

## Chapter 15

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# Cultural and Intellectual Changes

### Key Terms

Catholic Reformation  
(Counter Reformation)\*  
commercial revolution\*  
Deism\*  
empirical research\*  
Enlightenment\*  
excommunication\*  
heliocentric theory\*  
indulgence\*  
laissez-faire economics\*

natural laws\*  
Ninety-Five Theses  
Northern Renaissance\*  
*philosophes*\*  
predestination\*  
Protestant  
Reformation\*  
Scientific Revolution\*  
Society of Jesus

## INTRODUCTION



The transformations in the formation of empires, in the slave trade, and in hemispheric connections took place against a backdrop of cultural and intellectual changes. In Europe, a spirit of religious reform created new religious denominations and promoted education. A scientific revolution provided new explanations to the nature of the universe, while Enlightenment thought analyzed the nature of political relationships. Enlightenment ideas spread through Europe, Russia, and the Western Hemisphere.

## THE PROTESTANT AND CATHOLIC REFORMATIONS

The Renaissance, which began in the city-states of northern Italy, gradually spread to the states of northern Europe. The Northern Renaissance

was characterized by a more intense religious devotion than the Italian Renaissance. In 1517, to finance the restoration of St. Peter's Basilica in Rome, the Roman Catholic Church authorized the sale of indulgences. Indulgences were documents that granted the purchaser the forgiveness of sins. A German priest and former monk named Martin Luther nailed The Ninety-Five Theses, or statements for debate, to the door of the Castle Church in Wittenberg in present-day Germany. Luther's studies of the Bible had led him to believe that salvation was obtained only through faith in Jesus Christ as the savior of the world from sin and was not dependent on following Church practices and traditions. Roman Catholic opposition to Luther's teachings led to his eventual excommunication from the Roman Catholic Church. Luther's ideas spread widely throughout Europe as a result of the introduction of movable type, an adaptation of Chinese printing technology, by Johannes Gutenberg in the mid-fifteenth century. Gutenberg also used the new printing technology to produce *The Gutenberg Bible*, written in Latin, about 1455.

The Protestant Reformation gained popularity not only for its religious teaching but also because of the political climate in Europe in the sixteenth century. A new wave of nationalism was sweeping through Europe, including the German states, which were part of the Holy Roman Empire. Many Germans resented the authority of the pope and welcomed Protestantism for this reason. Protestantism also looked more favorably on Christian participation in commercial and money-making ventures than did Roman Catholicism, a factor that contributed to the commercial revolution of the early modern period.

## The Spread of Protestantism

A second Protestant Reformation occurred in England when Henry VIII of England broke with the Roman Catholic Church over the pope's refusal to annul his first marriage, which had not produced a male heir. Under Henry's daughter Elizabeth I, England officially recognized Protestantism. Another Protestant, John Calvin, preached the concept of predestination, which held that God had predetermined those people who would be saved. Calvinism spread not only through much of western and northern Europe but also to North America through the migrations of the Puritans.

## The Catholic Reformation

The Protestant Reformation produced a movement within the Roman Catholic Church to consider Protestant charges against it. As a result of the Catholic Reformation (Counter-Reformation), a church assembly, the Council of Trent, abandoned the sale of indulgences, but preserved traditional Roman Catholic beliefs and practices. A new religious order, the Jesuits, or Society of Jesus, was organized to serve as the missionary and

educational arm of the Church. The Jesuits engaged widely in missionary work in the Americas and in Asia, taking both Christianity and the knowledge of European culture and technology to those continents.

## The Results of the Protestant Reformation

In addition to spreading the belief in salvation by faith alone, the Protestant Reformation:

- Increased European questioning of political authority.
- Strengthened the authority of monarchs as papal power decreased.
- Encouraged education as Protestants wanted their children to be able to read the Bible.
- Improved the status of women within marriage as religious writers encouraged love between husband and wife.
- Created new Protestant churches.

