

EUROPEAN HISTORY



SCIENTIFIC IDEAS 1500–1700

“**Scientific Revolution**” actually slow, uneven development in thought and approaches to the study of the universe, often following false leads or experiencing setbacks

Astronomy: Mathematical formulas developed to describe **earthly and planetary motion**; observation places the Sun rather than Earth at the center of the planets

- Ancient, medieval science (based on Greeks **Aristotle** and **Ptolemy**) placed Earth at the center of the universe
- **1543: Nicolaus Copernicus** (Polish, 1473–1543) publishes argument for **heliocentric** (sun-centered) universe, based on his own observations
- **Tycho Brahe** (Danish, 1546–1601) collects observations of planets and stars; his assistant, **Johannes Kepler** (German, 1571–1630), develops laws of planetary motion
- **Galileo Galilei** (Italian, 1564–1642) uses **telescope** to observe sun’s rotation, moon’s craters; argues that universe follows laws of mathematics

Math and physics: Discoveries of gravity, mathematical laws

- **Isaac Newton** (English, 1642–1727) argues that light can be described mathematically (1671), publishes **laws of gravity** (1687)
- Newton and **Gottfried Leibnitz** (German, 1646–1716) independently develop **calculus**, which describes motion, surface area, and change in volume via mathematical formulas

Anatomy: Andreas Vesalius (Flemish, 1514–1564) and **William Harvey** (English, 1578–1657) explore workings of the human body, including the skeletal and circulatory systems

Some scientists come into **conflict with the Catholic Church** for disagreeing with the Bible and emphasizing material world rather than the spiritual world

- **1633:** Pope prosecutes Galileo for promoting Copernican system
- However, most scientists view their work as glorifying and understanding God’s creation, not as a challenge to religion
- **Blaise Pascal** (French, 1623–1662) attempts to reconcile science with religion

Scientific reasoning: Scientists and philosophers begin to view the universe as governed by **universal laws** that can be discovered and tested using rational inquiry and experiment

- **Francis Bacon** (English, 1561–1626) uses **inductive reasoning** (gathering small pieces of information via experiments and drawing larger conclusions from them)
- **René Descartes** (French, 1596–1650) uses **deductive reasoning** (beginning with general principles such as “I think, therefore I am,” and using reason to derive knowledge from them)
- **Newton** combines experimentation with theory

Scientific knowledge spreads through letters, publications, private and public demonstrations; **Royal Society of London** becomes the most prominent scientific society

- Women prevented from participating in scientific societies and universities, yet some make scientific contributions, such as English noblewoman **Margaret Cavendish** (1623–1673)

EARLY MODERN THOUGHT & CULTURE

Reformation leads to fewer monasteries, fewer religious holidays; encourages spread of **humanist education** and reading, including **literacy for women**

Baroque style of art and architecture embraced in Catholic countries; heavily ornamented, monumental, emotional religious art

- **Baroque music** flourishes c. 1600–1750, distinguished by bass *continuo* (sustained note) and ornamentation heard in compositions of **Johann Sebastian Bach** (German, 1685–1750) and **Antonio Vivaldi** (Italian, 1678–1741)

1600s Dutch artists paint **secular scenes** of daily life, still lifes, families eating, drinking, enjoying wealth; emerging middle class can afford to buy and commission paintings

- **Rembrandt van Rijn** (Dutch, 1606–1669) paints townspeople in rich color, shadow

Mid-1700s **rococo** style features flowing curves like Baroque, but smaller-scale, less ornate

- **Jean-Antoine Watteau** (French, 1684–1721) paints elegant, smaller, secular themes

Literature: Plays and novels examine human nature and morality in changing society

- **1605: Miguel de Cervantes** (Spanish, 1547–1616) publishes first part of *Don Quixote*, a sympathetic satire of chivalry
- **William Shakespeare** (English, 1564–1616) dramatizes human nature, English history in plays including *Hamlet* and *Macbeth*
- **1667:** English Puritan **John Milton**’s *Paradise Lost* explores the sin of pride

