

"Scholasticism"

McKay 1/2

northern Europe (see Map 11.4). In the fourteenth century, the Hanseatics branched out into southern Germany and Italy by land and into French, Spanish, and Portuguese ports by sea.

Across regular, well-defined trade routes along the Baltic and North Seas, the ships of league cities carried furs, wax, copper, fish, grain, timber, and wine. These goods were exchanged for finished products, mainly cloth and salt, from western cities. At cities such as Bruges and London, Hanseatic merchants secured special trading concessions exempting them from all tolls and allowing them to trade at local fairs. Hanseatic merchants established foreign trading centers, called "factories," the most famous of which was the London Steelyard, a walled community with warehouses, offices, a church, and residential quarters for company representatives.<sup>22</sup>

By the late thirteenth century, Hanseatic merchants had developed an important business technique, the business register. Merchants publicly recorded their debts and contracts and received a league guarantee for them. This device proved a decisive factor in the later development of credit and commerce in northern Europe.<sup>23</sup> These activities required capital, risk taking, and aggressive pursuit of opportunities—the essential ingredients of capitalism. They also yielded fat profits.

These developments added up to what one modern scholar has called "a commercial revolution, . . . probably the greatest turning point in the history of our civilization."<sup>24</sup> In the long run, the commercial revolution of the High Middle Ages brought about radical change in European society. One remarkable aspect of this change is that the commercial classes constituted a small part of the total population—never more than 10 percent. They exercised an influence far in excess of their numbers.

The commercial revolution created a great deal of new wealth. Wealth meant a higher standard of living. Contact with Eastern civilizations introduced Europeans to eating utensils, and table manners improved. Nobles learned to eat with forks and knives, instead of tearing the meat from a roast with their hands. They began to use napkins, instead of wiping their greasy fingers on the dogs lying under the table.

The existence of wealth did not escape the attention of kings and other rulers. Wealth could be taxed, and through taxation kings could create strong and centralized states. In the years to come, alliances with the middle classes were to enable kings to defeat feudal powers and aristocratic interests and to build the states that came to be called "modern."

The commercial revolution also provided the opportunity for thousands of serfs to improve their social position.

The slow but steady transformation of European society from almost completely rural and isolated to relatively more sophisticated constituted the greatest effect of the commercial revolution that began in the eleventh century.

Even so, merchants and business people did not run medieval communities, except in central and northern Italy and in the county of Flanders. Most towns remained small. The castle, the manorial village, and the monastery dominated the landscape. The feudal nobility and churchmen determined the preponderant social attitudes, values, and patterns of thought and behavior. The commercial changes of the eleventh through thirteenth centuries did, however, lay the economic foundations for the development of urban life and culture.

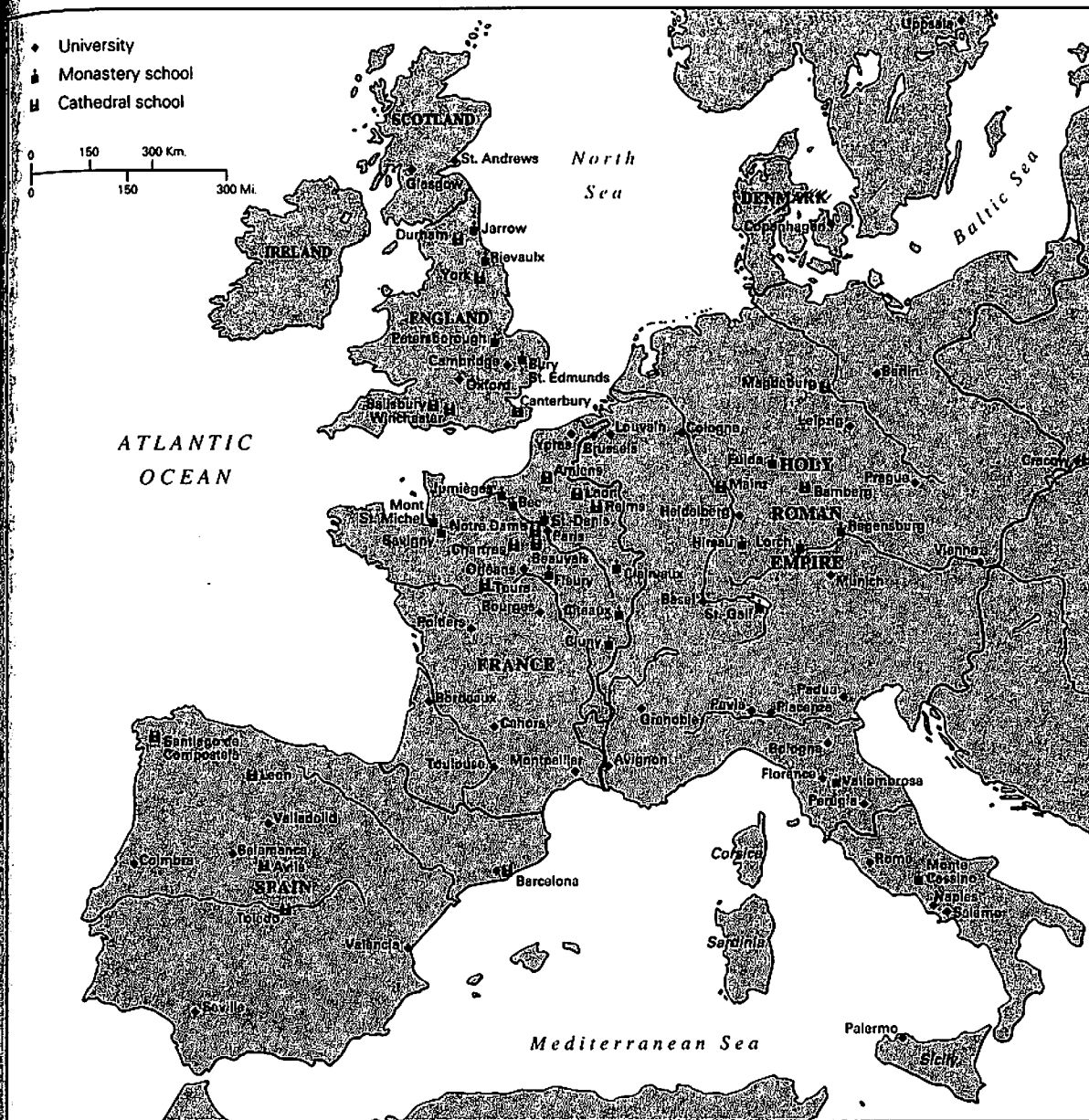
## Medieval Universities

Just as the first strong secular states emerged in the thirteenth century, so did the first universities. This was no coincidence. The new bureaucratic states and the church needed educated administrators, and universities were a response to this need. The word *university* derives from the Latin *universitas*, meaning "corporation" or "guild." Medieval universities were educational guilds that produced educated and trained individuals. They were also an expression of the tremendous vitality and creativity of the High Middle Ages. Their organization, methods of instruction, and goals continue to influence institutionalized learning in the Western world.

### Origins

In the early Middle Ages, outside of the aristocratic court or the monastery, anyone who received education got it from a priest. Priests instructed the clever boys on the manor in the Latin words of the Mass and taught them the rudiments of reading and writing. Few boys acquired elementary literacy, however, and peasant girls did not obtain even that. The peasant who wished to send his son to school had to secure the permission of his lord, because the result of formal schooling tended to be a career in the church or some trade. If a young man were to pursue either, he would have to leave the manor and gain free status. Because the lord stood to lose the services of educated peasants, he limited the number of serfs sent to school.