## THE SCIENTIFIC REVOLUTION

The seventeenth and eighteenth centuries saw another kind of revolution: one in scientific thought. One of the key debates of science became one concerning the nature of the universe. Copernicus of Poland abandoned the geocentric theory of Ptolemy to prove that the sun was the center of the solar system (the heliocentric theory). Galileo of Italy used a telescope to confirm the discoveries of Copernicus and to study planetary motion and gravity. As a result of his studies, Galileo was taken to court by the Roman Catholic Church and required to publicly recant his theories. Another scientist, Johannes Kepler of Germany, discovered the elliptical pattern of planetary motion, whereas Isaac Newton established the basic principles of motion and described the forces of gravity.

New knowledge also was obtained concerning the human body. Vesalius of Belgium studied human anatomy. John Harvey of England explained the circulatory system.

## The Revolution in Scientific Thought

The Scientific Revolution supported additional research. René Descartes encouraged the educated to develop a skeptical approach to learning. Francis Bacon advocated empirical research based on observations and carefully obtained data. Western science took on a nature distinct from scientific thought in East Asia. In contrast to Chinese scientific thought, which generally dealt with specific facts that were practical in nature, Western scientific thought formulated general laws of nature that had roots in Islamic and Greek philosophy. Also characteristic of Western scientific thought were principles that could be utilized for the improvement of humankind.

## THE ENLIGHTENMENT

The revolution in science led to a revolution in thought regarding the nature of politics, economics, and society. The Enlightenment involved the application of human reason to improve society. Behind the movement was the belief that human beings were basically good and that education and reason could improve their condition even further. Childhood was recognized as a separate stage of growth, and children's toys and books appeared for the first time. Like the Protestant Reformation, the Enlightenment supported marriages based on love, a concept that raised the status of women in family life.

### The Beginning and Spread of Enlightenment Thought

The Enlightenment began with the *philosophes*, or French philosophers, many of whom discussed their ideas at Parisian meetinghouses called salons. As the movement spread throughout Europe, Russia, and Europe's colonies in the Americas, the Enlightenment continued to support scientific advances. Some Enlightenment thinkers followed a scientific philosophy called Deism, which held that there was a god who created the earth, then left it to operate by natural law.

### Enlightenment Political Thought

Political philosophers such as John Locke of England and Jean Jacques Rousseau of France wrote of a social contract in which governments ruled by the consent of the governed to insure the preservation of the natural rights of humankind. Criminologists advocated rehabilitation for criminals, whereas Mary Wollstonecraft of England spoke out for political rights for women. The Scottish economist Adam Smith wrote *The Wealth of Nations* (1776), in which he set forth the principles of laissez-faire economics. Smith's philosophy held that government regulation of the economy should be minimal in order to allow the free operation of the laws of supply and demand. Denis Diderot of France compiled the *Encyclopédie*, which included the scientific and social scientific knowledge of the Enlightenment.

### Rapid Review



The period from 1450 to 1750 witnessed three major cultural and intellectual revolutions. The Protestant Reformation defied established Church traditions and taught salvation by faith alone. The Scientific Revolution explained the nature of the universe and encouraged research. Another movement, the Enlightenment, believed in the basic goodness of humanity and spoke of natural rights that formed the philosophy behind the political revolutions of the eighteenth century.

