

TITLE: *The Catalan Atlas*

DATE: 1375

AUTHOR: Abraham Cresques

DESCRIPTION: This atlas is a marvel of medieval mapmaking. It holds a pivotal place in the history of western cartography; in many ways it represents the culmination of the art of cartography during the European Middle Ages. The *Catalan Atlas* includes numerous innovations while preserving central features of the *mappamundi* tradition. And most importantly, the atlas reflects the state of geographical knowledge of the time, mixed with the persistent fantastical traditions that characterized popular medieval literature. As such, the *Catalan Atlas* offers crucial insight into the worldview held by Europeans of the late 14th century.

This atlas depicts the traditional three-continent world within the concept of the sphere. The atlas states, "So the world is round in shape, which is why it is called *orbis*, meaning *roundness*." But the creator of the maps attempted more than a rendering of the known world. Also included is astrological and other information that places the atlas within the realm of cosmography. Preceding the maps themselves are two panels of information that incorporate information from many disciplines. Among the most fascinating is a bloodletting figure, accompanied by instructions of when to schedule "surgical interventions." In addition, there is a magnificent astrological wheel that includes, among other things, the zodiac, the medieval conception of the elements comprising the earth, planetary deities, and a calendar wheel. It is the dating on the calendar wheel that has led scholars to ascribe the production of the atlas to the year 1375.

The background of the *Catalan Atlas* is to some extent known. Most historians attribute the map to Abraham Cresques, sometimes referred to as Cresques le Juif, a Jewish cartographer from Palma, a seaport city located on the island of Majorca. Cresques enjoyed the patronage of Peter IV, King of Aragon. The atlas was presumably made to order in response to a request from Charles V of France for the best cartographic representation of the world. The atlas appears in the records of the Royal Library of France (now the Bibliothèque Nationale) as early as 1380, where it has remained to the present time. Cartographic historian Tony Campbell raised significant doubts about the authorship of the atlas, however, in his review of Professor Georges Grosjean's facsimile commentary.

This *Atlas* was the work of a family of Catalan Jewish chart makers who worked in Majorca at the end of the 14th century and was commissioned by Charles V of France at a time when the reputation of the Catalan chart makers was at its peak. King Charles requested this map from Peter of Aragon, patron of the best Majorcan mapmaker of the time: Abraham Cresques. The *Atlas* that resulted contained the latest information on Asia and China and has subsequently been called "the most complete picture of geographical knowledge as it stood in the later Middle Ages."

We know that the two men who spent two years making the *Catalan Atlas* were Majorcan Jews, Abraham and Jahuda (also called Jafuda and Judah) Cresques, a father-and-son team recognized far and wide for their mapmaking skills. Abraham had been appointed by royal decree as *magister mapamundorum et buxolarum* [master of maps and compasses].

His son was titled simply "the Map Jew." The Cresques were not the only mapmaking Jews on Majorica, which was known as a center of maritime activities and for its highly developed commercial and intellectual life.

Some historians believe the family originally came from North Africa after the reconquest of the island by King James I of Aragon in 1229. This would help explain the cartographers' familiarity with Africa, which would have given them an advantage not readily available to other, especially Christian, cartographers of the age. According to historical documents, James invited at least one resident and "all the Jews and Jewesses of Sijilmasa" to come to Majorca. But it is also possible that the Cresques immigrated from North Africa to Majorca during the 10th or 11th century, when Muslim rulers were ascendant and educated Jews — physicians, scribes, scholars, and advisors — were sought after by Arab and Berber princely courts.

It's not necessary, however, to physically place the Cresques on the other side of the Mediterranean to understand how they knew about important African oasis entrepôts such as Sijilmasa and kings such as Mansa Musa. Jewish communities scattered throughout North Africa had long enjoyed extensive and open lines of communication, travel, and commerce. During the centuries that historians label the "golden age" of Spanish Jewry (the 10th through the 12th), Jews bridged the Christian and Moslem worlds, just as Moslems bridged the Arab and non-Arab worlds.

Of course, the golden age did not last. Six years after the *Catalan Atlas* was presented to Juan of Aragon, he received a message from Charles VI of France requesting an atlas of the world made by the cartographers from Majorca. Little more than a dozen years after the king of France received the *mappamundi*, Charles VI expelled all Jews from France.

The *Catalan Atlas* has rested in that country since the day it arrived there six centuries ago. And what of the mapmakers? On 2 August 1391 riots broke out in Majorca. Three hundred Jews were killed and, soon after, eight hundred forcibly converted to Christianity. Jahuda Cresques was one of them. The cartographic world knows him by the moniker he used during his later employment at the Academy at Sagres, established by Prince Henry the Navigator: Master Jacomes from Majorca.

Though the *Catalan Atlas* is similar to other *portolan* [nautical] charts of its era with its inclusion of calendrical information and its conventional use of colored inks and ribbon-like scale gradations, certain elements distinguish it. It is one of the earliest maps to include a wind rose and contains many references to the *Old Testament* in its description of natural sites (such as the Red Sea). Most significantly, and unlike similar coeval medieval charts, the *Catalan Atlas* indicates interior sites such as oases, rivers, mountains, and charming towns with walls and towers, and denotes the differences between Christian and non-Christian localities by placing either a cross or a cupola on the central tower, respectively.

The *Catalan Atlas* stands in marked contrast to earlier medieval maps of Africa, which are filled with monsters, beasts, and grotesques — the farther from Europe, the more outlandish the representations of nature and humankind. Like medieval wonder books, those maps offered an Africa filled with men without noses and ants as big as dogs. By contrast, the *Catalan Atlas* sports delicate palm trees, tents of nomads, and surprisingly realistic elephants and camels.

The cartographers who made the *Catalan Atlas* could describe these distant places with some sense of verisimilitude, rather than speculative fantasy, because they knew them, or at least had a comfortable familiarity with them.

Most probably produced in 1375 (the date that appears on the perpetual calendar accompanying the maps), or shortly after this year, and as mentioned above, was attributed, though without certainty, to Cresques Abraham, a 14th century Jewish

cartographer from Palma, the capital of Majorca. The atlas contained the latest information on Asia and China and was considered to be the most complete picture of geographical knowledge as it stood in the later Middle Ages. The title (or more accurately: the beginning of the text) of the Catalan Atlas shows clearly the spirit in which it was executed and its content: *Mapa mundi vol dir aytant con ymage del món e de les diverses etats del món e de les regions que són sus la terra de diverses maneres de gen qui en ela habiten*. [Mappa mundi, that is to say, image of the world and of the regions which are on the earth and of the various kinds of peoples which inhabit it].

Originally the *Catalan Atlas* consisted of six large wooden panels that were covered with parchment on one side. This form later was transformed into a block-book, in which each sheet formed a double page, the parchment itself serving as a hinge between each of the two wooden panels. This arrangement led to the folds of the precious sheets becoming worn through with use, so that these sheets were divided into 12 half-sheets, mounted on boards to fold like a screen. Four half-sheets are occupied by cosmographical and navigational data, they describe the whole concept of the world, show astronomical and astrological representations, and provide information about the calendar, the sun, moon, planets, the signs of the zodiac and the tides. The remaining eight half-sheets form the body of the map itself. Each leaf is 69 x 49 cm, so that the whole is approximately 69 cm x 3.9 m. These proportions are of some significance, for they have undoubtedly restricted the cartographer in his portrayal of the extreme northern and southern regions. This was perhaps to some extent deliberate, for two years before the composition of this map, we hear of the Infant John (son of Peter of Aragon) demanding a map "well executed and drawn with its East and West" and figuring "all that could be shown of the West and of the Strait [of Gibraltar] leading to the West". The Infant, in other words, was interested, not in northern Europe and Asia or in southern Africa, but in the Orient and the Western Ocean. The cartographer satisfied him by cutting out, as it were, an east-west rectangle from a circular world map that would cover the desired area. Later Catalan maps, i.e., the *Catalan-Este* map (#246), retained the circular form. The shape of the *Catalan Atlas*, therefore, must not be taken as evidence on questions such as the extent, form or knowledge of the African continent; nor does the change from a circular to a rectangular frame indicate specifically any change in ideas relating to the shape of the earth. As an astronomer, Cresques most assuredly accepted its sphericity.

Today the original *Catalan Atlas* can be found in the Bibliotheque Nationale, Paris, and has now assumed the form of seven loose wooden panels of which five inside ones bear one half of a sheet of the *Atlas* on each side, while the two outer ones consist of one side that bears a half sheet of the *Atlas* and one half of the binding on the other side.

The first of the two preliminary sheets deals with the days of the month from the first to the thirtieth. To the right, from top to bottom, is a diagram of the tides; another lists the movable feasts, and a third drawing represents a blood-letting figure. The latter is accompanied by a long text describing the world; it deals with its creation, the four elements of which it is composed, its shape, dimensions, and divisions. Then come geographical accounts of countries, continents, oceans, and tides, as well as astronomical and meteorological information. The second sheet presents a spectacular diagram of a large astronomical and astrological wheel. The earth at its center is symbolized by an astronomer holding an astrolabe. The other elements (fire, air, water) are incorporated into the next three concentric circles; then come the seven planets, the band of the zodiac, and the various stations and phases of the moon. The next six rings are devoted

to the lunar calendar and to an account of the effect of the moon when it is found in the different signs of the zodiac. Three more rings show, respectively, the division of the circle into degrees, while the last gives an account of the *Golden Number*. The four seasons, finally, are shown in the corners as personified figures bearing scrolls.

The four remaining leaves make up the actual map, which is divided into two principal parts. The map shows many illustrations of cities, whose political allegiances are symbolized by a flag. Christian cities are marked with a cross, other cities with a dome. Seas and oceans are symbolized by wavy blue vertical lines. And as is usual for nautical charts, place names of important ports are transcribed in red, while others are indicated in black.

Unlike many other nautical charts, the *Catalan Atlas* is meant to be read (according to the Arabic tradition) with the north at the bottom; thus the maps are oriented—from left to right—from the Far East to the Atlantic. The assemblage of plates giving an overall view of the document is presented as it is meant to be read, in other words with the south uppermost; but to facilitate consultation, excerpts from the Atlas are shown with the north uppermost.

Often the question of the “correct” orientation of the sheets arose. George Grosjean, in his commentary on the 1977 facsimile edition of the Atlas, stresses that the orientation of this map must be understood from its essential part. The map was constructed in the *portolano* style, a type of medieval navigation chart which was intended to lie on the chart-table of a ship and always was oriented to the necessities of navigation, thus there is no “orientation of priority” of such maps. Since the Atlas was not intended as a *portolano* for daily use but instead was a luxury edition for a princely (or royal) library, it is useless to ask for correct orientation of the map-sheets. This fact notwithstanding, however, as the legends that are legible prevail in north-orientation, in the modern literature of the maps the north-orientation is now adopted.

The sources of the *Catalan Atlas* fall into three groups: (1) elements derived from the typical circular world map of medieval times; (2) the outlines of the Black Sea, Mediterranean, and the coasts of western Europe based upon the “normal” *portolan* [nautical] chart; and (3) details drawn from the narratives of the 13th and 14th century travelers in Asia, which transformed the cartographic representation of that continent.

A major impetus to the advancement of exploration in Western Europe during the later Middle Ages came through the evolution and use of this very kind of map, the nautical chart or *portolano*. Designed to assist mariners find their way at sea, it served a practical purpose akin to that of the future road map, but it answered this purpose by depicting not the route itself, but detailed coastlines and hazards to shipping. Mariners previously had to rely on written itineraries which can be traced back to the *peripli* or coastal pilots of the classical world. Following the introduction of the mariner’s compass in Europe towards the end of the 13th century, nautical or *portolan* charts were made as an extension of the *peripli*, constructed on a framework of radiating compass lines, with north at the top. Places were located and marked around the coasts, while places located further inland and usually the entire interior of the continents were left blank. It should be emphasized that while the *Catalan Atlas* was drawn in the *portolano* style, it is not, strictly speaking, a *portolan* chart. The typical nautical chart, which some scholars believe had its origin with the Catalan mapmakers, had hitherto been cartographically the very opposite of the medieval theocratic or ecclesiastical maps. *Portolan* charts traditionally displayed only known, discovered coasts, precisely detailed harbors, river mouths, rocks, shallows, currents, etc. every coastal feature likely to be important to a pilot and

normally limited to only regions frequented by European sailors, i.e. the Mediterranean and Black Seas, and northwestern Europe.

The *Catalan Atlas* is a signal achievement in European cartography in part because of the incorporation of major features of the *portolan* charts in what is at heart a *mappamundi*, though a sophisticated one. The panels of the *Atlas* representing the Atlantic Ocean and the Mediterranean and Black Sea are essentially a *portolan* chart. The entire western section of the map is criss-crossed by rhumb lines that marked major compass directions (or winds) and assisted the navigator in plotting a ship's course. To the west, in the mid-Atlantic is a large colorful wind rose, the earliest known to appear on a *portolan* chart. The seacoasts of Europe and the Mediterranean lands are marked by place names, located at right angles to the coastline. Flags are located strategically to denote the prevailing political power in a given area. Majorca, the center of the Catalan school of cartography, is depicted in the gold and red colors of the house of Aragon.

The *Catalan Atlas* is actually a world map built up around a *portolan* chart, thus combining aspects of the nautical chart by employing *loxodromes* and coastal detail with the medieval *mappaemundi* exemplified by its legends and illustrations. The result is that the *Atlas* represents a transitional step towards the world maps developed later during the Renaissance, especially by its extensive application of contemporary geographical knowledge and ambitious scope. Though the *Catalan Atlas* is the earliest complete example of its kind that has survived, it was undoubtedly preceded by other similar attempts at extending the range of the *portolan* chart. The *Laurentian/Medicean Sea Atlas* of 1351 (#233) contains a 'world' map (extending eastwards as far as the west coast of India only) that resembles it in the outline of the coasts and in interior details. From the nomenclature, it is probably of Ligurian origin. An even earlier chart (probably covering the whole 'world' originally), that by Angelino Dulcert, of Majorca, dated 1339, also has points of resemblance to the *Catalan Atlas*. In view of the possible identity of Dulcert, and the Ligurian origin of the *Medici Atlas*, we may conclude that this type of world map, though developed by Catalans, originated early in the 14th century in northern Italy, where the narrative of Marco Polo, which, as will be seen, supplied many of the details embodied in the map, would be most readily available. The *Catalan Atlas* says: *The circumference of the earth is 180,000 stadia, that is to say 20,052 miles* (this is the same calculation as Ptolemy's, yet it was given a full thirty years prior to the first known Latin translation of his *Geographia*, #119).

At the westernmost point, near the first windrose (compass rose) ever drawn on a *portolan* chart, is a commentary concerning the mythical *Iles Beneventurades*, the *Fortunate Isles* or *Isles of the Blessed* [= Canary Islands], described by Pliny the Elder (AD 23-79) and Isidore of Seville (ca. 560-636), as well as an illustration of the no less mythical *Insula de Brazil*. Also worthy of note is the repetition of the islands of Corsica and Sardinia on two successive leaves creating an area of "overlap" in the middle of the Mediterranean Sea. This European section of the *Atlas*, with its emphasis on accuracy and utilitarianism, suggests to the modern eye the revival of science that was to be central to Renaissance culture in the following century. The landmass of Europe is relatively unadorned. Mountain ranges and rivers are clearly marked. Major cities are denoted by a church, but the major pilgrimage centers so central to the lives of the faithful are absent. Six hundred twenty European place names are denoted on the map, as well as 260 names in the Black Sea area.

The *Catalan Atlas* presents Europe and the area of the Black Sea as a somewhat stylized *portolan* chart. However, aside from being a navigational tool as is a *portolan*

chart, a late medieval world map had political, theological, or ideological overtones. This applied in particular to those areas that were not part of the *portolan* "system", such as North Africa, Central Asia, and the Far East, which were presented in the form of a traditional *mappamundi*. Representations of these areas are significantly less accurate in terms of geographic knowledge and various categories of information are transmitted iconographically. For instance, political realms are defined by flags and the portraits of rulers, and Christianity is pictured time and again, as is biblical history. Some anthropological interest also shines through the iconography of the *Catalan mappamundi*; nomads in northern Africa, a Chinese junk, and a cremation ceremony in northern Asia, which Europeans knew about through the reports of Marco Polo. A great wealth of sources was used to create this work: we find echoes of Isidore of Seville, Honorius of Autun, Marco Polo, Ibn Battuta, other European travelers, the Hebrew Bible, and the famous letters of Prester John. All of these details first of all express the Christian worldview and the politics of the king of Aragon.

The iconography and the captions of the *Catalan mappamundi* offer a great wealth of historical information. They include references to biblical narratives, such as the Flood, the Tower of Babel, the Crossing of the Red Sea, the Giving of the Law to the Israelites, and the Destruction of Nineveh. Alexander the Great is represented prominently. Elsewhere the map figures numerous Christian motifs, such as the Magi on their journey to Bethlehem, Christian rulers in the East, and various sites of Christian interest. Elements of Islamic relevance are also included, such as the image of a pious Muslim praying in Mecca.

In addition to the extension of the geographic scope, the *Catalan Atlas* is much more ornate than the functional nautical/pilot's chart, it features such items as banners, sceptered and stately potentates both historical and mythical, ships in full sail, camel caravans and pearl fishers. Although the sailors were used to plainer charts whose importance lay principally in their utility and accuracy, even ordinary marine charts begin to follow the Catalan tradition with regards to their use of standardized color patterns. Thus, pilots knew at a glance, for instance, that any port lettered in red offered revictualing and a safe harbor; dots and crosses, on the other hand, indicated underwater hazards.

We know in unusual detail the circumstances in which the *Catalan Atlas* of 1375 (the date of the calendar which accompanies it) was produced and the career of the cartographer who compiled it. When in 1381 the envoy of the French king asked King Peter of Aragon for a copy of the latest world map (proof in itself that the reputation of the Catalan school had been widely recognized) he was given this example, which has been preserved in Paris ever since. It is on record that it was the work of *Cresques le juif*. Abraham Cresques, a Jew of Palma on the island of Majorca, who for many years was "master of *mappaemundi* and compasses", i.e. cartographer and instrument maker, to the King of Aragon, from whom he received special privileges and protection. There are several references to world maps executed by him, though this is the only one now known. After his death in 1387, his work was carried on by his son, Jafuda, who eventually instructed the Portuguese under the patronage of Prince Henry the Navigator. But the day of the Jewish school of cartography at Majorca was already drawing to a close, owing to the wave of religious persecution which swept through the Aragon kingdom in the latter years of the century.

The patrons of Cresques, King Peter III of Aragon and his son, in addition to their scientific interests, were keenly interested in reports of Eastern lands, in relation to

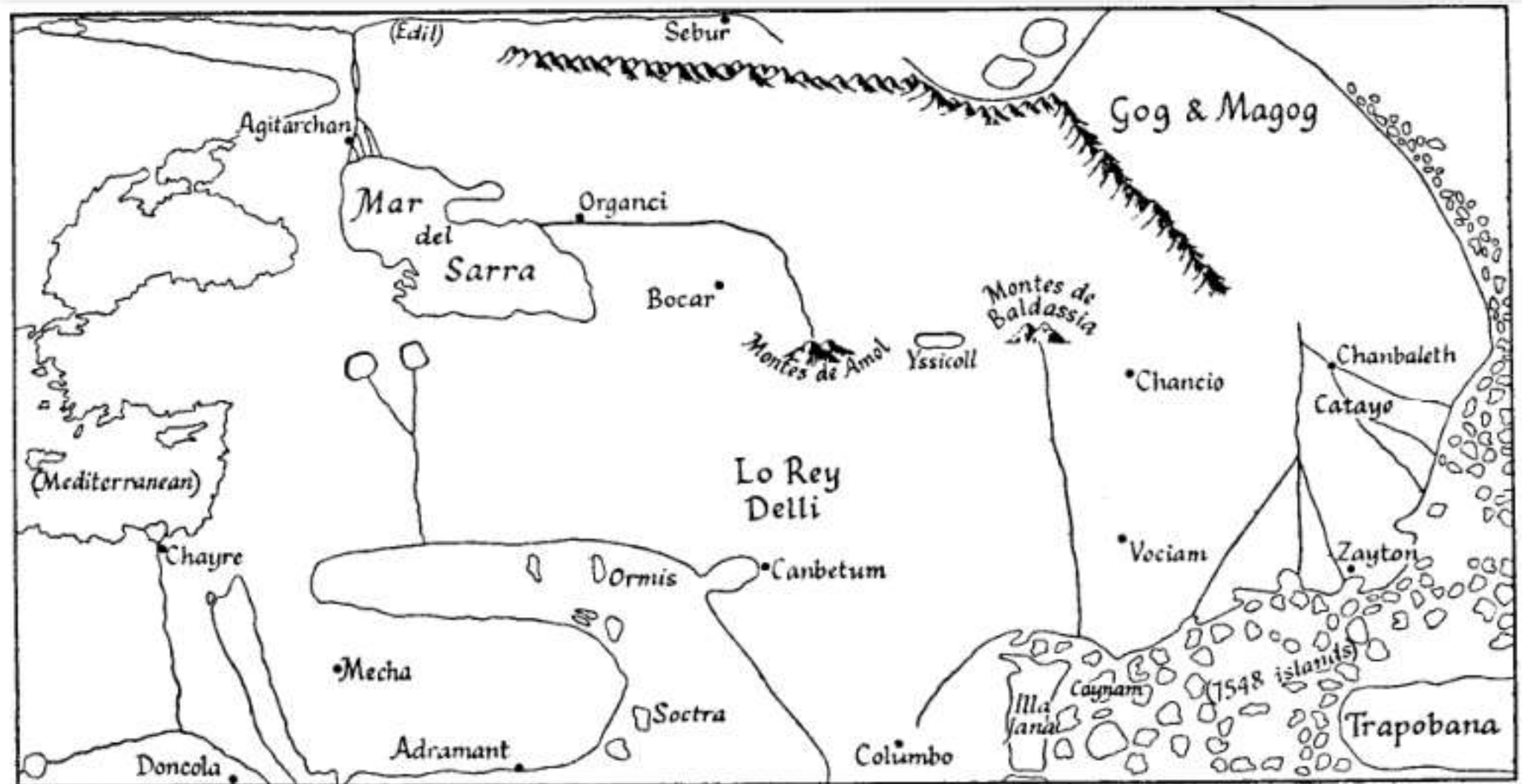
their forward economic policy, and were at special pains to secure manuscript copies of Marco Polo's *Description of the World*, the travels of Odoric of Pordenone *Description of Eastern Regions* and, what may surprise the modern reader, the *Voyage of Sir John Mandeville*. Though fabulous in part, Mandeville's book has a scientific background. He was quite sound, for example, on the sphericity of the earth; as he says:

... who so wold pursue them for to environ the earth who so had grace of God
to hold the waye, he mighte come right to the same countreys that he were come
from and come of and so go about the earth ... fewe men assay to go so,

The *Catalan Atlas* represents in part a late example of this medieval *mappamundi* tradition. The theological imagery of the *Atlas* is confined primarily to Asia, the European knowledge of which was still rudimentary. Cresques' portrayal of Asia retained a northeast curvature that is reminiscent of the earlier circular *mappamundi*. As a response to this interest, Cresques extended his chart to include all that was then known of Asia, notably from Marco Polo's narrative. For the first time in medieval cartography this continent assumed a recognizable form, with one or two notable exceptions. Continental interiors are filled with detail, compass lines drawn, and decorative items are added to enhance the nearly up-to-date picture. From the *Mar del Sarra* [Caspian Sea] in the west, with a fairly accurate outline in the style of the *portolan* charts, the Mongol domains stretch away eastwards to the coasts of *Catayo* [China]. This country makes a sweep from east to south with an approach to its actual form, and along its coast appear several of the great medieval ports and trading centers frequented by Arab merchants. It should be noted, however, that these coastal outlines of Asia take on a somewhat generalized appearance when compared with the relatively more familiar European/North African contours found in the *Atlas*.

The Mongol Empire is approximately represented. From west to east, the main divisions of the Mongol territory include the *Empire of Sarra* [the Kipchak Khanate], the *Empire of Medeia* [the Chagtai Khanate of the middle], and the *Suzerain Empire* of the Great Khan, *Catayo* [China]. Its capital at *Cambaluc* or *Chanbaleth* [Beijing, a.k.a. *Khanbaliq* or *Dadu*], the city of the Great Khan which so intrigued the chroniclers of the 14th century, receives due prominence, with a long legend describing its magnitude and grandeurs. In an account once more based on Marco Polo's text:

This town [Beijing] has an extent of 24 miles, is surrounded by a very thick outer wall and has a square ground plan. Each side has a length of six miles, the wall is 20 paces high and 10 paces thick, has 12 gateways and a large tower, in which hangs a great bell, which rings at the hour of first sleep or earlier. When it has finished ringing, no one may pass through the town, and at each gate a thousand men are on guard, not out of fear but in honor of the sovereign.



The description emphasizes the richness and urbanity of the Chinese capital at the edge of the civilized world. This contrasts strongly with the people of the islands farther east who are described as savages living naked, eating raw fish, and drinking sea water. They are obviously to be identified with the *Ichthyophagi*, one of the fabulous races traditionally placed in Asia or in Africa. The city stands near the apex of a triangle formed by two rivers and the ocean; each of the two rivers divides into three before reaching the sea, a representation embodying a somewhat confused notion of the inter-linked natural and artificial waterways of China. Another one of the legends on the map that can be found in this region reads, in translation:

To the north is Catayo, the Great Khan and his capital of Chanbaleth; to the south Manji, with its great cities of Zayton and Cansay. The vertical waterway is the Grand Canal built by Kublai from Manji to Cambulac; below are the 7548 islands, rich in all manner of spicery, placed by Marco in the Sea of Chin.

The supreme ruler of *Catayo* is identified as *Kublai Khan*, grandson of Genghis Khan:

The most powerful prince of all the Tartars is named Holubeim [i. e., Kublai Khan], which means Chief Khan. The emperor is far wealthier than any other monarch in the whole world. This emperor is guarded by 12,000 horsemen.

The *Catalan Atlas* contains the names of various towns placed apparently at random, some of them mentioned twice; this reflects the fact that the map was evidently composed with the help of various sources.



Adoration of Christ the King, detail of the map of Asia

On the southern portion of the coast of *Cathay*, the general uniformity of the coast is broken by three bays, and it is significant that these are associated with three great ports, *Zayton* [near Changchow], *Cansay* [Hangchow, better known in medieval records as *Quinsay*] and *Cincolam* [Canton]. Of these, Canton is not mentioned by Marco Polo; it was, however, much frequented by Arab navigators and traders, upon whose reports the compiler was probably drawing. The attempt at representing the configuration of the coast suggests at least that his informants were interested from a maritime point of view. Some of the islands off *Quinsay* may stand for the Chusan archipelago, and further to the south is the large island of *Caynam*, [Hainan], an *island of dumb*, in which men and women wear a sheet in front and another behind.

Sir Henry Yule points out that *Kao-li* was the name given for Korea, and he therefore considers that the island *Cresques* depicts here represents confused notions about both the Korean peninsula and Japan; otherwise there is no obvious graphic reference or hint of *Zipangu* [Japan].

Further south is the island of *Trapobana* already found on maps attributed to Ptolemy. For Pliny and classical authors it was evidently Ceylon/Sri Lanka, but it was later associated with Sumatra, as it is here, described as *the last island towards the east* and is called by the Tartars *Great Caulij*. Altogether, as mentioned above, we are told there are 7,548 islands in the Indian Ocean; they are rich in gold, silver, spices, and precious stones, so much so that "*great ships of many different nations*" trade in their waters. Here again the information is from Marco Polo, who, however, spoke of 7,448 islands. There *Cresques* placed some of the fabulous and monstrous races legendary in classical antiquity and the Middle Ages: "*On this island are people who are very different from the rest of mankind. In some of the mountain ranges. . . are people of great size, as much as 12 ells, like giants, with very dark skins and without intelligence. They eat white men and strangers, if they can catch them.*" The reference is to giants familiar from the medieval Alexander legend, specifically defined here as *Anthropophagi*. To these far distant waters are also relegated

mermaids, some of them probably the traditional half-woman and half-fish, the others more siren-like half-birds. The one illustrated has two fishtails, in accordance with one of the most common medieval conventions.

