TITLE: *Sketch maps of the equatorial belt of the world*
DATE: 1503-06/1516-22
AUTHOR: Bartolommeo Columbus and Alessandro Zorzi
DESCRIPTION: Christopher Columbus was marooned in Jamaica for almost one year during his fourth voyage. From there on July 7, 1503, he wrote a letter to King Ferdinand, reporting on his exploration of Nicaragua and Panama. A copy of the letter was brought to Rome in 1506 by Columbus's brother, Bartholomew [a.k.a. Bartolommeo], who had accompanied the Admiral on this final voyage. Bartholomew was seeking the Pope's support to persuade the King of Spain to grant a commission for colonizing and Christianizing the Central American coast.

It is on record that Bartholomew Columbus possessed a map of Central America. The *Sammel Codex* in the Biblioteca Nazionale in Florence, Italy, relates that Bartholomew Columbus brought a map and a description of Central America to the Pope in Rome, to induce the latter to intercede with the King of Spain to persuade that monarch to grant to Bartholomew a commission to colonize and Christianize the Central American coast. Bartholomew Columbus gave another copy of a map of Central America with a description of the coast to Brother Hieronymous of St. John Lateran in Rome, who gave it together with the description to Alexander of Strozzi [a.k.a. Alessandro Zorzi], a collector of travels for the Biblioteca Nazionale in Florence. Did he just guess at the shape of North America and the width of Central America like South America? So with that in mind was the whole thing just a shot in the dark? Or did Columbus just do his job of accumulating the other officially approved explorers' findings on his map.

Alessandro Zorzi, a Venetian who gathered accounts of explorers and travelers, was in Rome when Bartholomew arrived. Zorzi, assisted by Bartholomew, embellished an Italian translation of Columbus' letter with these three sketch maps. They appear as marginal illustrations and together comprise an equatorial zone map of the world. These surviving examples were included in a geographical manuscript written by Zorzi about 1522. The source of the delineation was a 1503 Christopher Columbus chart of Central America. That chart, now lost, had been with Bartholomew in 1506 and was reportedly seen by the contemporary historian, Peter Martyr, in 1513-16.

The cartographical concepts are complicated and represent a retrogression precipitated by the Columbus brothers' disappointment that no passage to Asia could be found in Central America. Before the fourth voyage, they presumed the New World was in fact a separate enormous island. Afterwards, however, they reverted to the belief that the mainland they explored was part of the Asian continent's eastern coast. The sketch maps clearly prove this point. Places Columbus visited along the Honduran coast on the fourth voyage are recorded on the first section as if they were on an Asian coastline west of the West Indies but attached to South America. The names on this coast are *Cariai, Carambaru, Bastimentos, Retrete,* and *Belporto.* On the second portion, these same names appear again along an indisputably Asian coastline.

The distance between Europe and Asia is grossly underestimated, a tenet basic to Columbus' thinking. The landmass in the northwest of the first section has a configuration similar to that in the *Cantino* map *(#306).* This area has been interpreted

variously as representing either Columbus' concept of Cuba, the peninsula of Florida, or perhaps the Asian mainland. Westward on the same continent, Columbus inscribed names for China from ancient maps by Ptolemy: *Serica, Serici Montes* and *Sinarum Situs*. To the south Columbus imagined a narrow isthmus (Panama, later to be discovered by Balboa). West of the isthmus, he labeled the sea, *Sinus Magnus*, the classical name for the waters east of Asia. He even included a strait through the isthmus to account for the sea route Marco Polo had used to return from China two centuries earlier.

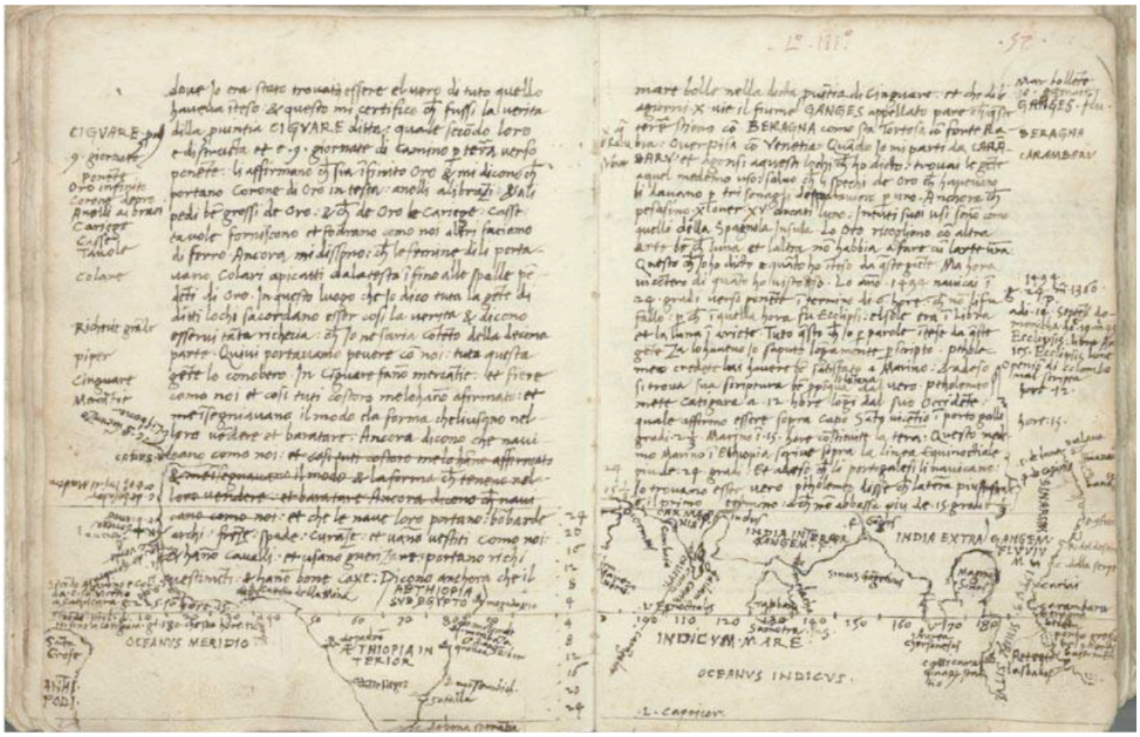
South America is called by Columbus *Mondo Novo* [The New World], a term generally credited to Vespucci. The shape of the coastline reflects the explorations of Columbus in 1498 and Ojeda in 1499. Among the few recorded place-names, "*the Sea of Fresh Water*" designates the mouth of the Orinoco.

