Chapters 17/22: European Renaissance, Reformation, and Scientific Revolution, 1300-1600

CHAPTER OVERVIEW: In the 1300s, a renewed interest in classical learning and the arts arose in Italy. Thinkers in northern Europe adopted these ideas as well, but with a spiritual focus. The desire for a more satisfying spiritual life led some to revolt against the Catholic Church, and new churches were founded. In response, the Catholic Church undertook some reforms of its own.

Section 1: Italy – Birthplace of the Renaissance

KEY IDEA: The European Renaissance, a rebirth of learning and the arts, began in Italy in the 1300s.

The years 1300 to 1600 saw a rebirth of learning and culture in Europe. Called the Renaissance, it spread north from Italy. It began there for three reasons:

- First, Italy had several important cities, whereas most of northern Europe was still rural.
- Second, these cities included a class of merchants and bankers who were becoming wealthy and powerful.
- Third, Italian artists and scholars were inspired by the ruined buildings and other reminders of classical Rome.

That new interest in the classical past led to an important value in Renaissance culture—humanism. This was a deep interest in what people have already achieved as well as what they could achieve in the future. Scholars did not try to connect classical writings to Christian teaching but tried to understand them on their own terms. Renaissance thinkers stressed a secular perspective—focusing on things of the world. In the Middle Ages, the emphasis had been mostly on spiritual values.

That way powerful or wealthy people showed this interest in worldly things was by paying artists, writers, and musicians to create beautiful works of art. Men tried to show that they could master many fields of study or work. Someone who succeeded in many fields was admired greatly (this is why we refer to a person who is capable in many fields as a “Renaissance man”). Men were expected to be charming, witty, well-educated, well-mannered, athletic, and self-controlled.

The artist Louis da Vinci was an example of this ideal. He was a painter, a scientist, and an inventor.

Michelangelo showed great skill as an architect, a sculptor, and a painter.

- Renaissance artists sometimes used new methods.
  - Sculptors made figures more realistic than those from the Middle Ages.
  - Painters used perspective to create the illusion that their paintings were three-dimensional.
- The subject of artwork changed also. Art in the Middle Ages was mostly religious, but Renaissance artists reproduced other views of life.
- Renaissance writers reached high achievements as well.
  - Several wrote in their native languages (vernacular), whereas most writing in the Middle Ages had been in Latin. Writers also changed their subject matter. They wrote to express their own thoughts and feelings or to portray in detail an individual.
  - Dante and others wrote poetry, letters, and stories that were self-expressive and more realistic.
Niccolò Machiavelli took a new approach to understanding government. In a work called *The Prince*, he focused on telling rulers how to expand their power, even if that meant taking steps that the Church might view as evil.

### Section 2: The Northern Renaissance

**KEY IDEA: In the 1400s, northern Europeans began to adopt the ideas of the Renaissance.**

By 1450, the bubonic plague had ended in northern Europe and the population was recovering. Also, the Hundred Years’ War between France and England was ending. The suffering caused by these two events was fading, and the new ideas from Italy spread to northern Europe, where they were quickly adopted. The northern Renaissance had a difference, however. While the educated people there became interested in classical learning, they were more likely to combine that with interest in religious ideas.

Major artists appeared in parts of Germany, France, Belgium, and the Netherlands. The use of oil-based paints became popular. Dürer painted religious subjects and realistic landscapes. Holbein, van Eyck, and Bruegel painted lifelike portraits and scenes of peasant life. They revealed much about the times. The new ideas of Italian art moved to the north, where artists began to use them. Painters in Flanders were deeply interested in showing life in realistic ways. They painted members of the rising merchant class and peasants, revealing much about life of the period.

Writers of the northern Renaissance combined humanism with deep Christian faith. They urged reforms in the Church and society to try to make people more devoted to God and more just.

*Thomas More* wrote a book called *Utopia* about an imaginary ideal society where greed, war, and conflict did not exist.

*William Shakespeare* is widely viewed as the greatest playwright of all time. His plays showed a brilliant command of the English language and a deep understanding of people and how they interact with one another.

