

5

The Age of Exploration



FIGURE 5-1 1 This painting of Christopher Columbus arriving in the Americas was done by Louis Prang and Company in 1893. What do you think Columbus might be doing in this painting?

WORLDVIEW INQUIRY

What factors might motivate a society to venture into unknown regions beyond its borders?

1492. On a beach on an island in the Caribbean Sea, two Taino girls were walking in the cool shade of the palm trees eating roasted sweet potatoes.

Suddenly one of the girls pointed out toward the ocean. The girls could hardly believe their eyes. Three large strange boats with huge sails were headed toward the shore. They could hear the shouts of the people on the boats in the distance.

The girls ran back toward their village to tell everyone what they had seen. By the time they returned to the beach with a crowd of curious villagers, the people from the boats had already landed. They had white skin, furry faces, and were wearing odd clothing. They spoke a language the Taino had never heard before. But they smiled at the Taino and seemed friendly.

The men from the ships, Christopher Columbus and his crew, had been sailing the Atlantic Ocean for two long months. Columbus's plan was to travel west from Europe to Asia. He had no idea that there were two large continents and the vast Pacific Ocean between him and his goal. This voyage led by Columbus would dramatically change the lives of Europeans and the Indigenous peoples of North and South America.

From which perspective is this story about first contact between Renaissance Europeans and the Taino told? How might the story be different if it was told from another perspective?



In This Chapter

Imagine setting out across an ocean that may or may not contain sea monsters without a map to guide you. Imagine sailing on the ocean for 96 days with no idea when you might see land again. Imagine being in charge of a group of people who you know are planning to murder you. These were the situations that the Renaissance explorers Christopher Columbus, Vasco da Gama, Jacques Cartier, and Ferdinand Magellan faced as they travelled into unknown regions beyond the shores of Europe. Who were these explorers? What motivated them to take such difficult, risky journeys? In this chapter you will investigate the part of the Renaissance that has become known as the Age of Exploration.

The Desire to Explore

What elements of the worldview of Renaissance Europeans led to exploration and expansionism?

FYI...

Columbus based his thinking about the distance to Asia on the writings of Marco Polo and the ancient scholar Ptolemy. But Marco Polo had overestimated the east-west size of Asia, and Ptolemy had underestimated the circumference of the Earth. As a result, Columbus's estimate was off by more than 16 000 kilometres!

To celebrate the 500th anniversary of Columbus's voyage, the Spanish government built full-size replicas of his three ships, the *Nina*, the *Pinta*, and the *Santa Maria* and sailed them to North America. People who visited the ships when they toured various cities were surprised at how small they were. Park five vans end-to-end and you have the length of one of Columbus's ships. None of the ships was new in 1492 and Columbus had no way of knowing how well they would hold up on a voyage he estimated to be about 9000 kilometres.

As you can see from this map, the ocean was still a frightening place to some Renaissance people. So why were explorers determined to venture into dangerous, unknown waters? Curiosity and adventure no doubt played a role in their thinking. But let's dig a little deeper into the worldview of the Renaissance. Think about how Renaissance artists and scientists had a new way of thinking about the place of the individual in the world. Renaissance explorers shared this faith in the potential of human beings. They had enough confidence in their dreams and their abilities to take on the challenge of a dangerous task.

Think IT THROUGH

Difficult challenges come in all shapes and sizes. Some are personal, others are job-related, and some are associated with global problems, like ending poverty. What is your view of people who take on difficult challenges? Use examples to illustrate your answer.

FIGURE 5-2 This is a map of the North Sea from 1539, almost 50 years after Columbus's journey. How many sea monsters can you find? What questions does the map-maker's view of the ocean raise in your mind?



European monarchs supported the voyages of exploration during the Renaissance. For example, Christopher Columbus had the support of Queen Isabella and King Ferdinand of Spain. There was no guarantee that these voyages would be successful. Why might monarchs have been willing to finance such risky projects?

Exploring to Expand Trade

During the Renaissance, trade grew across Europe as people with money demanded luxury goods. Commerce and manufacturing also expanded as merchants, bankers, and manufacturers invested their profits in new business ventures. The economic worldview of the time encouraged growth and expansion. How do you think this worldview might encourage exploration beyond Europe?

Trade With the East

Renaissance Europeans spent huge amounts of money on luxury goods and spices from the East. Spices were expensive because they were moved over great distances and passed through so many hands on their way to European consumers.



FIGURE 5-3 Just as in the Renaissance, today's economy is based on profit and the growth of commerce. However, some people argue we have more goods than we can possibly use. Sometimes we replace items such as phones and computers with newer models, even though the "old" ones still work perfectly well. These Montréal students are participating in an international event called Buy Nothing Day. They went back to the barter system you read about in Chapter 2. What values toward the environment do the students hold that the barter system allows them to express?

FYI...

Were Renaissance explorers the first people in history to make long ocean voyages? In fact, earlier travellers such as the Vikings from northern Europe, the North African traveller Abu Addullah Muhamad ibn Battuta, and Admiral Zheng He of China had all explored extensively beyond their home countries.

SKILL POWER

How does Buy Nothing Day fit in with your worldview?

- Brainstorm with a group and use a chart like the one below to record your thinking.

Pro	Con

- Write a paragraph giving your personal response to Buy Nothing Day.

Reading and Creating Timelines

Learning a lot of dates is *not* what history is all about. On the other hand, knowing the order in which certain things happened can be useful. Here are some steps you can follow when reading a timeline.

1. **Read the title of the timeline.** Titles tell the subject of the timeline.
2. **Check the range of the timeline.** What is the start date? the end date? Does the time span make sense for the subject of the timeline?
3. **What is the scale of the timeline?** Some timelines will have a scale using decades; others may use a scale of centuries.
4. **Keep in mind the strengths and limitations of timelines.** Timelines are most useful for topics that have a definite beginning and end, and a number of specific items in between, for example, key events in an individual's life.



FIGURE 5-4 The Voyages of Columbus to the Americas

Ask yourself the following questions as you read the timeline above:

- ◆ Does the title reflect its contents?
- ◆ Does the timeline span make sense when considering the title (subject) of the timeline?

- ◆ What can the information on the timeline be used for?

