

Christopher Columbus

Information about the youth of Christopher Columbus is vague, but it seems that until he was 22 years old Cristoforo Colombo followed the trade of his father Domenico who was a weaver of woolen cloth in Genoa. Then he began his nautical career, probably as a merchant

After several voyages he settled in Lisbon about 1478, where he gained command of a ship. A self taught man, he studied Portuguese and acquired sufficient Latin to read almost all the works then in existence on geography and navigation, including *Imago Mundi* by Pierre d'Ailly, *Historia rerum ubique gestarum* by humanist scholar and pope, Pius II, and the writings of Marco Polo. Convinced that the Earth was round, Columbus began to plan a westward voyage to the Far East, to the almost mythical wealth of China, confirmed by Marco Polo. His plan seemed more practicable because it was based on several apparent facts, which have since been proved incorrect.

He thought the Earth's circumference smaller than it actually is, and he thought Asia to be larger than it is. Hence he concluded that the distance from Europe to Japan would be less than the 3000 nautical miles, whereas in fact it is on a great circle route 10,600 miles.

Also he did not conceive that there might be a continent between Europe and Asia, and hence, when he sailed 3,000 miles to the West Indies, he concluded that he had in fact reached Asia. Columbus married Felipa Perestrello in 1479 in Lisbon and had one son, Diego. In 1481 he entered the service of John II of Portugal, to whom in 1484 he submitted his plan to reach Asia by sailing westwards. The King, however, rejected his plan.

The same year Columbus's wife died and he moved to Spain, and laid his project before the joint sovereigns of the newly united Spain, Ferdinand and Isabella. The sovereigns called a commission to examine his proposals in detail but all decision had to be postponed until a more suitable time because the country was engaged in re-conquering the last Moorish territory in Andalusia.

Columbus was recalled to Portugal by John II and submitted his plans to him again, but the return of Bartholomeu Dias to Portugal, after rounding the Cape of Good Hope, attracted all attention and Columbus went back to Spain. In April 1492, after the Spaniards had completed the conquest of Granada and established an all Christian Spain, Ferdinand and Isabella decided to finance the enterprise and promised Columbus, if he were successful, the rank of Admiral of the Ocean Sea and viceroy of all the land he discovered. The small Andalusian port of Palos was charged with the duty of equipping two caravels for the expedition, the Niña and the Pinta, while the flagship, the Santa Maria, belonged to the royal fleet.



The three ships set sail from Palos on August 3rd 1492. There were altogether 90 men on board, of whom some 40 were on the Santa Maria with Columbus. Part of the diary kept by Columbus on his first voyage to the New World tells of several 'false alarms' before the ship actually sighted land. On September 18th, having seen huge flocks of birds, the sailors expected land to be near, a feeling confirmed by their sighting boobies and other birds on September 20th.

But it was not until 11th October, after sailing for more than two months, that the ships fished from the sea such sure signs as a cane, a branch covered with berries, and a board, to give them definite proof of the nearness of the land. At 10 o'clock that night Columbus saw a light ahead, and at 2 a.m. Friday, October 12th 1492, Rodrigo de Triana, a sailor aboard the Pinta, pointed out the New World. The land he sighted was one of the islands of the Bahamas called Guanahani in the language of its native inhabitants, but soon re-christened San Salvador by Columbus.

During the following weeks Columbus landed on Cuba, Haiti and other islands. He believed them to be the outer rampart of Asia. He took possession of these islands in the name of Spain and, leaving a garrison of 43 men at Haiti, returned to Spain. He arrived at Palos on March 15th 1493 with a cargo of the islands' produce and several enslaved natives as proof of the success of the enterprise. He was given a triumphal welcome. Soon after this joyful return, which was somewhat marred by the envy of a few of his opponents, Columbus prepared a second and much larger expedition.



On September 25th 1493 he sailed from Cadiz to the West Indies, whose existence was now accepted as a fact. This was to be a voyage of colonization, not merely of discovery. There were 17 ships and they carried more than 1200 men, and beside sailors these include priests and soldiers, craftsmen and farmers. This voyage lasted until 1496 and went as far as Jamaica. The settlement was duly made on Haiti as the new town of Santo Domingo.

During the next expedition, which began in 1498, Columbus ran into serious trouble. Although officially he still had the powers with which he was invested on the previous voyage, he was surrounded by untrustworthy advisers and rivals who joined together to accuse him of incompetence and abuse of his authority. Consequently both Columbus and his brother Bartholomew were brought back to Spain in chains. During this expedition they had discovered

Trinidad and reached the mouth of Orinoco River.

After assiduous efforts Columbus was reinstated, and set out on his fourth and last voyage on May 11th 1502. For two years he explored the coast of Honduras and Costa Rica, failing to find anything profitable. These voyages of Columbus and the information gained from his experiences opened the way for the race to the West Indies on the part of adventurers, some with the blessing of the court, and some on their own account, in search of fabulous wealth and privileges. Twelve years after the first crossing, after suffering many vicissitudes and injustices, including King Ferdinand's failure to carry out certain of his promises, Columbus himself retired to Valladolid where he died on May 20th 1506.

Christopher Columbus never forgave Spain for the affronts he had received. He left directions that he should be buried with the chains in which he had returned from his third voyage. Despite this, many Spanish cities vied with each other for the honour of being his place of burial, and his body was many times transferred from one place to another: from the church Nuestra Señora de las Cuevas in Seville, to Santo Domingo in Haiti (the city founded by his brother Bartholomew on the second voyage), to Cuba, whose claim was based on its having been the first important territory to be discovered by Columbus in 1492; then back to Spain to Seville cathedral in 1899.

A partial and belated attempt on the part of Spain to make amends for the injuries Columbus had suffered was the conferment on his elder son, Diego, in 1509 of the governor-generalship of the 'Indies'. The writings left by Columbus consist of his Diary, compiled by Bartolome Las Casas, several letters, and marginal notes to various works which he used to read, the most interesting ones being those on Marco Polo's Description of the World.

Columbus's Voyages and Discovery of the New World

THE FIRST VOYAGE

Columbus sailed from Palos de la Frontera on 3 August 1492. His flagship, the Santa Maria had 52 men aboard while his other two ships, the Nina and Pinta each held 18 men. The expedition made a stop at the Canary Islands and on 6 September 1492 sailed westward.



Let us look at the first voyage and the victuals embarked on the three vessels, the Nina, Pinta and Santa Maria. The first problem was to obtain supplies of food, wine and water. At the Canary Islands they picked up fresh water, wood and the famous Gomera goat cheese. Columbus' first voyage had the best victuals (and enough to last a year), not the case in his other voyages.

The menu for Spanish seamen consisted of water, vinegar, wine, olive oil, molasses, cheese, honey, raisins, rice, garlic, almonds, sea biscuits (hardtack), dry legumes such as chickpeas, lentils, beans, salted and barrelled sardines, anchovies, dry salt cod and pickled or salted meats (beef and pork), salted flour. The olive oil and perhaps olives were stored in earthenware jugs. All other provisions were stored in wooden casks, which, according to some reports, were of cheap and faulty construction permitting the preserving brine to leak out of the meat casks and moisture to invade the casks of dry provisions. All were stored in the hold, the driest section of which was normally reserved for those casks carrying dry provisions. A cooper (barrel maker) was responsible for keeping the casks tight, an almost impossible challenge.