Altogether, as mentioned above, we are told there are 7,548 islands in the Indian Ocean; they are rich in gold, silver, spices, and precious stones, so much so that *great ships of many different nations* trade in their waters. Here again the information is from Marco Polo, who, however, spoke of 7,448 islands. The delineation of the coastline of southern Asia has one major defect and one outstanding merit; the defect is the entire omission of the southeastern peninsula, the Malay archipelago; the merit is the portrayal for the first time of the Indian subcontinent in its peninsular form. The first is difficult to explain; to make up for it the cartographer has inserted a great island of *Jana* [Java], which however was probably intended for Sumatra. For the Indian peninsula, other sources are intermingled with Polo's account. The kingdoms of India as enumerated by Polo are absent from the map, and there are significant differences in the towns appearing in the two documents. Conspicuous on the map is the *Christian Kingdom* and city of *Columbo*, placed on the east coast. There is no doubt that this is *Quilon*, on the west coast. This form of the name (it is rendered *Coilum* by Polo), and other details, suggest that the compiler drew upon the writings of Friar Jordanus, who was a missionary in this area, and whose *Book of Marvels* was completed and in circulation by 1340. In the area around the Gulf of Cambay, several towns are shown which are mentioned by Jordanus but not by Polo, i.e., *Baroche* and *Gogo*. There are still other names which are not found in Jordanus either; but the commercial importance of Cambay (*Canbetum*, on the map) would account for the relatively detailed information about this region. There is, surprisingly, no indication of the river Indus, a striking omission also from Polo's narrative. This oversight may have arisen from confusion that often can be found between the Indus and the river Ganges.

The Indian powers are represented on the *Catalan Atlas* by the *Sultan of Delhi* and the Hindu *King of Vijayanagar*, who is wrongly identified as a Christian. Farther north appear the *Three Wise Men* on their way to Bethlehem and at the top (or bottom) of the map a caravan; all of the latter figures are drawn upside down, as the map was probably meant to be laid horizontally and viewed from both sides. Camels laden with goods are followed by their drivers; behind them various people, one of them asleep, are riding horses. Next to this group is a mass of fascinating information based once more on Marco Polo's travel account: "*You must know that those who wish to cross this desert remain and lodge for one whole week in a town named Lop, where they and their beasts can rest. Then they lay in all the provisions they need for seven months.*" Farther on we read that "*when it happens that a man falls asleep on his camel during a night-ride or wanders away and loses his companions for some other reason, it often happens that he hears the voices of devils which are like the voices of his companions and they call him by his name and lead him in all directions through the desert, so that he can never find his companions again. A thousand tales are told about this desert.*" The scene thus clearly refers to the Silk Road, the overland route to China. The caravan is crossing the Sinkiang desert through the Tarim Basin. The province and town of *Lop* mentioned by Marco Polo can be connected with the modern town of Ruoqiang (Charkhlik) south of Lop Nor.

Quite a number of harbors are indicated on the eastern coast of India, a few of them still identifiable, while a sailing junk testifies to trading activity, especially with the island of *Iana* (?), which is here associated with the legendary isle of the Amazons (*regio femarum* [sic]) and symbolized by its queen. The text describes the richness of the area:

"on the island of Iana are many trees of aloe, camphor, sandalwood, fine spices, garenga, nutmeg, cinnamon trees, from which the most precious spice of all India comes, and here are also mace and leaves." The mention of a *regio femarum* and of two of its cities, *Malao* and *Semescra*, seem to refer to Marco Polo's *Malaiur* and *Semenat* [Sumatra]. The location of this land "in India" and its geographic position, however, suggest it is instead possibly Sri Lanka.

In mainland India, *King Stephen* has been represented: the text beside him indicates that this Christian ruler is "looking towards the town of *Butifilis*," Marco Polo's kingdom of *Mutifilis*. The notion that there were Christian rulers east of the Islamic world stems largely from the legend of *Prester John*; also important, however, were the real Christian minorities in India and the fact that the tomb of Saint Thomas was thought to be in Mailapore, a suburb of Madras, the *Mirapore* of the map. Farther north is the realm of *Kebek Khan*, a historical figure who reigned from 1309 to 1326: "Here reigns King *Chabeh*, ruler of the Kingdom of the Middle Horde. He resides in *Emalech*." Next to him, between India and the Chinese empire, is a group of pygmies fighting cranes: "Here are born men who are so small that they do not grow to above five spans in height, and although they are so short and incapable of hard work, they are strong enough and in a position to weave and herd cattle. And know that these people marry at the age of about twelve years and generally live to be 40 years old. But they are happy and defend themselves valiantly against the cranes, which they hunt and eat." The ancient writer Pliny had already described pygmies who lived in the remotest mountains of Asia, and he commented on their antagonism to cranes; they were also later mentioned in the travel accounts of Odoric de Pordenone and Mandeville, but Marco Polo doubted their existence. They are, however, also shown on the *Ebstorf mappamundi* of 1234 (#224).



The people of Gog and Magog following their monarch, bearing banners with the emblem of the devil, detail of the map of Asia.

Upside down, as it is on the upper half of the map, are people seeking diamonds. Their rather peculiar method of doing so is explained at length: "As they cannot get between the mountains where the diamonds are, they ingeniously throw lumps of meat to the



place where the stones are lying, and the stones adhere to the meat and come away from their original site: then the diamonds that are attached to the pieces of meat are carried away by the birds and thus obtained by the men." Alexander the Great, we are told, was already familiar with this method: it is illustrated on the map by two men cutting off pieces of meat and a bird flying over the mountains of *Baldasias* [Badakhshan], from which flows the stream that marks the eastern border of India (*finis indie*). Abraham Cresques has shown snakes in the crevices of the rock: Marco Polo, after all, tells us that the diamonds are found in deep valleys with "so many serpents" that "he who should go down there would be devoured immediately."

Alexander the Great is shown in the upper right half of the map. There we are told that Satan came to his aid and helped him to imprison the Tartars Gog and Magog. Alexander then had two bronze figures made by which to bind them with a spell. The reference is to the gate that Alexander is supposed to have built in the *Caspian Mountains* to exclude Gog and Magog, who are here equated with various Central Asian tribes. The text on the map specifically refers to the "various tribes who have no scruples about eating any kind of raw flesh..., the nation from which the Antichrist will come forth," but which will ultimately be destroyed. There is a further allusion to Alexander having erected two trumpet-blowing figures in bronze; these, according to various medieval legends, resounded with the wind and frightened the Tartars until the instruments were blocked up by various nesting birds and animals. The text freely combines the medieval legend of Alexander with biblical traditions. This applies equally to the corresponding scene, where the great lord and ruler over Gog and Magog is shown with his men, the devil painted on their banners: "He will march out with many followers at the time of the Antichrist" but will ultimately be defeated as predicted in the *Book of Revelation* (20: 7-10). To the south are those who will be sent to declare his glory among the

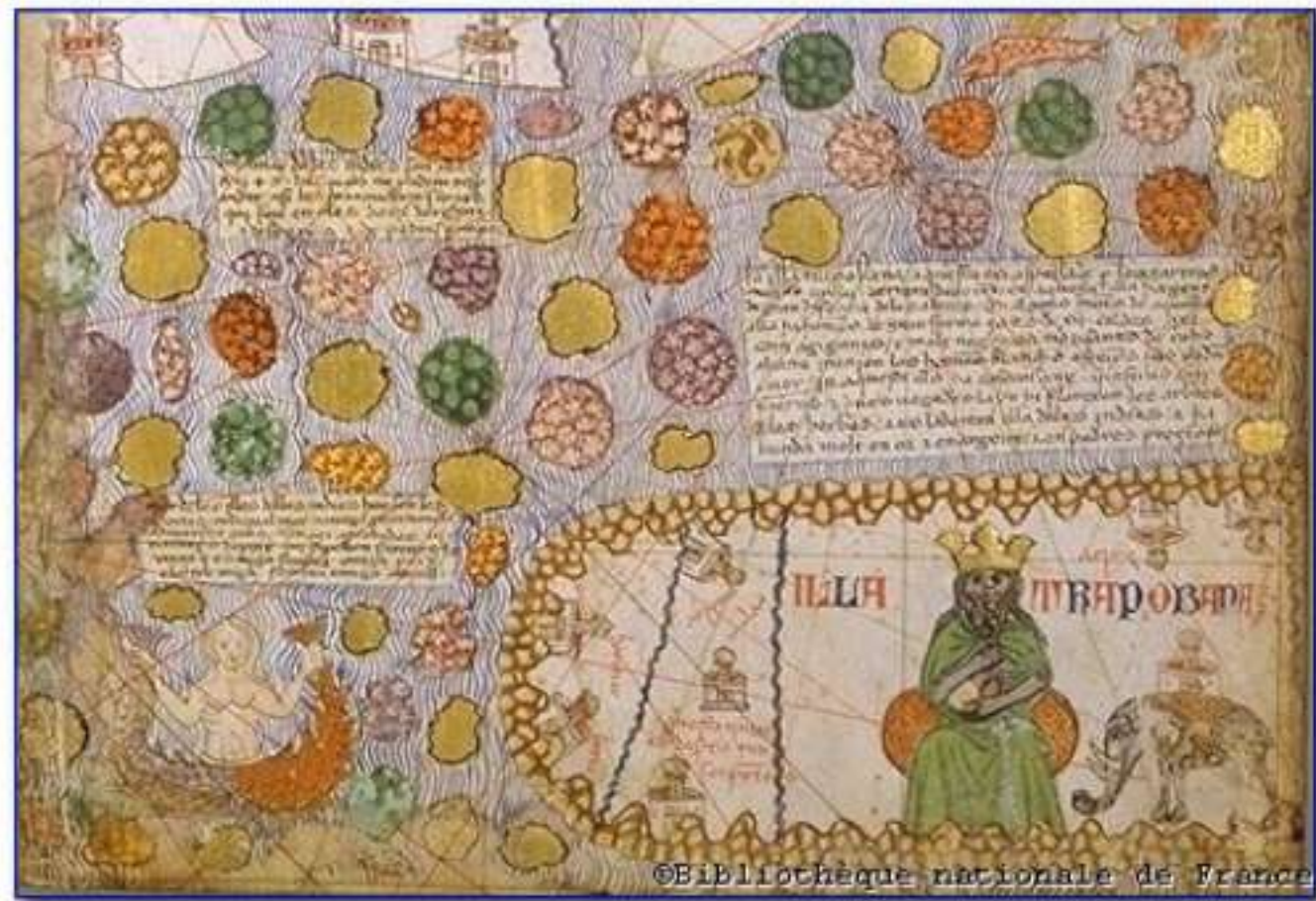
Gentiles. The text here refers to *Isaiah* 66:19: "I shall send those who are saved to the peoples of the sea, to Africa and Lydia"; and further, "I will send to the isles afar off, that have not heard my fame, neither have seen my glory; and they shall declare my glory among the Gentiles." To this prophetic inscription is added a text about the *Antichrist*. Images as disparate as a female warrior, pearldivers, and a Chinese junk provide filler for unknown lands. Text describing mythical lands guarantee satiation for intense European curiosities.



Alexander the Great accompanied by Satan, who helped him imprison the peoples of Gog and Magog, and the two bronze statues of trumpeters he ordered erected. Wind blowing through the trumpets frightens the Tartars, detail of the map of Asia

Sources other than those embodied in Polo have also been used for the portion of the Indian Ocean included in the map. The Persian Gulf, extending almost due west, has an outline similar to that on the *Dulcert* map, but is otherwise superior to any earlier map. In the Gulf, the island of *Ormiz* [Hormuz] is shown, opposite the former settlement of the same name on the mainland. The Southern Arabian coast has names differing from those given by Polo, and in one of them, *Adramant*, we may recognize the modern Hadhramaut. The island of *Scotra*, an important stage on the trade route from Aden to India, is misplaced to the east, and appears to occupy the approximate position of the Kuria Muria Islands. For India and the ocean to the west, therefore, we may conclude that charts were used which differed in detail from Polo's account, though similar in general features. That such charts existed we know from Polo's own statements. Possibly additions were also made so that the map might serve as an illustration to his narrative.

If the map is stripped of its legends and drawings of the older tradition, it is apparent that the main interest of the compiler is concentrated in a central strip across Asia. Herein lies a succession of physical features: mountains, rivers, lakes and towns with corrupt but recognizable forms of their medieval names as given in the narratives of the great travelers of the 13th century. These are jumbled together in a manner sometimes



*Island of Trapobana [Sumatra] and
a two-tailed siren dwelling in the Indian Ocean*

difficult to understand, but with the help of Marco Polo's narrative, it is possible to disentangle the itineraries that the map was evidently intended to set out.

In the west is the *Organci* [Oxus] river shown, as on most contemporary maps, flowing into the Caspian, and alongside it the early stages of the traditionally used overland route, from *Urganj* [the medieval Khiva] through Bokhara and Samarcand to the sources of the river in the mountains of Amol, on the eastern limits of Persia. These are the highlands of Badakshan where the route crossed the Pamirs. East of this lies the lake, *Yssikol* [Issik Kul], and *Emalech* the seat of the Khan, the *Armalec* of other travelers, in the Kuldja region. The delineation is then confused by the repetition of the Badakshan uplands, the mountains of *Baldassia*, a mistake that probably arose from confusion over the river system of southern Asia.

This description, with several omissions, was in outline the route followed by Maffeo and Nicolo Polo (Marco Polo's father and uncle) on their journey to the Great Khan's court. It is also possible to discern traces of their second journey, accompanied by Marco, in which they employed the 'south road' of the silk route, and, except for a detour through *Ormiz* at the bottom of the Persian Gulf, ran from *Trebizond* through *Eri*

[Herat], *Badakshan*, and along the southern edge of the Tarim basin from *Khotan* to the city of *Lop*. The compiler, however, perhaps because he confused this desert area with the Gobi, has transferred this stretch to the north of the *Issik Kul*. In fact the section illustrated below is thought to actually represent Nicolo and Maffeo Polo, with their Mongol envoys, crossing the *Tien Shan* mountains on their way through what is now China's Sinkiang Province, to Beijing (south is at the top). The legend above them reads, in translation: *This caravan left the Empire of Sarra to go to Catayo, across a Great Desert (Sarai, on the Edil [Volga], was the capital of the Kipchak Tartars, from which the Polos had set out about 1262.* A third route is indicated rather confusedly on the extreme northern edge of the map. It is marked by a line of towns up the valley of the *Edil* from *Agitarchan* [Astrakhan] through *Sarra* [Sarai], *Borgar*, and thence eastward through *Pascherit* [probably representing the territory of the Bashkirs east of the middle Volga], and *Sebur*, or *Sibir*, a medieval settlement whose site is unknown, but thought to be on the upper Irtysh. In this quarter, the information upon which the map is based was not drawn from Marco Polo. To the south is a long east-west range, called the *Mountains of Sebur*, representing the northwestern face of the Tien Shan and Altai mountains. In the late 13th and early 14th centuries there were Franciscan mission stations at these localities, and the details no doubt came originally from the friars.



The Catalan Atlas detail: the Polo Caravan

One of the truly intriguing images on Panel 6A of the *Atlas* pertains to the burial customs of far Asia. In the vicinity of the Caspian Sea (located inaccurately in far northern Asia) a burial rite is depicted. A deceased man lies curled in a burial font, with a figure presiding over rites that culminate in cremation. Alongside the font are three musicians playing, respectively, a flute, a violin and a zither. The text which accompanies the portrayal says:

Know that men and women of this region, when they are dead, are carried away to be burnt, to the sounds of instruments and in ecstasies of joy, while the relatives of the dead person of course weep. And it sometimes happens, though

rarely, that the widow of the dead man throws herself into the flames, whereas a man never does the same for his wives.

The preceding text has the ring of truth, though the facts are somewhat convoluted. Grosjean believes that the map's creator has confused accounts dictated by Marco Polo.



The musical accompaniment to the cremation of the deceased in the font is associated with death rites common in China (*Kansu* in Polo's account), though the practice of immolation of widows is a clear reference to the practice of *suttee*, common among the Hindus of India. Jean Michel Massing points to Polo's rendition of the death rites of Malabar, where certain lawbreakers duly accused must commit suicide, to the accompaniment of the celebration of the condemned's relatives.

The influence of the medieval world map may be seen in many features of the *Catalan Atlas*; Jerusalem, though not so strongly emphasized, is still approximately in the center of the map; a portion of the original coastline of northeast Asia, with the Caspian mountains still enclosing the tribes of *Gog* and *Magog*; the large island of *Taprobane* occupies approximately the same position as, for example, on the *Hereford* map (#226); the great west-east river beyond the Atlas Mountains resembles the traditional conception of the hydrography of North Africa, though contemporary names have been inserted. Clearly the contemporary additions are set in a much older framework.

Scarcely less valuable, and certainly of special interest for the student of geographical theory, are the Catalan speculations concerning the unexplored territories of the earth. Unlike many classical and fellow medieval scholars, the draftsman of Majorca showed praiseworthy restraint in this respect. In addition to Asia, the narratives of contemporary travelers were also extensively used by Cresques in Africa. As a cultural document the *Catalan Atlas* is more daring and fanciful in its depiction of Africa. The "dark continent" had long fascinated Europeans, and the relative impenetrability of this area fostered myths that lingered throughout the Middle Ages. The travel accounts of the Arab chronicler Ibn Battuta are major sources for Cresques' depiction of North Africa.

Much of the information contained on the African portion of the *Atlas* is rooted in fact. Cresques identified 240 place names along the North African coast. The Atlas Mountains are correctly placed, though depicted in the traditional medieval form of a bird leg with claw. The text that accompanies the Atlas range reads: "*This region is inhabited by people who go heavily veiled, so that nothing can be seen of them but their eyes. They live in tents and ride on camels. They keep animals that are called 'lemp', from the leather of which they make good shields*". A lavish image of a Moorish king is identified as Muse Melley, "*lord of the Negroes of Guinea*," but probably reflects knowledge of the leader of Mali, the learned and powerful Mansa Musa, well-known in Islamic circles.

Other portions of Africa are more fanciful. Few place names appear on the land portion of Africa, though lavish illustrations are placed prominently in North Africa. One, for example, refers to the persistent tradition of Prester John, the legendary Christian ruler whose presumed existence intrigued generations of Europeans. Also included on the map was the mythical river flowing from east to west that Europeans

believed held access to the riches of interior Africa. Jacme Ferrer, a Majorcan navigator, is depicted in search of the elusive river. Here the special feature of interest on the *Catalan Atlas* is the inscription and picture of the vessel recording the departure of the Catalan, Jacome Ferrer, on a voyage to the 'river of gold' southwest of the new Finisterre of Bojador in 1346. This refers to the northwest coast of Africa that extends beyond Cape Bojador to a point just north of the Rio d'Oro. Here unfortunately the map ends; unlike the *Medici Atlas* (#233), or some others, it makes no attempt at a representation, conjecture or otherwise, of the southern portion of this continent. But in the allotted space the map does show some knowledge by Cresques of the gold producing region of the middle Nile and of the regional name *Ginuia* [Guinea], the *Kingdom of Melli*, and stages on the routes from Morocco to the Niger, i.e., *Sigilmessa*, *Tebelt*, *Tagaza*, and *Tenbuch* [Timbuktu] are marked. Also its treatment of the Atlantic islands: the Azores, Canary, and Madeira groups, is more complete than any representation of earlier times.

Hardly any place on the west coast of Africa is identified. Only one name, perhaps a mythical spot, is found south of Cape Bojador in the former Spanish Sahara, but we are told that Africa, land of ivory, starts at this point and that by traveling due south one reaches Ethiopia. For here, as is often the case in other maps of the period, the cartographer compensated for the dearth of known geographical points by including historical facts. We are told, for example, that merchants bound for Guinea pass the Atlas mountain range, shown here in its typical form of a bird's leg with three claws at its eastern end, at *Val de Durcha*. More geographical information is given on the Maghreb, which, after all, is part of the Mediterranean. The Sahara, however, is shown with a lake in its center, a traditional medieval error. The text beside a Touareg riding on a camel and also a group of tents informs us that this land is inhabited by veiled people living in tents and riding camels. The crowned black man holding a golden disk is identified as *Musse Melly*, "lord of the negroes of Guinea" - in fact, Mansa Musa, of fabulous wealth. "The King," we are told, "is the richest and most distinguished ruler of this whole region, on account of the great quantity of gold that is found in his land." Mansa Musa, who reigned over the kingdom of Mali, probably from 1312 to 1337, is known for having encouraged the development of Islamic learning. His pilgrimage to Mecca, including a visit to Cairo, was famous for the enormous amount of gold he spent on that occasion. This is plausible enough, for he controlled a large part of Africa, from Gambia and Senegal to Gao on the Niger, and had access to some of its richest gold deposits. Reports of the fabulous wealth of this African ruler did much to encourage an interest in the exploration of Africa.



Mansa Musa, King of Mali,
detail of the map of North Africa

East of the Sultan of Mali appears the *King of Organa*, in turban and blue dress, holding an oriental sword and a shield. He is, we are told, "a Saracen who waged constant

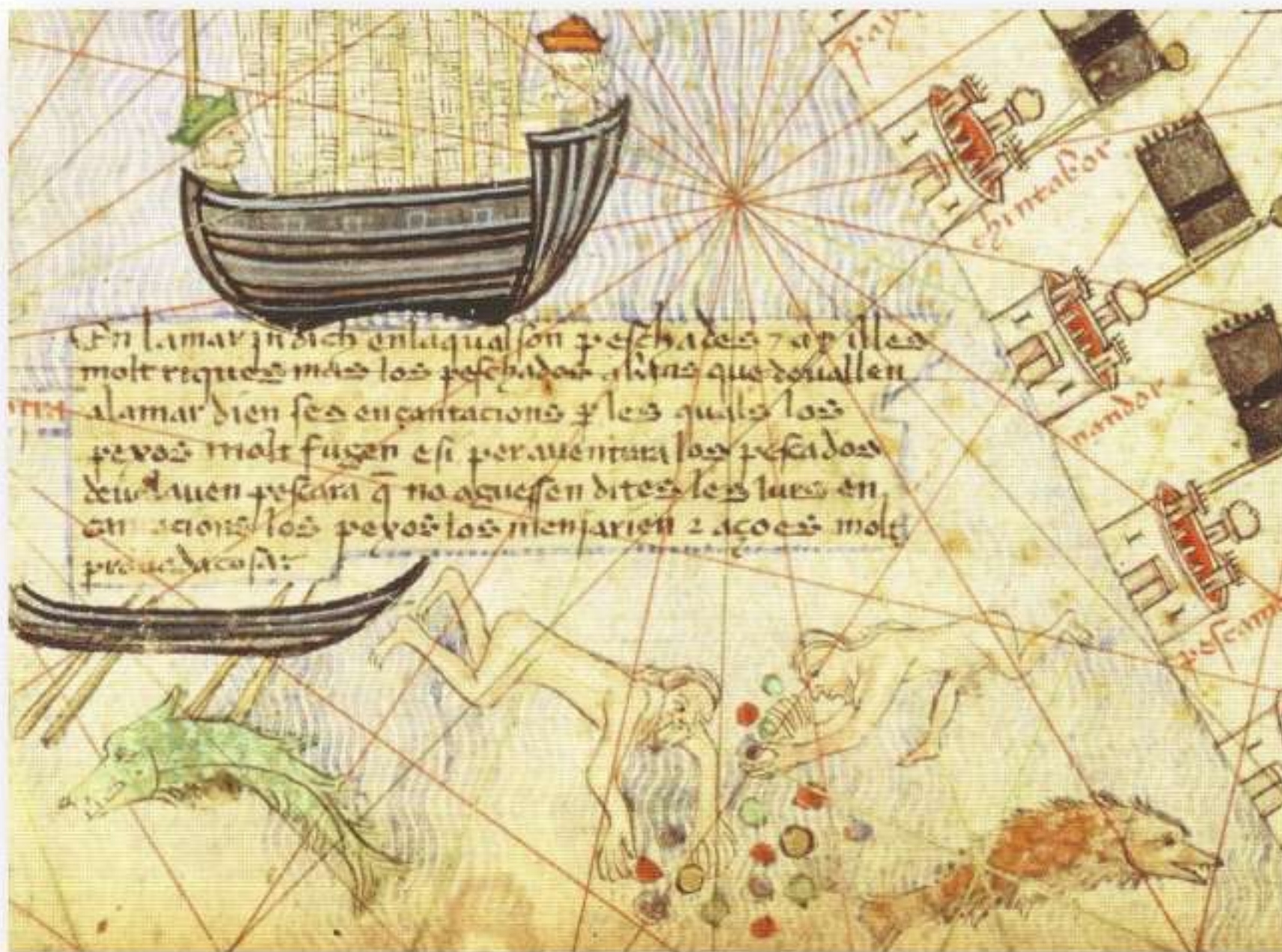
war against the Saracens of the coast and with the other Arabs." Still farther to the east is the King of Nubia, "always at war and under arms against the Nubian Christians, who are under the rule of the Emperor of Ethiopia and belong to the realm of Prester John." On the Catalan Atlas, Africa is also symbolized by a nude black man with a camel and a turreted elephant. Camels were first used for the trans-Sahara trade sometime between the second and fifth century A.D., after being introduced from Arabia. Thanks to their notorious capacity to travel long distances without water, they completely transformed African trade, opening sub-Saharan areas to Islam. The elephant, which inhabits the area south of the Sahara, signifies the fact, as the text puts it, that Africa is the land of ivory "on account of the large numbers of elephants that live there."

In northeast Africa, a knowledge of the Nile valley as far south as *Dongala*, where there was a Catholic mission early in the 14th century, is apparent. The delineation of the Nile river system is vitiated, however, by the conception that it flowed from a great lake in the Guinea region, *Lacus Nili*. This rare speculation on the part of Cresques contained at least some partial truth because the *Lacus Nili*, the *Pactolus* of Strabo, and the *Palolus* of later maps, which in the Catalan Atlas and subsequent works is located in the neighborhood of Timbuktu, may reasonably be identified with the flood region of the Niger.

On one matter, however, the mapmaker Cresques could hardly refrain from speculating, for the following reason: land exploration had, for a long time now, outrun oceanic discovery, and so, concerning Africa, much more was known of the Sudan by the end of the 14th century than was known of the oceanic fringe area in the same latitudes. As previously mentioned, the early draftsmen insisted upon cutting the continent short just beyond the limit of coastal knowledge, that is, in the vicinity of Cape Bojador. By so doing, however, they found themselves reducing the vast extent of the Sahara almost to a vanishing point. Thus in this map of 1375, *Sigilmessa* and the *Rio del Oro* [i.e., the Senegal-Niger river system] are placed in closer proximity than *Ceuta* and *Cape Non*. Later draftsmen, in order to escape the embarrassment caused by indicating the great trans-Saharan caravan routes within these narrow limits, began to speculate on the course of the West African coast, south of Bojador. By general agreement it was made to trend south-southeast. Speculation of this sort did at least have the merit of enabling the mapmaker to draw the Sahara with greater accuracy. The gap in the snake-like Atlas Mountain chain of North Africa is meant to illustrate a pass that these Arab merchants commonly used.

