

>> Sir Isaac Newton was a key figure in the Scientific Revolution. Among his many discoveries was gravity.

 **Interactive Flipped Video**

### >> Objectives

**Describe** how science led to the Enlightenment.

**Explain** the political philosophies of Hobbes, Locke, Voltaire, Montesquieu, and Rousseau.

**Summarize** the economic ideas of the physiocrats and Adam Smith.

**Describe** how Enlightenment ideas spread and influenced the arts.

**Understand** the role of enlightened despots.

### >> Key Terms

natural law	enlightened despot
Thomas Hobbes	Joseph II
John Locke	
social contract	
natural rights	
philosophe	
Montesquieu	
Voltaire	
Jean-Jacques Rousseau	
laissez faire	
Adam Smith	
free market	
free enterprise system	
censorship	
salon	
baroque	
rococo	

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**During the Scientific Revolution of the 1500s and 1600s, European scholars made advances in physics, chemistry, biology, and medicine. Like ancient scholars, the thinkers of the Scientific Revolution relied on reason, but they also developed a new “scientific method” to test their theories and observations. Using mathematics and the scientific method, they discovered a series of laws that governed the physical universe.**

## The Enlightenment

### Scientific Revolution Leads to Enlightenment

The Scientific Revolution, in turn, helped spark the Enlightenment in which thinkers emphasized the use of reason to uncover laws that governed human life. During the Enlightenment of the 1600s and 1700s, thinkers developed new ideas about government and human rights.

While scientists and mathematicians developed laws of natural phenomena like the law of gravity, European thinkers searched for similar laws that governed human life. Like scientists, Enlightenment thinkers emphasized the power of reason, rather than religious beliefs. During the 1600s and 1700s, these thinkers developed new ideas called **natural laws**—unchanging principles, discovered through observation, that govern all human conduct.

Using the methods of the Scientific Revolution, Enlightenment thinkers and reformers set out to study human behavior and solve the problems of society. The German philosopher Immanuel Kant used the word *enlightenment* to describe this new approach. During the Enlightenment, also called the Age of Reason, philosophers emphasized the power of human reason to uncover general principles of nature that shape all of human experience.

The Enlightenment continued a trend that began during the Renaissance. During the Middle Ages, Europe had been dominated by the Church. Feudal monarchs, like later absolute rulers, looked to the Church to justify their royal authority. The Renaissance placed a new emphasis on secularism and individual achievement.

The Scientific Revolution and Enlightenment also stressed science and natural law rather than religious authority. Enlightenment thinkers turned away from absolutism and divine right toward democracy and individual rights. Their ideas would encourage revolutionary leaders in Europe and the Americas. Though Christianity would remain a strong force in western culture, most governments became increasingly secular. The French Revolution in particular would see a radical decline in Church influence on government.

**? EXPLAIN** How was the Scientific Revolution directly related to the development of the concept of natural law?

## Hobbes and Locke on the Role of Government

During the 1600s, two English thinkers, **Thomas Hobbes** and **John Locke**, set forth ideas that were to become key to the Enlightenment. Both men lived through the upheavals of the English Civil War. Yet they reached different conclusions about human nature and the purpose and proper role of government.

**Hobbes Argues for Powerful Government** In 1651, Thomas Hobbes outlined his ideas in a work titled *Leviathan*. In it, he argued that people were naturally cruel, greedy, and selfish. If not strictly controlled, they would fight, rob, and oppress one another. Life in the "state of nature"—without laws or other control—would be "solitary, poor, nasty, brutish, and short."

To escape that "brutish" life, said Hobbes, people entered into a **social contract**, an agreement by which they gave up their freedom for an organized society. Hobbes believed that only a powerful government could ensure an orderly society. For him, such a government was an absolute monarchy, which could impose order and compel obedience. Not surprisingly, Hobbes had supported the Stuart kings in their struggle against Parliament.

**Locke Focuses on Natural Rights** John Locke had a more optimistic view of human nature. He thought people were basically reasonable and moral.

Further, they had certain **natural rights**, or rights that belonged to all humans from birth. These included the right to life, liberty, and property.

In *Two Treatises of Government*, Locke argued that people formed governments to protect their natural rights. The best kind of government, he said, had limited power and was accepted by all citizens. Thus, unlike Hobbes, Locke rejected absolute monarchy.