Food, mostly boiled, was served in a large communal wooden bowl. It consisted of poorly cooked meat with bones in it, the sailors attacking it with fervour, picking it with their fingers, as they had no forks or spoons. The larger pieces of meat were cut with the knife each sailor carried.

At the time of Columbus, the only means of cooking was an open firebox called "Fogon." It was equipped with a back to screen it from the wind. Sand was spread on the floor of the box and a wood fire built on it. Of course, all this was obliterated in stormy weather. Later on, portable ovens were made available to set up ashore when the opportunity arose.



Fish was cheaper and more readily available than meat and was served more often. Meats were often prepared in some sort of stew with peas other legumes or rice and served with sea biscuits, which were soaked in the soup or in water for edibility. Sea biscuits were purchased to last at least a year, providing they were kept in dry areas.

For drink the crew had wine and water. Both were stored in wooden barrels. The wine was red and high in alcohol - a preservative feature. It probably came from the hot, dry, undulating treeless chalky plains of Xeres (Jerez) near Cadiz, where the vines were first planted by the Phoenicians, tended by the Greeks after them and then the Romans and much later the Moors. The wines while rich in character were not fortified at that time. Fortification came much later. During the days of calm at sea,



the sailors would fish and then cook their catch.

The weather during the journey was pleasant, no major storms. By 10 October, after 34 days at sea, the sailors became hysterical and were ready to mutiny, many of them feeling that since the world was flat, at any moment they would fall off.

Columbus convinced the mutineers to wait 3 more days. The very next day they saw tree branches in the water and realized that land was close.

DISCOVERY OF NEW WORLD

America, exploration of the Bahamas, north coasts of Cuba and Haiti. After making landfall in the Bahamas at dawn on 12 October 1492, Columbus explored the coasts and named a large number of islands, including Cuba and La Espanola. When he went ashore he was puzzled because the “easterners” were not what footloose Marco Polo described them to be on his return to Europe in 1295 after spending 20 years in the Orient, nor did Columbus see any “pagodas” with golden roofs.

He did find lush vegetation and marvelled at the variety of strange plants. In the “New World,” maize (Indian corn) was the most widely cultivated crop to be found and was invariably grown in conjunction with beans, squashes and other food plants, combinations that provided a diet with a good balance of proteins and carbohydrates.

Maize was the predominant staple of the Indian communities of the eastern part of the present day United States. Almost all other foods were mixed with corn gruel or baked in little corn cakes. In tropical America, manioc or cassava, became the major food crop. Manioc, a plant native to South America produces a starchy root that can be made in gruel or bread. The domestication of manioc was of enormous importance to tropical communities because the plant yields more food per acre than any other crop.

One of the most important food plants developed in pre-Columbian America was the potato - first cultivated in the highlands of South America. Through the potato did not grow well in the tropics, the sweet potato thrived in both temperate and tropical zones. Other crops included the peanut, tomato, papaya, pineapple, avocado, chilli pepper, cotton and cocoa. The Mayas and Aztecs valued cocoa highly as a beverage and even used cocoa beans as a medium of exchange.

Within a half a century of the first voyage of Columbus, Spain had conquered the Aztec, Maya and Inca civilizations and established an enormous colonial empire. The Spanish conquest did not completely destroy the pre-Columbian agrarian system. Instead, it introduced Old World plants, animals, tools and methods that coexisted with the Indian system. Eventually, each system borrowed elements from the other, irrevocably changing the agriculture of both the Old and New World. Europeans introduced sugarcane, rice, olives, bananas, wheat, barley and European broad beans.

On Christmas Eve 1492 the Santa Maria ran into a coral reef off the coast of Haiti and, with the help of the local Indians, Columbus removed supplies, dismantled the ship's timbers and established La Navidad, a colony around two houses donated by the local “cacique” or chief.

He left behind 39 crewmen, including a carpenter, caulker, physician, gunner, tailor and cooper. He also left water casks and oil jars to collect gold. The men were told to trade with the Indians and collect as much gold as possible and hold it for his return. Columbus then instructed them to build a fort with a moat to impress the Indians and to use in case of danger. The crewmen did not follow these instructions, as the Indians seemed friendly.

RETURN TO SPAIN

In early 1493 Columbus returned to Spain on the Nina. The Pinta followed. The return trip was quite rough, most of the crew were sick and 4 of the 6 Indians he brought with him, died. Columbus and his small band arrived in Palos de la Frontera on 15 March after stopping in Lisbon for repairs.

Banquets and celebrations were held in his honour. The crown appointed a special committee to acquire provisions and organize men for additional expeditions. Ships' chandlers often cheated sailors - they were given weak barrels, poor wine that quickly turned to vinegar and old maps instead of good.

SECOND VOYAGE

Discovered the windward and leeward Islands that bound the eastern Caribbean, explored Puerto Rico, the southern coast of Cuba and Jamaica and circumnavigated Hispaniola Columbus left Spain in September 1493 this time with 17 ships and 1,200 men, all eager to find wealth and immense riches. On October 13, 1493 they stopped at Madeira and Canaries for water, wood and Gomera cheese and then in the Cape Verde Islands for goat which he then had slaughtered and salted. We know that barrelled wine from Jerez was used as ballast during Columbus' second voyage to the New World.

While there are no complaints of carelessness or ship chandler's dishonesty reported on the first voyage, this was not the case on the second voyage. The people entrusted with supplying 17 vessels carrying 1200 men believed in spending the least money possible. As a result, wine and water barrels leaked, the wine quickly turned to vinegar, the food was beginning to spoil at the time of purchase, and old nags instead of Andalusian horses were loaded along with livestock.

Salting methods were very good and properly meat would keep as long as 40 years provided the casks - which contained about 30 gallons - were kept in good order and their contents were not allowed to become dry. Most of the meat was of such poor quality that it was beginning to go bad at the time of preservation. In days of calm sea the men fished and were able to enjoy fresh fish.

On land, humidity and heat played havoc with food supplies - sea biscuits turned into soft masses of pulsating weevils, meat and dry fish turned into malodorous masses but the men endured the trials and tribulations. When sea biscuits became too spoiled, a flour made of cassava roots of the manioc or yucca plant, leached out of their poison (hydrocyanic acid - the Indians dipped their arrow tips into this poison), was used to make into thin pancakes. At first the Spaniards did not like it, but they soon had to accept it, as it was superior to the mouldy hardtack they had available. They also learned to eat iguanas in Cuba (at first thought disgusting) even "bark less" dogs (thought to taste as good as "kid from Seville").

When he reached Haiti (11 months after leaving) he found La Navidad burned and all his men dead. Of the twelve hundred crew, staff and passengers on this second voyage, three hundred died of disease in the new settlement of La Isabella during 1494, despite the heroic efforts of Dr. Chanca. The weather was also hostile. A hurricane in 1495 destroyed all the ships in the harbour including those that Columbus' financial backer Berardi had leased and loaded with merchandise. Columbus was able to return to Spain only by patching together two ships from the wreckage.

