Ships of Discovery
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Ships of Discovery

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Introduction

People often settle along rivers, lakes, and seas. Long ago, people who lived near large bodies of water were curious about what might lie beyond the horizon. They also thought that traveling over water might be easier than traveling over land. These thoughts led to someone making a simple boat. Over time, the boats got bigger and faster.

As boats and ships became bigger and faster, people were able to travel farther from home. New types of boats were an improvement over the previous boats. They often were safer, carried more cargo, and were more comfortable. Up until about 150 years ago, boats were the main means of carrying goods and people from place to place. Let’s look at how boats were used to explore the Earth and how they have changed.
Early Years

The oldest record of sea travel is from Egypt. More than 6,000 years ago, Egyptians took to the water. They built boats by carving out the trunks of trees. But the Egyptians were not the only people to make boats from trees. Many other cultures that took to the water also carved boats from trees. These were sturdy boats, but they couldn’t carry very much.

Over time, people wanted to move larger things over waterways. They wanted to build boats to carry many people as well as food, animals, and other items to trade. Canoes made from oak trees were good boats for crossing a lake or going down a river. However, they didn’t work too well for carrying large things. Imagine trying to row a canoe across a lake with six sheep cramped around you. The space just wasn’t big enough.

Humans have always been driven to improve on things. So it was natural that long ago people would look for ways to build bigger, faster, and safer boats. After all, if people were ever going to explore places far from their homeland, they needed better boats.
Soon, the Greeks and other peoples around the Mediterranean Sea were building large boats powered by sails. About 3,000 years ago, the sailing ships were built with two masts, each one holding a sail. The addition of a second mast made a ship much easier to steer and also made it much faster.

Five hundred years later, the Greeks had developed a ship with four sails. This ship was safe enough to leave the Mediterranean Sea and travel down the African coast.

Some of the fastest ships at the time were built for battle. These warships often had a full set of sails. They also had as many as three levels of rowers on each side of the ship.

These larger ships allowed people to travel to and explore distant places. And that is exactly what they did. During this period, exploration and trade moved beyond the Mediterranean Sea.

The next step in boat building was using wooden beams to make a frame. The frame was then covered with wooden planks or bark from trees. Some cultures even used animal skins stretched over the frame. These boats were bigger, but also more streamlined and able to hold more cargo.

The Egyptians were the first to cover a wooden frame with long, flat pieces of wood to create a hull (the outer shell of a boat). Some of their boats were as much as 21.3 meters (70 ft.) long. The Egyptians were also first to use sails. The use of sails eliminated or reduced the need for human power to row the boats. Some larger boats used both rowers and sails.
The Polynesians

In the South Pacific, groups of Pacific Island peoples were building boats that could sail in the open ocean. Over 3,500 years ago, these people were traveling east, well beyond the islands where they lived. They explored areas off the Asian mainland.

These Polynesian sailors built a boat that was an early version of the modern catamaran. They took two canoes and connected them using large wooden poles. A deck was then built to span the poles. These boats were usually about 15 to 18 meters (50–60 ft.) long. The central deck held masts for sails and had enough space for several people and their supplies during a long voyage.

These early boats provided safe travel from one island to another. The Polynesians settled each new island they discovered. By the beginning of the year 1000, they lived on nearly every island they could find in the Pacific Ocean. Their new homes included Hawaii, New Zealand, and Easter Island.

Polynesians were very skilled sailors. They became so familiar with the ocean that they could tell their location by the size and shape of the waves. They could easily travel great distances by going from island to island. Polynesians grew to accept sea travel as a way of life. And why not? After all, they lived in a sea of islands.
The Vikings

More than 1,300 years ago, another group of people in another part of the world began to build larger boats. These people were called Vikings. They lived in the northern part of Europe. The Vikings were well known as warriors and conquerors. The Vikings were very accustomed to traveling over water. By the year 700, they were sailing boats that were better than any others on the ocean.

The boats they built, called _knarrs_, were used mostly for trading. These boats were up to 16.5 meters (54 ft.) long and 4.5 meters (15 ft.) wide.

**Do You Know?**

Viking sailors sometimes took birds with them on voyages. When they needed to find land for food or water, they released the birds and followed them to the nearest land.

Because they were flat-bottomed, they could carry very heavy loads. They also were very stable and could travel safely across the open ocean. Viking explorers were willing to travel into the unknown to claim new lands and seek adventure. They were also the first Europeans to visit North America.

