

## 16th Century

### Waters of Riches

[John Cabot](#) was not searching for new fishing grounds when he discovered his "[New found land](#)" in 1497; he was seeking a new [commercial route to Asia](#). Yet within just a few years, hundreds of ships carrying thousands of fishermen were sailing annually to the rich fishing grounds he had stumbled upon. Breton and Norman fishermen were voyaging to Newfoundland as early as 1504, soon to be joined by the Portuguese, the Basques, and the English. So many nationalities were represented in this new enterprise that historians commonly speak of the 16th century as the era of the "International Fishery."

The remarkable speed and intensity with which Europeans began exploiting these "waters of riches" reveals much about Europe in the 1500s. The vitality of the fishery was a result not only of the abundance of cod but also of the strength of market demands brought on by population expansion, urbanization, and commercial growth at home in Europe.

Europe's vigorous exploitation of the New World's fishing grounds was possible because the necessary seafaring skills, fishing technologies, curing methods, and markets had already been well developed, thanks to the long-existing European fisheries in the Irish Sea, off Iceland, and elsewhere. The Newfoundland fishery was an extension of a well-established domestic industry that served established domestic markets and employed tried and tested methods to catch, preserve, and deliver fish.



Map of the fishing grounds around Newfoundland, 1693  
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It is important to understand that fish was never the food of the poor. By the time fish from North American waters were caught, cured, transported and delivered to market, most Europeans could not afford them. Yet, as the population of Europe grew, and as Europe became more urbanized, there were enough Europeans who could afford it, and for whom a diet that included fish was desirable. There was soon a constant, ready market for fish delivered from the New World.



Catching, curing and drying cod in the early 18th century  
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Perhaps most important to the development of the fishery was the fact that the fish found in such abundance in Newfoundland's waters was cod. Unlike herring, mackerel, or salmon, cod is relatively fat-free and preserves well using techniques involving salt and air-drying. In fact, the flesh can become so dehydrated that it becomes remarkably light in weight, making it perfect for transporting not only by sea but also overland. All these factors were significant to the fishery -- the abundance of cod, the simplicity of catching it, the ease of preserving it, the relatively low cost of transporting it to markets both coastal and inland, and the growing demand in Europe by those able to afford it. Combined, these things made the fishing grounds of northeastern North America truly "waters of riches" that attracted the attention of Europeans from the moment they were discovered.

# The Fabled Northwest Passage

When [John Cabot](#) ventured into the North Atlantic in the *Matthew* in 1497, his goal had nothing to do with fish, even though his discovery of the [waters of riches](#) was unquestionably the most dramatic result of that voyage. Cabot (like Columbus before him) hoped to prove that a direct sea route existed between Europe and Asia. He did not know that a continental landmass entirely unknown to Europeans blocked his way. As Europeans became aware that a "New World" existed across the Atlantic, many found ways to profit by the discovery through the fishery or by the fur trade. Others, however, remained determined to find a sea route to Asia. This belief led to the search for the fabled Northwest Passage, a search that persisted for centuries.

Such a search was only possible because several factors came together in the late 15th and early 16th centuries. These factors included the development of sturdy new [ships](#) that were capable of long-distance oceanic voyages, and the willingness and ability of merchants to risk some of their capital against the new commercial opportunities that a sea route to Asia would provide. Also, there was a growing confidence among mariners that they would survive oceanic voyages, thanks in part to the development of new navigational instruments and the accumulation of oceanic experience. Each exploration added to that experience and knowledge. Thus, the earliest voyages of Cabot, [Corte Real](#), and others established for Europeans the existence of North America, while those of the next generation, such as Giovanni da Verrazano and [Jacques Cartier](#) in the 1520s, 1530s and 1540s, made clear that a sea route *through* North America did not exist. This left explorers searching for a northern passage around North America -- the only other possibility was a sea route around the southern tip of the New World, and this would remain Spain's jealously guarded secret for several decades after being discovered by Magellan in 1520.