In Asia the Red Sea stands out, being shown as red, a characteristic that derives, we are told less from the color of the water than from that of the sea bed. It is cut in two by a land passage, a conventional allusion to Moses' miraculous crossing (*Exodus*, 14:21-22). The port of *Quseir* is clearly marked, and the accompanying text specifies that it is here that spices are taken on land and sent to Cairo and Alexandria. In Arabia, between the Red Sea and the Persian Gulf, is located the *Kingdom of Sheba*; the queen, who came to visit King Solomon, is shown crowned and holding a golden disk as symbol of her wealth. Today, we are told, the area "belongs to Saracen Arabs and produces many aromatic substances, such as myrrh and frankincense; it has much gold, silver and many precious stones and, moreover, it is said that a bird called Phoenix is found here." This passage is altogether typical of the approach of late 14th century cartographers, who freely mix biblical information with later accounts of foreign countries, in this case based on Isidore of Seville's *Etymologiae* (#205).

Mecca and Medina are clearly marked, although they are placed too close to the coast. Between the Persian Gulf and the Caspian Sea appears the *King of Tauris* [Tabriz] and north of him *Jani-Beg*, ruler of the kingdom of the Golden Horde, who died in 1357. The importance of Baghdad as a center of the spice trade is emphasized; from there, precious wares from India are sent throughout the Syrian land and especially to Damascus. Navigational information is also recorded: "From the mouth of the river of Baghdad, the Indian and Persian Oceans open out. Here they fish for pearls, which are supplied to the town of Baghdad." We learn that "before they dive to the bottom of the sea, pearl fishers recite magic spells with which they frighten away the fish" a piece of information that comes straight from Marco Polo, who mentions that the pearl fishers on the Malabar coast are protected by the magic and spells of the Brahmins. Various trading stations are indicated on the shore of the Indian Ocean from Hormus, "where India begins," to Quilon in Kerala. There, pearl fishers are mentioned again with reference to magic spells. So are boats (called *nichi*) with a length of keel of sixty ells (a unit of measurement that in England was equal to 45 inches) and a draft of thirty-four, with "at least four but sometimes as many as ten masts, and sails made of bamboo and palm leaves." One of these boats is illustrated next to the text and another east of the Indian peninsula: with their transom bow and stern, rails on the stern galley, portholes, and as many as five masts with unmistakable mast and batten sails, they are undoubtedly Chinese junks such as Marco Polo had described.



Pearl divers whose spells have caused the sea monsters to flee in the Persian Gulf

As Chet Van Duzer points out, in the Persian Gulf there are two naked men in the water gathering what seem to be colored rocks, and two well-toothed sea monsters swim away from them. A legend well to the northwest, at the northern end of the Persian Gulf, explains that these men are divers who go after pearls, and says that they

use magic spells to keep the sea monsters away, so that the divers will not be eaten while they are in the water/

In front of the mouth of the *Baldach River* [the river of Baghdad, i.e. the Tigris] is the sea of the Indias and of Persia. Here they fish for pearls which they take to the city of Baghdad. The fishermen, before descending to the bottom of the sea, say their spells so that the fish will flee. A second legend just above the men explains in more detail:

In the Indian Ocean there are fishermen and very rich islands. The fishermen who dive in the sea say their spells before descending to make the fish flee. If by chance the fishermen dive without having said their spells, the fish eat them. And this has been well demonstrated.

The source of this remarkable legend about casting spells on sea monsters so that they do not harm pearl divers is *Le devisement du monde* of Marco Polo (c.1254-1324), who describes the method of diving for pearls and the charms to keep away sea monsters in his chapter on the province of "Maabar", i.e. Malabar or Coromandel on the eastern coast of India. Marco Polo writes that the divers

...must also pay those men who charm the great fishes, to prevent them from injuring the divers whilst engaged in seeking pearls under water, one twentieth part of all that they take. These fish-charmers are termed Abraiaman; and their charm holds good for that day only, for at night they dissolve the charm so that the fishes can work mischief at their will. These Abraiaman know also how to charm beasts and birds and every living thing.

Although Marco Polo does not specify what the sea monsters were, and the illustrations on the *Catalan Atlas* are rather generic, they were probably sharks. In fact the idea that incantations could be used to control sea monsters is more exotic than the sea monsters themselves: the situation described in this legend is one of very few cases in which humans are said to have control over sea monsters, rather than being at their mercy. It is tempting to see Marco Polo's account of pearl divers repelling sea monsters with spells as an inversion of the traditional story, which goes back to Homer's *Odyssey* and also appears in medieval bestiaries, of sirens attracting men to their death with their songs.

Within the means of cartographic representations on this *Atlas* there appears to be no specialties, those symbols and other graphics used by Cresques correspond to those commonly used in the Middle Ages. However, there are great differences to be observed between what is labeled by some the "*portolano section*" (Sheets 3 and 4, Europe and North Africa) and the rest of the map sheets. In this section the coastlines are greatly differentiated and the abundance of names is in great contrast with the quantity of information, literally and graphically, supplied in Sheets 5 and 6 (Asia). The mountains in the European and African section are arranged in chains or chain-like symbols, in Asia they appear as regular humped garlands of rocks. The latter representation corresponds to the traditional medieval methods. With meticulous care the islands in the region of the *portolan* chart section are displayed, they are painted in color, some of them like Sicily, Sardinia and Corsica are shown in gold.

The compiler of the prototype used by Cresques for the *Catalan Atlas* had recourse to different, sometimes even contradictory sources. The legendary *Insula de Brazil*, for example, which is found on various medieval maps of the North Atlantic and later gave its name to Brazil in South America, is shown here twice, once west of Ireland

and a second time farther south. The *Islands of the Blest*, located in accordance with the specifications of Isidore of Seville in his great seventh century encyclopedia (#205), the *Etymologiae*, are called both *iles Beneventurades* and *yles Fortunades*:

The Islands of the Blest are in the Great Sea to the left. . . Isidore says in his 15th book [in fact the 14th] that these islands are so called because they possess a wealth of all goods.... The heathens believe that Paradise is situated there, because the islands have such a temperate climate and such a great fertility of the soil.

Here, too, the text informs us, is the island of *Capraria*, full of goats, and the *Canary Isles* called after the dogs (Latin: *canes*) that populated them. The text adds that, according to Pliny the Elder,

. . . there is one island on which all the gifts of the earth can be harvested without sowing and without planting.... For this reason the heathens of India believe that their souls are transported to these islands after death, where they live forever on the scent of these fruits. Thus they believe that their Paradise is there. But in truth it is a fable.

In this case, classical and medieval tradition is not borne out by experience and is accordingly rejected by the mapmaker; the Canary Islands had been discovered in 1336 and appear on Angelino Dulcert's chart of three years later. Elsewhere, however, the weight of received opinion is still felt, as, for example, in the various islands with fabulous names; they cannot represent the Madeiran group, as these islands were discovered only in 1418-1419. Nor can they be the Azores, which are first mentioned in 1427, or the Cape Verde Islands discovered only in 1455-1456. The *Catalan Atlas*, in fact, marks the progress in the gradual discovery of the Atlantic and the west coast of Africa.

Rhumb lines represent the definitive feature of the *portolan* charts from the Catalan school of cartography, the origins of which can be traced to the late 1200s. Another noteworthy feature of the *portolan* chart section of the *Catalan Atlas* is a large compass rose located east of the Iberian Peninsula. According to Tony Campbell, the compass rose makes its first appearance on the *Catalan Atlas*, though it lacks customary alignment with the rhumb line intersections.

As mentioned earlier, the depiction of the ship shown below documents the voyage of the Majorcan navigator Jacme (also referred to as Jaime) Ferrer. The ship appears to be a galley, the ship type commonly found in the Mediterranean trade. The banner on the ship reflects the gold and red colors of the kingdom of Aragon, which included the areas of Majorca and Catalonia. The text accompanying the image of the ship states that Jacme Ferrer's ship set sail on St. Laurence Day, the 10th August 1346, bound for the Rio d'Oro. Little is known of this voyage. It was one of several documented voyages of the time that failed to return to port. The ship evidently reached Cape Bojalar but its ultimate fate remained a mystery.

The mythical *Rio d'Oro* [River of Gold] appeared on many medieval and renaissance maps. It was said to literally convey its flow of gold into the Atlantic from its source in a fabulously wealthy kingdom in the interior of Africa. Ferrer's journey was one of many to seek the source of the *Rio d'Oro*. Frequently linked to the myth of the *Rio d'Oro* was the tradition of Prester John, which had fascinated Europeans since the 12th century. Prester John was believed to rule a Christian kingdom beyond the realm of

the Muslim lands. The kingdom was initially identified with Asia, but increasing knowledge of the continent made his presence there unlikely. Hence his identification on the *Catalan Atlas* with the continent of Africa [Ethiopia]. Europeans believed that Prester John was the key to pushing back the borders of the expanding realm of the Muslims. The Prester John tradition originated with a forged letter received by the King of Portugal in 1165. Its popularity was fostered by its inclusion in the popular travels of Sir John Mandeville, copies of which first began circulating in the late 1300s. Thus the image of Jacme Ferrer symbolizes the motives of God, gold and glory that served as the driving force of European expansion for centuries to come.



*Jacme Ferrer's vessel in search of "Riu del Or" (the River of Gold)
detail of the map of Western Europe and North Africa. The galley shows four men with and an
Aragonese flag flying from the stern.*

Religious imagery represents one of the most fascinating cultural features of the *Catalan Atlas*. Symbols signifying religious traditions are profuse in the *Atlas* but are confined to the non-European sections of the map. Rome, Compostella, and other important European pilgrimage sites are not included by Cresques. Some scholars see this absence as a great stride forward in the development in scientific maps. Indeed, the European section of the *Atlas* is squarely within the late-14th century *portolan* tradition of the Catalan chartmakers.

The Asian and African sections of the map represent a stark contrast. Reference to Biblical traditions abound; the traditions of Gog and Magog, the *Three Wise Men* and the monastery of St. Katherine are among the Christian symbols present in the Asian sections of the map. Christian cities are often designated by a cross. Grosjean suggests that religious imagery was used as filler for places about which little was known. This may explain the absence of such symbols in Europe and the tendency to use them more frequently in little-known locations.

The *Atlas* takes careful account of the extensive area under Muslim control. Muslim cities are often symbolized by a dome. The city of Mecca, center of Muslim devotion, is marked in blue, the only city so designated. Medina, the city that first accepted Mohammed as the prophet of Allah, is also given prominence. Both of the holy cities of the Muslims are located closer to the Red Sea than they actually are. The Red

Sea is given a red pigmentation, as found on many medieval *mappamundi*. The text on the *Atlas* indicates the coloration of the Red Sea derives from the reddish cast of the seabeds rather than the water itself.



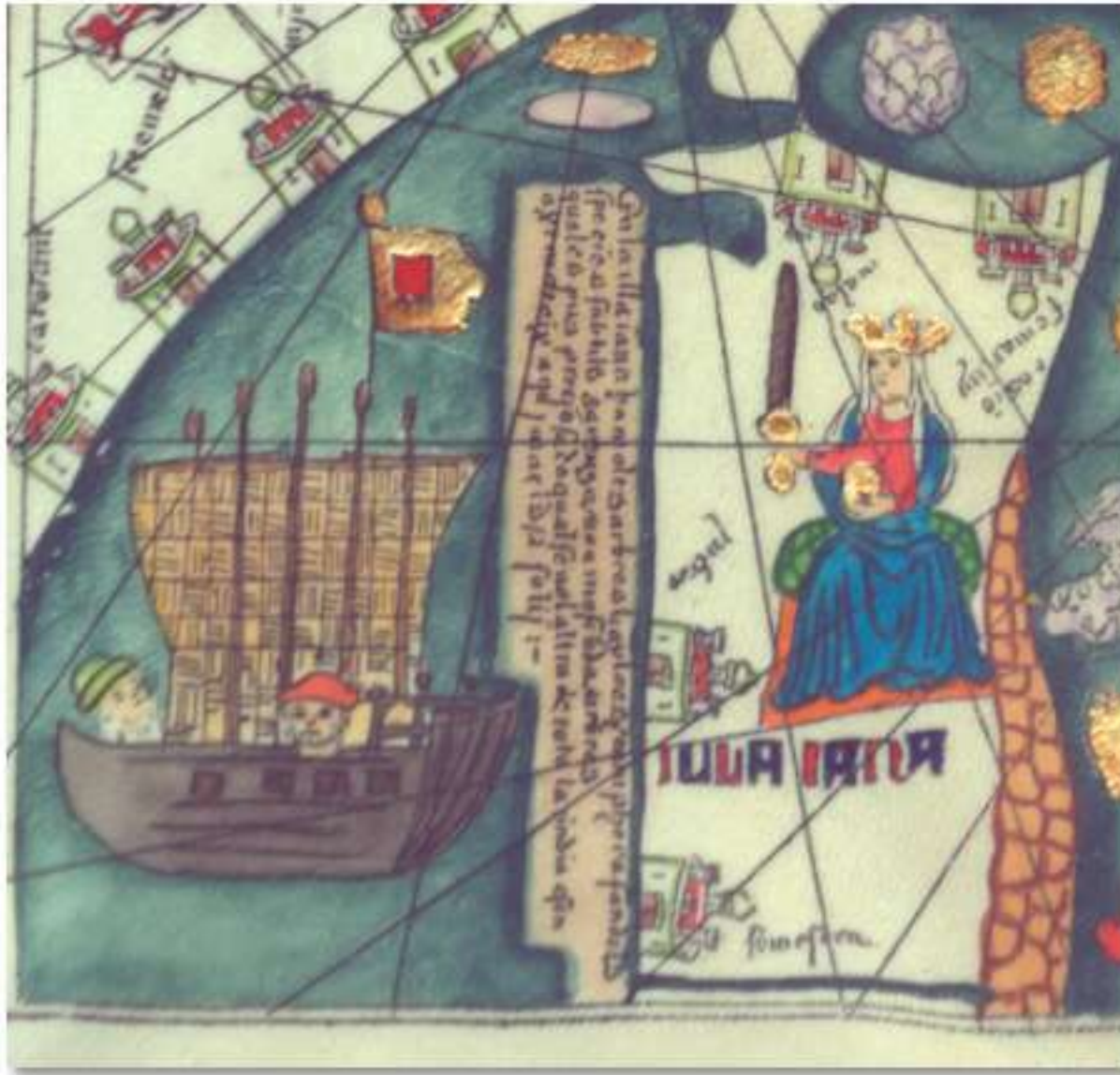
This image features the city of Mecca, accompanied by an image of a Muslim at prayer. The text beside the praying Muslim reads:

Mecca. In this town is the shrine of Mohammed, the Prophet of the Saracens, who come here on pilgrimages from every country. And they say that, having seen something so precious, they are no longer worthy of seeing anything more at all, and they blind themselves in honor of Mohammed.

In summary, the merit of the *Catalan Atlas* lay in the skill with which Cresques employed the best available contemporary sources to modify the traditional world picture, never proceeding further than the evidence warranted. In the same spirit he removed from the map many of the traditional fables that had been accepted for centuries, and preferred to omit the northern and southern regions entirely, or to leave southern Africa blank rather than fill it with the *anthropagi* and other monsters that adorn the bulk of medieval maps. Though drawings of men and animals still figure on this map, they are in the main those for which there was some contemporary, or near contemporary warrant; e.g., *Mansa Musa*, the lord of Guinea, or *Olub bein*, the ruler of the Tartars and Marco Polo's caravan. The *Catalan Atlas* was the first to use compass roses, a clear indication that those looking at the map knew about the use of the magnetized needle to indicate direction. Besides the illustration of boats on the *Beatus mappaemundi*, the *Catalan Atlas* cartographer is the first known to provide depictions of sea-going vessels on a world map. The *Atlas* has depictions of five ships. One is probably an effort to describe a Chinese junk off the south coast of Asia and another similar one in the Indian Ocean. Near this illustration is an open boat with pearl divers. A fourth ship is located in what is intended to be the Caspian Sea. And the fifth ship, a *galley*-like vessel with four men and an Aragonese flag, is depicted off the west coast of Africa, just south of the Canaries with a caption that identifies the captain as Jacme Ferrer, a Catalan who left on 10 August 1346 to find the fabled *River of Gold* which was said to flow somewhere in Senegal. In this spirit of critical realism, Cresques and his fellow Catalan cartographers of the 14th century threw off the bonds of tradition and anticipated the achievements of the Renaissance.

The work falls into three equal sections: the preliminary text and diagrams; a *portolan* chart of the Mediterranean and Black Seas; and the latter's eastward extension as far as China. Together, they form a cosmographical encyclopedia, a digest of the Earth and Heavens that conveys the inextricable medieval mixture of astronomy and astrology, of observation and superstition. Though the *Catalan Atlas* is similar to other *portolan* charts of its era with its inclusion of calendrical information and its conventional use of colored inks and ribbon-like scale gradations, certain elements distinguish it. It is one of the earliest maps to include a wind rose and contains many references to the *Old*

Testament in its description of natural sites (such as the Red Sea). Most significantly, and unlike similar medieval charts, the *Catalan Atlas* indicates interior sites such as oases, rivers, mountains, and charming towns with walls and towers, and denotes the differences between Christian and non-Christian localities by placing either a cross or a cupola on the central tower, respectively.



An attempt at illustrating a Chinese junk located in the Indian Ocean

The *Catalan Atlas* stands in marked contrast to earlier medieval maps of Africa, which are filled with monsters, beasts, and grotesques — the farther from Europe, the more outlandish the representations of nature and humankind. Like medieval wonder books, those maps offered an Africa filled with men without noses and ants as big as dogs. By contrast, the *Catalan Atlas* sports

delicate palm trees, tents of nomads, and surprisingly realistic elephants and camels.

The cartographers who made the *Catalan Atlas* could describe these distant places with some sense of verisimilitude, rather than speculative fantasy, because they knew them, or at least had a comfortable familiarity with them.

We know that the two men who spent two years making the *Catalan Atlas* were Majorcan Jews, Abraham and Jahuda (also called Jafuda and Judah) Cresques, a father-and-son team recognized far and wide for their mapmaking skills. Abraham had been appointed by royal decree as *magister mapamundorum et buxolarum* [master of maps and compasses]. His son was titled simply “the Map Jew.” The Cresques were not the only mapmaking Jews on Majorica, which was known as a center of maritime activities and for its highly developed commercial and intellectual life.

Six years after the *Catalan Atlas* was presented to Juan of Aragon, he received a message from Charles VI of France requesting an atlas of the world made by the cartographers from Majorca. Little more than a dozen years after the king of France received the *mappamundi*, Charles VI expelled all Jews from France.

The *Catalan Atlas* has rested in that country since the day it arrived there six centuries ago. And what of the mapmakers? On 2 August 1391 riots broke out in Majorca. Three hundred Jews were killed and, soon after, eight hundred forcibly converted. Jahuda Cresques was one of them. The cartographic world knows him by the moniker he used during his later employment at the Academy at Sagres, established by Prince Henry the Navigator: Master Jacomes from Majorca.

The *Catalan Atlas* illustrates an economic, political and social view of an interconnected world. Through its illustrations of rulers and travelers, native peoples, animals and beliefs systems it shows knowledge of a world that, though perhaps was only just coming into sharp relief for many Europeans, had been building for centuries. The emphasis on travel and movement within the *Atlas* stresses the existence of the routes by land and sea that physically connected the cultures depicted. They are almost as numerous as the branching starburst patterns that link the physical geographic map to the cosmological charts that precede it. The charts indicate that the globality illustrated within the *Atlas* also extends to describe the connection of man to the surrounding universe. The world described by the *Atlas* is limited; it illustrates mostly a European point of view and mixes empirical knowledge with theological and political creation. At the same time, it reflects communication and connection between peoples, especially between the Jewish, Islamic and Christian cultures of the time. It is an attempt to use the accumulated information taken from communication between cultures to portray a more complete idea of the world while illustrating how cosmology, trade, religion and politics coexist within and outside the geographical boundaries of the *Atlas*. It represents a more complete and complex vision of communication between medieval cultures emerges. The world it describes is not one of cultural isolation but of a steady and growing knowledge, not just of the geographic contours of the world, but of the diverse people who inhabit it.

In a recent article by Michael Ferrar he states that this beautiful *Atlas* was an attempt to surpass the only extant data, that of al-Idrisi (#219), and it comes at a time of turmoil in the Arab/Jewish communities and is also a chance for the "Christian Kings" to show their dominance of the world. Using a Jewish illustrator/illuminator was obviously pragmatic but in all probability stems from the fact that at the time only Majorca in the Aragonese world had a cartographer, A. Dulceti. The early texts, all over 100 years old, which have investigated this *Atlas* have all included one simple fact; the Mediterranean Sea Basin as drawn is a direct copy of the 1339 Dulceti *portolan* chart, which again can simply be proven by using a tracing overlay of the two with the scale bars equalized. Ferrar believes the 1375 *Atlas* is a work composed by cartographers and executed by an accomplished illustrator/illuminator. The historical content was gathered slowly by the atelier, particularly Arab texts that it appears Abraham Cresques knew of and could read, and this included the work of al-Idrisi as the crown of Aragon captured Majorca ca. 1229 and later Sicily in ca. 1302. Hence there is no reason why the al-Idrisi documents should not have been available and in various languages as they were all translated simultaneously. Further he speculates that there are two pages, 64.5 x 50 cm each missing from the extant *Atlas* as held by BnF Paris, and thus it is open to Ferrar to opine that it would have looked very different in 1380 to that which we now admire. Thus there are eight pages 64.5 x 50 cm comprising a frontispiece, calendar, cosmography and five sheets incorporating the world map from the Atlantic islands to the east coast of China. Is it correct, who knows?

LOCATION: Bibliotheque Nationale (BnF), Paris

SIZE: 65 x 50 cm @, 12 panels; 2 ft. 1.5 in. x 1 ft. 7.5 in.

REFERENCES:

Beazley, C., *The Dawn of Modern Geography*, vol. 3, pp. 525 - 526.

*Bricker, C., *Landmarks in Mapmaking*, p. 148.

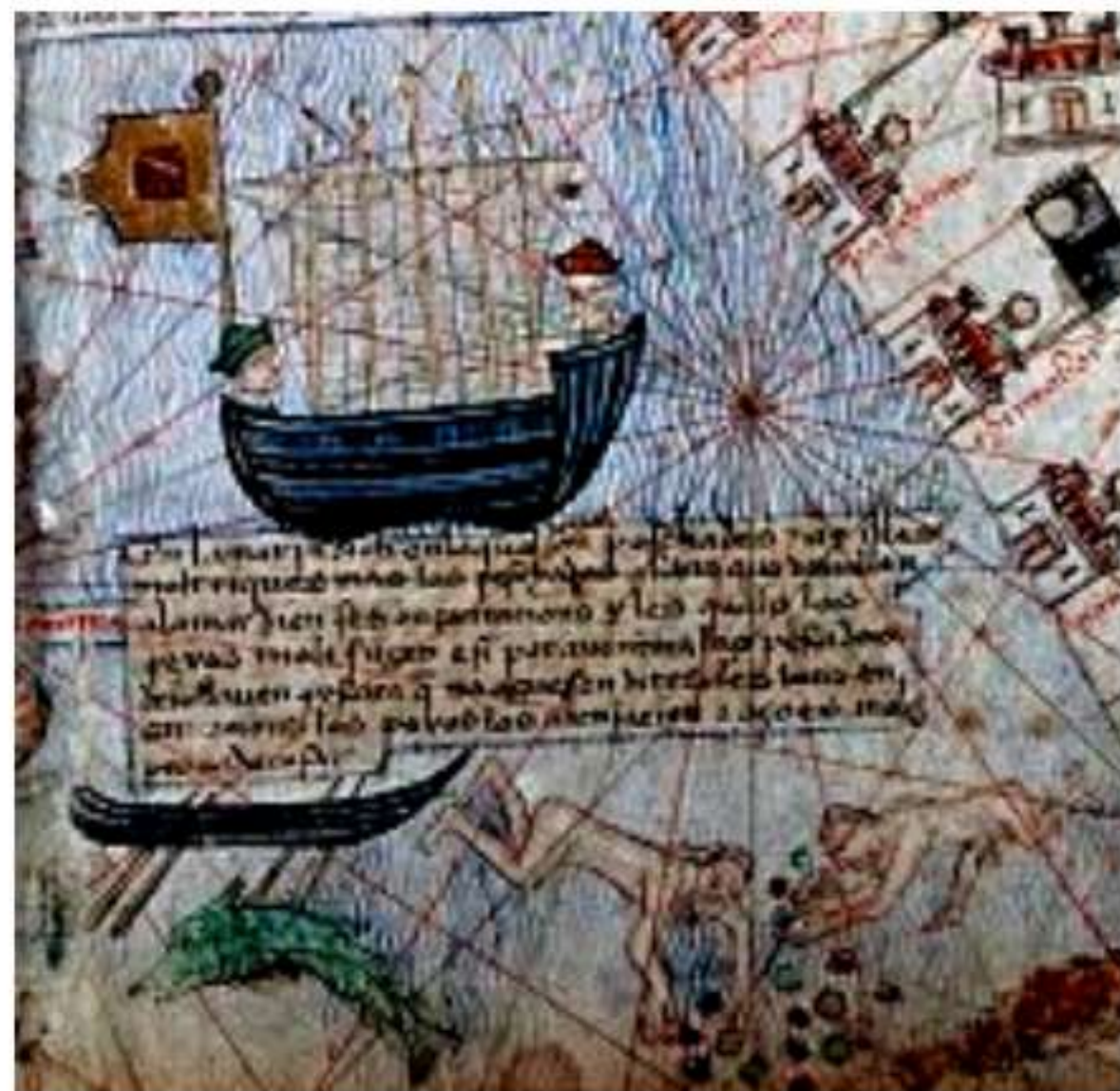
- *Brotton, J., *Great Maps*, pp. 62-65.
- Campbell, Tony, "Review of *Mapamundi. The Catalan Atlas of the year 1375*", *Imago Mundi*, 33:115-116.
- *Crone, G.R., *Maps and their Makers*, pp. 39-50.
- *Divine, D., *The Opening of the New World*, pp. 81, 152.
- *Edson, Evelyn, *The World Map, 1300-1492*, pp. 55, 74-86
- Falchetta, Piero, "Manuscript No. 10057 in the Biblioteca Marciana, Venice "A possible source for the Catalan Atlas?", *Imago Mundi*: 46:1, pp. 19-28.
- Ferrar, Michael, "ChCATA/1; The 1375 Atlas, Known as Catalan, What Has Been Missed in Other Research?", 2019.
- George, W., *Animals and Maps*, pp. 12, 13, 39.
- **Glorious Age of Exploration*, pp. 306, 401.
- *Goss, John, *The Mapmaker's Art, An Illustrated History of Cartography*, Rand McNally, 1993, pp. 46-47, Plate 2.16.
- ***Grosjean, G., *Facsimile Edition of the Catalan Atlas*, 1977.**
- *Harley, J.B., *The History of Cartography*, Volume I, pp. 314-15, 356, 358, 432, Plates 17, 32
- Holland, K., *Looking Beyond: Globalization in the Catalan Atlas of the Fourteenth Century*, University of North Texas, 2010.
- Kimble, G.H., *Geography of the Middle Ages*, pp. 191-195.
- *Landström, B., *Bold Voyages and Great Explorers*, p. 158.
- Liscák, Vladimír, "Asia and Africa in Medieval European maps of the fourteenth and fifteenth centuries", Oriental Institute, Czech Academy of Sciences, Praha (Prague), Czechia, Graduate Institute of Cross-Cultural Studies, Fu Jen Catholic University
- *Ludmer-Gliebe, S., "Golden Rhumb Lines of Connection", *Mercator's World*, Volume 4, Number 2, pp. 58-61.
- *Massing, J.M., "Observations and Beliefs: The World of the Catalan Atlas", *Circa 1492*, pp. 27-33.
- *Nebenzahl, K., *Atlas of Columbus*, pp. 6-8 Plate 2.
- *Nebenzahl, K., *Maps of the Holy Land*, pp. 10, 35, 47-49.
- *Nebenzahl, K., *Mapping the Silk Road and Beyond*, 1.12, pp. 38-41.
- Riera, Jaume, "Cresques Abraham, Jew of Majorca, Master of Mappaemundi and Compasses"
- Scafi, A., *Mapping Paradise: a History of Heaven on Earth*. Chicago: University of Chicago Press, 2006.
- Schmieder, Felicitas, "Here Many Saracen Pilgrims Wander To Mecca" – On the Role of Pilgrimage, Shrines and Worshipping on Latin-European Medieval World Maps (Mappae Mundi)", *On the Road in the Name of Religion II*, 2016, pp. 13-27.
- *Skelton, R.A., *Explorers' Maps*, p. 20.
- Talbert, Richard J.A., Unger, Richard W. Eds. *Cartography in Antiquity and the Middle Ages: Fresh Perspectives, New Methods*. Leiden: Brill, 2008.
- *Van Duzer, C., *Sea Monsters on Medieval and Renaissance Maps*, pp. 43-44, 46-47.
- *Unger, R.W., *Ships on Maps*, pp. 48-51.
- Winsor, J., *Narrative and Critical History of America*, p. 55.
- Yule, H., *Cathay and the Way Thither*.

