antagonisms and of classes generally, and will thereby have abolished its own supremacy as a class.

In place of the old bourgeois society, with its classes and class antagonisms, we shall have an association, in which the free development of each is the condition for the free development of all.

How did Marx and Engels define the proletariat? The bourgeoisie? Why did Marxists come to believe that this distinction was paramount for understanding history? What steps did Marx and Engels believe would lead to a classless society? Marx criticized early socialists as utopian and regarded his own socialism as scientific, but do you think that his socialism was also utopian? Why or why not?

Source: From *The Communist Manifesto* by Karl Marx and Frederick Engels, trans. Samuel Moore, 1888.

and government became its instrument. Marx and Engels declared, "The executive of the modern State is but a committee for managing the common affairs of the whole bourgeoisie."[9] In other words, the government of the state reflected and defended the interests of the industrial middle class and its allies.

Although bourgeois society had emerged victorious out of the ruins of feudalism, Marx and Engels insisted that it had not triumphed completely. Now once again the members of the bourgeoisie were antagonists in an emerging class struggle, but this time they faced the **proletariat**, or the industrial working class. The struggle would be fierce, but eventually, so Marx and Engels predicted, the workers would overthrow their bourgeois masters. After this victory, the proletariat would form a dictatorship to reorganize the means of production. Then a classless society would emerge, and the state—itself an instrument of the bourgeoisie—would wither away since it no longer represented the interests of a particular class. Class struggles would then be over (see the box above). Marx believed that the emergence of a classless society would lead to progress in science, technology, and industry and to greater wealth for all.

After the failure of the revolutions of 1848, Marx went to London, where he spent the rest of his life. He continued his writing on political economy, especially his famous work, *Das Kapital* (*Capital*), only one volume of which he completed. After his death, the remaining volumes were edited by his friend Engels.

ORGANIZING THE WORKING CLASS One of the reasons *Das Kapital* was not finished was Marx's preoccupation with organizing the working-class movement. In *The Communist Manifesto*, Marx had defined the communists as "the most advanced and resolute section of the working-class parties of every country." Their advantage was their ability to understand "the line of march, the conditions, and the ultimate general results of the proletarian movement." Marx saw his role in this light and participated enthusiastically in the activities of the International Working Men's Association. Formed in 1864 by British and French trade unionists, this "First International" served as an umbrella organization for working-class interests. Marx was the dominant personality on the organization's General Council and devoted much time to its activities. Internal dissension within the ranks soon damaged the organization, and it failed in 1872. Although it would be revived in 1889, the fate of socialism by that time was in the hands of national socialist parties.

Science and Culture in an Age of Realism

FOCUS QUESTION: How did the belief that the world should be viewed realistically manifest itself in science, art, and literature in the second half of the nineteenth century?

Between 1850 and 1870, two major intellectual developments are evident: the growth of scientific knowledge, with its rapidly increasing impact on the Western worldview, and the shift from Romanticism and its focus on the inner world of reality to Realism and its turning toward the outer, material world.

A New Age of Science

By the mid-nineteenth century, science was having an ever-greater impact on European life. The Scientific Revolution of the sixteenth and seventeenth centuries had fundamentally transformed the Western worldview and led to a modern, rational approach to the study of the natural world. Even in the eighteenth century, however, these intellectual developments had remained the preserve of an educated elite and resulted in few practical benefits. Moreover, the technical advances of the early Industrial Revolution had depended little on pure science and much more on the practical experiments of technologically oriented amateur inventors. Advances in industrial technology, however, fed an interest in basic scientific research, which in the 1830s and afterward resulted in a rash of basic scientific discoveries that were soon converted into technological improvements that affected everybody.

The development of the steam engine was important in encouraging scientists to work out its theoretical foundations, a preoccupation that led to thermodynamics, the science of the relationship between heat and mechanical energy. The laws of thermodynamics were at the core of nineteenth-century physics. In biology, the Frenchman Louis Pasteur (LWEE pas-TOOR) formulated the germ theory of disease, which had enormous practical applications in the development of modern scientific medical practices (see "A Revolution in Health Care" later in this chapter). In chemistry, in the 1860s, the Russian Dmitri Mendeleyev (di-MEE-tree men-duh-LAY-ef) (1834–1907) classified all the material elements then known on the basis of their atomic weights and provided the systematic foundation for the periodic law. The Englishman Michael Faraday (1791–1867) discovered the phenomenon of electromagnetic induction and put together a primitive generator that laid the foundation for the use of electricity, although economically efficient generators were not built until the 1870s.

The steadily increasing and often dramatic material gains generated by science and technology led to a growing faith in the benefits of science. The popularity of scientific and technological achievement produced a widespread acceptance of the scientific method, based on observation, experiment, and logical analysis, as the only path to objective truth and objective reality. This in turn undermined the faith of many people in religious revelation and truth. It is no accident that the nineteenth century was an age of increasing secularization, particularly evident in the growth of **materialism**, the belief that everything mental, spiritual, or ideal was simply a result of physical forces. Truth was to be found in the concrete material existence of human beings and not, as the Romantics imagined, in revelations gained by feeling or intuitive flashes. The importance of materialism was strikingly evident in the most important scientific event of the nineteenth century, the development of the theory of organic evolution according to natural selection. On the theories of Charles Darwin could be built a picture of humans as material beings that were simply part of the natural world.

