

# The Secret Geography of America Before Columbus



Jacques de Mahieu

# **BERSERKER**

---

## **BOOKS**

---







# I

## The America of the Romans



On a certain day in the first century AD, the Greek Alekhan- dro, captain of a merchant ship from Rome, set sail for a long **voyage**. Starting from a port in **Quer- soneso Aureo**, which we now call Indochina, he sailed south and, twenty days later, made landfall at Zabai. From there, he headed east and, after "a number of days so great that it was impossible to count", he reached, "without any intermediate stop", the well-known city of Cattigara. Such is the account we owe to the Phoenician geographer Marinus of Tyre, whose work, written in the last years of the first century, was lost but was taken up again fifty years later by his colleague Claudius Ptolemy, a Romanised Greek from Egypt.

We should not be surprised to find, at that time, a Roman ship in the Far East. In incorporating Greece into its empire, the Urbs had taken up the heritage of Alexander the Great and, in accordance with his genius, had projected it into the field of concrete achievements. Numerous were his subjects - architects, sculptors, masons, carpenters, smelters - who went to the Indies, where they were known as *Iat'anas*. But above all, their ships sailed the Indian Ocean and regularly called at the ports that the Empire had built on its coasts. We have tangible proof of this since the discovery in 1945, near Pondichery, of the ruins of the Roman city of Ari- kamendou, a muslin export centre, and later,

near Saigon, the remains of the Oe-Eo factory, which, presumably, depended on the former.

Did Rome, then, have ships capable of sailing so far out of Mnre *Nostrum*? Undoubtedly some. We always think of the coasting vessels - from 200 to 400 tons - that were found, in the course of the last decades, on the coasts of the Mediterranean. But there were much larger ones (<sup>1</sup>), such as the one Lucian speaks of, a cargo ship from Alexandria, destined for the transport of cereals, which was over 2,000 tons. Two hundred and sixty-six passengers travelled on the ship that took St. Paul to Rome, and Flavius Josephus, at the same time, mentions a ship, otherwise loaded with merchandise, carrying six hundred people. As for the crews, let us not forget that Greece and Phoenicia, lands of seafarers par excellence, belonged to the Empire. The ports of Palestine (Aqaba) and Egypt gave him access to the Red Sea, while those of Persia gave him direct access to the Indian Ocean. Alexander's presence in In- dochina is therefore nothing to be surprised about. On the contrary, it is extremely strange that he should have reached Cattigara, a city mentioned on all the maps between the 1st and 16th centuries, but located in a land that does not exist.

Preserved in Byzantium, Ptolemy's *Geogia jia* arrived in Europe together with the essential works of the Greek philosophers and constituted, throughout the Middle Ages, the fundamental text of the cosmology of the time, both for the Arab scholars of Spain and for the Christian scholastics. It was accompanied by a world map and several partial maps. At the beginning of the 15th century, *Geography* was tra-

• We say "Arabs" for convenience of language. We are not unaware, of course, that the scholars in question were Persians, Syrians, Afghans, Egyptians and Berbers, Arabised.



The book was translated into Latin and numerous editions followed one after the other until the end of the 15th century.

If we look at Ptolemy's map of the world (*J\*g. I*), we shall not see that Europe is correctly laid out, but that Europe and Scandinavia do not appear on it, or, if you like, are reduced to Iceland (Thule), and that Africa does not go beyond 10° south latitude. In Asia, India is very badly represented, Ceylon (Tapobana) is too large, and Indo-China descends a little below the Equator, which seems to indicate - we shall see that there are other reasons for believing him - that Insul'ndia is confused with it. Beyond this, there is a deep and narrow gulf called *Sentis Mngnus*, the eastern coast of which, where Cattigara is situated, slopes down to 15° south latitude, and then slopes westwards to join Africa. The Indian Ocean thus becomes an enclosed sea surrounded by Africa to the west, Asia to the north, the "Land of Cattigara" to the east and Terra *Incognita* to the south. Strange thing: the eastern coasts of China and the mysterious land, which should logically border the Atlantic Ocean, are not represented on the map.

A strange thing, we say. In the third century, it was well known that the earth is round, and Eratosthenes had long since correctly calculated its circumference: 252,000 stadia, about 40,000 kilometres. But it was believed that our planet was the immobile centre of a cosmos whose other stars revolved around it. Only the upper part of the globe, the *Ecumene*, was considered habitable: in the southern hemisphere, people would have had their heads down, which was inconceivable. But it is enough that the earth is round for the Atlantic, in the absence of an intermediate continent, to wash the coasts of Europe and Asia at the same time.



be. 1-Mo be iundi de Ptol omeo (Siglo II).  
ad

This lacuna in Ptolemy's map of the world is extremely important, for it shows that the geographer does not extrapolate, that he confines himself rigorously to the facts known and therefore observed. He does not hesitate, in spite of the theory, to invade, in Africa, more than ten degrees of the southern hemisphere, because he knows that one navigates beyond the Equator, and, if he does the same for the land of Cattigara, he must have the same certainty about it. Conversely, he does not design the eastern coasts of the Ecumene for the simple reason that his informants did not reach them. **O n t h e** contrary, the western coast of the Land of Cattigara is known and Ptolemy bases his map on direct or indirect testimonies of sailors who reached it. However, this coast, let us repeat, does not exist. To the east of Indo-China there is only the Pacific Ocean.

There is something wrong, then, in our geographer's exposition. We could have noticed it by following Alexander's itinerary on the map. He departs from an Indo-Chinese port, probably Oc-Eo, and arrives at Zabai, always in the Chersonese Aureus, it seems. However, this is still today, with only a few variations (Zabak, Zabag, Sabah), the name given to the northern coast of Borneo, where Ptolemy locates the city of Samaradi, which still exists under the name of Samarindia. This confirms what we have said above: for the Alexandrian, Indochina and Insulindia are one and the same peninsula. Now, on his map, between Zabai and the Land of Cattigara, there are only  $8^{\circ} 40'$ , that is, since he attributes to the degree, following Posidonius and not Eratosthenes, a value of 500 stadia, about 680 km. This is not such a distance that Alexander needed, in order to cover it, "a number of days so great that it was not possible to count it". Even less so when it is appreciable-

The distance on the same map between the eastern coast of Ceylon and the Indo-Chinese point in question - 27° 42', or about 2,200 km - the usual crossing for the bar- cos of Rome.

There is only one explanation for this contradiction: Ptolemy's map does not faithfully reproduce the one illustrated in the *Geography* of Marinus of Tyre. For it seems highly improbable that the latter would have contradicted himself in such a n obvious way. In fact, we know that the Alexandrian, while closely following the work of his predecessor, did not hesitate to rectify, rightly or wrongly, some of its essential aspects. Not only when he replaced, for example, Marino's parallel meridians with curved lines that meet at the pole, as was appropriate, but also when he appreciably reduced the extension of the Ecumene. For Ptolemy, the known lands cover 180 degrees, counted from t h e Fortunate Islands, our Cana- rias. The Chersonese Aureus is situated at 160° longitude and Zabai at 168° 20'. Between the latter point and Cattigara, we find the 8° 40' which he attributes to the Sintts *Magnus* and the 3 which correspond to the strip of oriente- lands which delimits the frame of the map. He, too, the Mariner of Tyre, places Indochina at 160° and Alexander's twenty days of navigation do not allow us to admit that, for him, the coast of Borneo was further east than it was for Ptolemy. T h i s leaves, to complete his 225 degrees, 56° 40', or 53° 40' for *Sirius Magnus* (Dip. 2). Catti- gara is then situated at the longitude of the Marquesas Islands. The Great Marine Gulf of Tyre was thus almost seven times wider than that of Ptolemy and, always with degrees of 500 stadia, it extended over about 5,000 km. This distance was all the more respectable because the Phoenician geographer reduced the circumference of the globe by a good third. Now we understand, let it be said between

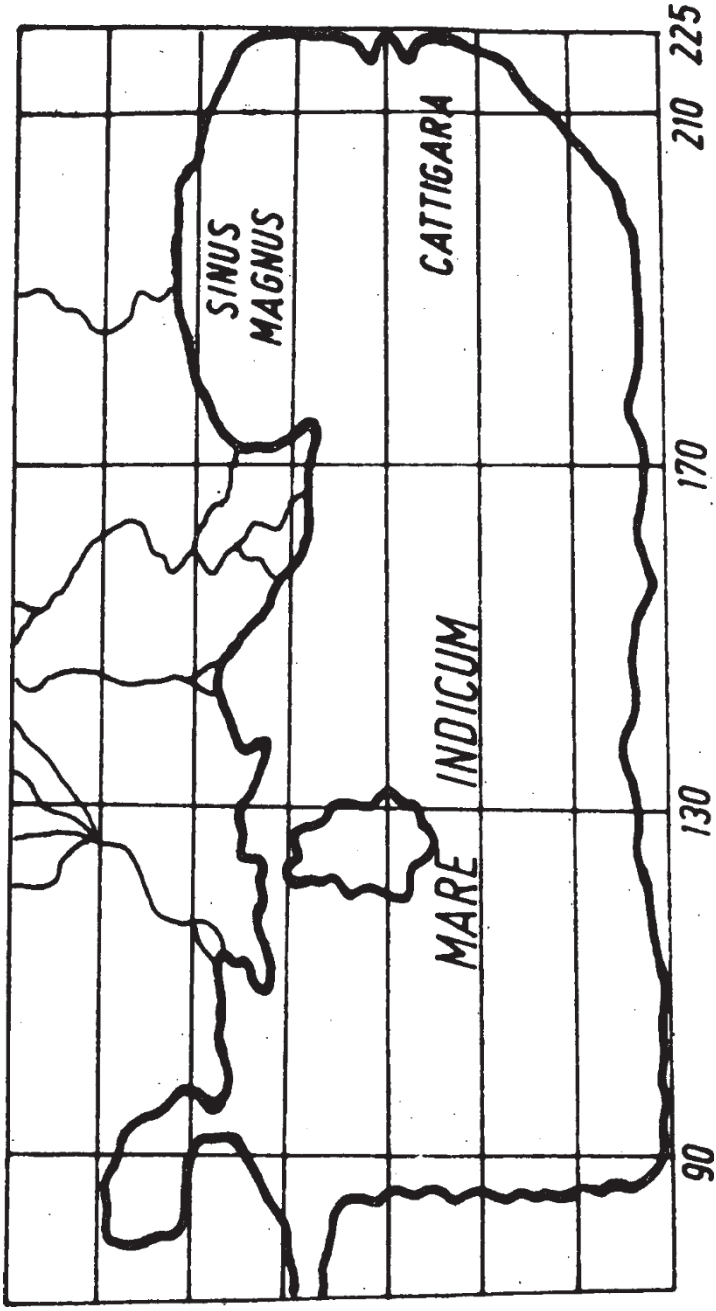


Fig. 2- Mmponiui idi deMarino Tiro. Croquis.

The name *Magnus* was given to a gulf which, in Ptolemy, is much smaller than its neighbour, the Sino *9naqeticus* - our own Bay of Bengal - by Marino: it deserved *it* in Marino. And even more than the latter could have imagined, for it was enclosed to the east by no less than the western coast of our South America.

The deduction is not ours. It had been made, as we shall see, in the 16th century, but then forgotten. In our own time, as far as we know, it was the Argentine historian Enrique de Gandía <sup>(2)</sup> who first formulated, in two sentences, the hypothesis that "East India" was none other than America. The idea was taken up and developed by his compatriot, Dick Edgar Ibarra Grasso (-) who, while loyally quoting his predecessor, did not fail to have it on his side and, more importantly, proved it. In a detailed map of Ptolemy's *Geography* showing the mysterious eastern coast, there are, in fact, at the equator, north of Cattigara, two strongly marked capes, the only accidents which break the uniformity of the layout. Ibarra Grasso realised that these two promontories actually exist, at the same latitude, on the west coast of South America.

There is still more. In Ptolemy's map, the Land of **(fig. 3)**.

Cattigara bears a considerable number of toponymic indications, some of which are in Latin (*Satproruni Promontorium*, *Saenus Ft.*, etc.), but these are translations from the Greek whose primitive form we do not know, while others (the localities of Acatra, Aspithra, Brama, Rhabana, Caccoranagara, Cattigara, etc.) are indisputably Hindu °. But there are also two nom-

- We use this inaccurate term to avoid "Indian", which could lead to confusion in a work on America.

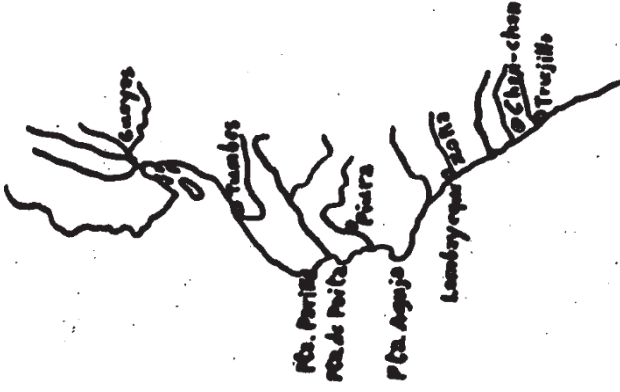
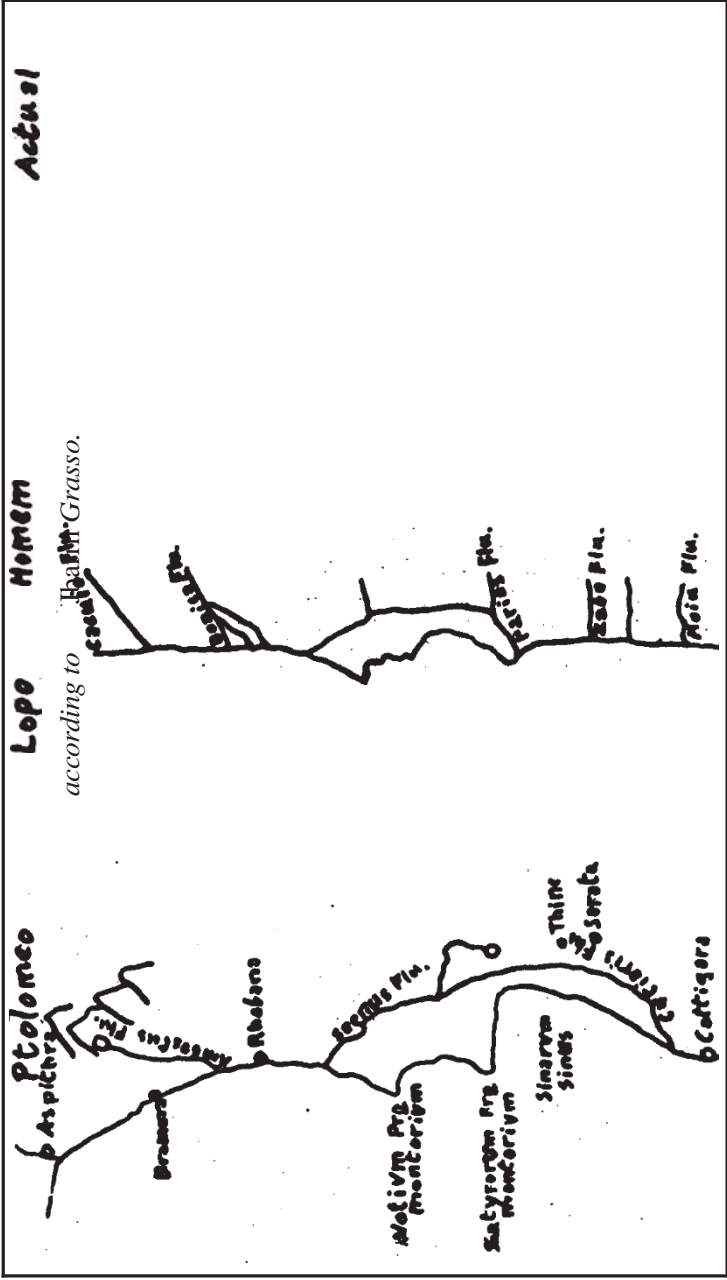


Fig. 3- The coast of Cattigara, according to the Homeric account of S. tidaméri ca, Lopo



**Actual**





bres revealing. One is that of a river, *Ambastus Fl.*; the other, that of a locality, Sarata. Not only do they have a clear Quichua consonance, but they still exist. We find two others on a detailed map accompanying the 1519 world map (*photo 2*) by Lopo Homem, which we will discuss later. The Portuguese cartographer retakes the layout of the Alexandrian one, but with a different toponymy. Two rivers attract our attention. The name of one of them, *Bozica Fl.*, located in present-day Colombia, curiously refers to the White God Bozica of the Mujica tradition. The name of the other, 3fniu El., in Peru, is even more significant. For main, in Quichua, means very precisely "river".

From this toponymy, Ibarra Grasso deduces that the western coasts of America were frequented mainly by Hindu traders at the time of Marino de Tiro. However, the fact itself only means that the Greco-Roman navigators knew them from the Hindus. In any case, we have good reason to believe that the Chinese also crossed the Pacific.

On Ptolemy's map, to the south of the *Sat(rorum) Pronioa-toriuni*, there is a gulf which, in reality, does not exist and which the geographer - or his translator - calls Sineruni *Sirius*, Gulf of the Chinese. At the same height, but in the interior of the land, there is a city ("metropolis", says Ptolemy) which bears the name of Tfiinoe. It was often said to be the capital of China, not without adding that its name came from the Tzin dynasty. It was even claimed that Ptolemy had made a simple mistake, orienting the Chinese coast to the south instead of the north, which is a double nonsense: there was never any difficulty in measuring latitude, and Hindu toponymy excludes any confusion. On the other hand, the name of Thinae -sometimes Thina or Cina-, applied to a city in China

or the country as a whole, was known in the West (Eratosthenes) and in the East (Kantilya, 300 BC) long before the Tzin dynasty (225 to 206 BC). (Kantilya, 300 BC) long before the time of the Tzin dynasty (225 to 206 BC). The most likely hypothesis, and Ibarra Grasso hints at it, is that Thinae or Sinae (the Chinese, in Latin) comes from *Sirius* and means "the inhabitants of the Gulf". Thina and its variants Cina and Sina would then be "the country of the inhabitants of the Gulf".

In the context of this hypothesis, the mention of Thinae and *Stnarum Sirius* on the shores of the Land of Cattigara would simply mean that there had been a Chinese population there at that time. This would be all the less surprising if it still existed in the last century: the immigrants who, around 1850, began to arrive unharmed from the Celestial Empire to Peru were surprised to find in Etén, a small fishing village located precisely in the Gulf of the Chinese of Ptolemy, "Indians", different from the others, whose language they understood<sup>(4)</sup>. It should also be noted that it is among the Chimú, whose capital, Chan-Chan, is situated to the south of the *Sinarttm !Sinus*, that the greatest number of traces of Asian cultural contributions have been noted.

Then there is the famous problem of Fu-Sang. The Chinese historian Li Yu, who has been known to us since the **13th century** thanks to the orientalist de Guignes, has preserved for us the story of the bonze Hwei Chin, who, in 499 AD, is said to have returned to China from the country of Fu-Sang. This Buddhist priest tells us that it is a distant land, situated to the east, beyond the seas, which is named after a plant that is used for multiple purposes: its leaves, when tender, are eaten like those of the bamboo; its coloured fruit resembles the pear; its bark gives fibres from which clothes are woven and paper is made.

The people of Fu-Sang ignore the war. They live in

wooden houses and their villages are not fortified. They are ruled by a king called Y-Ki and by an aristocracy divided into three categories: the tui-lu, the little tui-lu and the na-to-tcha. They have their own script. They use carts drawn by oxen, horses and deer. The latter are reared in the same way as cattle in China: they are milked and their milk is used to make cheese. There are oxen that can carry a load of 20 ho (200 quintals) on their long horns. In the country, there are red pears that keep all year without rotting and grapes in abundance. Copper is worked extensively, as well as gold and silver, which are of little value. Iron is unknown.

Hoei Chin completes his story by retracing the itinerary of five Buddhist monks from Samarkand who, in the year 458, went to Fu-Sang to preach their religion there. They embarked in the Pacific and, 12,000 lis from China (the li is 576 metres), they found iippón; at 7,000 lis further north, Wen Chin, the land of the ainos; at 5,000 lis from the latter, Ta Hon, surrounded by water on three sides. Finally, after a journey of 20,000 lis eastwards, they arrived at Fu-Sang. 20,000 lis is exactly the distance which, following the Kuro Sivo, separates China from California where the maguey grows, a plant entirely in accordance with the bonzo's description of the tu-sang. However, there were no horses in America at the time in question, and neither bison nor deer, except the reindeer, but in the far north, were ever domesticated. These are details which lose much of their significance if one considers that Hoei Chin's account dates back to the 5th century and has not come down to us directly. It is more logical to accept an embellished description than to assume that a journey, told with extreme geographical precision, to real lands, but whose existence would have been unknown, was merely imaginary.

The Hindus were never great navigators. Ptolemy points out that in Ceylon and in the Bay of Bengal, vessels of 3,000 amphorae were used, that is to say, of about 100 tons, which does not seem to be enough to go to America. But we know that navigation between the Indies and Cathay was carried out with huge Chinese junks weighing up to 3,000 tons. Thus the Buddhist monk 'u Hian, in the year 414, made the voyage from Java to Canton in a vessel carrying two hundred passengers in addition to his cargo, and Ibn Batuta, in 1330, went from Calicut to China in a junk on board of which he had, for himself and his favourite slaves, a cabin with a bathroom and a boudoir. The Arab geographer tells us of one of these gigantic vessels carrying six hundred crew, four hundred soldiers and three hundred passengers (1). We also know that between 1405 and 1431, Admiral Tcheng Ho launched seven successive sea expeditions, one of which, with seventy-two junks carrying seventeen thousand soldiers, reached the coasts of Africa (2).

Chinese ships, often in the service of Indian traders, were therefore in a position to make the Pacific crossing. Marco Polo, who speaks only by hearsay on this point, tells us that ships "from Zaiton and Guinsai" made year-long voyages to search for gold on islands populated by cannibals in the China Sea "around Mangi", but far away "from the road to India". The geographical indications given in this regard by our adventurer are most vague and contradictory. One gets the impression that he is talking about Japan, where, by the way, there were no cannibals, and about India, of which it is difficult to say that gold "abounds there so much that it is a marvel". A land of cannibals, where gold is plentiful, six months' sailing away from Japan, where, by the way, there were no cannibals, as opposed to Insulindia.

The city of Acatra on Ptolemy's map is located exactly at the latitude of Teotihuacan. The city of Acatra on Ptolemy's map is situated exactly on the latitude of Teotihuacan.

Another passage in the Milioae, in which Marco Polo describes the island of Cipango, always by hearsay, suggests another idea: "Cipango is an island situated towards the east, about 1,500 miles from the mainland, that is to say from the coast of the province of Mangi. It is a very large island: its inhabitants have 'white skin, a good appearance and civilised customs .... They possess gold in enormous abundance, and the mines where it is found are never exhausted: their king does not allow it to be exported out of the country, and this is the reason why there are very few merchants who travel to this island. The ships that go there from other parts of the world are not very numerous either. **The** extra-ordinary richness of the sovereign's palace, as we were told by people who are allowed access, is a marvellous sight ... The entire ceiling is covered with fine gold leaf ... and the ceilings of each of the rooms are of the same precious metal; numerous departments have tables of fine gold of considerable thickness, and the motifs ornamenting the windows are of gold ... When we speak of that sea (the one where Cipango is located), you must understand that it is but a part of the Great Ocean Sea". The civilised Japanese are not white, and their islands, 450 km from the coast of China (and 100 km from the coast of Korea), and not 1,500 km from it, are not particularly rich in gold.

Would Marco Polo not attribute to Cipango some of the characteristics of a distant land inhabited, in the 13th century, by civilised white men whose temples and dwellings were covered with gold, and which can only be **Peru?**

We are now in a position to delay the two itine-

The first is that of Alexander, who, according to Marino of Tyre, left Zabai and arrived at Cattigara. The first is that of Alexander who, according to Marino de Tiro, as we have already seen, set sail from Zabai and reached Cattigara. Indeed, any ship sailing from Borneo in the direction indicated will soon be dragged in a straight line, by the Equatorial Countercurrent, towards the coasts of the present-day Equator. Ptolemy places Cattigara at 8° 30' south latitude, i.e. at the height of Chan-Chan. There, a coastal current, used by the Incas for their raft voyages to Panama, goes northwards as far as southern Mexico and reaches the North Equatorial Current which crosses the North Pacific and reaches the Philippines.

The second route, the Hoei Chin route, passes through the Ja-pon, Sakhalin and the Kamehatka peninsula. From the latter point, it descends slightly southwards and reaches the Kuro Sivo which crosses the North Pacific and is extended southwards by the California Current. The return journey is, as in the previous case, along the North Sea Current. It should be noted here that, on their outward voyage, when following this northern route, the navigators saw land almost continuously to port, which must have given them the impression of skirting the shores of an immense gulf: the *Sinus Magnus*. This impression was almost accurate, moreover, since Asia is only separated from America by the Bering Strait.

The Greco-Romans were probably not familiar with the Fu Sang code. Their trade with China was in fact carried out either by caravans bringing the products of the Celestial Empire, and in particular silk and cotton goods, to Persia, or from their factories in South Asia, and especially from the Chersonese Aureus. They knew, by the way, that it was possible to reach China by going northwards up the coast of the Siatts *Magnus*. We have the

The Greek merchant who settled in Bereniza, on the Red Sea, left us a navigation manual, *Periplous-Moris Sritltrnei*, in which he speaks of the silk country, located "just below the Big Dipper". But he does so only by hearsay: China' is very difficult to reach "and very few are those who get there" (1) .

During the whole of the Middle Ages, Ptolemy's *Geography*, to which the *Periplus* was the usual complement, was little more than a repetition. Things changed when the Arabs took the place of the Greeks and established themselves firmly in Insulindia, from where they brought to Europe the products of Asia, especially silk, spices and brazilwood dye. Their geographers who, in Byzantium, had found the works of Ptolemy - including his *Almagest*, from which they drew the essentials of his mathematics - began, therefore, to receive extremely precise reports containing either the :fruit of their authors' own accurate observations or an account of the knowledge acquired over the centuries by the educated navigators of the Indonesian islands. When they transferred these new data to Ptolemy's map of the world, two facts immediately came to their attention: Sumatra and Borneo were islands, distinct from Indochina; the Land of Cattigara did not exist, at least in the place where the Alexandrian had located it. The result of this work is clearly seen in the map drawn in 1154 by the Arabic-speaking Roubian geographer El Edrisi, in the service of Roger II, \*north king of Sicily (*Jtg.* 4). To the east of Ceylon (Sarandib), we see in it a group of islands, the most important of which bear the names of Ram and Al Kamar (or Malal). This archipelago not only represents, otherwise very poorly, the Insulindian, but also replaces plainly and clearly the Chersonese Aureus. Further afield, the Indian Ocean is open to a universal sea that surrounds the whole of the Indian Ocean.





Mo. 4 - El Edrisi world map (1154).

The map of the lands, including the 7'erra incopaita of Ptolemeo which, to the south, is still linked with Africa and with China, whose coasts, for the first time, are designed. Note that El Edrisi's map is oriented in the Chinese way, with the north at the top, and that we must therefore turn it upside down to be able to compare it usefully with that of the Alexandrian.

The travel accounts of Marco Polo and Nicolo dei Conti soon reinforced the interpretation of the Arab geographers whose influence lasted until the middle of the 15th century. The anonymous map of the world of 1457, which is generally attributed to Toscanelli, and that of Fra Mauro (1459) simply take up and refine the Edrisi schema. In other words, between 1154 and 1459 - to limit ourselves to the dates of the maps that have been preserved - the geographers of the West simply denied the existence of the Land of Cattigara. This despite the fact that Ptolemy's work, constantly reproduced in countless manuscripts, had never ceased to constitute, for Europeans as well as for Jews and Arabs, the basis of cosmographical science, as it was then called. Things changed suddenly in 1489.

That year, in fact, the world map of the German geographer Henricus Martellus (Jis. 5) was published. As in the maps of El Edrisi and his followers, the Ecumene is surrounded by the universal sea. But Ptolemy's Sirius *Magnus* takes its place. The Land of Cattigara thus reappears with its capital. It is no longer, however, a mere coastline extended south to Africa by a 7'errn *incognita*. The ocean is open, to the south as well as to the east. But our geographer makes the Chinese coast the eastern maritime limit of the Land of Cattigara. The latter thus takes the form of an enormous peninsula which prolongs

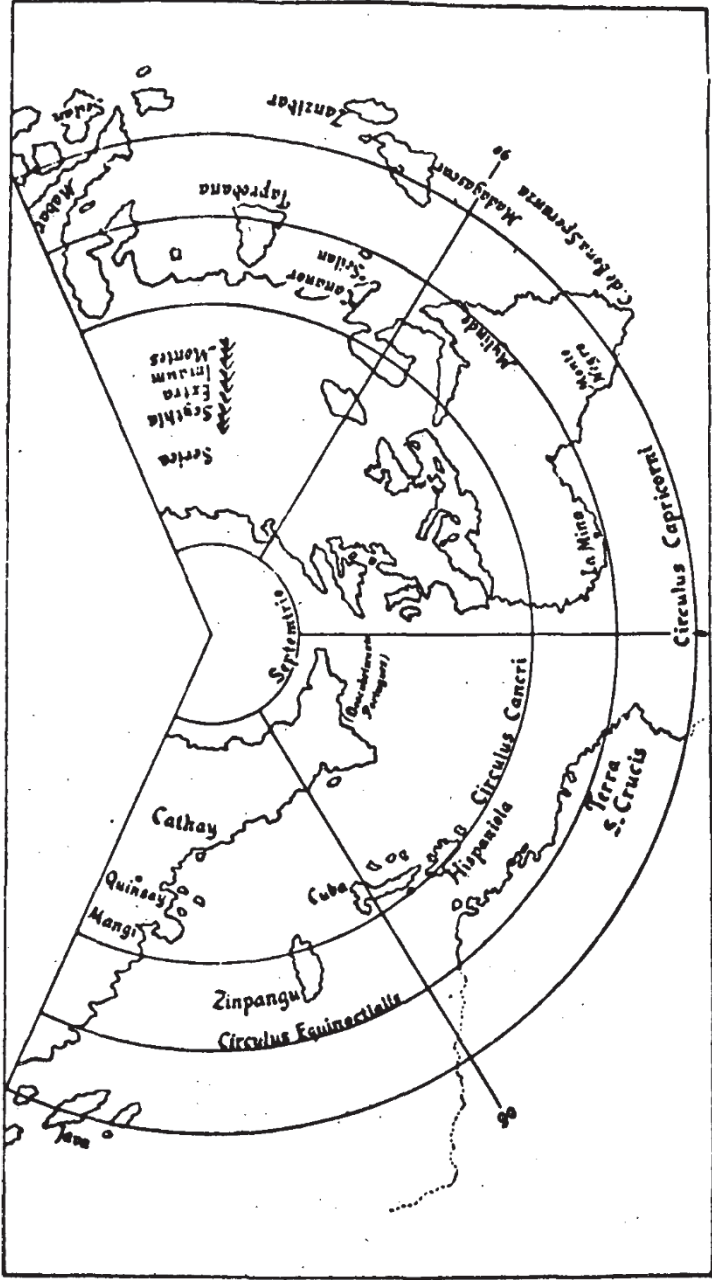


FIG. 6.—Mapamundi de Contarini (1505). Croquis, según G. R. Crone.