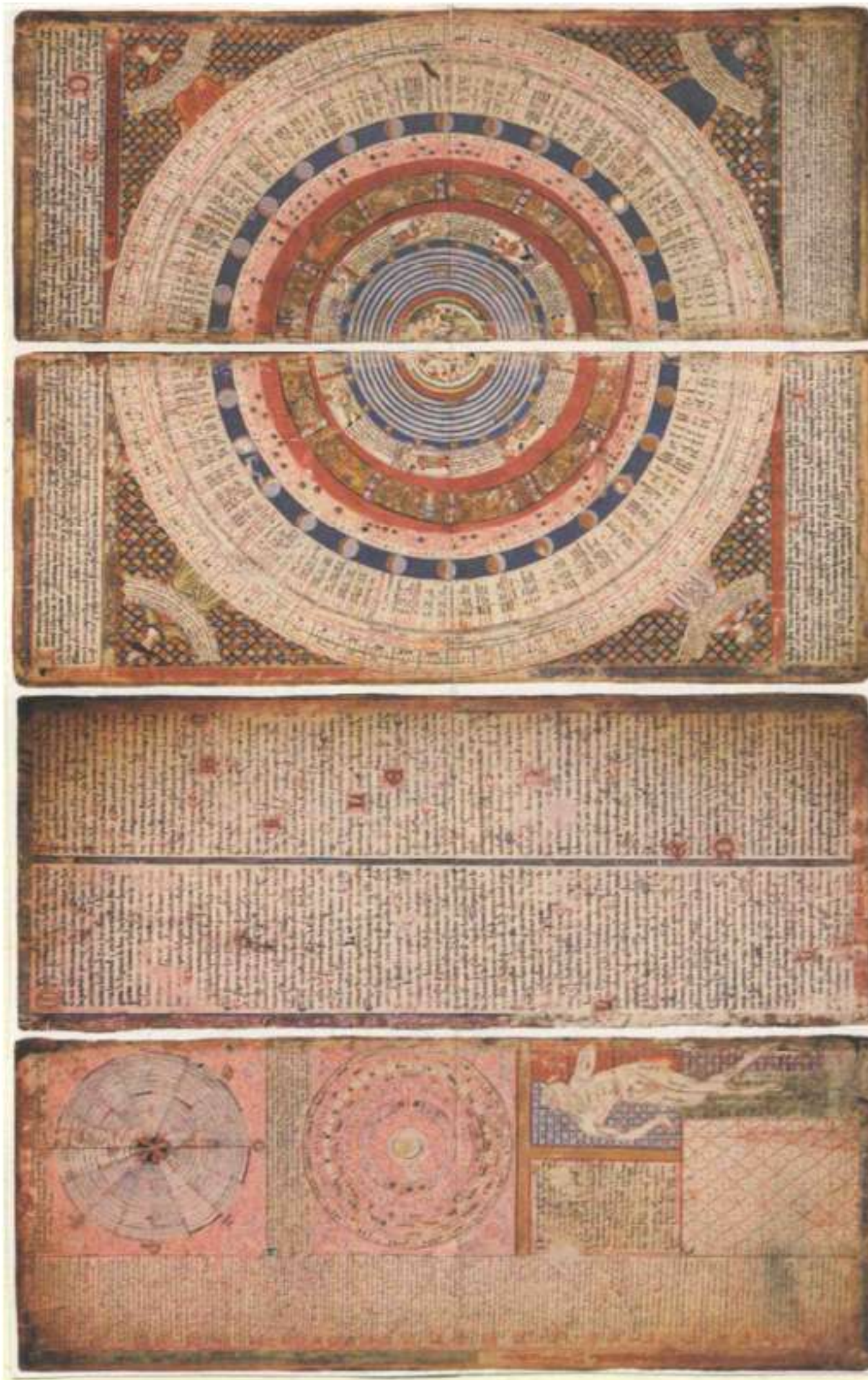
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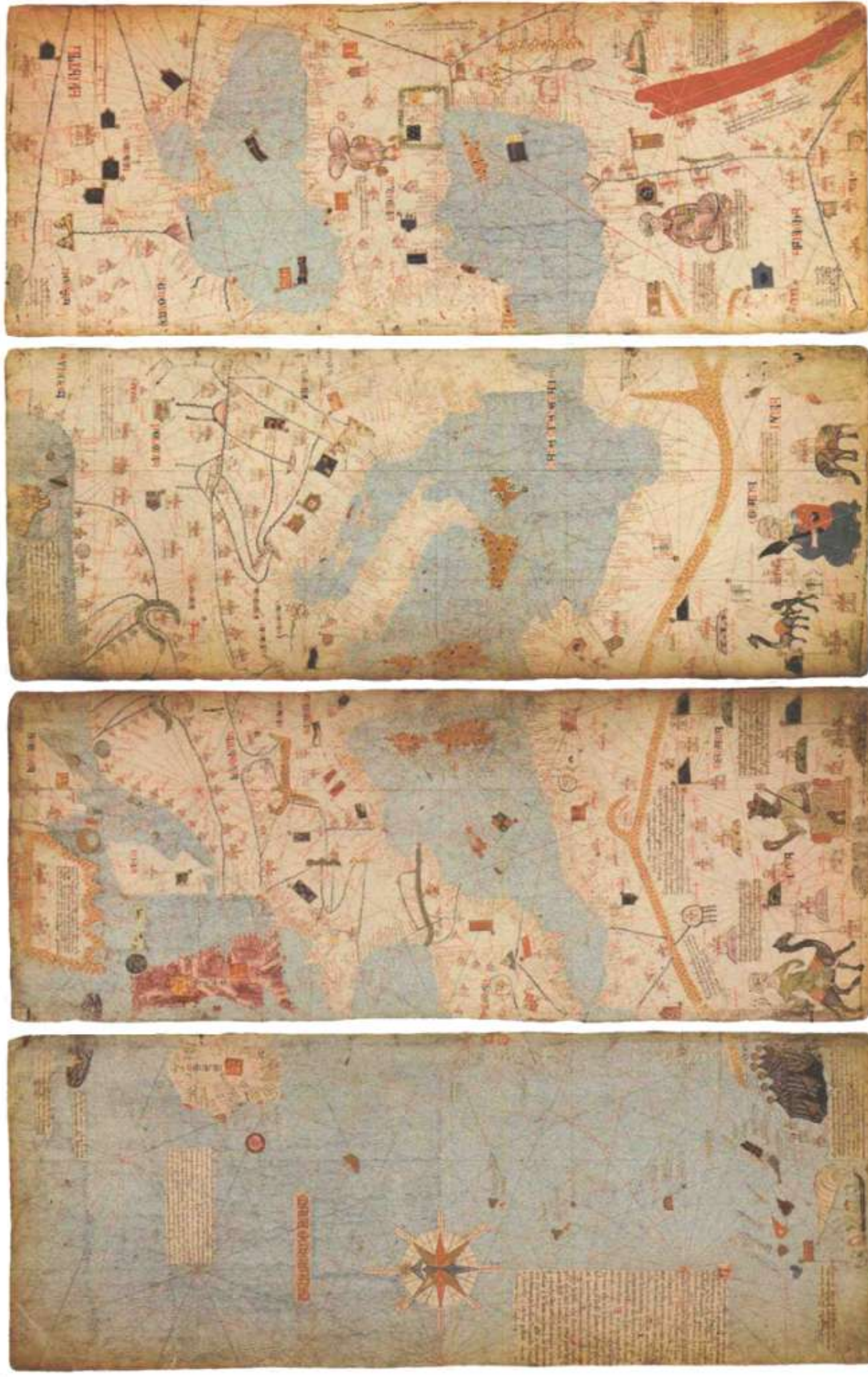


Left: A ship illustrated in what appears to be the Caspian Sea

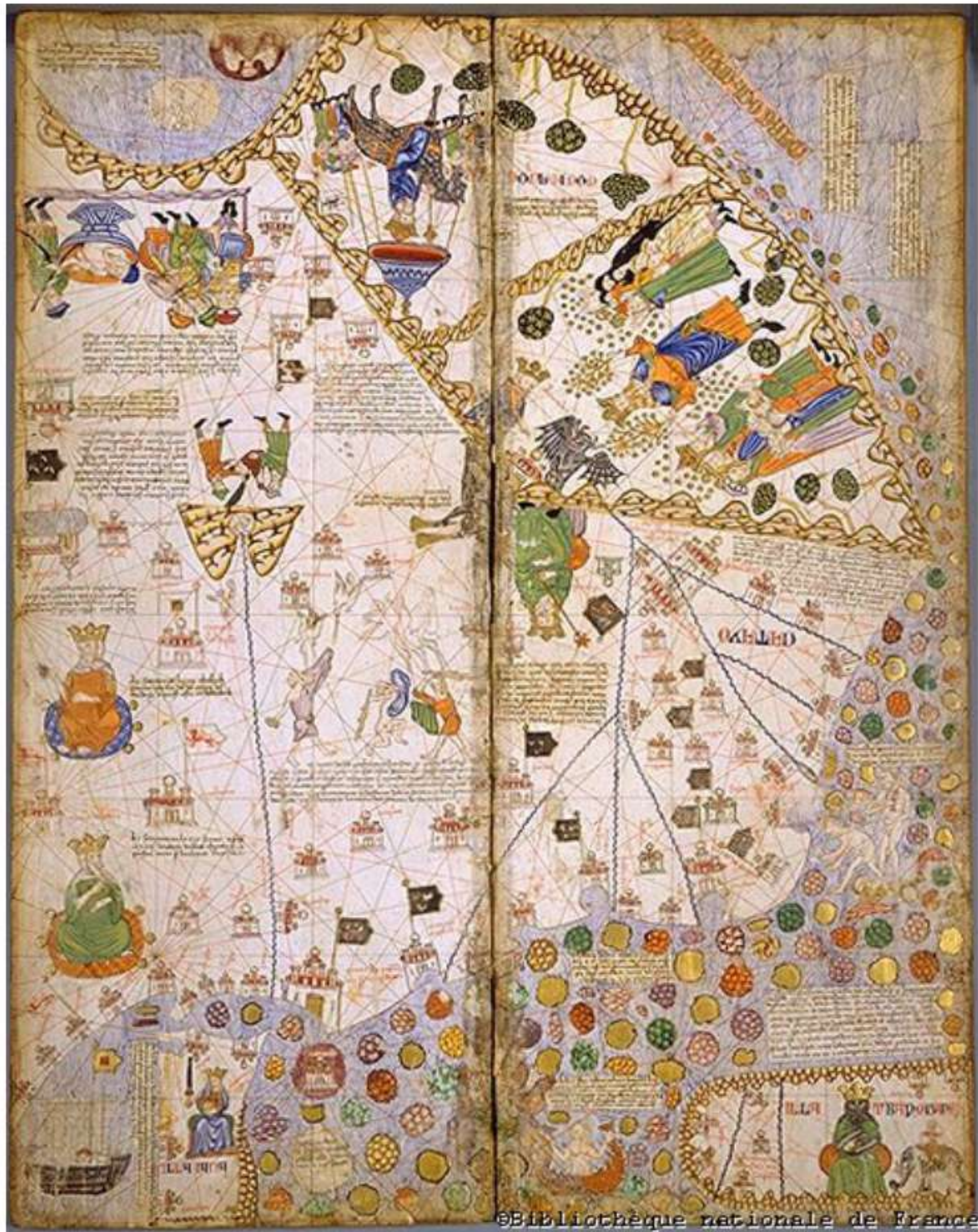
Below: a Chinese junk-like vessel and pearl divers in the Persian Gulf



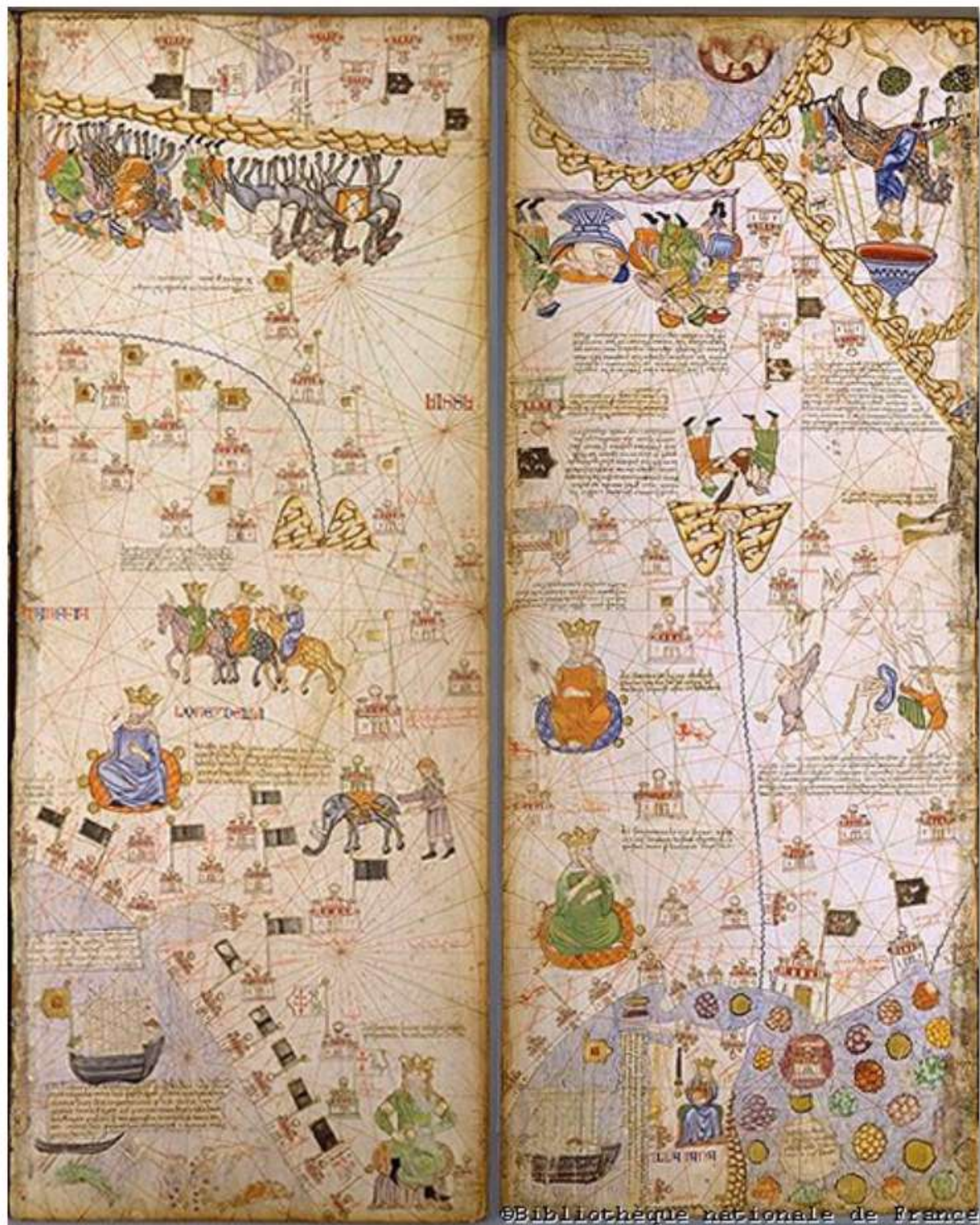




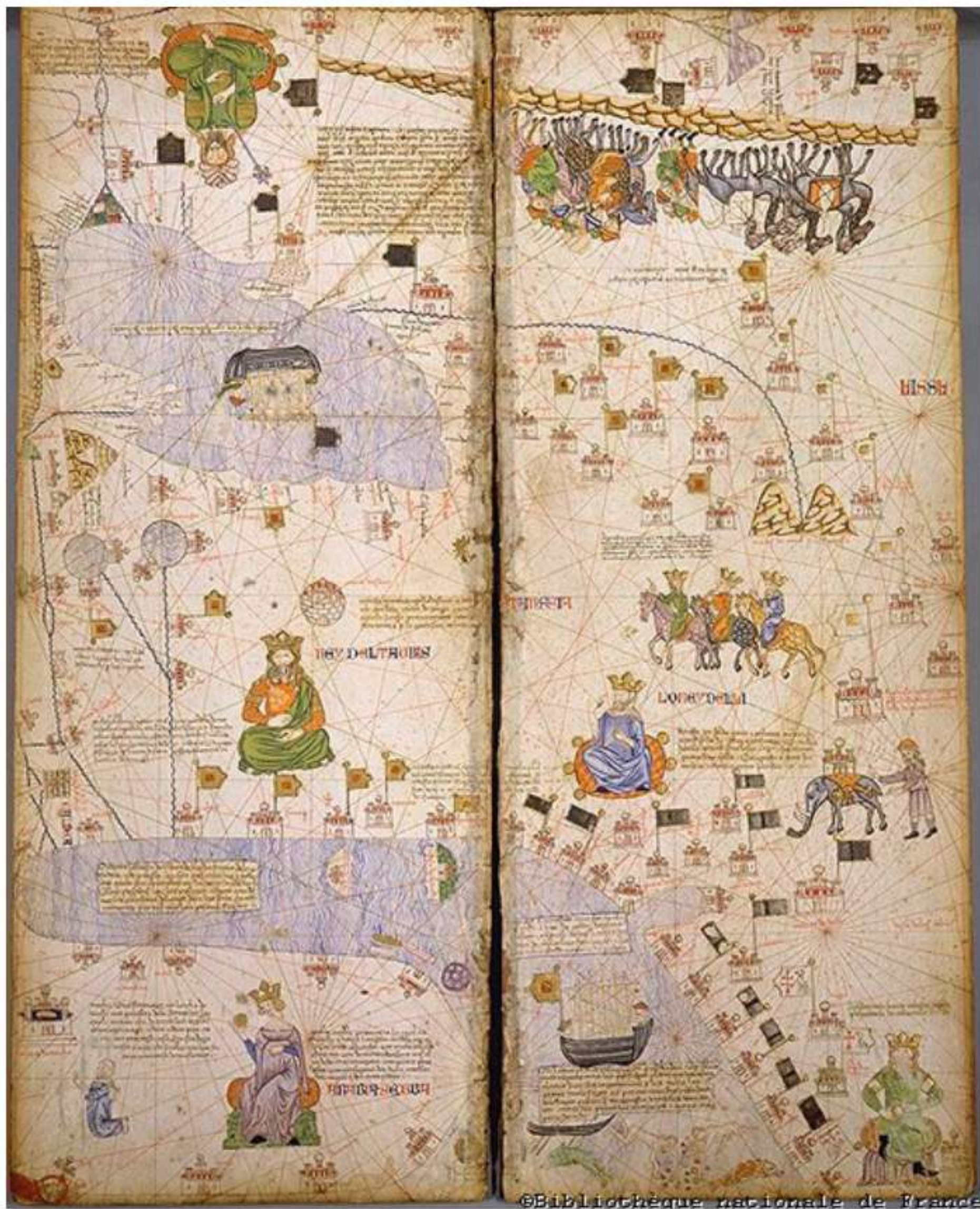




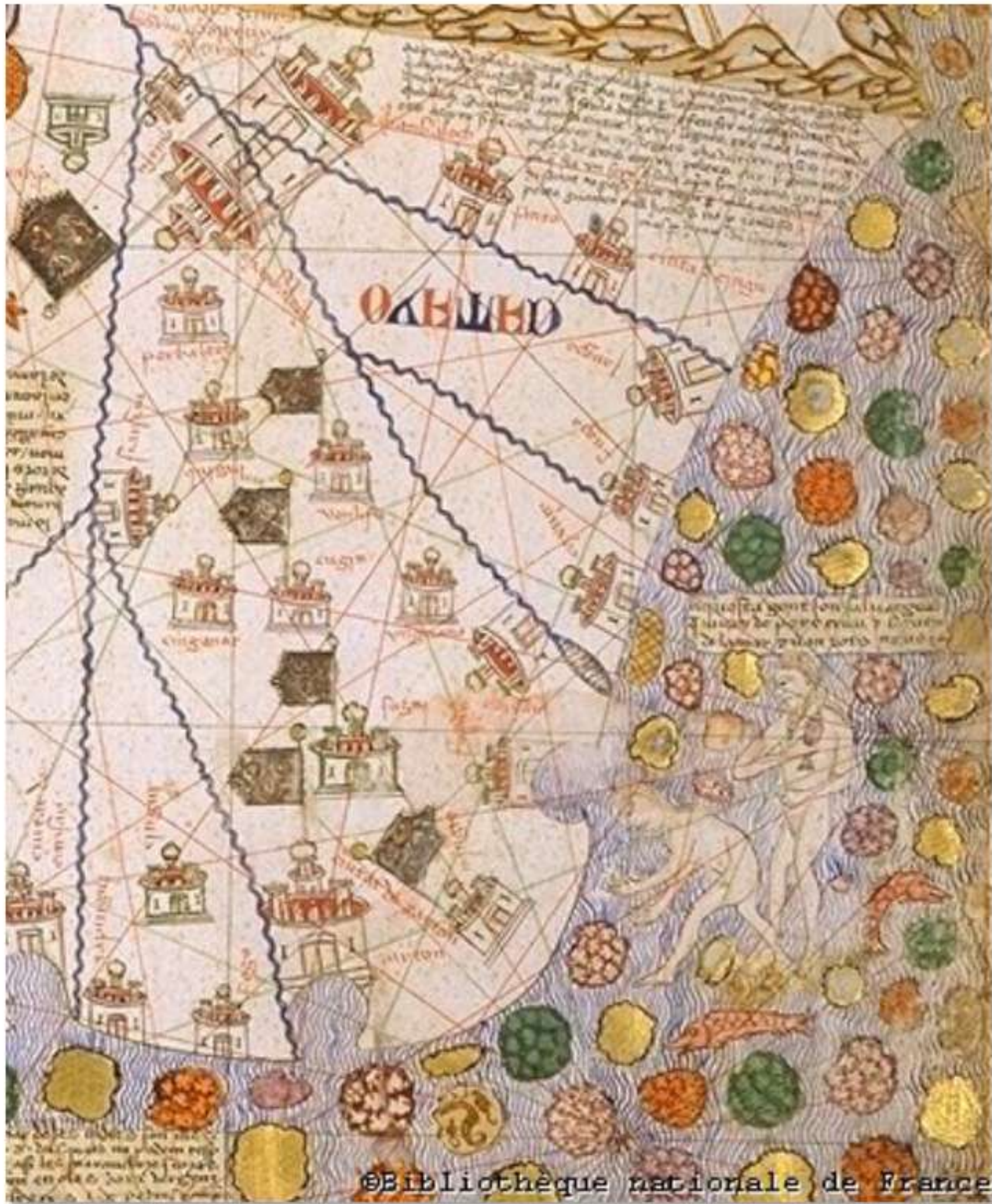
The left panel displays the Khan of 'the Empire of Media [Chaghadai], the ruler of Gog and Magog (on horseback, top right), Lop, Tenduc, two men hunting for diamonds with eagles (center) and India (bottom). At the top of the second panel is Khanbalikh extending for two miles and to its left (upside down) is the Great Khan said to be guarded by 12,000 horsemen. One sees Quinsai, Fugu, Zaiton represented as a great port. In the Sea of Chin are Java and 7,458 islands with the promise of 'gold, silver, spices, precious stones'. Tabrobana often taken in the West to be Sri Lanka [Ceylon], but here perhaps Java, has an impressive ruler and an Indian elephant, and to the left a Siren.



At the top of the left panel a representation of the Polo caravan (upside down) departing from the Empire of Sareas (i.e., Sarai or the Kipchak Khanate). 'This caravan has left the empire of Sareas to go to Cathay'.



The Black Sea, Central Asia, Arabia, Caucasus, Queen of Sheba, caravan, the Magi, three ships (one in the Caspian Sea, two in the Persian Gulf)



Catalan Atlas detail: China

Aquesta gent son salvatges...

These people are savages; they live on raw fish, they drink sea water and go around naked.

En la mar de les Índies son illes 7548...

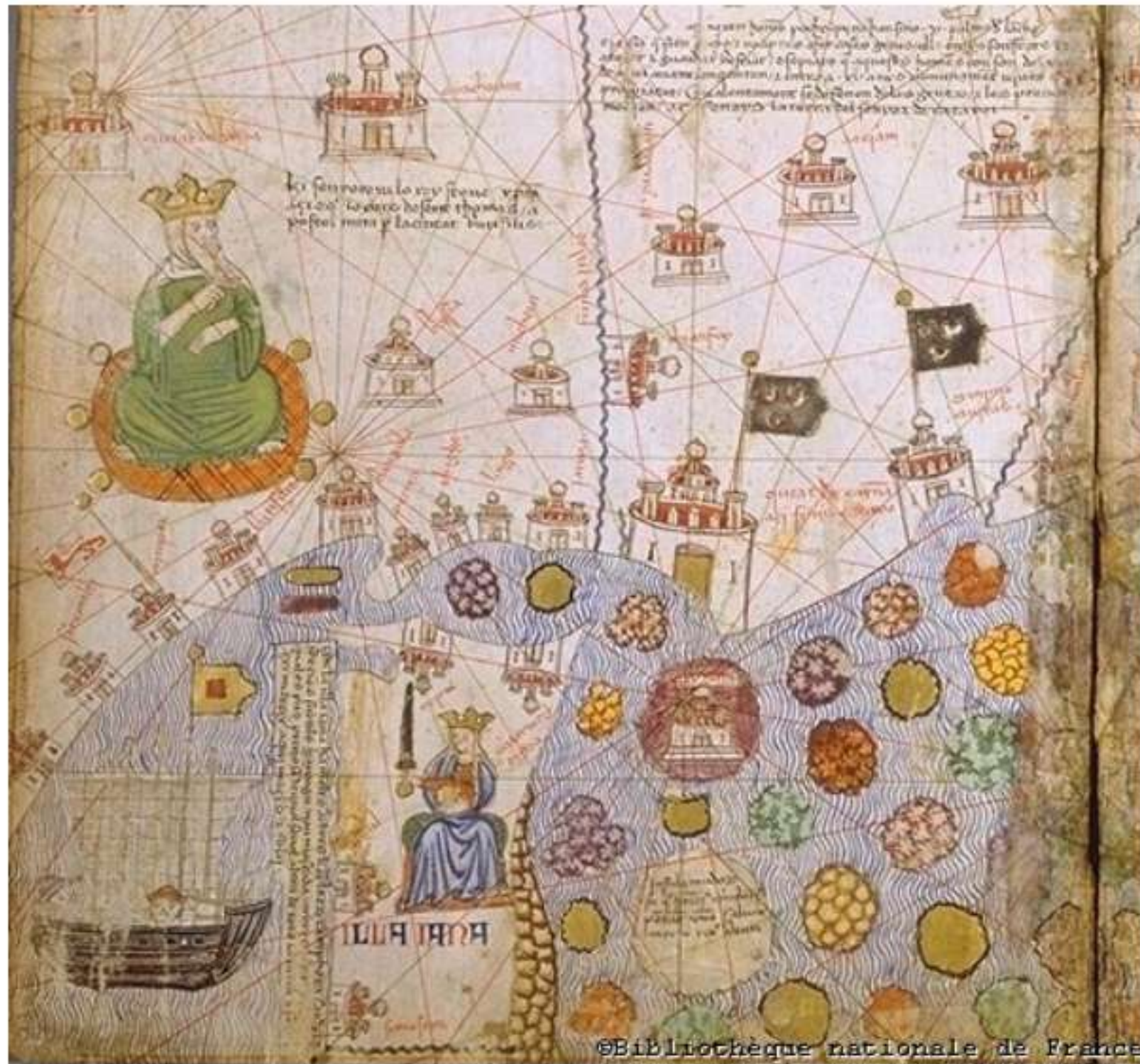
In the Sea of the Indies [China Sea] there are seven thousand five hundred and forty-eight islands whose wonders of gold, silver, spices and precious stones we cannot discuss here.