1651: English philosopher **Thomas Hobbes**’s *Leviathan* sees humanity as naturally materialistic and selfish, argues that absolutism is necessary to prevent conflict

1690: English philosopher **John Locke**’s *Two Treatises of Government* argue that humanity is naturally peaceful, call for moderate rule, rights, liberty, and protection of property

Continued **superstition** despite new philosophies and scientific ideas; most Europeans of the period believe in demons; thousands accused of **witchcraft** are sentenced to death from 1400–1700

- Women targeted as witches due to misogyny, dependency of older single women, women’s disproportionate claims to have magical powers, suspicions against midwives
- Witch hunts end due to spread of scientific ideas, increasing fear of anarchy, decreasing fear of devil, increasing belief in human responsibility

REPUBLICAN STATES 1550–1700

In **republican states**, **legislatures** hold some power over taxation and law, but states not necessarily democratic, as legislatures may represent only nobles and wealthy

England: Despite kings’ attempts at Catholicism and absolutism, England **remains Protestant** and maintains strong **parliamentary monarchy** led by landed gentry

- **Elizabeth I** (r. 1558–1603) establishes tolerant religious settlement, increases royal bureaucracy and efficiency
 - 1588: English fleet defeats the **Spanish Armada**
- **James I** (r. 1603–1625; a.k.a. James VI of Scotland) unites rule of Scotland and England, believes in divine right of kings, alienating Puritans
- **Charles I** (r. 1625–1649) and Parliament (led by Puritan **John Pym**) quarrel over Charles I’s taxation without Parliament’s consent, his refusal to call Parliament, and centralized structure of church governance
 - **1642–1646:** **Civil war** between Charles I’s royalists (“Cavaliers”) and Parliament (“Roundheads,” favored by religious outsiders the Puritans)
 - **1649:** Victory of Parliament’s **New Model Army**, commanded by **Oliver Cromwell**, leads to Charles I’s execution
- **1653–1658:** Cromwell rules England, enforces Puritan ideals, subdues Ireland and Scotland
- **Charles II** (r. 1660–1685) given throne in **Restoration**, as English desire end to Puritan republic
- **James II** (r. 1685–1688) renews fears of Catholic, absolutist monarch
- **1688:** Peaceful **Glorious Revolution** brings moderate monarchs **William and Mary** to England, assuring Protestant rule and **Bill of Rights**
- **1707:** Union of Scotland with England and Wales creates **United Kingdom**
- 18th-century **Hanoverian** monarchs rule with Parliament, dominated by wealthy property owners, but sometimes responsive to public pressure
 - British sense of **national identity** emerges: Protestant, wealthy, loyal to monarchy, sense of rivalry with France
 - Political parties emerge: **Whigs, Tories** vie for **House of Commons** (lower house of Parliament)

Netherlands: Newly independent northern United Provinces (or Dutch Republic) thrives in 1600s; expands middle class through trade and industry, via growing global economy

- Draining and filling in of land from sea creates fertile soil for increased agricultural production
- Resists authoritarian government; maintains federalist **republic** led by wealthy families
- Slight majority of Dutch are Calvinist, but country is known for religious **toleration**

Polish-Lithuanian Commonwealth: Created by Lublin Union (1569), which unites northeastern Europe under one king; golden age of Poland

- Nobles of the **Sejm** (the parliament) have customary veto power, which weakens central authority
- Religious **toleration** as Catholics, Orthodox, Lutherans, Calvinists, Anabaptists, Jews live together
- 1648: **Ukrainian peasants revolt** against cultural, religious and economic domination of Polish-Lithuanian nobles; turmoil lasts over a decade

THE GLOBAL ECONOMY 1600–1800

Global trade brings spices, tea, sugar, cotton from Asia and Americas to Europe; England and Netherlands especially benefit, while Italian states and Spain decline

Dutch and English **shipbuilding**, large middle class, urban population contribute to economy based on trade