China to the south, east of the Simms Mapnus, as reduced as in Ptolemy °.

Professor Ibarra 'Grasso (°) wants to see in this transformation the consequence of the revival, due to the imprinting, of the Alexandrian's conceptions. Henricus Martellus would only have made a sort of synthesis of the apparently contradictory data of Ptolemy and El Edrisi. Such an interpretation does not satisfy us at all. Besides the fact that *Geography* had never ceased, as we have already said, to be within the reach of specialists, at least from the 11th century onwards, the shape of the non-existent peninsula, and Ibarra Grasso points this out with his usual loyalty, is extraordinarily similar to that of South America, including Tierra del Fuego. Can this extremely precise outline be due to mere chance? Is it not rather the reflection of a real, if incomprehensible, knowledge of America? We cannot help but ask ourselves this question. Especially when we see that in Martin Waldseemüller's map of the world (Joto 8), which we will discuss at length in the next chapter.

which will be discussed at length in Chapter IV, the "Land of Then" of the peninsula is cut off by a strait, admittedly oriented north-south.

Although it is already found in the anonymous map of 1457, attributed to Toscanelli, where a deformed Indochina can be seen, it is with Henricus Martellus that the "great error" that Ibarra Grasso (3) was the first to point out and analyse was clearly born. To add to the previous maps

- This work was in press when we became aware of the article by Paul Gallez, *Les grands Jéuves d'Amérique du Sud sur ie ptoiómée londotiiien d'Henri Summer 1489*, published in 1975 in the German magazine *fnDKUNDK*. The author shows in it, with comparative maps, that, in the world map of his In- sutorium itlustratiim, Martellus (Hammer) places in the Land of Cattigara all the main rivers of South America.

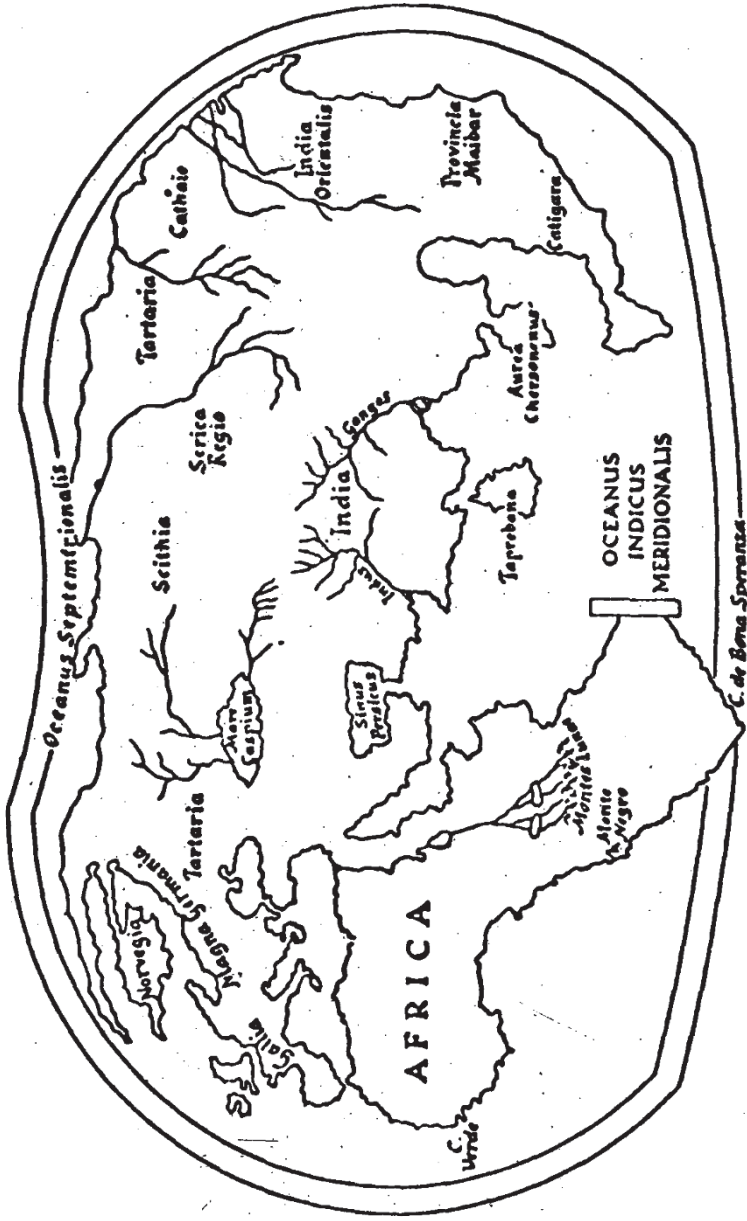


FIG. 5 — Mapamundi de Henricus Martellus (1489). Croquis, según Ibarra Grasso.

the coasts of China, recently known in the West, the *Sitnus Magnus* had to be extended northwards. This was not possible without making it a fjord, unless it was given its real width, or at least the width it had according to Marino of Tyre, which the reduced dimensions of the "Great Gulf" seemed to rule out. Martellus therefore saw no other solution than to complete Ptolemy's truncated map by extending it by 40 degrees east of Cattigara. After that, it seemed logical to Martin Behaim, in his famous globe of 1492, to place Indonesia beyond "East India", i.e. in the middle of the Pacific Ocean; which, however, the presence of the island of Java in the Alexandrian's Sirius Maqotts should have forbidden him. This "great error" would prevent many geographers, after the discovery of South America, from recognising its prefiguration in the mysterious peninsula. Thus Contarini, in 1506

(*J\*g. 6*), Waldseemüller, in 1507 (*Voto 8*) Lenox,  
between

1510 and 1520, it is not known exactly (*fig. 'Z*) ; Schiiner, in 1515 (*fig. 8*) ; and Apianus, in 1520 (*Joto 5*) : all of them present together, at the two ends of their mapamundis, the Cattigara Peninsula and South America. The round-the-world voyage of Magellan-Elcano, in 1520, will make such a duality impossible by proving that East India does not exist, at least where it was placed.

At the same time as the world maps we have just mentioned, other maps of archaic appearance were drawn in Portugal, which, nevertheless, were much closer to reality. They are due to the discovery, in India, of a Javanese map whose original was lost in 1511 in a shipwreck, but which had been previously copied by a geographer of the Portuguese navy, Francisco Rodrigues <sup>(6)</sup> . This copy was also subsequently lost

-except for a few detailed maps - but several geographers

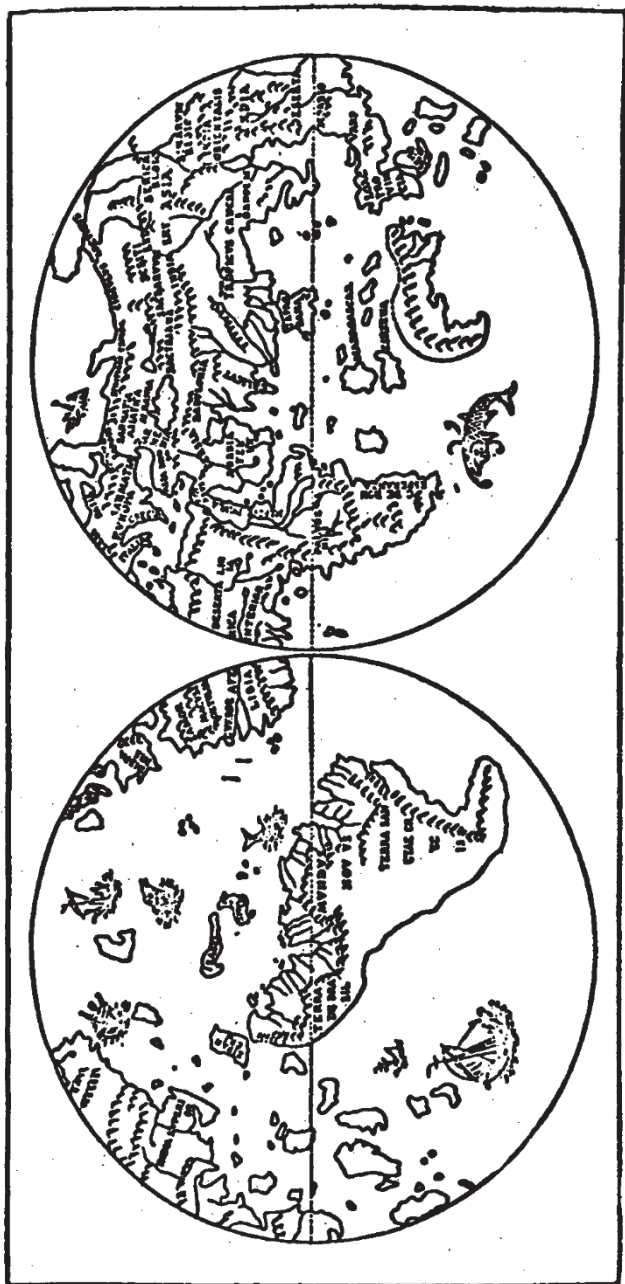


FIG. 7 — Mapamundi de Lenox (entre 1510 y 1520).





The works of those who have survived from the period had been ins- pirted in it.

In these maps, the Indian Ocean is once again an enclosed sea and the coast of Cattigara is once again as it was in Roman times. Not Ptolemy's layout, however, and we owe this observation to Ibarra Grasso <sup>(3)</sup> , but that of Marino de Tiro. **It is enough to** look at the detailed map of Peter Reinel (*fig. 9*), which dates from 1516, to see not only that Insulindia occupies in it, *roughly* speaking, a correct position, west of Cattigara, but also that the *Sirius* Mnsus is 45 degrees wide, against 8 for the Alexandrian. It is much deeper, on the other hand, and we see in its interior the Philippines (with the name of Malaque ins.) , Formosa and Japan (*Parloco* ins.) . The coast of Cattigara descends to 25° south latitude and the geographer undoubtedly identifies it with America, since we read on it, deformed, the name of *Parra*. On a later map, Reinel takes the *Sirtus Magnus* to 45° north latitude and leaves it open. To the east, a curved line clearly represents the coasts of North America.

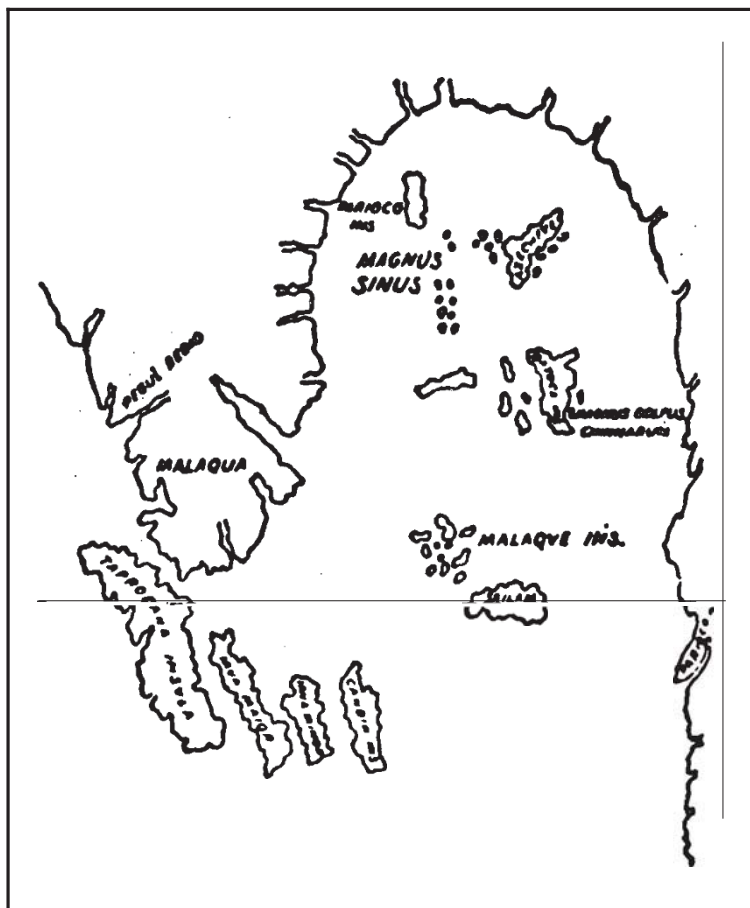
Let us examine the world map (Joto 2) designed in 1519 by Lopo Homem. In it, the Indian Ocean and the Atlantic Ocean form a single enclosed sea. A detailed map (Joto 8) shows us, on the coast of Cattigara, the two capes already pointed out by Ptolemy (*Jtg. 8*), with the revealing symbol of *Main FI*. It is still America, then. This coast extends westward along the Tema *incognya* of Ptolemy (and Marino of Tyre). But the southern land in question, situated much further south than in the Alexandrian, is not united with Africa, correctly designed, but with the eastern coast of South America which bears the double name of *Mondus Nosus* and Brazil. A surprising thing, since

we are in 1519, a year before Magellan's voyage, the entrance to the strait, supposedly discovered by Magellan, is clearly indicated. In the northern hemisphere, the coasts of China are confused with those of America and of a Greenland united with Scandinavia.

Lopo Homem copied the Javanese map. The proof is provided by the world map drawn by the Turkish geographer Piri Reis in 1513. Unfortunately, only the western third (Voto 4) remains. We see on it not only part of Europe and Africa, but also the coasts of America.

of the North, confused with those of China - Japan takes its rightful place - and of South America, with the Falkland Islands, but without the strait. The southern coast of the "New World" slopes eastwards and becomes, far south of the Cape of Good Hope, the same Southern Land as in Lopo Homem's map. This is enough for us to conclude that Piri Reis' conception of our planet was identical to that of the Portuguese geographer. The coast of Cattigara, then, must have closed, to the east, his Indian Ocean.

The Turkish cartographer tells us, in the innumerable annotations of the remaining part of his world map, that he had obtained from a sailor of Columbus, who had become his slave, the data he used to trace the coasts of Central America. His toponymy of South America suffices to show us that he had Portuguese sources of information. But the presence of the non-existent Austral Land can only be explained by access to maps of Greco-Roman conception, modified according to the real limits of Africa and the western outline of the Land of Cattigara. In Byzantium, Piri Reis had been able to consult the GeoprnJin of Ptolemy; not that of Marino of Tyre. But it is logical that the latter was preserved in southern Asia, where the Greek navigators must have brought it,



Arc. 9 - II Sinus Magnus on the *Pedrop eittel* map (1516).  
*ŒToquis*, according to Encyclopaedia 'Pre'ccani.

Unlike the Alexandrian's work, which was of no value to seafarers who continued to frequent the Sirius Magnus, the Turkish cartographer must have been inspired, like Lopo Homem a few years later, by the Javanese map or other similar documents. The Turkish cartographer must have been inspired, like Lopo Homem a few years later, by the Javanese Map or other similar documents.

It remains to be seen whether Piri Reis and Lopo Homem had, each on his own, the same idea, in order to break up Africa and place South America, of moving the southern land of the Greco-Romans further south, or whether the modification was already included in the Javanese map. As far as Africa is concerned, this second hypothesis is very plausible. We know that, at the beginning of the 15th century, one of the expeditions of the Chinese admiral Tchang Ho had reached Aethio-pin, as it was then called, and far to the south, since, on his return, he had brought back giraffes <sup>(5)</sup> . On the other hand, a Malay population lived in Madagascar and these seafarers could hardly have been unaware of the southern contours of a continent so close to them. Finally, the Arabs, who had been trading for centuries with Indonesia where they had factories, sailed constantly along the eastern coasts of Africa. The mystery therefore only remains with regard to South America.

In extending the Terre Incognite of Ptolemy and Marino of Tyre westwards, did Piri Reis and Lopo Homem merely follow the Indonesian cartographer, or did they have much the same idea, or did the Portuguese copy the Turk? In the first case, it would have to be admitted that seafarers of our era had not only frequented the gates of the Land of Cattigara, but had explored it, which is not at all impossible. But if so, the entry into the Atlantic from the Strait of Magellan should logically appear on Piri Reis's map and its exit into the Pacific - for it would be truly paradoxical if the Asians had known the eastern coast of the Pacific better than

the Asian seafarers.





South America than the western one, in that of Lopo Homen. There remains one last possibility which seems to us to be the most likely: that the Javanese map served as a model for both geographers as far as the southern land was concerned, but that Lopo Homen obtained the complementary detail of the strait from a European source. This would explain the contradiction we have just pointed out: our cartographer would have simply copied the Javanese map to the east, but would have improved it to the west by adding, like Piri Reis, the coasts of South America which, for him, included the strait of which the Turk was unaware. However, in 1519, this strait had been known in Europe for years. We shall see.

First, let us take up where we left off, the analysis of the maps in which the Land of Cattigara took the form of a huge Asian peninsula situated to the east of Indochina. The series is interrupted, with Apianus, in 1520. In that year, Magellan crossed the strait and reached the Philippines, where he died. Elcano continued the voyage and crossed the entire Indian Ocean. Neither the one nor the other found, to close the passage, the land that appeared on all the world maps. But, in reality, had the Spanish fleet not found it and crossed it before reaching the regions where the maps placed it? Columbus had reached the empire of the Great Khan across the Atlantic, and South America was only an extension of it. The Land of Cattigara existed, then, but further east than was believed. Balboa's South Sea was the *S\*nus Magnus* and this is the name it will bear on some maps, for example that of Ortelio (Voto 7), in 1574.

After a few years of doubt, this interpretation was accepted by the French and Italian schools. Thus it was that, in 1531, the globe of Orontius (*fig. 10*) shows us, easily

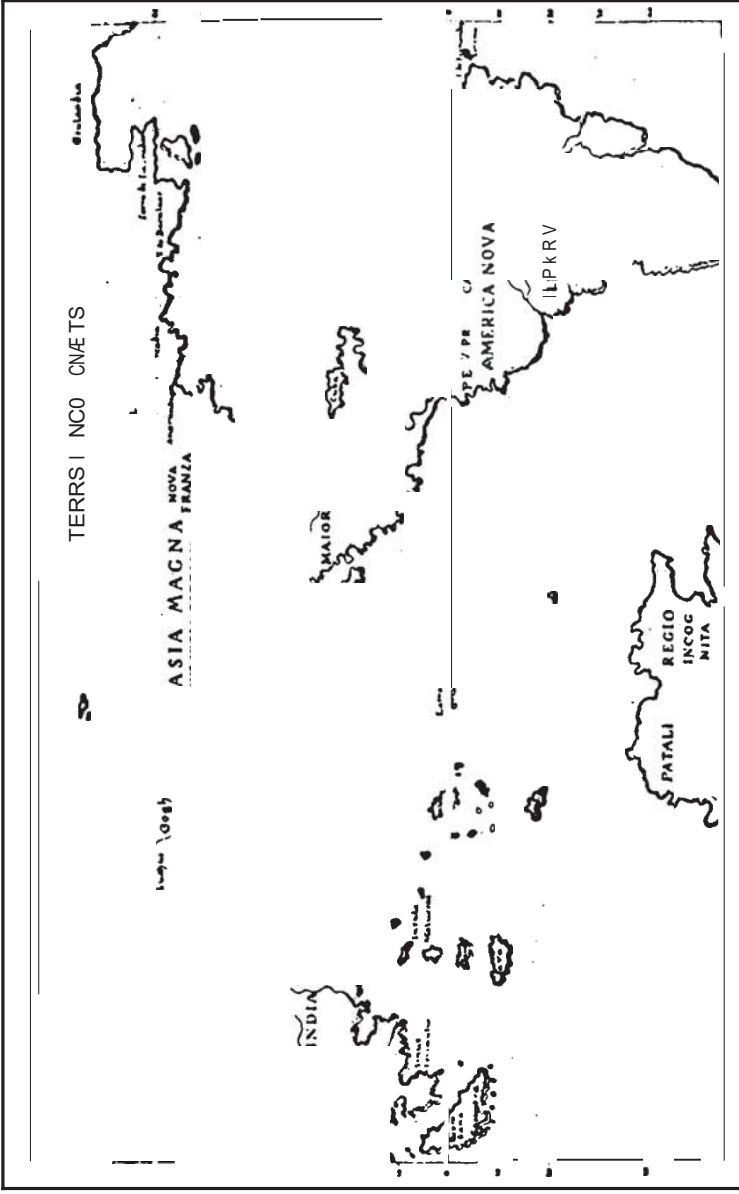




Fig. 1-1 Geografici world map deP lolo omeo, 1548. edition

The famous peninsula, now oriented towards the east, and no longer towards the west, and prolonged by a South America whose layout is at least as close as we know it to 20° south latitude, is still **recognisable**. Cattigara is in the place it had in Ptolemy. Cathay and Mangi -China- are situated in the Gulf of Mexico and the West Indian Sea. In 1548, in a map added to an edition of the Alexandrian Geographius (Jiff. 1), the *Sirius* Montis is enlarged to the north and China appears on its western coast. In 1571, **the Great Gulf** widens considerably on Francesco Basso's map (fig. i2) . From Indochina onwards, the Asian coast, instead of rising northwards, forms an arc of a circle linking it to northern California. Central and South America are correctly designed, for the time, but the eastern coasts of North America lengthen eastwards where they join those of Greenland. Inland, the confusion is total: New France is listed as an appendix to, if not part of, Greater Asia or India Borealis. Such obstinacy in error is all the less admissible because, since 1507, the German school of thought had conceived America as a separate continent.

Let us leave aside, for the moment, the "impossible map" designed in Saint-Dié, before 1507, by Martin Waldseemüller (fig. 8) . We will study it at length in chapter IV. Let us limit ourselves here to saying that, in it, America is independent of Asia and that, from the Gulf of Mexico to the Rio de la Plata, its outline is perfect. However, the Strait of Magellan is missing: the map does not go beyond 40° south latitude. This is not the case with the Johann-Schöner globe (Jtg. 8), completed in 1515. The Cattigara peninsula is still there, and Insulindia is situated in the middle of the Pacific. The "New World" is separated from the



ordding to  
acc

Arc. 1-2Mhpn by Francesco Basso (1571),

The Encicl

lopedia  
Labor.

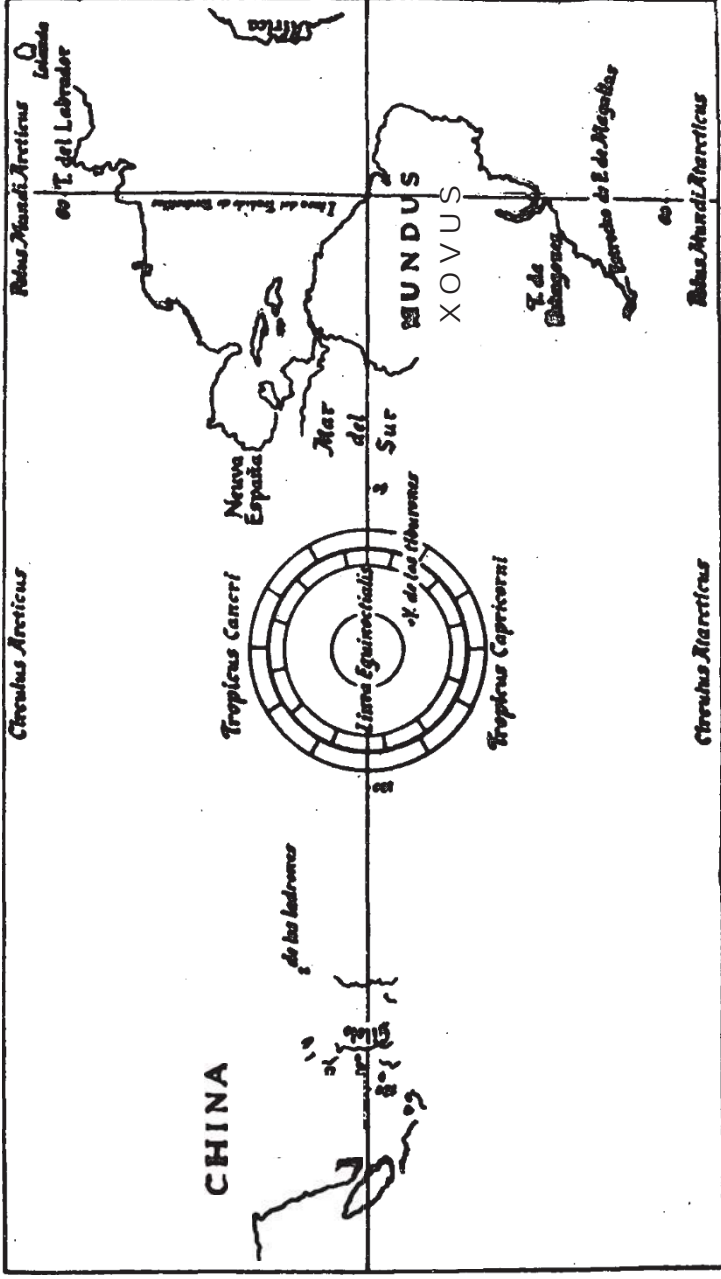


Asia, divided into two parts, in Central America, by the non-existent pass that everyone was talking about at the time. North America is of extremely small dimensions - we shall see why in Chapter V - but **South** America shows an almost correct outline which the state of official knowledge does not explain at all. The western coast is complete, including that of Peru, indicated as *TerTa incognita*, which Pizarro will only reach in 1532: the Spanish geographer Diego Ribero will still leave it blank in 1529 (*fig. 13*). On the eastern coast, a profunda escotadu-

ra correctly indicates, at 40 degrees south latitude, the entrance to the Rio de la Plata, which Juan Diaz de Solis has not yet discovered. Five degrees south, a strait separates the continent from an enormous land, called *BTOSille Regio*, which comes from Antarctica, covers Tierra del Fuego and extends, in a semicircle, into the Pacific Ocean. It can only be a region of the southern land of Ptolemy, another part of which - probably Australia - arises to the south of Insulindia. The continental nature of America was therefore known in Lorraine and Germany at the beginning of the 16th century, and it was already known in 1515 that there was a passage in the south that led from Europe to the Indies via the west. However, Magellan only "discovered" this strait in 1520 ...

Eii the Lenox balloon we have already discussed (*fig. 7*)

-The southern Sierras disappear - the date is uncertain and is placed between 1510 and 1520. South America - North America is reduced to a small rectangular island, and may be merely Central America - is represented, less accurately than in Schöner, as an isolated continent bearing the name *7'ernn Sanclae CTuCi8* which the Portuguese gave to present-day Brazil. But, on the Pacific coast just below the Equator, i.e. at the place corresponding to the coast of Ptolemy's Cattigara,



Fzc. 13 - Mopo âe Diego R\*bero (1529). Croqqtzts, according to G. R. Crone.

we read *Verro de Brazil*. The word comes from a dye wood which is only found in Insulinia and in the equatorial region of America. During the Middle Ages, this wood, in the form of pulp and powder, was one of the products brought to Europe from India by the Arabs. In 1510-1520, the Portuguese were importing it from the Amazon. Who, at the beginning of the 16th century, could have thought of Brazilian wood in relation to the kingdom of Quito? Are we to suppose that Arab traders knew of the Land of Cattigara - which would not be impossible - and, either directly or through Asian sailors, imported dye wood from there? This would not be very logical, since Brazil was abundant in the eastern islands of the Indian Ocean, or did the geographers of northern Europe have another source of information? For the moment, let's just ask the question.

The last of the maps prior to Magellan's voyage that have been preserved is that of Apianus (1520), dated 1520. Copied, rather, since it limits itself to challenging Waldseemüller's map of the world. Except for one point: the south of America is surrounded by the sea. Then comes, in 1529, Diego Ribero's map (*Jtg.* 13), in which the whole of America is clearly separated from Asia by a Pacific Ocean of a correct extension, but without any design of its western coasts, except at the equator. The Strait of Magellan is indicated, but Tierra del Fuego is reduced to an intimate fraction of its northern coast. In 1540, Sebastian Münster shows us (*Jtg.* 14) a North America comprising the Spanish possessions of the time, from California to La Florida, La *Francisca* (present-day Quebec) and the island of Terra Nova, and a complete, but rather poorly designed, South America. To the north-west, the continent is separated, for the first time, by the





FIG. 14 - Mapa de Sebastián Münster (1546).

The first time, from Asia through a strait - our Behring Strait. To the south, an enormous Tierra del Fuego, cut along the edge of the map, recalls the old Austral land, which still appears, under that name, in 1587, on Ortelio's map (picture 7) and, in 1595, on Mercator's (picture 9). North America, although very distorted, acquires, in these two mapamundis, an extension relatively close to reality. Mercator, on the other hand, draws a South America that is difficult to recognise.

What conclusions can we draw from this analysis? Firstly, that the ancients knew, at least in the first centuries of our era, the western coast of South America and that, there, they frequented a port which they called, according to Hindu toponymy, Cattigara, but which was, in reality, Chan-Chan, capital of the Chimu empire whose culture had received an indisputable Asian imprint. They believed, however, that this coast closed, to the east, the Indian Ocean and linked China with a 'Serra Australia that was to join Africa. The Land of Cattigara was America: there is not the slightest doubt about this since Professor Ibarra Grasso discovered the geographical and toponymic identity of the coast in question and of that which appears on our maps of the "New World".

In the Middle Ages, however, the only surviving cartographic evidence of Greco-Roman navigation in the Pacific was the world map on which Ptolemy, mistakenly re-drawing the Sino Mopnus of Marino of Tyre, had placed the Land of Cattigara, very close to the Chersonese Aureus. Not finding it again, the Arabs, in the 12th century, simply suppressed it. The Europeans, on the other hand, on the basis of the accounts of Marco Polo and Nicolo dei Conti, turned it into a second Indochina whose shape, however, was clearly similar to that of South America, which the official records show to be the case.