Locke proposed a radical idea about this time. A government, he said, has an obligation to the people it governs. If a government fails its obligations or violates people's natural rights, the people have the right to overthrow that government. Given these ideas, Locke supported the overthrow of James II in the Glorious Revolution of 1688. In Locke's view, the king deserved to lose his throne because he had violated the rights of the English people.

Locke's idea would one day influence leaders of the American Revolution, such as Benjamin Franklin, Thomas Jefferson, and James Madison. Locke's idea of the right of revolution would also echo across Europe and Latin America in the centuries that followed.

**? CONTRAST** How did Hobbes and Locke differ in their views on the role of government?



>> This illustration from Thomas Hobbes' *Leviathan* reflects his belief in a powerful monarch who rises above all societal divisions. The monarch, or sea monster, is the source of all power.

 **Interactive Chart**

## The Philosophes

In the 1700s, France saw a flowering of Enlightenment thought. French **philosophes** (fee loh ZOHFS), or philosophers, felt that nothing was beyond the reach of human reason. As they examined ideas about government, law and society, they called for reforms to protect people's natural rights. Their ideas, like those of Locke, would shift political thought and strongly influence the development of democratic-republican government.

### Montesquieu Calls for Separation of Powers

An early and influential *philosophe* was Baron de **Montesquieu** (MAHN tus kyoo). Montesquieu studied the governments of Europe, from Italy to England. He read about ancient and medieval Europe, and learned about Chinese and Native American cultures. He sharply criticized absolute monarchy.

In 1748, Montesquieu published *The Spirit of the Laws*, in which he discussed governments throughout history. Montesquieu felt that the best way to protect liberty was to divide the various functions and powers of government among three branches: the legislative, executive, and judicial.

He also felt that each branch of government should be able to serve as a check on the other two, an idea that we call checks and balances. Montesquieu's

beliefs would influence the Framers of the United States Constitution.

**Voltaire Supports Freedom of Thought** Probably the most famous of the *philosophes* was François-Marie Arouet, who took the name **Voltaire**. "My trade," said Voltaire, "is to say what I think." He used biting wit as a weapon to expose the abuses of his day. He targeted corrupt officials and idle aristocrats. With his pen, he battled inequality, injustice, and superstition. He detested the slave trade and deplored religious prejudice.

Voltaire's outspoken attacks offended both the French government and the Catholic Church. He was imprisoned and forced into exile. Even as he saw his books outlawed and sometimes even burned, he continued to defend the principle of freedom of speech.

**Diderot Edits the *Encyclopedia*** Denis Diderot (DEE duh roh) worked for years to produce a 28-volume set of books called the *Encyclopedia*. As the editor, Diderot did more than just compile articles. His purpose was "to change the general way of thinking" by explaining ideas on topics such as government, philosophy, and religion.

Diderot's *Encyclopedia* included articles by leading thinkers of the day, including Montesquieu and Voltaire. In these articles, the *philosophes* denounced slavery,

## Montesquieu: Separation of Powers

	FUNCTION	EXAMPLES IN U.S. GOVERNMENT	EXAMPLES IN BRITISH GOVERNMENT
LEGISLATIVE	Creates law	Congress	Parliament
EXECUTIVE	Enforces law	President	Prime minister
JUDICIAL	Applies law	Supreme Court	U.K. Supreme Court

>> **Analyze Charts** Montesquieu believed in the separation of the powers of government into branches. Who currently heads the executive branch of government in the United States?

raised freedom of expression, and urged education for all. They attacked divine-right theory and traditional religions.

The French government viewed the *Encyclopedia* as an attack on public morals, and the pope threatened to excommunicate Roman Catholics who bought or read the volumes. Despite these and other efforts to ban the *Encyclopedia*, more than 4,000 copies were printed between 1751 and 1789.

**Rousseau Promotes the Social Contract** The most controversial *philosophe* was **Jean-Jacques Rousseau** (roo SOH). Rousseau believed that people in their natural state were basically good. This natural innocence, he felt, was corrupted by the evils of society, especially the unequal distribution of property.

In 1762, Rousseau set forth his ideas about government and society in *The Social Contract*. Rousseau felt that society placed too many limitations on people's behavior. He believed that some controls were necessary, but that they should be minimal. Additionally, only governments that had been freely elected should impose these controls. Rousseau put his faith in the "general will," or the best conscience of the people. The good of the community as a whole, he said, should be placed above individual interests. Woven through Rousseau's work is a hatred of all forms of political and economic oppression.