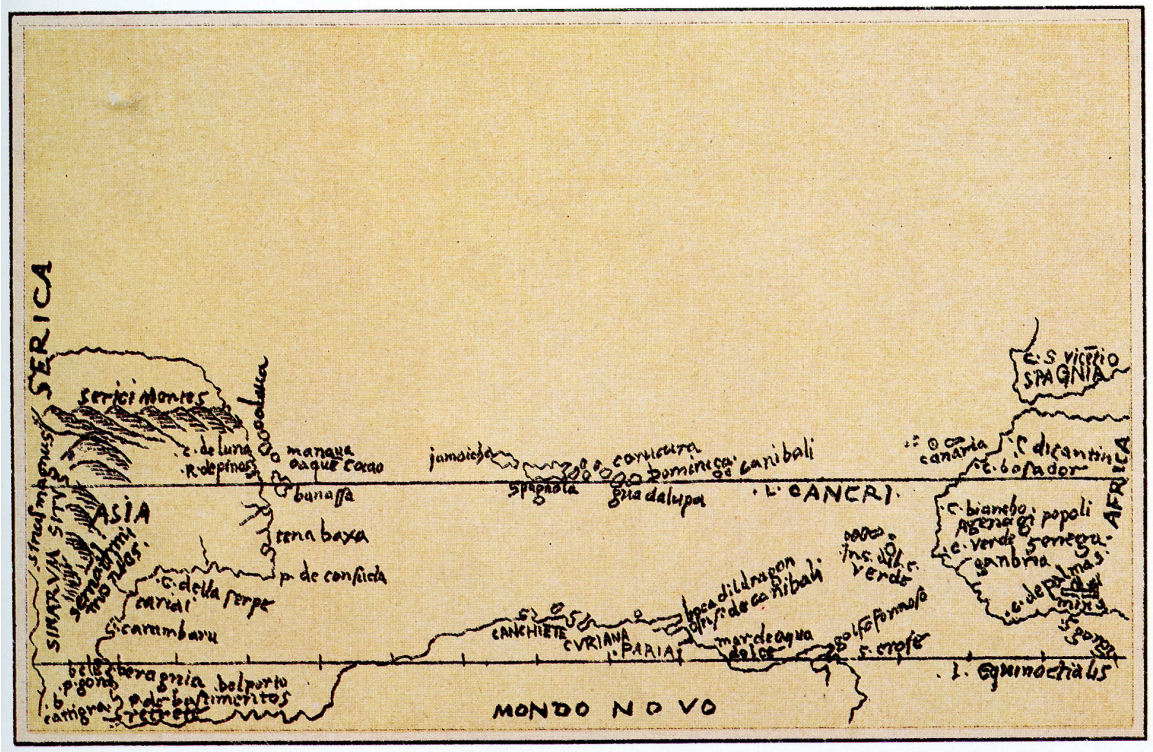
The confusion experienced by the most well informed minds in the early years of discovery is underscored on these sketches. The pre-Columbian world, represented by the *Martellus* map and the *Behaim* globe *(#256 and #258),* was being forced to accommodate a "fourth part" of that world, *America*. The three "maplets" are treasured artifacts revealing the beliefs of Christopher and Bartholomew Columbus.

The conclusion of origination was reached by historians Professor Franz R. von Wieser, and accepted by Edward Gaylord Bourne and A. E. Nordenskiöld, that these anonymous and undated sections of a world map were drawn by Bartholomew Columbus to illustrate the voyage along the coast of Central America known as Columbus' fourth voyage. The sketches are believed to represent the mature conclusions of Christopher Columbus as to the proximity of his discoveries to Asia. The circumstantial evidence to support this conclusion is strong.

It is on record that Bartholomew Columbus possessed a map of Central America. The *Sammel Codex* in the Biblioteca Nazionale in Florence, Italy, relates that Bartholomew Columbus brought a map and a description of Central America to the Pope in Rome, to induce the latter to intercede with the King of Spain to persuade that monarch to grant to Bartholomew a commission to colonize and Christianize the Central American coast. Bartholomew Columbus gave another copy of a map of Central America with a description of the coast to Brother Hieronymous of St. John Lateran in Rome, who gave it together with the description to Alexander of Strozzi [a.k.a. Alessandro Zorzi], a collector of travels for the Biblioteca Nazionale in Florence. The library still possesses a copy of this description as well as an extract from it made by Zorzi; but both these manuscripts now lack the accompanying map, which was long supposed to be lost.