The known maps do not allow us to **explain it**. In the Italian maps and in some others, this non-existent peninsula remained until Magellan's voyage, to be confused afterwards in a South America united with China and connected to the east. The Portuguese school, on the other hand, on the basis of the Javanese map copied in 1511, returned to the conception of Marino de Tiro, but linked the Southern Land, no longer with Africa, but, as the Turk Piri Reis had done, with South America, of which the Land of Cattigara was thus considered as the western part. The German school, finally, thanks to Waldseemüller's "impossible map", learned as early as 1507 that America is without an independent continent and, as early as 1515, that a strait in the south allows passage from the Atlantic Ocean to the Indian Ocean.

We are therefore dealing with data from two different sources. Some, later distorted by Ptolemy, were collected in the East by the Greek-Hungarians and preserved in Indonesia, where they were rediscovered by the Portuguese. The others, of western origin, suddenly appeared in northern Europe at the beginning of the 15th century. The first ones make it difficult for geographers to identify South America, after Columbus' discoveries, with a Tierra de Cattigára which is still no more than an extension of the Asla. The latter, on the other hand, make a new continent appear all at once, with the southern half of the continent being perfectly designed, including, from 1515 onwards, the strait known as Magellan Strait. Thanks to Professor Ibarra Grasso, the enigma of 2a Cattigara Land has been deciphered. We still have to solve the mystery of the 'West Land'.



## II

### Beyond the Tenebrous Sea



If one admits the sphericity of the Earth, as the ancients did at least since the third century B.C., it is very difficult not to deduce from it a number of obvious consequences, one of which is of particular interest to us: any traveller following the same direction in any parallel would return to his starting point. It is therefore possible to go to the Indies from the west. In fact, what is so often presented to us as a brilliant discovery by the Florentine geographer Toscanelli in the 15th century, was already known to the Greeks and Romans, and the texts that prove it go much further.

"Those who think, says Aristotle (°), that the place where the Pillars of Hercules are situated is united with that which precedes the Indian region and thus affirm that there is only one sea do not seem to be saying anything very far-fetched" °. The Stagirite states in another work ( ) that the 'universal sea' is not necessarily to be considered as a mere expanse of water: "The language of men has divided the inhabited earth into islands and continents, no doubt for the sake of imagining that the whole of it is an island surrounded by the waters of the Atlantic. But it is probable that there are distant lands separated by the sea, some larger than this one and some smaller than this one, and some smaller than this one.

• Most of the quotations in this chapter are taken from Alexandre de Humboldt's work, *Cristóbal Colón y el Descubrimiento de América*. But they are retranslated from the Greek and Latin originals or, in some cases - Cosmas, El Edrisi - from Latin translations of the original texts.

smaller, but none of which is within our reach". The slight doubt that remains until later appears when our philosopher writes (-): "Because of the sea, the lands beyond India and the Pillars of Hercules do not seem to be united in such a way that their union forms a continuous habitable land". Then, between the western coasts of Eurafica and the eastern coasts of Asia, there are several continents that the sea surrounds like ours.

The Greek geographer Strabo (<sup>10</sup>) is even clearer: "Thus (as Eratosthenes endeavours to persuade us), if the immensity of the Atlantic Sea were not opposed, we could sail on the same parallel from Spain to India.... We call inhabited land that which we inhabit and know. But there may be in the same temperate zone up to two inhabited lands and even more, particularly along the circle passing through Thinae and the Atlantic Sea". Here, Thinae is China itself - the parallel "of Rhodes and Thinae" is mentioned elsewhere - and not the city that Ptolemy points out in the Land of Cattigara. In Book II of his *Geographia*, Strabo insists on the possible existence of a continent situated between eastern Asia and western Europe: "To give an exact idea of the other parts of the globe (i.e. of the southern lands. N. A.) or even of the whole of this vertebra or zone of which we have spoken (the northern zone, to which the geographer attributes the form of a vertebra. N. of A.) This is a matter for another science, as well as to examine whether the other quadrilateral of the vertebra is inhabited like the one in which we find ourselves. Suppose, indeed, that it is, as is very probable: it must not be inhabited by peoples of the same origin as ourselves, and therefore that inhabited land must be different from ours. In Rome, we find in Seneca (^) a phrase that



proclaims the possibility of crossing the ocean: "How far is it from **India to** the last coasts of Spain? A few days' sail, if the wind drives **the ship**". The philosopher goes further in his tragedy *Medea* (^) :

J\ftl, qua *fuera*t *sede*, zeiiquit  
*Perkins* orbis.  
*Indtis gelidim potai Araxe* Aibim  
 Persae Rhenunique b\*bttat.  
*Veuient annie saecttla semis*  
 Qüibus *Oceanuz vincula* rerttnv  
*Laxet, et ingens paleat tellvs,*  
 TetJtpsque not'*os deIegal orb*es,  
*Nec sit terme* ultime **Time**.

"In this accessible world, nothing remains in its place. The Hindu drinks the water of the frozen **Arax**, the Persians that of the Elbe and the Rhine. Centuries will come when the Ocean will open its barriers and new lands will appear. Thetis will discover new worlds and Thule will no longer be the most distant of all lands". No one has deserved more than Seneca the name of *vates*, prophet, which the Romans gave to the poets.

Let us return, however, to the sages. Maerobius (\*<sup>\*</sup>) retakes and specifies the image that the ancients had of the world on the eve of the destruction of the Empire: "We shall now demonstrate, as we have promised, that the ocean surrounds the earth, not 'in one, but in two different directions ... . The first belt which it forms around our globe extends across the torrid zone, following the direction of the equinoctial line, and circles the whole world. Towards the east, it divides into two arms, one of which runs northwards and the other southwards. The same division of the waters takes place in the west, and these last two branches meet those which divide the world.

The Ocean, which follows the line of the Equator, and its arms, which run towards the horizon, divide the globe into four parts. The Ocean, which follows the line traced by the Equator, and its arms, which are directed towards the horizon, divide the globe into four parts, which form as many islands ... two in the upper hemisphere and two in the lower". In other words, Macrobius affirms the existence of the two Americas which separate the two Americas from eastern Asia, the one, Europe, and the other, Africa.

Are all these texts just briefly quoted mere scientific deductions, or are they supported, if not by facts, at least by traditions concerning the unknown lands of the Atlantic? There is, of course, the myth that Plato, in two of his dialogues, the *Timaeus* and the *Critias*, re-takes from a lost poem by Solon, written two centuries earlier. Everyone knows its plot: a gigantic island, Atlantis. Atlantis, west of the Pillars of Hercules, which was suddenly wiped out by a cataclysm, and whose highly civilised population was on the assault of the Mediterranean countries. By discovering the submerged ruins of Basileia, the capital of Atlantis, in the North Sea, the pastor Jürgen Spanuth recently proved definitively that neither Solon nor Plato had invented the affair, even if the latter had given us a considerably distorted version of the account given to the former by Egyptian priests. But the Platonic myth has nothing to do with the Western Lands, since it is based on the attack on Egypt, about 1200 B.C., by Hyperboreans from Scandinavia.

Quite different, from this point of view, is another geographical myth which we owe to Plutarch (^) and which refers to τὴν Μῦθον ἰν ἰντῶρον, *et* a Great Continent beyond the Pillars of Hercules. To reach it, one has to sail for five days to the west of the British Isles and finds the island of Orgyia. After another three days' voyage to the west of the summer sun, the island of Orgyia is found.

west-northwest, are the three Saturnian Islands. Beyond, farther away, but closer to them than to Orgygia, lies the Great Continent that surrounds the Cronian Sea. Its inhabitants know us but believe we live on an island. Between Orgygia and the mainland, there are 5,000 stadia. All this was learned from a foreigner who came to Carthage.

-Roman Carthage - from beyond the Ocean.

In another work (<sup>10</sup>), Pliitarco adds to his account a significant detail: "The crossing of the Chronian Sea is slow, because of the alluvions of the rivers that descend from the Great Con- tinent and make the sea thick and earthy". Rather than the Sargasso Sea of which one might think, the deseription seems to refer to the shallows surrounding the submerged island of Basileia. But the region described by Plutaréo extends much further to the west and north: on the islands in front of them, the sun only disappears for an hour behind the horizon, without the darkness being absolute. Is it the boreal America, today's Canada, which the Hyperboreans would have inhabited long before their descendants the Vikings? Ortelius thought so, in the 16th century. What reinforces this interpretation is that we find the same myth, in a slightly different form, in a lost work by the Alexandrian Theopompus, *Liber admirabilis*, quoted by Dionysius of Halicarnassus, who praises it, and Strabo, who ridicules it. The Great 'Continent' of Meropia is situated beyond the Ocean. It is inhabited by a race of gigantic men who grow to be very old. Its institutions and laws are diametrically opposed to ours. It has more gold than there is iron among the Greeks. One day, the 'Méropes decided to visit our little island. They aborted in the country of the Hyperboreans, but were so disappointed in their way of life that they turned back without continuing their journey.

There is **always** some truth in the origin of the myths of antiquity. Troy and Basileia met again. We know from the bas-reliefs and inscriptions of the Egyptian temple of Medinet-Habou that the Hyperborean "Atlanteans" really attacked the peoples of the Mediterranean. Can we, under these conditions, reject stories that tell us of a Great Continent, when it exists in the place where they place it?

This would be all the more difficult since, in addition to the myths just mentioned, there is a whole series of treatises belonging to historical times. The first of these is to be found in a treatise (\*), long attributed to Aristotle, but which does not appear to be his work. The author tells us, for the first time, of an island in the Atlantic: "It is said that in the sea beyond the Pillars of Hercules, an island was discovered by the Carthaginians, now deserted, where both forests and navigable rivers abound, and where all kinds of fruits abound. It is situated many days' sail from the Continent. Since the Carthaginians visited it frequently and some of them, attracted by the fertility of the soil, had even settled there, the chiefs of the Carthaginians forbade anyone, on pain of life, to sail there and killed all the natives. "According to the pseudo-Aristotle, the Carthaginian Senate wanted to prevent the colonists from becoming independent and competing with the mother country. Diodorus of Sicily(1\*), who also describes this delightful island, not to be confused with the mythical paradises of the Greeks, and attributes its discovery to the Phoenicians, tells us that the Carthaginians forbade its colonisation because they used it as a refuge in case of the destruction of their metropolis. Should we relate to these accounts the passages in which Plutarch (') and Salustro (1'') relate that Ser-

torius hoped to find asylum in the land in question when he saw two ships entering the mouth of the Baetis from "two islands mysteriously situated, it was said, 1,000 stadia away"?

What could be the Carthaginians' island of steriosa? Neither the Canaries, which the Anches were still inhabiting when the Spaniards landed there, nor Madera, where the Portuguese, in 1420, found no trace of an earlier settlement, nor the Azores, which are nothing but large rocks. Oviedo (°), who spent thirty-four years in Central America at the beginning of the 15th century, believes that these are Cuba or Haiti, the only islands in the Atlantic, apart, of course, from those which belong to Europe and are excluded, where navigable rivers are found. They were inhabited at the time of the Conquest, but were they always inhabited?

The voyages of the Phoenicians, the Greeks and the Carthaginians fell into oblivion at the same time as the geographical knowledge of antiquity, so precise in many points that Erastosthenes had been able to measure, with astonishing accuracy, the circumference of the globe, in the *cloaca* geatium which Rome became in the first centuries of our era. Christianity contributed mightily to this shipwreck and the Fathers of the Church, almost all of whom were illiterate, or little less, returned to a conception of the world, prior to the Pythagoreans, of which the Alexandrian monk known as Cosmas Indicopleustes (") has left us a precise and complete exposition. The earth is flat and the *Ecumene* has the shape of a parallelogram surrounded by the waters of the universal sea (*fig. 15*). However: "Beyond the Ocean which surrounds the four sides of the inner continent, the one which represents the area of Moses' tabernacle, there is another land which contains paradise and which men inhabit" (*fig. 16*).

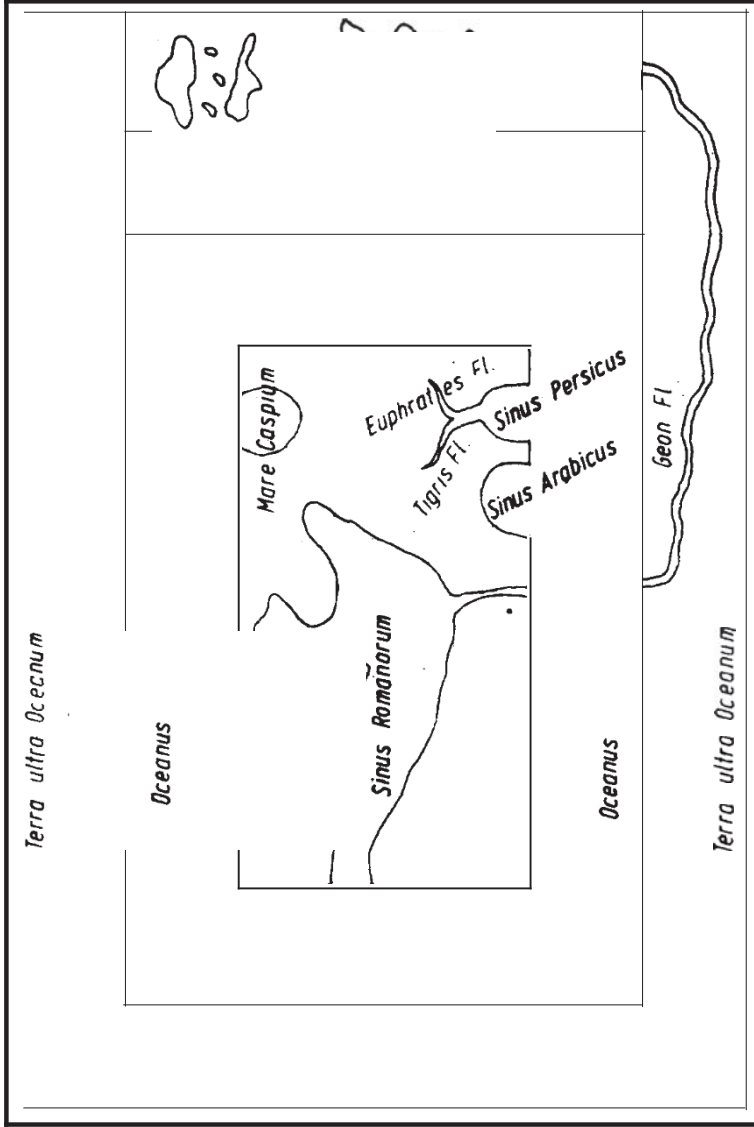


FIG. 15 Mapo mundi of Co Anmas In dichople tes (1 Siglo III).

ron until the Flood". Without knowing it, the Fathers of the Church thus vindicated the old Aryan conception of a world isolated by the universal sea of a great continent situated at the ends of the earth: eh *loko* of the Hindus, the Jötunhei i, or Land of the Giants, of the Germanic peoples, the Hyperborea of the Greeks, and even the Kc} of the Arabs, which has the same origin.

The idea of the existence of distant lands did not disappear, therefore, in the course of the High Middle Ages, during which the convents of the Romanised Church preserved and even translated the classical texts of the ancients into Latin, as Boethius did for the works of Plato and Aristotle. But although the myth of Atlantis was often discussed, the problem of circumnavigating the world must have been of interest to only a few intellectuals, for every province of Europe had withdrawn into itself and no one sailed, Irish and Vikings excepted, except along the coasts. The Atlantic Ocean had become the Dark Sea because, says El Edri- si (^) , "what lies beyond it is evidently unknown. No one, in fact, has been able to know anything certain about it, because of the difficulty of navigation in it, its darkness and the frequency of storms. No ship has ever dared to cross it, or at least to sail away from its shores. It is known, however, that the Dark Sea contains numerous islands, some inhabited, some deserted. And further on: "The Sea of Sin, which overlaps the lands of Gog and Magog, communicates with the Dark Sea. On the Asian side, the last lands are the Vac-Vac islands, beyond which it is not known what lies beyond".

For the Nubian geographer, who admits the sphericity of our planet, only in the northern hemisphere are there inhabited lands. Dante follows him on this point, but does not fail to situate the Earthly Paradise of the Ancient

Testament beyond the 'tenebroso Sea, since, in order to reach it, it is necessary to cross the Pillars of Hercules and sail first westward, following the sun, and then southwestward. As for the mountain of Purgatory, on top of which Paradise is located, it is situated in the middle of the seas of the southern hemisphere, at the antipodes of Jerusalem (N).

With the revival of Aristotelianism, the notion of a world that is not only spherical, but also habitable and inhabited, including the southern hemisphere to the 0° degree, reappears in the works of Albertus Magnus (Albert of Bollstadt) ("): "The whole torpid zone is habitable and it is ignorant ineptitude to believe that those whose feet are directed towards us must necessarily fall. The same climates are repeated in the lower hemisphere, on the other side of the Equator, and there are two races of Ethiopians, those of the northern tropics and the blacks of the southern tropics. The lower hemisphere, the antipodes of our own, is not entirely aquatic. It is largely inhabited, and if men from these distant regions do not reach us it is because of the wide intervening seas ...".

With Edris Albert the Great, then, the Middle Ages rediscovered Aristotelian ideas which had been partially forgotten in the course of the previous centuries. In other respects, it was the beginning of a new journey. Ascelin, Carpini, Ruisbroek (Rubrisquis), Marco Polo and Conti travelled through Asia, while Arab navigators took up the eastern route to the Indies. The Vikings, and it is impossible not to know, in western Europe, at least in Normandy, have prosperous settlements in Greenland and Finland. Is it possible that no one, south of Scandinavia, thinks of the distant lands beyond the Dark Sea?

Yes, they were thought of during the Middle Ages, and never ceased to be thought of. In fact, some



But as little as possible was said about the issue. But as little as possible was said about the matter. Already the princes and merchant guilds imposed, under the most severe penalties, the most absolute secrecy concerning sea voyages, which, however, have left some traces and even some cartographic evidence.

In **565**, the Irish monk B\_randán, abbot of the monastery of Clesainfert, is said to have made two voyages in the Atlantic, in search of Paradise on Earth, and to have discovered an island where he stayed for seven years before returning via the Orkneys. The *Naøigatio ISancti Brandani*, a manuscript from the 10th or 11th century which recounts these adventures and describes with impressive precision the Canaries and the Isle of Hell, with the volcano Teide, as well as the Sargasso Sea, does not allow us to exclude the possibility that the saintly abbot and his monks reached Cuba. In **734**, according to Martin Behaim (1492), the Portuguese archbishop of Pôrto, seven bishops and other Christians of both sexes had fled the Iberian peninsula to escape the advance of the Moors, with their livestock and all their possessions. They would have found an island where they would have settled for good. At a date prior to 1147, the year of the liberation of Lisboa, a group of Arab sailors would have embarked from that city with the purpose of crossing the Tenebrous Sea. According to El Edrisi and Ebn el Uardi, they sailed northwest for 35 days to a certain Isle of Lambs (Djézirnt al Grrtam). They then sailed south for ten days and reached an island populated by men of a race they did not know: tall in stature, with long, thinning hair and red skin (El Edrisi) or "mixed brown and white" (El Uardi). The *almagrurines* (those who were deceived), as they were called, had probably returned to Morocco.

We have more detailed information on the experiences of the

ditions of Madoc. In 1170, this Gaian prince would have launched himself westwards into the ocean. Ten days after crossing the "perilous garden of seas which no storm could destroy and which imprisoned ships", evidently the Sargasso Sea, he is believed to have made landfall in Mobile Bay, Alabama. Later, he would have returned to Wales to fetch his brother Rhyrid, and then set off again with ten ships and three hundred hours. Eventually, the important colony would have been established on the Missouri. This story appears in numerous medieval Welsh manuscripts, and the troubadour Meredith made a ballad of it, which was well known at the time, in 1477. Irish, Portuguese, A r a b s , Welsh: all had discovered unknown Sierras. And the texts recounting these voyages, real or imaginary, all predate Columbus.

The island of St. Brandan appears on almost all the maps of the Middle Ages, first on the parallel of Ireland, and even further north, then to the west of the Canaries and more or less confused with them, as already noted in the Pizigano map of 1367. The copy, published by Buache de la Neuville, which we reproduce from the latter (*Mtg.* 16) and which bears the mention *Ysola* (sic) *dictae Jortunatoe* is, moreover, on this point, incorrect and incomplete. The original reads: *Ysole dicte {ortttaate Sancti Brand "anl e isole Ponzele*, above the image of the Saint pointing to the islands with his arm. Very exceptionally, map no. 5 of Andrea Bianco's Atlas (*Jiq.* 17), dating from 1436, does not show the island of San Brandano. But we find it, under the name of *insule fortunate Sancti Brandani*, in those of Bartholomew Pareto (Joto IN), published in 1455, and of Gra- cioso Benineasa (1471 and 1482). In his globe of 1492, Mar- tin Behaim places it further south, almost at the latitude of Cape Verde, with the mention: "This island is the one to where



of **St. Brandán** arrived in the year 565, and found it full of marvellous things". The certainty of its existence was such that, between 1487 and 1759, numerous expeditions set out in search of it and the Portuguese government did not hesitate, in the 15th century, to cede it to the leader of one of them, the Catalan Luis Perdigón.

Perhaps, despite the nautical data contained in the *Naoigatio lsancti Brandani*, the island in question was but one of the Canaries, provided, of course, that the voyage of the Abbot of Clesainfert was not the product of a fertile Celtic imagination. In any case, it was well into the Atlantic long before the infant Henry the Navigator, "guided by ancient maps", organised the expedition of Gonzalo Velho Cabral which "discovered", in 1451, the reefs of the Hormigas and, the following year, the island of Santa Maria in the Azores. This is proved by the fact that Andrea Bianco shows quite correctly, in three groups, the nine islands of the archipelago in his map of 1436 (*fig. 17*), whereas only one of them had been recognised by the Portuguese at that date. Moreover, Bianco gives one of the Azores a distinctly Arabic name, *Bentu fta*, while he calls another *San Zorzi* and a third, in the far north, Corbo MaTt7tO. However, the island of St George was "discovered" by the Portuguese in 1449 and that of Corvo between 1444 and 1449. Their two names were therefore both earlier and well known. The Edrisi, moreover, mentions in the Atlantic, in the 11th century, an island of Raka, populated by sea eagles, and El Uardi, an island of Thuiur (of the Birds). The latter specifies that the red eagles, equipped with enormous talons, go fishing far from the coasts, on the high seas.

The Azores archipelago had therefore been frequented long before the 15th century. Perhaps the Arabs had drawn up maps of the islands, carefully preserved, and the



The name of the place was given by European *navigators*, to whom they owed part of the toponymy mentioned above. But they had been preceded by European navigators to whom we owe part of the toponymy mentioned: Spanish, Portuguese, Norman? The former seem to be excluded, since the *j* and the *g* of the Spanish *Jorge* are aspirated and, in Arabic, are normally transliterated in *l*. *ZOTZI* can only come from the Portuguese *Jorpe* or the French *Georges*, which are pronounced in more or less the same way. The name Corbo Marino does not tip the balance on the side of the Portuguese to whose language it belongs: the Arabs - or Arabised Jews who had not followed them in their retreat - must have translated the 'uiri of El Uardi on Portuguese maps in this way.

But why did they respect *Benlu Jia*? Perhaps because this word, archaic or deformed, was difficult to translate: the Western Arabisers, without the slightest doubt as to its origin, were unable to agree on its meaning (^).

The island of Antillia, Antilla or Antilia is much more important than the Azores because it is situated on the same parallel, that of Gibraltar, much further west. It was thought to be mentioned in the text, written in a partly incomprehensible Baroque Latin, which appears on the Pizigano map (*Jtg.* 16), but the transcription *ad ripas Antlltia* is, to say the least, extremely doubtful. We find it for the first time, with certainty, designated by its name, in Bianco's map (*fig.* 17), where it is represented in the form of a rectangle having the dimensions of Portugal. Its coasts are drawn in such detail as to be of no great significance: seventeenth-century cartographers still proceeded in this way when depicting their imaginary *Ter'ra Australis*. To the north of Antillia, we see the south of another island, Lnnosatartasio, which appears in its entirety on another map in the same atlas, believed to be copied from a map of the 17th century.

glo xrv (°^). It has the same form as Antillia, but smaller. It is the *Hand of Satórt* which appears, with more or less deformed names (Moin de *Salan, Man Santanaxia, Isarastagto*) on numerous maps of the 15th century and later still.

On the map of the Genoese Beclario or Bedrazio, somewhat later than that of Bianco, we see, in addition to Antillia and *Sarastagio*, near the latter, a small sickle-shaped island called *Danmar* or *Dammar* and, further west, a square island bearing the name of *Royllo*. Next to this group is the inscription: *Inserte de nono repte*, i.e., in correct Latin, *Instade de aovo reperto*: newly found islands. On the Benin-House maps (1471 and 1482), the island of Antillia is noted, with, to the north, another slightly smaller rectangular island which corresponds to the *Hand of Satan* of the previous ones but bears the name of *Saluaga* and an unnamed islet in the shape of a sickle.

Pareto's map (*Voto 10*), dating from 1455, shows Antillia and, to the west, the much smaller island of *Roillo*. The *Hand of Satan* does not appear on it. Here comes a fact that no one, we believe, has ever noticed: in the north-west and south-west corners of the map the outline of the coasts of North and South America, respectively, are clearly indicated by two curved lines. The islands are located to the south of the gulf, the bottom of which is not shown, which is delineated by the lines in question.

Is this map at the origin of the Spaniards' firm belief in an open passage, in Central America, between the two oceans? Let us note that north is located to the left of the map. In order to make the map easier to read, we have given it, in reproducing it, the orientation to which we are accustomed.

For Martin Behaim, the island of Antillia is none other than the one where the Portuguese bishops had taken refuge.

An annotation on his globe reads: "When the whole of Spain was in the hands of the heretics of Africa, the island described (*Insula Arlil\*a*, called *Septe Citotes*) was inhabited by an archbishop of Porto-Portugal with seven other bishops.... In the year 1414, a ship from Spain passed near it". A mention of the same order is attributed to Toscanelli by Ferdinand Columbus in his *Life of the Admiral*. It is found, at least, in the Italian translation, due to Alfonso de Ulloa, and published in Venice in 1571, of this work, the original of which is lost, like the Florentine geographer's letter itself. In 1474, the latter wrote to the canon Fernando Martínez, or Martins, who was in Lisbon in the service of the King of Portugal: "From the island of Antilla, which you call the Seven Cities and of which you have knowledge, there are ten spaces. The first is very rich in gold, pearls and precious stones and the temples and palaces are covered in pure gold ...". In the retranslations of Navarrete (^) and Barcia (27), the propositions "cite noi chiamote di Sette Citta, deble qule **siete notitta**" are suppressed. There is at least one doubt, therefore, about this mysterious letter, which we will discuss later.

In his map, as it was thought to be reconstructed (*Jtg. 18*), Toscanelli otherwise reduces Astilla to a very small island situated very close to Madera, while *Insuta Sancti Brondotti*, just above the Equator and much further west, is depicted as a much larger, irregular rectangle. Such a geometrical outline is nothing to be surprised about. It was customary, at that time, to design islands whose exact outline was to be described as rectangles or squares. Such were the Antillia of Bianco, Pareto and Benincasa, the Royllo of Bedrazio, the Giaun *Maggiore* (Borneo) of Fra Mauro, the Japan of Toscanelli (Cipangu) and Behaim (Zipangut).





and **Piri Reis' Cuba**. It is **striking**, however, that Antillia (or Cuba) and Cipango not only have exactly the same shape of a regular rectangle of identical proportions and dimensions, but are also situated in the same place. If the coasts of Asia are designed, the island is called Cipango; otherwise, Antillia. Nothing could be more logical, in fact, if we go back to our analysis in chapter 1. The geography of the Orient suggested the existence of a large island of imprecise outline, then rectangular on the maps, situated, in an undelimited latitude, off the coasts of China. Western geography knew vaguely that there was, beyond the Dark Sea, a large island, no less rectangular on the maps, since it had never been surveyed. When it was concluded, after the discovery of Columbus, that South America was nothing but the peninsula of Cattigara, and then that it extended, to the south, East Asia, Cipango and Antillia were all the more easily superimposed because they had the same shape and the same dimensions. In Lisbon, in 1493, on his return from his first voyage, Columbus said as naturally as he could that he had come from Cipango. He was wrong, but for once he was not lying. It was Pedro Martyr de Anguiera (2") who, in 1493, gave the name Antilles to the islands discovered - or rediscovered - by the Great Admiral: "He (Columbus) says that the Hispaniola he found (Haiti, N. of A.) is the island of Ophir. But if we carefully consider the researches of the cosmographers, this island and others adjacent to it are the West Indies".

Geography, traditions, travel accounts and maps all show that for at least 2,500 years, islands and continents were known to exist beyond a sea that was only "murky" to some extent for a few centuries in the early Middle Ages.

Middle Ages. Some ancient authors simply deduce it from the sphericity of our planet, but others, the pseudo Aristotle as early as the 15th century B.C., speak of very specific lands, other than Asia, lands which are not the fruit of the imagination, since they are located, given the general inaccuracy of the distances between the two. If the Arabs frequented the Azores in the 11th century and other navigators had preceded them there, is it any wonder that European ships have gone even further afield? It is no more difficult to go from the Azores to the West Indies than from Portugal to the Azores. The sea must often have been responsible for pushing some of the Phoenician, Greek, Carthaginian, Roman, Irish, Arab, Basque, Breton, Norman, Portuguese, Spanish and other ships, not to mention the Viking dredkars, which had never stopped sailing the Atlantic, from Zaire to Skaggerat, westwards, from where they could return without much difficulty in case of shipwreck via the Gulf Stream. How did Behaim, a serious and reserved geographer, know in 1492 that a Spanish ship had reached the island of Antilla and Bedrazio, around 1440, that this island and its neighbours had recently been re-submerged? Is it surprising that 15th century cosmographers have collected direct and precise accounts of the western lands, when the first thing Columbus saw, on landing in Haiti, was the wreck of a European ship?

One can go even further in the analysis of the texts and facts we have just reviewed. The *insuta Sancti Brandani* changes its position from map to map, and one could attribute this mobility to the imprecision of the geographical data supplied by the *Nat'l gatio*. But what about the island of Bracir, which we will discuss in chapter VI, which is not only located in the same

Is it true that 15th century geographers were so stupid as to grant it the gift of ubiquity? There is another explanation: geographers collected information on a land beyond the Atlantic from multiple sources that agreed on everything except the position. In the case of the island of Saint-Brandan, the data collected were sufficiently scarce and imprecise that each one could choose the ones that seemed most plausible or most credible. In the case of Bracir Island, on the other hand, the information obtained was all indisputable, although apparently contradictory. It was, therefore, the same land, approached at different points, but nothing allowed the cartographers to link them together in a scientific manner. One, however, Bartholomew Pareto, better informed than the others, was able to indicate on his map, in an extremely schematic way, to the north and south of the Antilles Sea, the general line of the coasts of the two American subcontinents. So he knew where he stood - a coincidence of fact and a figment of the imagination? We have been told for thousands of years that there are islands, and even continents, beyond the Atlantic Ocean. We are told that some sailors went there and came back. Some of their points are placed on maps, with a very satisfactory approximation for the time. An island is given the name of Antillia (nate illa, in Portuguese and in old Spanish, Isla de Antes). And, behind it, we are shown the double coast of a continent, lightly outlined. Everything has limits, even chance.