RETURN TO SPAIN - 1496

In 1496 he sailed back home. This time he did not receive a hero's welcome. His men were bitter that they did not find the wealth they were seeking, they found no cities, no money economy, and no metal tools, manufactures or ores.

Columbus' report to the monarch when he arrived in Seville only confirmed the rumours they had already heard from re-supply ships that had crossed the ocean during 1494 and 1495. Ferdinand and Isabella gave the Admiral a distracted if not cool reception.

By the time the monarchs once again summoned Columbus to court in 1497, relations were decidedly cool. Furthermore, the royal treasury was once again empty. Though they approved financing for a third voyage funding moved a glacially slow pace. No westbound sailing ships left in 1497.

THIRD VOYAGE



Picture info [see here](#)

Discovered Trinidad and the South American continent and explored the coast of Venezuela.

In 1498 Columbus left on this 3rd voyage. This time he was given only 6 ships, few volunteers and a bunch of convicts for colonists. Still looking for a passage to India, he discovered the mainland of South America.

The only good news for Columbus came from La Espanola where the Spaniards had found gold nuggets. He now had good reason to believe he would realize profit on his “Asian” venture. Nevertheless, he and his brothers were arrested by a royal judge and returned to Spain in 1500, accused of mismanaging their responsibilities as royal governors of the Spanish colonies. The king and queen released Columbus immediately but they took the complaints of the colonists very seriously and initiated some reforms, stripping Columbus and his brothers of their governing authority.

FOURTH VOYAGE AND FINAL RETURN TO SPAIN

Discovered Central America and explored the coasts of Honduras, Nicaragua, Costa Rica and Panama.

The monarchs permitted Columbus to make a final voyage in 1502, this time as a private venture without their partnership. They continued to address him as Admiral, but they forbade him to exercise any governing powers on the islands he had brought under their sovereignty.

In 1502 with only 4 ships he left on his last voyage. He coasted along the shores of South America still hoping to find the treasures of India. This voyage was disastrous. Columbus returned to Spain, a beaten man - as distrusted foreigner of faded glory and tarnished reputation.

DEATH

Columbus died in 1506, crippled by gout and arthritis, still with the illusion of having found India. We can see him sitting by the window of his monastic room, dipping a weevil free sea biscuit in a bowl of Caldo de Perro Gaditano, the Cadiz style fish broth prepared for him by his Franciscan friends, gazing into the line of the horizon, seeing perhaps the distant gold roofs of China.

LEGACY

The cuisine of today's world is typically post Colombian. What would many of the Mediterranean's gastronomic delights be without the tomato or her rich desserts without chocolate, Ireland's shepherds' pie or England's fish and "chips" without potatoes, Hungary with without paprika, France's Nicosia without Haricot verts, Italy's polenta without corn, India's curries, Thai or China's Sichuan dishes with the ubiquitous chilli, an American hamburger without onions or Mexican carnitas without beef or pork...

The Spanish and other Europeans who followed them to the "New World" attempted to recreate the Old World agricultural system with which they were familiar. They introduced cattle, horses, donkeys, pigs, goats, sheep and chickens to their colonies. Desiring familiar foods, these immigrants brought with them a full complement of Old World crops including sugarcane, rice and bananas which thrived in the warm and humid lowlands and wheat, barley and European broad beans, coffee and wine grapes which instead were usually grown on mountain slopes. Nevertheless, they gradually learned to eat maize, manioc, potatoes, sweet potatoes, peanuts and other Native American foods.

The importation of ox, horse and donkey was momentous. It revolutionized transport and travel and encouraged long distance trade. Livestock thrived on the vast plains and generated an important source of food for the New Worlds. Indians recognized the superiority of European iron and steel axes, knives, hoes and other tools and before long stone was virtually eliminated as a material for tool making.

The post Colombian exchange of plants, animals, tools and methods of production between the Old World and New vastly altered the agricultural patterns of both hemispheres and benefited all mankind.

Columbus' accomplishments - he made the western voyage, claimed many islands in the Ocean Sea and explored a "New World" whose existence no European had ever imagined - gave Spain a rich legacy. As a result of his monumental exploits, Spain enjoyed a "golden age" until the end of the 17th century when England, France and the Netherlands successfully challenged her power.

His discoveries redefined traditions and changed the course of history. While Columbus did not find extraordinary cities of gold and coffers lined with silks, precious stones and spices, certainly he and his followers succeeded in bringing vast gastronomic riches to both worlds.

A Christopher Columbus Timeline

The Early Years:

- 1451 Born in Genoa, the son of a wool merchant and weaver. 1476 Swims ashore when his ship is sunk in a battle off Portugal.
- 1476 Joins his brother Bartholomew, a cartographer, in Lisbon.
- 1477-1482 Makes merchant voyages as far as Iceland and Guinea.
- 1484 Convinces of "The Enterprise of the Indies." Fails to convince King John of Portugal to back the plan.
- 1485 Moves to Spain.
- 1492/1/2 Ferdinand & Isabella capture Granada, the last Moorish city in Spain.

The First Voyage:

- 1492/8/2 Departs from Palos, Spain (near Huelva)
- 1492/9/6 Departs Gomera (Canary Islands) after repair and refit. 1492/10/12 New world sighted at 2:00 a.m. by Rodrigo de Triana. 1492/10/29 Arrives at Cuba.
- 1492/11/22 Martín Alonso Pinzón, captain of the Pinta, deserts the expedition off Cuba. 1492/12/1 Columbus arrives at Hispaniola.
- 1492/12/25 Flagship Santa Maria sinks off Hispaniola. Columbus founds La Navidad. 1493/1/6 Pinzón rejoins Columbus.
- 1493/1/16 Columbus departs Hispaniola for Spain. 1493/2/15 Sights Santa Maria Island in the Azores. 1493/3/4 Arrives at Lisbon, Portugal.
- 1493/3/15 Returns to Palos, Spain.

The Second Voyage:

- 1493 Sept. The Grand Fleet of 17 ships departs Cadiz. 1493/10/13 Departs Hierro (Canary Islands), sailing WSW
- 1493/11/3 The island of Dominica sighted at dawn; Guadeloupe shortly after. 1493/11/22 Arrives at Hispaniola.
- 1493/11/28 Returns to Navidad, finds fort destroyed. 1493/12/8 Finds new colony of La Isabella. 1494/4/24 Sails from Isabella in search of mainland.
- 1494/4/30 Arrives at Cuba.
- 1494/5/5 Arrives at Jamaica. 1494/5/14 Returns to Cuba.
- 1494/6/13 Starts the return to La Isabella. 1494/8/20 Reaches Hispaniola.
- 1496/3/10 Departs from La Isabella for Spain. 1496/6/8 Reaches the coast of Portugal.

The Third Voyage:

- 1498/5/30 Departs from Sanlucar, Spain, with six ships.
- 1498/6/19 Arrives at Gomera (Canary Islands); splits fleet into two squadrons. 1498/7/4 Departs from the Cape Verde Islands.
- 1498/7/31 Arrives at Trinidad.
- 1498/8/13 Leaves the Gulf of Paria, arrives at Margarita. 1498/8/19 Arrives at Hispaniola.
- 1500 October Columbus is arrested and sent home in chains.