World Map with "Mondo Novo" by Alessandro Zorzi.
Size of each original: 21.2 x 15.9 cm. Biblioteca Nazionale Centrale, Florence (Banco Rari 234, fols. 56v-57r and 60v).





One of the three maplets, or map sketches, attributed to Bartholomew Columbus showing the new discoveries "attached to Asia", also shown is western Africa and the Straits of Gibraltar

It is certain, however, that Bartholomew and Christopher Columbus themselves made a map of Central America, for Peter Martyr saw such a map at Burgos in 1513 when it was in the possession of Fonseca, the President of the Indian Council.

The three sketches here reproduced would seem to be that map, because, first, they were found in the Florence edition, above referred to by von Wieser as marginal drawings in a copy of Christopher Columbus's letter from Jamaica, dated July 7, 1503 which is the Admiral's description of his fourth voyage; and, second, the central point of the three maps, the identification of North America with Asia, accords with the conception of Columbus set down in the Jamaica letter.

The map and the letter in various ways reveal Columbus' belief that he had been in Asia. The places which he visited in his fourth voyage, according to the letter from Jamaica, are here placed on the map, sheet one, as on the coast of Asia, namely *Cariai, Carambaru, Bastimentos, Retrete,* and *Belporto.* The distance between Europe and Asia is markedly underestimated, in accordance with Columbus' calculations.

Columbus speaks of the river Ganges as being ten days' journey away, and merely on the other side of a peninsula from where he then was, sheet two. He mentions having reached the province of *Mago*, which borders on *Cathay.* The inhabitants of a certain section he found going clothed in large sheets of cotton; and he adds, "*They tell me that more inland toward Cathay they have them interwoven with gold.*" The *Aurea chersonesus*, the modern Malay peninsula, sheet two, he contends is the *Veragua*, which he visited, and the source of the gold that King Solomon used in the building of the temple at Jerusalem. He points out that the Emperor of *Cathay* wished wise men to be sent to him from Europe to instruct him in the Christian faith; and he pledges himself to convey to their destination all who would volunteer for such service.

The mathematical and astronomical foundation for the belief of Columbus that he had been in Asia is to be found in the interesting inscription along the west coast of Africa, sheet three, which reads, "*According to Marinus and Columbus, from Cape St. Vincent [in Portugal] to Cattigara [in southeastern China] is 225 degrees, or a difference in time of fifteen hours; according to Ptolemy, 180 degrees, which is twelve hours. But if the inhabited part of the world, from Western Europe eastward to eastern Asia, extended 225 degrees, the unknown portion of the earth's surface, westward from Europe to Asia, extended 135 degrees.*" To Columbus, therefore, the Atlantic Ocean was 135 degrees wide. Here he rejects the world's greatest authority in geographical matters, Ptolemy, who taught that it was 180 degrees eastward from Western Europe to eastern Asia, and that the Atlantic was 180 degrees wide.

Following the Arabian astronomer, Alfragan, of the ninth century, Columbus states in the letter from Jamaica that, "*The world is not so large as the vulgar suppose: a degree measures on the equator 56.67 miles*". He rejected the opinion of Ptolemy, who reckons the degree at the equator as 62.5 miles. Columbus, therefore, was of the opinion that he could reach Asia from Europe by sailing westward across the Atlantic for 135 degrees, which, at the equator, with the degree at 56.67 miles (the actual length of a degree of longitude at the equator is 69.65 statute miles, and the actual distance from the shores of Spain westward to those of Asia is about 230 degrees), was 7,650 miles, instead of 11,250 miles as computed by Ptolemy. Columbus thus owed his success to two fundamental errors, his underestimate of the size of the earth and his overestimate of the portion already known.

On the first sketch, the landmass in the northwest, bordering what could be interpreted as a Gulf of Mexico, is unequivocally connected to the Asian mainland. To the south, a narrow isthmus in the region of current Panama is shown, as is a strait emptying into the *Sinus Magnus,* the classical name for the waters west of Asia. South America, with *Paria* included along its north coast, is named *Mondo Novo* [New World], a term erroneously credited to Amerigo Vespucci's publication *Mundus Novus*.

It is curious that despite this rejection of Ptolemy, the map's description of Ptolemy's reckoning, Bartholomew Columbus drew the map according to Ptolemy's figures, making the distance at the equator from western Europe to eastern Asia 180 degrees.

The belief in the connection of the new continent with Asia lasted for a number of years after Columbus, and exercised considerable influence on early American cartography (see monographs #*311,* #*312,* #*316,* #*323,* #*326* and #*338* and the monograph "*When America was part of Asia for 270 years*"). The close general resemblance between the southeastern coast of China, as shown on the maps of the then contemporary editions of Ptolemy, and the unfolding shoreline now known as the coast of the Gulf of Mexico, must have been a source of confusion to the explorers and mapmakers of the 15th and early 16th centuries, when they tried to locate the new discoveries reported from time to time in the west.