Follow these steps to create a timeline:

1. **Decide on the purpose of your timeline.** For example, if you are researching the life of an individual, you can record key events from that person's life.
2. **Decide on the title of your timeline.** This will help you ensure the items you include are appropriate. For example, you might record when a person was born, the births of any siblings, and key events that happened during the individual's life.
3. **Decide on a scale for your timeline.** When charting key battles of the War of 1812, your timeline might use months. If you are tracking key events in a country's history, your timeline might be in centuries.
4. **Apply the information you gathered in the timeline.** Timelines are a tool you can use to gather information that helps you answer an inquiry question or fulfill another purpose such as analyzing the causes and effects of various events.

Try It!

1. Use information in Chapter 4 and from other sources to create a timeline of the accomplishments of Luther, Copernicus, or Galileo.
2. Once you have created your timeline, write a paragraph in which you answer the inquiry question: *How did the accomplishments of this individual reflect how worldview was changing during the Renaissance?*

Arab merchants bought spices in India and the spice islands of the Far East. They transported the spices to eastern Mediterranean trading centres like Constantinople and Alexandria and sold them to Italian merchants. The Italian merchants then brought the spices to Venice, where they sold them to traders from across Europe. At every step of the way, the price of the spices went up—100, 1000, or even 2000 times their original price. Europeans resented the high prices that they were forced to pay. They also began to wonder how they could get involved in this valuable trade.

High prices for luxury goods were one problem with trade. Another problem was the security of the trade routes. Over the centuries, trade had been affected by conflicts and power shifts among the peoples of the East.

LINK UP

Look at the map on page 40 in Chapter 2 that shows the trade routes in the East. Why was Constantinople so vital for European trade with the East? How does this map illustrate the Europeans' need to find an alternative route to the East? ■

FYI...

Today the city of Constantinople is known as Istanbul.

Conflict

Effect

The collapse of the Mongol Empire in 1405

Trade routes to and from China were no longer secure.

The conquest of Christian Constantinople by the Muslim Turks in 1453

Trade between Europe and the East was threatened.

Think IT THROUGH

Consider a dilemma:

Imagine that you live in Renaissance Italy and you have inherited a large sum of money. You have the opportunity to invest in a trading expedition travelling either to Constantinople or setting out to find a new route to Asian spice markets. Which would you choose and why?



FIGURE 5-5 This painting by Palma Giovane (also known as Jacopo Negretti) depicts the first attack on Constantinople by the Turks in 1453. How might the history of Christian–Muslim contact cause Europeans to see the takeover of Constantinople as a threat? What does this suggest about the role of experience in forming worldview?

Decreasing the Demand, Controlling the Supply

Just as Renaissance Europeans became dependent on the flow of trade goods through Constantinople, our society is dependent on the trade of oil and gas. And just as war threatened the availability and cost of these goods during the Renaissance, events such as war and natural disasters now have an impact on our supply of oil and gas. Environmentalists tell us that we must consume fewer non-renewable resources like oil and gas.



FIGURE 5-6 How might the availability, or lack of availability, of oil and gas affect an individual's point of view on consuming oil and gas, looking for alternatives to oil and gas, and building public transportation infrastructure?

Think IT THROUGH

1. Do you think some Albertans might have a different point of view than other Canadians on this issue? Why or why not? Explain your thinking.
2. What alternative energy sources are available today?

Europeans believed that a sea route to the East was the solution to their trade problems. A sea route would give them control over their supply of goods. And they hoped to get rich by bringing in spices and other trade goods to sell on the European market.

Exploring to Expand the Gold Supply



FIGURE 5-7 What might be some of the disadvantages of not having paper currency, credit cards, or debit cards? Do you think it's possible that one day these systems of payment may also not exist? Explain.

Today currency comes in many forms: coins, paper money, credit cards, debit cards, and cheques, to name a few. Can you imagine what it would be like if there was not enough money to go around? That was the situation during the Renaissance. The trading economy of Europe depended on the exchange of goods and resources for money. Traders used money for their business transactions; people used money to buy goods. Only coins were used and gold coins were more valuable than silver. The problem was that European mines were running out of gold and silver. Europeans needed to find new sources of these precious metals so that their economy could continue to grow.



Mansa Moussa was the Muslim ruler of the powerful and wealthy empire of Mali in northwest Africa. Mali was situated on important trade routes that dealt in gold, salt, ivory, and slaves. In 1324, Mansa Moussa set out on a religious pilgrimage to Mecca, the most holy city of Islam. He led a splendid caravan of thousands of people and carried along a great deal of gold to distribute to the poor. Italian merchants trading in Cairo at the time spread stories around Europe about Moussa's gold and his wealthy empire.

- How did Mansa Moussa show that charity was part of his worldview?
- What aspect of Europeans' worldview made them so interested in Mansa Moussa?

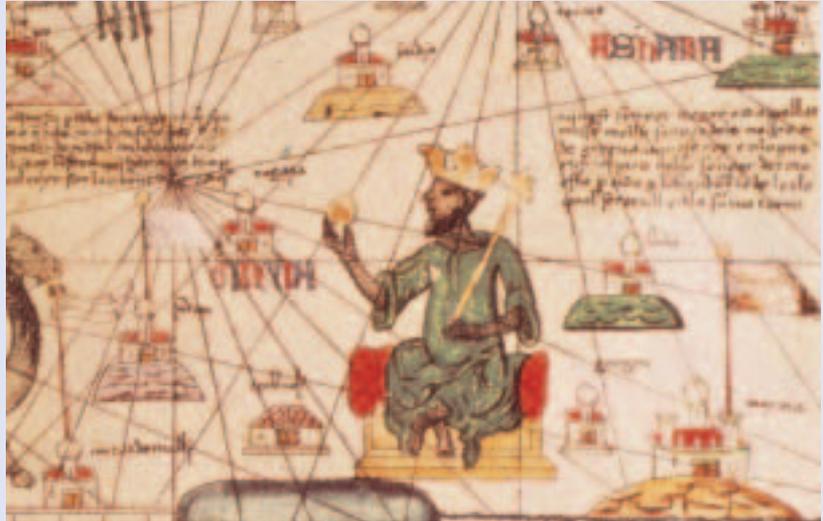


FIGURE 5-8 Mansa Moussa, the Muslim ruler of Mali

Exploring to Expand Christianity

Religion was a powerful aspect of people's worldview during the Renaissance. An element of this worldview that became very important during the Age of Exploration was the idea of spreading Christianity. The Christian Bible quotes Jesus as saying: "Go into all the world, and proclaim the good news to the whole creation" (Mark 16:15). Renaissance explorers and the monarchs who sponsored their voyages believed they were following Jesus's wishes in bringing Christianity to the people in the lands they visited.

