

TITLE: *The Atlas Miller*, a.k.a. the *Lopo Homem-Reineis Atlas*

DATE: 1519

AUTHORS: Lopo Homem, Pedro & Jorge Reinel, António de Holanda

DESCRIPTION: The maps in this atlas exemplifies the reason why I collect maps. While historically significant maps are intrinsically fascinating (and often artistically beautiful), the maps in the *Atlas Miller* (and other less significant maps in my collection) were selected, not for their geographic or cartography execution, but for their aesthetic beauty and quiriness. This Portuguese atlas is a richly illustrated atlas that includes six loose charts painted on both sides: eight of the maps measure 41.5 x 59 cm and two maps 61 x 117 cm. It is a joint work of the cartographers Lopo Homem, Pedro Reinel and Jorge Reinel illustrated by miniaturist António de Holanda. The cartography represented here is from the "school" constituted by Pedro Reinel and his son Jorge Reinel, reaching the conclusion that these two men – the first cartographers to chart the geographic discoveries of the West and the European colonial expansion – were Portuguese of African origin and therefore referred to as black by their contemporaries. The geographical regions represented are the North Atlantic Ocean, Northern Europe, the Azores Archipelago, Madagascar, the Indian Ocean, *Insulindia*, the China Sea, the Moluccas, Brazil, the Atlantic Ocean and the Mediterranean. The atlas was acquired in 1897 by librarian Bénigne Emmanuel Clement Miller of the National Library of France, hence the name *Atlas Miller*.

The charts included and its authoring have raised great controversy among scholars. Particularly a world map that encloses the Pacific Ocean, which has been interpreted by some as an attempt to dissuade the circumnavigation by Magellan which was, at the time, being prepared in Seville, in the court of Charles I of Spain. The *Atlas* is thought to have been an offer from King Manuel I of Portugal to Francis I of France. Its title page bears a later inscription with the arms of Catherine de Medici. One of the highlights of the *Atlas* are the details included in the map *Terra Brasilis* just a mere twenty years after the landing of Pedro Alvares Cabral.



The *Atlas Miller* is an unusually splendid work, for its pages, decorated by a Flemish miniaturist and brimming with Flemish style illustrations, were commissioned by Manuel, the "Pepper King", for the type of person for whom Flemish books of hours were usually intended in that period: a Flemish princess. And the Flemish princess in question was the sister of Emperor Charles V, Leonor, the princess who was once betrothed to the crown prince of Portugal (the future João III), but who married King Manuel in the end after he stole his own son's fiancée. Their marriage lasted almost three years until he widowed her in 1521. The very fact that the *Atlas Miller* was left unfinished, between 1519 and ca. 1522, with pages twenty and twenty-one incomplete, confirms that Manuel "the Fortunate" did not send it abroad as a gift of state for a European dignitary such as the king of France.

This work, begun in 1519, was intended quite simply for Leonor, his young wife and the sister of the sovereign of neighboring Castile, Emperor Charles V, in whose service Ferdinand Magellan had been working since 1518 – the badly-treated Portuguese

exile preparing to sail around the world in the service of the Castilians, those appreciated neighbors, rival brothers and cordial competitors.

This time, cartography, or the “science of princes”, as mentioned above was intended for a princess. The reason was not merely fondness of the arts or love itself. It is now also revealed by current cartographic historians that this atlas, so strange and lavish and intended for the eyes of Emperor Charles V and the men of Castile, was in fact an instrument of geostrategic, geopolitical and diplomatic counter-information that even featured nautical mystification.

The *Atlas Miller* is the last Portuguese attempt to thwart Columbus’ Spanish plan. And, as mentioned above, this atlas was also created to counter the voyage by Ferdinand Magellan, and the voyage by Ferdinand Magellan was done to counter the *Atlas Miller*. And what is remarkably surprising - really amazing - is the fact that for several months in 1519, travelling to and fro across the frontier, the same cartographers took part in both projects, producing the *Atlas Miller* in Lisbon and preparing the voyage by Magellan in Seville: Pedro Reinel and his son Jorge Reinel. When analyzed from a scientific and critical viewpoint, the truth really is stranger than fiction.

These two men, Pedro and Jorge Reinel, were two of the finest cartographers of their times. It was on the basis of their knowledge that the first circumnavigation of the globe was prepared for the Crown of Castile. It was also more or less at the same time, in 1519, that the *Atlas Miller*, which, according to Luís Filipe Thomaz, Bernardo Sa Nogueira and Alfredo Pinheiro Marques, can be said to be the most important atlas in the history of the cartography of the European geographic discoveries, was produced for the Crown of Portugal, also on the basis of their knowledge. A work of this nature, combining the most advanced science then possible and the finest art then available with curiosity, beauty and rigorous and exotic portrayals of the new lands outside Europe, could only be produced at that time in Portugal: the country then offering the incredible and extraordinary circumstances of three men surprisingly working together on a fascinating masterpiece: a black cartographer, an Iberian nobleman and a Flemish painter...Pedro Reinel, Lopo Homem and António de Holanda.

The leaves of the *Atlas* have drawings on both sides, and they are now mounted in a modern album, which allows each to be examined. The central folds which divide the leaves into two parts, and their arrangement, clearly show however that these maps were formerly part of a collection measuring, when closed, 30 x 41 cm, the maps when open measuring 41 x 59 cm.

Two characteristics make the *Miller Atlas*, a set of ten nautical charts covering the lands known in the time of Magellan plus a world map, an exceptional example of Portuguese cartography of the time. The first is the luxuriousness of the manuscript, with its lavish decoration and generous illumination, all suggesting that it was intended for a European royal house; the second is its anachronistic content, with recently-obtained empirical information about the world placed side-by-side with Ptolemaic geographical concepts. Such is the case of the atlas’ circular world map, signed and dated 1519 by the young cartographer Lopo Homem. In this map, the Atlantic and Indian Oceans form a large lake entirely surrounded by land, a characteristic likely indicating Lopo’s adoption of the generalized Ptolemaic ideas defended by Duarte Pacheco Pereira in his *Esmeraldo de Situ Orbis* (1506). As in the chart of c. 1517 attributed to Pedro Reinel, the geography of Southeast Asia is a peculiar mixture of known, traditional, and imaginary elements. In contrast, though, the *Miller Atlas*’ “Great Gulf of China” is not hesitantly sketched, but boldly displayed and richly embellished. Any reader accepting the geography

promulgated in *the Miller Atlas* would be forced to concede that access to Southeast Asia and the Moluccas was only possible by sailing east, making Magellan's mission unfeasible. Adding to the strangeness of this representation are the facts that the world map was signed in the same year that Magellan's fleet departed, and the rest of the charts were presumably drawn by Pedro and Jorge Reinel, who clearly abandoned the Ptolemaic model in the *Kunstmann IV planisphere* (#330), produced about two years later. For these and other reasons, some historians consider the *Miller Atlas* to have been a deliberate manipulation, designed to persuade its owners of the impossibility of reaching the Moluccas by sailing west.

The Planisphere

The center of the parchment sheet is occupied by the circular *Atlas Miller mappamundi*, as decorative as it is crude and measuring 33 cm in diameter. It was drawn and colored (green for the land and blue for the seas) inside a rectangular frame whose four corners hold an equal number of fascinating wind-heads that seem to be blowing from the "Four Corners of the Earth". The same frame also holds the sun and the moon, one on each side. At the corners of the leaf, four heads, miniature chef-d'oeuvres, indicate the inter-cardinal points, the cardinal points being marked by pennants, on which can be seen traces of black letters under the gold, and by a golden sun on the East and a silver moon on the West. Below the title are painted the arms of Catherine de Medici after her widowhood in 1559. The second verso is blank.

The right side of the back, which would be the first page of the original codex when folded, has a caption with the date and signature surrounded by another rectangular frame. The inscription reads: "*Hec est vniuersi orbis ad hanc usque diem cogniti tabula Quam ego Lupus homo Cosmographus in clarissima Ulisipone ciuitate Anno domini nostri Millessimo quingentesimo decimo nono Jussu Emanuelis incliti lusitaniae Regis collatis pluribus alijs tam vetustorum quam recentiorum tabulis magna industria et dilligenti labore depinxi.*" [This is the map of all the globe of the universe now known, which I, Lopo Homem, cosmographer, having compared many other maps both ancient and modern, drew with great effort and diligent work in the illustrious city of Lisbon, in the year of Our Lord fifteen hundred and nineteen, by order of Manuel, eminent King of Portugal].

The initial impression when looking at the *mappamundi* is that it is crudely misshapen, as it shifts the Old World continents of Europe, Asia and Africa to the north, and shows the large southern area occupied by a vast sea where the Atlantic and the Indian Ocean meet and mingle. This is then surrounded by a huge and fantastical southern land-mass that stretches from west to east, linking the New World that the Portuguese and Castilians had recently discovered (1492-1500) to the lands of Asia and the Southeast Asian islands that the Portuguese had reached and were settling (1497-1519). For those who know their history of ancient geography, this enormous southern landmass immediately suggests that the *mappamundi* was possibly influenced by the concepts expressed by Pomponius Mela (1st century, see #116), Ptolemy's enclosed Indian Ocean (#119), and Macrobius (4th-5th centuries, see #201) and their "antipodes". Even so, there can be no doubt that although this element is theoretical and based on writers from antiquity, it can only be classified as highly unusual and strange when included in a map from the 16th century.

