

Chapter 18 Outline

Toward a New World-view, 1540–1789

Instructional Objectives

After reading and studying this chapter, students should be able to trace the evolution of new approaches to the study of the natural world. They should be able to assess the impact of this new world-view on ideas about society and human relations. Finally, they should be able to discuss the political implications of the Scientific Revolution and the Enlightenment, particularly for monarchical absolutism.

Study Outline

Use this outline to preview the chapter before you read a particular section in your textbook and then as a self-check to test your reading comprehension after you have read the chapter section.

Toward a New World-view, 1540-1789

- I. The scientific revolution
 - A. The scientific revolution of the seventeenth century was the major cause of the change in worldview and one of the key developments in the evolution of Western society.
 1. Only the West developed modern science; historians disagree as to how important to its rise were the nonscientific economic, religious, and social factors.
 - B. Scientific thought in the early 1500s
 1. European ideas about the universe were based on Aristotelian medieval ideas.
 - a. Central to this view was the belief in a motionless earth fixed at the center of the universe.
 - b. Around the earth moved ten crystal spheres, and beyond the spheres was heaven.
 2. Aristotle's scheme suited Christianity because it positioned human beings at the center of the universe and established a home for God.
 3. Science in this period was primarily a branch of theology.
 - C. The Copernican hypothesis
 1. Copernicus, a Polish clergyman and astronomer, claimed that the earth revolved around the sun and that the sun was the center of the universe.
 2. This heliocentric theory was a departure from medieval thought and created doubts about traditional Christianity.
 - D. From Brahe to Galileo
 1. Brahe set the stage for the modern study of astronomy by building an observatory and collecting data.
 2. His assistant, Kepler, formulated three laws of planetary motion that proved the precise relationships among planets in a sun-centered universe.

3. Galileo discovered the laws of motion using the experimental method--the cornerstone of modern science.
 - a. He also applied the experimental method to astronomy, using the newly invented telescope.
 - b. Galileo was tried by the Inquisition for heresy in 1633 and forced to recant his views.
- E. Newton's synthesis
 1. In his famous book, *Principia* (1687), Newton integrated the astronomy of Copernicus and Kepler with the physics of Galileo.
 - a. He formulated a set of mathematical laws to explain motion and mechanics.
 - b. The key feature in his synthesis was the law of universal gravitation.
 2. Henceforth, the universe could be explained through mathematics.
- F. Causes of the scientific revolution
 1. The scientific revolution was the product of individual genius--such as Newton building on the works of Copernicus and others.
 2. Also, medieval universities provided the framework for the new science.
 3. The Renaissance stimulated science by rediscovering ancient mathematics and supporting scientific investigations.
 4. The navigational problems of sea voyages generated scientific research and new instruments.
 5. Better ways of obtaining knowledge about the world improved scientific methods.
 - a. Bacon advocated empirical, experimental research.
 - b. Descartes stressed mathematics and deductive reasoning.
 - c. The modern scientific method is based on a synthesis of Bacon's inductive experimentalism and Descartes's deductive mathematical rationalism.
 6. After about 1630 (the Counter-Reformation), the Catholic church discouraged science while Protestantism tended to be "pro-science."
- G. Some consequences of the scientific revolution
 1. A scientific community emerged whose primary goal was the expansion of knowledge.
 2. A modern scientific method arose that was both theoretical and experimental and refused to base its conclusions on tradition and established sources.
 3. Because the link between pure science and applied technology was weak, the scientific revolution had little effect on daily life before the nineteenth century.

II. The Enlightenment

- A. The Enlightenment was an intellectual and cultural movement that tied together certain key ideas and was the link between the scientific revolution and a new worldview; these ideas were:
 1. Natural science and reason can explain all aspects of life.
 2. The scientific method can explain the laws of human society.
 3. Progress--the creation of better societies and better people--is possible.
- B. The emergence of the Enlightenment
 1. Many writers made scientific thought understandable to a large nonscientific audience.
 - a. Fontenelle stressed the idea of progress.
 - b. He was also cynical about organized religion and absolute religious truth.