### III

Columbus, the liar



In 1492, a certain Christopher Columbus, with a ship and two caravels under the flag of Castile, crossed the Atlantic and reached the West Indies. Strange thing: everything about this character is confusing, contradictory, mysterious. He himself, in his writings, his first two biographers - his natural son Ferdinand and his friend, Fray Bartolomé de las Casas - Queen Isabella the Catholic and her officials, all seem intent on muddling everything up.

It is not known exactly what the real surname of the Great Admiral of the Ocean Sea was: the documents of the time call him indifferently, with or without "particle", Colomo, Colombo, Colom and, finally, Colón, which Las Casas claims to be the primitive patronymic of his family. Was he born in Genoa, in Plasencia, in Pontevedra? In 1436, 1447, 1451? These are subjects of endless controversy. We do not know what his mother tongue was: he wrote in a Castilian language full of Lusitanianisms, even though he addressed Italians like his friend Fr Goriccio. One letter in Catalan is known from him, but the only "Italian" text attributable to him, a marginal annotation in a *Historia Notttal* by Pliny in Italian translation, is written in a highly comical Italo-Lusso-Castilian jargon. What was he doing before arriving in Lisbon, at a date fluctuating between 1470 and 1476? Was he Innorius in Savona, in 1472, or captain of a warship of King Renato of Anjou? Did he serve under Admiral Colombo il Giovane, 'of his

name and lineage", as Ferdinand and Las Casas claim, and took part in the battle of St. Vincent against the Venetians? The battle in question took place in 1485, when Columbus had already been in Spain for years, although some historians maintain that Admiral Colombo was actually called George Byssipat, or George the Greek.

Or was it another battle of St. Vincent, fought against the Genoese by the admiral of Cazenove- Coiillon, whom the Italians called Colombo and the Spaniards called C olon? But the naval combat dates back to 1476, by which time our man was already installed in Lisbon, and it would be very difficult to establish the slightest link of kinship between him and the French corsair.

Even Columbus' personality is strange and multiple.

How can it be conceived that the following two texts, taken from letters addressed to Isabella the Catholic and Ferdinand of Aragon, are from the same pen: "The gold that the Quibian [cacique] of Veragua and others of the region have, although according to information he is a lot, it did not seem to me good or of service to your Highnesses to take it by way of robbery: the good order will avoid scandal and bad reputation, and will make it all come to the treasury, that not a grain is left"; and: "[When I was in trouble] , a very pious voice I heard saying, O foolish and slow to believe and to serve thy God, the God of all! What did He do more for Moses or for David His servant? Since you were born, He has always had great care for you. When He saw you at an age when He was happy, He wonderfully made your name sound in the land. The Indies, which are so rich a part of the world, He gave them to thee for thine own; ... What did the Most High do for the people of Israel when He brought them out of Egypt, nor for David who became king in Judea as a shepherd? Thine old age shall not hinder any great thing; ... Abraham was over a hundred years old when he begat Isaac ...' " Or again, in *The Prodigies*: "I have already said that



For the creation of the Indian print did not use reason or mathematics or world maps: what Isayas said was fulfilled to the full. On the one hand, the slave-merchant, thirsty for gold and devoid of any scruples; on the other, the enlightened mystic who hears voices.

This duality explains why it is impossible to determine with certainty what Columbus was looking for when he set out into the Atlantic: the riches and honours whose precise enumeration he demanded in the Copitulotions authorising his voyage, the ocean route to the land of spices and gold, the conversion of the Great Khan to Christianity, the Earthly Paradise where the Jews of Spain could find asylum? There is only one thing we can be sure of, and it has been definitively proven by Salvador de Madariaga (<sup>o9</sup>), Rafael Pineda Yáñez (<sup>o</sup>) and Simón Wiesenthal (<sup>o1</sup>): Columbus was of Jewish race and belonged to a Marrano family. This earned him, as soon as he arrived in Spain, the support of numerous Jewish converts: the bishops Hernando de Talavera and Diego de Deza, from the Court of Isabella; the Scribe of the Court of Aragon, Luis de Santángel, who financed the expedition; the King's Treasurer, Gabriel Sánchez, and his four brothers; and many others. Only in this way can we understand why the future Grand Admiral set out on his first voyage without a chaplain, but with a Hebrew interpreter who could hardly have been anything other than a rabbi, and why he chose to set sail, with a number of clandestine Jews on board, on the date on which the deadline set for the non-converts to leave Spain expired.

The uncertainty, dear to his heart, which surrounded Columbus' existence before his arrival in Granada, extended to his stay in Lisbon and the development of his great project. In the Portuguese capital, however, we know that he met up with his younger brother, Bartolomé, a bookseller.

and cartographer, with whom he became associated. He thus comes into close contact with some of the most famous cosmographers in Europe, and in this he is helped by his race, for the celebrated Academia de Sagres has, since its foundation, been in the hands of Jewish geographers. He rubs shoulders daily with captains of every nationality who call at Lisbon or have their base there. Portugal, at that time, was the world's leading maritime power and its ships plied all the known seas. They even sailed far out into the Atlantic, where the Azores were already populated. There was much talk in Lisbon of the transoceanic lands and numerous expeditions set off, without success, in search of them: those of Diego de Teive in 1452; of José Vígado in 1462; of Gonzalo Fernandes de Tavira in the same year; of Ruy Gonçaves de Câmara in 1472; of Antonio Leme in 1475. And many others. These failures reinforce the well-known opinion of the anti-Guonese: theoretically, it is possible to go to the Indies from the west and there are unknown lands on the other side of the Ocean. But the distances are too great for it to be possible to reach them.

In Lisbon, Columbus made a living designing maps, but he also sailed. Did he go to Guinea several times, as his biographers say? It is plausible. We know that in 1479, a Genoese merchant sent him to Madera to buy a cargo of sugar. But the most important journey for us is the one he made to Thule. We only know it from a paragraph in a letter from the Admiral, quoted by Ferdinand and Las Casas: "In the year 1477, by Faith, I sailed beyond Tyle a hundred leagues, the southern part of which is 73 degrees from the equinoctial, and not 63 as some want, and is not situated within the line which Ptolemy indicates the West, but is much more westerly; and the English, principally those of Bristol, go with their merchandise to this island, which is as large as In-

When I went there, the sea was not frozen, although the tides were so strong that they rose twice a day by 26 fathoms and fell by 26 fathoms". There follows a paragraph that is not commendable, and it is not known whether it is to be attributed to Co-lon or his son: "It is true that Tyle, mentioned by Ptolemy, is in the place where he says and today it is called Frislandia".

This account has often been questioned, and not always very intelligently. That Columbus and his biographers lied, by action, by omission, and, as for the latter, by ignorance, is abundantly proved. But it is no less firmly established that the Admiral had not only travelled widely, but that he had a profound knowledge in the field of nautical science. He was perfectly capable of inventing a voyage as a blazon: not of unduly correcting the geographers on a point which, to him, was unimportant. For Iceland lies at latitude  $63^{\circ} 30'$  N. But is it Thule? In ancient times, this name was applied indiscriminately to all the lands of the North. On the other hand, if the unquoted phrase is really Columbus', it clearly refers to two Thules, one at  $63^{\circ}$ , "called F'-rislandia" but which is Iceland, and the other at  $73^{\circ}$ , which can only be Greenland, but not its southern coast, which is situated at  $60^{\circ}$ . The name Frislandia, which was to become famous in the account of the voyages of the Zeno brothers, published in 1558, is already to be found on the Comino map, of Portuguese origin, dating from 1502. It was therefore used at the time when Columbus was writing his letter, and even more so when Pernando was writing the *Yide det Almirante*. But it applied to the undetermined and changing islands of the Great North.

In any case, Columbus must have reached an island at  $73^{\circ}$  latitude, i.e. Groenlan.

The latter fact is undisputedly proved by the fact that the English ships were frequenting the island. Of this last fact, we have indisputable proof. In 1431, Erik of Pomerania, the king of Scandinavia, complained to the king of England that his subjects were indulging in trade and even piracy in the Norwegian co-lonies: "Iceland, Greenland, Shetland, Orkney and other islands". By the treaties of 1431, 1444 and 1449, the English were forbidden all contact with the Norwegian colonies, and it was not until 1490 that they obtained the freedom to sail, fish and trade in Iceland. Note that in the *Prodecies*, the Admiral, when he mentions Thule, writes "last Thule", which means "the last of the Thules", the oldest. Therefore, for him, there were two.

Moreover, it is not only the identification of the land reached by Columbus that interests us here, but the fact that he continued his voyage a hundred leagues, or 557 km, further. For, 100 leagues beyond Greenland, there is only America.

What could our future Great Admiral have been looking for in the Arctic, and how had he managed to get there, he who, by the way, was not in a position to put together a vessel for this purpose? Portuguese ships did not frequent the ports of Scandinavia. Columbus had managed to go to England and embark there for Thule? But in what capacity? Perhaps the key to the enigma lies in an expedition mounted in 1476 by King Christian III of Denmark to find traces of the Norwegian colonies in Greenland, of which there had been no news for a long time. Strangely enough, at first sight, Christian had requested and obtained the help of King Alfonso V of Portugal for his enterprise. The ships were Danish, and their commanders, Admirals Pining and Pothorst, were German.

What could Alfonso's support consist of? Lisbon was famous at the time for its pilots, men who could read and design maritime maps and guide ships by the stars. However, the expedition had a pilot called Johannes Scolvus, who was never to be heard of again. The Danish ships did not find the lost colonies, but they did reach Labrador, if we are to believe a map of 1582 by a certain Michel Lok, which **shows** a land west of Greenland called Scolvus Groetland (3°).

Who was this Johannes Scolvus, whose role must have been very important since he is remembered, and not his bosses? It is not known. Even his name was often distorted. It was written Scolnus, Scolvo, Kolonus, Scolom, Skolum, Colum. The Poles prefer Kolnus, from Kolno, a small town in the north of their country, and we have taken this up, on the basis of Rudolf Cronau ("), in one of our earlier works (")). But nothing proves this origin: had not the mysterious pilot been lent by Alfonso V to his cousin in Denmark?

*Is it not*, in fact, a certain Colombo, Colom or Columbus, whose voyage in the Great North would have taken place not in 1477, but a year earlier, unless, having left in late 1476, the expedition only reached Thule at the beginning of the following year? It has been said, and it is very plausible. However, nothing can be affirmed. It remains, at any rate, that Columbus, under "his" name or under that of Scolvus, seems really to have gone to Scandinavia, and still further to the west. Whether or not he reached Greenland, or even Labrador, is a secondary point. For in any case, whether in Iceland or simply in Copenhagen, the existence of Vinland, i.e. North America, was well known,

and a seafarer as curious a cartographer as the future Admiral could not fail to have heard of it. He may even have read, before setting sail, Adam of Bremen's account, in Latin, around 1050, of the Viking expeditions beyond the Ocean. Therefore, if the voyage to Thule really took place, as is likely, Columbus knew on his return that the mysterious Outer Ocean ranges were not inaccessible. He might even have brought back a map, probably more accurate than the one drawn up in 1590 by the Icelandic Sigurdur Stefáns-son (*fig. 25*).

In any case, it was at that time that the future Grand Admiral began to take a close interest in the Tessottrerio where the King of Portugal kept his secrets. Access to it was not easy for a foreigner of extremely modest status, which his profession must have made suspicious, as cartographic espionage was flourishing in Lisbon. He was helped by an incredible event: the Marrano, whose name is uncertain, married Filipa Monis de Perestrello, related to the royal families of Bragança and Lusignan, whose brother was hereditary captain of the island of Porto Santo, near Madeira, where the young couple went to live for a while.

Why did Columbus leave Lisbon to settle in this small colonial port, populated by a few artisans and shopkeepers? Las Casas (^) tells us with cruel frankness: "... because on that island, as on the island of Madera, which is next to it, and which had also been discovered at that time, there was beginning to be a great number of ships, and frequent news of the new discoveries that were being made". So he went to look for information. It was probably at that time that he gathered the abundant material he possessed (^) on the winds and currents of the sea.

Atlantic beyond the Madera Islands. He himself says that he spent a good part of his time questioning the pilots of the ships that landed in Pôrto Santo, but not without calling, at times, on the authority of his brother-in-law to obtain answers, and transferring the data thus **obtained** to the map.

It also included, according to Ferdinand and **Las Casas**, all of the

The King's pilot, a certain Martin Vicente, told him that he had found a piece of wood in the sea 450 leagues to the west of San Vicente. A certain Martin Vicente, the King's pilot, told him that he had found in the sea, 450 leagues west of San Vicente, a piece of wood worked by the hand of a man, but apparently without iron tools. The husband of one of her sisters-in-law, Pedro Corrêa, told him that he had seen in Pôrto Santo a piece of wood of the same type and reeds so thick that they could hold two litres of wine between two knots. He was told, in the Azores, of pine trunks of a species unknown in the archipelago, which the west wind threw on the beaches of Graciosa and Fayal, and even of two corpses, "which did not look like Christians", brought by sea to the island of Flores, and of *atmad\*as*, or covered boats, full of men of a race that had never been heard of. All t h i s is not surprising to us who know that the Gulf Stream carries to Scandinavia the remains of ships and plants from America. But for Columbus, these were new facts that reinforced an already solid conviction: it was possible to cross the ocean and thus reach the Indies. This will be confirmed in Palos, when he will collect the accounts of two sailors, one from Murcia, the other from Santa Maria, who, from Ireland, had been tossed by a storm, heading north-west, on "the coasts of Tartary" (\*). Oviedo, his friend (-), even tells us that Columbus, on his first voyage, used a map designed by a Portuguese sailor, Vicente Diaz,

a native of the town of Tavira, who, on his return from Gui@a, had discovered a land to the west of Madera. Fernando and Las Casas also tell us about a map, but without mentioning its author. It was said to be that of Toscanelli. We doubt it very much. The admiral was too good a cosmographer to rely on such an inaccurate document, which he had used, as we shall see, for another purpose. But, in any case, he must have had something much better than a sailor's map.

In 1482, Columbus returned to Lisbon and resumed his work as a cartographer, but not without resuming his relations with the geographers of the Court, the Jews, of course, but also others such as the famous Martin Behaim, who, incidentally, was living in the Portuguese capital at the time. It was then that he presented King John II with a plan for a journey to Cipango. Although he considered our character to be a "talkative, fantastic and imaginative man" (""), the sovereign appointed a commission made up of three wise cosmographers to examine his request: their opinion was negative. We do not know why, but it is not difficult to guess: Columbus must have lied as he was going to lie, a little later, in Castile. He had no choice but to seek his fortune elsewhere. There are two decisive episodes here, one of which is materially proven, while the other is not known except from various concordant testimonies. There was a document in the King's *Treatise*, to which Columbus had access in one way or another and where he was able to consult numerous secret maps, of paramount importance to him, archived like so many others: the letter addressed in 1474 by Toscanelli to Canon Martins or Martinez, in which the Florentine geographer demonstrates, with the help of a map (*jtg. 18*), that it was possible to reach Asia by way of the Atlantic. The future Grand Almi-



He copied the letter onto a white page of one of his books, l'*Historia reTum ttiqitte qestorum* of Pope Pius II, and made the necessary notes to be able to reproduce the map. His biographers later invented a correspondence with Toscanelli to explain in their own way his knowledge of these documents.

Columbus' taste for espionage never disappeared. Arias Pérez Pinzón, son of Martín Alonso Pinzón who commanded one of the caravels of the first voyage and who, perhaps - we will discuss the matter in chapter VI - had previously been in South America with the diep- pense jean Cousin, brings us his testimony in this regard. In his deposition before the court hearing the case brought by the Crown of Castile against Diego Columbus, he declared that he had accompanied his father to Rome where he had a friend, a cosmographer of the house of Innocent VIII, who had confirmed to him that there were lands to be discovered to the west and had shown him "deeds" on a map of the world. It was not so long ago - in 1121 - that Gnupron, Bishop of Gardar in Greenland, had gone to Vinland on a pastoral journey, let alone - in 1279 - that Archbishop Ion had sent an emissary there to collect the tithes for the Crusade that was being preached throughout Europe. But perhaps the Court of Rome had, in this field too, other sources of influence.

The other episode is more tragic. A merchant ship transporting wine between Madera and Great Britain had been carried far out to sea by a storm. When the good weather returned, the skipper, Alonso Sánchez, a native of Niebla, in the province of Huelva, saw an unknown land on the horizon. With difficulty, he managed to return to Lisbon with the four survivors of his crew and sought out a cartographer.

who could help him locate the "island" he had discovered. Columbus did more than provide his professional services: he took the five sailors into his house, but they died a few days later. Immediately afterwards, the future viceroy fled Portugal. Had he murdered his guests? What leads one to believe so is the text of a letter that King John II, informed by the innumerable spies he had on his payroll at the Court of Castile of the good progress of Columbus' plans, and regretting his decision, wrote to the king. Columbus and regretting his scepticism, addressed to him in 1498 to ask him to return: the sovereign assured him that he would not be bothered at all for any crime whatsoever. It was extremely difficult, even at that time, to call the improper copying of a letter a "crime". It was probably his confession of these two "sins", perhaps *sub sigillo*, to **Fray** Juan Pérez, superior of the convent of La Rábida, that led the astrological monk to introduce Columbus to Queen Isabella, who had hitherto refused to receive him.

What was the importance of Toscanelli's chart and map for the future Grand Admiral? Let us remember: everyone knew, in the 15th century, that the Earth is round and, therefore, that it was theoretically possible to go from Europe to the Indies across the Atlantic, which in fact distance forbade. Columbus knew the Geographica of Ptolemy. He had read all the writings of the ancients quoted in Chapter II, either directly or, in any case, in the *Ymago mundi* of Cardinal d'Ailly (Petrus de Alliaco, in Latin), his bedside book. From the latter work, he particularly retained the author's insistence on reducing the length of the Atlantic Ocean: "The length of the earth towards the East is much greater than Ptolemy indicates. According to the philosophers, the ocean that stretches from the end of Spain to the west, i.e. the western part of the Atlantic Ocean, is much longer than Ptolemy indicates."

of Africa, and the eastern beginning of India is not very wide. For it is estimated that this sea can be crossed in a very few days if the wind is favourable, and I think that the beginning of India in the East cannot be very far from the confines of the Africa".

That the cardinal had copied this passage verbatim in Rogelio Bacon's *Opus cejas*, Columbus was probably unaware of it. The matter would not have mattered much to him anyway. These ideas coincided with his own, and this gave them significance. He knew, in fact, that the lands of Asia were very close. And he knew it because Ezra says in his Apocalypse - probably an apocryphal text from the first century AD: "And on the third day, You commanded the waters to gather themselves together in the seventh part of the earth". He knew this above all, to tell the truth, because he had already crossed the Atlantic or, at least, had heard about the Viking expeditions to Finland.

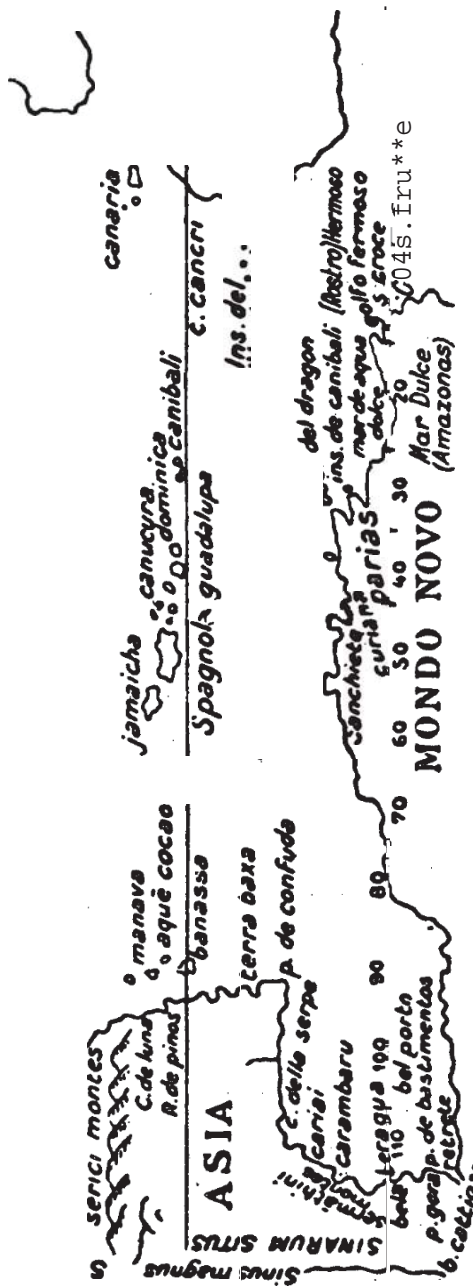
What Toscanelli, a good mathematician but an amateur cosmographer, brought to Columbus was the scientific confirmation of prophetic and experimental convictions that he could not prove. However, to support his thesis, the Florentine formulated a series of manifestly fallacious arguments that the Lisbon geographers must have dismissed with a certain contempt. He argued that there are, in fact, between Portugal and the coast of the Indies, by land, 230 degrees, 5 more than for Marino of Tyre, whose figure Ptolemy had already corrected, inadequately, 1350 years earlier. He added that the degree is 62.5 miles, whereas the geographers of the time generally estimated it at 70. The combination of these two errors thus led him to place the Indies, by the Atlantic, at 130 degrees of 62.5 miles, i.e. 8,125 miles from Portugal.

Still too much for Columbus. The degree is not worth 62.5 miles, but  $56 \frac{2}{3}$ : he himself had measured it "while sailing

very often between Lisbon and Guinea", as he writes in his little *Trotado of the inhabited areas*. Humboldt (2\*) rightly wonders how he could have done this. In fact, the figure comes from the Arab geographer El Fargani (Alfraganus) and Cardinal d'Ailly mentions it. Columbus accepted it without question and attributed it to himself. It was not yet sufficient. On this basis, he made calculations that would be grotesque if his errors were not voluntary. To the 180 degrees that Ptolemy gave to the *Ecumene*, all the lands of Eastern Asia had to be added. Therefore, the **figure** of Marino of Tyre, 225 degrees, was ultimately accurate. But geographers admitted that the Eurasian continent measured 16,000 miles, which gave 62.5 miles per degree. However, the degree was in fact, as he himself had measured it,  $56 \frac{2}{3}$  miles. Therefore, the 16,000 miles in question corresponded to 282 degrees. Therefore, between Lisbon and Cathay, there are only 78 degrees. But, as the degree  $56 \frac{2}{3}$  miles on the Equator and 50 on the parallel of the Canaries, these 78 degrees were equivalent to 3,900 miles.

The Fargani had not been mistaken in attributing to the degree the value of  $56 \frac{2}{3}$  miles. On the contrary, the figure was the result of the incredible accuracy with which the Arabs of the ninth century had measured the equator, to which they gave the value of  $56 \frac{2}{3}$  miles.

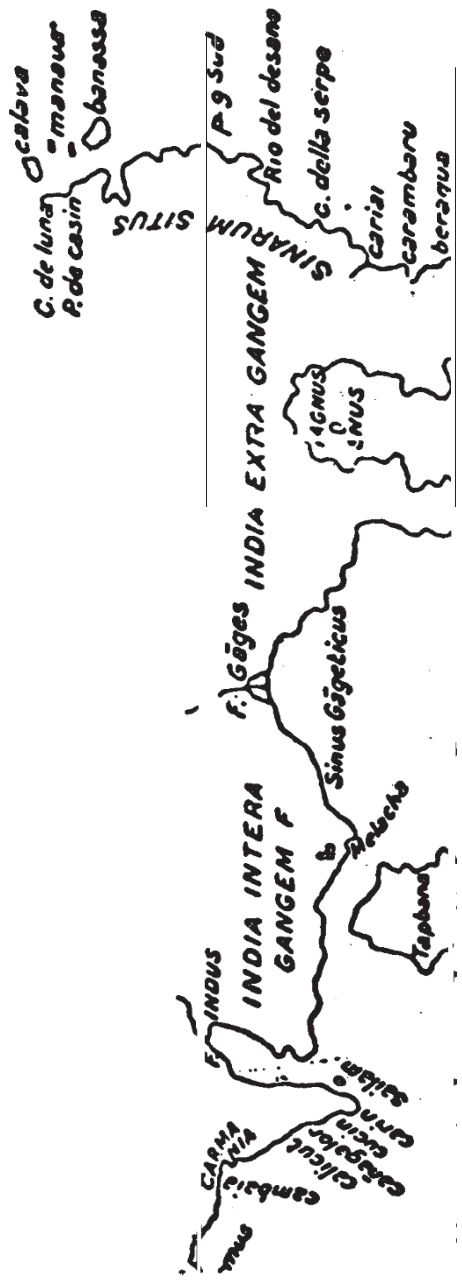
40,033,400 metres instead of 40,007,520. But Alfraganus expressed the extent of the degree in Arabic miles of 1,973.5 m. Columbus did not take this into account, believing, or pretending to believe, that these were Italian miles of 1,477.5 m, an error which is extremely difficult for a professional cartographer to accept as such. In any case, he managed to place Cathay at 5,762 km from Lisbon, i.e. exactly where the eastern coast of America is. That the Salamanca geographers, after the Lisbon geographers, found these calculations unconvincing is not surprising.



ch. 19 - The north coast of Sitdamérico (1503). Sketches of Christopher Columbus or of sti hermano Bortolonié. Seguti Ibarro Grasso.

to anyone. But the extent of the Atlantic was still accurate. Let's put it in unacademic terms: Columbus had fiddled the figures to make them coincide with precise data he had but did not want to reveal. He was lying to keep all the credit for the discovery of a land whose existence and exact position he knew perfectly well.

It remains to be seen what that land was, in his mind: did he think he was reaching Asia or discovering a new world? One or the other. The Biblioteca Nazionale in Florence has two sketches by him - or perhaps by his brother Bartholomew - which are marked in the margin of a letter from the Admiral dated July 1503, showing that Columbus saw South America as the peninsular extension of Asia to the southeast. The first (*jig. 19*) shows, in an unlikely mixture of languages - Latin, Spanish, Portuguese, Italian - the *Mondo Novo* of the South America then known, united with an Asia whose western coast, with Cattigara, borders the Sirius Magnus. The second (*Dip. 20*) reproduces schematically the map of Ptolemy (*Jtg. 1*), with the addition of the eastern coast of the Land of Cattigara, a coast which is none other than that of the Sea of the Antilles. Let us note that, in 1503, Balboa had not yet sighted the Pacific Ocean and that no one could have imagined that the lands discovered by Columbus, or even a part of them, were a new world and not the eastern region of Asia. Thirty years later, it will be easy to identify with the Cattigara Peninsula, as Franciscus Monachus will do (*Jig. 21*), a **South** America whose coasts will have been almost completely surveyed. But, in 1503, it is guesswork plain and simple. Unless, of course, the Admiral had information from sources other than his own voyages. This was suspected at the time: "Some people want to say," wrote Fernández de Oviedo<sup>(34)</sup>,



de.2-0 Et Astao rientatg S udmérica (1503). Christopher Croqtiis Colóno of its 8e-r  
 mo no Bortoi omé .S egú 'n 7 borro GraSso.

Columbus' friend, that this land was first known long ago and that it was written and noted where it is and in what parallels and that the navigation and cosmography of these parts had been lost from the memory of men.... And even I am not beyond this suspicion, nor do I refuse to believe it ...".

The existence of hidden sources of information to which Columbus would have had access is no less perceptible in the case of Magellan. At least we know who he was: a Portuguese nobleman, an officer in the royal navy, who had fought in the Indies from 1505 to 1512, at the time of the conquest of the Spice Islands, with a heroic conduct that had earned him a promotion, in five years, from outstanding ( aspirant) to captain of a ship. Voluntarily incorporated into the land army, he had campaigned for two years in Morocco before serious injuries forced him to leave the service. Back in Lisbon, he had been in contact with the cosmographer Ruy Faleiro, had discussed at length with him the idea of a western route to the Indies and had spent long hours in the King's *Treasury*, to which his rank gave him access. Then, one fine day, he had fled Portugal, abandoning his wife and son, and had offered his services to Carlos V, to whom he had proposed to take the ships of Spain to the Indies by the western route.

The idea, by the way, was not new. Columbus had already searched in vain for the passage that would have enabled him to penetrate the *Sirius Magnus*. From the Gulf of Mexico to the Rio de la Plata, Spaniards and Portuguese had, to no avail, sailed up all the rivers and searched all the bays. It would have been smiled courteously at the Court of Valladolid if Magellan had merely submitted a new expedition project to the Emperor. On the contrary, it was favourably received because it brought proof. He showed





Juan Rodríguez de Fonseca, bishop of Burgos, a map of the world on which the strait whose existence he claimed was blank. And he explained to the King's ministers - probably Cardinal Jiménez and Bishop de Gebres - that he had seen the passage "on a sea chart designed by Martín Behaim, a Portuguese native of Fayal, a cosmologist of great fame" (36). In the *Diary* that he sent to Pope Clement VII and to the Grand Master of Rhodes, Philippe de Villiers de l'Isle-Adam, Antonio de Pigafetta, the Roman diplomat who sailed around the world with Magellan and Elcano, gives a testimony all the more convincing because he was a friend, and had proved it, to the expedition leader: "On 21 October 1520, we entered a strait to which we gave the name of the *Eleven Thousand Virgins* because it was the day that was sacred to them. Without our captain's knowledge, this strait could not have been entered, because we all thought it was closed; but our captain knew that he had to pass through a particularly hidden strait, because he had seen it on a map preserved in the Treasury of the King of Portugal and designed by an excellent cosmographer, Martin of Bohemia" (3\*).