Mondo Novo, Columbus' name for the southern landmass (South America), which he found on his third voyage, may be compared with Waldseemüller's term "*America*", which the latter brought forward in his pamphlet, *Cosmographiæ Introductio*, and inscribed on his map of 1507 *(#310).* Columbus' letter, in which he uses the phrase *Mondo Novo*, and the map here reproduced, were unknown to his contemporaries, while Waldseemüller's suggested name of *America*, proposed in honor of Amerigo Vespucci, was given to the public in a popular book and on a popular map. The latter term

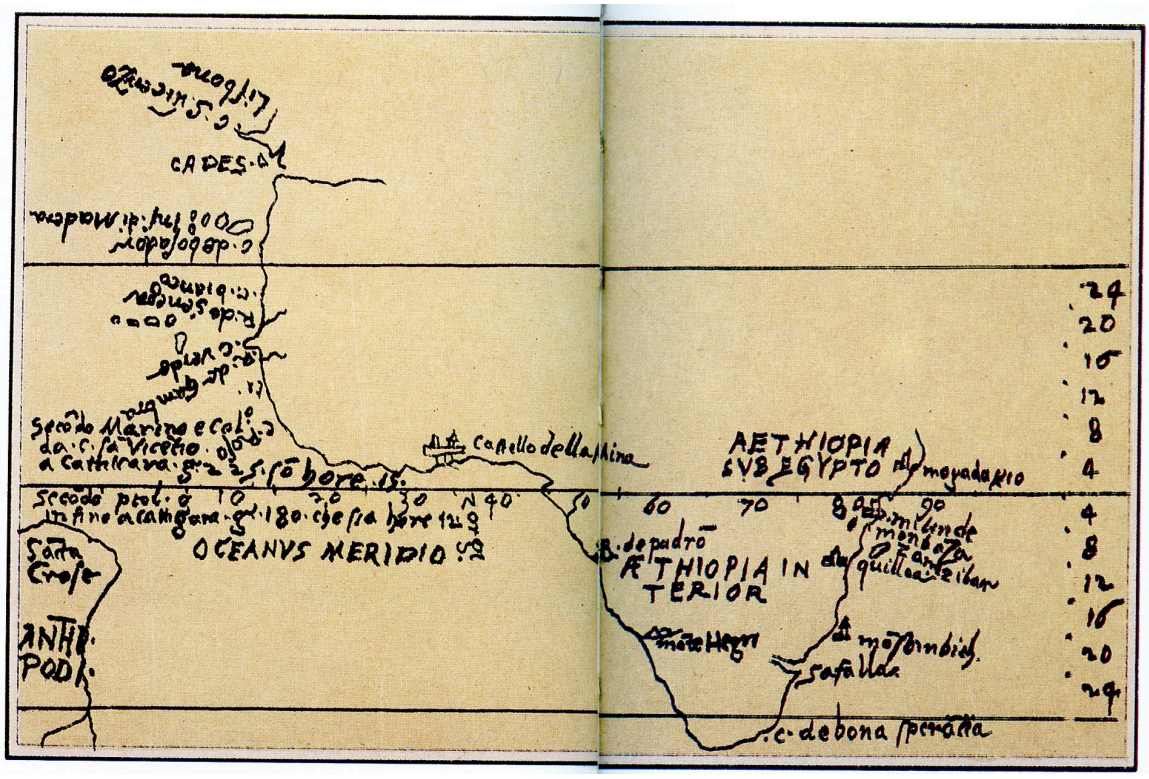
survived, while the former was neglected. America had the added advantage of being more euphonious than *Mondo Novo*.

India, with its two large rivers, the Ganges and the Indus, and with Calicut on its western coast, though far from correct, is superior to the India of the *La Cosa* map *(#305).*

The suggestion of a strait, separating *Mondo Novo* from Asia, the forerunner of the Panama Canal of the present day, is a necessity of the geography of Marco Polo. Without the strait there would be no way apparent on the map by which Marco Polo could have traversed the seas from the eastern coast of China to the Indian Ocean, a voyage that he is known to have accomplished.

"These insignificant hasty sketches", says Professor Wieser, *"possess for us the value of priceless historical relics. They are not the remains of the supposedly lost chart of Bartholomew Columbus . . . they are the sole maps which date back to the great discoverer himself and reflect his geographical ideas more truly than all other cartographical monuments."*

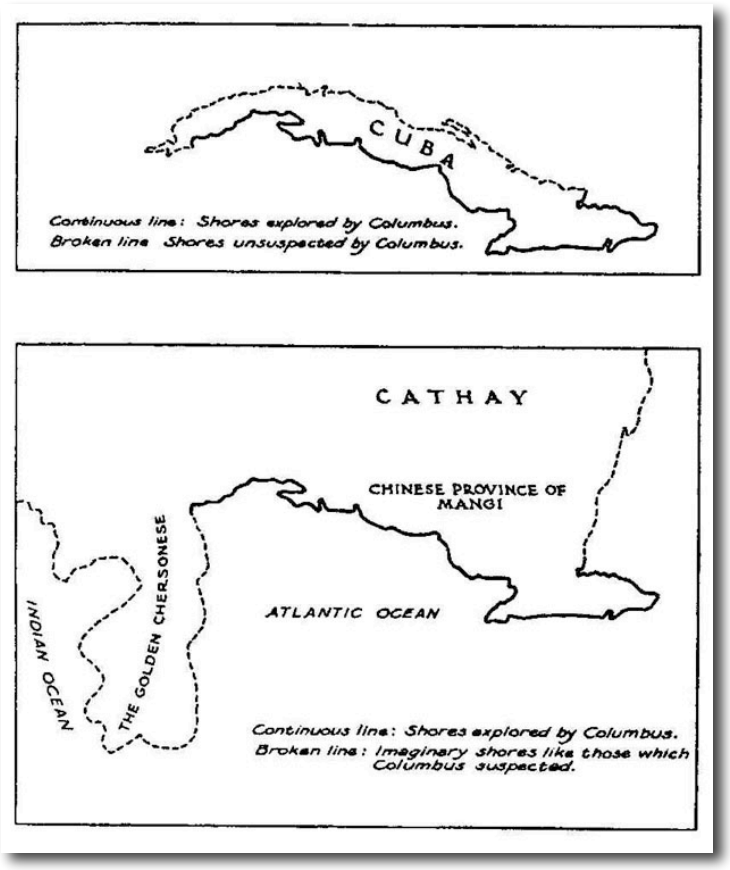
These sketch maps are found in a collection of voyages known under the title of *Alberico*. This collection is in four parts and is now in the Biblioteca Nazionale in Florence, Italy. Alessandro Zorzi, a Venetian, made the collection. Along with the narratives there are found in the margins many sketches of maps, plans, and items of interest, including these three sketch maps attributed to Bartholomew Columbus. There is also a manuscript entitled *Informatione di Bart Colombo della Navigatione di ponente et garbin di Beragua nel Mondo Novo,* and an Italian version of Christopher Columbus' letter of July 7th, 1503, under the heading *Como Colombo navigo per ponente et trovo l'Asia, et navigo per la Costa de India de l'equinotial ver il Polo Arctico et arrivo nel Regnio del Cataio.* The three sketch maps are found at the bottoms of folios 56 verso, 57 recto, and 60 verso in Codex 81. These folios are part of the text of the 7th of July letter.