The Magi following the star, detail of the map of Asia

Aquesta pruvincia és appellada Tàrsia...

This province is called Tarsia, and it is from which the three very wise kings departed and came to Bethlehem in Judea with their presents and worshiped Jesus Christ. They are buried in the city of Cologne, that is at two-day travel from Bruges.

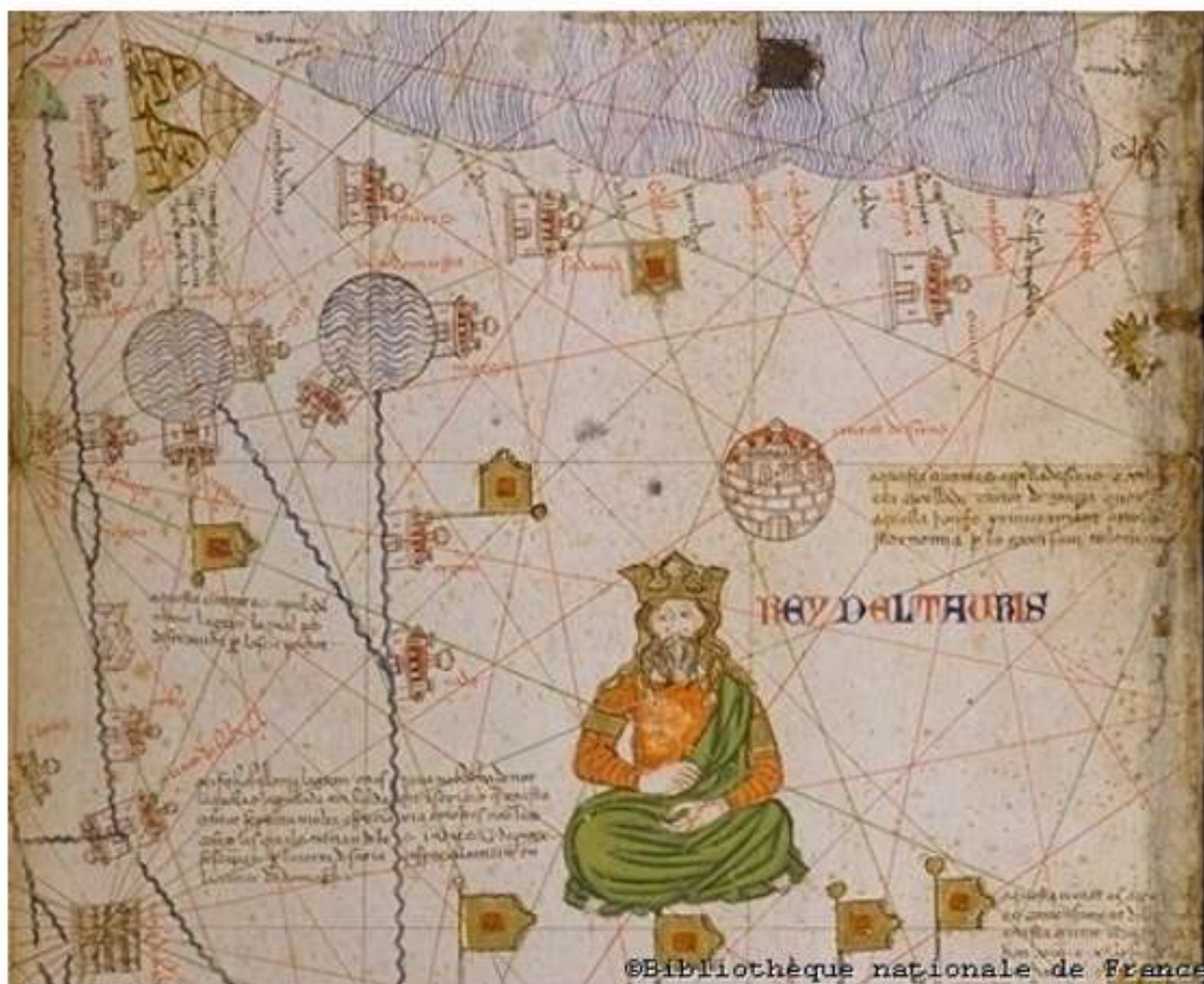


Map of South Asia, representing the Indian Ocean and "Illa Jana", the Amazon kingdom

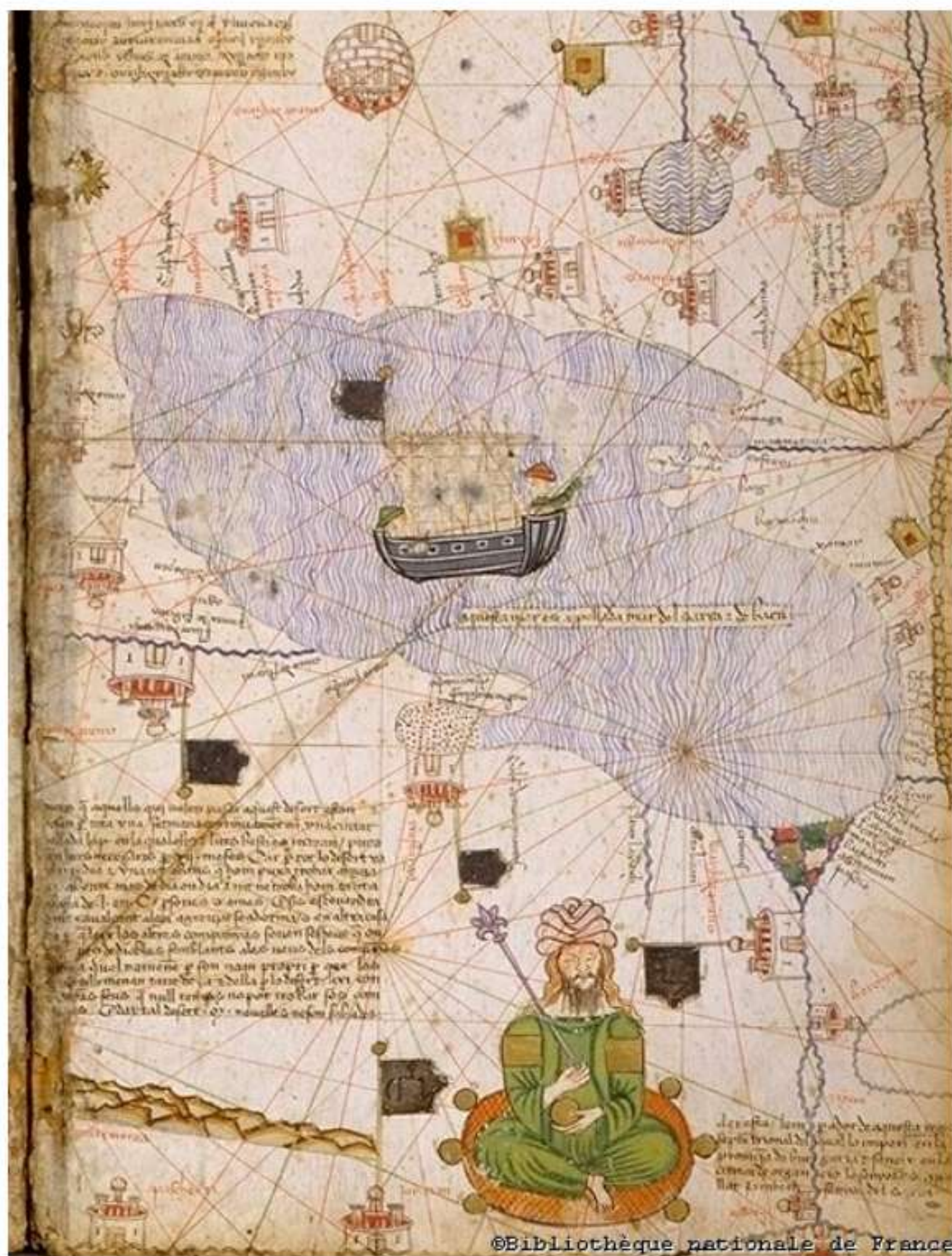


Aquesta caravana és partida del Imperi de Sarra...

This caravan has departed from the Empire of Sarra to go to Alcatayo.

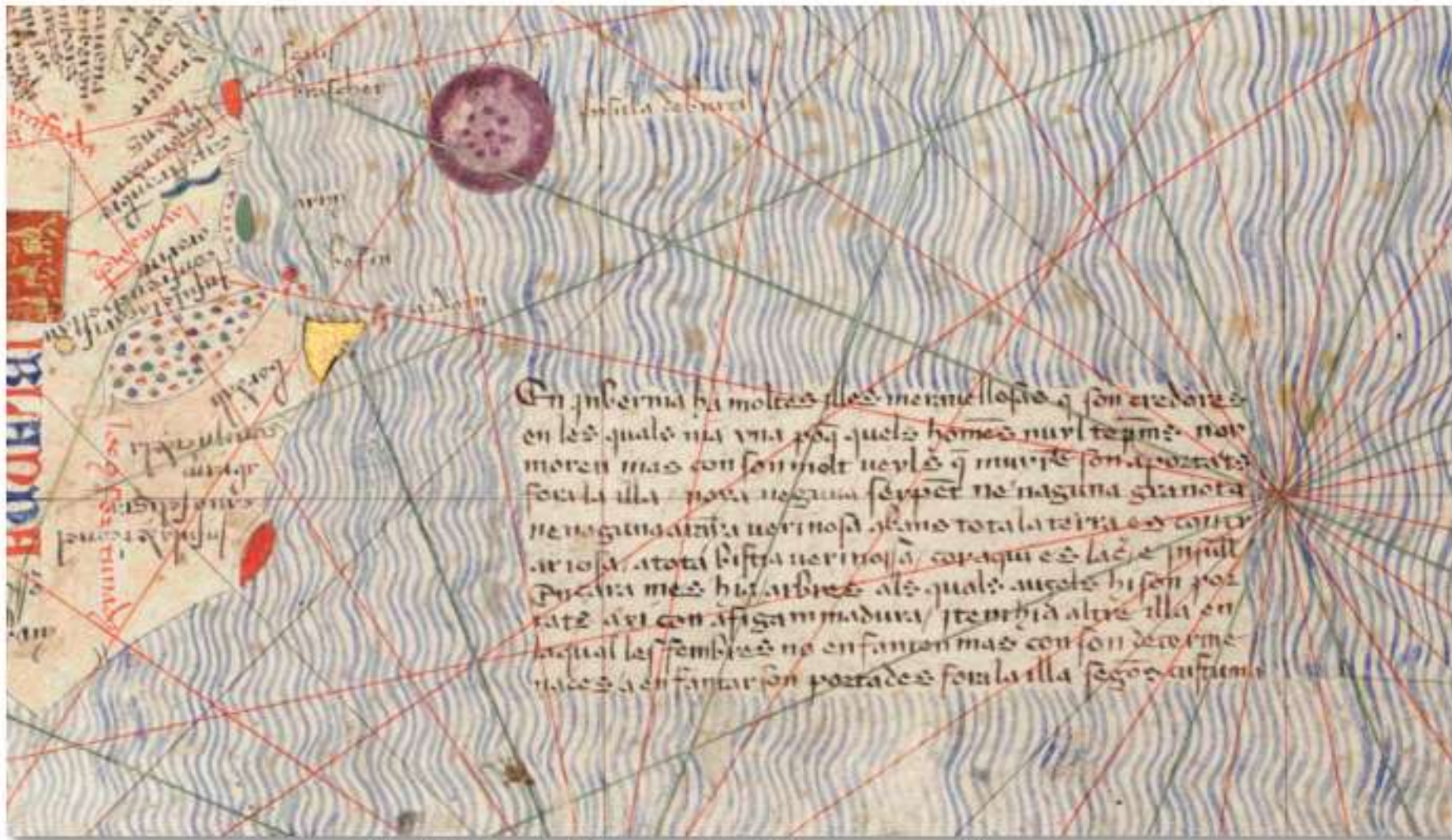


*Map of the Caucasus, The Spherical City, representing the purported birthplace of Ptolemy.
The Sea of Galilee. Noah's Ark on Mount Ararat. King of Tauris*



Map of the Caspian Sea. Noah's Ark on Mount Ararat (upper right).
Janibeg (bottom center)

Legends (Source: gallica.bnf.fr / BnF)



En Inbèrnia ha moltes illes meravellosas...

In Hibernia [Ireland] there are many wonderful islands whose existence can be credible; among them, there is a small one where men never die, because when they are about to die of old age, they are transported outside the island. There are no snakes, frogs, nor poisonous spiders because the soil repels them given that this is where Lacerie Island [Cléire/Clear Island] is located. Furthermore, there are trees that attract birds like ripe figs. There is also another island where women never give birth because when they are about to give birth, they are taken outside the island as it is customary.



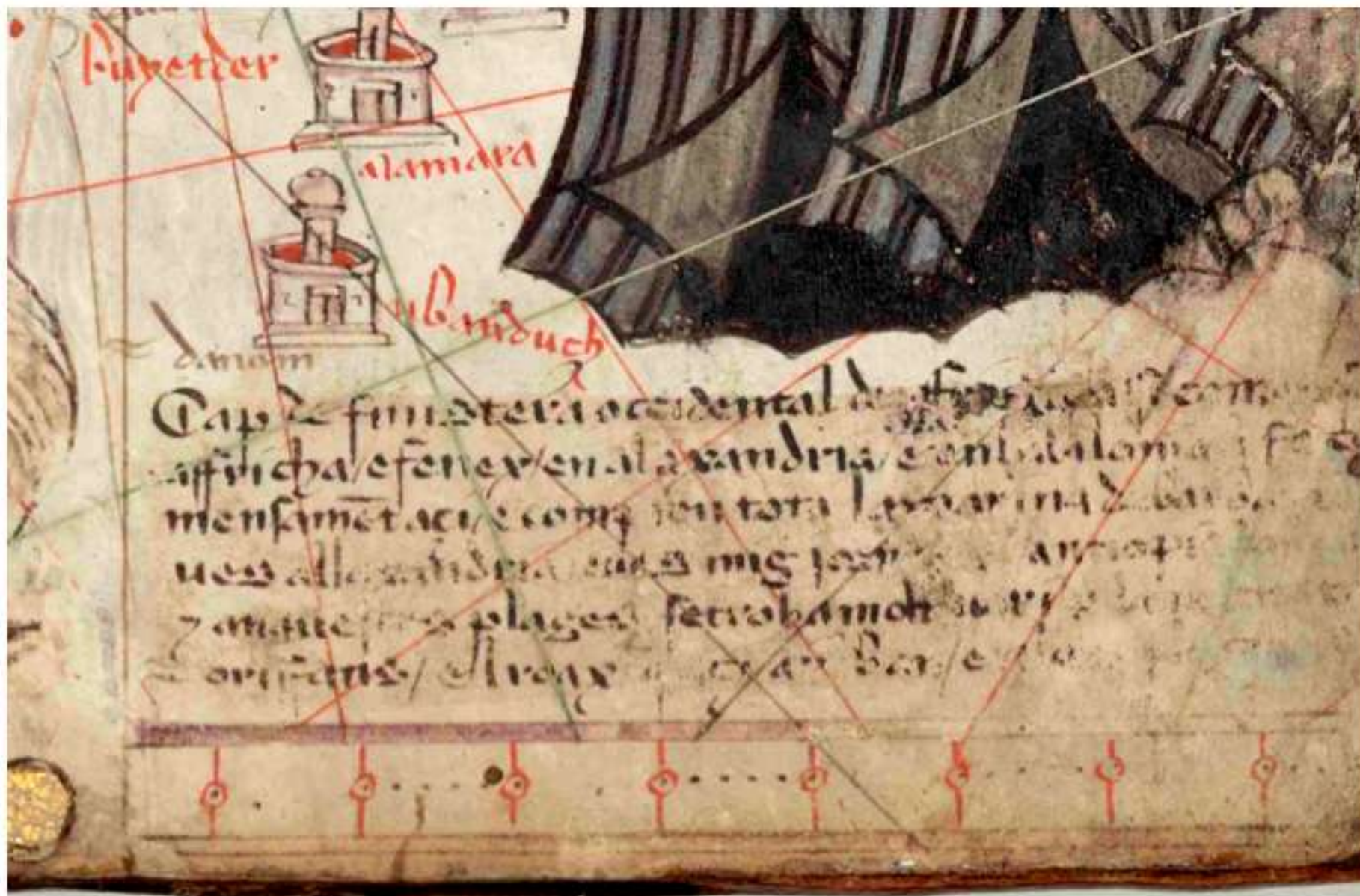
Illa de Stillanda...

Island of Stillanda [Shetland or Iceland], where they speak the language of Norway and are Christians.



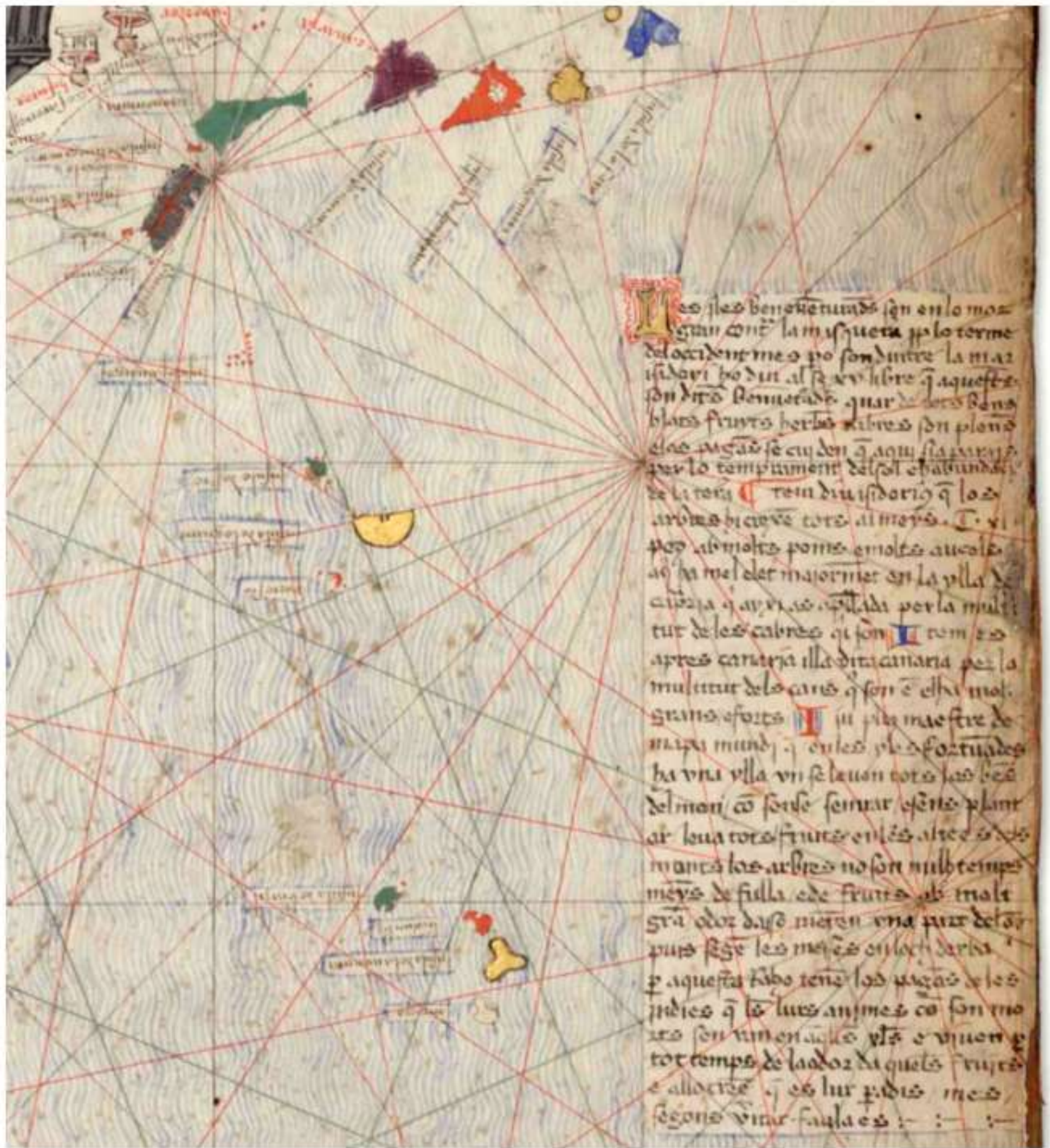
Insula Archania...

Island of Archania. In this island, there are six months of the year in which it is light at night and six months of the year in which it is dark during the day.



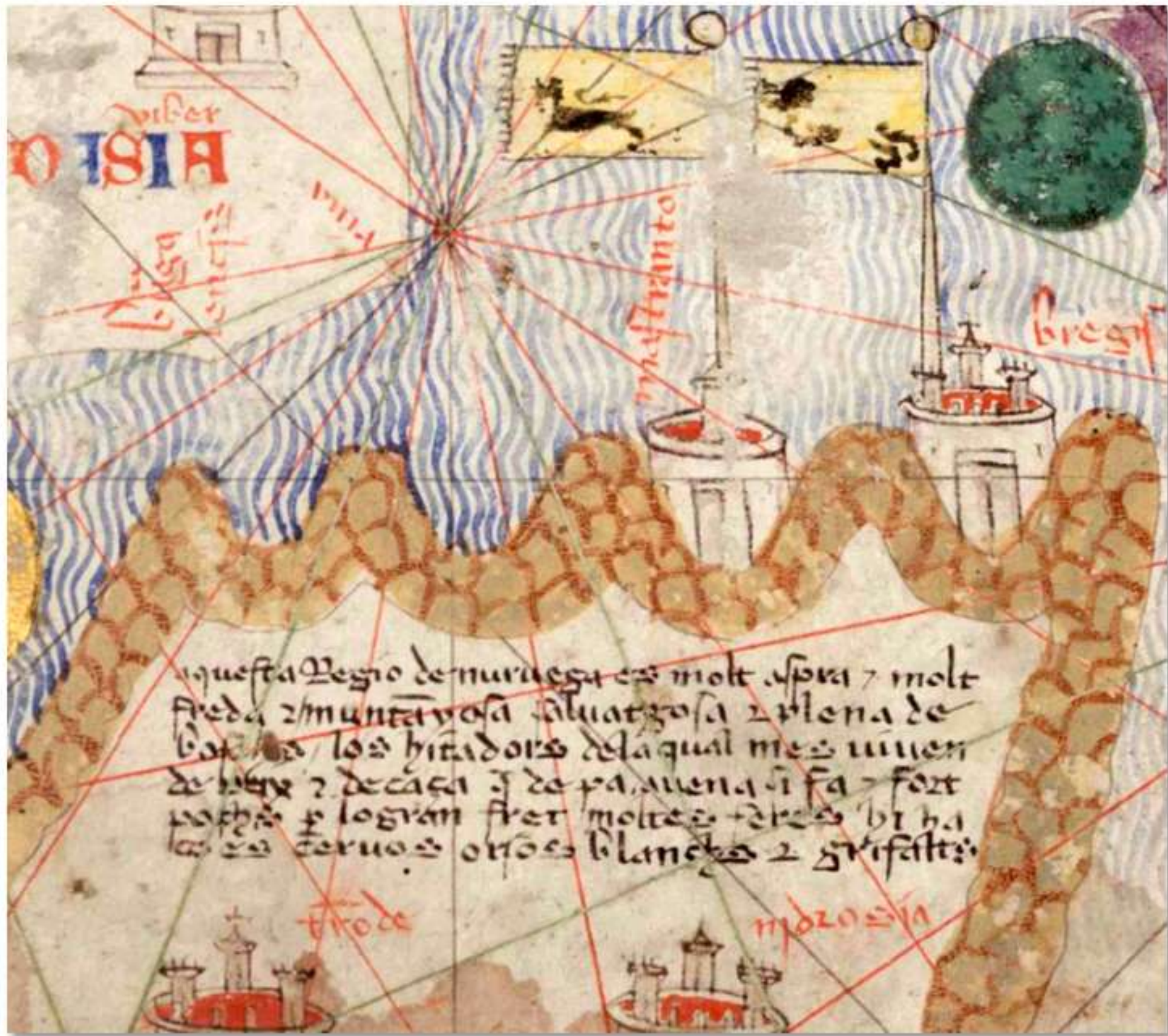
Cap de Finisterra occidental de Àfrica...

Cape Finisterre [end of the land] of Occidental Africa. Here starts Africa, which ends in Alexandria and Babylon; it starts here and encompasses all the Barbarian Coast extending towards Alexandria, towards the south, and towards Ethiopia; in these regions, there is a lot of ivory due to plenty of elephants (...)



Les Iles Beneventurades...

The Fortunate Islands [Canary Islands] are found in the great sea, towards the left and near the end of Occident, but out at sea. Isidore says in his XV book that these islands are called fortunate because there are replete with all sorts of goods: cereals, fruits, herbs, and trees. Pagans believe this is the Paradise due to the mild sun and the plentifulness of the land. Isidore also says that the trees reach 140 feet of height and are full of fruits and birds. Here there is honey and milk, in particular in the island of Capraria, thus named due to the multitude of goats. There is also the island of Canaria, thus named due to the multitude of dogs, big and strong. Plius [Pliny] Master of Mappaemundi says that among the Fortunate Islands there is one with all the goods of the world because fruits grow at the top of the mountains without planting or seeding. Trees are never bare of leaves or without their aromatic fruits. They eat all these things during part of the year for they reap the grass the other part. This is why the pagans from the Indies believe that their souls go to these islands when they die where they live in eternity off the scent of those fruits; they believe it to be their paradise, but the truth is that is a fable.



Aquesta regió de Nuruega...

This region of Norway is very rugged, very cold, mountainous, wild and covered with forests. Its inhabitants eat more fish and meat than bread; there is no abundance of barley because of the reigning cold. There are also many beasts, like deer, white bears, and gyrfalcons.



Tota aquesta muntanya de lonch és appellade Carena...

All this mountain range is called Carena by the Saracens and Claris Mountains by the Christians. Let it be known that in these mountains exist many good cities and castles that battle each other; also in these mountains, there is an abundance of bread, wine, oil and all kinds of good fruits.