If these facts are accurate, and it is difficult to doubt it, Magellan relied on a map, attributed to Martin Behaim, which he had stolen, before leaving Lisbon, in the King's Tesourari'i - the Portuguese knew it, for they pursued him to Spain, making him fear that he would be murdered - and he was, therefore, but a defector skilful enough to convince Charles V. and lead his ships to India, through a strait whose existence and location he knew, and which another had discovered before him. No one doubted it, in the 16th century. The strait in question then bore the name of fireturt Bohemii-citm and William Portel was able to write, in his *Cosmogra-*



1. Christopher Columbus ( National Library of Madrid) .



2. Ma pamundi de Lopo Homem (1519) .



3. Mapamundi de Lopo Homem (1519). Detalle.

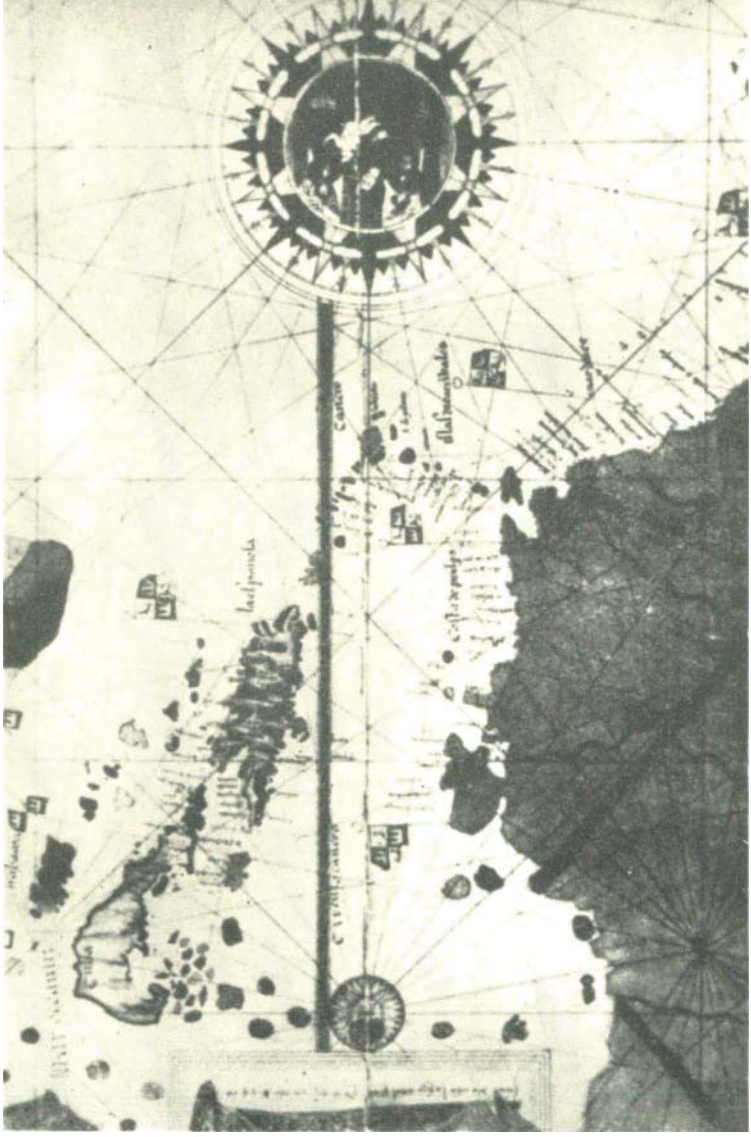




4. Piri Reis Map (1513) .



5 Manamundi de Aniano (1520).

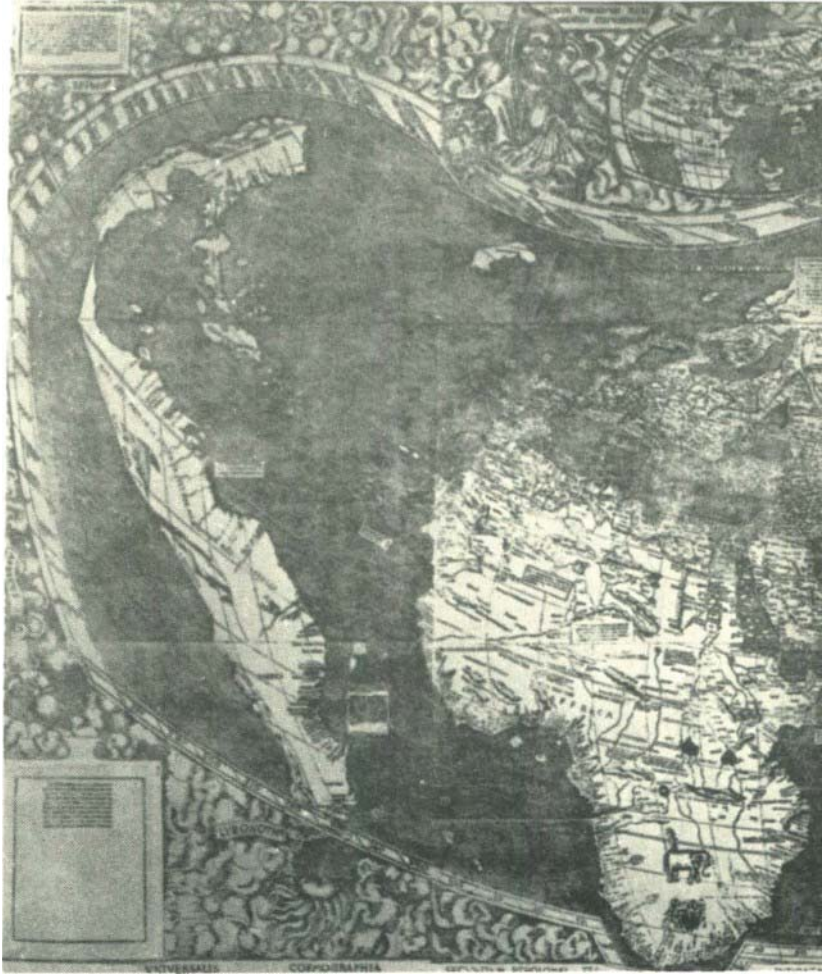


Map of Juan de la Cosa (1500) .





the 'mun Ji o (Jrtelio (1587) .



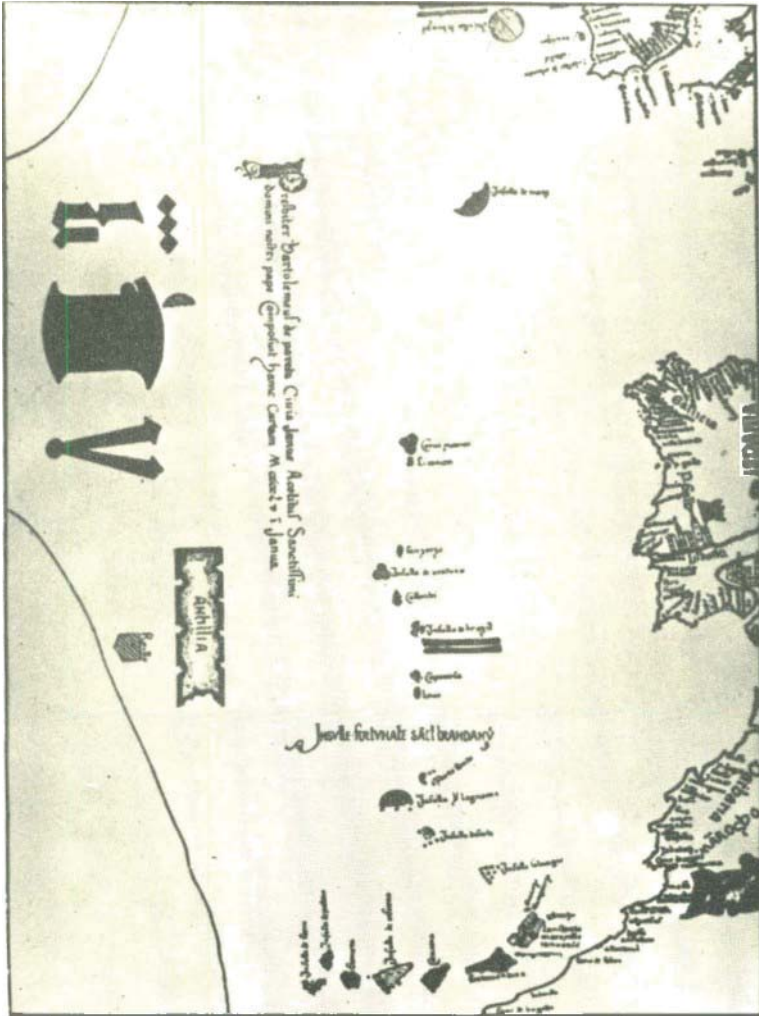
8. Map of the world by Martin Isenmüller ( 1507 ) .







9. Mapamundi de Mercator (1595) :

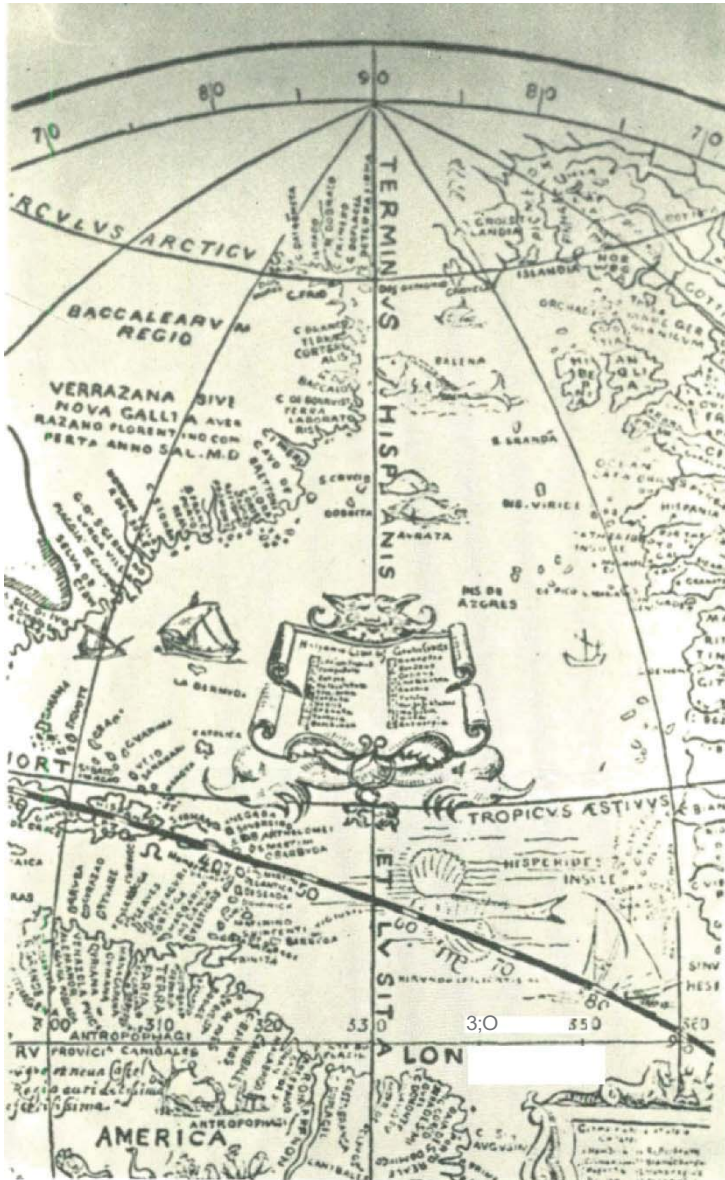


10. Map by Bartolomeo Pareto (1455) .

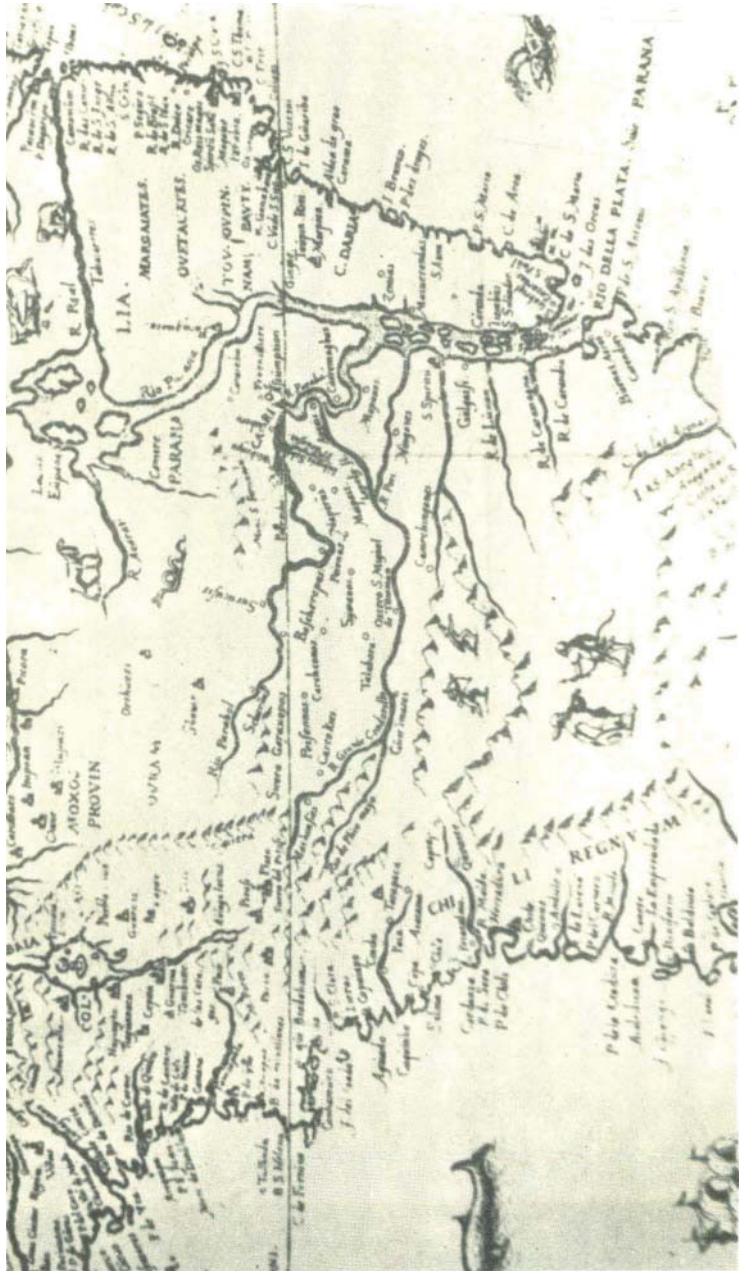


11. Map by Diego Ribero (1629). Detail.





12. Globe of Vulpius (1542) : northern part of America.



13. Map of Hu Isius (1599) : Paraguay and Guayrá.







15. Glo no de Vulpius (1542) : southern part of America.

The following is the *discipline*: "At 54° (south latitude), where the Martin de Bohemia Strait, also known as Magellan Strait, is located ...".

The knight Martin Behaim, who, in the service of the King of Portugal, liked to call himself Martinus Bohemus or Martinho of Bohemia - descended from an old Bohemian family, established for two hundred years in Nuremburg - was indeed a well-known and very famous cosmographer at the end of the 15th and beginning of the 16th century. He had married the daughter of the knight Lobst von Hürter, governor of the island of Fayal in the Azores archipelago, where he lived for years. His services must have been very important, since King John II made him, in 1485, a knight of the Order of Christ and a member of a commission of mathematicians charged with studying the means of navigating the height of the sun. After his death in 1506, there was no hesitation in attributing to him the discovery, not only of the famous strait, but also of the whole of America, the existence of which would have signalled Columbus and it was even said that it would be right to give the new continent the name of *Bohemia*.

However, the globe built by Behaim in Nuremberg in 1492 is far from justifying such a reputation. Not only does America not appear on it, but Eurasia has the exaggerated dimensions attributed to it by Marino of Tyre, and the ocean separating Asia from Europe has a width equal to that given by Toscanelli. Moreover, it is the latter's map that makes one think of the globe in question, to such an extent that one wonders whether it was not a mere transposition of the Illorentine's work. It was in the King's *Thesaurus* and Behaim was certainly not unaware of its existence. If Pigafetta was not mistaken - the other, concordant but not direct, testimony is less reliable - Martinus Bohemus had,

Thus, a cartographic split personality, so to speak: on the one hand, he designed, for the King of Portugal, secret maps that did not leave *TessovraTta* where, however, he could steal them; on the other hand, as if to disguise himself, he constructed an archaic globe of no great interest. Unless he had received, between 1492 and 1506, information from another source, new to him, which had led him to fundamentally change his conception of the world.

There remains, of course, the possibility that Pigafetta has made a mistake or, what amounts to the same thing, has repeated in his *Diorio* a mistake made by Magellan.

Did he not attribute to Behaim Schöner's globe (*Mtg.* 8), a reproduction of which some Portuguese agent might well have bought - or copied - and which shows not only South America, but also the Patagonian strait, more or less where it is located? It matters little. For Schöner's globe, whether or not there was a similar map by Behaim, suffices to establish that at the beginning of the sixteenth century some people had precise information about a point on the American coast which no navigator of the time had yet discovered. It is indeed excluded that Schöner had traced the Strait of Magellan because he had identified South America with the Peninsula of **Catti-** ga: a: this appears independently on his globe, as it would still appear on Apian's map of the world (*Joto* 5) in 1520. Moreover, Pigaitta's testimony is conclusive: the map by which Magellan was guided did not merely indicate the existence of a passage: it fixed its position and gave precise topographical indications regarding its entrance. To know that the strait is "essentially hidden", one had to have been there. As for Ibarra Grasso's idea <sup>(3)</sup> that the defector was inspired by the Javanese map copied by the Portuguese in 1511, when he was in the Indies, it does not seem to us that he had gone there.

is very convincing. If Magellan had taken into account this map, the main lines of which are followed, to the east, by that of Lopo Homem (Joto 2), he would certainly never have dreamed of undertaking a voyage that would have taken him to a coast that was impossible to cross.

In any case, in 1515, as we have already seen, the strait appeared on Schdner's globe at 45° south latitude. Where did the geographer from Nuremberg get this information from? Humboldt (2\*) thinks of the clan expeditions that Portuguese traders sent to South America in order to discover the spice route. They were undoubtedly Portuguese, but also Spanish, since an ordinance dated Seville in 1501 forbids anyone to seek to make "discoveries in the ocean sea and on the mainland of the Indies" (^). Otherwise, we have some indications about Portuguese voyages. In the edition of Pto- lomeo's *Geogra jia* published in Rome in 1508, there is a map of the world by Juan Ruysch that makes of South America a huge island separated from the Yucatan by a strait. On the eastern coast, it reads: "Portuguese navigators observed this part of the earth and reached as far as 50° latitude, although not to the southern limit" ( ). In the body of the work, there is a study whose author, **Marcus Beneventanus Mo-** nachus, is more reserved: the Portuguese surveyed the coast of Santa Cruz as far as 37° south latitude and perhaps, it is said (ut *JeTunt*), as far as 50°. Indeed, Vespuccio claims to have reached this parallel in 1501. The Spaniards, for their part, had not gone, before 1508, beyond Cape **San** Agustin (8° 20') and it was not until that year that Juan Diaz de Solis and Vicente Yanez Pinzon reached the 40° degree. Would a Portuguese ship have preceded them, which would have reached the famous strait?

Some argued that it was based on a "vo-

tante" - an information bulletin - which appears to reproduce a letter from the Portuguese shipowner Christovam de Haro to his Augsburg partners, the Welsers. On this sheet, entitled *C'opin der newen Zegtung auss Presi II Landt*, we read: "You know that on the 12th of October a ship arrived here from the country of Brazil, which was armed and chartered by Dom Nunp and Christovam de Haro. They are two ships which, with the permission of the King of Portugal, set out to explore and discover the country of Brazil . . . and when they came to a climate or region at 40° latitude, they discovered the land of Brazil with a cape which is a land that advances into the sea. And they went round the cape and found that it is situated like Europe, with the west in front, that is to say that it is placed between the east and the west ... and when they went round the cape, as has just been said, and turned to the north-west, the weather became stormy and the wind became so violent that they could not go on ahead. So they had to turn back... The pilot, I mean the one who was driving the boat, is a good friend of mine. He tells me that it must not be more than six hundred miles from Cape Brazil to Malacca. He also believes that in a short time, by this *lean*, that is to say, road or voyage, one can go from Lisbon to Malaqua and back, which would be, for the King of Portugal, a great help in terms of spices". The German of this text is so bad that it was impossible to translate the last sentence: "it is also proposed to carry out this *r\*agio* ...". Of course, the Country of Brazil is here Schiiner's *Brasitie* Regio, i.e. the Land of Fire confused with the *Austral Thermals*, and Malaqua refers, not to the Malay Peninsula, but to the Moluccas.

There is no certainty as to the date of this "flying leaf", which some date to 1507 - it would therefore relate to one of the expeditions undertaken,

between 1503 and 1506, by Gonzalo Coelho, Christovam Basques and João de Lisboa- and others, of 1514, nor even of its authenticity. Let us admit that the voyage actually took place. The position of the strait at 40 degrees south latitude is clearly indicated in the account. Schö- ner places it at 45 degrees. No cartographer can be so grossly mistaken. So the Nuremberg geographer had another source of information: was it really a strait, on the o t h e r h a n d , that strait which everyone was looking for and which would have ensured the fortune of the merchant who would have been the owner of the secret? No, certainly not. For Christovam de Haro financed Magellan's expedition. He would not have done so, evidently, had he known, several years before, where the passage his protégé was to seek was to be found. And if he had known, he would have been very careful not to spread the news. On the contrary, he would have reserved for himself, as long as possible, a monopoly on the route to the islands. Why the "flyleaf", under these conditions? If the document is authentic, it can only be a "public relations" text designed to impress Chris- tovam de Haro's German customers and partners.

The "discoveries" of Columbus and Magellan therefore have a common starting point: the theft of secret maps from the Portuguese *Tesouraria*, and the same rumour: they are maps drawn up by Martin Behaim. Columbus knew before he left that he was going to reach, not Asia, but a *Mondus N onus* which was nothing more than the Cattigara Peninsula. He knows perfectly well where he is and plays with the figures to make believe that the coasts of Asia are precisely where the coasts of America are located, not without using the false map, which he knows to be false, of poor Toscanelli, which he also stole. Magellan knows,



before leaving, that there is, south of the *Sanctae Cmcis*, a strait which allows passage from the Atlantic to the Pacific and thus to the East Indies by the western route. He even has a detailed description of its entrance. But he does not know its exact latitude, since he begins to carefully scan the coast from 40 degrees. Moreover, he was not the only one in possession of the secret: Schöner, in 1515, had the passage on his globe, albeit with an appreciable error of position. So, the same certainty and the same imprecision, which justifies the hypothesis of a common source.

One conclusion must be drawn: there was, in the *Tesouraria* of the King of Portugal, a map of South America, very accurate, but not graduated. And this map, or the data that had been used to design it, was known in Germany.



## IV

The Impossible  
Map" by Martin &  
aldseemüller



Except for the important detail of the southern passage of South America, for which we mentioned it above, Johann Schiiner's globe is nothing more than the transposition of a huge world map designed in Saint-Dié in Lorraine by the German cartographer Martin Waldseemüller (Foto 8). Engraved on twelve boxwood boards measuring 45.5 by 67 cm and printed in 1,000 copies, a considerable number at the time, this 2.68 m map was printed in 1507. Its date leaves no room for doubt, since Glateano in 1510, Stobnicza in 1512 and Apianus (Voto 5) in 1520 blatantly copied it without even mentioning its author.

If we consider the ancient continent, Waldseemüller's world map is clearly archaic. Up to and including *Slnus Magnus*, Eurasia is represented on it in the Ptolemaic mould, with the huge island of Trapobana replacing India proper. To the east of Sirius, Cathay, whose poorly delineated coastline bathes the ocean, is prolonged to the south by the Cattigara Peninsula whose shape is reminiscent of South America, with a well-designed but enlarged Tierra del Fuego bisecting a north-south strait, as mentioned in Chapter I. The Indonesian islands are located in the south of the Sirius. The Indonesian islands lie to the east of the peninsula, in accordance with the "great error" pointed out by Ibarra Grasso (°), and Cipango, with its traditional rectangular shape, to the east of Cathay. Greenland is not represented.

The whole of the European continent is neither an appendix of Europe, as in Martellus (1499) and Behaim (1492), nor an eastern projection of Asia, as in Contarini (1506). The whole of the Euro-Asiatic continent has a longitudinal extension of 230 degrees: the 180 of Ptolemy, plus 50 corresponding to "East India", then 5 more than in Marino de Tiro. Africa has a more or less correct shape and the cartographer did not hesitate so that the Cape of Good Hope, which he places much further south than it is, could appear on the map, cutting off its frame which follows the 40° parallel. In a word, Saint-Dié's map of the world seems to be, as far as what we call the eastern hemisphere is concerned, a mere copy of Toscanelli's map. It differs from it only in the shape given to the Cattigara Peninsula, the same shape we find in Henricus Martellus (*Jig. 5*) in 1489. All this, in 1507, is certainly not brilliant.

The picture changes completely if we consider the western part of Waldseemüller's planisphere, where we see the American continent, completely separated from the old world. Its northern sector is represented only by a more or less regular rectangle about 2,700 km long and 1,500 km wide, extended to the south-east by the Florida peninsula. To the north, the map is interrupted by a straight line which, far from indicating a boundary, seems to suggest, on the contrary, the existence of further lands of unknown contour. In this respect, too, the map is archaic. In 1507, the coasts of Canada had already been officially explored, and the maps mention Newfoundland and the Boccolouros. Let us not insist here on this point, which will be dealt with in detail in our next chapter. Central America is reduced to a huge band of land in front of which are the West Indies. It is separated from South America by a stretch of land which has been sought in vain since Columbus.

Let us come to the southern part of the continent, which makes Wald- seemüller's map of the world "impossible". As it is seen, it is considerably distorted by the perspective effect due to the globular projection used. The author realised the difficulty and remedied it by redrawing his map in reduction, but in flat projection, in two medallions. In the one on the right, South America takes the shape we know today. At least up to 40 degrees south latitude, where it is cut off, in both representations, by the frame of the map, far north of the Strait of Magellan. What is even more striking is that the layout of the subcontinent, in both cases, is incredibly accurate. Let us give here the figures established by Alfréd-Ciö Rodriegl-Z G&#228;tlt&#201;ero (3'), compared with the exact dimensions we know today (in kilometres):

Latitude	Large Map	i°small map	Current map
0°	3.777	2.999	3.333
10°	4.666	2.555	4.666
20	2.555	3.111	3.333
30°	1.999	2.777	2.777
40°	1.444	1.666	1.055

The calculation of longitudes was, at that time, extremely imprecise because of the inadequacy of the instruments used and the impossibility of synchronising clocks at a distance. The two Waldsee-Inüller maps are therefore practically perfect. Especially the large one, of course, since the small one is no more than a sketch, even if it is, for us, more striking than the other one because of its flat projection to which we are accustomed. Between the large map and the present map, the values are identical in the 10\* degree and the error, in the

At other latitudes, it never exceeds 12%, while it exceeds 77°r, on the same world map, in terms of the maximum extent of Eurasia.

In order to fully realise the significance of Waldseemüller's route, it must be remembered that in 1507, Pizarro had not yet landed in Peru (1532), Magellan had not yet reached the Strait (1520) and Balboa had not yet even sighted the Pacific from the top of the mountains of the Isthmus of Darien (1514). The maps of the time [Juan de la Cosa (Joto 6), 1500; King-Hamy, Kunstmann II, Pesario, Caverio and Cantino, 1502; Maiolo, 1504; Contarini (*Jtg.* 6), 1506; Ruysch, 1508] show of South America only the vague outline of its eastern coast, at best as far as the Rio de la Plata, and sometimes - King-Hamy and Kunstmann II - with blank parts. The coast of **Paria** and Tierra de Santa Cruz were still believed to be those of eastern Asia or, at least, of the Cattigara Peninsula, a southern extension of Asia. In 1529, Diego Ribero (Voto I I and *Jtg.* 13), who seems to realise the continental character of America, will still refrain from drawing its southwestern coasts below the 10th degree. Much later maps such as those of Münster (*Jtg.* 7 4), in 1542, Ortelio (1570) in 1587, and Mercator (Joto 9), in 1595, show us a complete South America, but much less accurate than that of Waldseemüller. In the map of the world (*Jpg.* 11) illustrating the 1548 edition of Ptolemy's *Geografia*, the subcontinent, still united with Asia, is complete, but its western coast is only represented by an arbitrary sinuous line which expresses neither its real contour nor its real orientation.

From 1507 onwards, we thus have two series of maps: the that reflect the successive discoveries, or at least the official discoveries made by the Spaniards and the

the Portuguese along the South American coasts, and those inspired by Waldseemüller or simply copying him. For the geographers, and even for the educated public, of the time, the latter must have belonged to the field of what we now call science fiction; and not without reason, since they did not rely on any known basis. Otherwise, all the cartographers would have immediately adopted a much more satisfactory layout than the others. It also seems, however, that Saint-Dié's map of the world bothered some: for example, Diego Columbus, whose rights to his father's inheritance

-The Crown challenged in court, arguing, with some very good arguments in support, that the Admiral had been engaged in exploiting other people's discoveries; and especially the Marrano bankers who had financed Columbus's **voyages** and had reserved a share of the perpetual revenues guaranteed by the Capitulations to himself and his heirs. Waldseemüller must surely have been under enormous pressure to renounce his work, if he could not destroy it.