One reason that learning spread so rapidly during the Renaissance was the invention of movable type. The Chinese had invented the process of carving characters onto wooden blocks. They then arranged them in words, inked the blocks, and pressed them against paper to print pages. In 1440, a German, Johann Gutenberg, adopted this practice. He produced his first book—a Bible (now called the Gutenberg Bible)—in 1455. The technology then spread rapidly. By 1500, presses in Europe had printed nearly 10 million books. Printing made it easier to make many copies of a book. As a result, written works became available far and wide.
Fewer books were printed in Latin, and more books were printed in the **vernacular** -- languages such as English, French, Spanish, Italian, or German. As a result, more people began to read the Bible on their own. Some formed ideas about Christianity that differed from those of the Church.

**Section 3: Luther Starts the Reformation**

| KEY IDEA: Martin Luther's protest over abuses in the Catholic Church led to the founding of Protestant churches. |

By 1500, Renaissance values emphasizing the individual and worldly life weakened the influence of the Church. At the same time, many people sharply criticized the Church for some of its practices:

- Popes seemed more concerned with luxury and political power than with spiritual matters.
- Critics resented the fact that they paid taxes to support the Church in Rome.
- The lower clergy had faults.
  - Many local priests lacked education and couldn’t teach people.
  - Others took actions that broke their vows as priests.

In the past, reformers had urged that the Church change its ways to become more spiritual and humble. Christian humanists such as Erasmus and More added their voices to calls for change. In the early 1500s, the calls grew louder. In 1517, a German monk and professor named **Martin Luther** protested some actions of a Church official. That person was selling what were called **indulgences**. By paying money to the Church, people thought they could win salvation. Luther challenged this practice and others. He posted a written protest on the door of a castle church which came to be called **the 95 Theses**. His words were quickly printed and began to spread throughout Germany. Thus began the Reformation, the movement for reform that led to the founding of new Christian churches.

Soon Luther pushed for broader changes.

- He said that people could win salvation only through faith, not good works.
- He said that religious beliefs should be based on the Bible alone and that the pope had no real authority.
- He said that each person was equal before God. He or she did not need a priest to explain the Bible to them.

The pope punished Luther for his views, but he refused to take them back. The Holy Roman Emperor, a strong Catholic, called Luther an outlaw. His books were to be burned. No one was to shelter him. Meanwhile, many of his ideas were being put into practice. The Lutheran Church was born around 1522. In 1524, peasants in Germany hoped to use Luther’s ideas to change society. They demanded an end to serfdom—a condition like slavery. When it was not granted, they revolted. Luther disagreed with this revolt, and the German princes killed thousands in putting the revolt down.

Some nobles supported Luther because they saw a chance to weaken the emperor’s power. While some German princes joined forces with the Holy Roman emperor against Luther, some princes protested this. War broke out between Catholics and these Protestant forces in Germany. It finally ended in 1555 with the **Peace of Augsburg**. That treaty granted each prince the right to decide whether his subjects would be Catholic or Protestant.

The Catholic Church faced another challenge to its power in England. **Henry VIII**, the king, was married to a princess of Spain. She had borne him a daughter, but he wanted a son. This could prevent a civil war erupting when he died. His wife was too old to have another child, but the pope refused to grant him a divorce. In 1534, Henry had the English Parliament pass a number of laws that took England out of the Catholic Church. The laws made the king or queen, not the pope, head of the Church of England. Henry remarried four times, gaining his only son from his third wife. One of Henry’s daughters, Elizabeth, became queen in 1558 and
completed the task of creating a separate English church. New laws gave the new religion some traits that would appeal to both Protestants and Catholics. In this way, Elizabeth hoped to end religious conflict in England. Elizabeth’s England had to face a threat from Spain, too. In 1588, King Philip II of Spain launched a huge invasion of ships to conquer England. This fleet was defeated by a combination of English fighting skill, faster ships, and a terrible storm. Though England survived, Elizabeth’s reign was marked by constant money problems.

Section 4: The Reformation Continues

**KEY IDEA:** John Calvin and other Reformation leaders began new Protestant churches. The Catholic Church also made reforms.