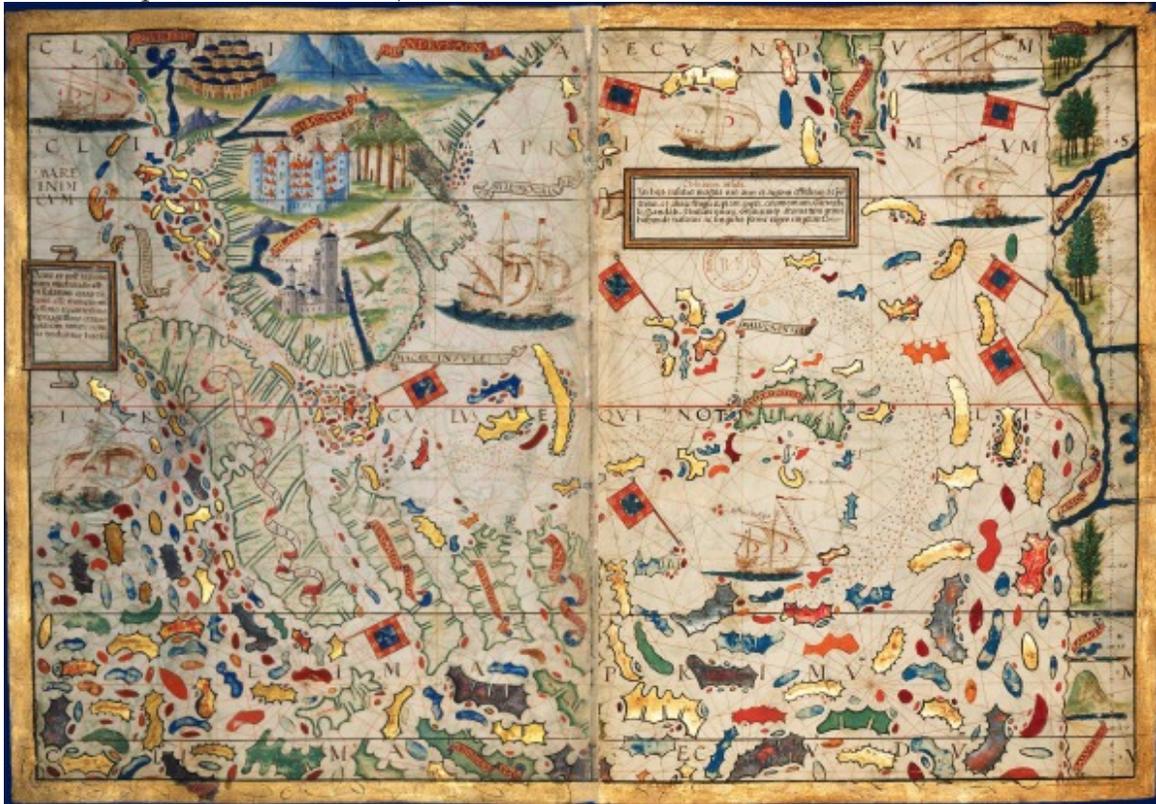


The second observation that can be made when looking at the *mappamundi* is that, within the general geographical concepts, it is strange that the seas are all surrounded, enveloped even, by the continents. This transforms these seas collectively into a sort of enormous lake with several branches that are all encircled by land. Thus, the land surrounds the seas rather than the other way round. It is hard to understand why this strange vision was used or reused at this time. A third observation might be that these maps were purposely design to discourage a Magellan-like voyage by the Spanish.

Just as the Fra Mauro map (created 1448-1459 and used in 1474-1497, #249) had been a propaganda manifesto of the idea of the circumnavigability of Africa, for internal use, by the order of the "Perfect Prince" King John II (and, with it, the Portuguese effectively circumnavigated Africa), the *Atlas Miller* of 1519-1522 came to be a propaganda manifesto of the idea of the non-circumnavigability of the earth, for internal and external use, by order of the "Fortunate" King Manuel (and, with it, the Portuguese tried to convince the Castilians not to circumnavigate it). Through this instrument of counter-information that is the *Atlas Miller*, the Portuguese tried to make their esteemed neighbors, rival brothers, and cordial competitors (the Spaniards) believe in two things. In the first place, they tried to make them believe that the arrival in the East (India, Malacca, the land of the Chins, Japan or the Moluccas), that they kept on trying to accomplish through the use of their Western route, with more and more insistence and stubbornness (and already using Portuguese navigators, such as Dias de Solis in 1508-1509 on the Gulf of Mexico and in 1515-1516 on the River Plate), was not only very difficult (a fact which they were already realizing from the time of Columbus) but was

actually even more than that. It was purely and simply impossible! Because the New World was continental. Because, on the planet, the land was too big (and continuous), and the seas were too small and closed in. There was seven times more land than water, as was said by the prophet Esdras and the bishop Jacob Perez de Valencia, and was repeated by the Portuguese Duarte Pacheco Pereira, and, therefore, there was no way to be able to navigate from the West to the East through the other side of the world. In the second place, the Portuguese tried to make their esteemed neighbors believe that the way to India by the *Rota do Cabo* [the Cape Route], the Portuguese route to Africa (Southeast), diplomatically safeguarded by the *Luso-Castilian Treaty* which was previously achieved in 1494 by King John I in Tordesillas (and therefore a route which was not contestable, nor contested, by their Castilian neighbors), was a very easy route, very short, very small (as Africa itself was very small), and India was right there just around the corner from the Cape of Good Hope.

According to Alfredo Pinheiro Marques, there is no doubt that this famous atlas - the true intention of which is now revealed: to falsify the localization of the "Spice Islands" ... showing them to be even closer to Portugal than they truly are - was made for the eyes of the esteemed neighbors, rival brothers, and cordial competitors who respected and obeyed the *Treaty of Tordesillas*, and therefore didn't dispute the Portuguese Cape Route (and only tried to reach those islands of the Moluccas from the West, across their own hemisphere of Tordesillas).



Insulindia

As shown above, the entire western half of the Southeast Asian islands is chaotically portrayed as a vast labyrinth of islands, which may, again, be a means by the Portuguese of dissuading other competitors from exploring the Moluccas, as they would be lost

behind an impenetrable maze of island and islets. The map of East Indies and Moluccas reveals a recognizable Malacca Strait for the first time and locates the famous trading port of Malacca (center left). Curiously, however, two large, walled, multi-towered cities are shown, one labeled Malacca, the other falsely named *Mabacca*. Both symbols of major cities referred to the same emporium - Malacca. The importance of this principal market center for Oriental spices and silks, the gateway to the Spice Islands, caused many reports of its prominence to reach Lisbon and led to this confusion. It was conquered by Albuquerque in 1511, the year the Portuguese reached Java, the Moluccas, and Celebes (Sulawesi). Progress in mapping the region is shown in the placement of *Simgapura* (Singapore), then a minor landmark, at 2 degrees north latitude, its correct location. Perhaps the most important feature of these Homem-Reinel charts is the presence of the Moluccas, or Spice Islands, for the first time on a Western map (center right). A major target in the European exploration of Asia, the Moluccas were the main source of the spice trade and were the richest single prize during the establishment of the Portuguese East Indies. In 1511, based on explorations of Antonio de Abreu and his companions, who included Ferdinand Magellan, Lisbon began receiving coastal charts of the complicated archipelago that makes up the Moluccas. These charts enabled Homem and the Reinels to depict a relatively accurate delineation with these unique maps.

Prominently displayed throughout these islands are the Portuguese flags/standards. A caption on the northern tip of Sumatra, here designated *Taprobana Insula*, is a verbatim reproduction from Ptolemy's *Geography*: "Before and after Taprobana, there is a host of islands, that they say number one thousand, three hundred and seventy and eight: of which these are those that have names". It also somewhat reflects Marco Polo's description of 7,443 islands in this region. *Taprobana* is stretched too far south, since its southern tip - shown at 13° 45' S rather than 4° S - is some 9¾ degrees south. As in the *Cantino planisphere* (#306), *Comatra* is not the name of the island, but of a port: *Samudera*, located alongside *Pasai* (5° 10' N, 97° 12' E) and thus sometimes called *Samudera-Pasai*. This was the first state in the Southeast Asian islands to convert to Islam, in 1295. On Fra Mauro's map (#249), the two names appear as direct equivalents, as a caption explains, calling it "*Isola Siamotra over Taprobana*".

Ultimately, this terminological confusion stems from the fact that Sri Lanka/Ceylon has several Sanskrit names: *Tâmrâparna* or *Tâmrâparnî*, *Simhala*, *Ratnadôîpa* ("island of jewels"), *Lankâ* or *Srî Lankâ* ("the prosperous Lanca"), etc., of which the latter are more literary. Evidently, the first - recorded since c. 247 B.C. in the second rock edict of Asoka, the first unifier of India - resulted in the Greco-Roman toponym *Taprobana*, which was used by Pliny and many other authors after Onesicritus, a companion and chronicler of Alexander the Great. The name seems to have disappeared from use in India during the middle of the sixth century AD, at which time Cosmas Indicopleustes (#202) refers to the island, which he does several times, he carefully explains that what the Greeks called *Taprobana*, the Indians called *Seladiva* or *Sieladiva*. The last name is a loose transcription of *Simhaladôîpa* [island of Simhala], which led to the Latin form *Serendivae* (understood as *insulae*), used around 362 AD by Amianus Marcellinus. It also resulted in the Arab form *Sarandîb*, which commonly appears in mediaeval Islamic geographical texts after *Ahbâr al-Çîn wa'l-Hind* and *Kitâb al-masâlik w'al-mamâlik* [Book of itineraries and kingdoms] by Ibn Khurradâdhbih, both of which date from c. 850 AD, were still used in the 14th century by Ibn Battûta and are mentioned in passing by João de Barros.

The simple form *Simhala* - meaning something like "home of the lions", which led

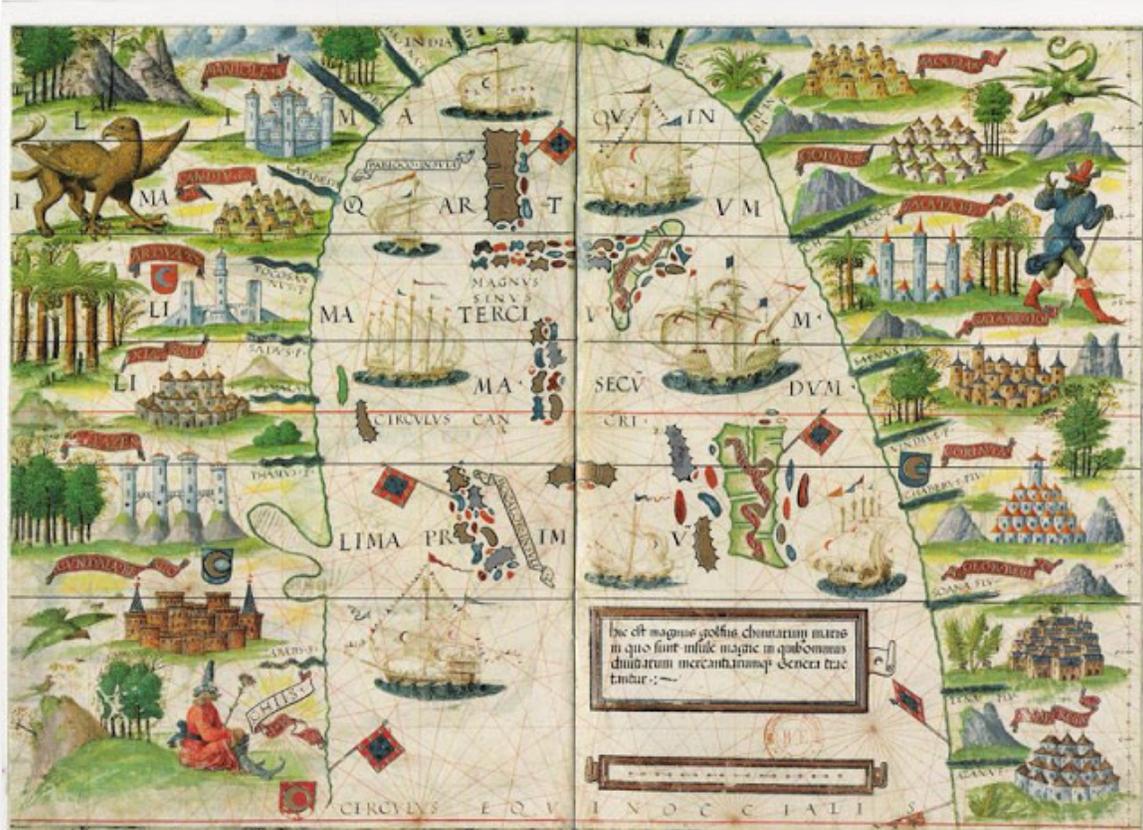
to the lion becoming the symbol of Sri Lanka – also resulted in the Portuguese expression “*chingala*” (clearly taken from Tamil, which has no *s* phoneme and generally confuses the *ss* pronunciation in Sanskrit with the voiceless palatal fricative *ch*) and the more sophisticated “*cingalês*” (both meaning from Ceylon). The form *Simhalana*, originally an adjective before being transformed into a noun, is also the basis for the Chinese name *Hsi-lan*, the Arabic *Saylân* (and hence the Portuguese *Ceilão*) etc. Recorded in Arabic since the geography written by Yaqut in the early 13th century, this became the most common term of reference for the island in the Middle Ages, and was used by Marco Polo, Odoricus of Pordenone, Giovanni de Marignoli, Nicolo de’ Conti, etc.