In 1513, in *ele.cto*, our cartographer published, in his *Tobulo terrae tiorae*, a completely different map of the world. Here we see an Asia with a much improved outline, although the Cattigara Peninsula remains. India takes its real shape, although its dimensions are still smaller than those of Indochina, otherwise abusive. The longitudinal extent of the eastern continent is considerably reduced. Greenland appears as a European peninsula, north of Scandinavia. But above all, and this is what interests us here, only the imprecise and inaccurate outline of the south-eastern coasts of America (*jtg. 2f*), as far as 30 degrees south latitude, remains. Waldseemüller certainly does not refer to this latter point when he

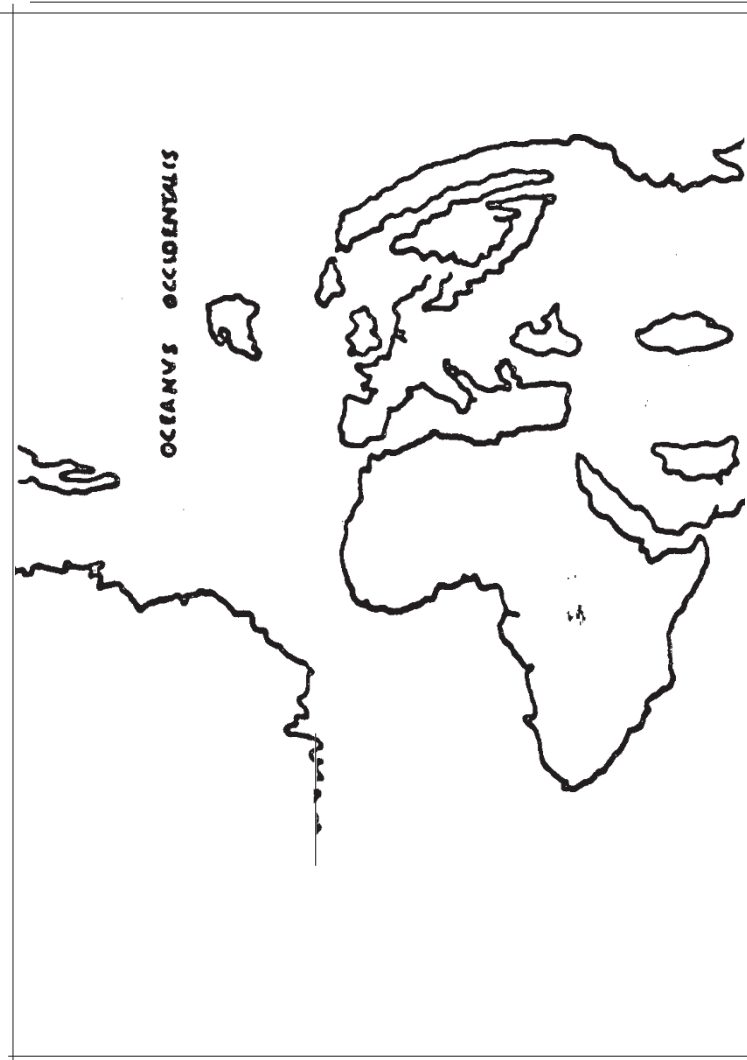


FIG. 22 - E í se qñdo mpa of W atdseemül ler (1513). From such íe,



writes that his map includes some aspects "which differ from the old tradition and of which the earlier authors knew nothing". For what everyone was unaware of, except him and those who had informed him so well, was the shape and dimensions of South America, which he makes disappear from an otherwise careless map of the world, which would be incomprehensible without the Spanish lawsuit. As would be the fact that Waldseemüller mentions Cuba, in a sea chart of 1516, as "part of Asia".

From where did our geographer - we shall see that this term can only be used with extreme reservations - obtain the indispensable data for the elaboration of his monumental planisphere? "With the elements known in 1507", writes the Argentine Jesuit scholar Guillermo Furlong (^) author of a remarkable work on the Jesuit cartography of the Río de la Plata, "it was not possible to know the configuration of South America, and it was generally believed that it was only a part of the eastern coasts of Asia. And yet there was one who, in that year of 1507, in a single large map, gave us a double drawing of our continent, in its entirety, North, South, East and West, and separated it from Asia and named it America....

Neither Waldseemüller nor his Saint-Dié tailors could have had the necessary science to get the picture of South America right. There was and could have been no science or erudition; there was only inspiration and inspiration".

Strictly speaking, one could accept that Waldseemüller had the idea of separating the Cattigara Peninsula from Asia and making it a new continent. It would be more difficult to admit that he would not have established any connection between the newly discovered lands and the "East Asia" which he leaves where it is not, and that he would have conceived the idea of an autonomous America, flattened by the idea of a new continent.

Europe and an Asia that stretches 13,000 km into the Pacific. What is totally unacceptable is that he could have "intuitively" given South America an exact outline and dimensions. It is therefore necessary to look for another explanation, i.e. to discover the sources to which Waldseemüller had recourse. This raises the question of the role played by Amerigo Vespucci.

At the top of the Saint-Dié world map, on either side of the medallions containing the small flat maps mentioned above, we see the portraits of Ptolemy and Vespucci. In the lower margin, outside the outer frame, we read in very small letters: "*Uai- uersalis cosmognpitin secundicrn Pt iiotomael traditiones et America Vespucit atiorumque lustraltones*", "Universal cosmography according to the tradition of Ptolemy and the voyages of Amerigo Vespucci and others". One has the impression, as Fr. Furlong notes, that these words were added at the last moment. We are even almost certain that they are not in Waldseemüller's handwriting. Above the portrait of Ptolemy, we read, in fact: "*Claudii Ptholoniei Aie- nandrini Cosmographi*". It was common, at that time, to transform the Latin *se* into *e*. But it is very difficult to accept that, in the same document, the same name is written by the same person in two different ways. Even more, the word *America* appears, in small capitals, in the middle of a white space in South America, as if it too had been added once the map had been completed, where there was room.

This double hypothesis is reinforced by the text of the booklet, entitled *Cosmograpüiae \*ntroductio*, which accompanied the world map. It contains the Latin translation of a letter that Vespucci had sent in 1504 to Pier Soderini, a gonfaloniere of Florence, but which was not yet available.

The dedication now reads as addressed to Renato II, Duke of Bar y Lo- rrena, although the dedication still alludes to the true addressee. Evidently, the work must have been carried out too quickly. The Duke himself had sent, in the first days of 1507, a French translation of the Lettera to the Monastery of Saint-Dié where the map was being printed, and we know that it was put on sale in Strasbourg in May of the same year. Vespucci's letter, in which the sovereign was so interested, had given an idea to Waldseemüller or someone else: to call America the "fourth part of the world". Some incidents to this effect were therefore added to the Introductio: "And in the sixth climate, in the direction of the Antarctic, and in the extreme part of Africa, recently discovered, in Zanzibar, in Java Minor and in the island of Seule, and in the fourth part of the world (to which, since it was America who discovered it, it is lawful to give the name of America, that is, the land of America, or America) are found ...". And further on: "Now these parts have been extensively explored, as well as the fourth part which was discovered by Amerigo Vespucci ... for which reason I do not see why anyone should object that, from the name of its discoverer, Amerigo, a man of sound mind, we could call it Amerigene, i.e. Amerigo's land, or America, since Europe and Asia are named after women".

In the Lettera in question, as in another addressed to Lorenzo de Medici, Vespucci recounted the four voyages he had made along the South American coasts, including the one in 1501 that would have taken him to the 50th parallel. There has been much discussion about this last expedition and it is still somewhat in doubt. Firstly, because Vespuccio claims to have reached the latitude of San Julian without seeing the Rio de la Plata: but Solís and Yáñez

Pinzón did not notice it either in 1508. Secondly, because the Florentine pilot gives very few details of his voyage, but it was a clandestine expedition of the Portuguese in a region attributed to Spain by the famous bull of Alexander VI. Finally, because the man was no saint: he sailed in the service of the King of Portugal, but, in reality, he was engaged in espionage for the Queen of Castile. We have proof of his activities in this field: as soon as he returned from his last voyage, in 1505, Queen Juana granted him Castilian nationality "on account of your loyalty and some good services you have rendered me and, especially, will render me in the future". Appointed as an expert before the Court of Castile and, later, chief pilot of the Casa de Contratación in Seville, the real Ministry of Maritime Trade, where he prepared and organised several expeditions, always in the hope of discovering the passage that would lead to the spice route, Vespucci, otherwise an excellent cosmographer and good pilot, would undoubtedly have been capable of inventing a Portuguese voyage in Spanish waters and spreading the news to put Lisboa in difficulty. Whether he did so is another matter. But there is a general tendency not to believe the word of spies.

In any case, there is no doubt that the relations of Vespucci had a certain influence on Waldseemüller's work. The latter added to his map, on receiving from Renato II the Letter which he reproduced and commented on in the Introduction, the mention mentioned above, and even the name of America itself. But this does not prevent the portrait of the Florentine pilot from already appearing in it. What is more, Saint-Dié was different from other data that came from clandestine expeditions on the South American coasts. If we look at the toponymy of the southern part, the one that



In the world map in question, we can see Portuguese names (Por to Seguro, Rio da Refería, for example), but also others that are Spanish (Rio de Santa Lucía, Terra de Santa María de Gracia, etc.) . There is no shortage of Latin names (Sancti Mi- chaeli, Pagus S. Pauli), and even less so those that combine Portuguese or Spanish and Latin words (Rio S. Agustini, Rio S. Jacobi). There is even one, Rio.de Virgine, extremely curious, which seems to combine two Spanish words (Rio de) with an Italian term (Virgine).

Most, if not all, of these toponyms are from Portuguese sources. Indeed, almost all of them are to be found in the Contino map, a world map dating from the summer of 1502 and named after a spy of Hercules of Este, Duke of Ferrara, who obtained it clandestinely in Lisbon. It does not seem, however, that Waldseemüller had access to the map in question: firstly, because the ancient continent has very small longitude dimensions on it, which the author of the *Cosmo- graphiae* ifltroductio only adopted in 1513; secondly, because all its toponyms are in Portuguese, whereas in Saint-Dié's world map some of them are mentioned in Latin. Is the translation due to Waldseemüller? One may doubt it, as it is not clear why he would not have done it for all the place names, as in the nomenclature of his *Tabula terroe not'ae*. In any case, the translator was certainly not Portuguese. We read, in fact, on the Contino map, the name of *A Baía de Todos Sanctos*, the Bay of All Saints. But the Saint-Dié world map mentions an *Abbatia Omnlitum* Sonctorum, an Abbey of All Saints. Such an error shows an unbelievable lack of discernment, in its author, c e r t a i n l y , but also in our cartographer. For, obviously, in

1507, there could be no abbey on the 29th parallel. Especially since the bay in question, already officially known and named at that time, is actually situated at 23° south latitude. Waldseemüller, or his informant, must only have known that the "monastery" was located in a large gulf, without knowing its position. Insofar as the identifiable toponyms allow us to get an idea of this, it would seem that our cartographer has placed all the place names on the South American coast. Thus the ' *el'Fo S. Tbonie* is at the 35th parallel, whereas the region where this toponymic should normally have appeared, as we shall see why in Chapter VI, is much further north, around the 26th degree. Inaccuracies of this kind, however serious they may be, do not

There is nothing strange about this, since these toponymic data came from clandestine journeys, the results of which were not officially reported or, if they were not, they became suspect. They were the fruit of espionage work carried out in careful means: from time to time, it was possible to obtain a secret map, but it was generally limited to taking advantage of partial or imprecise indiscretions.

At any rate, at best, the clandestine Spanish and Portuguese expeditions that Waldseemüller mentions in an inscription in his letter and the French ones to which he does not allude had not passed the 50th parallel. None of them had reached or, at least, recognised the Strait. Otherwise, the discoverer, power or trading company, would probably have managed to keep the secret for some time, but it would not have taken long for his rivals to realise that his ships were passing from one ocean to the other. The ports of Europe were few and far between, and full of ships.

We are therefore certain that no expedition, official or clandestine, in 1507 had crossed the Strait or rounded Cape Horn. We are therefore certain that no expedition, official or clandestine, in 1507, had crossed the Strait or rounded Cape Horn. On the other hand, the western coasts of South America had not yet been explored. However, they appear as accurately, and even more so, as the eastern ones on Waldseemüller's map of the world.

Alexander von Humboldt (2nd) tries, in vain, to explain the matter by deductions that could have been made from data then known. He tells us, in the first place, that the pyramidal shape of South America could have been conjectured from the curve of its coasts towards the southwest, beyond Cape St. Augustin. Perhaps, but as long as it was known that it was a land surrounded by the ocean. Columbus was not unaware of this, since he confused it with the Land of Cattigara, which he considered to be an Asian peninsula. But Waldseemüller did not share his opinion, assuming that he knew it, since, on the one hand, the Cattigara Peninsula appears on his map independently of the New World and, on the other hand, although the whole of America has in it the characteristics of a continent, a novelty even more impressive than the outline of its coasts, it lacks its southern extremity.

Humboldt adds that the shape of South America had been guessed by analogy with those of Africa. Indisputably, it was known, long before the expeditions of Bartolomé Diaz and Vasco de Gama, that it was possible to pass from the Atlantic Ocean to the Indian Ocean via the Cape of Good Hope. It is true that the southern tip of Africa is already recorded in Sanuto's planisphere of 1304, in the Portulano Mediceo, dating from 1356, and, above all, in Fra Mauro's map of the world which, in 1459, mentions that an "Indian junk" had passed through,



In 1420, the Diab had advanced 2,000 miles westward into the Atlantic. But the pointed shape of South America bears no resemblance to the rounded shape of the black continent.

Enrique Ruiz-Guiñazú ("\*) suggests a third explanation: Vespuccio would have noted the progressive dwarfing of the land mass "because the rivers surveyed were, from north to south, increasingly shallower and less and less wide, with the exception of the Rio de la Plata, as successively revealed by the Amazon, the Rio Negro and the Rio Santa **Cruz**, to mention only the most important ones". This is no small exception! But, even apart from the Rio de la Plata, the size of these rivers is far from being visible to those who border the coast and, without even looking for examples other than those mentioned by the illustrious Argentine historian, the estuary of the Rio Santa Cruz is much more impressive than that of the Rio Negro. For the rest, the volume of the rivers only gives us the curve of the western coasts and the example of Africa an explanation of the exact layout that Saint-Dié's map of the world gives us for the western coasts of the subcontinent. We have no choice, therefore, but to admit the existence of an unknown source of precise data about the New World.

So we have to come to this Martin Waldseerriüller who Humboldt ( ) , who never speaks without reason, describes him as a "mysterious character". Everything leads one to believe that he was only the material author of Saint-Dié's world map: an excellent cartographer, but nothing more. His masterpiece lacks the unity of conception that any cosmographer would have given it. The layout of the Old Munao, as we have already said, is clearly archaic, while that of the New Munao is half a century ahead of that of the New Munao.

century with respect to contemporary maps, as if he had added America to Marino de Tiro's map of the world. Even more: an unbalanced America. The southern sub-continent is perfect, or almost so, but the northern one, although separated from Asia, contrary to what all geographers believed at the time, and the Colon itself, does not include the northern lands - Greenland, *Baccalaurae*, Labrador, Newfoundland - officially exploited in the course of the previous ten years, which nevertheless appear, as we have already said, on other maps of the same period. On the other hand, we find in it, remarkably designed, the coasts of the present-day United States, still very imperfectly surveyed. Almost everywhere, the toponyms are placed at random, as if the author had added them a posteriori to a mute map, taking them from previous maps or from more or less well-interpreted travel accounts. We have already seen this with regard to South America. Let us limit ourselves to pointing out, for North America, the inadmissible error which consists in placing Parias south of the Gulf of Mexico and not on the northern coast of the southern subcontinent, that is to say south of the West Indian Sea, where Columbus (*Jig. P0*) placed it. We do not know much about Waldseemüller's life (^) : only that he was born around 1482 in Freiburg im Breisgau. He must have made very superficial classical studies there, as is shown by the transformations he made his apelli- do undergo. We can understand that from Waltzemüller, which comes from Wnltz Mülile, mill with rotating cylinders, he made Waldseemüller, miller of the lake of the forest. But the fact that he translated Wald by viii and Müller by púloç to form Hylacomilus with these two terms does not indicate a very profound erudition. For the rest, he was only 18 to 20 years old when he was called to Saint-Dié and was already, as his map of the world shows, whose ela-

He was not only a master of the craft of wood engraving, but also had the imagination and mathematical knowledge necessary to create the cordiform map with its extremely complex globular projection. Not only did he have a thorough mastery of the craftsmanship of wood engraving, but he also had the imagination and mathematical knowledge necessary to create the cordiform map, with its extremely complex globular projection. He was what we would call today a specialist.

Hence the poverty of the few texts we have by him, especially his *Cosmographia Introductio*. Hence also the ease with which, in his field, he changed his mind. Everything seems to indicate that his work consisted only in elaborating the data supplied to him, which he did with complete indifference. A passage in the introduction confirms this: "We have deliberately followed Ptolemy here, and maritime charts there. Ptolemy himself, in Chapter V of his Book X, says that - by reason of their excessive size some parts of the world have not come to our knowledge .... And thus we have combined things .... "

Was Waldseemüller, at least, surrounded by capable cosmographers at Saint-Dié? Certainly not. For if we know almost nothing about Master Hylacomilus, we know much more about the Vosgense Gymnasium which had called him. It was one of those centres of study of which the Collège de France, founded at the same time, still gives us an idea today. The Duke of Lorraine had brought together in Saint-Dié men of high culture who, free from all material concerns, could devote themselves, without any obligations whatsoever, to the work of their residence. The infrastructure of the group, so to speak, was a former Benedictine monastery, secularised in the 10th century, which was run by a college of canons under the presidency of a mitred Grand Preboste. Some of the names of members of the Gymnasium who were contemporaries of Waldseemü-

Iler, have come down to us: Gaultier Lud, chaplain and secretary to the Duke; another Lud, brother of the former, of whom we know little; Pierre de Barru, author of *Lu Nanceide*, the Lorraine national poem; Jean Basin de Sandacour, posthumous editor of the work in question; Mathias de Ringmann -Philesius Vogesigena-, to whom belong the Latin verses at the head of the *Cosniograpíioe* introductio. **They were** all humanists, not mathematicians or geographers: However, the Duke, their protector, was passionate about cosmo- **graphy** and was particularly interested in the discoveries that the Spanish and Portuguese were making, in the West as well as in the East. Everything leads us to believe that it was he who took the initiative to design the colossal world map that appeared in 1507. For this, a printing press was needed, and Canon Gaultier Lud was commissioned to set it up. The material means were not lacking: the Chapter was the temporary lord of the place and collected taxes in sequence. A cartographer was also needed, and Waldseemüller was called in. And then, of course, information was needed: the Duke provided it.

Renato II, Duke of Bar and Lorraine, King *in partibus*

\*He was descended by his mother, Iolande d'Anjou, from the good King Renato, who, without a male heir, had bequeathed Provence to France. He reigned in that Lo) Aringia which then constituted a link between the Empire, to which he nominally belonged, and the Kingdom, to which he was united by the language of the Court and of the greater part of the population. Sovereign of a duchy which was of no concern to anyone, he was as well regarded in Germany as in France. He was probably the custodian, if not of archives, at least of traditions going back to the time when his ancestors occupied the throne of the Norman kings in Sicily, and perhaps of some secret.

Is this the origin of the strange interest that this monarch of a landlocked territory showed in transoceanic discoveries? In any case, it was he who sent Vespucci's Letters to the Vosgense Gymnasium and it was he who, in 1508, provided the indispensable material for the new map added to the Strasbourg edition of Ptolemy's *Geography*.

For a reigning prince, it was not very difficult, at the beginning of the 16th century, to obtain all the maps available in the countries where he had an ambassador, nor to buy, like everyone else, from the spies installed in the great ports, some of the secret documents relating the latest discoveries. Thus he was able to obtain, in Lisbon or Ferrara, a copy of the Cantilo map or, at least, the data that had been used to draw it up. On the other hand, the *Lettere de Vespuccio* poses a problem that can only be solved by deduction. It was not the Italian original, as we have already said, that Renato II gave to the Gymnasium, but a French translation. The anonymous author

-The only biography we have of Waldseemüller - probably the Viscount d'Avezac - tells us that the Duke had received it from Lisbon. Nothing less plausible. Firstly, because the text would have arrived in its original language, Italian, or in Portuguese. Secondly, because the publication of letters showing the violation by the Portuguese, not only of the bull of Alexander VI, but also of the Treaty of Tordesillas, was in the interests of the Court of Castile, of which Yespucio, as we know, was an agent, and was detrimental to his disloyal competitors. Finally, because French had not yet replaced Latin as the diplomatic language and no one was using it as an instrument of diffusion at the time.

international opinion. The *Reitera* in French could only have come from France, but who in that country was interested in America? The Normans, whose ships had for centuries frequented the coasts of Canada and Brazil.

V

New lands





It is not our purpose to return here to the discovery and colonisation of North America by the Icelandic Vikings settled in Greenland. This is not geography, but history, and we have summarised in a previous work (-) the data supplied by the sagas on the subject. Let us simply recall, in order to make our analysis comprehensible, that Bjarni Herjulfson, whose ship had been carried south-westward by a terüporal on his way from Iceland to Greenland in 986, sighted an unknown land whose shores he sailed up, but did not disembark. In the year 1000, Leif Eirikssori, son of Erich the Red, set out on a reconnaissance of the region thus discovered, and successively explored the coasts of Labrador and Themar- va (Helluland), Nova Scotia (Markland) and New England (Vinland). Three other expeditions were carried out in the course of the following years.

-The last one in 1011 - by several members of the same family - and then permanent establishments were founded. We know from ecclesiastical documents that these were prosperous towards the end of the 13th century and perhaps even at the beginning of the 15th century. On the other hand, the sagas also tell us of Irish colonies already established in the 10th century in Huitramannaland, or the Land of the White Men, sometimes known as Great Ireland, which some authors place south of Vinland and others in Gaspesia,

The two theories are not mutually exclusive.

We do not have any cartographic documents relating to Greater Ireland, nor, on the other hand, to the Welsh settlements that Prince Madoc may have founded in the 13th century in Alabama and then in Missouri. On the other hand, two maps have been preserved which show the territories explored and, at least in part, settled by the Icelanders.

The first was discovered in 1957. It illustrated an anonymous manuscript of 1440, *Relotio tortoTo*, which tells of a journey through Asia in the 11th century. Its authenticity is not in doubt and its date was confirmed by experts from Yale University. It is a map of the world in which, to the east of a Europe whose layout is remarkable-

\* In 1965, after an exhaustive study of the document by a team of specialists. But in 1974, the same university, on the basis of the opinion of a group of students, declared that it was a falsification. We are not in a position to **judge** whether Yale was wrong in 1965 or 1974. But we do believe that such a grave error of yesterday or today deprives the university of any authority on the subject. On the other hand, we cannot forget the unpleasant precedent of the medieval fresco in Schleswig Cathedral, which Dr. Hirschfeld, Director of Fine Arts in the British military government, had destroyed in 1945 for being flawed: there was a turkey in it, and this American animal could not have been known in Europe in the 12th century. . . . In any case, as we shall see, the outline of Vinland on the map in question coincides with that of Waldseemüller, whose map of the world is dated. On the other hand, Alf Mongé discovered in the Latin inscription of the document in question (cf. Alf Mongé & O. G. Landsverk: *Norse me dtet'ái ci gptograpii g* in runic *car t'ings*, Glendale, California, 1967 cryptographic notations based on the perpetual calendar of the Norwegian church. Such a procedure had been lost for centuries. Therefore, the Yale map would, at worst, be a copy of an authentic document.

The Indian Ocean is open to the east, according to El Edrisi's conception. The Indian Ocean is open to the east, according to El Edrisi's conception. Its northern coasts are so narrow as to be unrecognisable. To the south, *Tema Australia* appears as a peninsular prolongation of an Africa bounded, at the equator, by an almost rectilinear coastline. The Pacific Ocean joins the Atlantic Ocean to the south of the Southern Land and of the Africa thus reduced.

To the west of Europe and Africa, we see a multitude of small, more or less identifiable islands and two large islands, almost rectangular in shape, which we have already mentioned in the Benincasa map (1462), one of which appears in Pareto's map (Joto 10). All this is therefore common to all the geographers of the time. What is new is that we find, in the Arctic, not only Iceland, but also Greenland, very well designed in all its extension. In the middle of the 15th century, only the Scandinavians who had had prosperous settlements there for four hundred years, which mysteriously disappeared just a few years before the date of the world map we are analysing, could know the contour of the Green Land so accurately. The anonymous draftsman of the Yale Map had therefore had precise information from a Nordic source.

Further west is a large island about 1,800 km in maximum length by about 800 km in width, with the following Latin inscription: "Island of Vinland, discovered jointly by Bjarni and Leif". A long Latin annotation above it adds: "After a long voyage from Greenland, sailing south through the ice, the companions Bjarni and Leif discovered a new, extremely fertile land, which even had vines and which they called Vinland". There is, in this text, a

The **two ships were**, of course, two successive and complementary voyages, and they were both on the same boat. But the identification of the lands depicted remains as clear as possible. It remains to be seen whether their location and design are fanciful, in which case one might think that they were merely an illustrative transposition of the sagas, or whether the Vinland on the Yale Map is a true representation of reality, which would presuppose that the author had precise geographical knowledge of North America.

Nothing could be easier than to add to our map of the world (*Jtg.* £4), on the same scale, and taking into account the curvature which the cartography of the time, according to Ptolemy, gives to the parallels, the exact outline of the New World. The general coincidence is perfect. A reference point allows us to adjust the details. On the east coast of the island of Vinland there are in fact two deep fjords. One, to the north, ends in a kind of lagoon. The other has exactly the same orientation and the same length as the St. Lawrence, which it undoubtedly represents. If we match the "fjord" with the river, we can see that, to the south, the Vinland covers the Canadian peninsula of Acadia (New Brunswick and Nova Scotia) and all the eastern North American states from Maine to Georgia. North of the St. Lawrence, the Labrador loses the point that brings it close to Newfoundland and the latter island is omitted. The arm of the sea and its lagoon, then, can only be the Hudson Strait and Bay, poorly designed and situated a little further south than it should be. Likewise Baffin's Land and the part of the continent in front of which it lies and with which it is mistakenly confused.

The representation of Vinland on the Yale Map does not

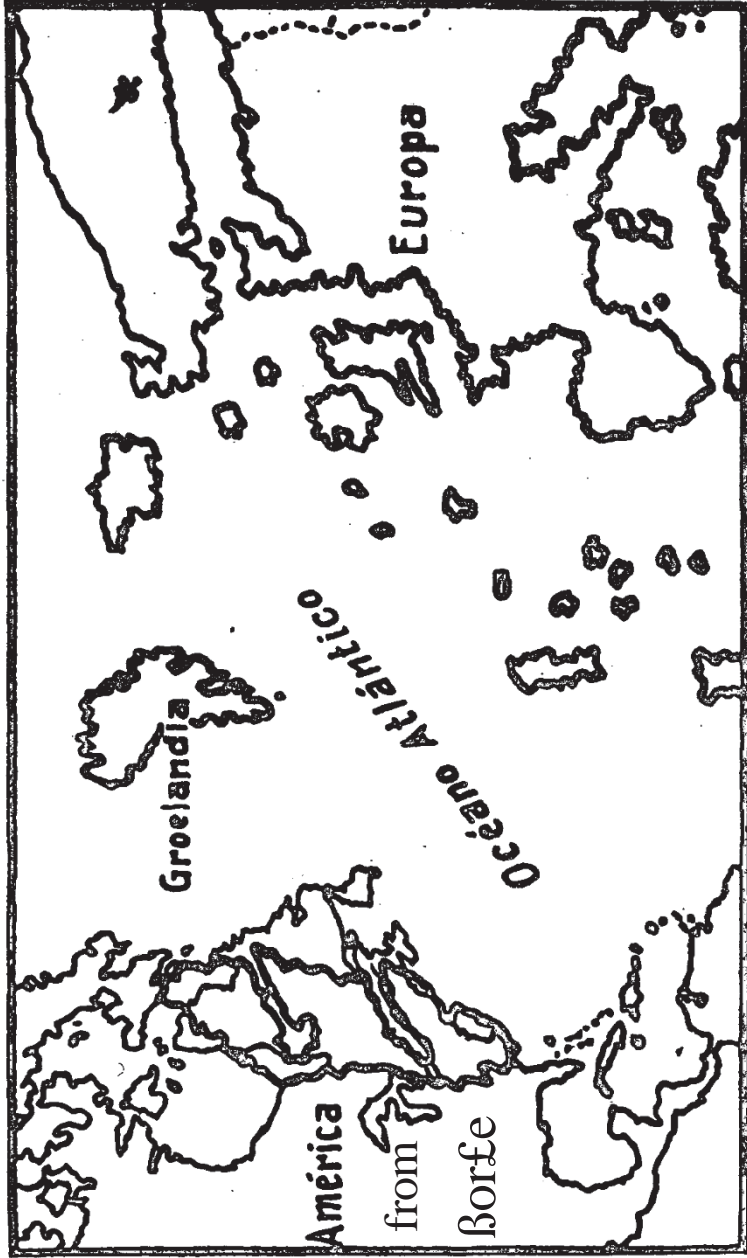


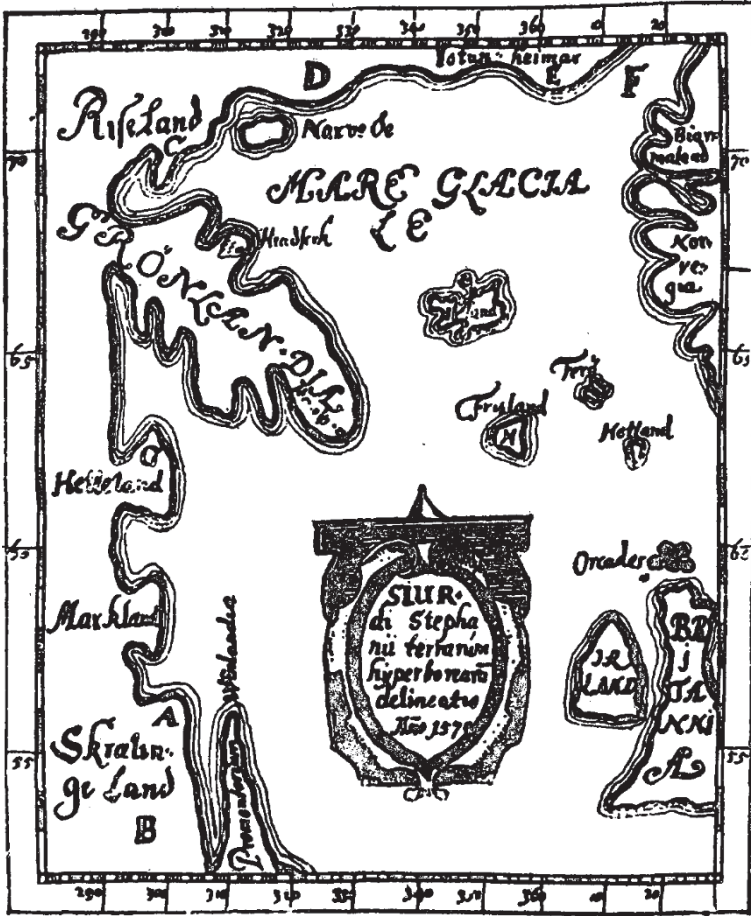
FIG. 24 - 1440's otioninio map, in projection on the exact piece of In A'menu "a of the North. Detolle.

is therefore in no way symbolic. It is clearly the result of geographical surveys that were at least as accurate as those that were carried out, wherever they were, at the same time. The errors we have pointed out are, moreover, not without interest for us. They prove that the Vikings were perfectly familiar with the region south of the St. Lawrence, but much less so with Labrador and the Hudson area. This seems to exclude Helge Ingstad's hypothesis ("") that identifies Vinland with Newfoundland, Markland with Labrador and Hellu-land with Baffin Land. Had this been the case, but other nautical, geographical and climatic data also argue against it, the Vikings would have known the north of their 'island' better than the \*ur. In reality, they must have frequented the Hudson region only for hunting, since it was, and this has hardly changed, practically uninhabitable, while Labrador and Newfoundland must have been for them only fishing bases. The small hamlet whose ruins Helge Ingstad discovered at Anse-au-Meadow on the northern tip of Newfoundland confirms that the Vikings had only a minor outpost there.