The Fourth Voyage:

- 1502/5/11 Departs from Cadiz, Spain, with four ships. 1502/6/29 Arrives at Santo Domingo, Hispaniola.
- 1502/7/30 Arrives at the Mosquito Coast, modern Nicaragua. 1503/1/9 Establishes garrison at Rio Belen.
- 1503/4/6 Garrison attacked by Indians and abandoned. 1503/4/16 Leaves Rio Belen for home.
- 1503/6/25 Ships beached and abandoned at Jamaica, marooning crew. 1504/6/29 Crew rescued from Jamaica.
- 1504/11/7 Columbus returns to Spain. 1506/5/20 Columbus dies at Valladolid.
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Columbus & Celestial Navigation

Although Columbus was primarily a dead reckoning navigator, he did experiment with celestial navigation techniques from time to time. However, these experiments were usually unsuccessful -- and in some cases, actually fraudulent.

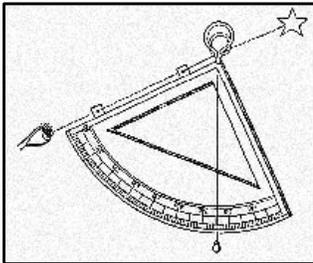
1. Introduction

In celestial navigation, the navigator observes celestial bodies (Sun, Moon and stars) to measure his latitude. (In Columbus's day, it was usually impossible to measure your longitude.) Even in ancient times, it was fairly easy to find your latitude by looking at the Sun and stars, as long as you weren't too concerned about accuracy. Each star has a celestial latitude, or declination. If you know the declination of a star that is directly overhead, that's the same as your latitude on earth. Even if a star isn't directly overhead, if you can measure the angle between the star and the overhead point (called the zenith), you can still determine your latitude that way -- provided you measure the star at the time of night that it is highest in the sky.

But in the Mediterranean Sea, it's not very useful to find your latitude, because your latitude is roughly the same wherever you are. In those confined waters, dead reckoning was the easiest way to navigate. It was not until the fifteenth century, when Portuguese mariners began to make long voyages north and south along the coast of Africa, that celestial determination of latitude began to be useful for southern European sailors.

Columbus was from Genoa, one of the leading Mediterranean ports, and he must have learned his dead reckoning navigation from Genoese pilots. But he had spent time in Portugal, and was aware of all the new ideas in navigation, including celestial navigation. So on his first voyage he made at least five separate attempts to measure his latitude using celestial methods. Not one of these attempts was successful, in part because of bad luck, and in part because of Columbus's own ignorance of celestial techniques and tools.

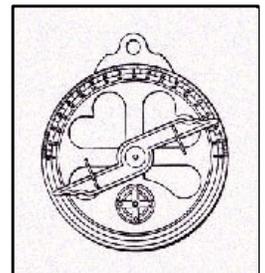
2. The tools.



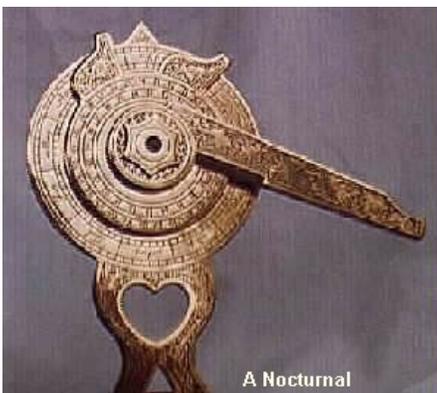
The most important tool used by Columbus in his celestial attempts was the quadrant. This was a metal plate in the shape of a quarter circle. From the centre of the circle hung a weight on a string, that crossed the opposite edge of the circle (see figure 1). The navigator would sight the North Star along one edge, and the point that the string crossed the edge would show the star's altitude, or angle above the horizon. (In the case of the North Star, this is always pretty close to your latitude). Many examples of quadrants survive in maritime museums, and often have several scales along the edge. For example, in addition to the angle, you might also read the tangent of the angle from the quadrant. The tangent scale is useful if the quadrant is to be used for architectural purposes.

Columbus also carried an astrolabe on the first voyage, which is somewhat similar to the quadrant. The astrolabe was a complete circle of metal, and had a moving arm (or alidade) that the navigator would sight along to find the star's altitude. Columbus tried to use the astrolabe once, but was stymied by bad weather, and he never used it again. Both the quadrant and astrolabe are dependent upon gravity to work, so they can measure only vertical angles. The quadrant was accurate to about a degree or so, and the astrolabe was a little less accurate.

Time aboard ship was measured by a sandglass (or in Spanish, *ampoletta*). It was the responsibility of the ship's boy to turn the glass every half hour in order to measure the time until the watch changed. Since the sandglass was always running a little slow or fast, it was checked daily against the times of sunrise, sunset, or midnight. Midnight could be determined by using a *nocturnal*, a nifty little tool which tells the time of the night by the rotation of stars around the celestial pole.



3. The First Voyage Failures.



After navigating successfully across the Atlantic using his familiar dead reckoning methods, Columbus tried to find his latitude using the quadrant on October 30, 1492. At the time, he was at Puerto de Mares, Cuba, usually identified with the modern Puerto Gibara, at about 20 degrees North latitude. But the result he obtained from the quadrant was 42 degrees. He made another reading from the same place on November 2, and got the same flawed result.

Continuing along the coast of Cuba, Columbus again tried a quadrant latitude reading on November 21, and again came up with 42 degrees. Columbus was by now aware that the quadrant reading was incorrect, but he dutifully recorded the reading in his log anyway -- he blamed the quadrant for the bad result, and remarked that he would not take any more readings until the quadrant could be fixed.

Columbus made two separate attempts to measure his latitude by two different methods on December 13, while anchored in a harbour in northern Haiti. Columbus had read works by the Greek astronomer Ptolemy, and he knew that Ptolemy often referred to a city's latitude according to the length of daylight at the summer solstice (more northerly places have longer daylight at summer solstice). December 13 was the day after the winter solstice in 1492, which is just as good for latitude measurements (because: the length of daylight at summer solstice is about the same as the length of night at winter solstice). Columbus took the opportunity to measure the length of daylight, finding that the day was 10 hours long. This is also a fairly bad result, but Columbus did not convert the daylight measurement into a latitude, probably because he did not know enough trigonometry to do so.

That night, he made his second attempt to determine latitude within 24 hours. Going back to the quadrant, he again tried to determine the altitude of the North Star, and this time got a reading of 34 degrees -- still far from his correct latitude of 19 degrees.

Finally, on February 3, 1493, while on the return voyage, Columbus tried to determine the altitude of Polaris using both the quadrant and astrolabe; but the waves were so high he could not get a reading.



The quadrant readings Columbus obtained on his first voyage are horrible by any standard. Some have suggested that Columbus mistook another star for Polaris, but that seems ridiculous: Columbus used the stars of Ursa Minor to tell time at night, so he was very familiar with that constellation. In 1983, James E. Kelley, Jr. provided the solution to the mystery: as mentioned above, many quadrants in maritime museums have tangent scales. If Columbus misread the scale, he might have recorded the tangent of his latitude (without the decimal point) instead of his actual latitude. If that were the case, Columbus's measurements would only be wrong by a couple of degrees or so, which is not bad considering the technology.