The difficulty in identifying classical writers’ *Taprobana* with Ceylon is not only the result of the difference in name, but also because those writers attributed the island with a size that was far greater size than its true dimensions. Onesicritus, the first Greek author known to mention *Taprobana*, states that it measured over 5,000 *stadia* (1,000 km); Strabo declares it to be “no less than Britannia”; the *Periplus of the Erythraean Sea*, written between 95 and 130 AD, states that the “island Palaesimundu, called by the ancients Taprobane (...), almost touches the opposite shore of Azania” (i.e., Western Africa); Pomponius Mela believes it to be part of a hidden continent, while Ptolemy had it straddling the equator, stretching from 12° 30’ N to 2° 30’ S, when it is actually located 9° 45’ N and 5° 58’ N. This detail led some authors erroneously to identify the *Taprobana* from classical writing with Sumatra, which is in fact crossed by the equator. Diogo do Couto blames this error on Poggio Bracciolini’s account of the voyage of Nicolo de’ Conti (1444), which formed the basis for Fra Mauro’s map from 1459. Couto was probably right, although the well known *Catalan Atlas* (1375, #235) already shows *Taprobana* well to the east of India, and even east of Java, demonstrating that the tendency to locate it in the Southeast Asian islands started early. It is interesting to note that King Manuel seems to have been well informed from the very start, as his *Letter to the Cardinal Protector*, dated August 1499, notes “the island Taprobana, which they there call Ceylon, lies some one hundred and fifty leagues from Calicut (...); they say it is of a size not so big as is considered here”. Nonetheless, the confusion took some time to clear. Although João de Barros, Diogo do Couto and Manuel de Faria e Sousa, following António Galvão, correctly identified *Taprobana* as Ceylon, Damião de Góis agreed with Castanheda and identified it as Sumatra. The confusion also persisted in European drawn and printed cartography, even occasionally continuing through to the late 16th century, when the arrival of the Dutch and English in the Indian Ocean brought a preference for local place-names.

The islands of *Gamispolá*, mentioned by Marco Polo, are shown north of Sumatra, continuing the line established by the Andaman and Nicobar Islands. Their name, which can be found both in the chronicles and in cartography, appears in minuscule letters and a large Latin caption in a banner, and the islands can be identified as a group of islands comprising *Pulo Weh*, *Pulo Bras* or *Lampujang* and *Nasi Besar* or *Dedap*, off the coast of *Aceh* (*Acheh* or *Atjeh*), from which they are separated by the Bengal channel (*Lintasan Benggala*, 5° 40’ N, 95° 12’ E). Although the name has apparently disappeared from modern use and the precise location is not known, the name is clearly of Malay origin, as shown by the *polá* ending (the Malay word *pulau* means “island”). It may have been a transcription of *gamis pulau*, literally meaning “the island’s shirt”, a reference to its appearance as some kind or external layer around Sumatra.

Contrasted with the progress in accurate charting are the legacies from classical and medieval mapping. At the eastern extremity a residual coastline left over from

Ptolemy's *Sinus Magnus*, part of his enclosed Indian Ocean, still persists, with three Portuguese flags planted to indicate the country's perceived hegemony in the region. The profusion of unidentified islands throughout the southern area is a holdover from 13th century tales of Marco Polo, who proclaimed that off the coast of China were "7,448 islands, the majority of which are uninhabited." Marco's comment could have been derived from hearsay regarding the thousands of islands in the Indonesian, Philippine, Ryukyu, Japanese, and Kuril island groups.



The China Sea

Shown above, the map of the China Sea is one of the most beautiful charts in the entire *Atlas Miller*, yet it is simultaneously the most inaccurate, and can categorically be labeled as somewhat fraudulent. In Ptolemy's *Geography*, the *Magnus Sinus*, "the Great Gulf", is located beyond the western border of *Aurea Chersonesus* [the Malacca Peninsula], and stretches eastwards as far as the landmass that supposedly linked China to Southern Africa, thereby closing off the Indian Ocean. However, Ptolemy only shows its maximum latitude as 18° N, which suggests that it was in fact a combination of the Gulf of Siam (whose northern border is at 13° 30' N), the Gulf of Tonkin, which Portuguese charts and chronicles called the *Cochin China* inlet, and the South China Sea, which reaches a latitude of 22° N. The gulf shown in this chart reaches a latitude of 45° N, while its southern border is not known since the coasts on the two sides stretch to the equator, the chart's lower edge, suggesting that they continue beyond that line. This causes a clear paradox: besides the fact that the two sides of the gulf have different place-names in this chart and

in the previous one, the drawing of the west coast bears no resemblance whatsoever to the chart of the "Parts of the South". In the latter case, the coast ran broadly NE-SW, had two clear indentations and ended at Singapore point, accurately shown at a latitude of $1\frac{3}{4}^{\circ}$ N. In this map, it runs north-south and has no apparent end. In addition, the chart distances itself still further from Ptolemy by depicting a gulf full of islands, when Planudes' tables, drawn from Ptolemy's latitude and longitude tables, show no island at all.

At the time when the *Atlas Miller* was created several Portuguese expeditions had already reached China. Jorge Álvares had sailed there in 1513 on a junk that had been purchased the year before in Pegu and jointly fitted out by the crown and Nina Chatu, a rich Tamil merchant from Malacca. In the following year, it was Rafel Perestrelo, who did some fine trade in Canton, while in 1516-17 it was the fleet under Fernão Peres de Andrade, which left Tomé Pires as the first Portuguese ambassador in China. In 1519, the disastrous expedition led by Simão de Andrade, Fernão Peres' brother, would seriously damage Luso-Chinese relations for many years, although its failure could not have been known in Portugal at the time when the atlas was created. In any case, Francisco Rodrigues' *Book*, finished in 1514, shows the coastline of the Celestial Empire quite accurately, even apparently including the city of Peking (Beijing) and perhaps even Japan. In contrast, the *Atlas Miller* either spurned or was ignorant of this information, merely showing the "land of the *Chins*" on the west coast of the gulf on the equator (!) and calling the large inlet alongside by its Ptolemaic name of the *Magnus Sinus*, *Grande Golfo do Mar dos Chinas*. This appears in a cartouche in the middle of the sea: "This is the great gulf of the sea of the Chinese, in which there are large islands where they trade all manner of riches and merchandise".

It is interesting to note the use of the Portuguese terms "*chins*" and "*chinas*" instead of the Greco-Roman "*Sinae*" for the region's inhabitants, and of "*Thina*" for its capital. As noted, Ptolemaic geography called the gulf, "the great gulf", yet the map calls the region that corresponds to its eastern side *Sinarum Regio* or *Sinarum Situs*, depending on the edition. All these forms ultimately hark back to the name of the dynasty that unified China in 221 BC: the Ch'in (also transcribed as *Ts'in* or *Qin*). However, the dynasty only managed to stay in power for fourteen years, and was replaced by the Han dynasty in 206 BC, which ruled until 220 AD, despite a brief interregnum between 9 and 25 AD. Nonetheless, the reputation of the Ch'in spread throughout Southern Asia and the name "China" was adopted (and continues to be used) for the entire country in Sanskrit, Persian, Malay, etc. It subsequently also spread to Arabic, a language that does not have the *ch* phoneme, becoming *Çîn*, with an emphatic sibilant. Curiously, this term did not survive in China, as the Ch'in preferred to call themselves by the names of two more recent and longer-lasting dynasties, the Han (209 BC-220 AD) and the Tang (618-907). In the west, the name *Sinae* was replaced during the Middle Ages by the word *Cathay*, a term made popular by Marco Polo, who transcribed the name of the *Khitai* or *Khitans*, a Tartar tribe that founded the Liao dynasty in Manchuria during the 10th century, dominated Mongolia and Northern China from 907 to 1124, and survived in Turkistan until 1201 or 1211. As far as is known, the word "*chim*" only re-emerged in the so-called *Cantino planisphere* from 1502 (#306). It is also the only concession that the cartographer of this map makes both to modernity and to reality, as all the rest is pure imagination.



Northwest Europe

The map of Northwest Europe shown above covers the area from Britain and Ireland to the furthest reaches of the Baltic, and from the Iceland Sea to the border regions between France, Flanders and Germany. There are numerous illuminations depicting large cities in the latter areas, the homeland of the man who is believed to have decorated this work of cartography. Curiously, they are always identified by their ancient Latin names, from the time of the Roman Empire, such as *Divodorum* (Metz), *Borbeto Magus* (Worms) or *Castellum* (Kassel), etc.

The structure for this essentially decorative chart was based on the model of hydrographic charts, showing the usual system of sixteen rhumb lines whose center is located between Scotland and a still crudely drawn image of Scandinavia. Its geographical outlines are seriously distorted, confirming that whoever drew the chart had very little available information. Given the number of illuminations depicting cities on the land, only the left half – over the sea – had any free room for decoration with three wind-roses. Although these are similar to all the others in this atlas, only one is complete, while the others (in the upper and lower borders) appear as halves. The scale and the meridian, with latitude graduations, are respectively located in the left and right borders, and the sixth and the seventh Ptolemaic parallels (climate circles) are also visible. France, Flanders and the British Isles all include a large number of place-names, but the same does not apply to the Baltic and Scandinavia, where they are effectively non-existent.