The second maplet shows the continent of Africa, with a portion of South America

This collection was first called to notice by Baldelli-Boni in 1827 in his *Il Milione di Marco Polo*. Then Henry Harrisse printed the text of *the Informatione di Bart° Colombo* in his *Biblioteca Americana Vetustissima* in 1866, but he did not publish the three sketch maps. Apparently he did not recognize in the three sketches the map of Bartholomew Columbus given in Rome to Frate Hieronimo. The sketches are not found in the margin of the *Informatione* but belong to the 7th of July letter and starts 19 pages following the *Informatione.* Next, F. R. v. Wieser found the sketches and published them in a monograph. Nordenskiöld gave the maps wide publicity in his *Periplus* where he published the map sketches but not the *Informatione* of Wieser. After Nordenskiöld, many scholars have used the sketches repeatedly without questioning their origin with Bartholomew Columbus. Later, however, John Bigelow and Robert Almagia questioned that origin.

Bigelow combats Wieser's assumption that these maps are a copy of Columbus' map of *Beragua* (Central America). Then he gives his view of the aims of Columbus on his fourth voyage. According to Bigelow, Columbus' primary objective on his fourth voyage was to discover gold—not to find a strait leading into the Indian Ocean. Neither in Columbus' report on this voyage nor in his letter of instructions is there any mention of a strait leading to China or India. Next he addresses the passage of the map and the *Informatione* from Bartholomew Columbus to the Frate Hieronimo, to Alessandro Zorzi, and finally, by his hand into the *Codex 81*. Bigelow distinguishes between the Bartholomew Columbus map and the map sketches; and between the descriptive notes of Bartholomew Columbus, the Jerome description or version, and the *Zorzi Memorandum* — the first two and the last three considered identical by Wieser. Bigelow denies that the three map sketches are a reproduction of the Bartholomew Columbus map, and that the *Zorzi Memorandum* comes from Bartholomew. He also denies that the three map sketches constitute one map. He makes one map of the African-Indian Ocean sections and a separate map of the *Mondo Novo* section. Bigelow further makes a point that the three map sketches are not marginal sketches but are an integral part of the text of the Christopher Columbus letter. Finally, he concludes that the sketch maps are the work of Alessandro Zorzi made between 1522 and 1525.



The scholar Roberto Almagia had almost finished his study (*Monumenta Cartographica Vaticana*) when Bigelow's article was published, consequently it is an

independent work. Almagia, like Bigelow, notes that Wieser thought that the three sketch maps were a map *disegnio de litti di tal terre* mentioned in the *Informatione*. This conclusion Almagia does not accept because the three sketch maps constitute a map of the equatorial regions of the entire globe. Furthermore, Zorzi had a custom of placing his sketches in direct relation with the corresponding text. However, in this case the three sketch maps are in the margins, not of the Bartholomew Columbus *Informatione,* but in the margins of the Christopher Columbus 7th of July letter.

To cast additional light on the origin of the sketch maps Almagia calls attention to other map sketches of the fourth voyage in a *Ferrara Codex*, also made by Alessandro Zorzi. This Codex is older than the *Alberico*. Its last entry is a letter of Girolamo Vianello da Burgos dated December 23, 1506. It contains the Jamaica letter of Christopher Columbus but not the *Informatione* of Bartholomew. These *Ferrara Codex* sketches Almagia terms cruder sketches than those attributed to Bartholomew Columbus. On these *Ferrare* sketches appear *Catigara, Beragua, Ciab, Vestimete, Giorni* (between *Ciab* and *Ciguari*), and *Giorni* (between *Ciguare* and *Gages f.*). On sketch 47 V, Codex II, Biblioteca di Ferrara ailo appears the name of *Mundus Novus* and the legend *distatio ab egno? g. 50*.