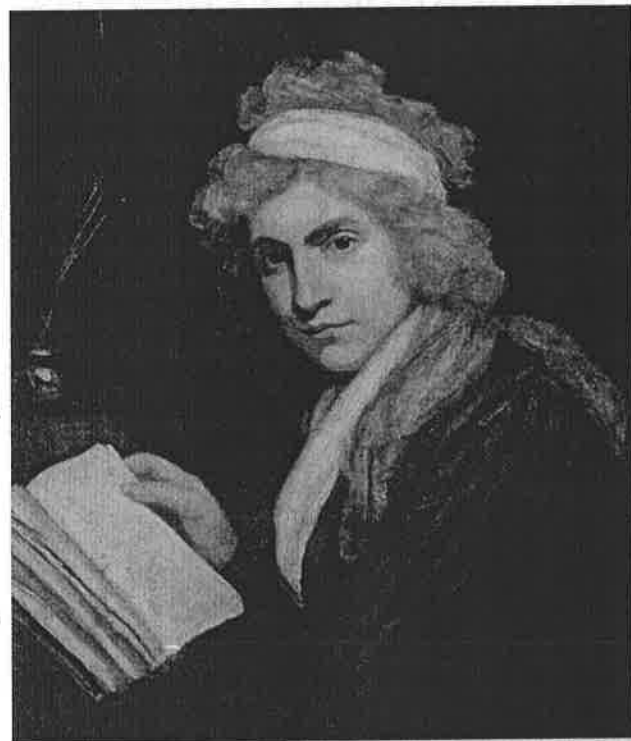
**Women and the Enlightenment** The Enlightenment slogan "free and equal" did not apply to women. Though the *philosophes* said women had natural rights, their rights were limited to the areas of home and family.

By the late 1700s, a small but growing number of women protested this view. Germaine de Staël in France and Mary Wollstonecraft in Britain argued that women were being excluded from the social contract itself. Their arguments, however, were ridiculed and often sharply condemned.

Wollstonecraft was a British writer and thinker. She accepted that a woman's first duty was to be a good mother but felt that a woman should be able to decide what was in her own interest without depending on her husband. In her book *A Vindication of the Rights of Woman*, Wollstonecraft called for equal education for girls and boys. Only education, she argued, could give women the tools they needed to participate equally with men in public life. Her ideas would influence the women's rights movement that emerged in the next century.



>> Diderot's *Encyclopedia* was a collection of articles written by famous Enlightenment thinkers. It represented the rational approach of Enlightenment thinkers.



>> Writer Mary Wollstonecraft was a passionate advocate for social and educational equality for women.

**2 IDENTIFY SUPPORTING DETAILS** What political philosophies did Jean-Jacques Rousseau set forth in *The Social Contract*?



## New Economic Ideas

French thinkers known as physiocrats focused on economic reforms. Like the *philosophes*, physiocrats based their thinking on natural laws. The physiocrats claimed that their rational economic system was based on the natural laws of economics.

**Laissez-Faire Economics** Physiocrats rejected mercantilism, which required government regulation of the economy to achieve a favorable balance of trade. Instead, they urged a policy of **laissez faire** (les ay FEHR), allowing business to operate with little or no government interference. Physiocrats supported free trade and opposed tariffs.

**Adam Smith and *The Wealth of Nations*** Scottish economist **Adam Smith** greatly admired the physiocrats. In his influential work *The Wealth of Nations*, he argued that the **free market**, the natural forces of supply and demand, should be allowed to operate and regulate business. Smith favored a **free enterprise system** in which commerce and business compete for profit with little or no government interference.

Smith tried to show how manufacturing, trade, wages, profits, and economic growth were all linked to the market forces of supply and demand. Wherever

there was a demand for goods or services, he said, suppliers would seek to meet that demand in order to gain profits.

Smith was a strong supporter of laissez faire. However, he felt that government had a duty to protect society, administer justice, and provide public works. Adam Smith's ideas about free enterprise would help to shape productive economies in the 1800s and 1900s.

**? COMPARE AND CONTRAST** How is laissez-faire policy different from mercantilism?

## Spread of Enlightenment Ideas

From France, Enlightenment ideas flowed across Europe and beyond. Everywhere, thinkers examined traditional beliefs and customs in the light of reason and found them flawed. Literate people eagerly read Diderot's *Encyclopedia* as well as small pamphlets turned out by printers that discussed a broad range of issues. More and more people came to believe that reform was necessary in order to achieve a just society.