Since the time of the Carolingian Empire, monasteries and cathedral schools had offered the only formal instruction. The monasteries were geared to religious concerns, and the monastic curriculum consisted of studying



**MAP 11.5 Intellectual Centers of Medieval Europe** Universities obviously provided more sophisticated instruction than did monastery and cathedral schools. What other factors distinguished the three kinds of intellectual centers?

the Scriptures and the writings of the church fathers. Monasteries wished to maintain an atmosphere of seclusion and silence and were unwilling to accept large numbers of noisy lay students. In contrast, schools attached to cathedrals and run by the bishop and his clergy were frequently situated in bustling cities, and in the eleventh century in Italian cities like Bologna, wealthy business-

men had established municipal schools. In the course of the twelfth century, cathedral schools in France and municipal schools in Italy developed into universities (see Map 11.5). "The term *studium generale* ('general centre of study'), eventually the most common medieval designation of a university, probably indicated the capacity of certain centres to attract students from beyond their

immediate area." Members of the *studium generale* (university) formed professional associations for the protection of their members, the most typical examples being the students university at Bologna and the masters university at Paris.<sup>25</sup>

The school at Chartres in France became famous for its studies of the Latin classics and for the broad literary interests it fostered in its students. But Chartres, situated in the center of rich farmland, remote from the currents of commercial traffic and intellectual ideas, did not develop into a university. The first European universities appeared in Italy, at Bologna and Salerno.

The growth of the University of Bologna coincided with a revival of interest in Roman law during the investiture controversy. The study of Roman law as embodied in the *Justinian Code* had never completely died out in the West, but this sudden burst of interest seems to have been inspired by Irnerius (d. 1125), a great teacher at Bologna. His fame attracted students from all over Europe. Irnerius not only explained the Roman law of the *Justinian Code*, he applied it to difficult practical situations.

At Salerno interest in medicine had persisted for centuries. Greek and Muslim physicians there had studied the use of herbs as cures and experimented with surgery. The twelfth century ushered in a new interest in Greek medical texts and in the work of Arab and Greek doctors. Students of medicine poured into Salerno and soon attracted royal attention. In 1140, when King Roger II of Sicily took the practice of medicine under royal control, his ordinance stated:

*Who, from now on, wishes to practice medicine, has to present himself before our officials and examiners, in order to pass their judgment. Should he be bold enough to disregard this, he will be punished by imprisonment and confiscation of his entire property. In this way we are taking care that our subjects are not endangered by the inexperience of the physicians.*<sup>26</sup>

In the first decades of the twelfth century, students converged on Paris. They crowded into the cathedral school of Notre Dame and spilled over into the area later called the "Latin Quarter"—whose name probably reflects the Italian origin of many of the students attracted to Paris by the surge of interest in the classics, logic, and theology. The cathedral school's international reputation had already drawn to Paris scholars from all over Europe, one of whom was Peter Abelard.

The son of a minor Breton knight, Peter Abelard (1079–1142) studied in Paris, quickly absorbed a large amount of material, and set himself up as a teacher. Abelard was fascinated by logic, which he believed could be used to solve most problems. He had a brilliant mind

and, though orthodox in his philosophical teaching, appeared to challenge ecclesiastical authorities. His book *Sic et Non* (Yes and No) was a list of apparently contradictory propositions drawn from the Bible and the writings of the church fathers. One such proposition, for example, stated that sin is pleasing to God and is not pleasing to God. Abelard used a method of systematic doubting in his writing and teaching. As he put it in the preface to *Sic et Non*, "By doubting we come to questioning, and by questioning we perceive the truth." While other scholars merely asserted theological principles, Abelard discussed and analyzed them. Through reasoning he even tried to describe the attributes of the three persons of the Trinity, the central mystery of the Christian faith. Abelard was severely censured by a church council, but his cleverness, boldness, and imagination made him a highly popular figure among students.

The influx of students eager for learning, together with dedicated and imaginative teachers, created the atmosphere in which universities grew. In northern Europe—at Paris and later at Oxford and Cambridge in England—associations or guilds of professors organized universities. They established the curriculum, set the length of time for study, and determined the form and content of examinations.

### Instruction and Curriculum

University faculties grouped themselves according to academic disciplines—law, medicine, arts, and theology. The professors (a term first used in the fourteenth century) were known as "schoolmen" or *Scholastics*; they developed a method of thinking, reasoning, and writing in which questions were raised and authorities cited on both sides of the question. The goal of the Scholastic method was to arrive at definitive answers and to provide a rational explanation for what was believed on faith. Schoolmen held that reason and faith constituted two harmonious realms whose truths complemented each other.

The Scholastic approach rested on the recovery of classical philosophical texts. Ancient Greek and Arabic texts had entered Europe in the early twelfth century. Knowledge of Aristotle and other Greek philosophers came to Paris and Oxford by way of Islamic intellectual centers at Baghdad, Córdoba, and Toledo. But these Aristotelian texts, forming the basis of Western philosophical and theological speculation, were not the only Islamic gifts. The major contribution of Arabic culture to the new currents of Western thought rested in the stimulus Arabic philosophers and commentators gave to Europeans' reflection on the Greek texts. For example, in Islam a

strong tension exists between faith and reason. Western scholars' understanding of Aristotle's philosophy was closely tied to their discovery of Arabic thought. The tension between reason and faith became a fundamental theme in Christian thought.<sup>27</sup>

Aristotle had stressed the importance of the direct observance of nature, as well as the principles that theory must follow fact and that knowledge of a thing requires an explanation of its causes. The schoolmen reinterpreted Aristotelian texts in a Christian sense. But in their exploration of the natural world, they did not precisely follow Aristotle's axioms. Medieval scientists argued from authority, such as the Bible, the Justinian *Code*, or an ancient scientific treatise, rather than from direct observation and experimentation, as modern scientists do. Thus the conclusions of medieval scientists were often

wrong. Nevertheless, natural science gradually emerged as a discipline distinct from philosophy, and Scholastics laid the foundations for later scientific work.

Many of the problems that Scholastic philosophers raised dealt with theological issues. For example, they addressed the question that interested all Christians, educated and uneducated: how is a person saved? Saint Augustine's thesis—that, as a result of Adam's fall, human beings have a propensity to sin—had become a central feature of church doctrine. The church taught that it possessed the means to forgive the sinful: grace conveyed through the sacraments. However, although grace provided a predisposition to salvation, the Scholastics held that one must also *decide* to use the grace received. In other words, a person must use his or her reason to advance to God.

**Students at Lecture** This beautifully carved marble sculpture, with the fluid drapery characteristic of the late Gothic style, conveys the students' curiosity and intellectual intensity; however, the profusion of books and (especially) the presence of the woman (*bottom, center*) makes us wonder if the artist actually witnessed such a scene. Universities generally did not admit women until the late nineteenth century. (*Museo Civico, Bologna/Scala/Art Resource, NY*)



Thirteenth-century Scholastics devoted an enormous amount of time to collecting and organizing knowledge on all topics. These collections were published as *summa*, or reference books. There were *summa* on law, philosophy, vegetation, animal life, and theology. Saint Thomas Aquinas (1225–1274), a professor at Paris, produced the most famous collection, the *Summa Theologica*, which deals with a vast number of theological questions.