The map of 1440 thus shows us that the Vinland Icelanders had explored a vast territory extending some 800 km in depth from Baffin Land to northern Florida, which they had mapped before losing contact with the mother country, a remarkably accurate cartographic survey for the time and which was still known to some in Europe in the 15th century. And even later: with the exception of the addition of Florida and Mexico due to the Spanish discoveries, the North America of \Valdseemüller (Joto 8) corresponds in fact to the Vinland of the *Tartar Relation*. It has, however, a more geometrical layout, covering only the eastern United States and the southern tip of Canada, as far as the St. Lawrence.

Lorenzo, then Vinland p r o p e r . Neither the Hudson River nor Hudson Bay appear in it. As we have already pointed out, Saint-Dié's cartographer was not unaware that the lands in question extended further north: he indicated this by the straight line in his drawing. But he must have lacked the data he would have needed to complete his work. He was therefore unaware of the Yale map. But we can say that the Vosgense Gymnasium had secret information from the same Scandinavian source as that used seventy years earlier by the anonymous author of the world map illustrating the Relntio tortOTO, except that it was less complete.

The other map (*Jig. 25*) that has been preserved is certainly not as valuable as the one we have just analysed. Designed in 1590 - and not in 1570 as we read in the only copy that has come down to us - by the Icelandic Sigurdur Stefánsson, it is almost no more than a reflection, mixed with mythological reminiscences, of a tradition made legend. Not without scientific pretensions - it is graded - the map presents the North Atlantic Ocean and its Arctic extension as if it were a gulf. To the east, we find, from south to north, Great Britain, Ireland and the western end of Scandinavia; to the north, the Jiitttnbeirner, "home of the deformed giants", separated from Norway by what is "believed" to be "a strait leading to Russia" (F on the map), and the country of the KloJiano, or clawed Finns (D) ; to the north-east, the Riseland (C) , or country of the giants, whose "inhabitants have horns and are called Skirk{inno, dread Finns". To the west are, from north to south, Greenland, a large peninsula with an irregular and arbitrary outline, curiously oriented towards the south-east; Helle- land (G), "a stony country often mentioned in the stories"; the Markland and Skraelinge Land (Land of the Wimps, i.e. of the Eskimos and Indo-Europeans.



Fzc. 25 - hopçt de Sigf'idur 8tefánsson (J 590).



god) , with two indications: "A. The English came to this region. It is known for its barrenness, caused by the sun and the cold"; "B. Near this region is the Vinland, called, on account of the multitude of useful things found in it, the Good. Our countrymen believed that it flows southwards into the sea, and that a strait or a fjord separates it from America", that is to say from the regions discovered by Columbus. From this Vinland there is a point of land facing north which bears the inscription *Promoiitorium Vinlandioe*. The sagas allows us to identify it when we are told that **Leif Eiriksson**, before reaching Vinland, passed between an island and a promontory that turned away from the mainland "in a direction to the north and east". The only place that fits this description is Cape Cod and the island of Nantucket, whose neighbour is still called Martha's Vineyard, to the south of which lies present-day Rhode Island, where wild grapevines grow and the microclimate is exceptionally mild. Stefánsson's map finally shows us, in the ocean, the Orkneys, the Shetlands (Eastland), the Faroes and Iceland, with, in addition, Frisland: "This island, I do not know which one it is, but it is possible that it is the one discovered by a Venetian and which the Germans call Friesland".

Not everything is to be rejected on this strange map. In the first place, seventy-three years after Cabot's expedition, we do not find in it any data that are due to the post-Columbian cartography of North America: it is exclusively a compilation of Icelandic traditions. Secondly, Helluland (Labrador and Newfoundland) on the one hand, and Markland (Acadia) on the other, are depicted as massive peninsulas, which is not far from the truth. Finally, the *Promoiitorium Vinlandioe* correctly indicates the sep-

However, our cartographer is unable to give an exact location: "Near this region lies the Vinland ...". But we have seen from the Yale map that the term did not only designate the region where Leif built his village, Leifsbudir, but also the whole of North America explored by the Vikings. In any case, and this is what interests us, Stefánsson's map confirms that Iceland, almost a hundred years after Columbus' voyage to Thule, was a reminder of the lands of the West.

The mention of the island of Frislandia, perhaps "the one discovered by a Venetian", leads us to a document very different in nature from the previous ones, but no less pre-Columbian. It is a map designed in 1558 by Nicolas Zeno, a descendant of the brothers Antonio and Charles Zeno, on the basis of maps and accounts that the former would have sent to the latter between 1390 and 1405. Very young when he had inherited these family papers, Nicolas had destroyed them, partly without realising their importance. Later, he would have reconstructed their contents, especially the map, with the help of the preserved fragments and his memories. According to Nordenskjöld, but we are unable to verify this, two copies of the original map brought from Frislandia by Antonio Zeno<sup>(32)</sup> exist before 1492.

According to the work published by Nicholas Zeno, an ancestor of the author, who had the same name and surname, a member of an illustrious family of Venetian seafarers who had given a duke to the Most Serene Republic, was shipwrecked in 1390 off the coast of the island of Frislandia, north of Esthotia, and was in the service of the local ruler, a Scandinavian named Zichmni (pronounced Tzikmni). Soon after he was appointed commander of the Frisland fleet, Nicholas helped the

The prince set out to **seize** the neighbouring islands, and then summoned his brother Antony. The two accompanied Zichmni on an expedition to Greenland, where Nicholas died. Back at their base, the squadron did not take long to set sail again to discover unknown lands to the west of the Atlantic.

Twenty-five years earlier, in fact, Frisian fishermen had been driven out by a storm on the island of Estotiland, whose civilised inhabitants had their own language and script and had once had relations with Europe, for their ruler had in his library Latin books that no one understood any more. The Frislanders, incorporated into the local navy, one day reached a country called Drogeo in the south, which was extremely rich in gold. On their return, they fell into the hands of anthropophagists and only one of them saved his life by teaching the natives the art of fishing with nets. He lived thirteen years in the midst of naked savages who did not know the use of metals, although in the southwest there were peoples who lived in villages, had temples where they offered human sacrifices to their gods and worked gold and silver. The fisherman finally managed to escape and return to his country.

Zichmni and Antonius Zeno set out with a large fleet, most of whose ships were lost almost immediately in a violent storm, in search of the western lands. They first reached the island of Icaria, so named in memory of their first sovereign, the son of Diodorus, King of Scotland. But the inhabitants refused to let them land. After six days of sailing to the west and four to the south-west, they discovered a land, covered with forests, overlooked by a volcano. Seabirds abounded there and eggs were laid everywhere. Zichmni named Trinithe the safest harbour in the region and decided to build there a

city. Finally, Antonio Zeno obtained permission from the prince to return to his country, where he arrived in 1405. He died in the same year.

The authenticity of this story has been in question for centuries. For our part, we maintain what we described in a previous work (\*): if it was invented, its author was based on accurate facts from another source, and it is the facts, and not their source, that concern us here. It is obvious that a Venetian of the 11th century could not have invented the description given in the work of a Greenlandic convent, heated by boiling water from a neighbouring spring brought by underground pipes, nor the concentration of fish in the fjord into which the hot water finally poured, nor the boats made of sealskin, boiled and stretched on a structure of bones. It seems, on the other hand, that Zichmni was none other than the Norman lord Saint-Clere (which the English called Sinclair), who, having become Count of the Orades, had returned to the honourable pirate trade of his ancestors.

On the map (*fig. 26*) which illustrates the account just summarised, we see the north of Scotland, Denmark and the west of Norway. Connected to the latter by a wavy line above which we read: "Sea and land uncrossed", is Greenland (Groland), cut off to the north by the frame of the map. On its coast, which is otherwise almost straight as far as a cape called Thon P (Thon P) - Ther, in Count Miniscalchi Erizzo's reproduction - there is a wide bay with, a little off the coast, the convent of St Thomas (St Thomas Coeno- bium). The Green Land of Erico the Red extends to the south-west by an enormous peninsula, called Engrone- lant, whose geographic survey - coasts, mountains and rivers - is very detailed.

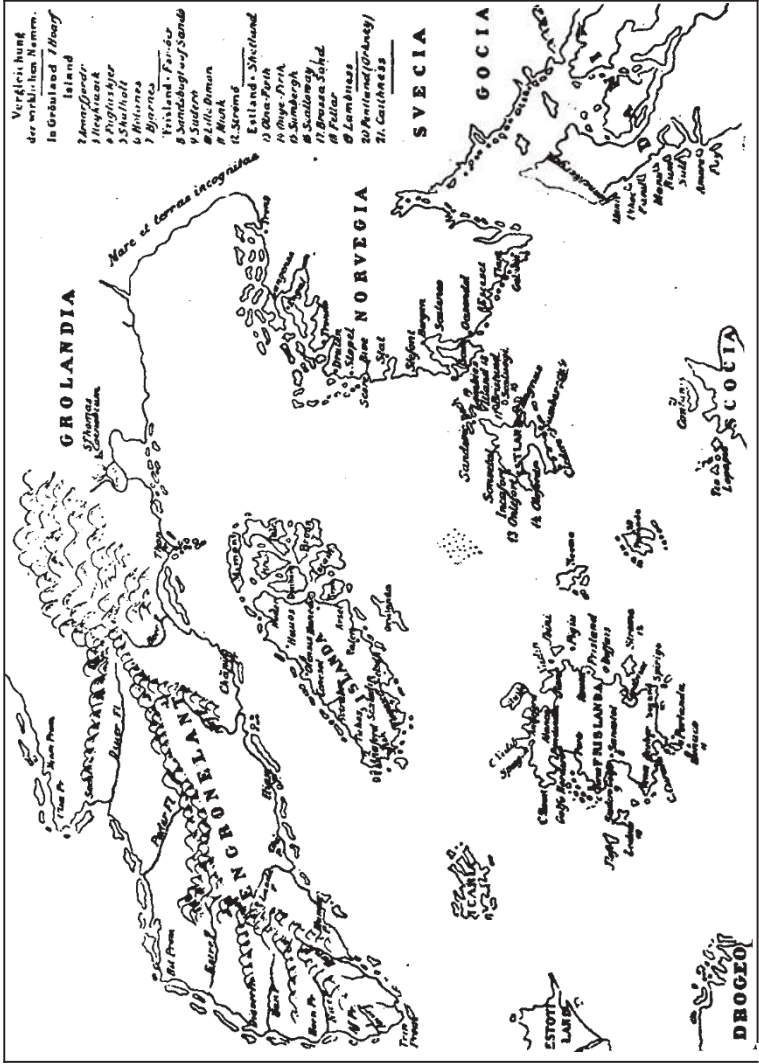


Fig. 26 - M "y" by Antonio Zero, published in 1558.

The island, Stotiland, is cut off by the frame of the map and, in the same condition, in the south-west corner, a piece of land called Drogeo. In the ocean lie the three great islands of Iceland, Frisland and Estland, not to mention Icaria, further west.

Let us leave the latter aside for the moment. The first three are easy to identify, thanks to their toponymy (<sup>e2</sup>). Iceland is correctly designated, as the names Anaford (Arnarfjördr), Rok (Reykjavik), Flugases (Fluglaskjer), Scalodin (Skálholt) and Olensis (Holanes) prove, and the small islands we see off its east coast have recognisable names, however deformed: Bres (actually, Bressa), Mi-mant (Mainland), Iscaut (Unst), Talu (Teal), Broas (Bures), Tras (Tronda). Estland is the Shetland group, with identifiable toponyms: Onlefort (Olna Firth), Olofort (Ongue Firth), Sumber (Sumbergh), Scaluogi (Scalloway), Bristland (Bristland) and Scaluogi (Scalloway). (Scalloway), Bristund (Brossa Sund), Lombies (Lambness). As for Frisland, about which there have been endless discussions and which some geographers, such as Hakluyt who, in his magnificent map of 1699, calls Freyland - not to mention Sigurdur Stefánsson - do not hesitate to consider a separate island, it is none other than the Faroe group. Five of its toponyms leave no doubt about this: Sanestol (Sandsbugt), Sudero Golfo (Suderö), Ledeno (Lille Dimon), Monaco (Munk), Stress (Strömö). On the other hand, the islands of Podanda and Conlanis in northern Scotland seem to correspond to Pentland in Orkney and Caithness. All these islands are designed without the slightest concern for proportions, as if their importance in the story had been taken into account rather than their actual dimensions. This is particularly the case with Frisland, which is otherwise poorly placed, since the Faroes are situated to the north of the islands.

west of Shetland. Such distortions are not exceptional if the original map dates from the early 15th century. But they would be more difficult to conceive in the mid-16th century, which reinforces the thesis in favour of the authenticity of the document published in 1558.

The Engronelant poses a problem that is at first sight much more difficult to solve. Many geographers have simply taken it to be Greenland. The shape given to it by Antony Zeno does indeed favour such an interpretation, especially if one notes, a little before the meridional point of the peninsula, an *Af P* (romontorium) which is particularly reminiscent of the *Hvarf* which the Norwegians placed on the southern coast of the Greenland. However, such an identification is unacceptable. On the one hand, Greenland is already represented on the map, in the north, where it should be; on the other hand, the Engronelant is crossed by numerous rivers, while the island of *Erich the Red* is a vast frozen land without the slightest flow of water.

The geographers' error stems to a large extent from the Pto-Linear projection, to which we are not accustomed, of Antony Zeno's map. In order to restore the map to a "normal" appearance, the Engronelant peninsula must be straightened and, without changing the longitude of its southern tip, given a north-south orientation. Thus *Groenlandia* is "drawn" to the west, while the *Trin promontorium* and, with it, the *Stotiland* and *Drogeo* are shifted to the south. *Iceland* then takes its present position to the east of the *Green Land*, and the *Engro-nelant* is superimposed on a present-day map on the conjoined *Balfin Land*, *Labrador* and *Newfoundland*, as far as the *St. Lawrence Estuary*. The mountain range to the north-east of the map would be confused with the eastern coastal range of *Labrador*. As for the sea to the west, it is *Ja Bay*, which is the

of the Hudson, unduly prolonged to the south, into which flow the rivers of parallel courses which rise in the mountains of the eastern region of the Engronelant. If our interpretation is correct, Antony Zeno made a single land of Greenland, the shape of which he preserved, and of northern Canada.

Engronelant is therefore not Leif Eiriksson's Helluland, if not populated, then at least frequented by the Vikings after the year 1000. Antony Zeno's description of the Trin region, with its forests and seabirds, seems to be taken from the Icelandic sagas. It is therefore not surprising that all the names of capes (Af, Hoen, Laver, Hit, Ulia, Neum, Chanpin, Hian, Chi, Munder) and rivers (Auorf, Nice, Han, Estre, Peder, Diuer, Boer, Naf, Lande, Han) have a Nordic consonance.

The "island" of Stotyland is easier to identify. It is, merged into a single land, the tip of the Acadian peninsula and the adjacent islands. Its outline is clearly recognisable, with, even to the south-west, an arm of the sea representing the Bay of F'undy. On the map printed in 1558, to the north of the 'island', where Newcastle or Bathurst are today, is the symbol of a city - a three-towered castle. In Cronau's reproduction, which we give here, all the signs of this phase have been suppressed in order to reduce the map, whose original dimensions are 36.3 cm by 26.8 cm, without too much detriment to the legibility of the toponyms. It should also be noted in brackets that the parallels and meridians have been eliminated, as they certainly did not appear on Zeno's *carto du cat't gar* any more than on the other portulan charts and only served to distort the reading of the map.

The name Stotiland is usually translated by commentators as "Land before the East" and we follow their



example in an earlier work (^). Gabriel Gravier (^) derives it from the Norwegian *East-Otiltaná* and translates it as "Outer East Land". But Est was called austur, in old Scandinavian: *east* is Anglo-Saxon. In any case, it seems implausible that European seafarers would have called "East" a land which, for them, was to the west. That is why we find Gravier's second interpretation, which appears in his 1877 communication to the Congress of Americanists in Luxembourg, much more satisfactory: the word used by Antonio Zeno would not have been Esto-tiland, but Escocland, the land of the Scotii, i.e. of the Irish. The mistake was made when he deciphered a text dating back 150 years in the mid-16th century from a manuscript in poor condition. The Frislanders would have arrived in a region colonised five or six centuries earlier by Irish monks. They would have met there with the descendants of their o.plates, a kind of married serfs who depended on the covenants of the *cutdees*. It is not surprising that they spoke a language of their own - Ga'elieo - and used a particular script - Ogarii - and that their chief still had Latin books. If so, the name Nova-Scotia, which the eastern part of Acadia bears today, may not be due to chance, but to a very ancient local tradition. As for Drogeo, the country with which the Scociland had permanent trade relations, it can only be Vinland, today's New England, surrounded by cannibalistic savages. According to the description of the Frisian fisherman, the civilised but non-European peoples of the southwest must have been the Mexicans. Only one point remains unclear: Icaria, the island where Zichmni and his men were unable to land because of the mistrust of the population. Its name is of no great importance: it must be a mythological reminiscence of the Venetian. Res-

The inhabitants are only vaguely identified as Amerindians because they were preparing for combat with guttural cries.

-The Vikings did the same, and many others, and "communicated all sorts of orders to each other by means of fire and signals". This is all the less sufficient since the ambassadors sent to Zichmni addressed him in "ten different languages, only one of which could be understood, which was Icelandic". For the rest, Antonio Zeno's nautical instructions are clear and precise. From Icaria, the squadron reached Trin, somewhere in the mouth of the St. Lawrence, as we have already seen, after six days of sailing to the west, with a favourable wind, and then four to the south-west. The island - every unknown land was an island at that time - was thus situated at the southernmost tip of Greenland. It must have been some Norwegian village whose inhabitants were on the defensive, fearing the English plunderers, and even those of a certain Sinclair . . .

Otherwise, the Icaria site has only, for us, a relative importance. The region of interest to us is Stotiland (or Escociland), that is to say Leif Eiriksson's Markland. We know from the sagas that people were still going there, from Greenland, Iceland and Norway, in the first half of the 15th century, apparently as a result of a rediscovery in 1285. That year, in fact, two Icelandic priests, brothers Adhalbrand and Thorvald Helgasson, had joined Ame Thorlaksson, Bishop of Skálholt, in a solidarity against the Norwegian King Eric. They had to expatriate and set sail, probably with the intention of reaching the V inland with which all contact was cut off, but they reached an uninhabited land which they christened

*P'undu N ylaIand*, Newfoundland: this is still the name, Newfoundland, which is Newfoundland in English. Adhalbrand died a year after his arrival. Thorvald fell, it is not known how, into the hands of the governor of Iceland and was deported to Norway, where he told King Erik Magnusson of his voyage. In 1290, the latter commissioned a certain Rólf to explore the region thus rediscovered, and he must have succeeded, for when he died in 1295, he was called Loadn-RótJ, Rólf of the countries, Ro'lf the explorer. We are not surprised, then, to learn that Norwegians had taken up the Markland trail. The sagas mention that, in 1347, a small Greenlandic ship, returning from that seagion, had been washed out to sea,

.to the coast of Iceland.

The existence of *Terra Nova* was therefore by no means a secret at the end of the Middle Ages. When John Cabot, in the service of England, explored the coasts of Canada in 1496, he merely translated the Northumbrian name of the region into Latin. Chancellor Bacon, moreover, wrote loyally that "the memory was preserved of some lands formerly discovered to the north-west and considered as islands, which, however, were in reality united with the continent of northern America". In fact, at the time, the name *Terra Not'a* was applied not only to the island that still bears the name, but to the entire adjacent area: Aeadia, Quebec and Southern Labrador. The first French explorers, beginning with Jacques Cartier, found there, not without surprise, traces of an earlier Christian population and, in some Indians, distinctly European anthropological traits (^). The ancient toponymy of the region, and this is where we wanted to go, confirms, indisputably, the impression of the discoverers of the 11th century. In 1539, Captain Jean Parmentier wrote, in his description of the

Franciscan, discovered fifteen years earlier by the weeping Verazzano, in the service of France, that this land is called "Norumbega by its inhabitants (^) ". The otherwise extremely poor map drawn by Gastaldi to illustrate the story shows *Terro di Norumbega* as an island that corresponds very exactly to Acadia and the north-eastern part of the American State of Maine. The word Norumbega is not indigenous. On the contrary, it seems to be no more than a slight deformation of *Noroenbygd*, Norwegian for Norwegian Country. The Norwegian influence must have spread further east. At the time of the French conquest, the future Quebec was called *Stadacone* by the Indians (4 °) and the future Montreal, *Hochlaga*. These are two Norwegian words which have hardly been modified. The first, says Professor Hermann Munk, comes from *stnd*, city, and *konr*, king, and thus means Royal City. The second is composed of *üaugr*, hill, and *leggia*, field - in the military sense of the word - and therefore means Hill Field.

On Gastaldi's map, several toponyms can be read. From east to west: *Cap des Bretons* (today, *Cap Canseau*), different from *Cap Breton* and *He des Bretons*; *Port du Refuge*, *Port Réal* and *Le Paradis*, on the coast, in front of a rather large island called *Briso*; then *Flora*, more or less in the middle of the coast of *Norumbega*; finally *Angoulesme*, on a peninsula, near the eastern border of the territory. In *Vulpus' globe* (Voto 12), which dates from 1542, we find, to the south of *Term Lnboratoris* (Labrador) and separated from it by a deep estuary

-The names *Cimeri*, *Cavo de Brettoni*, *Elora*, *Corte Maggiore*, *Refugio*, *Promont*, *S. Franc*, *Porto Réal*, *C. S. Iohan*, *Normanvilla* and *R. del Sole*. Contrary to appearances, the name of *Cap*

Breton has nothing to do with Brittany. It is only a slight deformation of Capberton, a fishing village near Bayonne. In the 11th century, in fact, the Basques began to hunt whales off the coast of Gascony. We find countless proofs of this in the archives, and heraldry confirms it. The ruins of towers used to observe the movements of the whales and ovens in which their blubber was melted can still be seen in the region. The whales quickly stopped approaching dangerous coasts and the fishermen had to go further and further out to sea: "The great profit and ease which the inhabitants of Capberton and the Basques of Guiana found in fishing for whales", wrote a specialist author of the 15th century <sup>(46)</sup>, "served as an incentive for them to seek them out in the ocean in the longitudes and latitudes of the world". In fact, they were dragged all the way to America, and perhaps they knew where they were going. One of them, Jean d'Echaide, may even have built a port in Newfoundland where, moreover, toponymy preserves traces of their presence (Punta de los Vascos, for example, in the south of the island). Whale gas kilns have even been found on the shores of the St. Lawrence and at Blanc-Sablon in Labrador <sup>(4T)</sup>.

The Basques were not the only ones to frequent the coasts of Canada (^) . The archives of Honfleur in Normandy and Saint-Malo in Brittany prove that large fleets went to Newfoundland every year in the mid-15th century to fish for cod, as did the deep-sea vessels from La Rochelle. In 1540, the Spanish ambassador to France, François Bonvallet, abbot of Saint Vincent in Rouen, wrote to Charles V that he had seen the King of France and that the latter had confirmed that Cartier's flotilla would not touch the lands granted to Spain.

The Spanish were well aware of this background: in 1511, King Ferdinand of Aragon gave the Catalan Juan Agramonte permission "to discover and find a land called Terrnot'a". The Spanish were well aware of this background: in 1511, King Ferdinand of Aragon gave the Catalan Juan de Agramonte authorisation "to discover and find a land called Terrnot'a" and imposed the exclusive embarkation of "natives of these kingdoms", except for two pilots who had to be "Bretons or of some other nation that had already been there".

Cartography confirms, definitively, the facts we have just briefly outlined. Jean Ruysch's map shows the "Gruenland", the *Terra-N ora* and the *Bac-calouroe* (Cod Lands) and we find the latter mentioned in two places on Vulpus' globe (Voto 12): *Baccalartim Regio*, in large letters, above Verrazona *sive N another* Gollin, i.e. New France, and *Baccalos*, on the coast of Laşrador. This, however, could be attributed to fishing campaigns after the discoveries of Jean and Sebastian Cabot, Gaspar and Michel Corterreal and Verazzano. But we have a much older document. In one of the maps of Andrea Bianco's atlas (1436) we find, in the exact place of Newfoundland, an island bearing the name of Stocalixa (pronounced Stocafisa), an obvious deformation of Stock-Jisch, dried cod in all Germanic languages. It cannot be the brute of imagination.

The toponyms that appear on Gastaldi's map are more subject to caution. It is not impossible, in fact, that they were given arbitrarily by Verazzano - the world map designed on the basis of his indications by a Portuguese cartographer remained secret at first and was then lost - and by Jean Parmentier to the coastal features that bordered, according to the coastline, the coastline of the island.

ture of the time. However, this is not the case with Norumbega, who is clearly mentioned as a local name. The Vulpus globe, on the other hand, does not illustrate any particular voyage. It is the result of a compilation of data from different origins and the toponyms he uses, in Latin, Spanish, Portuguese and Italian, show this clearly. In Labrador, we find Portuguese names, not always very well transcribed, or Latin names of Portuguese origin: C(abo) Frio, C(abo) Branco, Terra Cor- terealis, Baccalos, C (abo) de Bonavista, Terra Laborato- ris. In Acadia, Vulpus reproduces some of Gastaldi's toponyms: Cavo de Brettoni, Flora, Rilugio, Porto Reale. But Normanvilla appears for the first time. However, no one in the post-Columbian period had explored the coast of Acadia before Verazzano. The toponymic in question, on the other hand, is never mentioned again afterwards: it is therefore not due to Jacques Cartier or his successors. There is only one possible explanation: Vulpus obtained it from a source prior to the Portuguese and French expeditions, probably the same source from which the name *Baccalearum* Regio - Baccalouroe, in the maps of other authors of the time - was derived, applied to the interior of Canada. For, if Becca los evidently comes from the Corterreales, Bnccolea is nothing but the aberrant translation of *Stock jisch*, "stick-fish", through bncu- lts, stick (bacalau, in Low Latin, is said *moruta* or *gadvs TOTA'tta*). That is why Vulpus does not hesitate to mention twice the same name in two different forms from different origins.

We have, therefore, very good reasons to think that Normanvilla is an earlier name than the Corterrea- les and Verazzano and that it can be traced back to some European settlement of Norumbega. The word may be the Italian transposition of *N orthmannat7iTk*, Fortress of the

Nordic, in Norrish, and would then have come from the Markland Scandi- navy. But its Italianisation would rather have given Nornniennvilln or, more probably, *N ormovilt*n. The other hypothesis, much more plausible, is that it is the Italian form of Normanville, City of the Normans, which would be further proof of the presence of Normans in the New Lands during the Middle Ages. One could then better explain the order given by Francis I to christen Montréal the first town founded in New France, as a tribute to the Duke of Normandy, William II, King of Sicily, whose capital was called Montreale. This was when Jacques Cartier was Breton.

It remains to be seen whether the Normans discovered Norumbega by chance, at an undetermined date, but before the second half of the 15th century, or whether they did so on the basis of precise geographical indications. We have reason to believe that the latter hypothesis is the right one. Maritime exchanges were frequent at the time between the ports of Normandy (Dieppe, Honfleur, Rouen) and those of Denmark, where the existence of Vinland and Markland was well known, as evidenced in particular by the expedition of Poul Knuds- son, commissioned in 1354 by King Magnus to rediscover the lost colonies of America, and the expedition organised in 1476 by King Christian III under the name of Scolvus. On the other hand, if the anonymous geographer of the Torture Route knew about Vinland in 1440 and if, in 1507, in Saint-Dié, Waldseemüller was able to place it correctly on his map of the world with a partial but accurate layout, then there was a source of information, hidden, to be sure, but accessible to the initiated: an Icelandic source, no doubt. Columbus did not discover the New World, but he did make its existence public. After his first voyage,



Neither the secret of the kings nor the secret of the guilds had any more reason to be. The Spanish, the Portuguese, the English and the French officially set out to discover lands that the Scandinavians, the Normans, the Basques, the Bretons and others had frequented for centuries; lands in which the Irish and the Vikings had had important colonies whose traces were still visible (4-^), without even mentioning some toponyms that discoverers and geographers had taken over without much surprise, either because they did not understand them or because they already knew them (4-^), even without mentioning some toponyms that discoverers and geographers had taken over without much surprise, either because they did not understand them or because they already knew them (4-^).

00ROCI&fl.



# VI

## The Land of the Parrots



Among the mysterious islands of the Atlantic mentioned in Chapter II, there is one whose name will have startled the uninformed reader: the one that the Portulano Mediceo calls Brazil in 1351; the map of Pizigano (Jp. 16) , in 1367, Braçir, with a superfluous cedilla, to avoid the Italian pronunciation of the c; those of Bianco (Dip. 1't) , in 1436, and of F'ra Mauro, in 1457, Berzil; that of Benincasa, in 1482, Braçill. Pizigano makes it appear on the same map, in three different places: to the west and southwest of the coasts of Ireland and to the west of Cape Sali Vicente, in the extreme south of Portugal. Pareto, in 1455 (Joto 10) shows it twice, to the west of Ireland and off Cape St. Vincent. In one of the maps in his Atlas, Bianco places it in the exact location of the present-day Brazilian state of Pernambuco. Thus, in the 14th and 15th centuries, there was contradictory information about a transoceanic land which, according to Pizigano, owed its name to the Normans.

This name itself was known in Europe as early as the 9th century. The Arabs, in fact, imported (^) from Insulinidia and Malabar extracts of a wood, the beknni (*Caesalpinia Sapan* and *Pterocarpus Santalinus*), which was used to dye fabrics. The Italians called this product bresitl, brnsillp, br'urilis, *verzino* and, in Latin, bresilluni or verzinum. The Catalans, who would have been intermediate between Italy and Castile, called it brazil. These extracts arrived in Europe, along with the spices, in the form of pulp, lacquer and powder, which gave them a high value for a small volume. Arab ships were not in a position to transport logs and it would not have been in their interest to do so. This situation suddenly changed around the middle of the 19th century, when logs from Brazil began to enter France via the ports of Normandy. There can be no mistake about it,

since, during the reign of Saint Louis, Estienne Boileau's Book of *the OJices* regulated its use by cabinetmakers and coopers.

