



A French traveler in the 1400s illustrated workers harvesting pepper in southern India; a clove plant is shown at left.



## WITNESS HISTORY AUDIO

### The Search Is On

Cinnamon, pepper, nutmeg, cloves . . . these and other spices were a vital part of the world economy in the 1400s. Because the spice trade was controlled by Arab merchants and traders, Europeans didn't know how to get the spices they desperately wanted. Even when Europeans learned that spice plants could be obtained in Asia, they didn't have a hope of growing them in Europe. As an Indonesian ruler boasted to a European trader,

“You may be able to take our plants, but you will never be able to take our rain.”

Europeans knew that the only way they could take control of the spice trade would be to establish sea routes to Asia—at any cost.

**Focus Question** How did the search for spices lead to global exploration?

# The Search for Spices

## Objectives

- Understand European motivations for exploring the seas.
- Analyze early Portuguese and Spanish explorations.
- Describe European searches for a direct route to Asia.

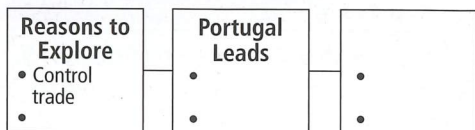
## Terms, People, and Places

Moluccas	Line of Demarcation
Prince Henry	Treaty of Tordesillas
cartographer	Ferdinand Magellan
Vasco da Gama	circumnavigate
Christopher Columbus	

## Note Taking

### Reading Skill: Identify Causes and Effects

Examine the text for clues that signal cause and effect. Then use a flowchart like this one to record major causes and effects of European exploration.



Throughout history, groups of people—from the ancient Greeks to Muslim Arabs and the Vikings of Scandinavia—had explored the seas, trading and migrating over long distances. The European sailors of the 1400s began a dramatic new period of exploration.

## Motivations for Exploring the Seas

Europeans traded with Asians long before the Renaissance. The Crusades introduced Europeans to many luxury goods from Asia, carried on complex overland routes through the Mongol empire of the 1200s and 1300s. The Black Death and the breakup of the Mongol empire disrupted that trade. By the 1400s, though, Europe's population was growing, along with its demand for trade goods. The most valued items were spices, used to preserve food, add flavor to meat, and make medicines and perfumes. The chief source of spices was the **Moluccas**, an island chain in present-day Indonesia, which Europeans then called the Spice Islands.

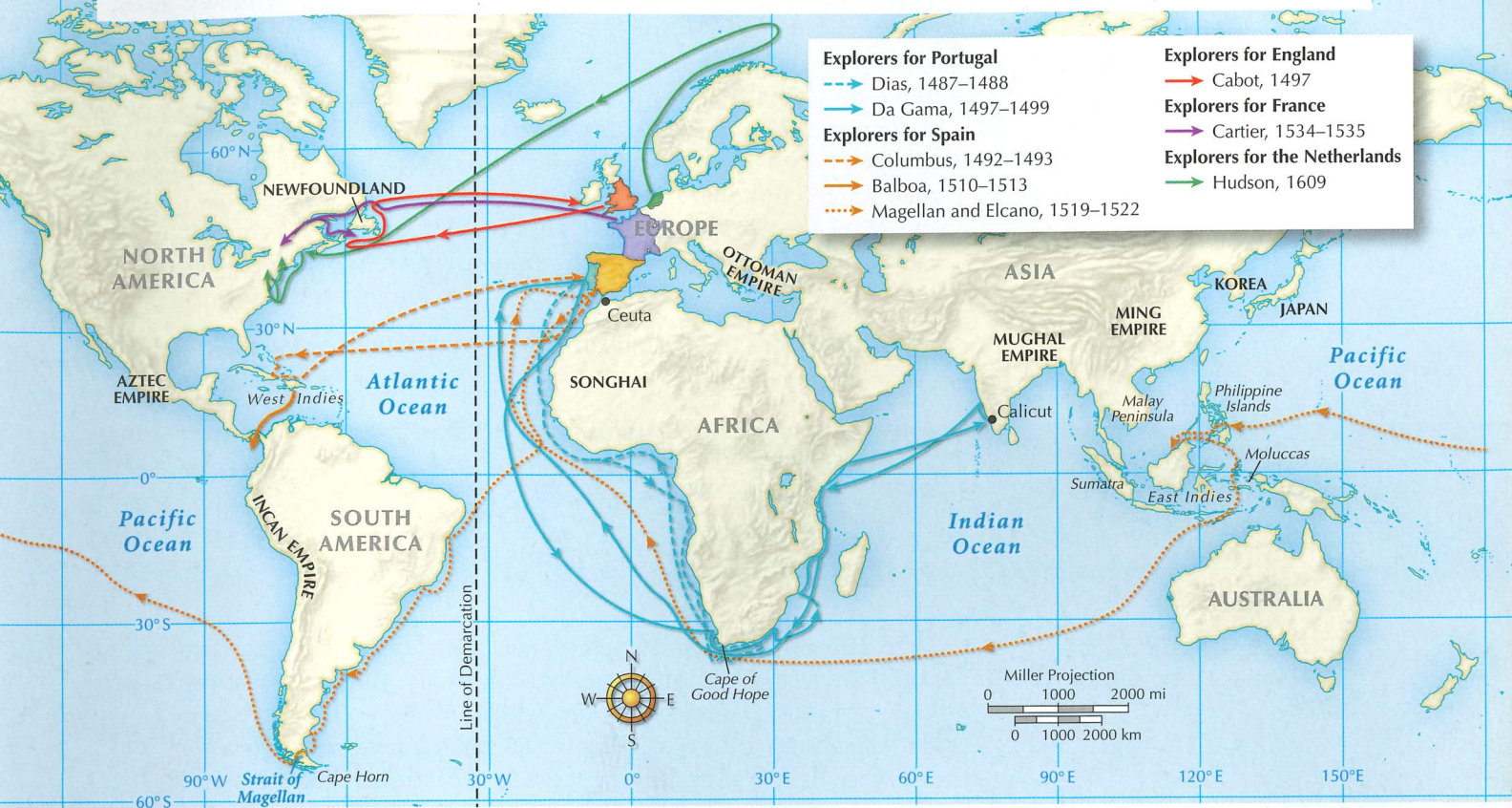
In the 1400s, Arab and Italian merchants controlled most trade between Asia and Europe. Muslim traders brought prized goods to eastern Mediterranean ports, and Italian traders carried them to European markets. Europeans outside Italy knew that it would be more profitable to gain direct access to Asia. They were also driven by Renaissance curiosity to seek new lands.