Aquinas drew an important distinction between faith and reason. He maintained that, although reason can demonstrate many basic Christian principles such as the existence of God, other fundamental teachings such as the Trinity and original sin cannot be proved by logic. That reason cannot establish them does not, however, mean they are contrary to reason. Rather, people understand such doctrines through revelation embodied in Scripture. Scripture cannot contradict reason, nor reason Scripture:

*The light of faith that is freely infused into us does not destroy the light of natural knowledge [reason] implanted in us naturally. For although the natural light of the human mind is insufficient to show us these things made manifest by faith, it is nevertheless impossible that these things which the divine principle gives us by faith are contrary to those implanted in us by nature [reason]. Indeed, were that the case, one or the other would have to be false, and, since both are given to us by God, God would have to be the author of untruth, which is impossible. . . . [I]t is impossible that those things which are of philosophy can be contrary to those things which are of faith.<sup>28</sup>*

Aquinas also investigated the branch of philosophy called *epistemology*, which is concerned with how a person knows something. Aquinas stated that one knows, first, through sensory perception of the physical world—seeing, hearing, touching, and so on. He maintained that there can be nothing in the mind that is not first in the senses. Second, knowledge comes through reason, the mind exercising its natural abilities. Aquinas stressed the power of human reason to know, even to know God. Proofs of the existence of God exemplify the Scholastic method of knowing.

Aquinas began with the things of the natural world—earth, air, trees, water, birds. Then he inquired about their original source or cause: the mover, creator, planner who started it all. Everything, Aquinas maintained, has an ultimate and essential explanation, a reason for existing. Here he was following Aristotle. Aquinas went further and identified this reason for existing, or first mover, with God. Aquinas and all medieval intellectuals held that the end of faith and reason was the knowledge of,

and union with, God. His work later became the fundamental text of Roman Catholic doctrine.

At all universities, the standard method of teaching was the *lecture*—that is, a reading. The professor read a passage from the Bible, the Justinian *Code*, or one of Aristotle's treatises. He then explained and interpreted the passage; his interpretation was called a *gloss*. Texts and glosses were sometimes collected and reproduced as textbooks. For example, the Italian Peter Lombard (d. 1160), a professor at Paris, wrote what became the standard textbook in theology, *Sententiae* (The Sentences), a compilation of basic theological principles.

Because books had to be copied by hand, they were extremely expensive, and few students could afford them. Students therefore depended for study on their own or friends' notes accumulated over a period of years. The choice of subjects was narrow. The syllabus at all universities consisted of a core of ancient texts that all students studied and, if they wanted to get ahead, mastered.

Examinations were given after three, four, or five years of study, when the student applied for a degree. The professors determined the amount of material students had to know for each degree, and students frequently insisted that the professors specify precisely what that material was. When the candidate for a degree believed himself prepared, he presented himself to a committee of professors for examination.

Examinations were oral and very difficult. If the candidate passed, he was awarded the first, or bachelor's, degree. Further study, about as long, arduous, and expensive as it is today, enabled the graduate to try for the master's and doctor's degrees. All degrees certified competence in a given subject, and degrees were technically licenses to teach. Most students, however, did not become teachers. They staffed the expanding royal and papal administrations.

## 9 Gothic Art

Medieval churches stand as the most spectacular manifestations of medieval vitality and creativity. It is difficult for people today to appreciate the extraordinary amounts of energy, imagination, and money involved in building them. Between 1180 and 1270 in France alone, eighty cathedrals, about five hundred abbey churches, and tens of thousands of parish churches were constructed. This construction represents a remarkable investment for a country of scarcely 18 million people. More stone was quarried for churches in medieval France than had been mined in ancient Egypt, where the Great Pyramid alone

consumed 40.5 million cubic feet of stone. All these churches displayed a new architectural style, which actually preceded the modern term for it. The Italian Renaissance art historian Giorgio Vasari (1511–1574) first applied the term Gothic to the architectural and artistic style that prevailed in Europe (particularly northern Europe) from the mid-twelfth to the sixteenth century. Vasari and other Renaissance artists used *Gothic* as a word of abuse: they condemned medieval architecture as barbaric, implying, wrongly, that it was the style of the Gothic tribes who had destroyed the classical architecture of the Roman Empire. In fact, the Gothic style developed partly in reaction to the earlier Romanesque style, which resembled ancient Roman architecture. (See the feature “Images in Society: From Romanesque to Gothic” on pages 362–363.)

Gothic cathedrals were built in towns and reflect both bourgeois wealth and enormous civic pride. The manner in which a society spends its wealth expresses its values. Cathedrals, abbeys, and village churches testify to the deep religious faith and piety of medieval people. If the dominant aspect of medieval culture had not been the Christian faith, the builder’s imagination and the merchant’s money would have been used in other ways.

### From Romanesque Gloom to “Uninterrupted Light”

The relative political stability and increase of ecclesiastical wealth in the eleventh century encouraged the arts of peace. In the ninth and tenth centuries, the Vikings and Magyars had burned hundreds of wooden churches. In the eleventh century, the abbots wanted to rebuild in a more permanent fashion, and after the year 1000, church building increased on a wide scale. Because fireproofing was essential, builders replaced wooden roofs with arched stone ceilings called “vaults.” The stone ceilings were heavy; only thick walls could support them. Because the walls were so thick, the windows were small, allowing little light into the interior of the church. The basic features of such Romanesque architecture are stone vaults in the ceiling, a rounded arch over the nave (the central part of the church), and thick, heavy walls. In northern Europe, twin bell towers often crowned Romanesque churches, giving them a powerful, fortresslike appearance. Built primarily by monasteries, Romanesque churches reflect the quasi-military, aristocratic, and pre-urban society that built them.

The inspiration for the Gothic style originated in the brain of one monk, Suger, abbot of Saint-Denis (1122–1151). When Suger became abbot, he decided to recon-

struct the old Carolingian abbey church at Saint-Denis. Work began in 1137. On June 11, 1144, King Louis VII and a large crowd of bishops, dignitaries, and common people witnessed the solemn consecration of the first Gothic church in France.

The basic features of Gothic architecture—the pointed arch, the ribbed vault, and the flying buttress—were not unknown before 1137. What was without precedent was the interior lightness they made possible. Since the ceiling of a Gothic church weighed less than that of a Romanesque church, the walls could be thinner. Stained-glass windows were cut into the stone, flooding the church with light. The bright interior was astounding. Suger, describing his achievement, exulted:

*Moreover, it was cunningly provided that . . . the central nave of the old nave should be equalized, by means of geometrical and arithmetical instruments, with the central nave of the new addition; and, likewise, that the dimensions of the old side-aisles should be equalized with the new dimensions of the new side-aisles, except for that elegant and praiseworthy extension, in [the form of] a circular string of chapels, by virtue of which the whole [church] would shine with the wonderful and uninterrupted light of most sacred windows, pervading the interior beauty.<sup>29</sup>*

Begun in the Île-de-France, Gothic architecture spread throughout France with the expansion of royal power. From France the new style spread to England, Germany, and Italy. In those countries, the Gothic style competed with strong indigenous architectural traditions and thus underwent transformations that changed it to fit local usage. French master masons were soon invited to design and supervise the construction of churches in other parts of Europe. For example, William of Sens was commissioned to rebuild Canterbury Cathedral after a disastrous fire in 1174. The distinguished scholar John of Salisbury was then in Canterbury and observed William’s work. After John became bishop of Chartres, he wanted William of Sens to assist in the renovation of Chartres Cathedral. Through such contacts the new style traveled rapidly over Europe.

### The Creative Outburst

The construction of a Gothic cathedral represented a gigantic investment of time, money, and corporate effort. It was the bishop and the clergy of the cathedral who made the decision to build, but they depended on the support of all the social classes. Bishops raised revenue from contributions by people in their dioceses, and the clergy appealed to the king and the nobility. Since Suger

### Germany After the Thirty Years' War

The Thirty Years' War was a disaster for the German economy and society, probably the most destructive event in German history before the twentieth century. Perhaps one-third of the urban residents and two-fifths of the inhabitants of rural areas died. Entire areas of Germany were depopulated, partly by military actions, partly by disease—typhus, dysentery, bubonic plague, and syphilis accompanied the movements of armies—and partly by the thousands of refugees who fled to safer areas.