From the existence of these sketches in the *Ferrara Codex*, Almagia concludes that Zorzi, before he knew of the *Informatione,* already had the germ of the sketches known as the *Bartholomew Columbus maplets*. Because Zorzi graduated the maplets on 57R, *Florentine Codex*, according to the scale of Ptolemy's 180 degrees rather than according to Columbus' 225 degrees, Almagia concludes Zorzi subscribed to the Ptolemy concepts. The sketch on 60V of the *Florentine Codex* was an attempt to show the relation of the coasts explored on the fourth voyage to the Antilles and to *Mondo Novo*. The *51R Sinus Magnus* and *Cattigara* are both added conjecturally on the basis of Columbus' 7th of July letter. The other two sketches, 56V and 57R, are perfected copies of the sketches in the *Ferrara Codex*. They represent an attempt on Zorzi's part to show that the coasts explored on the fourth voyage might be a part of Eastern Asia.

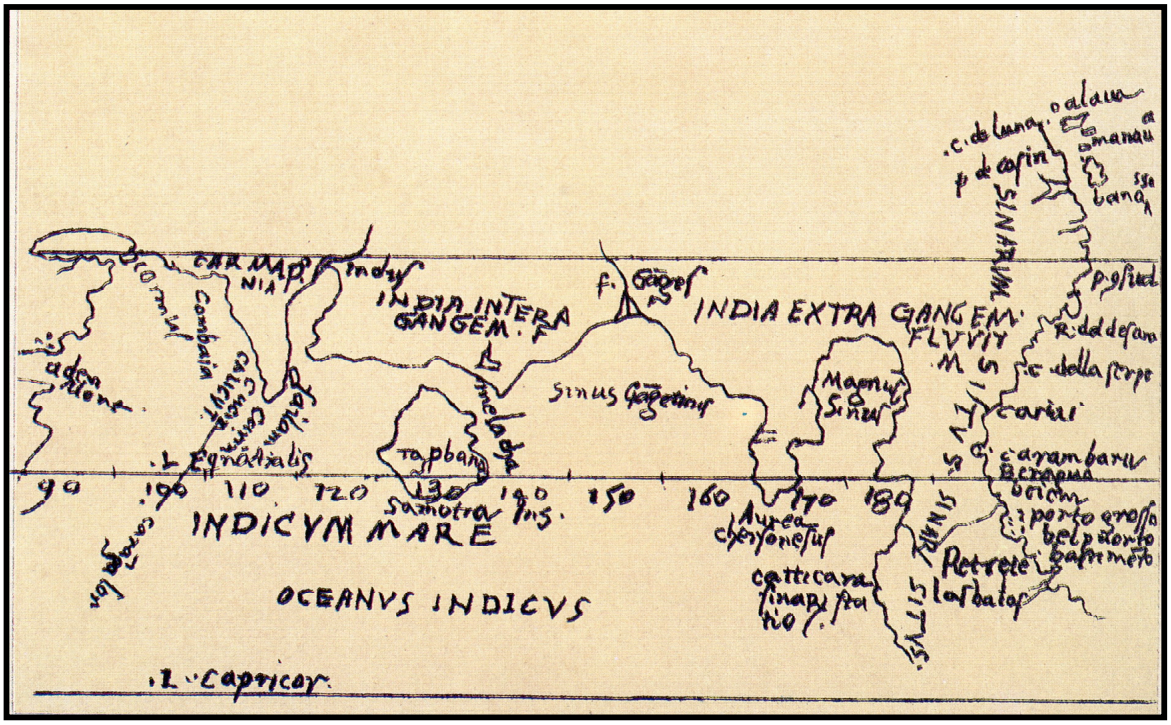
Almagia's conclusion is that there is nothing to authorize the belief that the three map sketches are derived from Bartholomew Columbus, but in fact they originate with Zorzi himself and represent, not the concepts of Columbus, but those of Zorzi personally. He further adds in a footnote that Bartholomew and Christopher Columbus had only a superficial and limited knowledge of the geography of Ptolemy. According to G.E. Nunn, this last opinion hardly seems justified. Both brothers were experienced cartographers. Columbus knew Ptolemy's *Geography* well enough to be acquainted with Ptolemy's correction of Marinus of Tyre's longitudes, a correction available nowhere else except in Ptolemy's own work. Also there remains today, in the Columbina Library in Seville, Columbus' own copy of Ptolemy's *Geography* edition of Rome, 1478, with Christopher Columbus' own signature together with the mystic triangle of letters he loved to use. It seems best to study these sketches in a brief resume of Columbus' geographical conceptions and especially of the aims of the fourth voyage and the alterations of the Columbus concept as a result of that voyage. With this natural setting it will then be easier to treat with the various points raised by Bigelow and Almagia.

Sometime before Columbus made his first voyage a new world map was made by some unidentified cartographer. This map was a combination of Ptolemy's world map with the descriptions from Marco Polo Travels. We best know this map through the globe of Martin Behaim *(#258).* There are other examples in the *Martellus* map *(#256)* and the *Laon Globe (#259).* Nunn agrees with De Lollis and Almagia that the maker of this map was very probably Toscanelli, about 1475 *(#252).* Columbus' frequent mention of

Cypangu, Zaiton, Mangi, Gamba, Cattigara and the *Ganges* make evident the influence of Marco Polo and his concepts. His identification of Cuba as a part of the Asiatic mainland is an important part of his concept. He modified the Ptolemy-Marco Polo combination of cartography with his 56.67-mile measure of an equatorial degree. This had the effect of placing *Cypangu* [Japan] and eastern Asia nearer to Europe on the map by way of the Atlantic than it is in fact. This fundamental error was brought about by three factors:

(1) Ptolemy made his farthest east extend to 180 degrees from the *Fortunate Islands* [Canary Islands] meridian to *Cattigara*. This meridian on Ptolemy's map was identical with the second meridian and fraction of degrees west of the *Sacrum Promontorium* [Cape St. Vincent]. Exact comparisons are impossible for many reasons, but the part of the China coast very probably to be identified with *Cattigara* (this assumes that *Cattigara (Kattigara)* is probably Hang-chow) is 120 degrees east from Greenwich and 138 degrees east of the Ptolemy meridian. Therefore Ptolemy's 180 degrees extent of his known world was an exaggeration by 42 degrees.