Accounts of some of the voyages that searched for the Northwest Passage

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The most persistent efforts to discover a Northwest Passage were made by the English. The first significant expeditions were those of [Martin Frobisher](#) and [John Davis](#) in the 1570s and 1580s; then came renewed efforts in the 1610s and 1620s, including the ill-fated voyage of [Henry Hudson](#) as well as expeditions by Thomas Button, William Gibbons, Robert Bylot and [William Baffin](#). These voyages succeeded only in proving that the Arctic was a forbidding and inhospitable place for Europeans, and that if a Northwest Passage did exist, it was unlikely to be a commercial success. By then, the Portuguese, Dutch, English and others had all come to the conclusion that the only practical route to Asia lay to the south, around Africa and across the Indian Ocean. Interest in a commercial Northwest Passage between Europe and Asia faded, although it resurfaced well into the 18th century. By the time the search to find the elusive Passage was revived with renewed vigour in the nineteenth century, the effort was driven more by scientific curiosity than by commercial ambition.

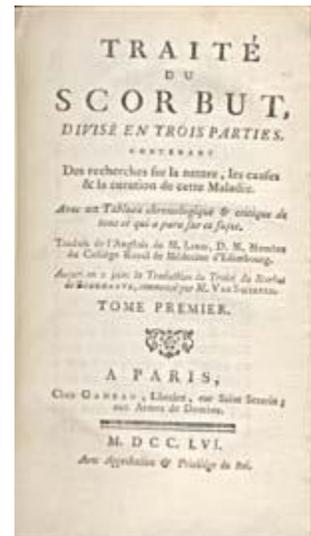
# Scurvy: Scourge of the Voyagers

Mariners have always been confronted by risks and hazards -- disaster could come from uncharted reefs, fire on board, or shifts in the wind. In the 15th century, long-distance sea voyages introduced a new set of dangers. So long as seafaring had been limited to short-distance voyages, the quality of shipboard provisions mattered little, but once mariners undertook voyages that lasted months at a time, problems arose from poorly preserved food and from diets that lacked essential vitamins. As a result, thousands of seafarers died before these problems were solved.

Shipboard diet was invariably boring -- hardtack, salt meats, dried peas, dried fish, butter, cheese and fresh water or beer were typical staples -- but mariners generally received sufficient food to meet their daily caloric requirements. The problem was not the quantity of food but its quality. Shipboard provisions were preserved by being salted, pickled, dried or smoked, but even these methods could not prevent food from spoiling over time. This, combined with poor hygiene and sanitation, crowded shipboard conditions, and vermin, meant that sailors often fell victim to diseases like the "bloody fluxe" (dysentery), "ship fever" (typhus, spread by lice), and typhoid. No one understood the micro-organisms that caused these diseases, but sailors had no difficulty blaming meat that was putrefying, water that stank with algae, and biscuit infested with weevils. The quality of food was a common source of complaint among mariners through the ages.

One malady that killed sailors by the score was caused not by what was in the food but by what was not. Scurvy, caused by a lack of Vitamin C, was the great killer of mariners on long oceanic voyages. During his voyage to India in 1497-98, Vasco da Gama lost two-thirds of his men to scurvy. Two hundred and fifty years later, Commodore Anson lost over half of his nearly two thousand men during a four-year voyage. Mariners recognized that scurvy was somehow linked to their diet, but they did not understand how. Was it a lack of fresh meat? Fresh vegetables? Why did some foods help, while others did not?

As early as 1535, [Jacques Cartier](#) learned from Native people in Canada that a brew made from some evergreen bark and foliage would cure scurvy. By 1601, others had discovered that lemons were very effective against the disease. Still, it was not until James Lind conducted detailed tests in the late 1740s that the value of citrus fruit began to be scientifically recognized. Even then, decades passed before sailors could be convinced to change their diets -- [James Cook](#) himself thought sauerkraut was better than lemons for safeguarding the health of his men -- and the problem of scurvy persisted well into the 18th century.



Title page of the French translation of Lind's "Treatise on the Scurvy"  
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# Transportation

The ships used by early explorers such as [Cabot](#) and the [Corte Reals](#) were much different than the [Viking knarrs](#) of 500 years earlier. By the 16th century, sailing vessels were sophisticated pieces of technology, carrying vast expanses of canvas manipulated by many metres of ropes and spars. They had three masts and along with square sails they carried at least one lateen-rigged (triangular) sail that hung across the wind, making it easier to tack and steer.