In the late sixteenth and early seventeenth centuries, all Europe experienced an economic crisis, primarily caused by the influx of silver from South America. Because the Thirty Years' War was fought on German soil, these economic difficulties were badly aggravated in the empire. Scholars still cannot estimate the value of losses in agricultural land and livestock, in trade and commerce. The trade of southern cities such as Augsburg, already hard hit by the shift in transportation routes from the Mediterranean to the Atlantic, was virtually destroyed by the fighting in the south. Meanwhile, towns such as Lübeck, Hamburg, and Bremen in the north and Essen in the Ruhr area actually prospered because of the many refugees they attracted. The destruction of land and food stuffs, compounded by the flood of Spanish silver, brought on a severe price rise. During and after the war, inflation was worse in Germany than anywhere else in Europe.

Agricultural areas suffered catastrophically. The population decline caused a rise in the value of labor, and owners of great estates had to pay more for agricultural workers. Farmers who needed only small amounts of capital to restore their lands started over again. Many small farmers, however, lacked the revenue to rework their holdings and had to become day laborers. Nobles and landlords brought up many small holdings and acquired great estates. In some parts of Germany, especially east of the Elbe River in areas such as Mecklenburg and Pomerania, peasants' loss of land led to the rise of a new serfdom.<sup>7</sup> Thus the Thirty Years' War contributed to the legal and economic decline of the largest segment of German society.

### Discovery, Reconnaissance, and Expansion

Historians have variously called the period from 1450 to 1650 the "Age of Discovery," the "Age of Reconnaissance," and the "Age of Expansion." All three labels are appropriate. The Age of Discovery refers to the era's phenomenal advances in geographical knowledge and

technology. In 1350 it took as long to sail from the eastern end of the Mediterranean to the western end as it had taken a thousand years earlier. Even in the fifteenth century, Europeans knew little more about the earth's surface than the Romans had. By 1650, however, Europeans had made an extensive reconnaissance—or preliminary exploration—and had sketched fairly accurately the physical outline of the whole earth. Much of the geographical information they had gathered was tentative and not fully understood—hence the appropriateness of the term the Age of Reconnaissance.

The designation of the era as the Age of Expansion refers to the migration of Europeans to other parts of the world. This colonization resulted in political control of much of South and North America; coastal regions of Africa, India, China, and Japan; and many Pacific islands. This political hegemony was accompanied by economic exploitation, religious domination, and the introduction of European patterns of social and intellectual life. Indeed, the sixteenth-century expansion of European society launched a new age in world history.

### Overseas Exploration and Conquest

The outward expansion of Europe began with the Viking voyages across the Atlantic in the ninth and tenth centuries. Under Eric the Red and Leif Erikson, the Vikings discovered Greenland and the eastern coast of North America. The Vikings also made permanent settlements in, and a legal imprint on, Iceland, Ireland, England, Normandy, and Sicily (see pages 255–259). The Crusades of the eleventh through thirteenth centuries were another phase in Europe's attempt to explore and exploit peoples on the periphery of the continent. But the lack of a strong territorial base, superior Muslim military strength, and sheer numeric combined to make the Crusade kingdoms short-lived. In the mid-fifteenth century, Europe seemed ill prepared for further international ventures, and by 1450 a grave new threat had appeared in the East—the Ottoman Turks.

Combining excellent military strategy with efficient administration of their conquered territories, the Turks had subdued most of Asia Minor and begun to settle on the western side of the Bosphorus. The Muslim Ottoman Turks under Sultan Mohammed II (c. 1451–1481) captured Constantinople in 1453, pressed northwest into the Balkans, and by the early sixteenth century controlled the eastern Mediterranean. The Turkish menace badly frightened Europeans. In France in the fifteenth and sixteenth centuries, twice as many books were printed about the Turkish threat as about the American discoveries. Yet

McKean 2/2 "Exploration"



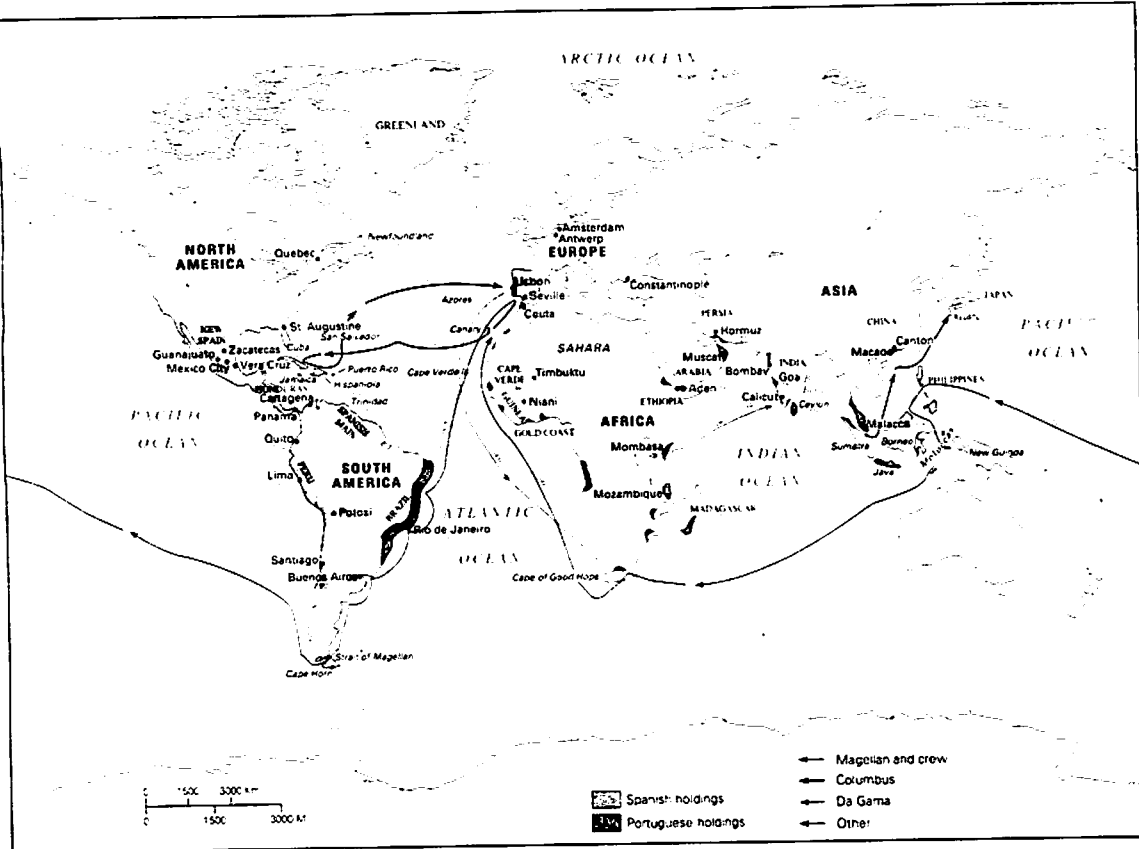
**Carta Marina, 1375.** Abraham Cresques and his son Jehuda, Jews living in Palma on the island of Mallorca (at the time, almost all the best mapmakers were Jewish), produced this atlas for Peter IV of Aragon. Consulting Marco Polo's manuscripts and interviewing Arabic seamen and European travelers, the Cresques aimed to produce a world map showing the various peoples inhabiting it. The atlas consists of twelve leaves mounted on boards to be folded like a screen. Printed by modern standards, the atlas was at the time a masterpiece of empirical evidence. (*Istituto Geografico Antonio Piave*)

these centuries witnessed a fantastic continuation, on a global scale, of European expansion.