Protestantism arose elsewhere in the 1530s under the leadership of John Calvin. Calvin wrote an important book that gave structure to Protestant beliefs. He taught that people are sinful by nature and only those God chooses—“the elect”—will be saved. He said that God knew from the beginning which people would be saved and which would not. Calvin created a government run by religious leaders (a *theocracy*) in a city in Switzerland. The city had strict rules of behavior that urged people to live deeply religious lives. Anyone who preached different religious ideas might be burned at the stake. Others in Switzerland, Holland, and France adopted Calvin’s ideas as well. In France, his followers were called Huguenots. Conflict between them and Catholics often turned to violence. In 1572, mobs killed about 12,000 Huguenots. Another Protestant church that arose was the Anabaptists. They preached that people should be baptized into the faith as adults. They influenced some later groups. Protestant churches grew, but millions remained true to the Catholic faith.

Still, the Catholic Church took steps to reform itself. A Spanish noble named Ignatius founded a new group in the Church based on deep devotion to Jesus – the Jesuits. Members started schools across Europe. They tried to convert people to Catholicism who were not Christians. In addition, they tried to stop the spread of Protestant faiths in Europe.

Two popes of the 1500s helped bring about changes in the Church.

- **Paul III** took several steps, including calling a great council of church leaders at Trent, in northern Italy. The *Council of Trent*, which met in 1545, passed these doctrines:
  - the Church’s interpretation of the Bible was final
  - Christians needed good works as well as faith to win salvation
  - the Bible and the Church had equal authority in setting out Christian beliefs
  - indulgences could be sold.

Paul also put in action a kind of court called the *Inquisition*. It was charged with finding, trying, and punishing people who broke the rules of the Church.

- His successor, **Paul IV**, put these policies into practice. These actions helped revive the Church and allowed it to survive the challenge of the Protestants.

Section 5: The Scientific Revolution

**KEY IDEA:** In the mid-1500s, scientists began to question accepted beliefs and make new theories based on experimentation.

During the Middle Ages, few scholars questioned ideas that had always been accepted. Europeans based ideas about the physical world on what ancient Greeks and Romans believed or what was said in the Bible. Therefore, people still thought that the earth was the center of the universe. To them, the sun, moon, other planets, and stars moved around it. In the mid-1500s, however, attitudes changed. Scholars now started a scientific revolution drawn from a spirit of curiosity.

- One factor was the new focus on careful observation.
- Another was the willingness to question old beliefs.
- European explorations were a third factor. When they reached new lands, Europeans saw new plants and animals never seen by ancient writers. These discoveries led to the opening of new courses of study in universities.
The first challenge came in astronomy. In the early 1500s, Nicolaus Copernicus studied the stars and planets for many years. He concluded that the earth, like the other planets, revolved around the sun (the heliocentric theory), and the moon revolved around the earth. Fearing attack, he did not publish his findings until just before his death.

In the early 1600s, Johannes Kepler used mathematics to confirm Copernicus’s basic idea.

An Italian scientist—Galileo Galilei—made several discoveries that undercut ancient ideas. He made one of the first telescopes and used it to study the planets. He found that Jupiter had moons, the sun had spots, and Earth’s moon was rough (it was previously believed to be perfectly round and smooth). These statements went against church teaching, and Galileo was forced to deny their truth. Still, his ideas spread.

Interest in science led to a new approach, the scientific method. With this method, scientists ask a question based on something they have seen in the physical world. They form a hypothesis, or an attempt to answer the question. Then they test the hypothesis by making experiments or checking other facts. Finally, they change the hypothesis if needed.

The English writer Francis Bacon helped foster this new approach to knowledge by telling scientists they should base their ideas on what they can see and test in the world.

The French mathematician René Descartes also had great influence. His thinking was based on logic and mathematics.

In the mid-1600s, the English scientist Isaac Newton described the law of gravity. Using mathematics, Newton showed that the same force ruled the motion of planets and the action of bodies on the earth.

- Scientists made new tools to study the world around them.
  - One invented a microscope to study creatures too small for the naked eye to see.
  - Others invented tools for understanding weather.
- Doctors also made advances.
  - One made drawings that showed the different parts of the human body.
  - Another learned how the heart pumped blood through the body.
- In the late 1700s, Edward Jenner first used the process called vaccination to prevent disease. By giving a person the germs from a cattle disease called cowpox, he helped that person avoid getting the more serious human disease of smallpox.
- Scientists made advances in chemistry as well. One challenged the old idea that things were made of only four elements—earth, air, fire, and water. He and other scientists were able to separate oxygen from air.
The Scientific Method