FYI...

Five religious duties, known as the "Five Pillars of Faith," are named in the Qur'an, the holy book of the Muslim faith. These duties are:

- declaring that there is no deity but Allah and that Muhammad is His messenger
- regular daily prayers
- fasting during the month of Ramadan for those physically and mentally able
- giving to the poor
- if possible, making a pilgrimage to the city of Mecca during one's lifetime

Religious Motives for Exploration

... he [Prince Henry] was stirred up by his zeal for the service of God . . . he sought to know if there were in those parts [Africa and Asia] any Christian princes in whom the charity and love of Christ was so ingrained that they would aid him against [the Muslims] . . . [Prince Henry had a] great desire to make increase in the faith of our Lord Jesus Christ and to bring to [Jesus] all the souls that should be saved . . .

This passage was written in 1453 by Gomes Eannes de Azurara, a friend of Prince Henry of Portugal.

- How does Prince Henry's religious worldview affect his attitude toward the Muslims?

LINK UP

In Chapter 9 you will be reading about the relations between Muslims and Christians in Spain and how they affected Queen Isabella and King Ferdinand's decision to support Columbus's voyage. ■

Think IT THROUGH

The story of Prester John came out of the worldview that Christianity was the one true, universal religion. In today's terms, we might call Prester John an example of Renaissance popular culture. Choose an example of modern popular culture you think expresses the worldview of a group of people. Explain your thinking.

Prince Henry's attitudes were typical for European Christians at this time. They felt themselves threatened by the Muslim nations to the south and east of them. One "Christian prince" that Prince Henry hoped to locate was the mythical Prester John. The legend of this Christian monarch had been circulating around Europe for hundreds of years.

Prince Henry and many others firmly believed that Prester John ruled a fabulously wealthy kingdom, situated somewhere beyond the Muslim lands. At first people thought that this kingdom was in Asia.

Later it was believed to be in Africa. Prince Henry hoped that Prester John would help Portuguese explorers to convert people in Africa and to join the Christian nations of Europe in a crusade against the Muslims.



FIGURE 5-9 The story of the Christian king Prester John was popular from the 1100s right up to 1600s. What elements in the image tell you that Prester John is a Christian?

European explorers of what is now Canada were often accompanied by missionaries. In the West, Catholic and Anglican priests arrived shortly after the establishment of the Red River Settlement in 1812 to support the settlers as well as Hudson Bay Company employees and their families. Before long, missionaries were preaching to First Nations people and this missionary work spread northward and westward. Two years after Robert Rundle of the Methodist Church set up a base at Fort Edmonton to serve people throughout the West, Father Thibeault established the first permanent mission in what would become Alberta. Most Catholic missionaries in the West were Francophones.



FIGURE 5-10 The first Roman Catholic mission in Alberta was established at Lac Ste. Anne in 1844. These First Nations Catholics are part of an annual pilgrimage to Lac Ste. Anne that occurs in July. It is the largest gathering of First Nations and Métis people in Canada.

Over to YOU

- Use a T-chart, like the one below, to record how the economic and religious worldview of Renaissance Europeans motivated exploration and expansion. Under each heading, list specific examples of their motivations and goals.

Economy	Religion
Expand the gold supply.	
Expand trade to get luxury items.	

- Conduct research to determine the motivations of two of the travellers mentioned in the FYI on page 107. Add these motivations to your chart. What similarities or differences did you note?
 - With a partner, discuss the motivations you have recorded. How persuasive do you personally find the motivations? What might encourage you to travel over long distances into unknown territory for long periods of time?
- Material gain was a powerful motivating factor for Renaissance explorers. They hoped to get wealth for

themselves and their country by finding trade routes and gold.

- Using an organizer like the one below, work with a partner to generate a list of five historical or contemporary people you know of who have taken on great challenges. You can select from any field and any time period, and the person does not have to be famous. Beside each one write down the achievement you admire and one characteristic you think might have motivated that person to take action.
- Choose the motivating factor on the list that is the most admirable according to your worldview. Write a short paragraph examining your choice.

Individual	Achievement	Possible Motivation
e.g., Roberta Bondar	Canada's first female astronaut	sense of adventure
e.g., Dr. Frederick Banting	Co-discoverer of insulin	wanting to better the lives of the sick

The Means to Explore

How did the exchange of knowledge and technology make European exploration possible?

LINK UP

Sometimes a society decides to isolate itself from the influences of the outside world. In Unit 3, you will learn about the effect that isolation had on Japanese society. ■

FYI...

A crater on the moon is named after Fra Mauro, the Renaissance cartographer. It was visited by the *Apollo 14* astronauts in 1971.

Think about a project you recently completed. What equipment, money, time, and skills did you need? These things are called “means.” Renaissance Europeans had the mental outlook and the motivation for exploring the world and expanding their trade, their gold supplies, and the influence of Christianity. They also needed the means to take on the job.

Previously, you saw that Renaissance Europeans were interested in ideas and knowledge from other times and places. They borrowed ideas about philosophy, mathematics, science, and art from the ancient Greeks and Romans as well as from Muslim cultures. Europe was also part of a vast trading network that stretched east across Asia and south into Africa. The exchange of ideas and knowledge that took place along that network had a great effect on European society. Openness to outside influences and a curiosity about the rest of the world were part of the Renaissance European worldview.

Expanding the Known World

Despite their openness and curiosity, Europeans’ knowledge of the lands beyond Europe was very limited. They thought of these places as exotic and mysterious. Books by travellers like Marco Polo were extremely popular but were often full of misinformation.

Today a few clicks of a computer mouse can give you an aerial view of any place on Earth. Now put yourself back in a time when people had little idea of what the Earth was like beyond their own communities.

FIGURE 5-11 From the manuscript “Monsters from the land of the Merkite” late 1300s. Odd images of humans and animals like these appeared in medieval books by Marco Polo and other travel writers. Do you think people believed that such creatures actually existed? Before you answer, think of Western culture today and movies that challenge your imagination.