Political centralization in Spain, France, and England helps explain those countries' outward push. In the fifteenth century, Isabella and Ferdinand had consolidated their several kingdoms to achieve a more united Spain. The Catholic rulers recaptured the Spanish bureaucracy and humbled the Muslims and the Jews. The Spanish monarchy was stronger than before and in a position to support foreign ventures; it could bear the costs and dangers of exploration. But Portugal, situated on the extreme southwestern edge of the European continent, got a head start on the rest of Europe. Still insignificant as a European land power despite its recently secured frontiers, Portugal sought greatness in the unknown world overseas.

Portugal's taking of Ceuta, an Arab city in northern Morocco, in 1415 marked the beginning of European exploration and control of overseas territory. The objectives of Portuguese policy included the historic Iberian crusade to Christianize Muslims and to find gold, an overseas route to the spice markets of India, and the mythical Christian ruler of Ethiopia, Prester John.

In the early phases of Portuguese exploration, Prince Henry (1394–1460), called "the Navigator" because of the school he established for the study of geography and navigation and for the annual expeditions he sent down the western coast of Africa, played the leading role. In the fifteenth century, most of the gold that reached Europe came from the Sudan in West Africa and from the Akan peoples living near the area of present-day Ghana.



**MAP 15.3 Overseas Exploration and Conquest, Fifteenth and Sixteenth Centuries** The voyages of discovery marked another phase in the centuries-old migrations of European peoples. Consider the major contemporary significance of each of the three voyages depicted on the map.

Muslim caravans brought the gold from the African cities of Niamey and Timbuktu and carried it north across the Sahara to Mediterranean ports. Then the Portuguese expeditions planned by Prince Henry's expedition succeeded in reaching the west coast of Africa and under King John II (r. 1481–1495) the Portuguese established trading posts and forts on the Guinea coast and penetrated into the continent all the way to Timbuktu (see Map 15.3). Portuguese ships transported gold to Lisbon, and by 1500 Portugal controlled the flow of gold to Europe. The golden century of Portuguese prosperity had begun.

Still the Portuguese pushed farther south down the west coast of Africa. In 1487 Bartholomew Diaz rounded the Cape of Good Hope at the southern tip, but storms and a threatened mutiny forced him to turn back. On a later expedition (1497–1499), the Portuguese navigator Vasco da Gama reached India and returned to Lisbon loaded with spices and samples of Indian cloth. King Manuel (r. 1495–1521) promptly dispatched thirteen ships under the command of Pedro Álvares Cabral, assisted by Diaz, to set up trading posts in India. On April 22, 1500, the coast of Brazil in South America was sighted and claimed for the Crown of Portugal. Cabral then proceeded south and east around the Cape of Good Hope and reached India. Half the fleet was lost on the return voyage, but the six spice-laden vessels that dropped anchor in Lisbon harbor in July 1501 more than paid for the entire expedition. Thereafter, convoys were sent out every March. Lisbon became the entrepôt port for Asian goods into Europe—but this was not accomplished without a fight.

For centuries the Muslims had controlled the rich spice trade of the Indian Ocean, and they did not surrender it willingly. Portuguese commercial activities were accompanied by the destruction or seizure of strategic Muslim coastal forts, which later served Portugal as both trading posts and military bases. Alfonso de Albuquerque, whom the Portuguese crown appointed as governor of India (1509–1515), decided that these bases, not inland territories, should control the Indian Ocean. Accordingly, his cannon blasted open the ports of Calicut, Ormuz, Goa, and Malacca, the vital centers of Arabian, Chinese, and Malacca trade. This bombardment laid the foundation for Portuguese imperialism in the sixteenth and seventeenth centuries: a strategy way to bring Christianity to “those who were in darkness.” As one scholar wrote about the opening of China to the West, “while Buddha came to China on white elephants, Christ was borne on cannon balls.”

In March 1493, between the voyages of Diaz and da Gama, Spanish ships under a triumphant Genoese mariner

named Christopher Columbus (1451–1506), in the service of the Spanish crown, entered Lisbon harbor. Spain also had begun the quest for an empire.

#### Technological Stimuli to Exploration

Technological developments were the key to Europe's remarkable outreach. By 1500 cannon—iron or bronze guns that fired iron or stone balls—had been fully developed in western Europe. These pieces of artillery emitted frightening noises and great flashes of fire and could batter down fortresses, and even city walls. Sultan Mohammed II's siege of Constantinople in 1453 provides a classic illustration of the effectiveness of cannon fire.

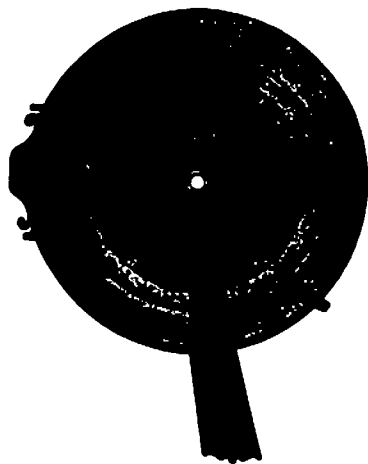
Constantinople had very strong walled fortifications. The sultan secured the services of a Western technician, who built fifty-six small cannon and a gigantic gun that could hurl stone balls weighing about eight hundred pounds. The gun could be moved only by several hundred oxen and loaded and fired only by about a hundred men working together. This awkward but powerful weapon breached the walls of Constantinople, which cracked on the second day of the bombardment. Lesser cannon finished the job.

Early cannon posed serious technical difficulties. Iron cannon were cheaper than bronze to construct, but they were difficult to cast effectively and were liable to crack and injure artillerymen. Bronze guns, made of copper and tin, were less subject than iron to corrosion, but they were very expensive. All cannon were extraordinarily difficult to move, required considerable time for reloading, and were highly inaccurate. They thus proved inefficient for land warfare. However, they could be used at sea.

The mounting of cannon on ships and improved techniques of shipbuilding gave impetus to European expansion. Since ancient times, most seagoing vessels had been narrow, open boats called *galley*s, propelled largely by manpower. Slaves or convicts who had been sentenced to the galleys manned the oars of the ships that sailed the Mediterranean, and both cargo ships and warships carried soldiers for defense. Though well suited to the placid and thoroughly explored waters of the Mediterranean, galleys could not withstand the rough winds and uncharted shoals of the Atlantic. The need for sturdier craft, as well as population losses caused by the Black Death, forced the development of a new style of ship that would not require soldiers for defense or much manpower to sail.

In the course of the fifteenth century, the Portuguese developed the *caravel*, a small, high, three-masted sailing ship. Though somewhat slower than the galley, the caravel held more cargo and was highly maneuverable. When





**Portable Sundial** An instrument for determining the hour of night at sea by tracking the progress of certain stars around the polestar (center aperture). *Abraham Ortelius, Monnum, Tondus*

fired with cannon, it could dominate larger vessels, such as the round ships commonly used as merchantmen. The substitution of wind power for manpower and artillery fire for soldiers signaled a great technological advance and gave Europeans navigational and fighting ascendancy over the rest of the world.<sup>15</sup>

Other fifteenth-century developments in navigation helped make possible the conquest of the Atlantic. The magnetic compass enabled sailors to determine their direction and position at sea. The astrolabe, an instrument developed by Muslim navigators in the twelfth century and used to determine the altitude of the sun and other celestial bodies, permitted mariners to plot their latitude or position north or south of the equator. Steadily improved maps and sea charts gave information about distance, sea depths, and general geographic

### The Explorers' Motives

The expansion of Europe was not motivated by demographic pressures. The Black Death had caused serious population losses from which Europe had not recovered in 1500. Few Europeans immigrated to North or South America in the sixteenth century. Half of those who did sail to America died en route; half of those who reached the New World eventually returned to their homeland. Why, then, did explorers leave the Atlantic and Pacific Oceans, risking their lives to discover new continents and spread European culture?

