

# The Age of Realism: 1850-1871

## Science and Culture

Science and the arts underwent significant transformations between the years 1850 and 1871. Rapid changes in the world of science led to a great expansion of scientific knowledge and a challenge to accepted Western worldviews. In the world of art, Romanticism gave way to Realism, as writers and artists set out to show ordinary life in the world around them.

## Scientific Advances

Scientific knowledge had been growing since the advent of the Scientific Revolution. Those discoveries, however, remained in the realm of the scientific community and of little practical consequence to the general public. By the mid-nineteenth century, however, the general public was more aware of the expansion of scientific knowledge, as discoveries with more practical applications were made. Advances in thermodynamics influenced inventions such as the electric generator, while discoveries by Louis Pasteur led to advances in public health. Indeed, scientific progress led some to believe that all truth lay in the realm of science and the natural world rather than the spiritual world. The influence of scientists and intellectuals gave rise to a secularization of European society that was reflected in the acceptance of materialism as the overarching worldview of the period. Truth was to be found in the concrete material existence of human beings rather than the spirituality of the church or the emotionalism of the Romantics.

## Charles Darwin and the Theory of Evolution

Scion of an upper-class British family, Charles Darwin was interested in geology and biology. In 1831, he joined a Royal Navy expedition as a naturalist. Over the five years the H.M.S. Beagle sailed around the world, Darwin studied plant and animal life on islands that had not been touched by humans. His observations led to his theory of evolution through the principle of natural selection, which he laid out in *On the Origin of Species by Means of Natural Selection* (1859).

Darwin's research while traveling in South America and the South Pacific gave him evidence that plants and animals evolve over a period of time from simpler life forms. Darwin was influenced by the thinking of Thomas Malthus, who held that all species were engaged in a struggle for existence, the result of the population's growing faster than the food supply. Darwin expanded on that notion, believing that individuals can succeed in the struggle for existence only by

adapting to their environment through chance variants, in a process called natural selection. Initially, Darwin's ideas were concerned with plant and animal species, but with the publication of *The Descent of Man* in 1871, his arguments dealt with the animal origins of human beings. That unleashed tremendous controversy within European society. Many were troubled by Darwin's direct challenge to the Bible's creation story and the implication that humans are ordinary products of nature rather than exalted beings.

### AP Tip

The AP exam often features questions concerning the repercussions of Darwin's ideas. Although many people were distraught over the implications of Darwin's theories, some, such as Herbert Spencer, created their own theories based on Darwin's notions of natural selection. Spencer's ideas gave rise to Social Darwinism, which used Darwin's theories – incorrectly – to justify a range of political, social, and economic policies. In particular, the phrase “survival of the fittest” was well suited to the growing aggressiveness of the modern industrial economy.

## Health Care

Breakthroughs in the natural sciences during the nineteenth century significantly influenced advances in health care during the period. Perhaps the most important work was performed by French chemist Louis Pasteur, who by 1857 was able to prove the link between microorganisms and disease. Like many of the scientific discoveries made at that time, this one spurred practical applications put into effect by governments and industry. For instance, the wine industry first used pasteurization to keep its wine from spoiling. Later, Pasteur's experiments with microorganisms led to the common acceptance of many types of vaccinations.

## Sociology

As the role of science grew in importance during the nineteenth century, researchers began to apply scientific principles to other fields. One such area was the study of society. French researcher Auguste Comte examined society through the use of scientific methods and discovered general laws pertaining to social interaction. His ideas eventually gave birth to the field of sociology, which would gain widespread popularity by the end of the century.

## Literature

By mid-century, the literary world embraced the concept of materialism, which had also influenced the scientific community. Novelists turned to the realities of everyday life as subject matter for their works. Romanticism was

rejected by authors who sought to find truth through accurate depictions of the common man rather than a romantic hero. Novelists of the Realist movement avoided the ornate and flowery language popularized by the Romantics in favor of representative dialects. For example, French author Gustave Flaubert accurately depicted small-town France in *Madame Bovary* (1857). British Realists William Thackeray and Charles Dickens likewise attempted to distance themselves from the Romantic style, offering true-to-life depictions of the middle and lower classes.

### Art

As was the trend in the literary world, by the mid-nineteenth century many visual artists had rejected Romanticism in favor of the gritty motifs of Realism. French painters Gustave Courbet and Jean-François Millet showed people engaged in everyday activities. This represented a radical departure from the accepted subject matter of traditional art. Courbet depicted the dreary existence of workers and rural peasants as they engaged in mundane activities. Millet's most famous work, *The Gleaners*, depicts three peasant women gathering grain. Showing the connection between humans and nature, Millet was criticized for his crude subject matter. Taking cues from the Realists, later artists continued to challenge artistic norms, leading the world of art to entirely new directions.

The period between 1850 and 1871 witnessed the spread of industrialization across much of Europe, bringing prosperity to many Europeans for the first time. The failure of the revolutions of 1848 brought to power a new breed of conservative leaders who practiced *Realpolitik* to achieve their goals. In addition, scientific and technological breakthroughs provided Europeans with an unwavering faith in progress. National pride accompanied this sense of optimism, continuing to influence European behavior into the next century.