In any case, it is clear that at this point in his career Columbus was not familiar enough with celestial techniques and tools to use them successfully. So it is not surprising that on his second voyage, there is no record that Columbus attempted to use celestial navigation (except for the fraudulent eclipse longitudes). Instead, he stuck to the tried and true dead reckoning practice of "rhumbline sailing", keeping a constant west-by-south course the whole way from Gomera to Dominica in the West Indies.

4. The Third Voyage: Some Improvements?

In 1498, Columbus sailed from Spain with six ships of supplies for the settlers on Hispaniola. This is the only voyage on which Columbus made regular and serious attempts at celestial navigation. However, the results he obtained were quite poor, even by the standards of his day.

When he reached the Canary Islands, Columbus split his fleet: three ships would sail WSW, direct for Hispaniola, while Columbus himself would take the other three ships southward to the Cape Verde Islands, and then west. The reasons for this manoeuvre are still debated.

On the passage west from Cape Verde, he made a series of observations of the North Star to determine his latitude. According to Columbus, the North Star varied from 5° to 15° above the horizon, depending on the time of the night. Actually the North Star was about 3.5° from the celestial pole in 1498, so its total movement in altitude should have been seven degrees, not ten. (This 3.5 degree figure was known to navigators of that era trained in celestial techniques. This is evidence that Columbus was still unfamiliar with celestial navigation.)

The island of Trinidad lies close to the coast of Venezuela, and is separated from the mainland by two straits, which Columbus named *Boca del Sierpe* (serpent's mouth) and *Boca del Drago* (dragon's mouth). Columbus tried to measure the distance between these two straits using celestial observations. Here's a quote from a letter Columbus wrote to the King of Spain:

"I found that there between these two straits, which, as I have said, face each other in a line from north to south, it is twenty six leagues from the one to the other, and I cannot be wrong in this because the calculation was made with a quadrant. . . . In that on the south, which I named *la boca de la Sierpe*, I found that at nightfall I had the pole star at nearly five degrees elevation, and in the other on the north, which I named *la Boca del Drago*, it was at almost seven."

The true altitudes of the North Star at these places (in 1498) would have been about 12.8° and 13.5° respectively; so Columbus's errors were about 8 and 6 degrees. This is very poor observation by any standard. Shortly after this, Columbus took ill and there were no further recorded attempts at celestial observation for the rest of the voyage.

5 The Fourth Voyage

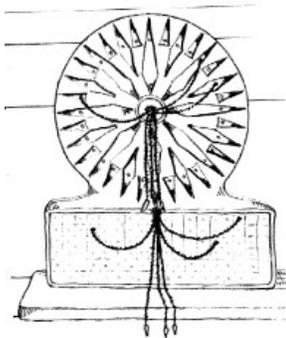
Not much of Columbus's own writing about the fourth voyage survives today. But we do know that while marooned on the north coast of Jamaica, he found his latitude to be 19° , which is within a degree of the correct number. This high accuracy could only have been achieved if Columbus had been using celestial techniques. It also suggests that even late in his life, Columbus continued to be fascinated with the latest navigational methods, and continued to learn.

Columbus and Dead Reckoning (DR) Navigation

At the end of the fifteenth century, celestial navigation was just being developed in Europe, primarily by the Portuguese. Prior to the development of celestial navigation, sailors navigated by "deduced" (or "dead") reckoning, hereafter called DR. This was the method used by Columbus and most other sailors of his era. In DR, the navigator finds his position by measuring the course and distance he has sailed from some known point. Starting from a known point, such as a port, the navigator measures out his course and distance from that point on a chart, pricking the chart with a pin to mark the new position. Each day's ending position would be the starting point for the next day's course-and-distance measurement.

In order for this method to work, the navigator needs a way to measure his course, and a way to measure the distance sailed. Course was measured by a magnetic compass, which had been known in Europe since at least 1183. Distance was determined by a time and speed calculation: the navigator multiplied the speed of the vessel (in miles per hour) by the time travelled to get the distance.

In Columbus's day, the ship's speed was measured by throwing a piece of flotsam over the side of the ship. There were two marks on the ship's rail a measured distance apart. When the flotsam passed the forward mark, the pilot would start a quick chant, and when it passed the aft mark, the pilot would stop chanting. (The exact words to such a chant are part of a lost oral tradition of medieval navigation). The pilot would note the last syllable reached in the chant, and he had a mnemonic that would convert that syllable into a speed in miles per hour. This method would not work when the ship was moving very slowly, since the chant would run to the end before the flotsam had reached the aft mark.



Traverse Board

Speed (and distance) was measured every hour. The officer of the watch would keep track of the speed and course sailed every hour by using a toleta, or traverse board. This was a peg-board with holes radiating from the centre along every point of the compass. The peg was moved from the centre along the course travelled, for the distance made during that hour. After four hours, another peg was used to represent the distance made good in leagues during the whole watch. At the end of the day, the total distance and course for the day was transferred to the chart.

Columbus was the first sailor (that we know of) who kept a detailed log of his voyages, but only the log of the first voyage survives in any detail. It is by these records that we know how Columbus navigated, and how we know that he was primarily a DR navigator.

Since DR is dependent upon continuous measurements of course and distance sailed, we should expect that any log kept by a DR navigator would have these records; and this is exactly what Columbus's log looks like. If Columbus had been a celestial navigator, we would expect to see continuous records of celestial observations; but Columbus's log does not show such records during either of the transatlantic portions of the first voyage.

It has been supposed by some scholars that Columbus was a celestial navigator anyway, and kept his celestial records hidden for some unknown reason. (This supposition is necessary to support some theories of the first landfall.) But this hypothesis does not hold water. Columbus's ships were steered by helmsmen at a tiller, below the quarterdeck. The helmsmen could not see the sky, so the only way they could keep a course was by magnetic compass. The officer of the deck had his own compass, and would call down course changes as necessary. This means that the courses used aboard ship (and in the log) would have been magnetic courses.

Now suppose that Columbus was using unrecorded celestial checks on his latitude as he sailed west on his first voyage. In that case, as magnetic variation pulled his course southward from true west, he would have noticed the discrepancy from his celestial observations, and he would have corrected it. In other words, if Columbus were a celestial navigator, we would expect to see a series of small intermittent course corrections in order to stay at a celestially determined latitude. These corrections should occur about every three or four days, perhaps more often.

But that is not what the log shows. On the first voyage westbound, Columbus sticks doggedly to his (magnetic) westward course for weeks at a time. Only three times does Columbus depart from this course: once because of contrary winds, and twice to chase false signs of land southwest. In none of these cases does he show any desire to return to a celestially-determined latitude. This argument is a killer for the celestial hypothesis, and was first made by Rear Admiral Bob McNitt (USN) in 1992.

Well then, could Columbus have corrected his compasses by checking them against the stars -- and thus avoid the need for course corrections? This would have been possible in theory, but we know that Columbus could not have actually done this.