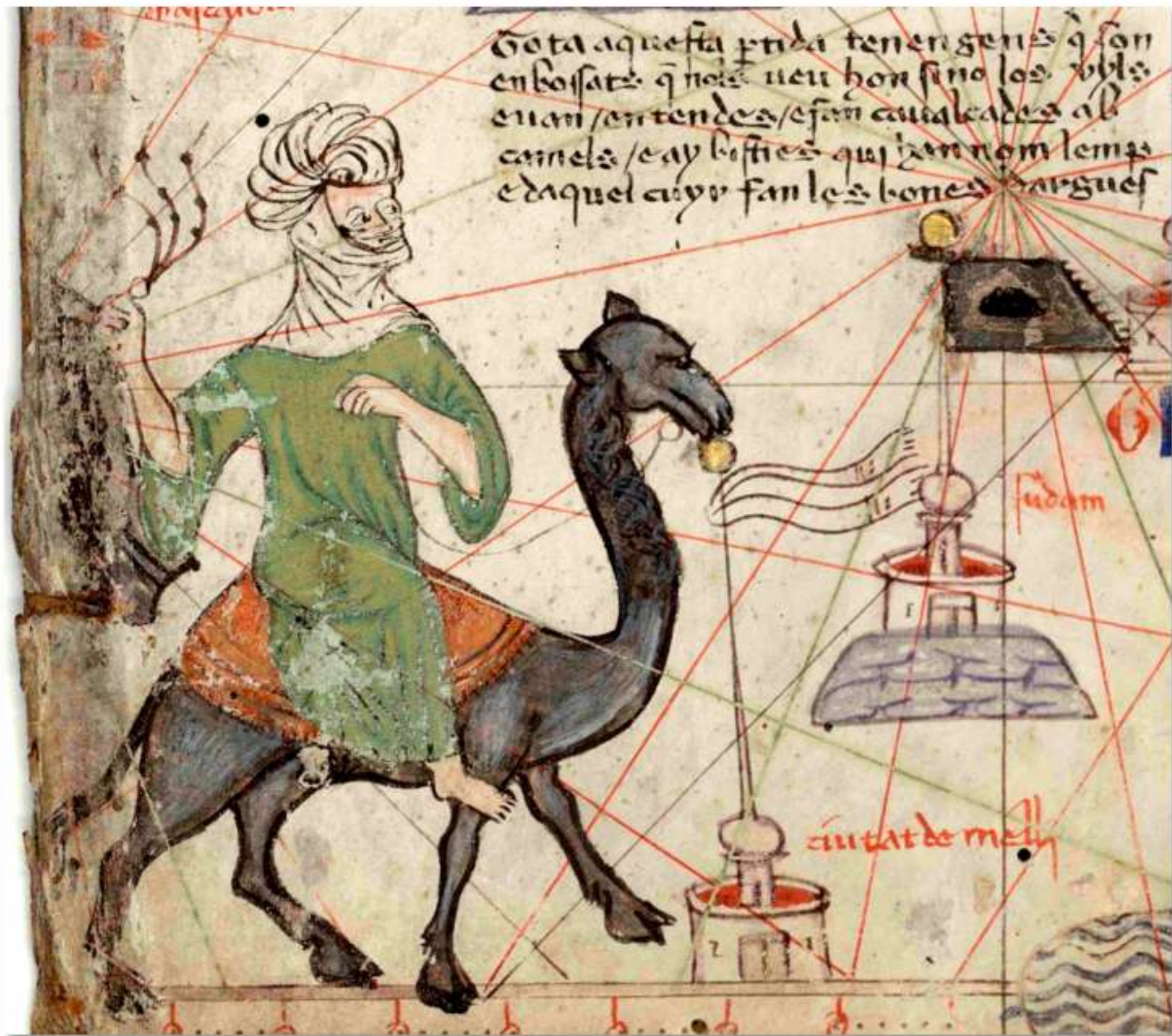


The merchants that enter the land of the negroes of Gineva [Ghana] pass through this place; this pass is called Valley of Darcha.



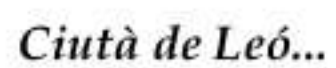
Aquest senyor negre és appellat Musse Melly...

This black Lord is called Musse Melly and is the sovereign of the land of the negroes of Gineva [Ghana]. This king is the richest and noblest of all these lands due to the abundance of gold that is extracted from his lands.

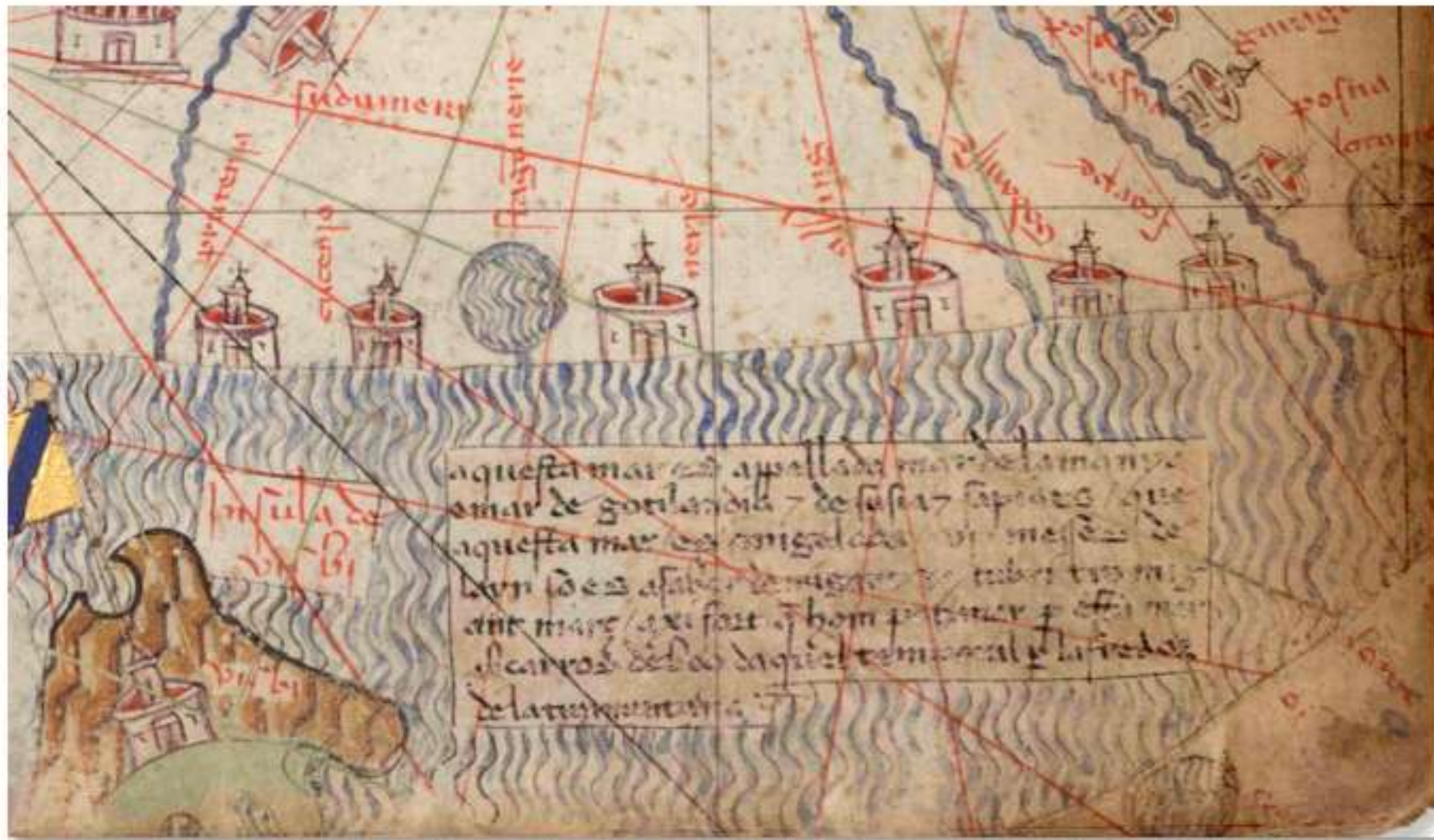


Tota aquesta partida tenen gens qui són embossats...

All this land is populated by people who cover themselves such that only their eyes can be seen; they live in tents and ride in camels. There are animals named lemp [orice] whose skin can be used to make good leather shields.

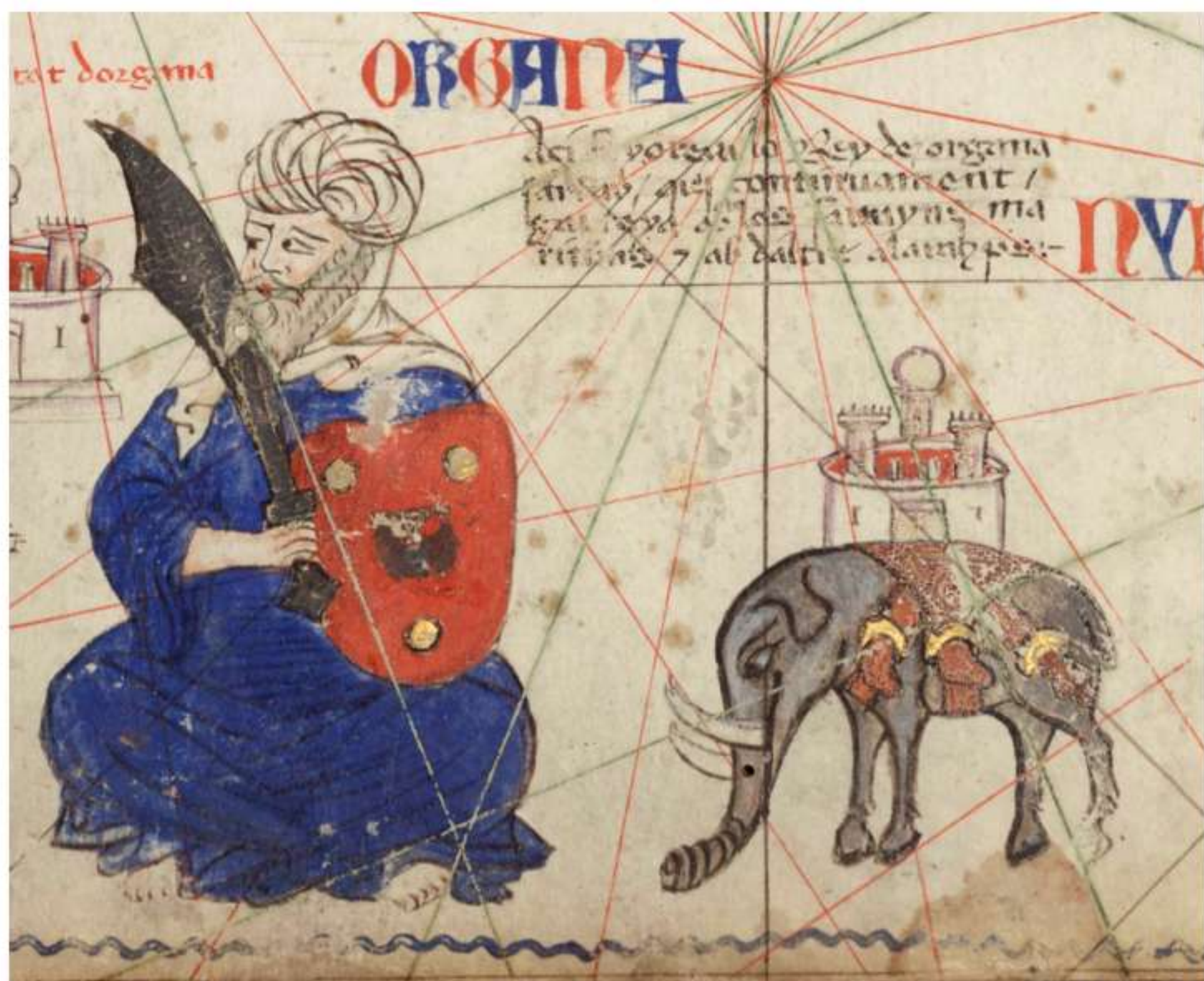


46



Aquesta mar és appallada mar de la Manya e mar de Gotilàndia...

This sea is called Sea of La Mancha, Sea of Gotilandia [Gotland] and Sea of Susia [Sweden]. Let it be known that this sea is frozen during six months of the year; that is to say, from mid-October until mid-March; and it is so hard that one can cross on top of it with an oxcart. The rough weather is due to the cold North wind.



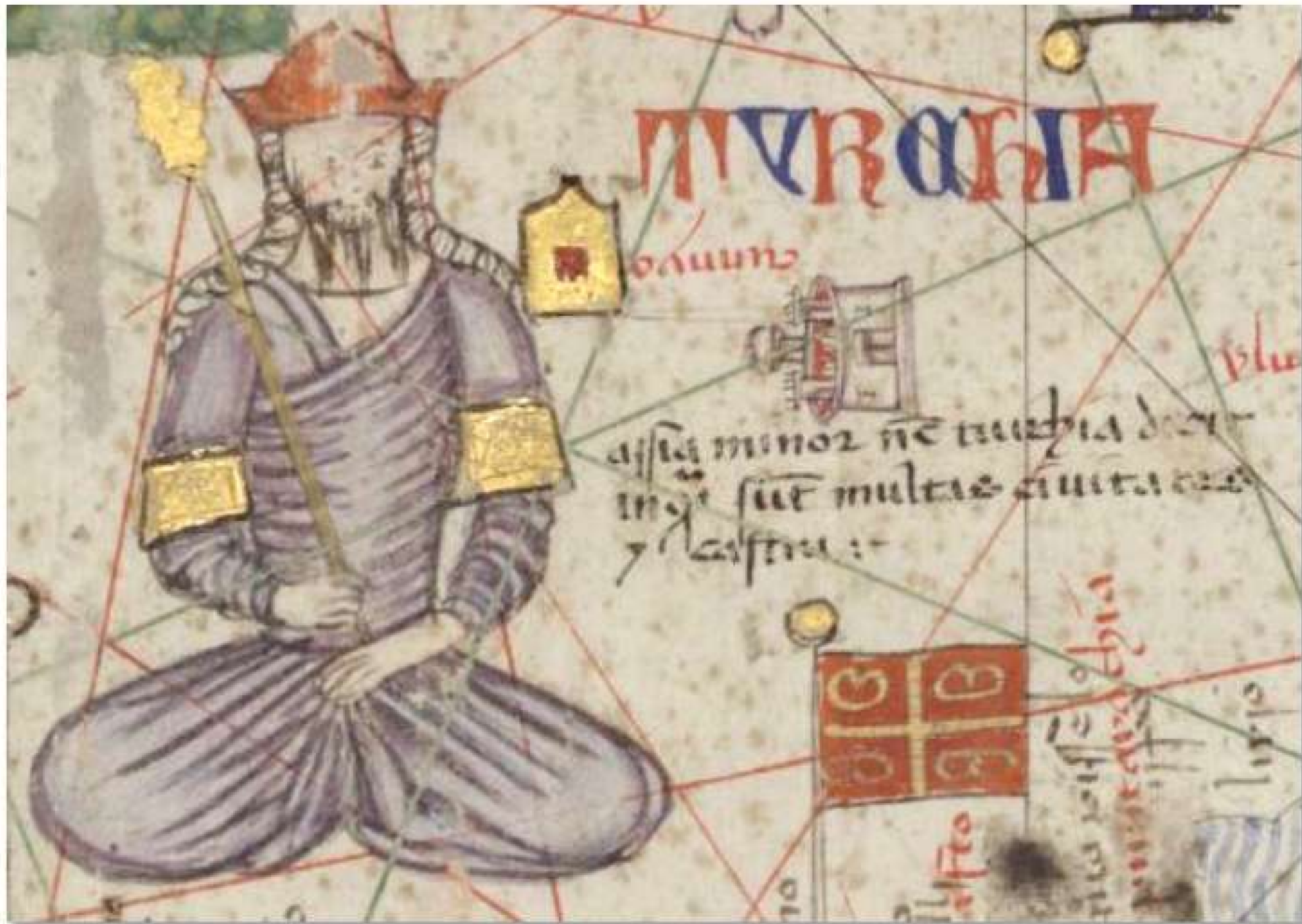
Aquí senyoreja lo rey de Organa...

Here rules the King of Organa, a Saracen that constantly battles with the Saracens of the coast and with other Arabs.



Messopotèmie, la qual és appellada Turchia...

Mesopotamia that is called Asia Minor or Turkey, and where one finds many provinces and cities.



Assia minor...

Asia Minor also called Turkey, where there are many cities and castles.



Aquest estany és appellat...

This lake is called (...) [probably lake Ilmen or lake Ladoga based on Villadestes' map of 1413] and sturgeons and other strange fish grow on it.

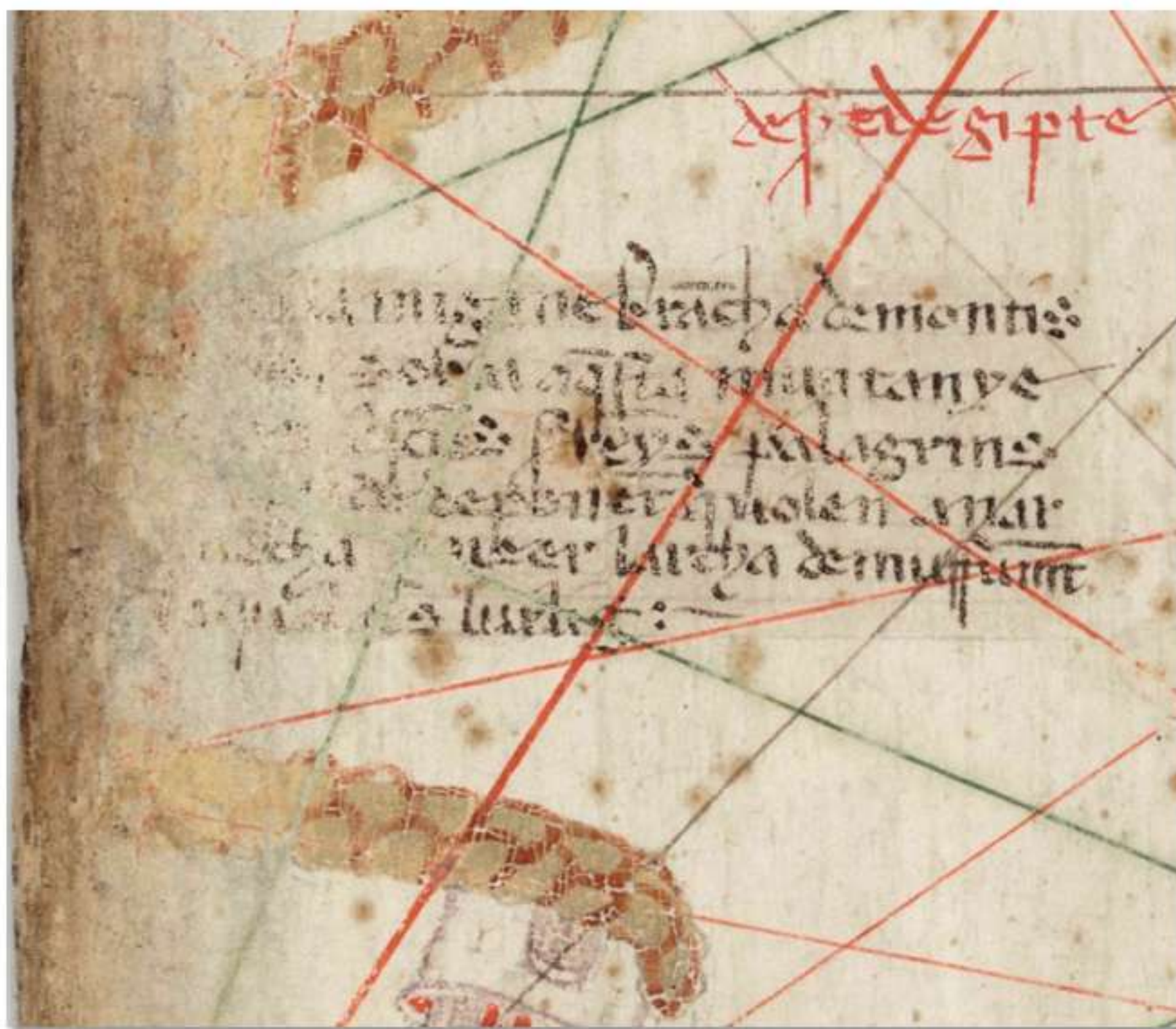


Hic est corpus Catarina virginis...

Here lies the body of St. Catharine [of Alexandria] Virgin.

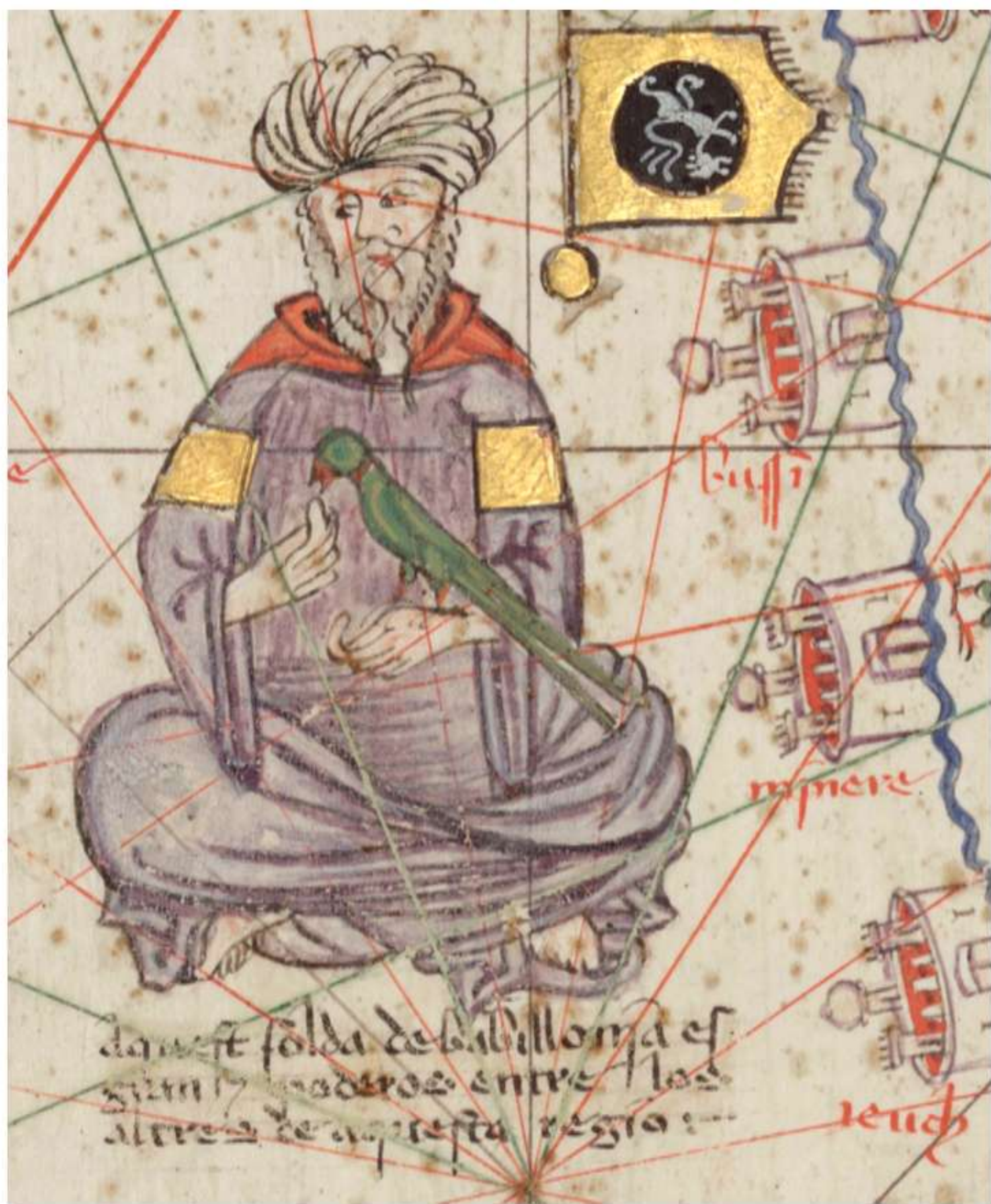


Per aquest freu pasaren los fills d'Israel...
The sons of Israel past through this gorge when they fled Egypt.



Assí es la migana branca de Montis Taurus...

This is the middle branch of Mount Taurus [Tibesti Mountains]. Many Saracens coming from the West pass through this mountain wishing to go to Mecca to see the arch of Mohamed that contains their Law.



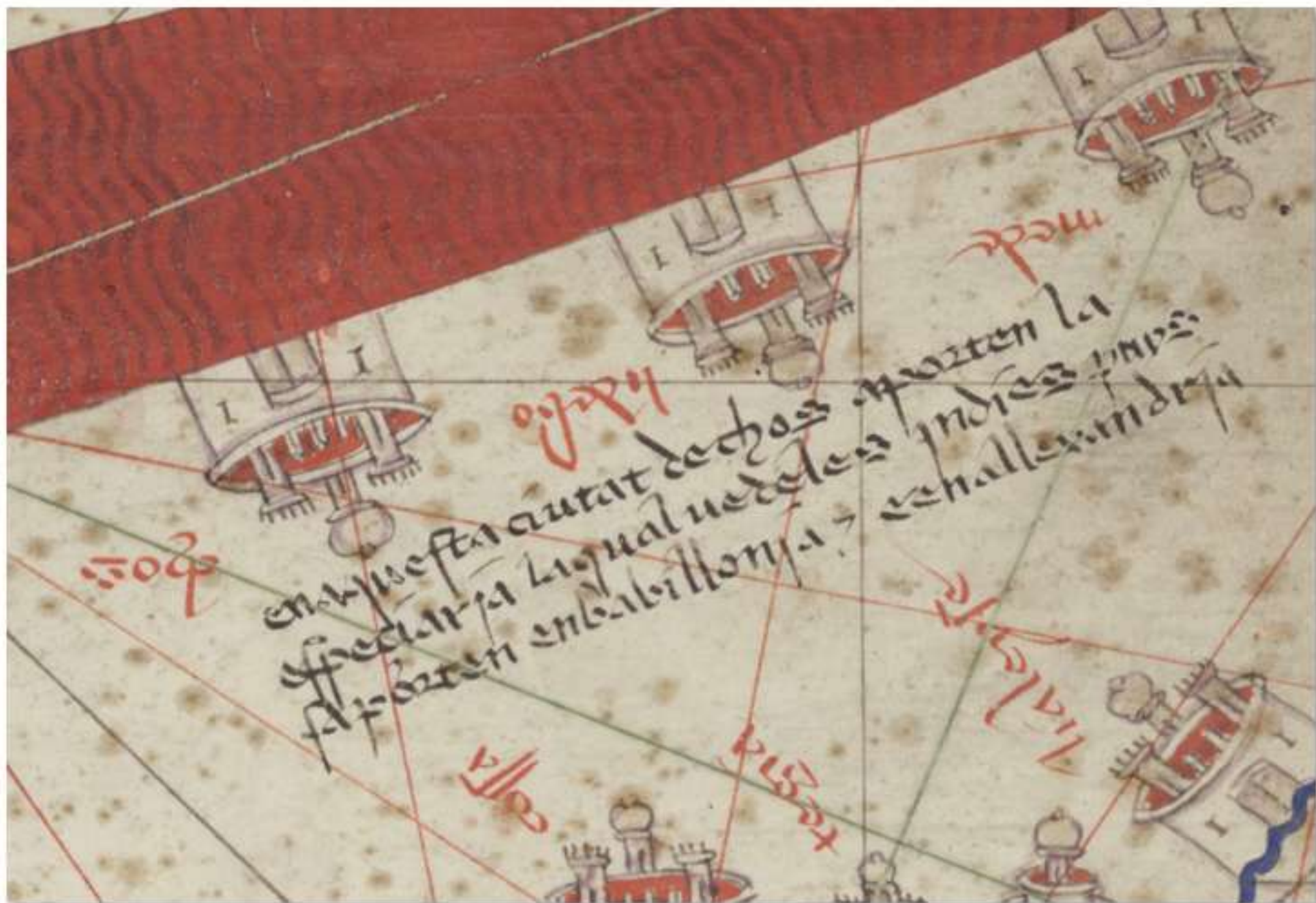
Aquest soldà de Babillònia....

This sultan of Babylon [Al-Fustat, Egypt] is great and powerful amongst those of this region.



Aquesta mar és appellade la Mar Roga...