During the Middle Ages, most Europeans had accepted without question a society based on divine-right rule, a strict class system, and a belief in heavenly reward for earthly suffering. In the Age of Reason, such ideas seemed unscientific and irrational. A just society, Enlightenment thinkers taught, should ensure social justice and happiness in this world. While many people embraced these new ideas, other groups rejected calls for change.

**Writers Confront Censorship** Most, but not all, government and church authorities felt they had a sacred duty to defend the old order. They believed that God had set up the old order.

To protect against the attacks of the Enlightenment, they waged a war of  **censorship**, or restricting access to ideas and information. They banned and burned books and imprisoned writers.

To avoid censorship, writers like Montesquieu and Voltaire sometimes disguised their ideas in works of fiction. In the *Persian Letters*, Montesquieu used two fictional Persian travelers, named Usbek and Rica, to mock French society. The hero of Voltaire's satirical novel *Candide*, published in 1759, travels across Europe and even to the Americas and the Middle East in search of "the best of all possible worlds." Voltaire slyly uses the tale to expose the corruption and hypocrisy of European society.



>> Enlightenment ideas spread through the printing of pamphlets and newspapers available to citizens.

In England, Jonathan Swift published *Gulliver's Travels* in 1726. The story uses fantasy to satirize, or make fun of, English political life.

In a famous scene, Gulliver is bound by the Lilliputians, tiny six-inch-tall characters, and is unable to move. The harder Gulliver tries to break free, the more the Lilliputians attack him. Swift uses the story to comment on the pettiness of nations and their rulers.

**Salons Spread Ideas** New literature, the arts, science, and philosophy were regular topics of discussion in **salons**, or informal social gatherings at which writers, artists, *philosophes*, and others exchanged ideas. The salon originated in the 1600s, when a group of noblewomen in Paris began inviting a few friends to their homes for poetry readings. By the 1700s, some middle-class women began holding salons. There, middle-class citizens met with nobles on an equal basis to discuss Enlightenment ideas.

Through the salons, Enlightenment ideas spread among the educated people of Europe. Madame Geoffrin (zhoh FRAN) ran one of the most respected salons. In her home on the Rue St. Honoré (roo sant ahn ur AY), she brought together the brightest and most talented people of her day.

The young musical genius Wolfgang Amadeus Mozart played for her guests, and Diderot was a regular at her weekly dinners for philosophers and poets.

**Slow Change for the Majority** At first, most Europeans were untouched by the spread of Enlightenment ideas. They remained what they had always been—peasants living in small rural villages. Echoes of serfdom still remained throughout Europe despite advances in Western Europe. Centuries-old traditions continued to shape European society, which only very slowly began to change.

By the late 1700s, ideas about equality and social justice had finally seeped into peasant villages across Europe. Some peasants welcomed ideas about equality and an end to the old order. Others did not. Upheavals in France and elsewhere quickened the pace of change. By the early 1800s, war and changing economic conditions began to transform life for people across Europe.

**2 IDENTIFY CENTRAL IDEAS** How did those opposed to Enlightenment ideas try to stop the spread of information?



>> During the Enlightenment, Madame Geoffrin's salons were popular gatherings for intellectual discussions.

## Arts and Literature of the Enlightenment

In the 1600s and 1700s, the arts evolved to meet changing tastes. As in earlier periods, artists and composers had to please their patrons, the men and women who commissioned works from them or gave them jobs.

**Changing Styles in Art and Architecture** In the age of Louis XIV, courtly art and architecture were either in the Greek and Roman tradition or in a grand, ornate style known as **baroque**. Baroque paintings were huge, colorful, and full of excitement. They glorified historic battles or the lives of saints. Such works matched the grandeur of European courts at that time.

By the mid-1700s, architects and designers developed a new style that reflected changing tastes. Unlike the heavy splendor of the baroque, **rococo** art was lighter, more personal, elegant and charming. Rococo furniture and tapestries featured delicate shells and flowers, and more pastel colors were used. Portrait painters showed noble subjects in charming rural settings, surrounded by happy servants and pets. Although this style was criticized by the *philosophes* for its superficiality, it was popular with the upper and middle classes.