As in every other regional chart in the *Atlas Miller*, the largest captions, which record the regional geographical names, are written in Latin and painted in gold on red cartouches. The spelling of the place-names along the coastlines clearly indicates that

they were the work of a Portuguese craftsman. In fact, it was clearly the same man who drew the geographical outlines, and definitely not the man who produced the illuminations in the general imagery and painted these larger captions.

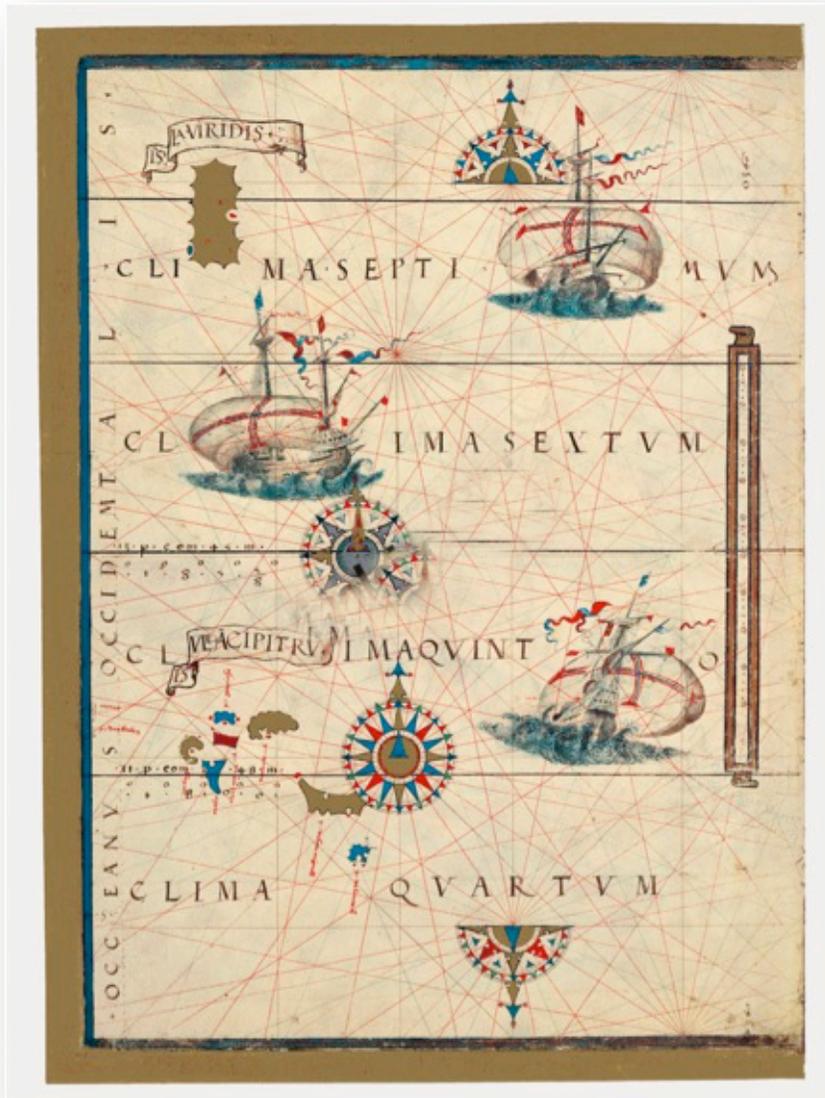
Again, as in all the regional charts, there can be no doubt that one pair of hands was responsible for the geographical and nautical forms, including the written place-names on the coasts, and another for the entire artistic and iconographic decoration, including the red cartouches with regional names written in gold. This first pair of hands belonged to a Portuguese-speaking cartographer (or cartographers) that merely completed his or their allotted task; the second belonged to a man of greater artistic skill, a man who had greater cultural pretensions, or pretentiousness.

In contrast to the other charts in this atlas that have been described, this one of Northwest Europe has neither a main caption in Latin nor a text to provide a basic description of the contents. It can therefore be concluded that these regions were well enough known to make such identification unnecessary.

The heraldic iconography comprises nine shields in various regions of Northern Europe and the Baltic, and the naval imagery consists of four ships. Although the latter are sailing in the North Atlantic, they are all large Portuguese vessels whose sails bear the typical crosses of King Manuel's *Order of Christ*. The detail included in these images makes them of exceptional value as sources for historians of shipbuilding. The urban iconography is very rich, even though the specific details shown for each of the nine cities evidently reveal a rich imagination. Curiously, besides the large cities in Northern France such as *Parisius* [Paris], *Cenabum* [Orleans] and *Rotomagus* [Rouen], some of the nine cities are of merely average size. This applies to the aforementioned cities of Metz, Worms and Kassel, as well as two more in the Baltic (*Reval* and *Pevan*) that are only symbolized by towers. Needless to say, since neither the producers nor the recipients of this work saw anything here as exotic, there is no iconography of the local people, flora or fauna.



Detail of Scandinavia and Northern Europe showing Norvegia, Obura, Scania, Norvega, Lacus, Paris, Orleans, Castellum, Borbeto Magus, Divodorum, Augustuessonum, and Cenabum



The Azores

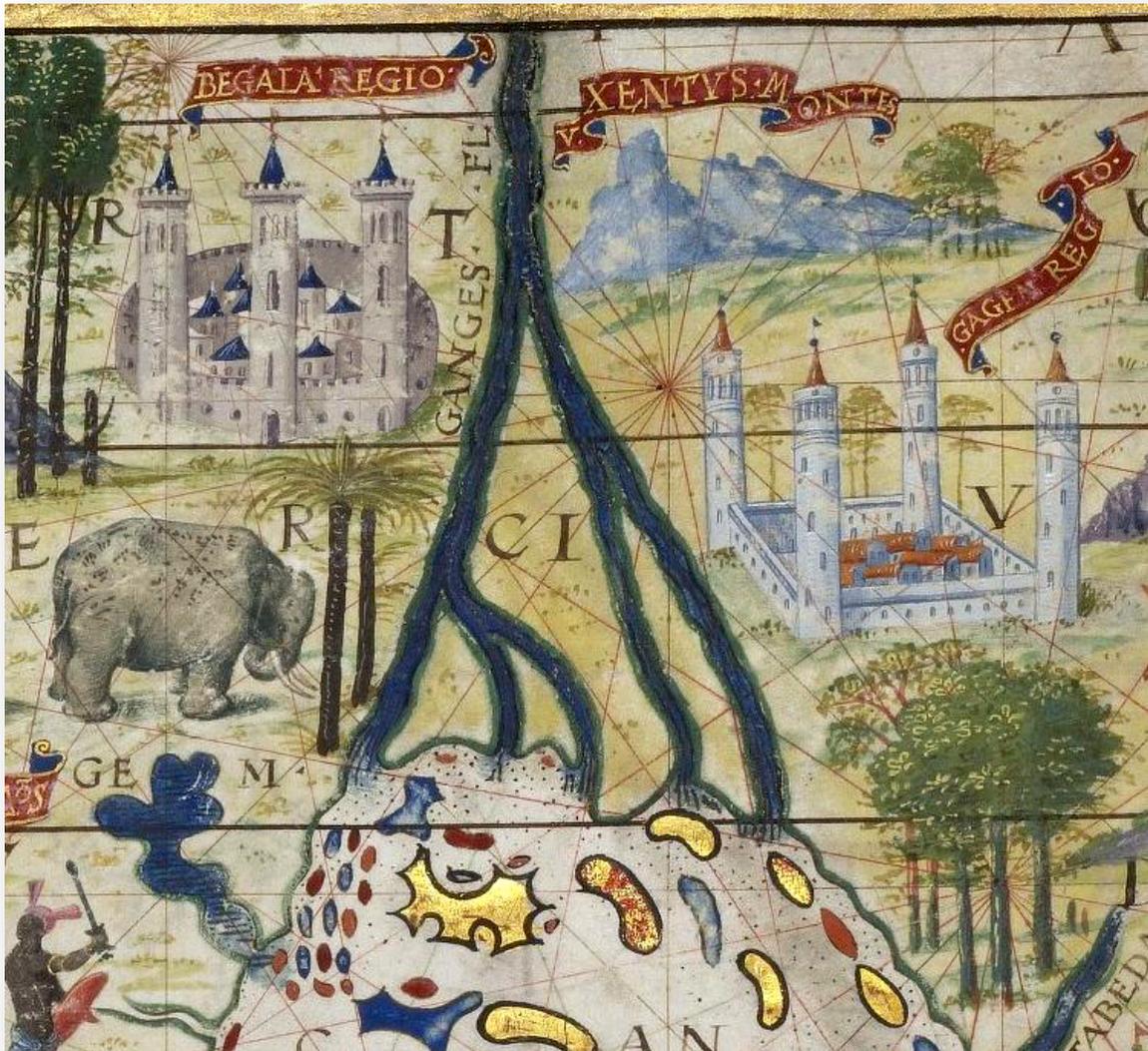
The surviving chart that illustrates the Azores, shown above, is the left half of what was once an entire chart. Besides the *Insule Ancipitrum* (Azores) and another large rectangular and invented island called *Insula Viridis*, it only has some illuminations of ships and some wind-roses. When it was complete, this chart would have shown the waters of the Atlantic off the Iberian Peninsula and a part of the peninsula, stretching only slightly further east than Portugal. It was essentially a *portolan* [nautical] chart that, despite being decorated, could clearly be used for navigational purposes. The directions were established by the usual sixteen rhumb lines whose center was located somewhere in the Atlantic between the Azores and Portugal. Since only the left half of the chart has survived, just nine intersections of these rhumb lines can now be seen. Two complete and two half wind-roses are visible in this section. As is also true of the remaining charts in the *Atlas Miller*, none of these wind-roses has the later fleur-de-lis shaped indicator pointing north, instead showing pawn-shaped indicators. The scale appears in the middle of the ocean, but the meridian with latitude graduations that the chart would probably

have (like the others in this atlas) is not now visible, and most probably appeared on the eastern edge of the missing right half. The chart also includes four parallels or climate circles, corresponding to Ptolemy's fourth, fifth, sixth and seventh climates, while the only place-names are those of the islands, which are already both accurate and definitive. Moreover, there is no main caption with a text in Latin, which must either have been in the lost other half, or more probably never even existed. The chart also shows three large Portuguese vessels that every year sailed off the Azores to use the favorable winds on their return from the India route. There is no heraldic iconography involving flags or shields (not even on the islands), nor any other type of imagery (human, fauna or flora).