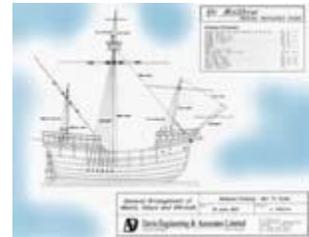
Ships from Wright's *World Map of 1598*

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vessel of only 18 tonnes.

Vessels were carvel-built; that is, the planks of their hulls formed a smooth skin rather than the overlapping style favoured by the Vikings. They were broad vessels, built to withstand the heavy beating of the stormy North Atlantic, but they were not particularly large, since smaller vessels handled better in unknown, coastal waters. John Cabot's *Matthew* was only 50 tonnes (meaning it could carry 50 tonnes of cargo), with a crew of less than 20; [Martin Frobisher's Gabriel](#) was even smaller. [Jacques Cartier](#) penetrated the St Lawrence River in the *Grande Hermine*, somewhere between 100 and 120 tonnes in size with a crew of 60, but [John Davis](#) ventured into ice-choked Baffin Bay in a

Life aboard these small vessels was uncomfortable to say the least. Crew's quarters were cramped, dirty and cold. Fires were lit only in calm weather and washing facilities were nonexistent. Food rations were very monotonous. Frobisher's men, for example, received daily a half-kilogram of dry biscuit, four litres of beer (preferable to water, which went stale), a kilogram of salt meat, some dried peas, a quarter of a salted fish, and some butter, cheese, rice, oatmeal, raisins and nuts. The absence of vitamins made [scurvy](#) a constant threat. One mariner of the time summed up the seafaring life: "a hard Cabbin, cold and salt Meate, broken sleepes, mouldy bread, dead beere, wet Clothes, want of fire."



Replica of John Cabot's ship, the *Matthew*

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Besides a compass, used to establish which direction was north, 16th-century navigators possessed a small number of instruments to help them find their way across the empty ocean. Using an astrolabe, a quadrant, or a cross-staff, they could measure the angle above the horizon of the North Star or the sun at noon and thereby calculate the ship's latitude (longitude being left pretty much to guesswork). Of course, skies were not always clear enough to permit the necessary observations. Next, speed was measured by trailing a line in the wake -- knots tied in the line at equal intervals could be used to calculate how fast the ship was going. There were no coastal charts, and early explorers had to keep a constant lookout for shoals and rocks. They used a weighted line dropped into the water to keep track of their depth.



Pitcher recovered from the *San Juan*  
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The ships that followed in the explorers of the early part of the century tended to be larger and heavier. They were working ships, designed to carry cargo or colonists. The remains of one of these vessels were recovered from the water of Red Bay on the south coast of Labrador in the Strait of Belle Isle. It was the *San Juan*, a 300-tonne galleon used by whalers from the Basque region of northern Spain. Wrecked in a storm in 1565 and preserved for more than 400 years in the mud at the bottom of the bay, the *San Juan* is one of the oldest shipwrecks located in Canada. Its discovery has revealed a great deal of information about the vessels used by the earliest European visitors.

## 17th Century

### Attempts at Settling the "New" Land

More than a century would pass between the time that Europeans began fishing the [waters of riches](#) and their first attempts to settle Canada. There are a few reasons for this delay. The fishery was made profitable by men who crossed the Atlantic seasonally -- arriving on the North American coast in the spring and returning to Europe in the fall. Settlement, as the historian Gillian Cell put it, was irrelevant to the fishery. The same was true of the [fur trade](#) in the Gulf of St. Lawrence, which was attracting investors by the late 1500s. Europeans did not trap furs themselves, but acquired them from the Native inhabitants of Canada, in exchange for European goods. For those who invested in the fishery or the fur trade, it simply made more sense to operate seasonally, without incurring the enormous cost and risk of transporting settlers from Europe and then maintaining them year-round. As a result, no attempt was made to settle permanently north of the Carolinas before the 17th century.