Maps of the World

Geographia, a manuscript written by the ancient geographer and astronomer Ptolemy, was rediscovered just before the Renaissance. His writings reflected geographic knowledge from around the year 150. Eventually *Geographia* was published in Europe illustrated by maps made by European cartographers.

- How are these two maps similar? How are they different?
- Which map do you think might have encouraged Europeans to look for a sea route to India and China?
- How is the worldview of Fra Mauro's map different from that of the Psalter Map on page 30?



FIGURE 5-12 This map was based on Ptolemy's idea of what the world looked like. It was drawn in 1482.



FIGURE 5-13 The Italian monk Fra Mauro produced this map for King Alfonso V of Portugal in 1459. Historians believe that he combined Ptolemy's geographic ideas with information from travellers and Arab and Chinese sources. Tip: if you look at this map upside down it is easier to understand.

What's in a **WORD**?

Navigation refers to the science of determining the course, position, and distance travelled by a ship. It comes from the Latin words *navis* meaning "ship" and *agere* meaning "to drive."

Expanding Navigational Technology

What modern technological equipment has given you the "means" to do your school work and enjoy your leisure time? Which of these do you consider the most essential to your life? For Renaissance voyages of exploration, ships that could travel across the ocean and navigational instruments that could keep these ships on course were essential technologies.

Prince Henry the Navigator

Prince Henry of Portugal, who became known as Prince Henry the Navigator, had a great interest in ships and navigation. Just as wealthy Italians like the Medici became patrons of artists, Prince Henry became a patron of Portuguese explorers. He sponsored many voyages of exploration along the coast of Africa. He also established a centre at Sagres where cartographers, mathematicians, astronomers, sailors, and navigators from all over Europe gathered to share their knowledge. They improved navigational instruments and created maps based on the information brought back by Portuguese explorers. They also created mathematical tables that helped sailors to determine their latitude, that is, their distance north or south of the Equator.

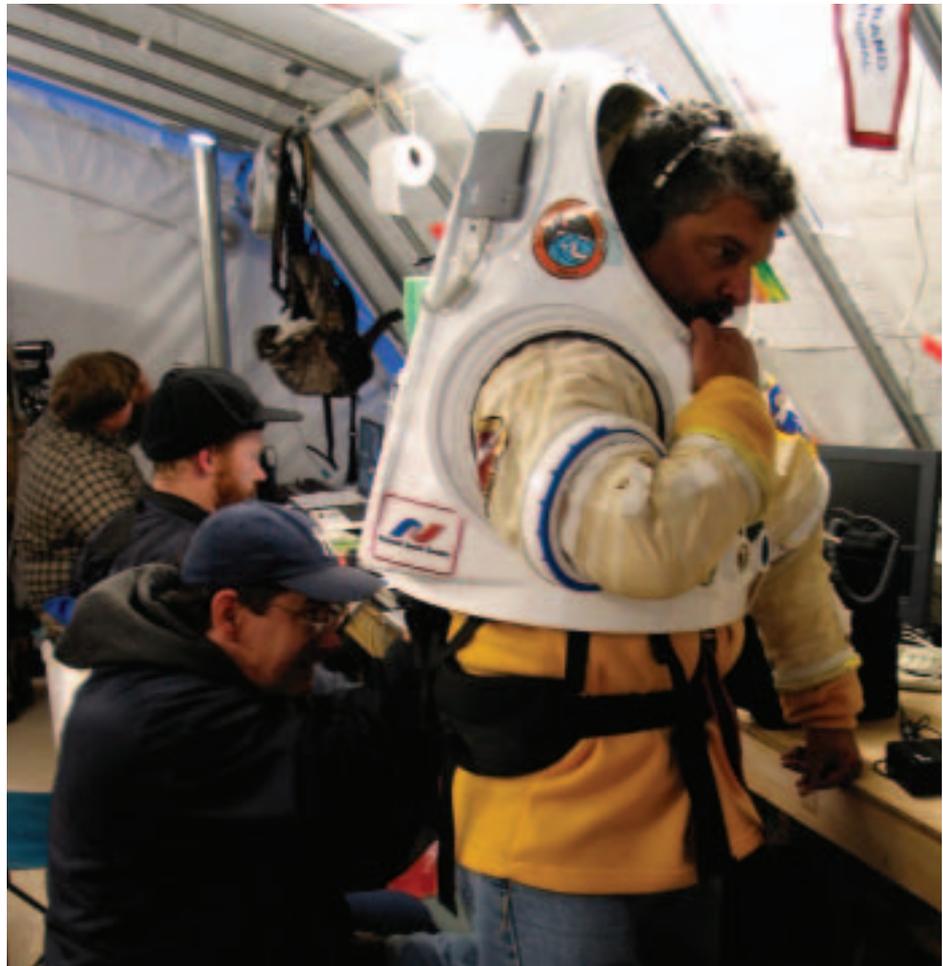


FIGURE 5-14 These engineers are designing a spacesuit that will keep an astronaut safe on Mars. It needs to recreate the temperature, pressure, and atmosphere of Earth. Sending astronauts on a mission to Mars will cost billions of dollars. Some people believe the money might be better spent helping people on Earth. What do you think? What aspect of worldview might be responsible for either position?

Instruments for Navigation

Instrument	Use of Instrument	Origin of Instrument
 <p>FIGURE 5-15 Compass</p>	<p>Used for finding the direction a ship is travelling</p>	<p>Probably developed in China about 1700 years ago, used by Muslim travellers in navigation</p>
 <p>FIGURE 5-16 Astrolabe</p>	<p>Used the North Star or Sun to calculate latitude, the distance north or south of the Equator</p>	<p>Probably invented by ancient Greeks, further developed by Arab mathematicians and astronomers</p>
 <p>FIGURE 5-17 Cross-staff</p>	<p>Used to measure the altitude of the Pole star above the horizon to determine latitude</p>	<p>Invented around 1342 for astronomy and first used around 1514 for navigation</p>
 <p>FIGURE 5-18 Back-staff</p>	<p>Used to measure the altitude of the Sun to determine latitude</p>	<p>Developed in 1594 as an improvement over the cross-staff</p>

FYI...

Samuel de Champlain, the French Explorer, lost the astrolabe shown in Figure 5-16 as he travelled on the Ottawa River in 1613. More than two centuries later in 1867, Edward Lee, a 14-year-old farm boy, found it. In 1989, the Canadian Museum of Civilization purchased it from the New York Historical Society. It is now on display at the museum in Ottawa. Why do you think the museum bought this artifact on behalf of the people of Canada?