Charles Darwin and the Theory of Organic Evolution

Charles Darwin (1809–1882), like many of the great scientists of the nineteenth century, was a scientific amateur. Born into an upper-middle-class family, he studied theology at Cambridge University while pursuing an intense side interest in geology and biology. In 1831, at the age of twenty-two, his hobby became his vocation when he accepted an appointment as a naturalist to study animals and plants on an official Royal Navy scientific expedition aboard the H.M.S. *Beagle*. Its purpose was to survey and study the landmasses of South America and the South Pacific. Darwin's specific job was to study the structure of various forms of plant and animal life. He was able to observe animals on islands virtually untouched by external influence and compare them with animals on the mainland. As a result, Darwin came to discard the notion of a special creation and to believe that animals evolved over time and in response to their environment. When he returned to Britain, he eventually formulated an explanation for evolution in the principle of **natural selection**, a theory that he presented in 1859 in his celebrated book, *On the Origin of Species by Means of Natural Selection*.

THE THEORY OF EVOLUTION The basic idea of Darwin's book was that all plants and animals had evolved over a long period of time from earlier and simpler forms of life, a principle known as **organic evolution**. Darwin was important in explaining how this natural process worked. He took the first step from Thomas Malthus's theory of population: in every species, "many more individuals of each species are born than can possibly survive." This results in a "struggle for existence." Darwin believed that "as more individuals are produced than can possibly survive, there must in every case be a struggle for existence, either one individual with another of the same species, or with the individuals of distinct species, or with the physical conditions of life." Those who succeeded in this struggle for existence had adapted better to their environment, a process made possible by the appearance of "variants." Chance variations that occurred in the process of inheritance enabled some organisms to be more adaptable to the environment than others, a process that Darwin called natural selection: "Owing to this struggle [for existence], variations, however slight, . . . if they be in any degree profitable to the individuals of a species, in their infinitely complex relations to other organic beings and to their physical conditions of life, will tend to the preservation of such individuals, and will generally be inherited by the offspring."[10] Those that were naturally selected for survival ("survival of the fit") survived. The unfit did not and became extinct. The fit who survived propagated and passed on the variations that enabled them to survive until, from Darwin's point of view, a new separate species emerged.

In *On the Origin of Species*, Darwin discussed plant and animal species only. He was not concerned with humans themselves and only later applied his theory of natural selection to humans. In *The Descent of Man*, published in 1871, he argued for the animal origins of human beings: "man is the co-descendant with other mammals of a common progenitor." Humans were not an exception to the rule governing other species (see the box above).

Darwin and the Descent of Man

DARWIN PUBLISHED HIS THEORY of organic evolution in 1859, allowed twelve years later by *The Descent of Man*, in which he argued that human beings, like other animals, evolved from lower forms of life. The theory provoked a firestorm of criticism, especially from the clergy. One critic described Darwin's theory as a "brutal philosophy—to wit, there is no God, and the ape is our Adam."

Charles Darwin, *The Descent of Man*

The main conclusion here arrived at, and now held by many naturalists, who are well competent to form a sound judgment, is that man is descended from some less highly organized form. The grounds upon which this conclusion rest will never be shaken, for the close similarity between man and the lower animals in embryonic development, as well as in innumerable points of structure and constitution, both of high and of the most trifling importance,—the rudiments which he retains, and the abnormal reversions to which he is occasionally liable,—are facts which cannot be disputed. They have long been known, but until recently they told us nothing with respect to the origin of man. Now when viewed by the light of our knowledge of the whole organic world, their meaning is unmistakable. The great principle of evolution stands up clear and firm, when these groups of facts are considered in connection with others, such as the mutual affinities of the members of the same group, their geographical distribution in past and present times, and their geological succession. It is incredible that all these facts should speak falsely. He who is not content to look, like a savage, at the phenomena of nature as disconnected, cannot any longer believe that man is the work of a separate act of creation. He will be forced to admit that the close resemblance of the embryo of man to that, for instance, of a dog—the construction of his skull, limbs and whole frame on the same plan with that of other mammals, independently of the uses to which the parts may be put—the occasional reappearance of various structures, for instance of several muscles, which man does not normally possess . . . —and a crowd of analogous facts—all point in the plainest manner to the conclusion that man is the co-descendant with other mammals of a common progenitor. . . .

Man may be excused for feeling some pride at having risen, though not through his own exertions, to the very summit of the organic scale; and the fact of his having thus risen, instead of having been aboriginally placed there, may give him hope for a still higher destiny in the distant future. But we are not here concerned with hopes or fears, only with the truth as far as our reason permits us to discover it; and I have given the evidence to the best of my ability. We must, however, acknowledge, as it seems to me, that man with all his noble qualities, with sympathy which feels for the most debased, with benevolence which extends not only to other men but to the humblest living creature, with his god-like intellect which has penetrated into the movements and constitution of the solar system—with all these exalted powers—Man still bears in his bodily frame the indelible stamp of his lowly origin.

What was Darwin's basic argument in The Descent of Man? *Why did so many object to it? What forces in nineteenth-century European society do you think came together to stimulate Darwin's thinking and publications on this subject?*

Source: From *The Descent of Man* by Charles Darwin (New York: Appleton, 1876), pp. 606–607, 619.