[*Port Royal*], 1613, by Samuel de Champlain  
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Around 1600, something changed. Between 1603 and 1613, numerous attempts were made to establish permanent European outposts in North America: by the French in the Bay of Fundy region in 1603-04; by the English in Virginia in 1607; by the French again at Quebec in 1608; and by the English in Newfoundland several times, beginning in 1610. What triggered this seemingly abrupt interest in permanent settlement? The answer is complicated. As the 17th century began, a period of war drew to a close in Europe, one that had preoccupied several countries. The onset of peace brought new interest in overseas investment, including the notion that profits could be made through the development of colonies. The first colony in Newfoundland, for instance, was established in 1610 by the London & Bristol Company (commonly called the Newfoundland Company). The investors of this company expected the colony to generate wealth through the development of Newfoundland's mineral, forest, and agricultural resources as well as from its fishery.

Expectations such as these were nurtured by the optimistic predictions of those promoting overseas colonization. They insisted that the island had a climate as mild as that of London or Paris, soil suitable for European crops, and mineral potential in abundance. Unfortunately, the inaccuracy of these claims was not revealed until after the experience of those who settled there proved the promoters wrong. The climate was in fact quite harsh, the soil thin and acidic, and the mineral potential would have to wait a few centuries for the development of mining technologies.

This is not to say that settlement would not take root in Newfoundland. Archaeological evidence at Ferryland and at Cupid's Cove suggests that settlement did persist. Yet only the fishery in Newfoundland, like the fur trade in New France, would generate the sort of profits that pleased investors in Europe. Since settlement was really not essential to either the fishery or the fur trade, this meant that settlement in the new land progressed very slowly throughout the 17th century.

# Transportation

## The Canoe

Travel through the interior of Canada would have been impossible without the canoe, a watercraft perfectly suited to the rivers and lakes of North America. Native people in Canada had always used canoes, and it did not take long for European newcomers to recognize the value of these craft. As [Champlain](#) wrote: "In their canoes the Indians can go without restraint, and quickly, everywhere, in the small as well as the large rivers. So that by using canoes as the Indians do, it will be possible to see all there is."

In the woodlands of eastern and northern Canada, canoes were made of birch bark, strong, but light. One person could carry a small bark canoe around the many rapids and waterfalls that blocked the interior rivers.



Native canoes at the scene of the battle between the Huron and French and the Iroquois  
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Builders peeled the bark from the birch trees in long sheets that were then sewn together and attached to a cedar frame. Tree roots were used as thread and the seams between the bark sheets were sealed with spruce or pine resin. One drawback to the bark canoe was its fragility; it didn't take much of a bump against a sharp rock to burst a hole in the side or bottom. Luckily, it was also easily mended. Paddlers always carried with them a bundle of fresh bark and some resin to patch the holes.



Voyageur boat and Chippewa canoe  
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Canoes came in different shapes and sizes. The bark canoes made by Native people for getting around in the woods were quite small and could be carried on the shoulders of a single paddler. [Fur traders](#) and explorers required larger canoes for carrying quantities of furs and other cargo. The largest were called *canots du maître*. These giants were up to twelve metres long, carried 2 200 kilograms of cargo and required a crew of six to twelve *voyageurs* to paddle them. They were used to ply the routes between Montreal and the head of Lake Superior. In the wooded fur country beyond the Great Lakes, the *canot du maître* was too big to wrestle around the portages, so traders used the smaller *canot du nord*. It was seven metres long, and carried only half the cargo and crew of the larger vessel.

When they were on the move, it was customary for a canoe brigade to rouse itself well before dawn and put in four hours of paddling before pausing for breakfast. The average workday lasted 16 to 18 hours. A bark canoe could be paddled across the water at close to ten kilometres per hour. It was exhausting work, but preferable to the portages, where the cargo, carefully packed in 40-kilogram loads, had to be unloaded and carried on the backs of the voyageurs, along with the canoe. Sometimes these portages were 15 kilometres long, going across swamps and over steep hillsides, and a voyageur would have to tramp back and forth several times.