 **Checkpoint** What factors encouraged European exploration?

## Early Voyages of European Exploration, 1487–1609

**Map Skills** Spain, England, France, and the Netherlands quickly followed Portugal's lead in exploring the world by ship.

- 1. Locate** (a) West Indies (b) East Indies (c) Line of Demarcation (d) Strait of Magellan
- 2. Describe** Describe the route of Columbus.
- 3. Draw Inferences** Why do you think explorers from different countries followed similar routes?



## Portugal Sails East

**Prince Henry** led the way in sponsoring exploration for Portugal, a small nation next to Spain. First, Prince Henry's navigators discovered and claimed the Madeira and Azores islands to the west and southwest of Portugal. By 1415, Portugal had expanded into Muslim North Africa, seizing the port of Ceuta (SYOO tah) on the North African coast.

**Mapping the African Coast** Prince Henry saw great promise in Africa. The Portuguese could convert Africans—most of whom practiced either Islam or tribal religions—to Christianity. He also believed that in Africa he would find the sources of riches the Muslim traders controlled.

Finally, Prince Henry hoped to find an easier way to reach Asia, which meant going around Africa. The Portuguese felt that with their expert knowledge and technology, they could accomplish this feat. At Sagres, in southern Portugal, Henry gathered scientists, **cartographers**, or map-makers, and other experts. They redesigned ships, prepared maps, and trained captains and crews for long voyages. Henry's ships then slowly worked their way south to explore the western coast of Africa.

Henry died in 1460, but the Portuguese continued their quest. In 1488, Bartholomeu Dias rounded the southern tip of Africa. Despite the turbulent seas around it, the tip became known as the Cape of Good Hope because it opened the way for a sea route to Asia.


**Seeking India** In 1497, Portuguese navigator **Vasco da Gama** followed in Dias's footsteps, leading four ships around the Cape of Good Hope. Da Gama, however, had plans to go farther. After a ten-month voyage, da Gama reached the great spice port of Calicut on the west coast of India. On the long voyage home, the Portuguese lost half their ships, and many sailors died of hunger, thirst, and scurvy, a disease caused by a lack of vitamin C in the diet.

Despite the hard journey, the venture proved highly profitable. In India, da Gama had acquired a cargo of spices that he sold at an enormous profit. He quickly outfitted a new fleet, seeking greater profits. In 1502, he forced a treaty on the ruler of Calicut. Da Gama then left Portuguese merchants there whose job was to buy spices when prices were low and store them until the next fleet could return. Soon, the Portuguese had seized key ports around the Indian Ocean, creating a vast trading empire. Da Gama's voyages confirmed Portugal's status as a world power.

✔ **Checkpoint** How did Portuguese exploration lead to the creation of a trading empire?

● INFOGRAPHIC

# NAVIGATING THE WORLD



In the 1400s, European knowledge of the world—and how to navigate it—greatly expanded. Geographers gave navigators more accurate maps, and shipmakers built ships more suitable for crossing the ocean. Navigators began to use existing instruments like the compass and astrolabe in new ways. With each voyage, they added to their knowledge, resulting in even better maps and improved technology.