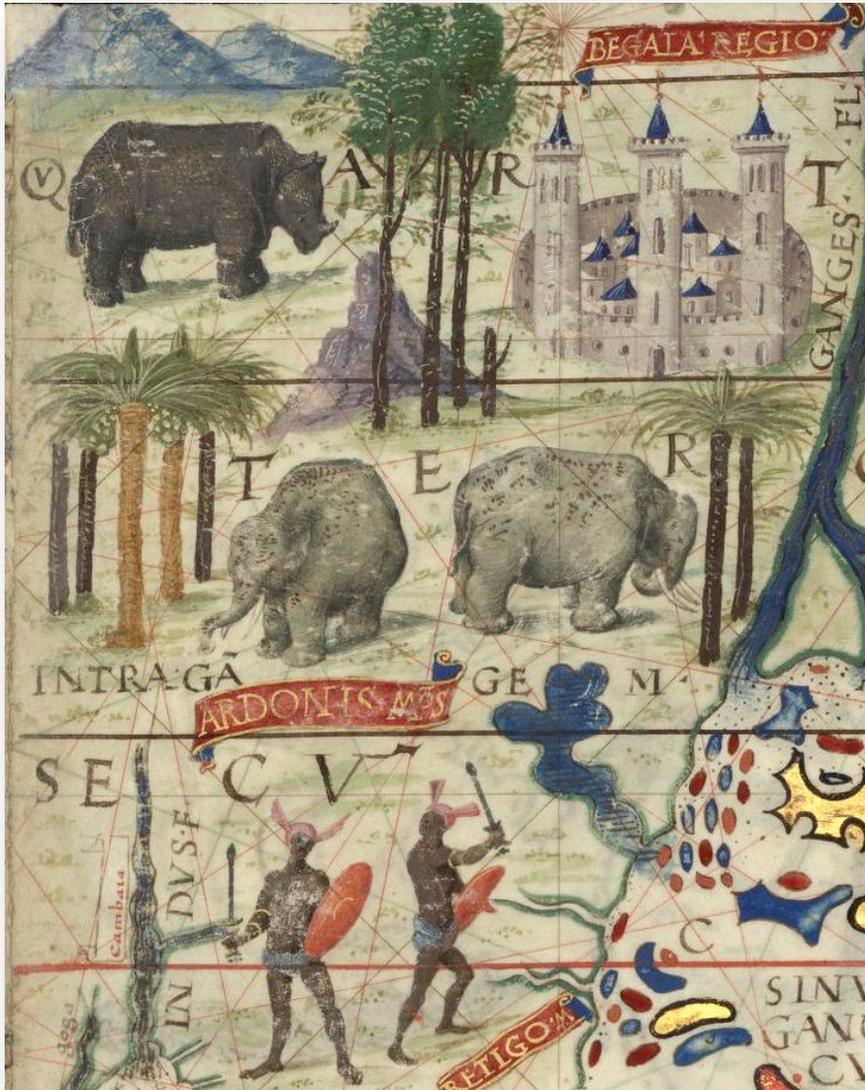
Arabia and Indian Ocean

Given its rich illuminations, this is the most beautiful charts in the *Atlas Miller*. Cape Guardafui (11° 50'N, 51° 20'E) is given a Portuguese name rather than *Promontorium Aromaticum*, although the illumination depicting the nearby mountains bear the Latin Ptolemaic name of *Elephans Mons* [Mount Elephant]. The chart shows the Horn of Africa and part of the Red Sea, Arabia, the Persian Gulf, Iran, India (including Sri Lanka/Ceylon), the west coast of the Indo-Chinese peninsula as far as the straits of Malacca, and part of the island of Sumatra, which is repeated in its complete form in the chart of the South East Asian archipelago. In terms of cartographic accuracy, it is clearly divided into two parts: apart from a few minor details, the area west of Ceylon is generally a faithful depiction, only using ancient geography to counter contemporary lack of knowledge about the inland areas; from *Coromandel* to the east, there are far more imperfections and far greater reliance on Ptolemaic geography.



Detail of the river Ganges of India

The Indian Ocean has two different names. In the part that corresponds to the Arabian Sea where it is called *Mare Indicum*, while the area showing the Gulf of Bengal it is named *Pealegus Indicus* (whose proper Latin form should be *Pelagus Indicum*) as in the previous chart. The Ptolemaic name - *Sinus Gangeticus*, the "gulf of the Ganges" - appears further north, in the upper reaches of the gulf. The Persian Gulf is called *Mare Persicum*, which may be a simple translation of the Arab *Bahr Fârîs*, which some medieval geographers also used for the Gulf of Oman and even for the entire Indian Ocean. As was then standard usage, albeit in direct contrast with manuscripts or printed Ptolemaic maps from the period, *Sinus Arabicus* is used to refer to the Gulf of Aden and *Rubrum Mare* for the Red Sea proper, i.e. beyond the mouth of the straits. As is known, the latter term was the Latin translation of the Greek *Erythrà Thálassa* or *Erythròs Póntos*, which in Antiquity was frequently used to refer to the entire Indian Ocean.



The division of the chart into climates, the line of the equator and the tropics and the latitude scale are identical to the preceding chart. In contrast, only the distance scale is shown horizontally, parallel to the equator rather than to the meridians, but also without any graduation. Like the previous chart, each division on the scale is exactly $\frac{3}{4}$ of one degree of latitude. Although it is supposedly a geographical map, it retains many features of the nautical charts on which it was based, namely the rhumb lines and the place-names exclusively for coastal locations, with no inland cities other than those normally depicted in illuminations. This is a clear contrast with medieval maps such as the one by Fra Mauro (#249), which attempted to provide detailed imagery of the entire inhabited world, even if not in their correct positions. Such maps showed “*Deli, cità grandissima*”, “*Bisenegal*” (Vijayanagar, now Hampi, in the Deccan interior, $15^{\circ} 20' N$, $76^{\circ} 30' E$), “*Peligondi*” (Penukonda or Penagonda, somewhat further to the south, $14^{\circ} 5' N$, $77^{\circ} 38' E$), Sultanpur, by Lahore, etc., even though Delhi had already been described around 1515 by Duarte Barbosa and Tomé Pires, and Vijayanagar had already been visited by Portuguese embassies.



Detail of a Guerrier Arab

The illuminations on the ocean show Moorish or Portuguese vessels, with the former in the upper section and closer to the coast, and the latter south of the 5° parallel, and therefore on the open seas. The Portuguese vessels are all *naus* with forecastles and square sails bearing the cross of Christ. In contrast, there is a range of Moorish vessels, with one or two masts, some with lateen sails, low sides and protruding rams, which suggest *fustes* or galleys, others with square sails that seem like cargo ships or *naus*. There is also a seven-mast ship at the entrance to the Gulf of Bengal, equipped with a fore- and a stern-castle, a double lateral helm without a sternpost, and armed with a ram. The image is clearly an attempt to depict a large Malay junk.



Detail showing India, Ceylon and Arab ships



Detail showing Arab and Portuguese ships



Detail showing Mecca and the Persian Gulf

These unusually decorative charts are part of a world atlas produced on the eve of Magellan's world circumnavigation. It is believed that King Manoel of Portugal commissioned them for the library of King Francis I, a French patron of the arts. The charts were the result of a collaboration between three master mapmakers: father-and-son team Pedro and Jorge Reinel and Lopo Homem, leader of the Portuguese school of cartographers. The illumination of the maps produced during an age when utilitarian objects were often artistically executed, was entrusted to the painter Gregorio Lopes.

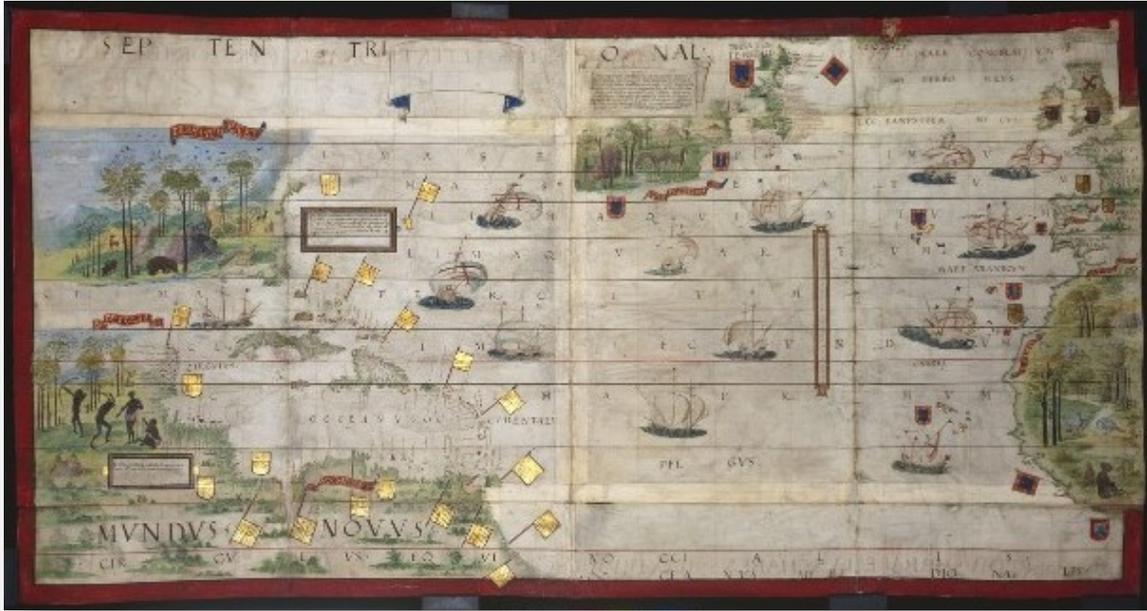
In the relatively brief period after the production of the *Cantino* planisphere in 1502 (#306), news reaching Lisbon of further discoveries by Portuguese navigators Vasco da Gama, Pedro Cabral, and Alfonso de Albuquerque, founder of Lisbon's East Indian

Empire, enabled these charts to include significant improvements in geographical knowledge.

Arabia and India, shows the Red Sea (far left) re-orientated and reconfigured relative to the *Cantino* map. In central Arabia (left), Mecca is indicated by an illustration of the Kaaba, built in the seventh century and standing today as the holiest place in the Islamic world. Aden, at the entrance to the Red Sea and the Oman coast (center left), where Albuquerque had stopped en route to India, is situated correctly. As with the Red Sea the configuration of the Persian Gulf is much improved (upper left). The golden island of Bahrain, which the Portuguese would take in 1521, is shown across the gulf from already-occupied Hormuz, the area's main trading port.

Many place-names on the Malabar or west coast of India reveal the active presence of Portugal, while the Coromandel, or east coast, has none. Improvement is shown in mapping the Bay of Bengal, which is fed by the Ganges Delta. Ceylon and Sumatra, whose location had long puzzled mapmakers, were properly positioned (far right), although Sumatra was confusingly called *Taprobane*, Ptolemy's designation for Ceylon. Two warnings for mariners appear near the multifarious islands that prefigure the Maldives, south of India. The announcement of the presence of lodestone and its effect on ships with iron nails and the vessel's compass deviation were certain to capture the captain's attention; if not, the additional threat of local peoples' cannibalistic practices no doubt would. The Nicobar Islands and the beginning of the much-improved Strait of Malacca appear at the east end and lead to the next chart.