(2) The new map represented by the *Behaim* globe and the Toscanelli letter extended the mainland of Asia to 240 degrees east longitude. Toscanelli placed the coast of Asia about 1/3 of the circumference of the earth west of Europe. This extension was based on a misconception of the identity of the lands of *Cathay* and *Mangi* as described by Marco Polo and therefore duplicated the lands of far eastern Asia. This duplication extended the mainland of Asia 102 degrees beyond the fact and placed *Cipangu's* east coast 30 degrees farther to the east. This false extension to the east had the effect of correspondingly reducing the true distance by way of the Atlantic between Europe and eastern Asia.



The third maplet displays India and Southeast Asia

(3) Columbus' false degree measure, while it only changed the longitudes and not the distance by land between the prime *Fortunate Islands* meridian and the Far East, did have the effect of still further reducing the supposed distance by way of the Atlantic between western Europe and eastern Asia.

In the 15th century the known, inhabited world, according to the European mind, occupied slightly more than half of the globe, just over 180 longitude degrees. In the awakening this maritime age, surely it was only a matter of time before someone asked: What occupies the other half of the sphere? And once again the motive for such a question was to hand in the image of the East, the wealth and civilization of another world, cut off from Europe by the hostile forces of Islam, or by a sea voyage of 8,000 miles. "In the carrying out of this Enterprise of the Indies", wrote Columbus in 1501, "neither reason nor mathematics nor maps were any use to me". In one sense this was completely untrue, but Columbus said it for dramatic effect, to emphasize the inspired leap of imagination which he was required to make as he worked out his geographical ideas during the 1470s and 1480s. Thanks to the survival of certain books from Columbus' library, annotated in his own hand, we know a good deal about the sources of these ideas. As mentioned above, he read Marco Polo, Ptolemy, Strabo and the *Imago Mundi* of Pierre D'Ailly - in which the size and sphericity of the earth are fully discussed. From these sources Columbus distilled three fundamental ideas, one true, the others completely false: that the earth is round, and that therefore any part is theoretically accessible from any other part; that the extent of the Eurasian land-mass was approximately 280 longitude degrees; that the diameter of the world was of the order of 20,000 miles, and that therefore the value of a meridional degree was 55.5 miles. Using these quite erroneous estimates, Columbus convinced himself that a sea voyage of 4,500 miles west from Spain would bring him to the coast of *Cathay*. This figure was still daunting, but it could be reduced by accepting Marco Polo's statement, utterly unsupported though it was, that the great island of *Zipangri* [Japan] lay 1,500 miles east of Cathay. Given fair winds, a ship could easily average 100 miles per day; thus Columbus arrived at the conviction that a voyage of scarcely more than thirty days would carry him west across the Atlantic to Japan then *Cathay* and "the Indies". This theory of a "small Atlantic" was also put forward by the Florentine cosmographer Paolo Toscanelli, with whom Columbus is reported to have corresponded, and it is precisely this world picture which appears on the globe of Martin Behaim *(#258),* made in Nuremberg in 1492, on which the Atlantic covers slightly more than a quarter of the earth's longitude.

As Patrick Gautier Dalche concludes, the work of the Venetian Alessandro Zorzi further enables us to understand the mental framework within which the work of Ptolemy was measured against the new discoveries. At the beginning of the 16th century, Zorzi copied a collection of texts relating to the discoveries made in Asia and the Americas. The margins of his texts are full of notes and diagrams. For example, Zorzi identifies the position of the 1499-1500 explorations on the coast of South America (referred to as *Paria* in the sources) using a small globe on which the outline of the landmasses is taken from Ptolemy (although the Indian Ocean is not shown as landlocked). Vespucci's voyage is illustrated in a marginal drawing in which the coasts of Europe and Africa are shown opposite those of the *Mundus Novus,* all in relation to the equator, the tropics, and the poles. Similarly, the three maps sketched in the margin of Zorzi's copy of Columbus' letter of 7 July 1503 reflect an attempt to reconcile the