The reasons are varied and complex. People of the sixteenth century were still basically medieval in the sense that their attitudes and values were shaped by religion and expressed in religious terms. In the late fifteenth century, crusading fervor remained a basic part of the Portuguese and Spanish national ideal. The desire to Christianize Muslims and pagan peoples played a central role in European expansion. Queen Isabella of Spain, for example, showed a fanatical zeal for converting the Muslims to Christianity, and she concentrated her efforts on the Muslims in Granada. After the abortive crusading attempts of the thirteenth century, rulers realized full well that they lacked the material resources to mount the full-scale assault on Islam necessary for victory. Crusading impulses thus shifted from the Muslims to the pagan peoples of Africa and the Americas.

Moreover, after the reconquista, enterprising young men of the Spanish upper classes found their economic and political opportunities severely limited. As a study of the Castilian city of Ciudad Real shows, the ancient aristocracy controlled the best agricultural land and monopolized urban administrative posts. Great merchants and a few nobles (unfortunately, since Spanish law forbade participation by nobles in commercial ventures) dominated the textile and leather-glove manufacturing industries. Consequently, many ambitious men immigrated to the Americas to seek their fortunes in

Government sponsorship and encouragement of exploration also accounted for the results of the various voyages. Mariners and explorers could not as private individuals afford the massive sums needed to explore new remote oceans and control remote continents. The strong financial support of Prince Henry the Navigator led to Portugal's phenomenal success in the spice trade. Even the grudging and modest assistance of Isabella and Ferdinand essentially brought untold riches—and complicated problems—to Spain. The Dutch in the seventeenth century, through such government-sponsored trading companies as the Dutch East India Company, reaped enormous wealth, and although the Netherlands was a small country in size, it dominated the European economy in 1650.

Scholars have frequently described the European discoveries as a manifestation of Renaissance curiosity about the physical universe—the desire to know more about the geographic and peoples of the world. (Economic, political, and geographic interests were also important motives among educated people in the fifteenth and sixteenth centuries.) Just as science fiction and speculation about life on other planets excite readers today, quest writings like the one about Africa, Asia, and the Americas captured the imaginations of literate Europeans. Lest we de-

scribe *Ortelius's General History of the Indies* (1547), a detailed eyewitness account of plants, animals, and peoples, was which read:

Spices were another important incentive for voyages of discovery. Introduced into western Europe by the Crusaders in the twelfth century, nutmeg, mace, ginger, cinnamon, and pepper added flavor and variety to the monotonous diet of Europeans. Spices were also used in the preparation of medicinal drugs and incense for religious ceremonies. In the late thirteenth century, Venetian Marco Polo (1254?–1324?), the greatest of medieval travelers, had visited the court of the Chinese emperor. The widely publicized account of his experiences in *Marco Polo* (ca. 1298) stimulated the trade in spices between Asia and Italy. The Venetians came to hold a monopoly of that trade in western Europe.

Spices were grown in India and China, shipped across the Indian Ocean to ports on the Persian Gulf, and then

**Pepper Harvest** To break the monopoly of a hand diet, Europeans had a passion for pepper, which—along with cinnamon, cloves, nutmeg, and ginger—was the main object of the Asian trade. Since one kilo of pepper cost 2 grams of silver at the place of production in the East Indies, 10 to 14 grams of silver in Alexandria, Egypt, 14 to 18 grams in Venice, and 20 to 30 grams at the markets of northern Europe, we can appreciate the fifteenth-century expression “as dear as pepper.” Here is *Indescriptum An Libanus International Ltd.*



transported by Arabs across the Arabian Desert to Mediterranean ports. But the rise of the Ming Dynasty in China in the late fourteenth century resulted in the expulsion of foreigners. And the steady penetration of the Ottoman Turks into the eastern Mediterranean forced Europeans to seek a new route to the Asian spice markets. The basic reason for European exploration and expansion, however, was the quest for material profit. Mariners and explorers frankly admitted this. As Bartholomew Diaz put the matter, his motives were “to serve God and His Majesty, to give light to those who were in darkness and to grow rich as all men desire to do.”<sup>16</sup> When Vasco da Gama reached the port of Calicut, India, in 1498, a native asked what the Portuguese wanted. Da Gama replied, “Christians and spices.”<sup>17</sup> The bluntest of the Spanish conquistadors, Hernando Cortés, announced as he prepared to conquer Mexico, “I have come to win gold, not to plow the fields like a peasant.”<sup>18</sup> A sixteenth-

century diplomat, Ogier Ghiesbri de Busbecq, summed up this paradoxical attitude well: "In expeditions to the Indies and the Antipodes, he said, 'religion supplies the pretext and gold the motive.'<sup>13</sup>

Spanish and Portuguese explorers carried the fervent Catholicism and missionary zeal of the Iberian Peninsula to the New World, and once in America they urged home governments to send clerics. At bottom, however, wealth was the driving motivation.

### The Problem of Christopher Columbus

The year 1992, which marked the quincentenary of Columbus's first voyage to the Americas, spawned an enormous amount of discussion about the significance of his voyages. Journalists, scholars, amateurs, and polemicists debated Columbus's accomplishments and failures. Until the 1980s, however, most writers would have generally agreed with Harvard historian Samuel Eliot Morison in his 1942 biography of the explorer:

*The whole history of the Americas stems from the four voyages of Columbus: India a score of independent nations and dominions unite in homage to Columbus, the stout-hearted son of Genoa, who carried Christian civilization across the Ocean Sea.<sup>14</sup>*

In 1942, the Western Powers believed they were engaged in a life-and-death struggle to defend "Christian civilization" against the evil of fascism.

In contrast to this lavish praise, Columbus has recently undergone severe criticism. He enslaved and sometimes killed the Indians he encountered. He was a cruel and ineffective governor of Spain's Caribbean colony. Moreover, he did not discover the continents: others—Africans and Europeans—had been there before him. And not only did he not discover the continents; he also misunderstood what he had found. In short, he was a fool who did not know what was going on around him. Some have criticized him because he abandoned the mother of his illegitimate son. Other writers have faulted Columbus as an opportunistic adventurer who loved the trappings of grand titles. Some claim he was the originator of European exploitation of the non-European world; he destroyed the paradise that had been the New World.<sup>15</sup> Because these judgments rest on social and ethical standards that did not exist in Columbus's world, responsible scholars consider them ahistorical.

Using the evidence of his journal (see top) and letters, let us ask three basic questions. First, what kind of man was Columbus, and what forces or influences shaped

worth mentioning, and I have seen everything from east to west [meaning he had been to England] and I have been to Guinea [north and west Africa].<sup>16</sup> Although some of Columbus's geographical theories, such as his measurement of the distance from Portugal to Japan at 2,760 miles, when it is actually 12,000, proved inaccurate, his successful thirty-three-day voyage to the Caribbean owed a great deal to his seamanship and his knowledge of the accurate use of instruments.

What was the object of this first voyage? He gave the answer in the very title of the expedition, "The Enterprise of the Indies." He wanted to find a direct ocean route to Asia that would provide the opportunity for a greatly expanded trade in which Spain would participate. Two recent scholars have written, "If Columbus had not sailed westward in search of Asia, someone else would have done so. The time was right for such a bold undertaking." Someone else might have done so, but the fact remains that Columbus, displaying a characteristic Renaissance curiosity and restless drive, actually did it.