Vikings also built warships. The ships were different from all other warships. They became known as _longships_. It often was difficult to tell if a longship was coming or going because they looked the same in the front and in the back. With this design, Viking attackers could easily change direction. Longships were able to travel as fast as 15 knots. A knot is a way to measure speed on water. Some of the larger longships carried as many as 200 warriors. The combination of large, speedy, easy-to-handle ships and a fierce fighting spirit made the Vikings tough to defeat. The Vikings ruled the ocean for nearly three centuries.
The largest of Columbus’s ships was 27.4 meters (90 ft.) long and 9.1 meters (30 ft.) wide. Compared to modern ocean liners and cargo ships, these ships were tiny. But even though they were quite small, explorers like Ferdinand Magellan and his crew set out to sail five of these ships around the world.

Almost three years after they began the trip, one of the ships and 18 men made it around the world. Magellan was not one of the survivors. He was killed somewhere in the Philippine Islands.

Age of Discovery

Until the 1400s, most sea exploration was still close to home. But with the coming of the Age of Discovery, things got interesting. Every sailing country wanted to find new lands. The race was on, and the Americas were the prize.

Shipbuilders had to find ways to build faster and safer ships. In the 1400s and 1500s, Christopher Columbus and other explorers used small, fast, sturdy ships known as caravels. These ships had three masts to hold sails. This made the ships faster and easier to steer. Caravels had square sails on the front and the middle main masts, and a triangular-shaped sail on the back mast.
The Chinese

While European explorers were sailing the world, the Chinese had also taken to the sea in another part of the world. They were skilled sailors. Their most famous explorer, Cheng Ho, traveled in a fleet of 62 ships that were much larger than the European ships. His largest ship was so big that it could have held all three of Columbus’s ships on its deck. This huge ship was 121 meters (400 ft.) long and 45.7 meters (150 ft.) wide. But these ships were still small compared to today’s modern ships. In addition to the 62 main trading ships, there were more than a hundred smaller support boats in the fleet. The Chinese sailed all the way to Africa to trade.

War with their Asian neighbors caused the Chinese to turn their attention away from exploration. If they had continued, we might be studying about how China discovered America. And North and South Americans might be speaking Chinese instead of French, English, and Spanish.

Do You Know?

Christopher Columbus’s entire crew was 90 or so men on three ships. The Chinese explorer, Cheng Ho, had more than 162 ships and 30,000 men on one of his voyages.
In the late 1700s, Captain James Cook was beginning some of the greatest explorations of his time. In his first ship, the *Endeavour*, Cook sailed around the world. His ship was only 105 feet (32 m) in length. Not only was it smaller than many other ships, it also had a shallower hold, sitting only 14 feet (4.3 m) deep when fully loaded.

Cook was not only a great sailor, but he also knew how to keep his crew healthy. He made them eat foods, such as limes and cabbage, to prevent certain diseases. Until Cook’s time, up to one half of the crew on a long voyage would die of scurvy or other diseases. Cook knew his success as an explorer depended on keeping his crew healthy.

Later Years

As sea exploration continued, the Spanish led the way. They built ships that were even larger and faster. By the 1500s, European shipbuilding had improved. The newest ships, called *galleons*, were larger, faster, and more comfortable. These vessels were as long as 42.7 meters (140 ft.), but still small compared to the Chinese ships. Many of them had very nice, comfortable living quarters. Galleons were capable of serving as both trading vessels and warships. Because of their greater size, the warships were able to carry many cannons on board, making them dangerous in battle.

**Do You Know?**

Captain Cook’s ship, the *Endeavour*, would cost about $4,064 at today’s conversion rates. Today you can’t even buy a good used car for that much money.
Conclusion

By the middle of the 1800s, people had explored and mapped most of the world. As people settled farther from their homelands, larger ships were needed to carry people and supplies great distances. Very large, fast ships called clipper ships were built. They carried people across oceans in a matter of days. Some of these ships had as many as 35 sails. In only a few years, however, the steam engine would replace wind power.

When we look at some of the ships used by early explorers to sail across oceans, we have to admire their courage. As we venture into space in larger and faster spaceships, we can draw on the courage of the early explorers.

For Further Research

Polynesian History
www.pbs.org/wayfinders/polynesian2.html

James Cook’s Endeavour
www.freespace.virgin.net/chris.jones/ccsu72.htm

The history of boating
www.igrandparents.com/grandtopics/articles/mini-sites/Boating/ancienthistory.asp

Columbus’s Santa Maria & the Spaceship America
www.jsc.nasa.gov/er/seh/ships.htm

Chinese explorer Cheng Ho
www.marauder.millersv.edu/~columbus/data/art/WILSON09.ART

Age of Exploration Timeline (through Captain Cook)
www.mariner.org/age/histexp.html

Viking ships
www.historymedren.about.com/cs/vikingships/

Mariners’ Museum, Age of Exploration
www.mariner.org/age/menu.html