On his return voyage in 1493, Columbus started from Samana Bay on the north coast of Hispaniola, and he made landfall at

Santa Maria Island in the Azores. We know all of his DR courses and distances between these two points, since they're recorded in his log. Following these courses and distances using a corrected compass puts Columbus over two hundred miles southeast of the Azores at the time he should be in sight of them. The only way to get from Hispaniola to the Azores using Columbus's recorded courses and distances is to assume that he was using an uncorrected compass, and that he was pulled leftward by westerly magnetic variation in the Atlantic. Applying the same assumptions to the westward voyage shows that Columbus must have been using dead reckoning rather than celestial navigation, because of the absence of course corrections. On the westward passage, this same magnetic variation would have pulled his fleet leftward into the southern Bahama Islands, where most landfall theories put him.

Columbus and Longitude

Columbus twice claimed to have found his longitude by timing lunar eclipses. These claims are probably false.

Before the invention of accurate clocks, it was nearly impossible for sailors to find their longitude. This did not stop them from trying, however. Columbus made two attempts in his lifetime to measure his longitude. Both results were pretty bad, even by the standards of his day.

The only practical method for determining longitude in the fifteenth century was the well known method of timing lunar eclipses. This method had been in use since ancient times, but since eclipses are rare, it is of limited use. A recent suggestion (Molander 1992) that Columbus used planetary conjunctions to determine his longitude on the first voyage has been shown to be incorrect (Pickering 1996). [See the bibliography.]

The eclipse timing method is simple: first, you determine the local time that the lunar eclipse starts or ends by direct observation. Then you compare your local time for that event against the local time at some distant place. The difference in the two times is the difference in longitude. For example, if the eclipse starts at 8:00 p.m. where you are (say, in Virginia), and the same eclipse starts at 1:00 a.m. in London, you find that there is five hours difference between Virginia and London; or you might say five time zones, which is the same thing. This works out to 75 degrees of longitude.

We now know that observers can tell the moment a lunar eclipse starts or ends to within a few minutes. That means that the biggest source of error for Columbus would have been finding the correct local time. But this is also easy: in the tropics, the sun rises at nearly 6:00 a.m. and sets nearly 6:00 p.m. every day. Also, sailors used a device called a nocturnal which was used to determine the time of midnight from the positions of the circumpolar stars.

Using these clues and a sandglass, Columbus should have been able to determine the correct local time of an eclipse to within about ten minutes, if he was careful. The problem is that both of Columbus's eclipse timing longitudes are off by much, much greater amounts than this. His 1494 longitude was recorded as 5 hours 23 minutes west of Cadiz; at the time, he was 4 hours 10 minutes west of Cadiz, so his error is an hour and 20 minutes. Columbus's error in 1504 is even worse: from Jamaica, he claimed a longitude of 7 hours 15 minutes west of Cadiz, while his actual longitude was 4 hours 45 minutes west of there -- an error of two and a half hours!

The best way to explain the errors is to assume that Columbus didn't really use the lunar eclipses at all. We know that Columbus believed that one degree of the Earth's surface was 56 and two thirds miles long. Using this formula, it's possible to convert Columbus's transatlantic distance (1142.25 leagues -- see the first voyage summary) into a longitude. When we make this conversion, the transatlantic distance measured by Columbus on his first voyage comes out to 5 hours and 23 minutes -- the exact figure he reported on the second voyage as his longitude.

The 1504 longitude can be explained in a similar manner. On his fourth voyage, Columbus reported that the distance from Puerto Rico to a place in western Cuba was 400 leagues. This is the longest east west distance within the Indies that Columbus ever recorded in his lifetime. If we add this 400 leagues to the transatlantic distance from the first voyage (the longest transatlantic distance that he recorded in his lifetime), we get 1542.25 leagues. Converting this to a longitude using Columbus's own formula yields 7 hours and 15 minutes, exactly the figure that Columbus reported.

So Columbus didn't really use these lunar eclipses to find his longitude. He really used his dead reckoning distances, and claimed that they were celestially determined. This was probably done to make his results look scientifically respectable.

How Long was Columbus's league?

At sea, Columbus measured distances in leagues, each of which was four miles long. But in the fifteenth century, there were many "mile" units of various lengths in use, both in Europe and in the Arabic world. This has given rise to disagreements over just how long (in modern terms) Columbus's league and mile were.

Samuel Eliot Morison assumed that Columbus used the "Roman" mile of 4860 feet. This would make his league 3.2 nautical miles long, which is the accepted length of the so-called Portuguese Maritime League (PML). The PML was known to be in common use among Spanish as well as Portuguese sailors.

The PML has serious problems, however. First, when we compare the distances Columbus reported sailing along the north coast of Cuba (between known points), we find these distances are much less than what Columbus reported. Also, if we accept Morison's landfall at Watlings Island, there are several other coastline lengths that would have been vastly overstated by Columbus. To solve these problems, Morison suggested that Columbus measured coastlines with a different length league (about nautical miles) than he used for distances in the open sea. But there are no historical records that support such a league length; Morison's guess was entirely empirical.

Also, when tracing Columbus's transatlantic voyages (both eastbound and westbound), it is impossible to make the distances come out correctly when using the PML. Most of those who have traced the transatlantic tracks of Columbus have had to rely on fudge factors to make the distances come out correctly.

And finally, Columbus was Genoese, not Spanish. A shorter mile, the Italian or Geometric Mile of 4060 feet, was in common use in 15th century Italy. If Columbus used the Geometric Mile, his league would be 2.67 nautical miles, which is the accepted length of the Italian League, or Geometric League (GL). There are a number of 15th century documents on metrology that support this league length.

James E. Kelley, Jr. was the first to propose that Columbus used this league, in his 1983 paper (See bibliography). Kelley supported his thesis with an analysis showing how the shorter Geometric League, combined with an accounting of currents along the north coast of Cuba, could explain Columbus's overstated length of the island. In 1992, Douglas Peck showed that this league length could also reconstruct Columbus's transatlantic track without the usual fudge factors for distances.

For these reasons the 2.67 nautical mile Geometric League has gained wide support among historians as the league used by Columbus.

Columbus's Crew



Contrary to popular myth, Columbus's crew on the first voyage were not a bunch of cut throats. They were mostly 'hometown boys' from Andalusia, and nearly all experienced seamen. It is true that the Spanish Sovereigns offered amnesty to convicts who would sign up for the voyage, but only four men took up the offer: one who had killed a man in a fight, and three of his friends who then helped him escape from jail.

Of the four voyages of Columbus, only the crew of the first voyage is completely known. Alice Bache Gould spent decades combing various archives in Spain, eventually accounting for each of the 87 crewmen of the Niña, Pinta, and Santa Maria. Her research was published in fragments, but a summary is given below.

Gould's research differs from earlier work published by John Boyd Thacher. A comparison of the two lists can be found in *The Log of Christopher Columbus* by Robert Fuson (see the bibliography).