Commercial innovations: Banks, credit, bills of exchange, joint-stock companies (long-term investments by many) spark trade

- **Dutch East Indies Company** trades spices, tulips from Indonesian colonies; though independent of the government, it represents the government’s interests
- **British East India Company** establishes trade in India, operates its own administration and military

Slaves from central west Africa provide labor in American economies from North America to Brazil

- Millions of Africans forced to migrate across the ocean, bringing languages, culture to American colonies
- Prosperity of colonial traders, merchants, and manufacturers of consumer goods comes to depend on slavery

Mercantile system: Belief that there is a limited amount of wealth in the world and that each nation must seek a favorable trade balance; expansion only through conquest

Dutch economy declines in late 1600s due to series of wars with England and France, lack of strong leadership

Port cities and capitals expand; medieval trade and ecclesiastical centers decline

Largest European cities in 1800: London, Paris, Naples, Constantinople, Moscow

ABSOLUTISM 1550–1770

Monarchs throughout Europe establish **absolute rule** based on claims of **divine right**, personal loyalties; increase control over taxation, growing armies, religion

Smaller princes and noble aristocrats agree to absolutism to minimize warfare and gain land and local authority

Absolutist rule **limited by custom and law**; not arbitrary

France: Monarchs establish rule by divine right, though **parlements** retain the rights to register royal decrees and oversee local administration and taxation

- **Louis XIII** advisor **Richelieu** increases royal administration
- **Louis XIV**, the “Sun King” (r. 1643–1715), lives at Versailles Palace, leads France into several dynastic wars
 - **1648–1653:** Nobles revolt against royal authority in conflict called the **Fronde**
 - **1685:** Louis XIV revokes **Edict of Nantes**
- **Louis XV** (r. 1715–1774) ineffective, less popular; monarchy no longer considered sacred

Holy Roman Empire: Austria-based **Habsburg** family rules Holy Roman Empire through negotiation with Germanic princes; also rules non-Germanic Croatia, Hungary, Bohemia

- Late 17th-century territorial gains from Ottoman Empire add to multiethnic empire

Prussia: Ambitious **Hohenzollern** family turns small, disconnected German territories of Brandenburg-Prussia into strong military power with agreement of loyal landowning nobles (**Junkers**) during 17th and 18th centuries

- Hohenzollern family challenges Habsburgs for dominance over Central Europe

Russia: Develops into powerful, Orthodox, multiethnic empire

- Cruel **Ivan IV** “the Terrible” (r. 1533–1584) enlarges rule of **tsars**
- **1584–1613: Time of Troubles:** Many contenders claim throne
- **1613: Michael Romanov** selected as tsar, establishing new Romanov ruling dynasty
- **Serfdom** increases due to economic crisis, labor shortages; no representative institutions and few towns to resist
- **Peter I** “the Great” (r. 1682–1725) expands Russia; struggles against nobles (**boyars**); controls Orthodox Church; encourages service to state with **Table of Ranks**; builds new capital, **St. Petersburg**; introduces Western ideas, dress, culture

Sweden: Protestant monarchy plays important role in Thirty Years’ War, fights **Great Northern War** against Russia (1700–1721) under leadership of **Charles XII** (r. 1697–1718)

Ottoman Empire: Spans North Africa, Middle East, Balkans; ethnically, religiously diverse territories become difficult to rule

- Governed through **millet**s (recognized religious communities)
- Land belongs to **sultan**, so no hereditary nobility forms
- Sultan heads Islamic theocracy but tolerates other religions
- **1571:** Wealthy, powerful Spanish **Philip II** (r. 1556–1598) defeats Ottoman Turks at sea battle of **Lepanto**
- **1683:** King **John III Sobieski** of Poland prevents Ottoman Empire from capturing Habsburg capital, **Vienna**
- Ottoman Empire suffers long decline due to military defeats, renegotiations of rule with local elites, less vigorous industry and trade compared to Western Europe, isolation from European military and scientific advances