This sea is called the Red Sea that was crossed by the Twelve Tribes of Egypt. Let it be known that the water is not red, but the bottom is that color. Through this sea pass most of the spices arriving at Alexandria from India.



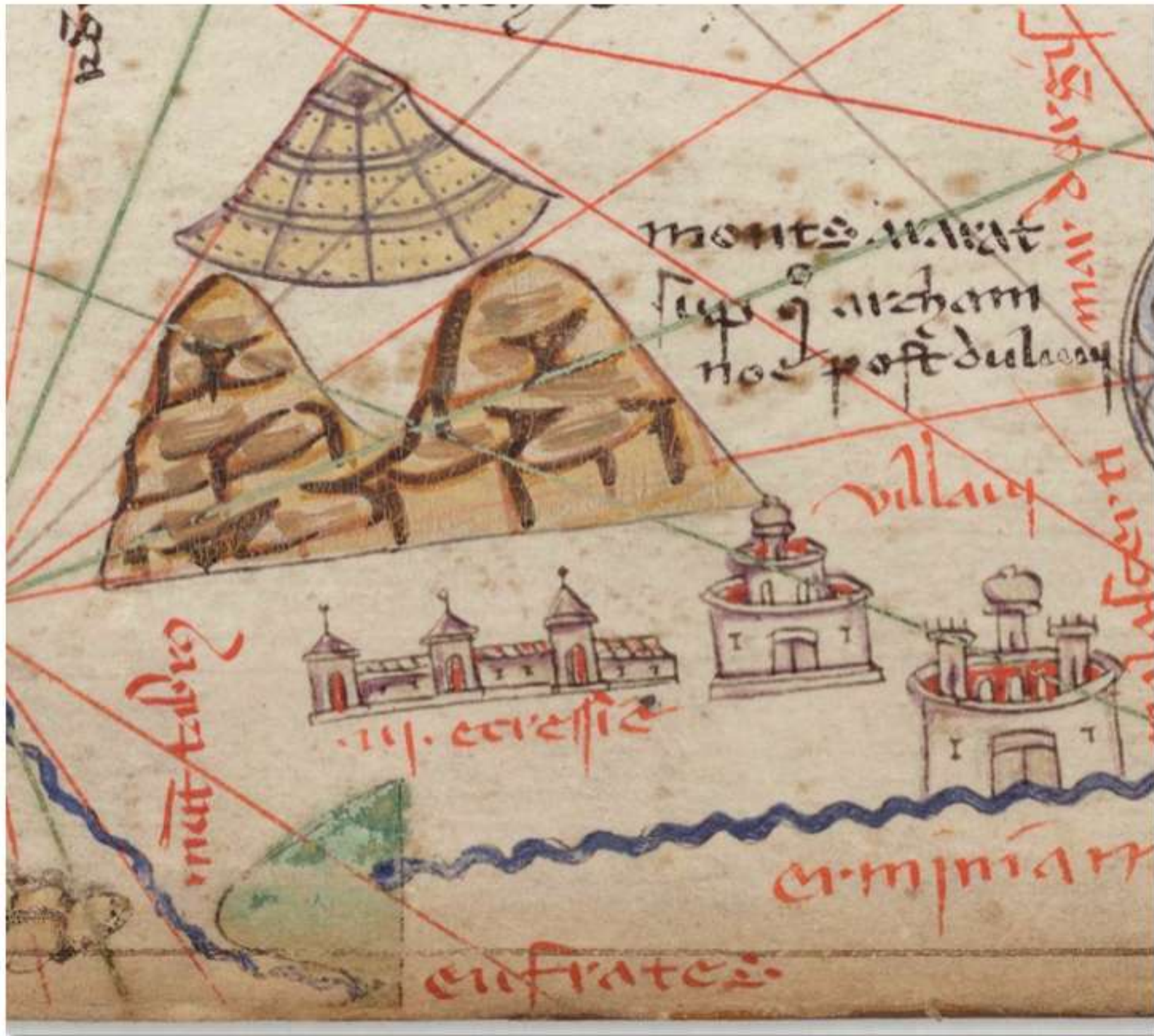
En aquesta ciutat de Chos...

The spices coming from India are brought to this city of Chos [Al-Qusayr, Egypt]. Then, they are taken to Babylon [Al-Fustat, Egypt] and Alexandria.



(...) *ciutat de Núbia...*

(...) city of Nubia. The king of Nubia is always at war with the Christians of Nubia who are under the dominion of the emperor of Ethiopia and the land of Prester John.



Mons Ararat...

Mount Ararat where the Arch of Noah rested after the deluge.

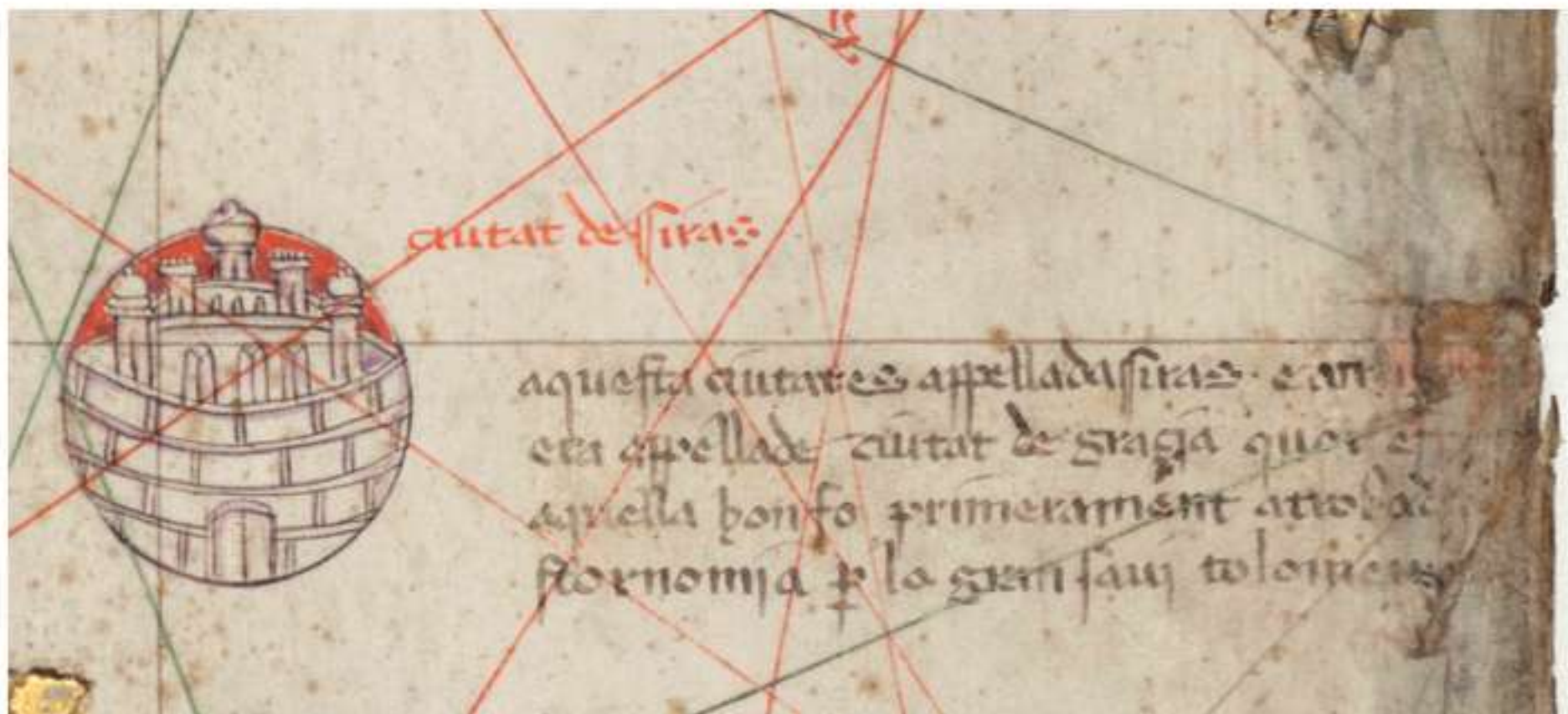
Sapiats que aquells qui volen passar aquest desert...

Let it be known that those that wish to cross this desert stop and rest during a week in a city named Lop. Here, expeditions and their animals relax/enjoy themselves. After that, they procure what is needed for the next seven months of the journey, because in the desert one travels an entire day and night before reaching potable water; however, every day and a half, they can find plenty of it, enough for fifty or a hundred people or even more. And if it happens that a rider, tired by the journey, falls sleep or for any other reason he separates from his companions, he will often hear the voices of devils, similar to the voices of his companions, often calling him by his own name. In this way, the devils take him through the desert to a fro such that the traveler cannot find his companions. A thousand stories are known about this desert.



Aquí està l'emperador de aquesta regió septentrional...

Here resides the emperor of this northern region whose empire starts in the province of Bulgaria and ends at the city of Organcio. The sovereign is named Jambech, Lord of the Sarra.



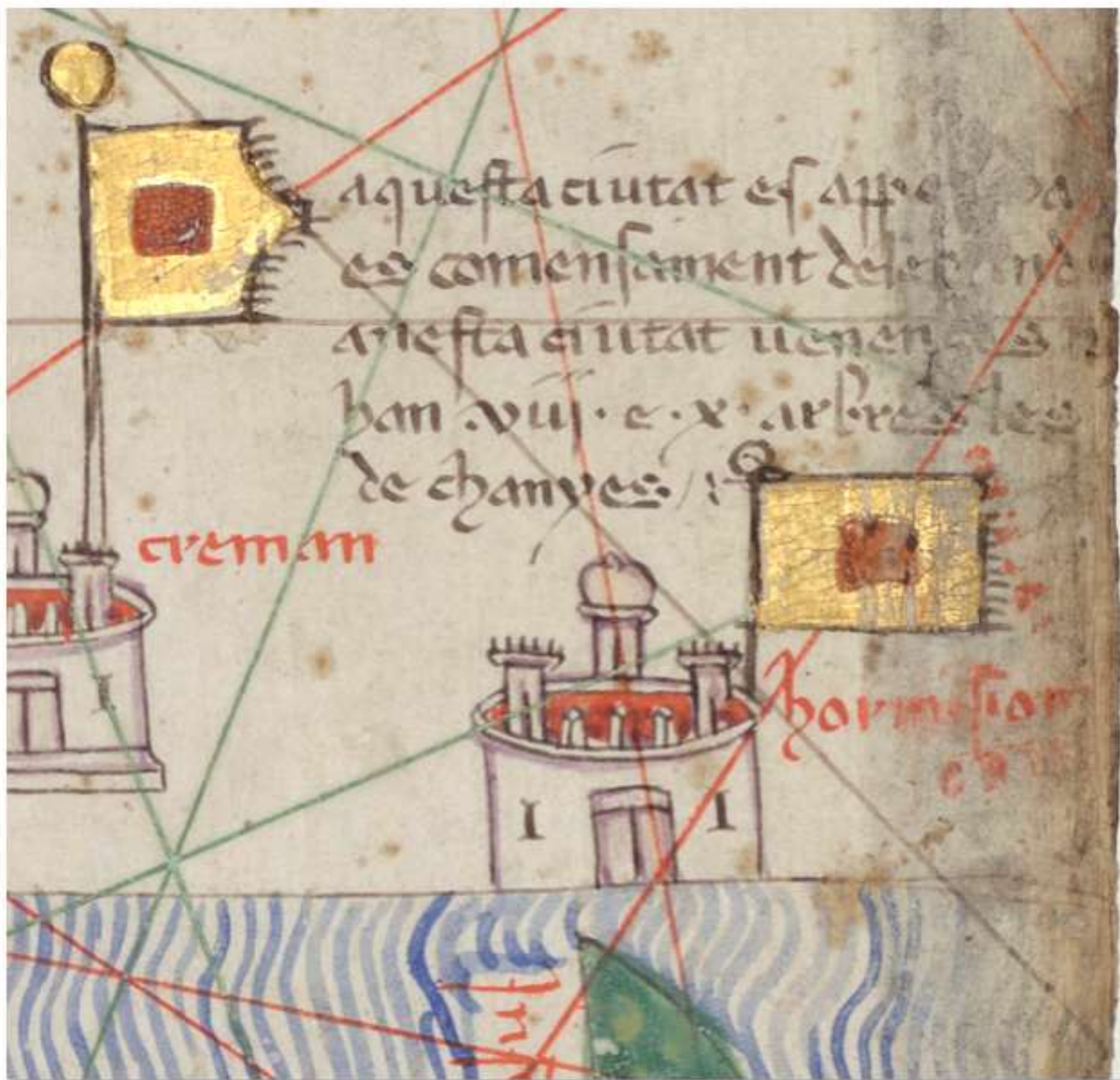
Aquesta ciutat és appellada Ssiras e antigament...

This city is named Siras, and in antiquity, it was named the City of Grace because it was there where astronomy was invented by the great wise man Ptolemy.



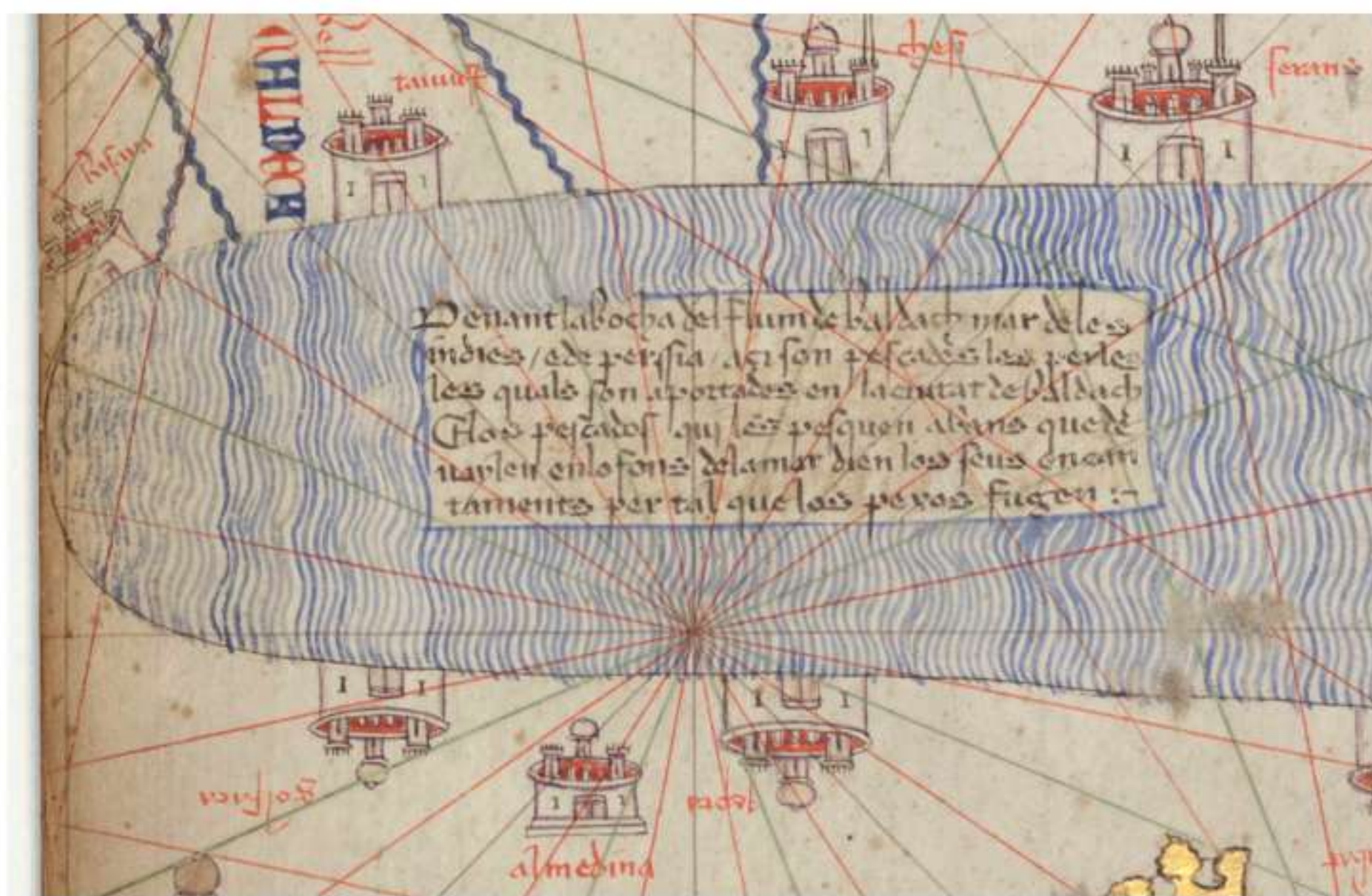
Aquí so Babillònia la gran...

Here there was the Great Babylonia, where Nabuconodosor resided, and that is called Baldaca today. Let it be known that many spices, as well as other noble products, come to this city from the Indies and the are distributed by Siria, in particular at the city of Damascus.



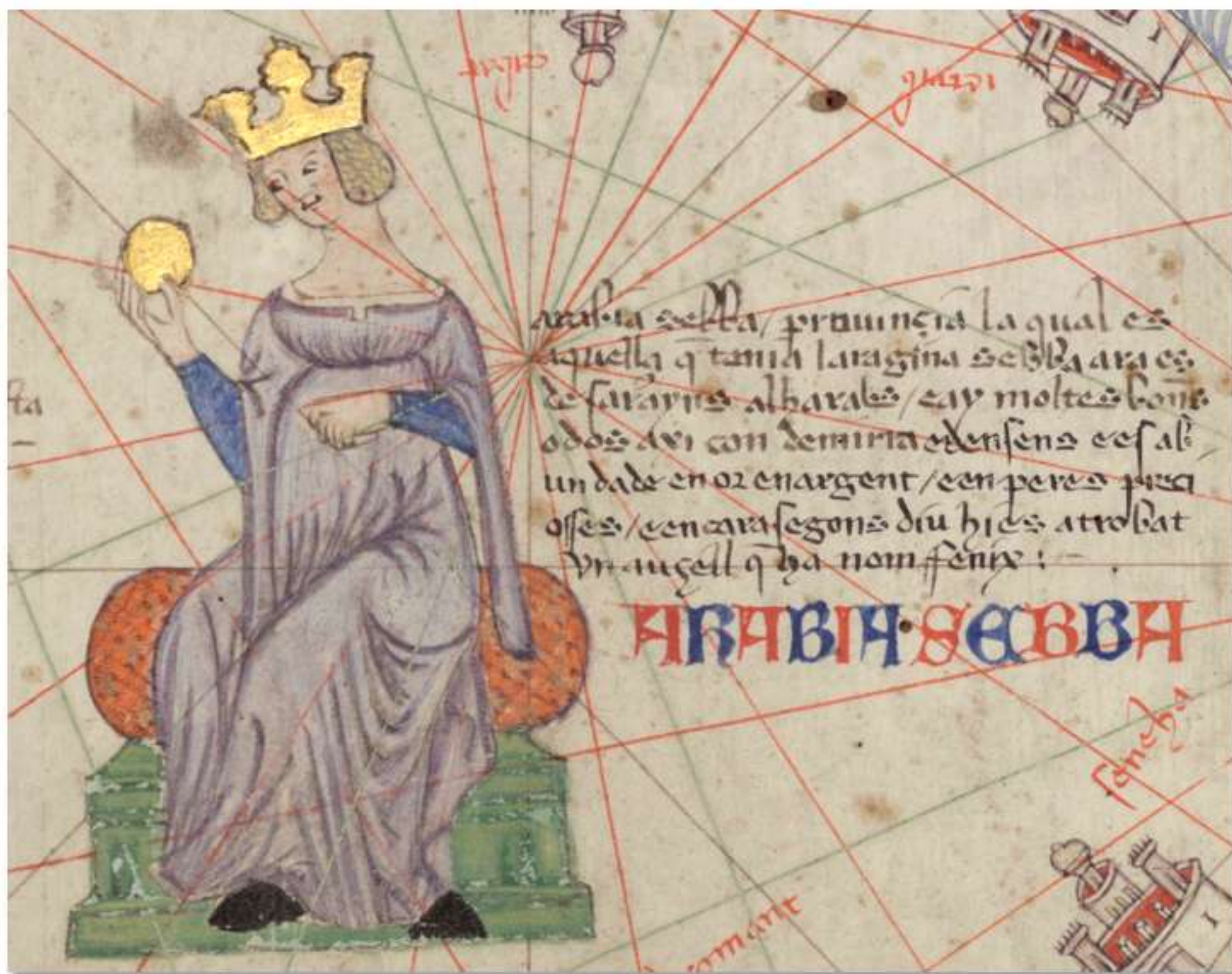
Aquesta ciutat és appellada Hormes...

This city is named Hormes and is the beginning of the Indies. Let it be known that to this city ships arrive that have eight and ten masts with reed sails.



Denant la bocha del flum de Baldach...

Across from the delta of the river Baldach lie the sea of the Indies and Persian. This is where they search for pearls that are taken to the city of Baldach. The fishermen say their enchantments before diving into the deep to make the fish flee.



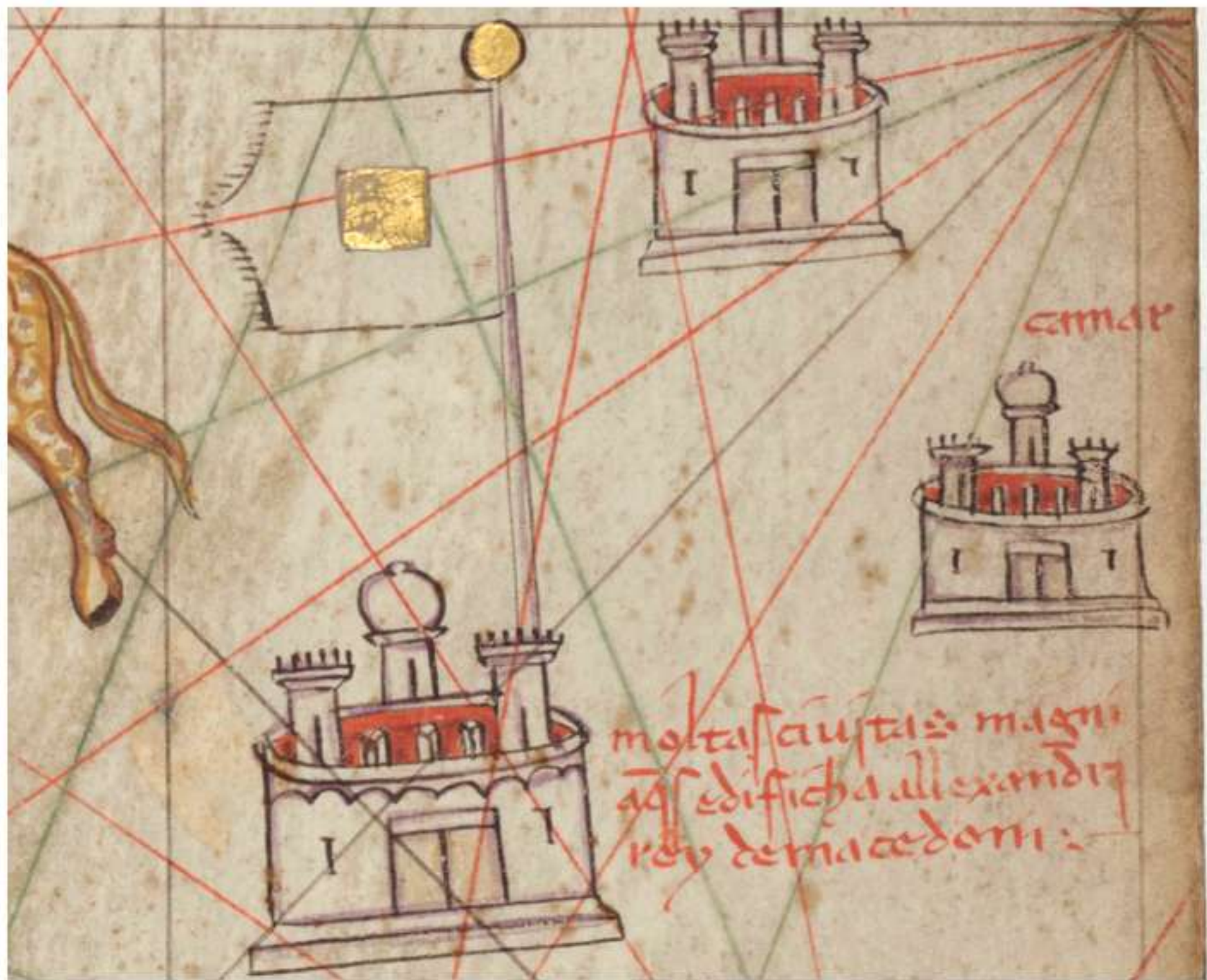
Arabia Sebba...

The province that had Queen of Sheba; now it belongs to the Arabs Saracens, and in it there very good aromas, as well as myrth and frankincense. Gold, silver and precious stones are plentiful, and there you can find a bird named Phoenix.



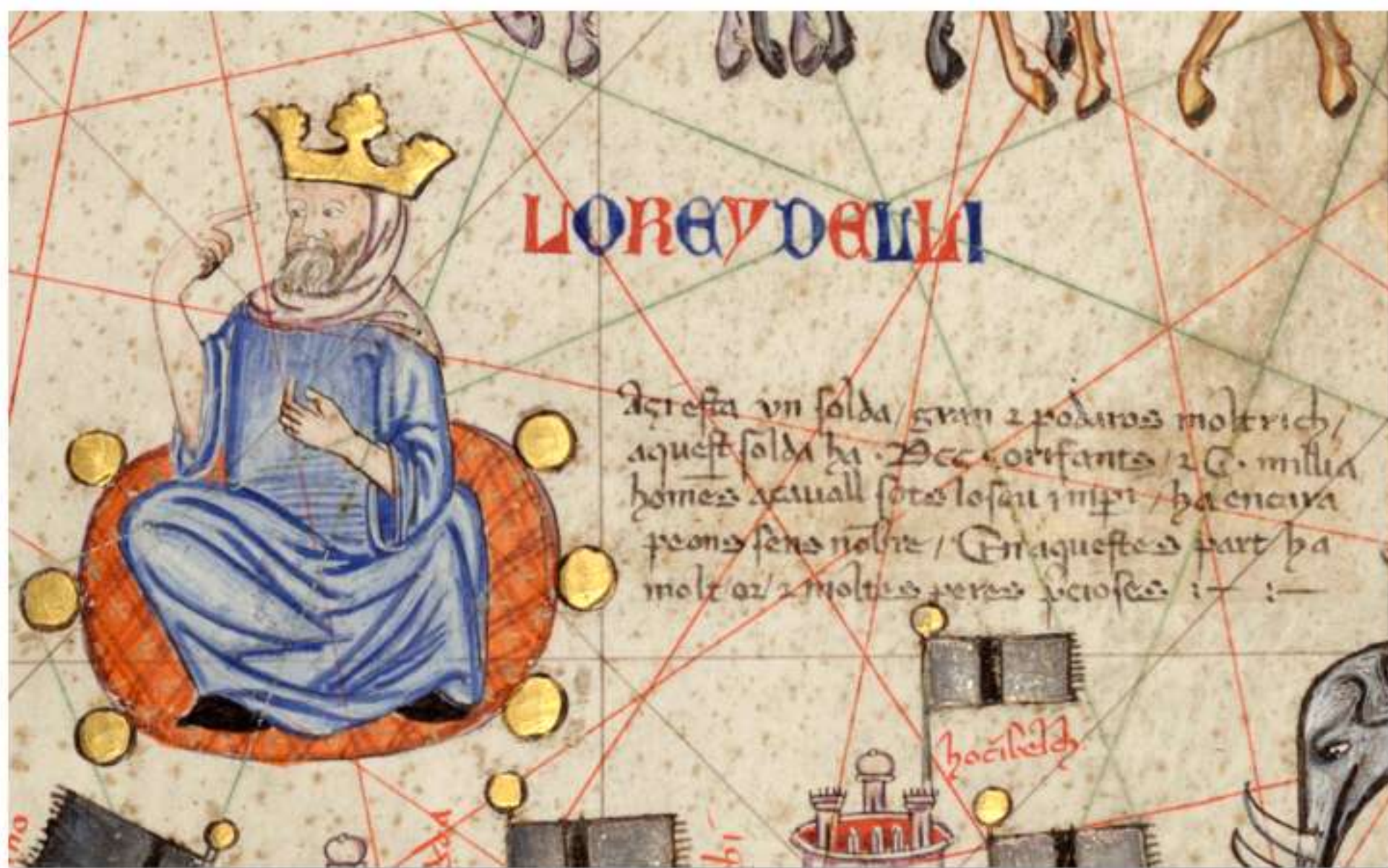
Mecca...