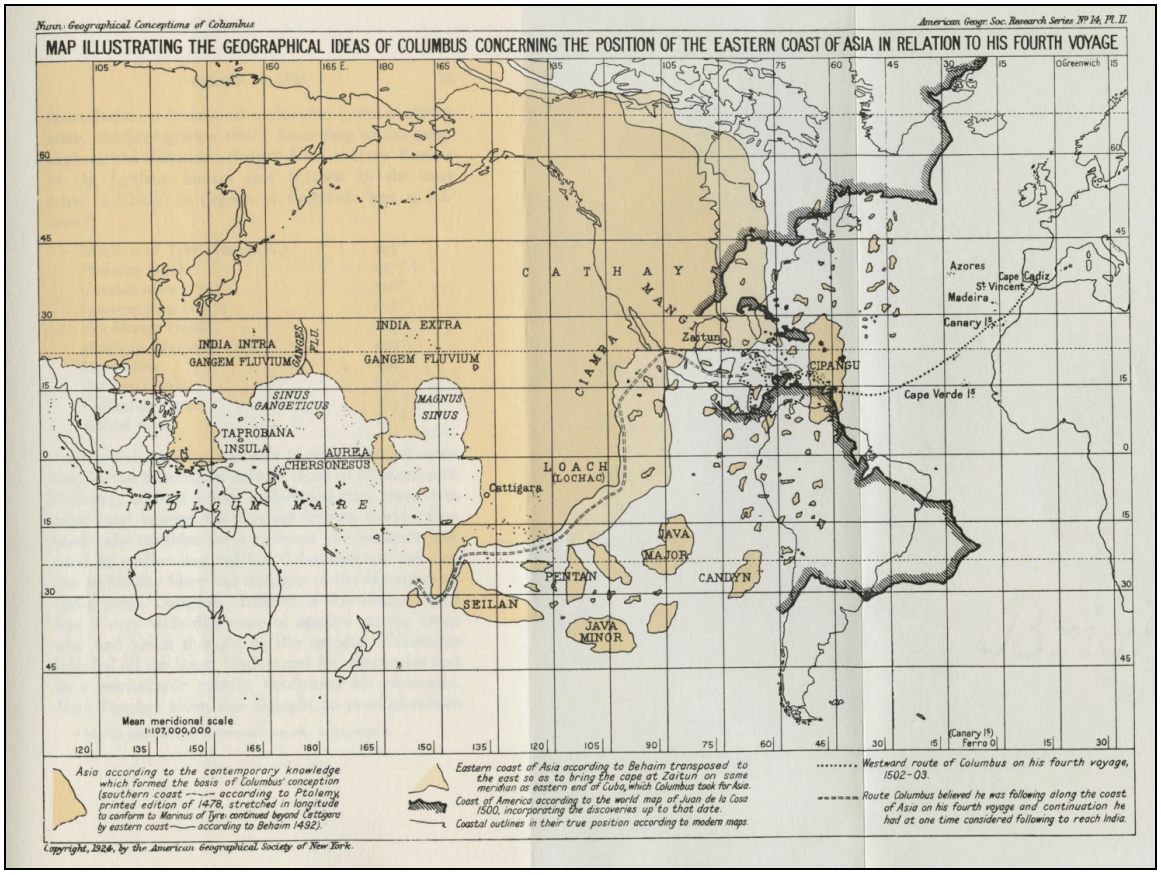
Ptolemaic view of Asia with the discoveries that had emerged from Columbus' fourth voyage. The maps show the extent of the *oikoumene* [known occupied world] marked to 180 degrees on the equator. The nomenclature is Ptolemaic, and two notes recall the two estimates of the extent of the *oikoumene* put forward by Ptolemy and Marinus and summarized in Columbus' own account of his fourth voyage. The written notes and drawings in these manuscripts reflect the interests of the merchant circles in a maritime city where people were eager for precise information on how to reach the newly discovered lands and thus anxious to be able to locate these discoveries within the existing image of the world.

Location: Biblioteca Nazionale Centrale, Florence

Size: 4 x 6.5 inches (100 x 165 mm)

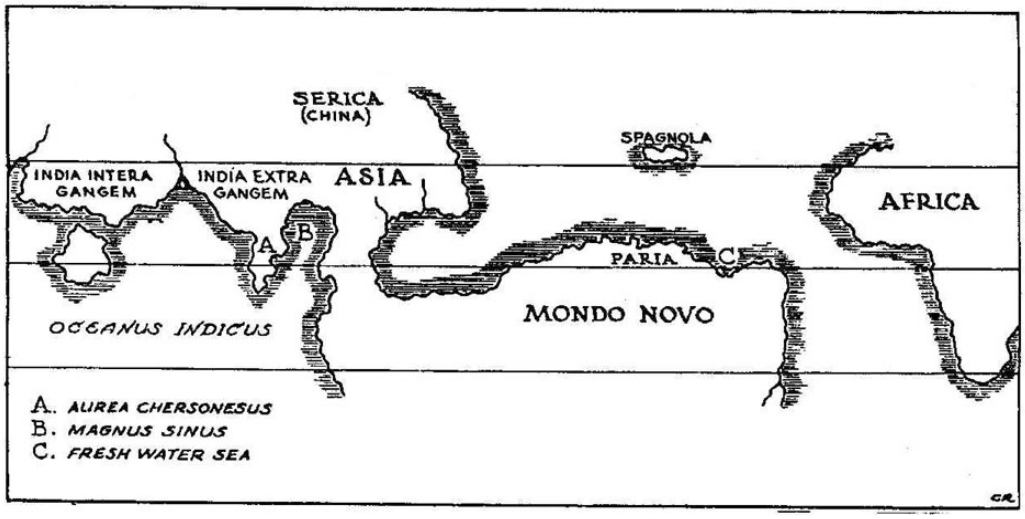
References:

*Bake, Jill Withrow, "The Maps that Columbus Used", 21pp (e#246)
*Dalche, Patrick Gautier, "The Reception of Ptolemy's Geography (End of the Fourteenth to Beginning of the Sixteenth Century)". □
*Fite & Freeman, *A Book of Old Maps*, pp. 15-16.
*Nebenzahl, K., *Atlas of Columbus*, pp. 38-39, Plate 12.
*Nunn, George E., "The Three Maplets Attributed to Bartholomew Columbus", *Imago Mundi*, pp. 12-14.
*Wieser, Franz R. von, *Die Carte des Bartolomeo Colombo über die vierte Reise des Admirals*, Innsbruck, 1983.



Sketch maps of the equatorial belt of the world

#304



A re-drawing of all three map sketches illustrating Columbus' view of the world