Crew of the Santa Maria:

- Cristobal Colon (Christopher Columbus), captain general
- Juan de la Cosa, owner and master
- Diego de Arana, master-at-arms
- Pedro de Gutierrez, royal steward
- Rodrigo de Escobedo, secretary of the fleet
- Rodrigo Sanchez, comptroller
- Diego de Salcedo, servant of Columbus

- Luis de Torres, interpreter Rodrigo de Jerez
- Alonso Chocero Alonso Clavijo Andres de Yruenes
- Antonia de Cuellar, carpenter Bartolome Biues
- Bartolome de Torres Bartolome Garcia, boatswain Chachu, boatswain
- Cristobal Caro, goldsmith Diego Bermudez
- Diego Perez, painter Domingo de Lequeitio Domingo Vizcaino, cooper Gonzalo Franco
- Jacomel Rico Juan, servant Juan de Jerez Juan de la Placa
- Juan Martines de Acoque Juan de Medina
- Juan de Moguer Juan Ruiz de la Pena
- Juan Sanchez, physician Lope, joiner
- Maestre Juan Marin de Urtubia
- Pedro de Terreros, cabin boy Pero Nino, pilot
- Pedro Yzquierdo Pedro de Lepe
- Rodrigo Gallego, servant

Crew of the Pinta:

- **Martin Alonso Pinzon, captain**
- **Francisco Martin Pinzon, master**
- **Cristobal Garcia Xalmiento, pilot**
- **Cristobal Quintero, ship's owner**
- **Francisco Garcia Vallejo**
- **Garcia Hernandez, steward**
- **Gomez Rascon**
- **Juan Bermudez**
- **Juan Quintero**
- **Juan Rodriquez Bermejo**
- **Pedro de Arcos**
- **Alonso de Palos**
- **Alvaro Perez**
- **Anton Calabres**
- **Bernal, servant**
- **Diego Martin Pinzon**
- **Fernando Mendes**
- **Francisco Mendes**
- **Gil Perez**
- **Juan Quadrado**
- **Juan Reynal**
- **Juan Verde de Triana**
- **Juan Vecano**
- **Maestre Diego, surgeon**
- **Pedro Tegero**
- **Sancho de Rama**

Columbus's Ships

As everyone Everyone knows, Columbus had three ships on his first voyage, the *Niña*, the *Pinta*, and the *Santa Maria*. The flagship *Santa Maria* had the nickname *La Gallega*. It was a *nao*, which simply means "ship" in old Spanish; today, we might call such a ship a carrack. She was fat and slow, designed for hauling cargo, not for exploration. Some sources say that the *Santa Maria* was about 100 tons, meaning that it could carry 100 *toneladas*, which were large casks of wine. There has been much speculation about just how large such a ship would be; the best current thinking, by Carla Rahn Phillips, puts the length of *Santa Maria* at 18 meters, keel length at 12 meters, beam 6 meters, and a depth of 3 meters from keel to deck.

The *Santa Maria* had three masts (fore, main, and mizzen), each of which carried one large sail. The foresail and mainsail were square; the sail on the mizzen, or rear, mast was a triangular sail known as a lateen. In addition, the ship carried a small square sail on the bowsprit, and small topsail on the mainmast above the

The *Pinta* was captained by Martín Alonso Pinzón, a leading mariner from the town of Moguer in Andalusia. *Pinta* was a caravel, a smaller, lighter, and faster ship than the tubby *Santa Maria*. We don't know much about *Pinta*, but it probably had three masts, and probably was about 70 tons. Phillips puts the length of *Pinta* at 17 meters, keel length 13 meters, beam 5 meters, and depth 2 meters. She probably had three masts, and most likely carried sails like those of *Santa Maria*, except for the topsail, and perhaps the sprit sail.

Smallest of the fleet was the *Niña*, captained by Vicente Añes Pinzón, brother of Martín. The *Niña* was another caravel of probably 50 or 60 tons, and started from Spain with lateen sails on all masts; but she was refitted in the Canary Islands with square sails on the fore and main masts. Unlike most ships of the period, *Niña* carried four masts, including a small counter mizzen at the stern with another lateen sail. This would have made *Niña* the best of the three ships at sailing upwind. Phillips puts her length at 15 meters, keel length 12 meters, beam 5 meters, and depth 2 meters.

How fast did they go?

As you can guess, speed of sailing vessels varies considerably with the speed of the wind. Over several days, ships of Columbus's day would average a little less than 4 knots. Top speed for the vessels was about 8 knots, and minimum speed was zero. These speeds were quite typical for vessels of the period -- and indeed, typical for the entire Age of Sail up until the time of steamships and clipper ships. So overall, 90 or 100 miles in a day would be typical, and 200 phenomenal.

Of the three ships on the first voyage, the *Santa Maria* was the slowest, and the *Pinta* was the fastest. The differences were small, however, perhaps about 0.1 knot between them.

**Christopher
Columbus
Letter to the King
and Queen of Spain**

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**Most
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In obedience to your Highnesses' commands, and with submission to superior judgement, I will say whatever occurs to me in reference to the colonization and commerce of the Island of Espanola, and of the other islands, both those already discovered and those that may be discovered hereafter.

In the first place, as regards the Island of Espanola: Inasmuch as the number of colonists who desire to go thither amounts to two thousand, owing to the land being safer and better for farming and trading, and because it will serve as a place to which they can return and from which they can carry on trade with the neighboring islands:

- 1. That in the said island there shall be founded three or four towns, situated in the most convenient places, and that the settlers who are there be assigned to the aforesaid places and towns.**
- 2. That for the better and more speedy colonization of the said island, no one shall have liberty to collect gold in it except those who have taken out colonists' papers, and have built houses for their abode, in the town in which they are, that they may live united and in greater safety.**
- 3. That each town shall have its alcalde [Mayor] ... and its notary public, as is the use and custom in Castile.**
- 4. That there shall be a church, and parish priests or friars to administer the sacraments, to perform divine worship, and for the conversion of the Indians.**
- 5. That none of the colonists shall go to seek gold without a license from the governor or alcalde of the town where he lives; and that he must first take oath to return to the place whence he sets out, for the purpose of registering faithfully all the gold he may have found, and to return once a month, or once a week, as the time may have been set for him, to render account and show the quantity of said gold; and that this shall be written down by the notary before the alcalde, or, if it seems better, that a friar or priest, deputized for the purpose, shall be also present**
- 6. That all the gold thus brought in shall be smelted immediately, and stamped with some mark that shall distinguish each town; and that the portion which belongs to your Highnesses shall be weighed, and given and consigned to each alcalde in his own town, and registered by the above mentioned priest or friar, so that it shall not pass through the hands of only one person, and there shall be no opportunity to conceal the truth.**
- 7. That all gold that may be found without the mark of one of the said towns in the**

possession of any one who has once registered in accordance with the above order shall be taken as forfeited, and that the accuser shall have one portion of it and your Highnesses the other.