Think IT THROUGH

Which of these instruments do you think was most important for navigation? Explain your thinking. When you need directions to travel anywhere today, what tools do you use? How might ready access to directions and to methods of transportation influence your willingness to travel?

Zoom In > Developments in Ship Design

First Nations peoples adapted their watercraft technology, depending on the materials available for building and the waters they travelled. In the interior, for instance, canoes were developed that were light, strong, and could be manoeuvred through rapids. Cree and Chipewyan (known today as Dene Suline) people mixed the tar sand they found in the Athabasca area with gum, the resin they collected from spruce trees, and used it to repair their canoes.

Europeans developed ships that were suitable for the waters of the Mediterranean and North Sea. But taking ships out into the ocean with its huge waves and shifting winds was a different matter. In rethinking their ship design, Renaissance Europeans again showed their willingness to adapt ideas from other cultures.

Merchant vessels such as the medieval cog were built to carry passengers and cargo relatively short distances. The high stern was built like a castle wall because merchant ships had to be protected from raiders. Cogs were hard to manoeuvre, especially in strong winds, because they were square rigged. These ships were most comfortable sailing in the same direction as the wind was blowing.

The Arab dhow belonged to a family of ships that has been in use for more than 2000 years in the Indian Ocean. The dhow has several lateen, or triangular, sails that allow it to sail into the wind on a zigzag course.

The Portuguese developed a new type of ship called the caravel for travel on the open seas. They borrowed the idea of using multiple masts from Arab vessels. Early caravels had only lateen sails. Later lateen sails were combined with traditional European square sails. The lateen sails made the caravel manoeuvrable and the extra sail area made it fast. It was an ideal craft for long sea voyages. Two of Columbus's ships, the *Nina* and the *Pinta*, were caravels.



FIGURE 5-19
Inuit kayak



FIGURE 5-20
Inuit umiak

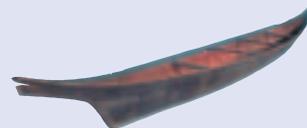


FIGURE 5-21
Coast Salish dugout



FIGURE 5-22
Algonquin hunting canoe



FIGURE 5-23
Medieval Cog



FIGURE 5-24
Arab Dhow



FIGURE 5-25
Caravel

- 1 a. Improvements in three essential aspects of naval technology—maps, navigational instruments, and ships—made possible the voyages of the Age of Exploration. How did the exchange of ideas contribute to all three? Jot down your thoughts using an organizer like the one below.
- b. Canadians are involved in spreading technology around the world. Some technology is high-tech, such as our role in creating the Canadarm for the space program. Some technology is low-tech, such as helping to bring fresh water to villages in Peru. With a partner, brainstorm examples of technology that you take advantage of regularly—from the light switches in your home to the gears on your bicycle. See if you can come up with 10 examples. How does the ready availability of

technology affect your life? If you lived in a village where fresh water and electricity were not available, how might that affect your worldview?

2. In this chapter, you learned about Prince Henry the Navigator. He was an innovative leader whose curiosity, commitment to learning, and organizational skills led to the foundation of an institute that supported exploration and the development of navigational technology. What leader has influenced your life or worldview in a positive way? Choose one and prepare a brief oral presentation highlighting the achievements of the leader you chose and your reason for choosing him or her. Your leader does not have to be in the political field—you can choose a leader from science, sports, business, or your personal life.

The Exchange of Ideas and Naval Technology	
Naval Technology	What group or groups of people were involved in developing or spreading this technology?
Maps	
Navigational Instruments	
Ships	

European Expansion

How did the desire and means to explore foster an expansionist worldview?

What's in a WORD?

To "circumnavigate" the world means to sail completely around it.

As you have seen, Renaissance Europeans had both the motivation and the means to set off on voyages of exploration. In the space of 100 years they went from sailing the seas around Europe to **circumnavigating** the world. They were in competition with one another to establish trade routes for spices and other valuable goods.

The city-states of Italy that you read about in Chapter 2 were constantly trying to increase their wealth and power by expanding their territory. In other words, they had an "expansionist" worldview.

Expansionism refers to the actions and attitudes of a state or country whose goal is to increase its power and territory. During the Age of Exploration, countries sent out explorers on voyages of thousands of kilometres to achieve their expansionist goals.

Exploration Begins

This map shows the first routes of four important explorers. What do you notice about the geographic location of the countries these explorers set out from? How might the geography have contributed to a worldview that led to exploration?