Decoration on land areas, in addition to elaborate European style cities, includes camels, elephants, rhinoceros, a lion, warriors with swords and shields, a racing Arab horseman, and many palm, fruit, and spice trees. Eighteen Asian and Portuguese ships, intricately drawn, serve to emphasize that commerce in the Indies was a maritime affair. Portugal's South and Southeast Asian conquests turned the country into a leading world power as the 16th century arrived.



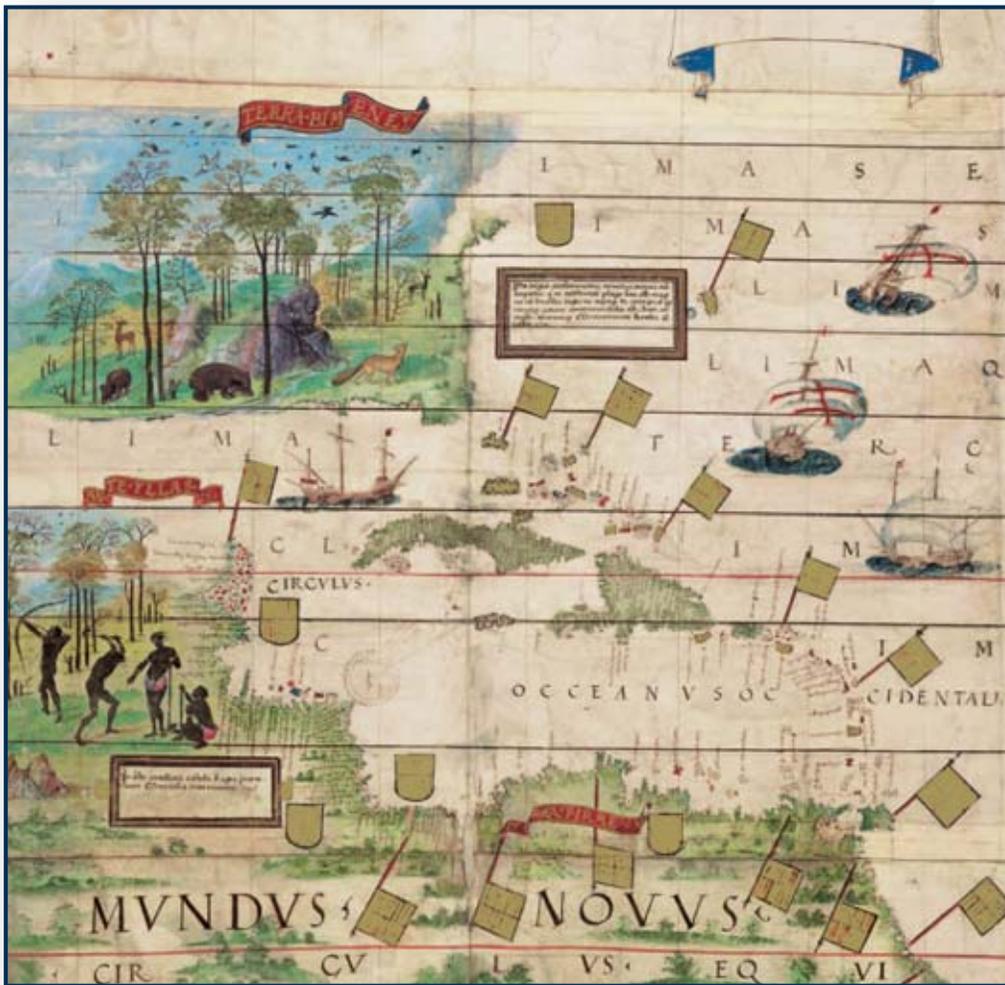
The Miller Atlas's representation of the Atlantic Ocean (f. 6r). Note the profusion of Spanish flags in the New World and Portuguese flags in Africa, Newfoundland, and the northeast coast of North America. The horizontal lines show the limits of the Ptolemaic climata (climates), an erudite alternative to latitudes

Atlantic Ocean (61 x 118 cm)

The *Atlas Miller* has only one map showing the North Atlantic and the lands of the New World. However, it is a very interesting and large work that corresponds to what must have been one side of the enormous folding map in the bound atlas. The geographic scope ranges from Newfoundland to Guinea and from the Gulf of Mexico to the British Isles. Yet it cannot be classified as a hydrographic chart. Unlike all the other regional charts in the *Atlas Miller*, this one has no system of rhumb lines or wind-roses, which makes it impractical for navigational use. Rather, it is a work of pure geographical or geopolitical illustration, which explains why it is so superbly decorated and painted. Not only does it include individual illuminations showing ships, flora and fauna, etc., but also authentic rural and forest landscapes where several images are combined in an attempt to show them as a single whole. The images also sometimes use the illusion of perspective opening up into the distance, so as to emphasize the sheer size of the new lands that Europeans were then discovering in Africa and the Americas.

Even though it could not be used for sailing, the map does have a scale and a meridian with latitude graduation, both located in the middle of the Atlantic Ocean and west of the Azores. The equator and the Tropic of Cancer are also illustrated, as are other parallels showing the Ptolemaic seven circles of climates in the northern hemisphere.

The bulk of the place-names (all written in Portuguese) appear along the Newfoundland coastline that belonged to Portugal under the *Treaty of Tordesillas*, and on the coastlines of the mainland and islands that belonged to Castile, written in a mixture of Portuguese and Castilian. However, there is not a single place-name written on the African coast before the Gulf of Guinea, where the Portuguese had long had their most important bases, including the Mina castle. This can only be a deliberate omission that was designed to make it more difficult to discover the route.



Detail of the Caribbean and South America with Spanish standards

The map includes three main Latin captions: one on Newfoundland; another off Florida and the Antilles; the last on the Castilians' *Tierra Firme*. There should also be a fourth, even bigger caption, whose cartouche was drawn at the top of the map, but nothing was actually written there. The first caption refers to the initial Portuguese discovery of *Terra Corte Regalis* (Newfoundland, etc.) and mentions that these northern regions are inhabited by savages who, despite being the same color as the Europeans, are said to live like the ancient satyrs and fauns. It also mentions that the land is rough and mountainous, has many bears and other wild beasts, large rivers and watercourses that would make it easier to enter the inland regions – clearly a reference to the Gulf of Saint Lawrence. The second caption, alongside a very crudely drawn image of the Florida peninsula, states that the land, which was evidently poorly known then, is situated in the west and is part of what cosmographers called the *mundus novus*. It adds that the land is rich in gold and other goods, and that its southern border is with Brazil and its northern border is with Newfoundland and Norway (meaning Greenland). The third caption, which is very small, perhaps interrupted and located on the Spanish Antilles, simply notes that gold was found in those specific areas of the Antilles, which belonged to the king of Castile.



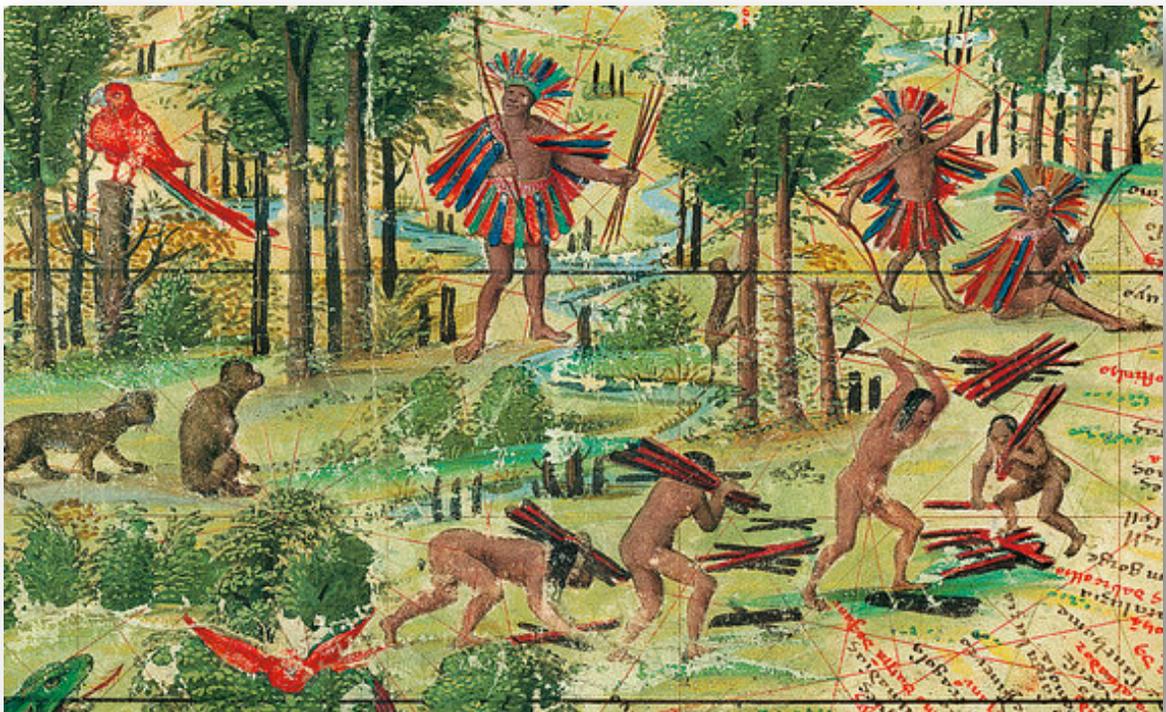
Detail of Terra Corte Regalis [Newfoundland]



Brazil

The chart above showing *Terra Brasilis* covers the South Atlantic and the lands of the New World that existed there, an area that had belonged to the Portuguese since 1500, as previously defined by the *Treaty of Tordesillas*, signed in 1494. Although the map in question is only a portolan chart, it is beautifully illuminated and highly decorative, showing Brazilian Indians and exotic animals. Consequently, this image is endlessly reproduced whenever the contents of this atlas, cartography or the colonization of Brazil need to be illustrated. In fact, it is probably the most famous and most widely reproduced image of all Portuguese cartography from the so-called Age of the Discovery. The left half of this celebrated map shows Brazil per se, with a geographical scope that stretches from the mouths of the major rivers on the north coast to slightly south of the River Plate. The right half shows the gulf in the South Atlantic where the Portuguese vessels sailing the "India (or Cape) Route" made their customary sweeping curve to round the Cape of Good Hope. These waters are decorated with large Portuguese vessels, covering an area from the Gulf of Guinea to the southern extremities, while never actually reaching the aforementioned cape. As noted above, another map in the *Atlas Miller* should also have shown areas of the South Atlantic: the lost chart that was supposed to depict Africa. The surviving, magnificent map of Brazil and the South Atlantic is evidently a hydrographic chart, as it has all the elements required to make navigation possible. However, given its sumptuous appearance, it was clearly not made for that specific purpose. Rather, the goal was purely to illustrate the geography and openly flaunt the exotic aspects through the stunning illuminated paintings of men, animals and plants that befitted a princely gaze.