Mecca. In this city, one finds the arch of Mohamed, the prophet of the Saracens who make a pilgrimage here from all regions. And they say that after having seen such a beautiful thing, they are not worthy to see anything else and 'empty their eyes' in honor of Mohamed.



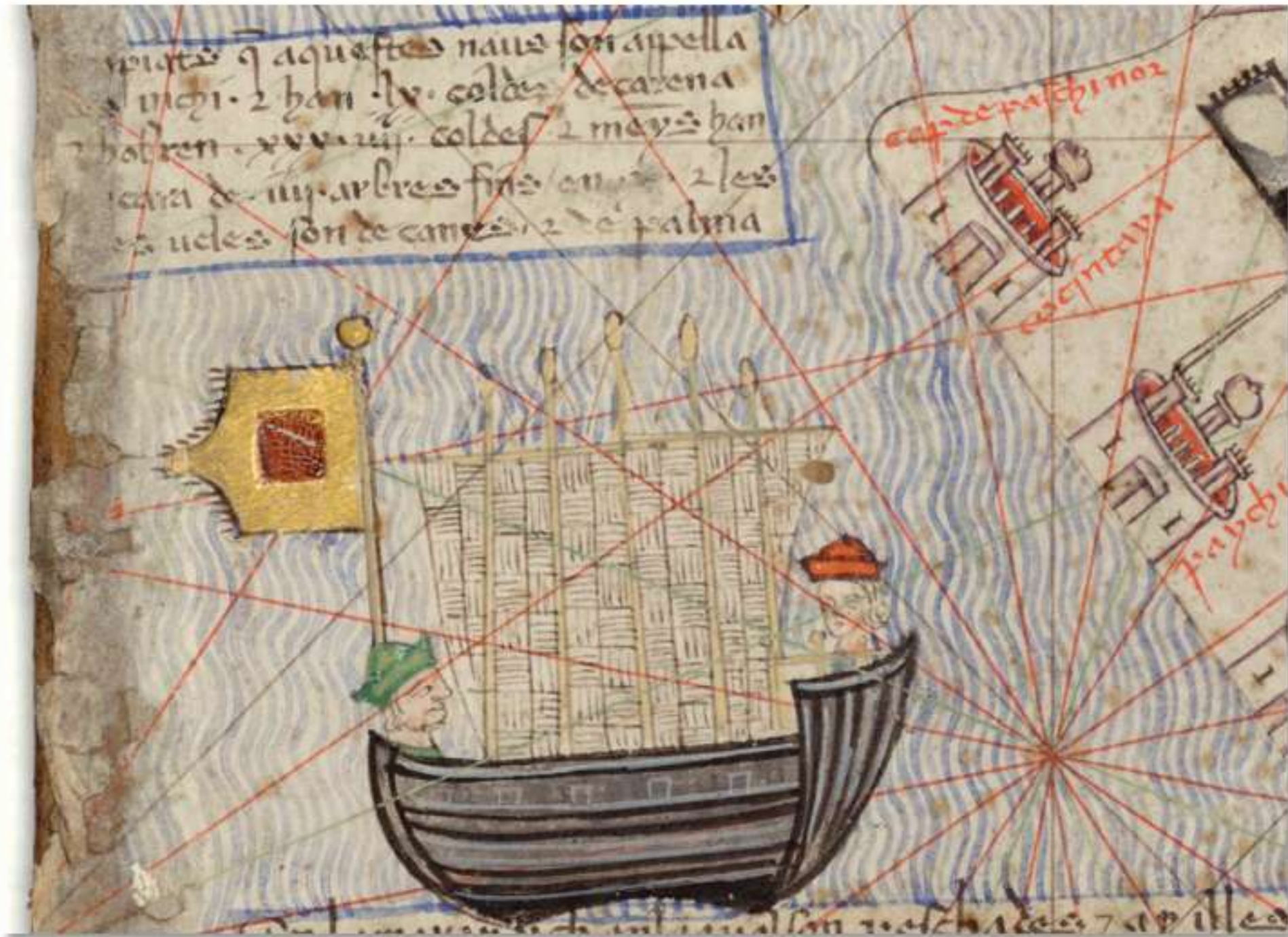
Moltas Civitas Magni...

Many Civitas Magni [great cities]. This one was built by Alexander King of Macedonia.



Aquí està un soldà gran e poderós molt rich...

Here resides a great sultan, powerful and very rich. This sultan has seven hundred elephants, one hundred thousand cavalry soldiers under his command and even countless foot soldiers. In these regions, one can find plenty of gold and many precious stones.

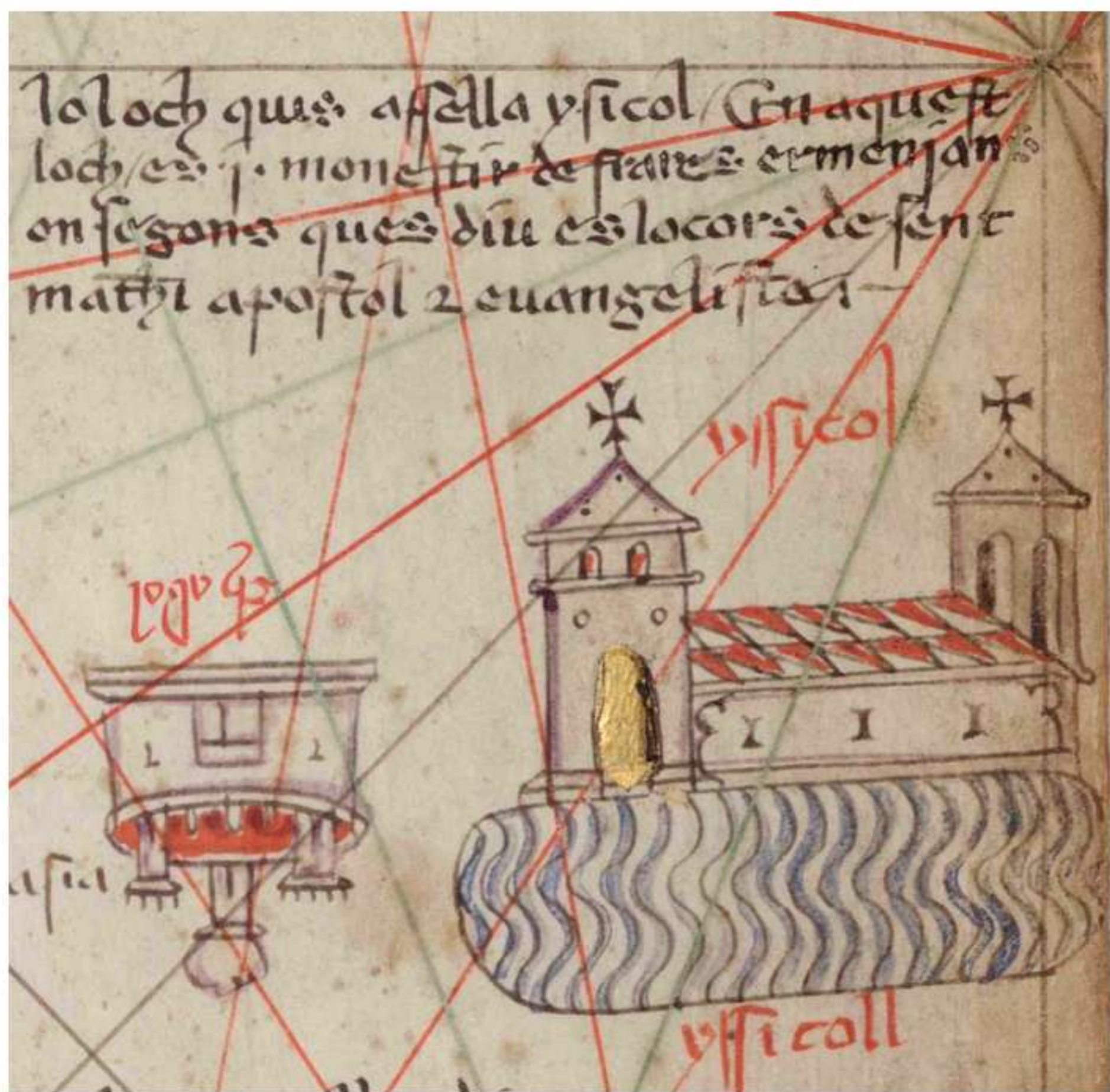


Sapiats que aquestes naus són appellades Nichi...

Let it be known that these ships are named nichí, and measure sixty cubits in depth and thirty-four cubits in length; there are few with less than four masts and some even have ten. The sails are made of reed and palm leaves.



*Açí seny[or]reja lo rey Colombo...
 Here reigns the king of Colombo, a Christian. Province of Colombo.*



Lo loch qui s'apella Ysicol...

The place named Ysicol. In this place, there is a monastery of Armenian monks where they say lies the body of the apostle and evangelist St. Matthew.



Aquests són de matall...

These are made of metal and were ordered made by Alexander, a great and powerful king.



Aquest[s] hòmens són alets a cullir diamants...

These men are chosen to pick diamonds. However, because they cannot climb the mountains where these are found, they cleverly toss pieces of meat where the precious stones lay. The stones adhere to the meat and detach [from the rocks]. Later the stones fall from the meat hoisted by the birds. Thus told it, Alexander.



Muntanyes de Caspis...

The Caspian Mountains where Alexander saw trees so tall that their canopies touch the clouds. This is where he almost died had it not been for Satan who took him out of there using his arts. And with his stratagem he locked here the Tartarians God and Magog; and for them, he ordered made two metal images above described. Item he locked here many diverse races who don't hesitate to eat all kinds of raw meat, and from this group will come the Antichrist and their end will be caused by the fire that will fall from the sky and will confound them.



En aquesta ciutat de Lop...

At this city of Lop arrive merchants from the Empire of Sarra on their way to Cathay taking the direct route; they carry oxen, carts, and camels.



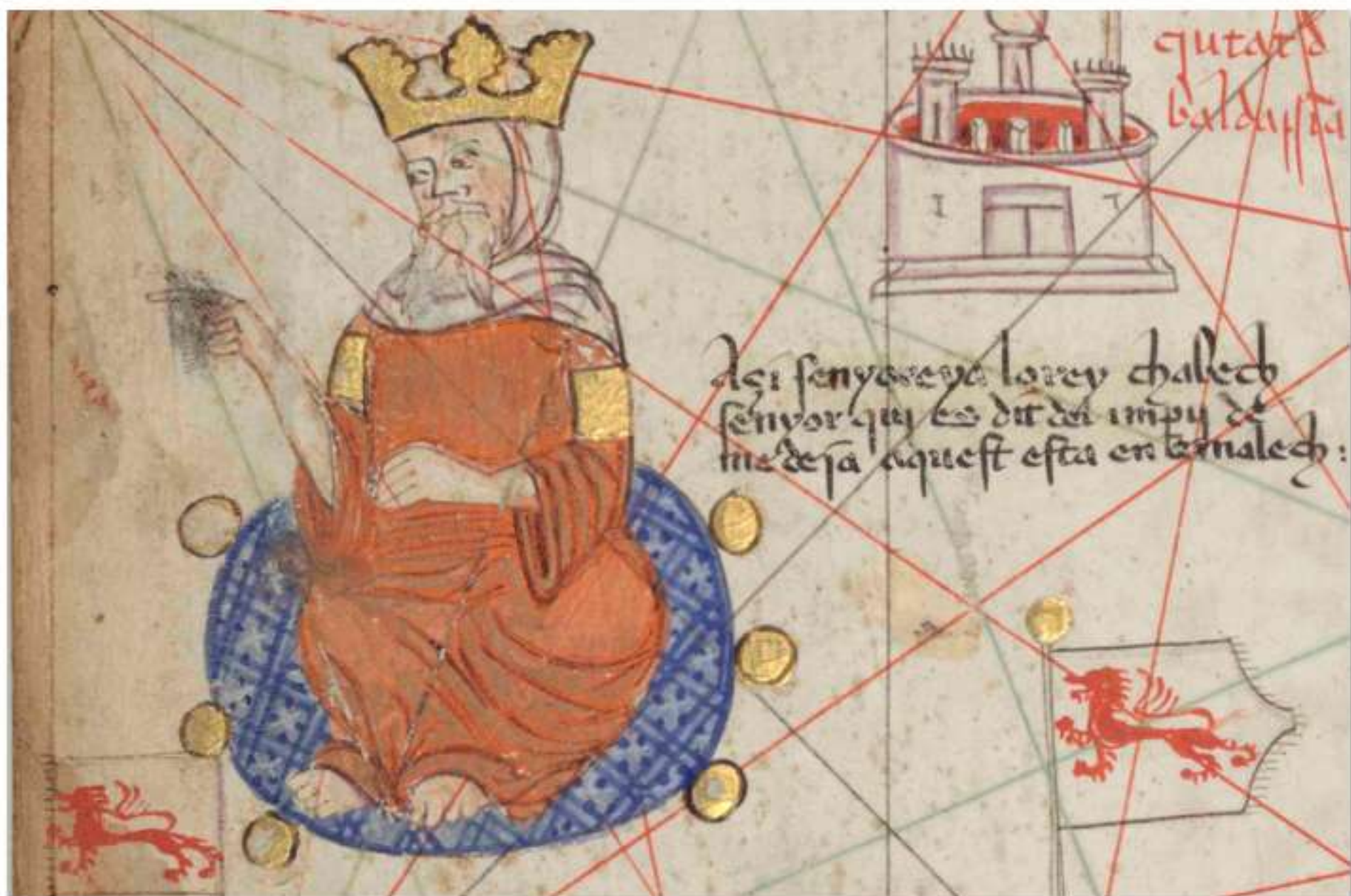
Sapiats que los hòmens e les fembres de aquesta regió...

Let it be known that the men and women of this region once dead are taken to be cremated accompanied with instruments and revelry, although the relatives of the deceased cry. And it happens sometimes, now and then, that the wives of the deceased throw themselves into the fire, however, the husbands never throw themselves with their wives.



En aquestes illes nexen molt bons grifaltes and falcons...

In these islands are born very good gyrfalcons and falcons that the inhabitants do not there to capture except at the service of the Great Khan, Lord, and Emperor of Cathay.



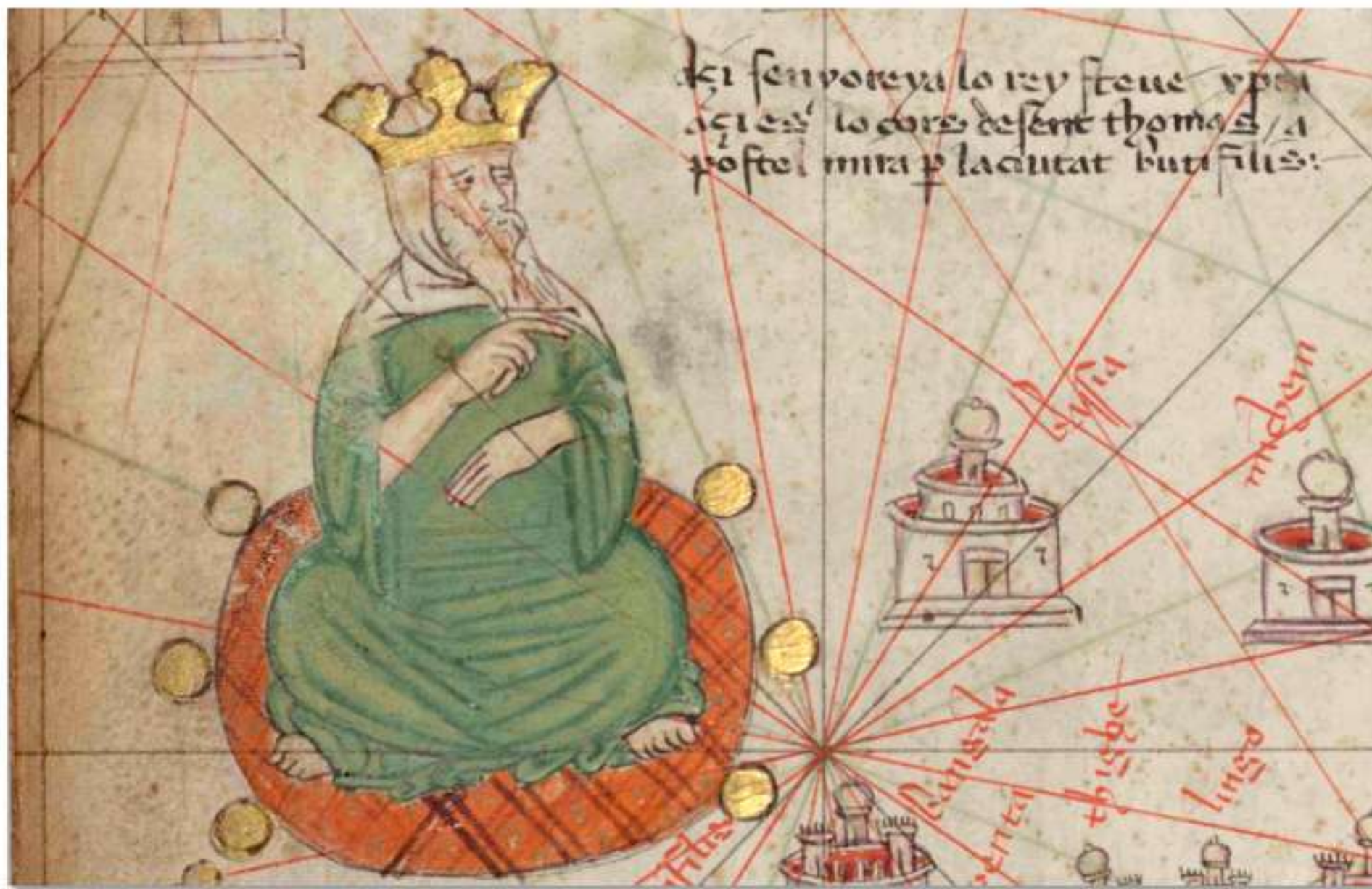
Açi senyoreya lo rey Chabech...

Here reigns the King Chabech [Käbäk], lord that is the Medeja [Media] Empire. This is located is at Emalech [Almaliq].



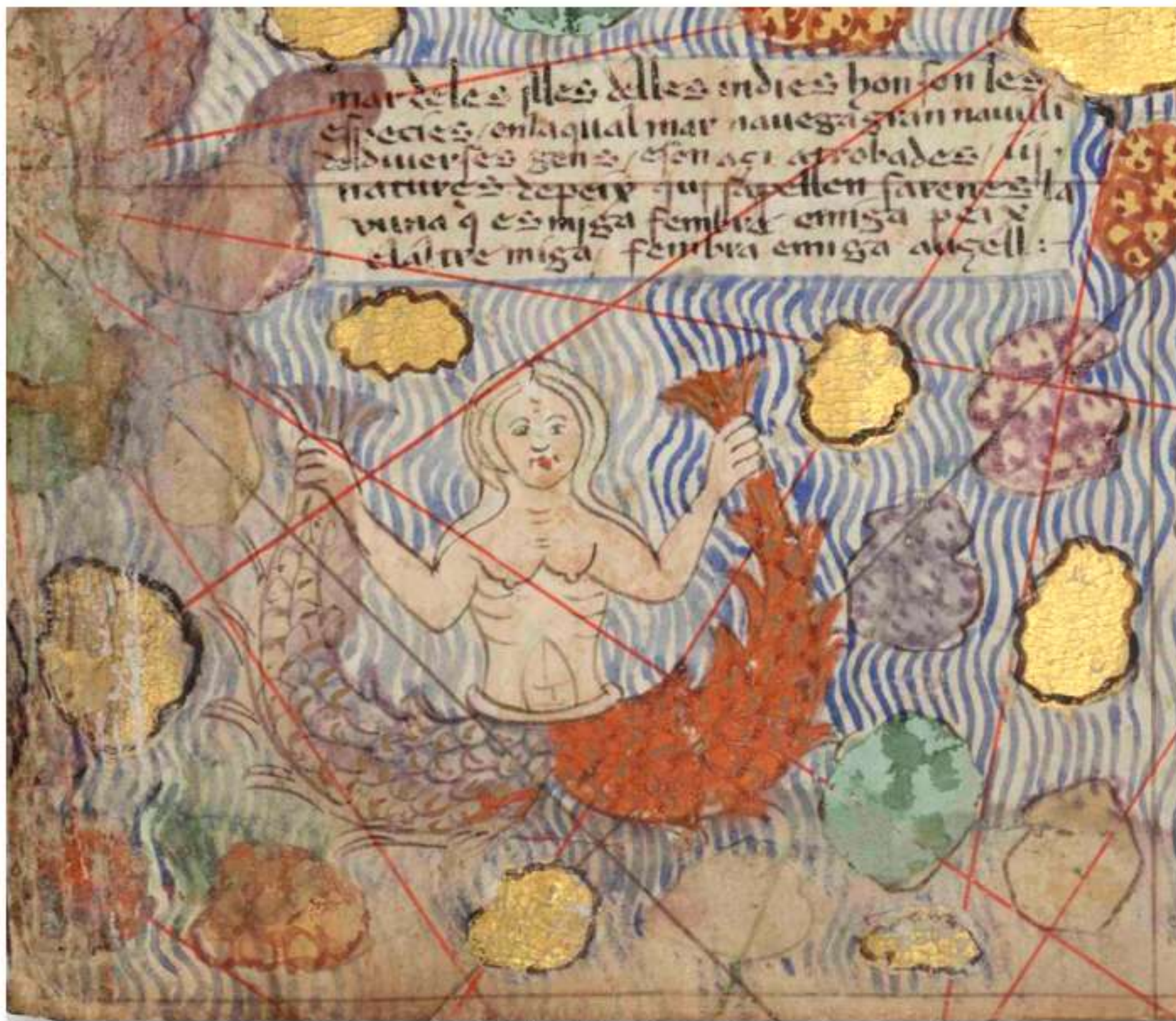
Aç nexen homes pochos qui no han sino .v. palms de lonch...

Here are born men so small that they no reach more than five palmos [~3 feet] in height. And although there are small and not apt at all to do heavy labors, they are skillful in weaving and to tend cattle. Let it be known that when these men turn twelve, they already procreate. They live until they are forty years old. They live an ordinary life without prosperity. They defend themselves from herons which they eat should they catch them. Here ends the land of the Lord of Catayo [Cathay].



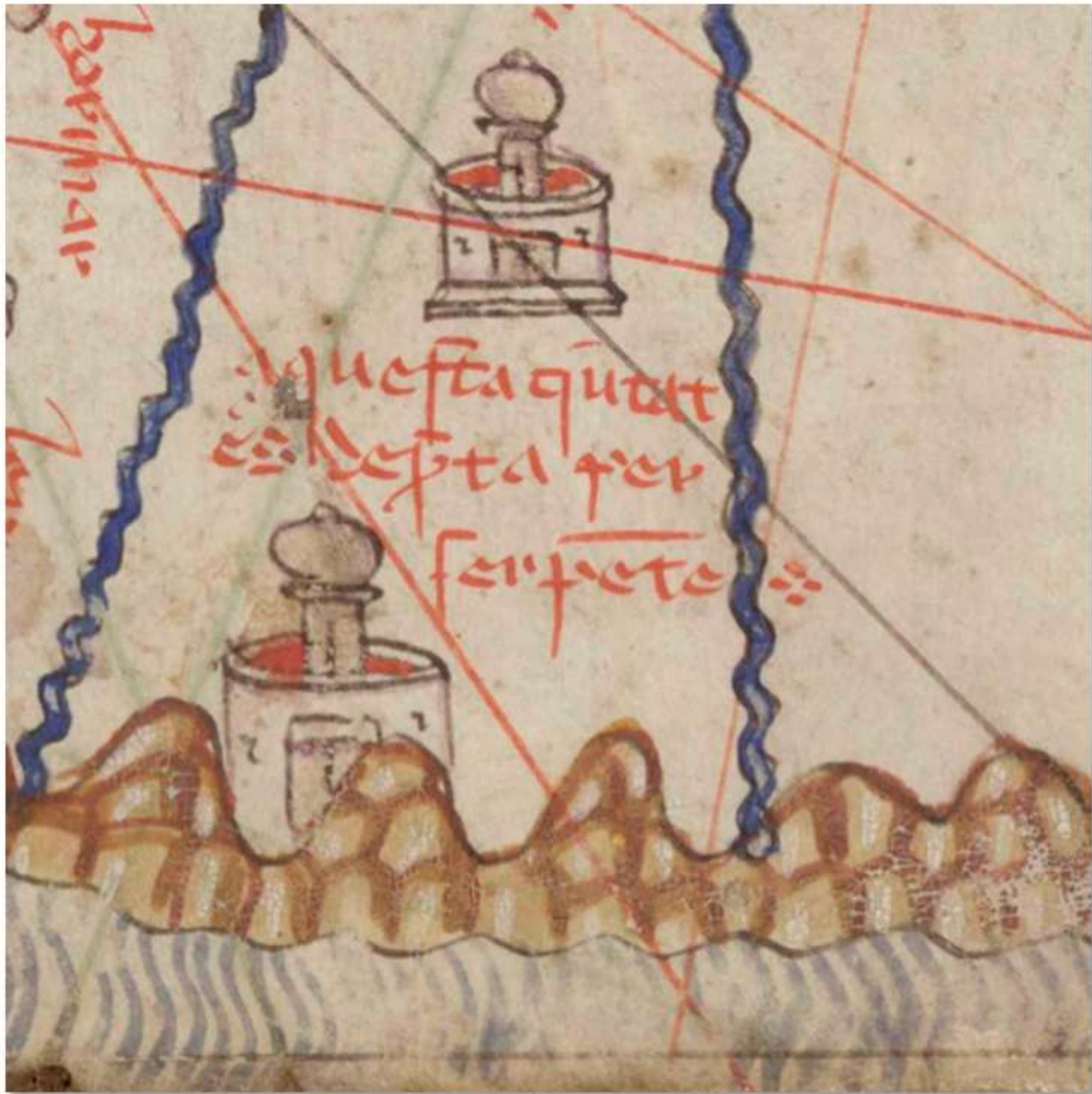
Açi senyoreya lo rey Steve, cristià...

Here reigns the Christian king Stephen. Here lies the body of the apostle St. Thomas. He faces the city of Butifilis [Motupalle].



Mer de les illes de Índies...

Sea of the islands of the Indies where one finds spices. Many ships from many nations cross this sea. Here, one finds three kinds of fish named sirens: one is half fish, half woman, the other is half woman, half bird.



*Aquesta ciutat és deserta per serpentes.
This city is deserted due to snakes.*



La Illa de Trapobana...

The island of Trapobana [Taprobana]. This island is called Magno Caulii by the Tartars, and it is the last island of Orient. The island is inhabited by people that are very different from the rest; there are burly men in some mountains of this island, twelve-cubit in height, like giants; they are very black and dim-witted; they eat white men and foreigners should they be apprehended. In this island, there are two summers and three winters and trees and herbs flower twice a year.





Reconstruction by M. Vivien de Saint-Martin, 1874