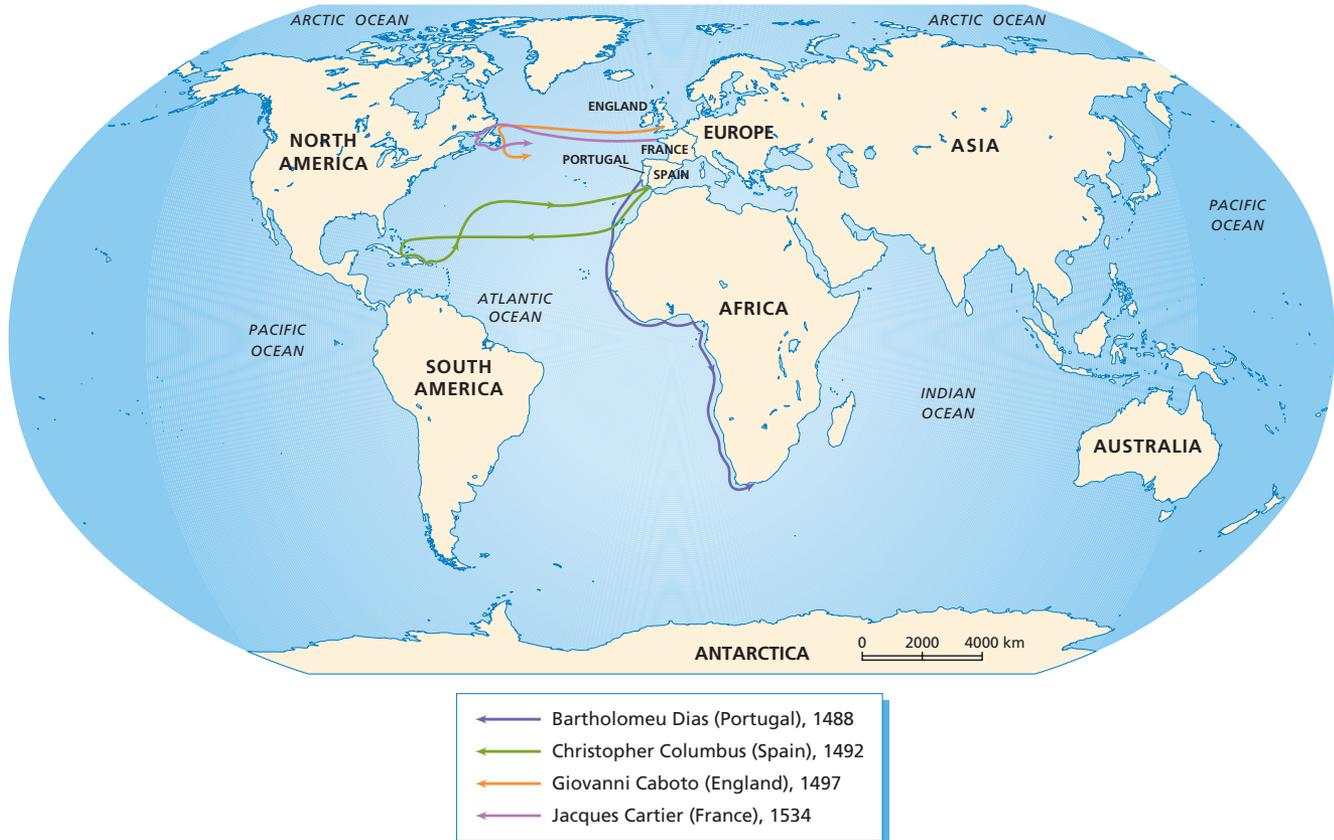


FIGURE 5-26 European Exploration 1488—1534.

How might competition among the various countries have affected their exploration decisions?

Going East

Portugal was the first European country to become involved in organized exploration. Prince Henry sent expeditions south along the west coast of Africa to make contact with gold-producing areas. Year after year, voyages went farther and farther south and established a series of trading posts along the coast. Eventually dozens of ships carrying gold and other goods were travelling between Africa and Portugal each year.

The Portuguese also became involved in the slave trade in Africa. They brought African slaves to work on sugar plantations that they had established on islands in the Atlantic Ocean.

Slavery existed in Africa before the arrival of Europeans. In his book *King Leopold's Ghost*, historian Adam Hochschild describes it this way:

The nature of African slavery [before the arrival of the Europeans] varied from one area to another and changed over time, but most slaves were people captured in warfare. Others had been criminals or debtors, or were given away by their families as part of a dowry [wedding gift] settlement...Over a generation or two, slaves could often earn or be granted their freedom, and free people and slaves sometimes inter-married.

During the next three centuries, Europeans captured and transported millions of Africans to the Americas as slaves. Millions of them died on route from the terrible conditions on the slave ships or from overwork when they arrived.

Think IT THROUGH

By the 1440s the Portuguese were involved in the slave trade in Africa. Consider how Prince Henry's role in involving the Portuguese in plantation slavery compares with his role as a navigational innovator who led to worldwide exploration.

VOICES

Arrival in Africa

These two images give different perspectives on the arrival of Europeans in Africa. The painting was made by a European artist; the sculpture was made by an African artist.

Examine each image using the suggestions in Building Your Skills on page 21. What do the items the artist includes convey about the attitudes each artist held about the arrival of Europeans in Africa?



FIGURE 5-27 This painting depicts “The Landing of Jan van Riebeeck” at Table Bay, South Africa in 1652. It was done after a painting by Charles Bell, 1850.



FIGURE 5-28 This Nigerian sculpture dates to the late 1500s.

LINK UP

In Chapter 10 you will read about Doña Marina, the Indigenous interpreter who helped Spanish explorer Cortés. She played an important role in Cortés's conquest of the Aztec people. ■

FYI...

Heavy ships and guns gave the Portuguese a technological advantage that helped them to defeat the Arab forces.

Prince Henry established practices in Africa that would be very helpful to future explorers. The Portuguese hired members of the local population as interpreters. In this way they were able to get reliable information about the areas they wanted to explore. Interpreters also helped the Portuguese establish relations with Indigenous people. This often resulted in trade.

Bartolomeu Dias led the first Portuguese expedition around the Cape of Good Hope. His crew mutinied, however, and prevented the expedition from continuing on to India. But when Columbus crossed the Atlantic, the pressure on the Portuguese intensified. They needed to reach the East before the Spanish. Five years after Columbus's voyage, a Portuguese expedition led by Vasco da Gama sailed around Africa and across the Indian Ocean and landed in the city of Calicut. Da Gama returned to Portugal in triumph, bringing a cargo of precious spices. The sea route around Africa to the East had been established.

The Battle of Diu

After Vasco da Gama's successful voyage, Portuguese fleets began making yearly trading trips to the Indian Ocean. Arab merchants saw the Portuguese as intruders into their trading territories and regularly attacked their ships. Finally, there was a decisive sea battle between a large fleet of Arab ships and a much smaller Portuguese force off the Indian port of Diu. Because the Portuguese had cannons, they won the battle and established military control in this part of the world. Over the next few years, the Portuguese set up forts and trading colonies across southern Asia. Portugal became, for a time during the 1500s, the most powerful trading country in Europe.



FIGURE 5-29 *Portuguese Squadron off a Rocky Coast* was painted by Joachim Patinir in the mid-1500s. The large ship in the centre is the *Santa Caterina de Monte Sinai*. It was a Portuguese merchant vessel that sailed the Indian Ocean. Ships like this carried cannons, which the sailors could use to protect their cargo from pirates.

Going West

While the Portuguese focused their attention on reaching Asia by going around Africa, Christopher Columbus was convinced that a shorter route lay west across the Atlantic Ocean. After sailing west for 33 days, Columbus's expedition sighted land. In later years, he made three more voyages around the Caribbean looking for sources of gold and spices. He died bitter and poor after his fourth voyage in 1506. He was convinced to the end that he had reached Asia.

The Spanish continued to look for a western sea route to Asia. In 1520, Ferdinand Magellan sailed south along the coast of South America and on into the Pacific Ocean. Eventually, after a gruelling four months, he landed in the Philippines.