The system of directions is composed of the usual sixteen rhumb lines, whose center is located in the sea off the Brazilian coast at the latitude of Porto Seguro. The intersections of the rhumb lines are decorated with four colored wind-roses, although the lower edge of the parchment shows two of them cut in half. Their typology is similar to the others in the *Atlas Miller*, with pawn-shaped indicators rather than the later fleurs-de-lis. A scale and a meridian with latitude graduations appear vertically in the right-hand border, while the equator and the Tropic of Capricorn (wrongly and surprisingly called *Circulus Cancri*) are included, as are other parallels, with four climate circles in the southern hemisphere. The Brazilian coastline is densely covered with place-names, and indeed much more so than in maps from later decades. The chart also has a large main inscription in Latin that explains that the territory shown is the “great land” (*magni brasilis*) of Brazil, which borders the Antilles that belonged to the king of Castile. It also notes that the inhabitants are cannibals and skilled archers, that the land has many parrots and wild beasts, and that there are many brazilwood trees, which were very useful as a source of red dye.





The Mediterranean

In addition to the chart of Northwest Europe, the *Atlas Miller* includes another large regional chart shown above: the chart of Europe and the Mediterranean, whose geographical scope is the same as that of the early “normal portolan charts” from the 13th and 14th centuries (see #250.1). This covers the area from the Atlantic off the Iberian peninsula to the Middle East, and from the Islamic coastline of North Africa to the edges of Russia and Scandinavia. The numerous intersections created by the two systems of rhumb lines are not decorated with a single wind-rose, presumably the result of a deliberate decision to leave an empty space that could later be filled with the extraordinary profusion of other motifs – shields, cartouches, cities, men, etc. – found elsewhere in this atlas. Since it is very ostentatious for a work of cartography, this suggests that it was probably displayed and hung on a wall at some time, leading to a slight deterioration in its images.

That the chart of the Mediterranean region is clearly a copy of a portolan chart or sea-chart is demonstrated both by the inclusion of rhumb lines, which also appear on all the other regional charts, and the complete absence of place-names on the interior portion of the land, except for the names of the main regions, which are written in capital letters. Besides the seaport cities, such as Lisbon, Seville, Bordeaux, Rome, Pisa, Cairo, etc., the few other cities shown are all river ports. The locations mentioned in Portugal are *Caminha, Viana, Fão, Vila do Conde, Matosinhos, Porto, Cabedelo, Felgueira, Abeiro* (Aveiro), *Buarcos*, the River *Mondego, Paredes, Selir* (Salir), the *Berlengas, Cabo Carvoeiro, Atouguia, Maçãs, Cabo Roca, Lisboa, Almada, Cabo d’Espichel, Setúvel* (Setúbal), *Troia, Cabo S. Vicente, Lagos, Albufeira, Tavila* (Tavira) and the *Odiana* (Guadiana), but no mention is made of Coimbra, Évora or Santarém. In contrast to the other charts, not only are the inland cities ignored, but so also are the courses of the rivers, at least in Europe. Only the lower reaches of the Danube and the Dnieper, and one small section of the Don are shown, while the rest are reduced to vague images of the mouth.

Using the same practice from nautical cartography, detailed place-names are provided for locations on the west coast of the Caspian Sea, classically identified as *Hyrcanius Mare* (incorrect Latin for *Hyrcaenum Mare*), even though these places were

poorly known in Western Europe. The few place-names that can be identified are as follows: *flumen Cur*, the River Kur or Kura (the *Corus*, *Cyrus*, or *Cyrnus* from antiquity), whose mouth is at 39° 28' N, 49° 19' E; *Bacu*, or Baku (40° 22' N, 49° 46' E); and *Xamax*, clearly meaning Khachmas, slightly south of Derbent (42° 5' N, 48° 8' E). All these names are modern rather than Ptolemaic.

Another typical feature of portolan charts is that they show the Mediterranean according to the magnetic rather than the geographical north. The resulting distortion of the sea causes difficulties in adjusting it to the Red Sea, a problem that cartographers solved in one of two ways: extending the Red Sea or exaggerating the width of the Suez isthmus. The *Cantino planisphere* (#306) adopts the latter course, possibly based on the confused information brought back from the Orient by Vasco da Gama's fleet. This information established that the caravans of camels that transported the spices from the Red Sea port where it was offloaded to Cairo or Alexandria had taken three months. It is not known how the cartographer who produced this chart solved the problem, since the chart of Africa – the only one to show the entire Red Sea – has disappeared. The surviving chart only shows a small part, revealing the inaccurate depiction of the Sinai Peninsula, which is only bordered by a small area of sea to the east, which is clearly intended to represent the Gulf of Aqaba. This is at least partly explained by the widely confirmed fact that the Muslims had not allowed any Christian access to the Red Sea since the time of the crusades. Indeed, the Portuguese only sailed to the southern reaches of the sea in 1541, during Estêvão da Gama's expedition, since those by Afonso de Albuquerque (1513) and Lopo Soares de Albergaria (1517) had got no further than Jeddah (21° 38' N, 39° 17' E), the port that serves Mecca. In any case, the image of a mountain surmounted by the two Tablets of the Law and a flag where the words *Sinai Mons* can still be read, leave no room for doubt. Below is detail of this map showing the River Nile and the Red Sea.





Detail showing the Iberian peninsula

As noted, the outline of the Mediterranean coast is almost perfect. The only distortions appear in the regions where western Christians did not travel or where navigation using the compass was not used: in the former case, the Red Sea, the Caspian and the Persian Gulf; in the latter, the Baltic. The distortion of the Baltic is more evident in the chart showing Northern Europe, specifically in the outline of Denmark. In turn, the image of the Caspian Sea seems to be a compromise solution between Ptolemaic cartography, where the longitude was greater than the latitude, and some experience-based knowledge. This not only allowed modern place-names to be inserted on the west coast and even slightly beyond the Volga delta, but also led to attempts to draw the peninsulas of Apsheron (40° 16' N, 50° 27' E) on the west coast and of Mangyshlak (44° N, 42° E) on the east. Besides this, the most significant errors in this chart are the course of the Euphrates, which is set too far east, and above all showing the Tigris as the delta of the Euphrates rather than as a separate river.

Although there is no scale to be seen, there is a meridian with latitude graduations located slightly west of Portugal, in the Atlantic. Not only are there also several parallels with the seven climate circles (all positioned exactly in the latitudes defined by Ptolemy, as noticed by authors Jean Denucé and Armando Cortesão), but there are also some meridians. These lines are obviously an attempt to create a longitude graduation, as is confirmed by a text on the large crimson bands that border the map to north and south. There is no question that after this “normal portolan chart” had been created along the lines defined by the compass, it underwent a cosmetic operation that tried to disguise it as a Ptolemaic map: yet another reason why this work is so unusual.



Detail showing portions of modern-day Turkey, Capadocia

As regards the exceptional geographic meaning of this atlas, what was always considered to be the “mystery” of this famous work of cartography is “revealed” according to the theory put forward by Luís Filipe Thomaz, Bernardo Sa Nogueira and Alfredo Pinheiro Marques. According to these researchers the *Atlas Miller* is an instrument of geographic and geopolitical counter-information. It is the graphic expression of the Portuguese strategic vision of the globe intended to counter the vision upheld by Castile, for the peculiar “neo-Ptolemaic” concept it features, with the sea as *stagnon* (the oceans surrounded by land, the New World as a continent, the mythical *Austral Land*, etc.), suited the Portuguese in circa 1519 because it suggested that it was not possible to sail westwards across to the other side of the planet, i.e. to do what was attempted first by Columbus and subsequently achieved by Ferdinand Magellan). This is why the Portuguese ostentatiously, splendidly and officially accepted and disseminated this concept so publically.

The “secret” of the *Atlas Miller* is that it attempts to contradict the idea that the circumnavigation of the globe is possible. It tries to thwart the project being prepared at exactly the same time by Ferdinand Magellan. This atlas was made “to be contemplated by certain Luso-Castilian courtly circles particularly susceptible to circulating information intended for Castilian courtly circles”. Hence the cartography historians who were surprised by the blunders in the “incorrect” *mappamundi* in the *Atlas Miller* some time ago, were right. In some respects, this *mappamundi* is indeed “incorrect” (despite being true). However, the historians who declared that it was correct and contemporary, and that it had originally formed part of a single codex along with regional charts, and that it was made by the same people involved in producing and decorating those

regional portolan charts were also right. The *mappamundi* in the *Atlas Miller* is “incorrect” because it was made this way deliberately, in the same period by the real authors. It is a geopolitical fake depicting the Portuguese strategy of 1519 designed to counter the Castilian strategy.

The *Atlas Miller* has aroused the interest of successive generations of researchers working in a broad range of academic fields, including history in general and its various specialist areas, geography, the European expansion, politics, art, cartography and even

science. All these fields have consistently tried to present the *Atlas Miller* as an exceptional means to gain a better understanding of the age when the work was created.

The first and most obvious reason why the *Atlas Miller* has gained pride of place among the various sources that have survived from the century of marvels is that it is a truly outstanding work of art. Those who gaze at the magnificent pages of this edition will immediately understand the fascination that the atlas has held for so many people over time. Even if one could do nothing more than simply look at its pages, the *Atlas Miller* would still be one of the highpoints of the culture that produced it.