How did Columbus interpret what he had found, and in his mind did he achieve what he had set out to do? His mind had been formed by the Bible and the geographical writings of classical authors, as had the minds of most educated people of his times. Thus as people have often done in every age, Columbus ignored the evidence of his eyes and described what he wanted to see in the Caribbean as an idyllic paradise, a peaceful garden of Eden. (See the feature "Listening to the Past: Columbus Describes His First Voyage," on pages 526-527.) When accounts of his travels were published, Europeans' immediate fascination with this image of the New World meant that Columbus's propaganda created an instant myth. But having sensed that he had not found the spice markets and bazaars of Asia, Columbus shifted his goal from establishing trade with the (East) Indians and Chinese to establishing the kind of trade the Portuguese then conducted with Africa and with the Atlantic islands. That meant setting up some form of government in the islands, and Columbus had little interest in or capacity for governing. In 1496 he had feebly subjugated the island of Hispaniola, enslaved the Indians, and laid the basis for a system of land grants tied to the Indians' labor service. Borrowing practices and institutions from reconquest Spain and the Canary Islands, Columbus laid the foundation for Spanish imperial administration. In all of this, Columbus was very much a man of his times. He never understood, however, that the scale of his discoveries created problems of trade, settlers, governmental bureaucracy, and, from a twenty-first-century perspective, the rights of native peoples.<sup>17</sup>

In 1519 Spanish ruler Charles V commissioned Ferdinand Magellan (1480-1521) to find a direct route to the spices of the Moluccas off the southeast coast of Asia. Magellan sailed southwest across the Atlantic to Brazil and proceeded south around Cape Horn into the Pacific Ocean (see Map 15.3). He crossed the Pacific, sailing west, to the Malay Archipelago, which he called the "Western Isles." (Some of these islands were conquered in the 1560s and named the "Philippines" for Philip II of Spain.)

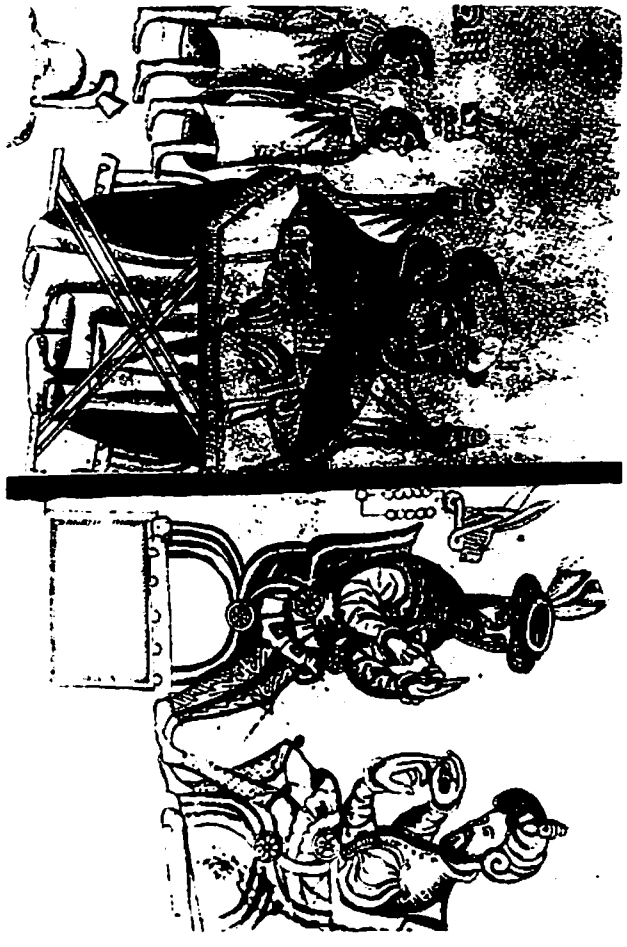
## Later Explorers

News of Columbus's first voyage rapidly spread across Europe. On April 1, 1493, a printer in Barcelona published in Spanish Columbus's letter describing what he believed he had found. By the end of that month, the letter had been translated into Latin and published in Rome as *De Insulis Invenitis* (On the Discoveries of the Islands). Within a year, printers in Paris, Basel, Antwerp, and Venice had brought out six more Latin editions, which were soon followed by translations in German and Tuscan, the dialect of the Florentines. In a 1503 letter, Florentine navigator Amerigo Vesputi (1454-1512), in whose honor America was named, wrote, "Those new regions which we found and explored with the fleet . . . we may rightly call a New World." This letter, titled *Mundus Novus* (The New World), was the first document to describe America as a continent separate from Asia. Some scholars today try to avoid the terms *discovery* and *New World*, lest they be considered Eurocentric, but the use of those words rests on a tradition begun by the early explorers themselves.

The Caribbean islands—the West Indies—represented to zealous Spanish missionaries millions of Indian natives for conversion to Christianity. Hispaniola, Cuba, and Puerto Rico also offered gold. Forced labor and starvation in the Spaniards' gold mines rapidly killed off the Indians. Even more diseases brought by Europeans, against which the long-isolated Indians had no immunity, had a devastating effect on the native people. When Columbus arrived in 1492, the population of Hispaniola stood at approximately 100,000; in 1570, 300 people survived. Indian slaves from the Bahamas and black Africans from Guinea were then imported to do the mining.

The search for precious metals determined the direction of Spanish exploration and expansion into South America. When it became apparent that placer mining (in which ore is separated from soil by panning) in the Caribbean islands was slow and the rewards were slim, new routes to the East and new sources of gold and silver were sought.

In 1519 Spanish ruler Charles V commissioned Ferdinand Magellan (1480-1521) to find a direct route to the spices of the Moluccas off the southeast coast of Asia. Magellan sailed southwest across the Atlantic to Brazil and proceeded south around Cape Horn into the Pacific Ocean (see Map 15.3). He crossed the Pacific, sailing west, to the Malay Archipelago, which he called the "Western Isles." (Some of these islands were conquered in the 1560s and named the "Philippines" for Philip II of Spain.)



**Yanhuilitan Codex** The Aztec people in southern Mexico, having assimilated and reinterpreted European forms, possessed an advanced and sophisticated culture. About 1550, Mexican artists of the Aztec produced this codex (manuscript), which shows three then-considered leaders of colonial Mexico: from left, Indian emperor (ruler), a Dominican friar of the order charged with converting the region, and Spanish administrators. (*Woodcut from the Aztec, Yanhuilita Codex*)

Though Magellan was killed, the expedition continued, returning to Spain in 1522 from the east by way of the Indian Ocean, the Cape of Good Hope, and the Atlantic. Terrible storms, famine, starvation, and disease thinned this swag. Nevertheless, it verified the theory that the earth was round and brought information about the vastness of the Pacific. Magellan also proved that the earth was much larger than Columbus had estimated.

In the West Indies, the slow recovery of gold, the shortage of a healthy labor force, and other problems speckled up Spain's search for wealth. In 1519, the year Magellan departed on his worldwide expedition, a harsh and determined Spanish adventurer named Hernando Cortés (1485–1547) crossed from Hispanola to mainland Mexico with six hundred men, seventeen horses,

and ten cannon. Within three years, Cortés had taken captive the Aztec emperor Montezuma, conquered the fabulously rich Aztec Empire, and founded Mexico City as the capital of New Spain. The subjugation of northern Mexico took longer, but between 1531 and 1550 the Spanish gained control of Zacatecas and Guanajuato, where rich silver veins were soon tapped.

Another Spanish conquistador, Francisco Pizarro (1470–1541), repeated Cortés's feat in Peru. Between 1531 and 1536, with even fewer resources, Pizarro crushed the Inca Empire in western South America and established the Spanish viceroyalty of Peru, with its center at Lima. In 1545 the Spanish opened mines in the Peruvian highlands that became the richest silver mines in the New World.

Between 1525 and 1575, the riches of the Americas poured into the Spanish port of Seville and the Portuguese capital of Lisbon. For all their new wealth, however, Lisbon and Seville did not become important trading centers. It was the Flemish city of Antwerp, controlled by the Spanish Habsburgs, that developed into the great emporium for overseas Indian and Portuguese spices and served as the commercial and financial capital of the entire European world (see page 493).