Magellan was killed after getting involved in a local war, but his ship, under new command, continued westward and reached Spain loaded with spices—the first recorded voyage to circumnavigate the world.

Think IT THROUGH

The Renaissance humanist Pico della Mirandola wrote of human beings, "[y]ou may have whatever you desire." How did circumnavigating the globe confirm this belief in the power of the individual?

FAST FORWARD

Humans In Space

In April 12, 1961, Russian cosmonaut Yuri Gagarin became the first human in space. This day is celebrated as a holiday in Russia.

A few months later, President John F. Kennedy launched the US Apollo program this way: *"I believe this nation should commit itself to achieving the goal, before this decade is out, of landing a man on the Moon and returning him safely to Earth. No single space project in this period will be more impressive to mankind, or more important in the long-range exploration of space; and none will be so difficult or expensive to accomplish."*

Since then humans have gone into space hundreds of times and 18 of them have died. When the space shuttle Discovery was launched in 2006, NASA set the odds of the crew members dying at 1-in-100. The mission went ahead despite continuing problems with foam falling off the external fuel tank.

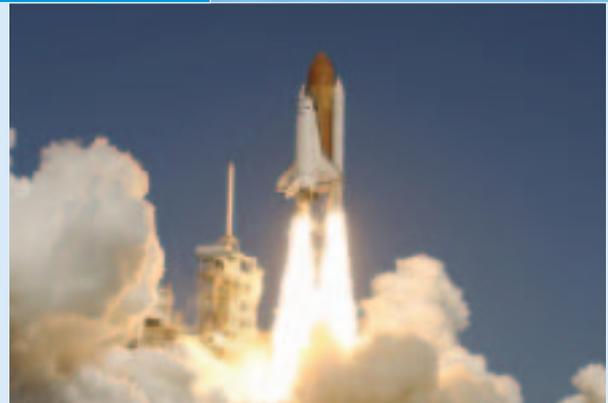


FIGURE 5-30 In 2006, the space shuttle *Atlantis* was launched to rendezvous with the International Space Station. It was the 19th US flight to the International Space Station.

Think IT THROUGH

1. What reason for manned space flights do the Russian holiday and the Kennedy speech suggest? What do you think of this reason?
2. Some experts argue that the risk of human space travel is too high and that robotic space missions are the answer. What position would you take if you were in charge of NASA? What criteria would you base your decision on?
3. What do you think motivates astronauts to go on flights despite the risks? Compare their motives with those of Renaissance explorers.

Old World, New World

Soon after Europeans arrived in the Americas, they began calling it the “New World.” They had accidentally run into it while they were looking for Asia. Europeans thought of the continents that they knew about before the Age of Exploration—Europe, Asia and Africa—as the “Old World.”

“New” to Whom?

To the people living in the Americas, it was simply their world; there was nothing “new” about it. Scientists today estimate that people had been living there for at least 30 000 years before the Europeans arrived. There was a wide variety of cultures with different languages, lifestyles, and belief systems. It is hard to know how many people lived in the Americas in 1492, but estimates range from 40 to 90 million. The population of Europe at this time was 60 million.

The New World was only “new” to Europeans. It was new because before the Age of Exploration they had no idea that this huge landmass and its peoples even existed. And they were amazed by what they saw when they arrived. Everything about the

Americas was unfamiliar to the Europeans: the people, the plants, the animals, and the food.

Modern Perspectives

The historical period that you are investigating is often called the Age of Exploration or the Age of Discovery.

- Here is what Dehatkadons, a modern chief of the Onandaga, said about the word *discovery*: “You cannot discover an inhabited land. Otherwise I could cross the Atlantic and discover England.”
- Because it was the beginning of hundreds of years of European expansionism in Asia, Africa, and the Americas, this time has also been called “The Age of Invasion.”
- Consider the meanings of the words *exploration*, *discovery*, and *invasion*. You may wish to refer to a dictionary. Which word best represents your own point of view about this time? Explain your thinking.



FIGURE 5-31 This map of Venice was drawn in 1572. What similarities do you see between this map and the map of Tenochtitlan in Figure 5-32?



FIGURE 5-32 Cortés included this drawing of Tenochtitlan in a letter he sent back to Spain. Tenochtitlan was the capital city of the Aztec people in the area we now call Mexico. When Cortés arrived, about 200 000 people lived in the city—more than twice the number that lived in the largest European city at the time.

Expansionism Begins

Before Christopher Columbus set off in 1492, he and Queen Isabella and King Ferdinand made an agreement: “The Articles of Agreement between the Lords the Catholic Sovereigns and Cristobal Colon.” Here are some excerpts from it:

Firstly, that Your Highnesses, as actual Lords of the said Oceans, appoint from this date the said Cristobal Colon to be your Admiral in all these islands and mainlands which by his activity and industry shall be discovered or acquired . . .

Likewise, that Your Highnesses appoint the said Don Cristobal Colon to be your Admiral/your Viceroy and Governor General in all the said islands and mainlands . . .

. . . that of all and every kind of merchandise, whether pearls, precious stones, spices and other objects and merchandise whatsoever . . . which may be bought, bartered, discovered, and obtained . . . that he may have and take for himself, the tenth part of the whole . . .

By command of the King and of the Queen

Queen Isabella and King Ferdinand are declaring their sovereignty or power over unknown oceans.

claimed or bought

Columbus is being given power over the places he visits.

Think IT THROUGH

How do the annotated parts of the document express an expansionist worldview?