Yet the interest of this atlas goes far beyond its enormous face value. There is a second reason, perhaps the most profound, for its perennial attraction: the atlas raises a vast range of questions that are themselves challenges to our

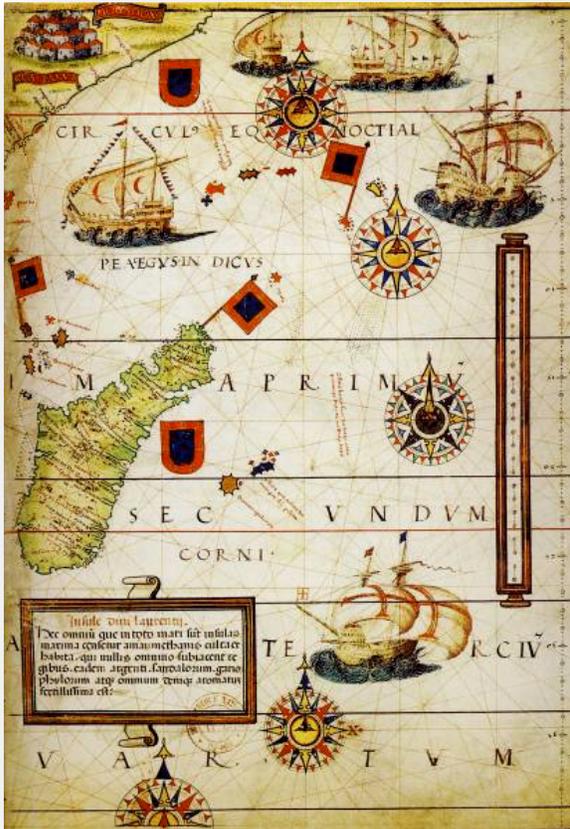
understanding of the dynamic world in which it was created. Perhaps, despite its apparent aim of disclosure, the *Atlas Miller* hides more than it reveals. Discovering what it hides and why it does so will lead to twice the knowledge. In those terms, it can be truly claimed that the atlas has brought another – invaluable and involuntary – record of its age down with it over the centuries, one that has been widely misunderstood until today.

Location: Paris, Bibliothèque Nationale de France, Cartes et Plans, Rés. Ge DD 640 et al.

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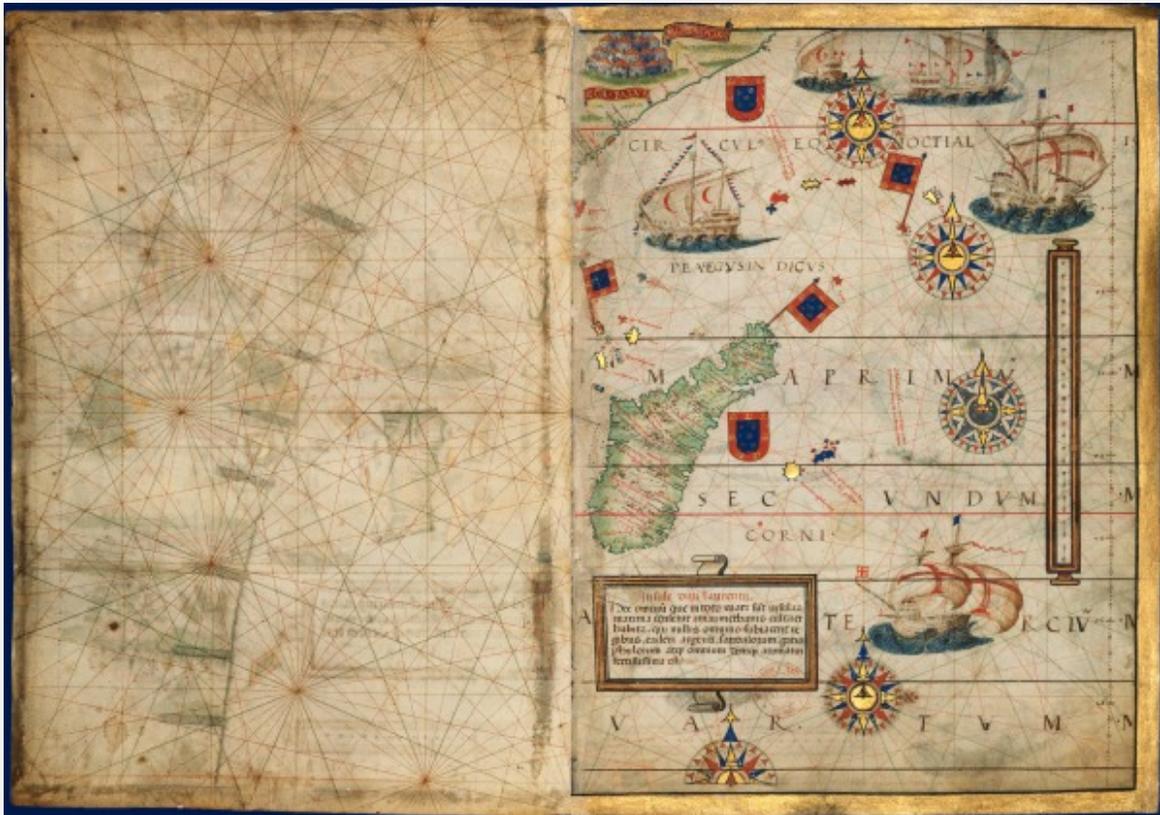


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Gaspar, Joaquim Alves and Sima Krtalic, "A Cartografia de Magalhães. The cartography of Magellan", p.117; 126-135/

Nebenzahl, K., *Mapping the Silk Road and Beyond*, pp. 56-58.

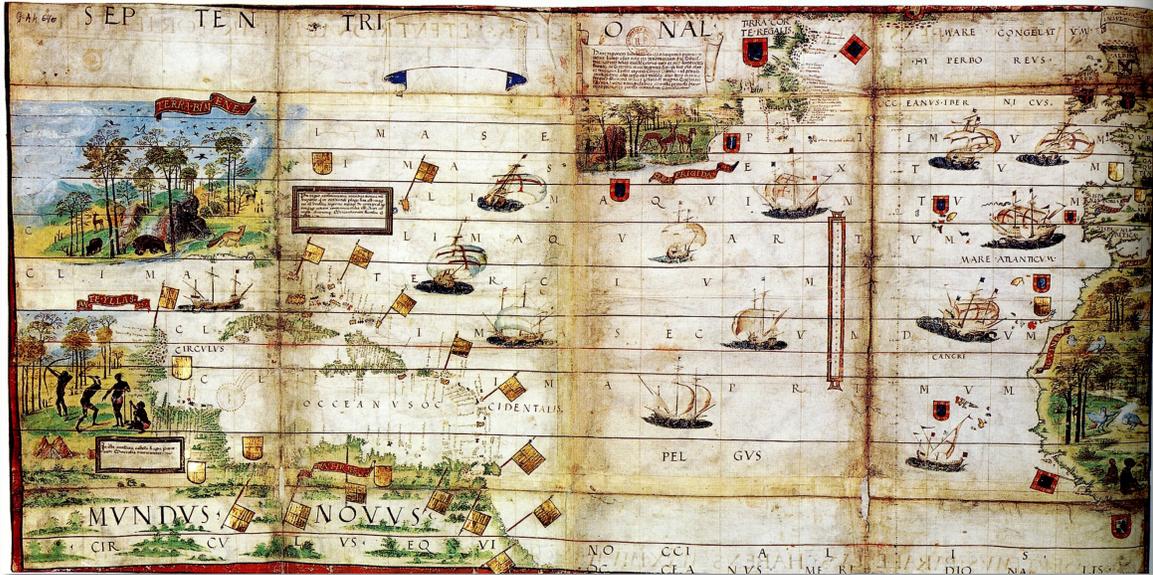
The art reproduction house of *Moleiro* has produced a full-color facsimile with a 400+page commentary volume by Luís Filipe Thomaz (Director of the Institute for Oriental Studies of the Portuguese Catholic University), Alfredo Pinheiro Marques director of the Luis de Albuquerque Centre for the Studies of the Sea (Portugal) and Bernardo Sa Nogueira (Universidade de Lisboa).



The chart of Madacascar

Location: BNF Res. Ge. AA640

Size: 61 x 1180 cm



Commentary from Joaquim Gaspar:

A precious set of ten manuscript nautical charts and a world map, known as the *Miller Atlas*, is kept in the Bibliotheque nationale de France and presents the world as it was known in Europe before the voyage of Fernão de Maçalhaes and Sebastian Elcano. The world map is signed and dated (1519) by the young nobleman and cartographer Lopo Homem, in a Latin legend written on its verso, which may have served as the cover page of the atlas. Based on stylistic and calligraphic considerations, most historians agree in attributing the ten nautical charts of the atlas to Pedro and Jorge Reinel. As to the decorative elements framing the charts, they were attributed by Sylvie Deswarte to the Dutch miniaturist Antonio de Holanda, who was active in Portugal in the first decades of the sixteenth century. While the world map was surely made in 1519, according to its author's signature, various production dates have been proposed for the charts themselves, ranging from before 1512 to after 1522. Since the publication of *Portugaliae Monumenta Cartographica*, in 1960, the date of c. 1519 proposed by Cortesão and Mota has been broadly accepted.

Two features of this atlas stand out immediately. The first is the opulence of the manuscript, with exuberant decoration and an abundance of gold and silver, suggesting it was intended to be a gift to some royal house, perhaps to King Francis I of France. The other is the anachronism of its content, putting side-by-side up-to-date geographical information and an archaic conception of the world inspired by Ptolemaic models. This is illustrated in the crude circular world map signed by Lopo Homem, where the Atlantic and the Indian Oceans form a great lake entirely surrounded by land, and also in the two charts depicting the east coast of Asia and the Banda Sea, where the eastern margin of the Ptolemaic *Magnus Golfus Chinarum* [The Great Gulf of China] is represented and named. As in a chart of the Indian Ocean of c. 1518 attributed to Pedro Reinel (#330), the geography of Southeast Asia is a strange mix of information acquired by contemporary mariners and a design imported from Ptolemy's *Geography*. But while in that chart a clear graphical distinction is made between the modern information and the old model, in the *Miller Atlas* equal weight appears to have been given to both representations.

The traditional interpretation of this anachronism is that it reflects the still popular Ptolemaic ideas about the geography of the world. Indeed, this configuration of the Atlantic and Indian oceans was defended by Duarte Pacheco Pereira and others, at a time when the voyage of Magellan had not yet taken place and European's knowledge of Southeast Asia was fragmentary. This interpretation is, however, inconsistent with the proposed dating of c. 1519. By that time, Pedro and Jorge Reinel, the same two cartographers to draft those problematic charts, were probably in Spain, making the *Kunstmann IV* planisphere (#330). On it, the Ptolemaic concepts were abandoned, and the Moluccas were depicted with the more realistic shape and in the more accurate geographical context as in Reinel's chart of c. 1518. A possible interpretation, first suggested by Cortesão e Mota and later defended by Alfredo Pinheiro Marques, is that the cartographers were instructed to manipulate the depiction of Southeast Asia, as an attempt to convince the atlas's recipients that reaching the Moluccas by sailing west would be impossible. Another explanation, proposed by Jose Manuel Garcia, is that the charts were not drafted by Pedro and Jorge Reinel, but by the author of the world map. Lopo Homem. My alternative hypothesis is that the charts of this atlas were completed before 1518, when the information that permitted Pedro Reinel to depict the Moluccas more accurately was not yet available to him. Accordingly, since the world map is dated 1519 and the charts appear to have been made specifically for the atlas, its completion may have taken more than one year, from 1517 to 1519.