8. That one per centum of all the gold that may be found shall be set aside for building churches and adorning the same, and for the support of the priests or friars belonging to them; and, if it should be thought proper to pay any thing to the alcaldes or notaries for their services, or for ensuring the faithful perforce of their duties, that this amount shall be sent to the governor or treasurer who may be appointed there by your Highnesses.
9. As regards the division of the gold, and the share that ought to be reserved for your Highnesses, this, in my opinion, must be left to the aforesaid governor and treasurer, because it will have to be greater or less according to the quantity of gold that may be found. Or, should it seem preferable, your Highnesses might, for the space of one year, take one half, and the collector the other, and a better arrangement for the division be made afterward.
10. That if the said alcaldes or notaries shall commit or be privy to any fraud, punishment shall be provided, and the same for the colonists who shall not have declared all the gold they have.
11. That in the said island there shall be a treasurer, with a clerk to assist him, who shall receive all the gold belonging to your Highnesses, and the alcaldes and notaries of the towns shall each keep a record of what they deliver to the said treasurer.
12. As, in the eagerness to get gold, every one will wish, naturally, to engage in its search in preference to any other employment, it seems to me that the privilege of going to look for gold ought to be withheld during some portion of each year, that there may be opportunity to have the other business necessary for the island performed.
13. In regard to the discovery of new countries, I think permission should be granted to all that wish to go, and more liberality used in the matter of the fifth, making the tax easier, in some fair way, in order that many may be disposed to go on voyages.

I will now give my opinion about ships going to the said Island of Espanola, and the order that should be maintained; and that is, that the said ships should only be allowed to discharge in one or two ports designated for the purpose, and should register there whatever cargo they bring or unload; and when the time for their departure comes, that they should sail from these same ports, and register all the cargo they take in, that nothing may be concealed.

- In reference to the transportation of gold from the island to Castile, that all of it should be taken on board the ship, both that belonging to your Highnesses and the property of every one else; that it should all be placed in one chest with two locks, with their keys, and that the master of the vessel keep one key and some person selected by the governor and treasurer the other; that there should come with the gold, for a testimony, a list of all that has been put into the said chest, properly marked, so that each owner may receive his own; and that, for the faithful performance of this duty, if any gold whatsoever is found outside of the said chest in any way, be it little or much, it shall be forfeited to your Highnesses.
- That all the ships that come from the said island shall be obliged to make their proper discharge in the port of Cadiz, and that no person shall disembark or other person be permitted to go on board until the ship has been visited by the person or persons deputized for that purpose, in the said city, by your Highnesses, to whom the master shall show all that he carries, and exhibit the manifest of all the cargo, it may be seen and examined if the said ship brings any thing hidden and not known at the time of lading.
- That the chest in which the said gold has been carried shall be opened in the presence of the magistrates of the said city of Cadiz, and of the person deputized for that purpose by your Highnesses, and his own property be given to each owner. -

I beg your Highnesses to hold me in your protection; and I remain, praying our Lord God for your Highnesses' lives and the increase of much greater States.

Osher Map Library and Smith Centre for

Cartographic Education

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University of Southern Maine

T h e C o l u m b u s L e t t e r



Christopher Columbus's letter announcing the success of his voyage to the "islands of the India sea" is one of the most remarkable documents ever published. It is a key document in the social and intellectual histories of both Europe and the Americas. The Osher Map Library and Smith Centre for Cartographic Education, University of Southern Maine, is pleased to make this significant historical document available to the people of the state of Maine.

[The](#)
[Columbus](#)
[Letter](#)
([Osher Map Library,](#)
[University of](#)
[Southern Maine](#))

Christopher Columbus's Ships On Postage Stamps



BAHAMAS



BOLIVIA



Bolivia

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LAOS

Christopher Columbus

Man and Myth

After five centuries, Columbus remains a mysterious and controversial figure who has been variously described as one of the greatest mariners in history, a visionary genius, a mystic, a national hero, a failed administrator, a naive entrepreneur, and a ruthless and greedy imperialist.

Columbus's enterprise to find a westward route to Asia grew out of the practical experience of a long and varied maritime career, as well as out of his considerable reading in geographical and theological literature. He settled for a time in Portugal, where he tried unsuccessfully to enlist support for his project, before moving to Spain. After many difficulties, through a combination of good luck and persuasiveness, he gained the support of the Catholic monarchs, Isabella and Fernando.

The widely published report of his voyage of 1492 made Columbus famous throughout Europe and secured for him the title of Admiral of the Ocean Sea and further royal patronage. Columbus, who never abandoned the belief that he had reached Asia, led three more expeditions to the Caribbean. But intrigue and his own administrative failings brought disappointment and political obscurity to his final years.

In Search and Defence of Privileges

Queen Isabella and King Fernando had agreed to Columbus's lavish demands if he succeeded on his first voyage: he would be knighted, appointed Admiral of the Ocean Sea, made the viceroy of any new lands, and awarded ten percent of any new wealth. By 1502, however, Columbus had every reason to fear for the security of his position. He had been charged with maladministration in the Indies.

The Library's vellum copy of the Book of Privileges is one of four that Columbus commissioned to record his agreements with the Spanish crown. It is unique in preserving an unofficial transcription of a Papal Bull of September 26, 1493 in which Pope Alexander VI extended Spain's rights to the New World.



Much concerned with social status, Columbus was granted a coat of arms in 1493. By 1502, he had added several new elements, such as an emerging continent next to islands and five golden anchors to represent the office of the Admiral of the Sea.

As a reward for his successful voyage of discovery, the Spanish sovereigns granted Columbus the right to bear arms. According to the blazon specified in letters patent dated May 20, 1493, Columbus was to bear in the first and the second quarters the royal charges of Castile and Leon -- the castle and the lion -- but with different tinctures or colors. In the third quarter would be islands in a wavy sea, and in the fourth, the customary arms of his family.

The earliest graphic representation of Columbus's arms is found in his Book of Privileges and shows the significant modifications Columbus ordered by his own authority. In addition to the royal charges that were authorized in the top quarters, Columbus adopted the royal colors as well, added a continent among the islands in the third quarter, and for the fourth quarter borrowed five anchors in fess from the blazon of the Admiral of Castile. Columbus's bold usurpation of the royal arms, as well as his choice of additional symbols, help to define his personality and his sense of the significance of his service to the Spanish monarchs.



The Book of Privileges is a collection of agreements between Columbus and the crowns of Spain prepared in Seville in 1502 before his 4th final voyage. The compilation of documents includes the 1497 confirmation of the rights to titles and profits granted to the Admiral by the 1492 contract of Santa Fe and augmented in 1493 and 1494, as well as routine instructions and authorizations related to his third voyage. We know that four copies of his Book of Privileges existed in 1502, three written on vellum and one on paper.

All three vellum copies have thirty six documents in common, including the Papal Bull inter caetera of May 4, 1493, defining the line of demarcation of future Spanish and Portuguese explorations, and specifically acknowledging Columbus's contributions. The bull is the first document on vellum in the Library's copy and the thirty sixth document in the Genoa and the Paris codices. The Library copy does not have the elaborate rubricated title page, the vividly coloured Columbus coat of arms, or

the authenticating notarial signatures contained in the other copies. The Library's copy, however, does have a unique transcription of the Papal Bull Dudum siquidem of September 26, 1493, extending the Spanish donation. The bull is folded and addressed to the Spanish sovereigns

Discovery and Resolution at an island in the Pacific, 1777

oil on canvas, 68.5 x 122.1 cm.

Image courtesy of:

[National Library of Australia](#)

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