**The portolan map** ▶

Navigators used portolan maps with magnetic compasses. The lines on the portolan map radiated out from compass points, showing navigators how to find their way to key ports.

**A better compass** ▲

The Chinese had used the compass for centuries, but the magnetic compass did not become a customary navigational tool until the 1400s. The magnetic compass uses an iron needle, magnetized by a mineral called lodestone, that aligns with Earth's north-south poles. Navigators used it to find their bearings and chart courses.

## Columbus Sails West

News of Portugal's successes spurred other people to look for a sea route to Asia. An Italian navigator from Genoa, named **Christopher Columbus**, wanted to reach the East Indies—a group of islands in Southeast Asia, today part of Indonesia—by sailing west across the Atlantic. Like most educated Europeans, Columbus knew that Earth was a sphere. A few weeks sailing west, he reasoned, would bring a ship to eastern Asia. His plan made sense, but Columbus greatly underestimated Earth's size. And he had no idea that two continents lay in his path.

**Reaching Faraway Lands** Portugal refused to sponsor him, but Columbus persuaded Ferdinand and Isabella of Spain to finance his voyage. To increase their authority, the Spanish rulers had taken radical measures, including expelling Jews from Spain. They hoped their actions would strengthen Catholicism. However, the loss of some of Spain's most affluent and cultured people weakened the nation. The rulers hoped Columbus's voyage would bring wealth and prestige.

### Vocabulary Builder

authority—(uh THAWR uh tee) *n.* the power to give commands and enforce obedience



#### ◀ A more accurate world map

In the 1400s, world maps showed Europe accurately (far left) but the rest of the world as one giant landmass. By 1560, the geographer Abraham Ortelius had produced a map (left) that showed all of the continents with accurate shapes.

#### ▼ A faster ship

The light, fast caravel was developed in the 1400s. Unlike most heavy European ships, it was easily maneuvered along coasts and could travel long distances.



#### ◀ A new use for an old tool

Astronomers had used astrolabes in ancient times. Renaissance sailors found them useful for navigation. Navigators looked through the astrolabe at the sun or a star, and determined its angle using the degrees marked on the instrument. The angle of the sun or star helped them to determine their ships' latitude as well as the local time.

### Thinking Critically

1. **Synthesize Information** Why would a portolan map be inappropriate as a resource for a geography class?
2. **Draw Inferences** What limitations did the astrolabe have that the magnetic compass did not?

## BIOGRAPHY

### Henry the Navigator

All of the European explorers owed a debt to Prince Henry (1394–1460), whose Christian faith, curiosity, and national pride ushered in the great age of European exploration. The English nicknamed Henry “the Navigator.” Yet Henry himself, who sponsored and encouraged navigators, geographers, and merchants, never traveled the seas. Henry’s work required financial risks, and his enthusiasm motivated his navigators to take great personal risks. Henry also inspired generations of later explorers. **What characteristics does the artist ascribe to Henry (center figure in black)?**



On August 3, 1492, Columbus sailed west with three small ships, the *Niña*, the *Pinta*, and the *Santa María*. Although the expedition encountered good weather and a favorable wind, no land came into sight for many weeks. Provisions ran low, and the crew became anxious. Finally, on October 12, land was spotted.

Columbus spent several months cruising the islands of the Caribbean. Because he thought he had reached the Indies, he called the people of the region “Indians.” In 1493, he returned to Spain to a hero’s welcome. In three later voyages, Columbus remained convinced that he had reached the coast of East Asia. Before long, though, other Europeans realized that Columbus had found a route to previously unknown continents.

**Dividing the Globe in Half** In 1493 Ferdinand and Isabella appealed to the Spanish-born Pope Alexander VI to support their claim to the lands of the new world. The pope set a **Line of Demarcation**, dividing the non-European world into two zones. Spain had trading and exploration rights in any lands west of the line. Portugal had the same rights east of the line. The specific terms of the Line of Demarcation were agreed to in the **Treaty of Tordesillas**, signed between the two countries in 1494. The actual line was unclear, because geography at the time was imprecise. However, the treaty made it obvious to both Spain and Portugal—and to other European nations, eager to defy what they saw as Spain and Portugal’s arrogance—that they needed to build their own empires quickly.

**Naming the Western Hemisphere** An Italian sea captain named Amerigo Vespucci wrote a journal describing his voyage to Brazil. In 1507, a German cartographer named Martin Waldseemüller used Vespucci’s descriptions of his voyage to publish a map of the region, which he labeled “America.” Over time, the term “Americas” came to be used for both continents of the Western Hemisphere. The islands Columbus had explored in the Caribbean became known as the West Indies.

 **Checkpoint** How did Columbus influence the Treaty of Tordesillas?