## ✓ Chapter Review Questions

- Both the Protestant Reformation and the Enlightenment
  - questioned political authority.
  - lowered the status of women.
  - upheld Church traditions.
  - relied on reason over faith.
  - remained confined to Europe.
- Chinese technological and philosophical developments
  - were based on European thought and developments.
  - assisted the spread of Reformation thought.
  - became the basis of Enlightenment thought.
  - were based on natural laws.
  - were carried by Jesuits to the West.
- All of the following describe the Scientific Revolution EXCEPT that
  - it emphasized the value of research.
  - it described the nature of the universe.
  - some of its beliefs were openly opposed by the Roman Catholic Church.
  - it was modeled on Chinese philosophy.
  - it believed in the overall goodness of humanity.
- Enlightenment thought
  - resulted in harsher punishments for criminals.
  - treated children as miniature adults.
  - resembled Renaissance thought.
  - was not embraced by the women's movement.
  - introduced economic theories that supported mercantilism.
- The Protestant and Catholic Reformations were alike
  - in their attitudes toward money-making.
  - in their reliance on church councils.
  - in their views toward papal authority.
  - in their abandonment of church traditions.
  - in their emphasis on education.
- The Scientific Revolution and the Enlightenment
  - both held that reason could be used to improve humanity.
  - broke completely with classical traditions.
  - supported the ideas of the Roman Catholic Church concerning the nature of the universe.
  - were global movements.
  - continued medieval traditions.
- Which of the following is NOT a finding of the Scientific Revolution or the Enlightenment?
  - Planetary motion
  - Heliocentric theory
  - Movable type
  - The circulatory system
  - The social contract
- Which of the following concepts of the period 1450 to 1750 did NOT rely on natural laws?
  - Predestination
  - Deism
  - Laissez-faire philosophy
  - The social contract
  - The theory of gravity

## 2 Answers and Explanations

1. A. Some Europeans favored the Protestant Reformation because it opposed the political and religious authority of the pope. Enlightenment political thought

questioned the authority of governments not established by the consent of the governed. Both improved the status of women by emphasizing the element of

- love within marriage. Feminists such as Mary Wollstonecraft spoke out in favor of women's rights (B). The Enlightenment placed human reason above church traditions, whereas the Protestant Reformation also challenged them (C). The Protestant Reformation relied on faith over reason (D). The Protestant Reformation spread to North America, whereas the Enlightenment also spread to Russia (E).
2. B. The Chinese invention of movable type was a forerunner of the invention of Gutenberg's printing press, an invention that helped spread Reformation ideas. Chinese thought and technology was not based on European precedents (A), nor was Enlightenment thought based on Chinese precedents (C). Chinese philosophy was based on practical facts rather than on generalizations such as the European natural laws (D). Jesuits carried the knowledge of Western developments to China (E).
  3. D. Chinese ideas differed from the principles of the Scientific Revolution in not being concerned with the application of science to everyday society. The Scientific Revolution stressed the value of data and research (A) and broke with ancient traditions to describe the nature of the universe (B). The heliocentric theory was initially opposed by the Roman Catholic Church (C). The Scientific Revolution was based on the concept that science could improve the condition of humanity, which was basically good (E).
  4. C. The philosophy of both the Renaissance and the Enlightenment was based on reason. Enlightenment thought advocated rehabilitation for criminals (A). It treated childhood as a separate stage in life (B). Mary Wollstonecraft, an Enlightenment thinker, spoke out on behalf of political rights for women (D). Laissez-faire economics differed from mercantilism, which involved government regulation of the economy (E).
  5. E. Both reformations valued education as a tool to spread their beliefs. The Protestants were more accepting of Christians in money-making activities than were the Roman Catholics (A). The Roman Catholic Church depended on church councils to establish official church doctrines, whereas the Protestant Reformation taught independence from Church traditions and practices (B). Although the Roman Catholic Church relied on papal authority, the Protestant churches did not (C). Although the Protestants abandoned some Church traditions, the Roman Catholic Church reaffirmed them in their councils (D).
  6. A. Both believed that science had a practical role in society. Greek thought influenced both movements (B). Both disagreed with the Roman Catholic Church over the nature of the universe (C). Neither movement directly influenced the Eastern world (D). Both broke with medieval traditions of faith over reason (E).
  7. C. Movable type, influenced by Chinese printing, was developed in Europe in the 1450s, before the Scientific Revolution or the Enlightenment. The other choices were new to the Scientific Revolution or the Enlightenment.
  8. A. Predestination was the belief of John Calvin that God had chosen which people would receive salvation and which would not. Deism held that the creator god had left the world to operate according to natural laws (B). Laissez-faire economics was based on the natural laws of supply and demand (C). The social contracts of both Locke and Rousseau involved the preservation of natural rights (D), whereas Newton's theory of gravity was based on the natural laws of the universe (E).