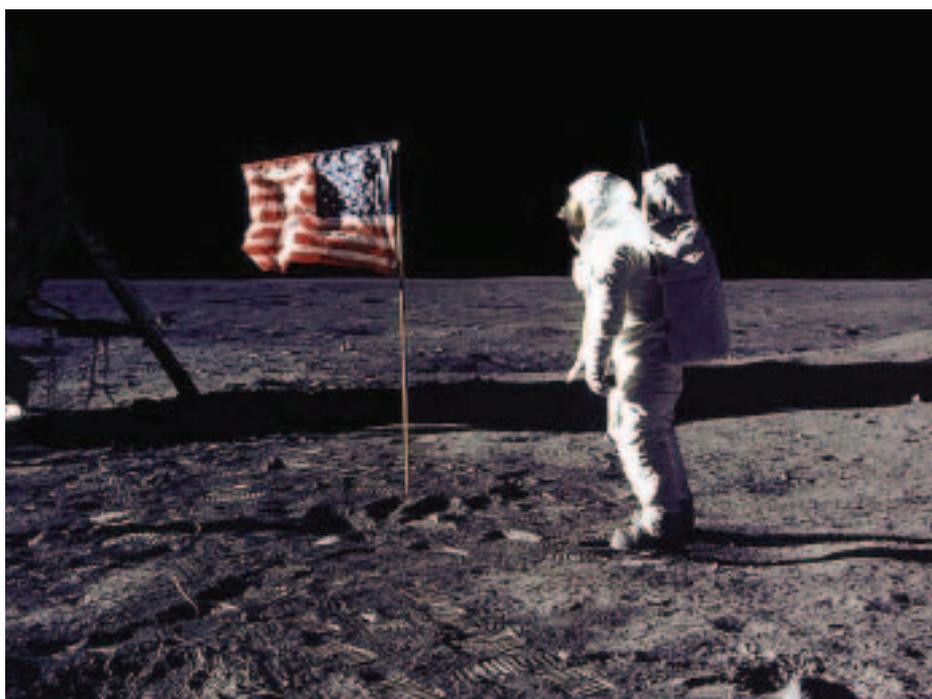


FIGURE 5-33 What aspect of this photo of the first moon landing do you think reflects a modern expansionist attitude? Compare this photo with the image of Columbus's landing on page 104.

Ownership of Ocean Resources

Did you know that countries have control over the natural resources such as fish and oil in the waters around their shore? The distance that this economic control extends is 370 kilometres. But what about the ocean waters beyond that distance? Who is in charge of the resources there? This question is becoming important as mining companies are developing robotic technology that will allow them to mine for precious metals in deep waters far out in the ocean. The United Nations Convention on Law of the Sea declared that ocean resources are the “common heritage of mankind.” It set up the International Seabed Authority and gave it the right to control oceanic exploration and mining.

Think IT THROUGH

Do you share the belief that ocean resources should belong to everyone on Earth? Explain your thinking.



FIGURE 5-34 In March 1995, Canadian authorities seized the *Estai*, a Spanish vessel fishing in Canadian waters. People in St. John's Newfoundland, protested the illegal Spanish fishing practices in both English and Spanish as the ship was towed into the harbour.

Over to YOU

1. a. Choose three voyages from this phase of the Age of Exploration and describe the goals of each voyage. Use a chart to organize your thoughts.

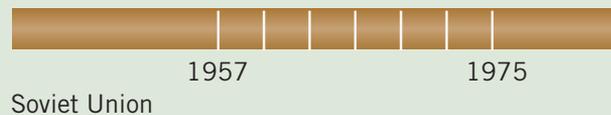
Voyage	Goal(s)

- b. Review the definition of Expansionism on page 120. Do the goals of each voyage you chose reflect an expansionist worldview? Support your answer.
2. The Spanish and Portuguese were in a race to be the first to find a sea route to the East. Hundreds of years later, two superpowers engaged in the “space race.”

Between 1957 and 1975, the United States and the former Soviet Union were competing in space exploration. Create a timeline to help you understand the sequence of events.

- Do research to find out about the space race.
- Use a chart like the one below to record the events.

United States

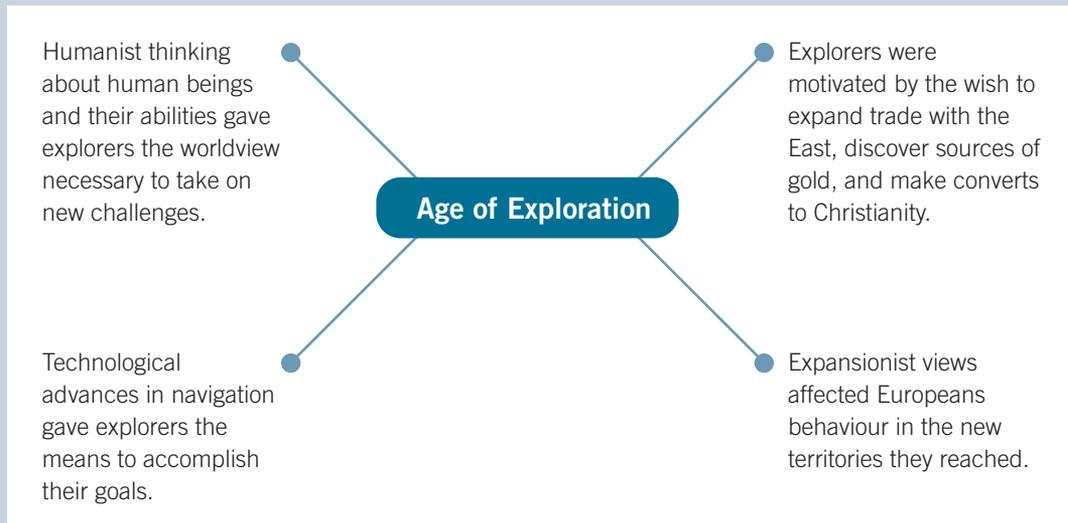


- Share your thoughts about the following question with a group: How did the space race reflect the worldview of the United States and the Soviet Union?

Explore the Big Ideas

The Age of Exploration was a time when Europeans set out on expeditions into parts of the world that were previously unknown to them. What factors contributed to these events?

1 a. Using the organizer below, gather evidence from the chapter in each of these categories.



b. Choose one factor and prepare a brief presentation for your classmates summarizing how it contributed to the expansionist activities of Renaissance Europe.

c. Which of the factors on the above organizer do you think are present in our society's interest in exploring beyond Earth?

2. Work with a partner to make a model of a Renaissance navigational instrument and demonstrate its use.

a. Choose an instrument that both of you are interested in learning about.

b. Create a plan for how to build the instrument and research its use. You might want to include the following in your plan:

- a list of materials you will need
- how you will obtain them
- how you will do the research
- what form your demonstration will take
- which tasks each of you will do
- a schedule for your work.

c. Demonstrate your model to your class and discuss its use.

d. When you have completed the demonstration, review your plan to assess its strengths and weaknesses.

3. In a group, discuss the contents of this chapter in terms of the elements highlighted in the worldviews icon on page 105. Record a summary of your ideas and present it to the class.