2. Skeptics such as Bayle concluded that nothing can be known beyond all doubt and stressed open-mindedness.
 3. The growth of world travel led Europeans to look at truth and morality in relative, not absolute, terms.
 4. In his *Essay Concerning Human Understanding*, Locke insisted that all ideas are derived from experience--the human mind at birth is like a blank tablet (*tabula rasa*).
- C. The philosophes and the public
1. The philosophes brought Enlightenment ideas to the ignorant people and brought the Enlightenment to its highest stage of development in France.
 - a. The French language was the international language of the educated classes of Europe, and France was Europe's wealthiest state.
 - b. Intellectual freedom was possible in France, in contrast to eastern Europe.
 - c. The philosophes were committed to bringing new thinking to the public, but not necessarily the masses.
 - d. In their plays, histories, novels, dictionaries, and encyclopedias, they used satire and double meanings to spread their messages to the public.
 2. Montesquieu's theory of the separation of powers was extremely influential.
 3. Voltaire challenged traditional Catholic theology and exhibited a characteristic philosophe belief in a distant God who let human affairs take their own course.
 - a. He opposed legal injustice and unequal treatment before the law.
 - b. He was influenced by his longtime companion, Madame du Chatelet, who was a scientist but who was discriminated against because of her sex.
 - c. He was skeptical of social and economic equality; he hated religious intolerance.
 4. Diderot and d'Alembert edited the *Encyclopedia*, which examined all of human knowledge and attempted to teach people how to think critically and rationally.
 5. The later Enlightenment writers built rigid and dogmatic systems.
 - a. D'Holbach argued that humans were completely controlled by outside forces.
 - b. Hume argued that the mind is nothing but a bundle of impressions that originate in sense experiences.
 - c. Rousseau attacked rationalism and civilization; he claimed that children must develop naturally and spontaneously, and in *The Social Contract* argued that the general will of the people is sacred and absolute.
- D. Urban culture and public opinion
1. The cultural transformation brought on by the Enlightenment was related to a growth in the market for books.
 - a. Most of the new buyers of books came from the middle classes, the clergy, and the aristocracy; a tenfold increase in books resulted.
 - b. Publishing in the fields of art and science grew the most; a majority of the new books came from publishers outside of France, largely the Netherlands and Switzerland.
 - c. Underground literature in pornography was of concern to the state because much of it centered on aristocratic immorality.
 - d. All of this resulted in a new emphasis on individual and private reading (a "reading revolution"); some, like Kant, argued that freedom of the press would bring an enlightened age.

2. Enlightenment ideas--including new ideas about women's rights--were spread in the salons of upper-class women.
 - a. The salons were often presided over by women.
 - b. Madame Geoffrin's salon was famous; she was the unofficial godmother of the *Encyclopedia*.
 - c. These salons seemed to have functioned as informal "schools" for women.

III. The enlightenment and absolutism

- A. Many philosophes believed that "enlightened" reform would come by way of "enlightened" monarchs.
 1. The philosophes believed that a benevolent absolutism offered the best chance for improving society.
 2. The rulers seemed to seek the philosophes' advice.
 3. The philosophes distrusted the masses and believed that change had to come from above.

IV. Absolutism in central and eastern Europe

- A. The most influential of the new style monarchs were in Prussia, Russia, and Austria.
- B. Frederick the Great of Prussia
 1. Frederick II used the War of the Austrian Succession (1740-1748) to expand Prussia into a great power by seizing Silesia.
 2. The Seven Years' War (1756-1763) saw an attempt by Maria Theresa, with the help of France and Russia, to regain Silesia, but it failed.
 3. Frederick allowed religious freedom and promoted education, legal reform, and economic growth but allowed the Junker nobility to keep the middle-class from power in government.
 - a. Frederick allowed the repression of Prussian Jews--who were confined to overcrowded ghettos.
- C. Catherine the Great of Russia
 1. Catherine II imported Western culture to Russia, supported the philosophes, and began a program of domestic reform.
 2. The Pugachev uprising in 1773 led her to reverse the trend toward reform of serfdom and give nobles absolute control of their serfs.
 3. She engaged in a policy of territorial expansion and, with Prussia and Austria, carved up Poland.
- D. The Austrian Habsburgs
 1. Maria Theresa of Austria introduced reforms that limited church power, revised the tax system and the bureaucracy, and reduced the power of the lords over the serfs.
 2. Her successor, Joseph II, was a dedicated reformer who abolished serfdom, taxed all equally, and granted religious freedom.
 3. Because of opposition from both the nobles and the peasants, Joseph's reforms were short-lived.

- E. Absolutism in France
1. Some philosophes, such as Voltaire, believed that the monarchy was the best system, while some of the aristocracy sought to limit the king's power.
 2. Favored by the duke of Orléans, who governed as a regent until 1723, the French nobility regained much of the power it had lost under Louis XIV.
 - a. The Parlement of Paris won two decisive victories against taxation.
 - b. It then asserted that the king could not levy taxes without its consent.
 3. Under Louis XV the French minister Maupeou began the restoration of royal absolutism by abolishing the Parlement of Paris.
 4. Louis XVI reinstated the old Parlement and the country drifted toward renewed financial and political crises.
- F. The overall influence of the Enlightenment
1. In France, the rise of judicial and aristocratic opposition combined with liberalism put absolutism on the defensive.
 2. In eastern Europe, the results of enlightened absolutism were modest and absolutism remained strong.
 3. By combining state building with the culture and critical thinking of the Enlightenment, absolute monarchs succeeded in expanding the role of the state in the life of society.

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