By the end of the sixteenth century, Antwerp had overtaken Amsterdam as the financial capital of Europe. The Dutch had also embarked on foreign exploration and conquest. The Dutch East India Company, founded in 1602, became the major organ of Dutch imperialism and within a few decades expelled the Portuguese from Ceylon and other East Indian islands. By 1650 the Dutch West India Company had successfully intruded on the Spanish possessions in the Americas, in the process gaining control of much of the African and American trade. English and French explorations lacked the immediate, sensational results of those of the Spanish and Portuguese. In 1497 John Cabot, a Genoese merchant living in London, sailed for Brazil but discovered Newfoundland. The next year he returned and explored the New England coast and perhaps as far south as Delaware. Since these expeditions found no spices or gold, King Henry VII lost interest in exploration. Between 1534 and 1541, Frenchman Jacques Cartier made several voyages and explored the St. Lawrence region of Canada, but the first permanent French settlement, at Quebec, was not founded until 1608.

**The Economic Effects of Spain's Discoveries in the New World**

The sixteenth century has been called the Golden Century of Spain. The influence of Spanish armies, Spanish Catholicism, and Spanish wealth was felt all over Europe. This greatness rested largely on the inflow of precious metals from the New World. The mines at Zacatecas and Guanajuato in Mexico and Potosí in Peru poured out huge quantities of precious metals. To protect this treasure from French and English pirates, armed convoys transported it each year to Spain. Between 1503 and 1650, 16 million kilograms of silver and 185,000 kilograms of gold entered the port of Seville.

Meanwhile, Spain was experiencing a steady population increase, creating a sharp rise in the demand for food and goods. Spanish colonies in the Americas also reported a demand for products. Because Spain had exploited some of its best farmers and business people, the

leaves in 1492 and the Muslims in the sixteenth and seventeenth centuries, the Spanish economy suffered and could not meet the new demands. Prices rose and with them the costs of manufacturing cloth and other goods. As a result, Spanish products could not compete in the international market with cheaper products made elsewhere. The textile industry was half-hurt. Prices spiraled upward faster than the government could levy taxes to dampen the economy. Higher taxes would have cut the public's buying power, with fewer goods sold, prices would have come down.)

Did the flood of American silver inflame the inflation? Scholars have long debated this question. Prices rose most steeply before 1565, but inflation imports reached their peak between 1580 and 1620. Thus, there is no direct correlation between silver imports and the inflation rate. Did the substantial population growth accelerate the inflation rate? Perhaps, when the population pressure declined after 1600, prices gradually stabilized. One fact is certain: the price revolution severely strained government budgets. Several times between 1557 and 1647, Philip II and his successors were forced to repudiate the state debt, which in turn undermined confidence in the government. By the seventeenth century, the economy was a shambles, and Spanish predominance was over.

As Philip II paid the armies and foreign debts with silver bullion, the Spanish inflation was transmitted to the rest of Europe. Between 1560 and 1600, much of Europe experienced large price increases. Prices doubled and in some cases quadrupled, and wages did not keep pace with prices. Spain suffered most severely, but all European countries were affected. People who lived on fixed incomes, such as the continental nobles, were badly hurt because their money bought less. Those who owed fixed sums of money, such as the middle class, prospered: in a time of rising prices, debts had less value each year. Food costs rose most sharply, and the poor fared worst of all.

**Colonial Administration**

Columbus, Cortés, and Pizarro claimed the lands they had "discovered" for the Crown of Spain. How were these lands to be governed? According to the Spanish theory of absolutism, the Crown was entitled to exercise full authority over all imperial lands. In the sixteenth century, the Crown divided its New World territories into four viceroyalties, or administrative divisions: New Spain, which consisted of Mexico, central America, and present-day California, Arizona, New Mexico, and Texas, with the capital at Mexico City; Peru, originally all the lands in continental South America, later reduced to the territory

Europe—bred confusion, uncertainty, and insecurity. Geographical evidence based on verifiably scientific proofs contradicted the evidence of the Scriptures and of the classical authors.

The age of religious wars was one of extreme and violent contrasts. It was a deeply religious period in which people fought passionately for their beliefs; 70 percent of the books printed dealt with religious subjects. Yet the times saw the beginnings of religious skepticism. Europeans explored new continents, partly with the missionary aim of Christianizing the peoples they encountered. Yet the Spanish, Portuguese, Dutch, and English proceeded to dominate and enslave the Indians and blacks they found. While Europeans indulged in gross sensuality, the social status of women declined. The exploration of new continents reflected deep curiosity and broad intelligence, yet Europeans believed in witches and burned thousands at the stake. Sexism, racism, and skepticism had all originated in ancient times. But late in the sixteenth century, they began to take on their familiar modern forms.

### The Status of Women

Did new ideas about women appear in this period? Theological and popular literature on marriage in Reformation Europe helps answer this question (see pages 466, 472). These manuals emphasized the qualities expected of each partner. A husband was obliged to provide for the material welfare of his wife and children. He was directed to protect his family while remaining steady and self-controlled. Especially, he was a husband and father to rule his household firmly but justly. But he was not to be have as a tyrant, a guideline counselors repeated frequently. A wife should be a mature person, a good household manager, and a subservient and faithful spouse. The husband also owed fidelity, and both Protestant and Catholic moralists rejected the double standard of sexual morality as a threat to family unity. Counselors believed that marriage should be based on mutual respect and trust. While they discouraged impersonal unions arranged by parents, they did not think romantic attachments—based on physical attraction and emotional love—a sound basis for an enduring relationship.

Moralists held that the household was a woman's first priority. She might assist in her own or her husband's business and do charitable work. Involvement in social or public activities, however, was inappropriate because it distracted the wife from her primary responsibility: her household. If women suffered under their husbands

of modern Peru, Chile, Bolivia, and Ecuador, with the viceregal seat at Lima; New Granada, including present-day Venezuela, Colombia, Panama, and, after 1739, Ecuador, with Bogotá as its administrative center; and La Plata, consisting of Argentina, Uruguay, and Paraguay, with Buenos Aires as the capital. Within each territory, the viceroy, or imperial governor, exercised broad military and civil authority as the direct representative of the sovereign in Madrid. The viceroy presided over the *audiencia*, a board of twelve to fifteen judges that served as his advisory council and the highest judicial body. The enlightened Spanish king Charles III (r. 1759–1788) introduced the system of *intendants*. These royal officials possessed broad military, administrative, and financial authority within their intendency and were responsible not to the viceroy but to the monarchy in Madrid.

From the early sixteenth century to the beginning of the nineteenth, the Spanish monarchy acted on the mercantilist principle that the colonies existed for the financial benefit of the home country. The mining of gold and silver was always the most important industry in the colonies. The Crown claimed the *quinto*, one-fifth of all precious metals mined in South America. Gold and silver yielded the Spanish monarchy 25 percent of its total income. In return, it shipped manufactured goods to the Americas and discouraged the development of native industries.

The Portuguese governed their colony of Brazil in a similar manner. After the union of the Crowns of Portugal and Spain in 1580, Spanish administrative forms were introduced. Local officials called *corregidores* held judicial and military powers. Mercantilist policies placed severe restrictions on Brazilian industries that might compete with those of Portugal. In the seventeenth century, the use of black slave labor made possible the cultivation of coffee and cotton, and in the eighteenth century, Brazil led the world in the production of sugar. The unique feature of colonial Brazil's culture and society was its thoroughgoing intermixture of Indians, whites, and blacks.

### Changing Attitudes

What were the cultural consequences of the religious wars and of the worldwide discoveries? What impact did the discoveries and wars have on Europeans' attitudes? The clash of traditional religious and geographical beliefs with the new knowledge provided by explorers—combined with decades of devastation and disorder within