Where did the Normans import this wood from? Certainly not from Asia, for no European ship at that time sailed in the Indian Ocean. To do so, it would have been necessary to round the Cape of Good Hope, and the Dieppenses did not go along the African coast beyond the Zaire River (Congo). They had therefore found a new source of supply. However, outside South Asia, the brazilwood only exists in Central America and the Amazon: a variety of sapang, the *Cnesalpinia brasiliensis*. Of course, it was customary for seafarers and traders to keep the most rigorous secrecy about the location of the lands they had discovered. But, logically, they could not conceal their existence: the products they brought back from them made it manifest. So they began to talk about the island.

-All the new lands were islands, as we have already said, where Brazil was sought. And since it was not known exactly where it was located, it was placed on maps according to contradictory rumours from which nothing could be chosen. Some cartographers came to accept the existence of several islands of the same name. In Norman, and especially in Dieppe, they certainly knew where they stood. In 1503, when it was no longer necessary - or possible - to keep the secret, Captain Paulmier de Gonneville mentioned, in a judicial document he delivered, after the wreck of his ship, to the seat of the Admiralty at the request of the King's Procurator, the "country of the West Indies where, for some years, the Dieppeans and Malonese and other Normans have been going to look for wood to dye in red", the country that the Portuguese call "the country where, for some years now, the Dieppeans and Malonese and other Normans have been going to look for wood to dye

red".

**Terr** Snactne Czucis, but which the French never called by any other name than *Brósil*.

Dieppen traditions have preserved the memory of a voyage that Captain Jean Cousin is said to have made in 1488 to the mouths of the Amazon. On his way to Africa, his ship was reportedly diverted from its course off the Azores by a strong sea current - evidently the North-Equatorial Current - and carried westwards to the mouth of a huge river. This account is not documented, as an Indian bombardment destroyed the Admiralty archives in the Norman port in 1694. The details it gives us, however, leave little doubt as to its reality. This was, moreover, a routine voyage, and Africa was his usual camouflage. If it was spoken of at the time of the official discovery of America, when secrecy was no longer a *raison d'être*, it was probably because of a name that must have attracted the attention of the Dieppenses. Cousin's second, in fact, was a Spaniard called Pinçon, who tried, during the voyage, to revolt the crew and was dismissed, on his return, by the Admiralty Council. Was it Martin Alonso Pinzon, captain of *Lo Pitta*, under Columbus' orders, who insisted, and rightly so, as if he knew the way, that the flotilla should sail south-west, which he finally obtained, but not without giving a fine display of indiscipline afterwards? We cannot rule out this hypothesis which, if accurate, would tell us why Pinzón went to Rome. It would also explain why and how Vicente Yáñez Pinzón, Martín Alonso's nephew, put together an expedition to America from his own ship in 1499 and reached the very spot on the coast that, as everything seems to show, Cousin had touched eleven years earlier.

Another Dieppean journey, about which we have evidence, is the



In 1503, the expedition undertaken by Captain de Gonville was not a routine barter that allowed him to obtain the Brazilian stick, but to take possession of lands much further south than those frequented until then by Norman ships. In a previous work (^) we discussed the expedition that took L'Espoir to the coasts of Guayrá - the present-day Brazilian state of Santa Catalina - and the six-month stay in the region that enabled Gonville to lay the foundations of the regular service that was organised, as soon as he returned, by two shipowners from Dieppo, the famous Ango brothers. Until 1555, when Villegaignon founded in Rio de Janeiro his short-lived Antarctic France, real merchant fleets departed regularly for Brazil from Dieppe, Honfleur, Rouen and Le Havre. Relations between Normandy and the Land of the Parrots were so close that in 1550, on the occasion of the visit of Henry II and Catherine de Medici, an Indian feast was organised in Rouen with the participation of fifty Tupinambás and two hundred and fifty sailors and interpreters who had lived in Brazil.

By heading south along the South American coast, Gonville probably knew where he was going. For the Guayrá, which he took possession of in the name of the king of France, had been part of the Viking empire of Tiahuanacu in the 10th and 17th centuries. We shall not return here to the demonstration we made earlier (4) of the presence of Danes, from the 10th century onwards, in Central and South America, nor to the excavations and surveys (^) which enabled us to discover, in Paraguay, runic inscriptions which could be translated. Let us simply recall that we have established that, around 1250, the Vikings in South America had resumed contact with their cousins in Europe, especially in Normandy, and had been in contact with their cousins in Europe, especially in Normandy.

They had brought back a Catholic priest they called Thul Gnupa, Father Gnupa. The Indians of Guayrá and Paraguay preserved his memory under the name of Pay Zumé, which led the Jesuits who evangelised the region at the beginning of the 17th century to believe that the apostle Santo Tomé had preceded them in America. We know from Waldseemüller's map that others, a hundred years earlier, had already had the same idea.

The toponymy of Paraguay and Guayrá, and this is the point that interests us here, still preserved, at the time of the Spanish conquest, important traces of Danish presence. Two maps prove this. The first (Jo- to JJ), drawn by Hulsius in Nuremberg in 1599, before the arrival of the Jesuits in Paraguay, is highly inaccurate, even as far as the coast is concerned. Santa Catalina Island, for example, is about eight degrees too far north, and Cape San Vicente, which lies at the entrance to the Gulf of Santos, is at the mouth of a Guanabara River, actually Guanabara Bay, on the shore of which Rio de Janeiro is built. Inland, the Paraguay river, strangely called Parabol, takes its source in the Andes and its course is confused with that of the Pilcomayo, while the Paraná takes its place, from the mythical lagoon of the Xarayas - here Eupana - from which it emerges. Such imprecision need not surprise us, for 'Hulsius' map is, we believe, the first to have included Paraguay, at a time when only the environs of Aiuneion had been thoroughly explored, and it was drawn by a cabinet geographer who had necessarily to confine himself to collecting elements of multiple origin, without being able to analyse, let alone interpret them. Thus we find in the region of interest Guarani, Spanish, Portuguese and Portuguese toponyms.



The names of the three Scandinavian languages are also used in the French spelling, but there are also three distinctly Scandinavian names.

The first, *Froenirtiere*, designates a locality just north of Asunción. Professor Hermano Munk sees in it a Norrish compound of {riinir, nominative plural of Irono, "good of the lord, common good", and of djara, alqui- trán, whose Indo-European root drtt or dretu gave trim in Gothic and tree in English, with the sense of tree. We would thus have "Lord's goods-forest": common forest.

The second toponym, *Wetblngo*, designates another locality situated on the "Parabol", west of Asunción. Its meaning is much clearer than the previous one. The word comes from the Norrish uej, road, and vick, sign, or vitikel, angle, bend, two terms which, moreover, have the same root. Let us point out that b and ti are pronounced in the same way in Spanish - and the information received by Hulsius was necessarily of Spanish origin - and that, at that time, they were constantly spelt one for the other. On the other hand, the k and the g were expressed, in late runic writing, by one and the same letter. Finally, the .w to render the sound o is normal under the pen of a German. The meaning of *We\*bingo* can therefore be "Sign of the Road" or "Bend of the Road".

The third distinctly Scandinavian place name belongs to a locality south-southeast of Wei-bingo, on the other side of the "Parabol": *Naperus*, which comes from the Norse *hnapp*, bucket, basin, cup.

Let us also mention another toponymic of Germanic consonance, whose interpretation is less certain: Lüburic Subo, south of Weibingo, which would seem to be the name of a tributary of the "Parabol" if the river did not also have another: Stuesia. Lüburic, Hermann Munk tells us, comes from the Norwegian leyla, the root of which is feb, laub or liz (lū) and which

means "to allow, to let". Sabn would derive from the Old High German *sap*, *sap*. The overall meaning of the word escapes us. *Dttbero* (Duber) , the name of a village between Asunción and Weibingo also seems Germanic, but resists any attempt at translation.

The other map (foto 14) was sent to Rome by Fr. Diego de Torres, provincial of the Society of **Jesus**, with his carte *annua* of 17 May 1609. It is much more accurate than the previous one, especially as far as the course of the Paraná is concerned, at least as far as the Laguna de los Xarayes, south of which is the locality of Puerto de los Reyes, founded in 1549 by the adelantado Alvar Núñez Cabeza de Vaca. The author of the map evidently drew on various sources of information, as evidenced by the Portuguese spelling - Taqunri - of the Tacuarí River, but some of his data undoubtedly come from the Jesuit missionaries. Fathers Caltalino and Maceta, explorers and colonisers of Guayrá

-The region between the Paraná and the Atlantic Ocean, north of the Sierra dos Patos, with a Spanish-Portuguese name, was Italian, and the Marañón, or Upper Amazon, is named after the first Spanish navigator who discovered it, Orellana, but the name is written in Italian, *Oregtiana*.

All that remains of the Norwegian toponyms, or the germic consonance of Hulsius' map, is Weibingo. The villages of Naperüs and Dubero have simply disappeared, as has the river along which Lüburic Saba used to be read. On the other hand, there are three other place names of the same kind in Guayrá. One of them, to the northeast of the confluent of the Iguazú (incorrectly spelled Iguzú) and the Paraná, is not accompanied by any topographical symbol and we do not know, therefore, to what type of feature it refers. It is a word

undisputed Norwegian: *Storting*, "Great Assembly", which comes from *stor*, great, and *tíing*, assembly. The sound *th* does not exist in Guaraní, the language in which the word reached the ears of the cartographer or his informant. In addition, even today, the Norwegian parliament is still called *lstorlting*.

The second of the Norrei toponyms in question is that of the village of Tocnoquzir, situated on the Parana-pané river - here, Tocanguazú - a little to the east of the mouth of its tributary the Taquarí, and to the north of another locality called, in badly spelt Guaraní, Abangobi, from *nt'n*, Indian, and *liot'i*, to amass: "Muchedumbre de indios". Tocanguzir comes from the Norrish *toga* genitive plural of *tog*, expedition, and *httsir*, nominative plural of *htis*, house: "Houses of the Expeditions". The *a* is evidently phonetic, as in Abangobi. The aspirated *ii*, which does not exist in Spanish, becomes a *g* in the transcriptions of the time. The *s* and *z*, in South America as in some provinces of Spain, are interchangeable.

Finally, there remains the name Tocnn9uaztí, mistakenly attributed to a river, but which Cabeza de Vaca gives to a chieftain.

-and therefore to a village, since he often calls the indigenous chiefs by the name of their possessions, in the European manner - and that his secretary, Pedro Hernández, writes *Tocaguazú*. The first two syllables of this toponymic are Norresian, as we have just seen. This is not the case of *guazú*, which means "big" in Guaraní. Such a coupling would not make any sense. We believe that *guazú* is the Guaraní deformation of the Quichua *iinsi*, house, which, in turn, is a deformation, by the Indians of the Altiplano where the Vikings had their capital, of the Norrés tios. Eh two distinct forms, one of which is very Norresian while the other shows the successive influence of Quichua and Guaraní, *Tocanguzir* and *Tocanpuoztí* thus indicate two To-

*gahusir*, two stage lodges on the road that led from the Atlantic to Asunción and Tiahuanacu. The cartographer picked up the words without understanding them and confused everything, as we have shown in a previous work (^).

The northern toponymy of Paraguay and Guayrá must have included many other names which the Spaniards, for one reason or another, did not take over, but which only slowly disappeared from local usage. At least three of them were still in use at the end of the 15th century. We find them in a German atlas of 1894 ("). On its map of Paraguay there are three villages east of the river of the same name, in an area then belonging to Bolivia, which bear the strange names of *Paat de Egippeniia*, *Paat de Kelra* and *Pidma Paal*. This is neither Guarani, nor Spanish, except for the preposition "de", nor German. In Norwegian, on the other hand, *pont* means "deep way", "sende-ro". In Egippemin, Professor Hermann Munk recognises the Norwegian *egg*, corner, without difficulty, and sees *pemln* as a derivative of the Indo-Germanic *peniph*, to grow, from which the Latin *pampinus*, pámpana, the English pimple, grano, the German *Fimme*, hacina. The corresponding Norwegian word is missing, but we know that the Vikings of Paraguay came from Schleswig and spoke a dialect somewhere between Norwegian and Old Low German (^ \*1): *Paat de Egippemin* would thus mean: "Way of the Hacina del Rincón". This interpretation is uncertain, which is not surprising, considering that the toponymic has been transmitted orally for several centuries. The Spanish preposition linking the two terms would suffice to show that it underwent a modification. The two other names are easier to translate. Keirn seems to derive from the Norrish *keis*, curve, bend: *Paal de Keiro* thus means "winding road". And *Pidmo*, from the Porrish *bita*, bite, whose Indo-Germanic root is *bitid*,

dividing. Hence the meaning of *Pldma Paat*: "Path of the Bifurcation".

If it was still possible, in 1599 and up to 1894, to find Norwegian toponyms in Paraguay and Guayrá, it is infinitely probable that the Normans, who frequented the region assiduously for half a century, from 1503 onwards, heard them mentioned by the natives with whom they had excellent relations. Moreover, they must have come into contact with descendants of the Vikings who, at the beginning of the 11th century, were not yet as degenerate as they are today, since we were able to find runic inscriptions in Paraguay dating from 1431 and 1457 (^) . They must even have identified them, since they were on board the Norman ships, sailors who had frequented the Danish ports and must have understood the Norrish dialect still spoken by those who, with time, became the "White Indians" of the Guayakis (^). We have proof that this was indeed the case.

On the Hulsius map (Joto 18), we read, in fact, in the place of Guayrá, in large letters as if it were the name of the region, the inscription C. *Dana*, without any topographical symbol. The abbreviation C., followed by a feminine word, can only mean, on a map, Cii'itns, Ciudad or Cidade, "city" in Latin, Spanish and Portuguese respectively, or Costa, in Low Latin and in the two modern languages mentioned above. But the word Dnria, which is neither French nor Guarani, means nothing in any of the languages in question. Is this a bad transcription by the German geographer or his Dutch publisher? There is good reason to believe so. We obtain, in fact, the part that interests us (Voto 15) from Vulpius' globe, fifty years earlier than Hulsius' map. In the place" of the Guayrá, we read *Costa Danea*,



"Danish Coast", in Low Latin. The n in Daaea can easily be taken for an r. Hulsius, who was evidently unaware, must have found the name Costa Danesa implausible and read Daree instead of *Danea*. W as *Darea* not only makes no sense at all, but also shocks the ear of every Latinist, Devin wrote that it has the consonance of the - non-existent - feminine of Dnrius.

The Normans had often heard mention of this coast long before Gonnevillè's voyage, and perhaps had frequented it for 150 years, like the Amazon, where they had been going since the middle of the **11th** century to look for the Brazilwood. The mission sent to Europe around 1250 by the Danes from South America had reached Scandinavia - the Ovrehogdal tapestry with its flames <sup>(4)</sup> bears witness to this - but also Normandy: the pre-Inca statue ' of Tiahuanacu, known as The Friar, is a perfect copy, style apart, of an apostle from the central door of the cathedral of Amiens, and the frieze of the Porte du Soleil reproduces in its minor details, as Hector Greslebin (^) has shown, the adoration of the Lamb which appears on the tympanum of the same church. Dieppe, the town of Jean Cousin and Paulmier de Gonnevillè, is the natural port of Amiens, about a hundred kilometres away. Of course, these apparitions emerging from the Tenebrous Sea must have been interrogated at length by the Norman sailors. Now, they were well acquainted with the South American coasts and, according to the Indian traditions recorded by the chroniclers of the time of the Conquest, they had gone as far as the South Strait <sup>(43)</sup>. Their empire stretched from present-day Colombia to the south of Valparaiso in Chile: the Pacific coast must have held no secrets for these incomparable natives. They also had several ports on the Atlantic (\*'): we even know <sup>(43)</sup> in which places the

Gnupa brought back from Europe: the Bay of All Saints and the current Cabo Frio, north of Rio de Janeiro, the southern tip of a large gulf whose northern tip is still called Cabo São Tomé today: just the two places where Gonville made landfall on his return voyage.

Needless to add that the Danish sailors who set sail for Europe must have been equipped with maps of South America. And it is logical to suppose that they must not have found them when they arrived in Normandy: they had no need to fear either political rivalry or commercial competition. If things happened in this way, we know where Waldseemüller could have procured a map of the sub-continent that only educated sailors who had travelled all its coasts could have designed. But why, under these conditions, did he not include the Strait of Magellan in his map of the world? He or his master must have had his reasons. For Master Hylacomilus did not omit the passage: he cut it out, or at least cut off its location, sacrificing the harmony of his work. To limit America to the 40th parallel, he had to open, as we have already seen, the frame of his map so that Africa, which he made descend too far south, would not be truncated. Was this ignorance on his part, or dissimulation? In any case, others - one, at least - were not unaware of the existence of the Strait a few years later, without any new development having taken place. For, in 1515, Johann Schiiner, Waldseemüller's mere clerk, designed the passage in his famous balloon.

## VII

### The Dieppean secret



At the end of our analysis, it is easy to reconstruct the - vivid - espionage novel whose conclusion was the "discovery", in 1492, by a stateless man in the service of Spain, of a "New World" whose western shores the Romans, not to mention the Hindus and t h e Chinese, were already frequenting at the beginning of our era.

-Everything starts around 1250, when a ship sent by Vikings, who had settled in South America since the 11th century, landed in Normandy, probably in Dieppe. We have solid evidence of the voyage: there are still pre-Inca sculptures in Tiahuanacu which reproduce motifs from the central doorway of the cathedral of Amiens, completed in 1236; indigenous traditions tell us of the arrival in Guayrá, at the same time, of a Catholic priest, Father Gnupa, and the Normans began to import rolls of palo hrasil which they could only find in the Amazonian jungles or in the West Indies. Excellent navigators, the South American Danes, who had explored, as we know, all the coasts of the subcontinent, had undoubtedly taken with them all the maps they had drawn up when they set out on the ocean. These were copied in Dieppe. The descendants of the Vikings had no reason to hide them from their guests and cousins. On the contrary, the Dieppeans, who immediately began to use them, had the greatest interest in preserving their monopoly on the import of one of the most sought-after products of the Middle Ages, which was later to become one of the

most important in the Middle Ages.

**The secret of the western lands** where it is procured.

The existence of the Viking colonies in Vinland was already known in Europe through Adam of Bremen's Ecclesiastical History. But they should not have been given much more importance than the island of St. Brandan or the lands of Madoc: mere subjects of ballads for troubadours and dreams for sailors. Everything changes from the moment when there is tangible proof - a ship arriving, strangely dressed men describing its riches, maps showing its extent and contours - of the reality of an immense continent where the Scandinavians have conquered an empire, of a continent where one can, from now on, go in search of the precious brazilwood. Wouldn't Vinland be the northern extension of the Land of the Parrots? It is easy to find out. The Normans had never completely lost contact with their Danish motherland. At the beginning of the 15th century, and perhaps earlier, continuous maritime relations were established between the Duchy and the Kingdom (5°). In Denmark, the Danes had no difficulty in obtaining not only information that was still fresh - the last known voyage to the Markland was in 1347 - but also maps such as the ones reproduced here. So it did not take them long to go cod fishing in Newfoundland.

The Normans have the deserved reputation of being the 'most suspicious of the French. No secret, however, can be kept indefinitely, no matter how many precautions are taken. The expeditions to the Amazon are presented as routine voyages on the coasts of Africa, and the sailors who take part in them are made to swear to reveal their true destination: but the Brazil entering Norman ports attracts attention, especially in the Italian cities which had, until then, the most suspicious of the French.

monopoly of their trade. And if the Dieppenses never talk about deep-sea fishing, their Breton neighbours and rivals of Saint-Malo, for example, cannot ignore for long that Norman ships return loaded with fish, of a species unknown along the French coasts, which, dried and salted, constitute a highly profitable commodity: the Stockfish, which only the Hansa, until then, could supply. The fishermen of Saint-Malo, La Rochelle and the small ports of Gascony soon followed the Dieppeans to Newfoundland, where, perhaps in pursuit of whales alone, the Basques also arrived.

Time was running out. Portugal, which had given refuge to a large part of the Templar fleet, became a maritime power. The prince Henry the Navigator drew up a plan to procure spices without going through the Arabs and the Italians. He went to Barbary, then to Guinea, to look for malagueta (*Amomum grant paradisi*), or black pepper, and cinnamon. Why not also bring back the dye wood, as the Normans did? But where did they find it? Portugal has its spies who inform Lisbon that the Dieppean ships do indeed go down along the coast of Africa as far as the Equator, but then dive into the Atlantic and reach a large island where they collect the precious wood. It is even probable, we shall see, that they obtain some more or less accurate copy of the Viking map of South America. The content of their reports is not very plausible, and the Portuguese believe it to be "intoxication", as they say today in the information services. They are still thinking only of the route to the Indies via the Cape of Good Hope, which their ships will not take long to pass. The Dieppean material is deposited in the *Te8oureria* - who knows - and nobody thinks of it any more.





For their part, the Italians, concerned, not without reason, about the incomprehensible competition from the Normans, also sought information. They picked up some vague rumours about lands beyond the Atlantic, sometimes in the south, sometimes in the north, and which are called, in Normandy - to generalise - Brazil or Bracir. Cartographers religiously note the "island" on their maps, wherever the information they receive suggests it is located - Andrea Bianco, in 1436, proves to have better data than others - and, when these are contradictory, they do not hesitate to depict several times, at different points in the ocean, the mysterious land that seems to enjoy the gift of ubiquity.

Brazil is one problem, but there are others. The malagueta and cinnamon that the Portuguese import from Africa are in dangerous competition with spices from the Far East. Long before Cantino, therefore, Italian spies had to "work" in Lisbon, and the King's Tesourarin, a somewhat permeable place, as we have already seen, certainly deserved all their attention. There, at the cost of ducats, information was obtained which enabled the great islands of the West Indies to be added to the Atlantic, and even the vague outline of the continental coasts of America to be presented behind them - Pareto, in 145a: someone had glanced at the map of the New World brought to Dieppe by the Vikings of Tiahuanacu and completed thanks to the data obtained in Denmark concerning the Vinland, but without being able to copy it.

Who then had this idea of geography? Ptolemy's Geogrology was, in the Middle Ages, and especially from the 16th century onwards, the fundamental text of all cartographic studies. On the map of the world which illustrated it, the Land of Cattigara, the eastern coasts of which were not represented on the map, appeared at the far eastern end of the world.

Was it Toscanelli who, for the first time, had the idea of completing it with the layout of the Viking map? It is not impossible. Perhaps he is already in correspondence, in 1457, the date of the map attributed to him, with Canon Martinez or Martins. However, his mapping of "East India" is not sufficiently similar for us to be certain of this. On the contrary, there is no doubt about the map drawn in 1489 by Henricus Martellus: in it, the Land of Cattigara becomes a huge peninsula whose general shape is very close to that of South America, including Tierra del Fuego. But someone had beaten the German geographer to it: in the secret archive in Lisbon, Columbus had not merely copied Toscanelli's chart. He had seen the Dieppe map, or perhaps a world map designed by Martin Behaim on the basis of the map in question. Hence his trip to Thule, intended to confirm the data thus collected. Hence also his certainty that the New World was confused with the Land of Cattigara and was located where it actually is. It was also in the Lisbon Tessorery that Magellan, a few years later, stole the map, attributed by Pigafetta to Behaim, on which the southern strait of America appears. If it is not the Dieppe map, or some other map inspired by it, it can only be a copy of Schöner's globe, completed in 1515, four years before the Portuguese defector presented his project to Charles V. This last hypothesis leads us to Saint-Die's "impossible map".

Waldseemüller, as we have already seen, is nothing if not a superb craftsman. His job is to design and engrave maps. To do so, he uses the data supplied to him, without his extremely mediocre culture allowing him to evaluate them: he places without

The abbey - whether it belongs to him or not - is a mistake.

The translation was so ridiculous in South America in the early years of the 16th century. He is an extraordinary technician, he sells the globular projection which requires complicated calculations, but he does not hesitate to move a whole series of toponyms twelve degrees to the south, without worrying at all about the resulting incoherence: the more or less unexplored part of South America covered with place names and the North-East, already well known, almost blank. Nobody, on the other hand, in the Vosgense Gymnasium, seems to know more than he does in the field of geography. It is therefore not surprising that his world map of 1507 is clearly made up of three elements of different origin.

The first is the ancient continent as depicted by Henricus Martellus, with the Cat-tigara Peninsula in the form of South America. He does not, however, owe it to the German geographer, for he adds a novelty: the strait dividing the "Tierra del Fuego". Master Hylacmilus, therefore, copies an archaic map and does so without understanding that the "East India" shown on it is only the southern part of America. In fact, he intersperses the New World - his second element - between East Asia and Western Europe: an almost complete South America, Columbian Central America and a North America reduced to Vinland with the addition of Florida. Finally, he covers the eastern coast of South America with a series of toponyms - the third element - that come from different maps and relations and, when he only has, as in the case of southern America, vague topographical indications, without the corresponding latitudes, he places them at the mercy of God. This shows that he is using a mute map.

Strange thing, at first glance: the design of South America is remarkably accurate on the Saint-Dié world map, except that it does not go beyond the 40th parallel, lacking, therefore, the

The map of North America is at once backward in its time, since it includes neither Greenland, nor the *Baccalaurae*, nor Newfoundland, and far in advance, since it presents the continent entirely separated from Asia. Now these two features, apparently contradictory, are very exactly those of the Dieppe Map, and of no other; of the complete map, and not of the partial copy - North America does not appear on it, since Columbus unites the New World with Asia - of which the New World is a part. New World with Asia - which is available in the Lisbon Tessonrio.

On the other hand, Waldsee-Müller's South American toponymy is not exclusively Portuguese and Spanish. We are not referring here to Latin place names, which can have any origin, but to the mention of a 7'erre S. Thorne in the place of Guayrá, where the missionaries will later pick up the tradition of the passage of Pay Zumé, of that Thul Gnupa of which they will make Santo Tomé. From a purely linguistic point of view, the name mentioned by Waldseemüller may be Portuguese, although it lacks the accent required by the final e, a spelling error admissible in a German cartographer, or Latin, since at the time the diphthong *ae* was often replaced by e. However, the former hypothesis is difficult to accept. However, the first hypothesis is difficult to accept. term S. Thorne is not an arbitrary name given to some point on the map, like all the others, but the fruit of close contact with the Indians. However, the Portuguese did not yet frequent the Guayrá, which you will occupy only in the 17th century, after rejecting the Spaniards. That is why the whole region is blank, on Saint-Dié's map, without a single name, without even a single river. On the other hand, since Gonneville's voyage, the Normans had maintained the best relations with the inhabitants there, some of whom, for

They must not have been Indians, but Danes. It **seems, therefore,** that the Latin name Terr S. Tiionie should be attributed to them. A hundred years before the Spaniards, they must have heard of the Christian priest whom the descendants of the Vikings called Gnupa and the Indians called Zumé, in whom they thought they recognised the apostle St. Thomas.

How did the Map of Dieppe reach Saint-Dié? Let us note, first of all, that secrecy can no longer be as strict as it used to be. Everyone now knows about America. In the service of the King of England, John and Sebastian Cabot explored the coasts of Labrador and Newfoundland. The Portuguese launched expeditions and more expeditions to South America. To remain silent about what others proclaim is no longer meaningful for the Dieppeans. They may even have an interest, in order to defend the rights that the bull of Alexander VI denies to the French, in making known the precedents that play in their favour. Some may believe it, at least. Some, at any rate, will soon believe it. It is perhaps not without reason that the Dieppenses today maintain that their cartographers were the first to separate America from Asia on their maps (").

Renato II was passionate about geography. Sovereign of a landlocked Lorraine, he is not a competitor for the maritime powers and they do not fear him. He had, of course, considerable material resources at his disposal. On the other hand, it has excellent relations with both the King of France and the Emperor of Germany. He used these advantages to obtain information which he passed on to Saint-Dié and Strasbourg. Some of it came from France, such as the Lettere de Vespucci, which he sent, in French translation, to Canon Lud. It is highly probable that it was he who procured the Gymnasium Vosgenre

the Map of Dieppe, obtained through diplomatic channels or obtained by one of his spies.

The diplomatic hypothesis is the most plausible. France had a clear interest, at the beginning of the 16th century, in demonstrating to the world - and to the Pope - that the Spanish and Portuguese had not discovered anything that was not already known. The manoeuvre, "had it been carried out, would have yielded good results. Clement VII had to declare, in **1533**, that the bull in question "concerned only the known continents and not the lands subsequently discovered by other crowns". This bull dates from 1493. The Pope would therefore have to admit that Central and **South** America were, immediately after the first voyage of Columbus, who had not yet reached the West Indies, a known continent. It will retain the Spanish-Portuguese privilege, but will give way as regards North America, only a small part of which is shown on Waldseemüller's map. France is free to colonise Canada. She is only forbidden to colonise the Land of the Parrots, an interdiction which, moreover, Francis I and Catherine of Medici do not in any way comply with.

If our hypothesis is correct, Paris, by having the Map of Dieppe published by a third party, is seeking to hinder the Spanish and Portuguese in their pretensions: not to supply them with information that might incite them to go ahead. South America, all right, but without the strait. That is why Duke Renate orders the Vosgense Gymnasium to ensure that the world map he has commissioned it to design does not include the southern passage, nor even come close to the place where it is located. Waldseemüller therefore cuts his map at the 40th parallel, on the grounds that he must thus open his frame to respect southern Africa, which he erroneously places at 45 degrees.

Thanks to his impressive world map, Waldseemüller suddenly becomes a famous man. Germany's cosmographers, his compatriots, make contact with him. They want to know where their young colleague got the information that enabled him to draw his "impossible map" and why South America is truncated in it. Master Hylacomilus speaks. That is why, when Johann Schöner, in 1515, built his globe, he copied Saint-Dié's world map, with the grotesque mention of the *Abat\*a Oninitm* Isanctortm, including a spelling error that belongs to him in his own -nbotio with only one b-, and *SU Thonie Term*, undoubtedly in Latin, this time, but he adds the southern strait and a Brosilie Regio in which Tierra del Fuego and the traditional Terra *Aus-* trals are confused. And Apianus, who, in 1520, plainly and simply plagiarised Waldseemüller, extends a few degrees southwards a New World whose southern tip is surrounded by the ocean. The fact that in both cases the strait is situated too far north, but nevertheless far south of the Rio de la Plata, is evidently due to the inaccuracy of the Dieppe Map. The proof of this is that Magallanes will not hesitate for a moment in the face of the immense estuary of the river and will only begin to look for the passage at the latitude indicated by the map he stole from the King of Portugal's Tesourarin.

It is all clear now. The Dieppenses had, since the 11th century, held the secret of America, which they had received from their Viking cousins. The map they designed on the basis of data from the Danes of Tiahuanacu and the Norwegians of Iceland had not escaped Portuguese espionage. In Lisbon, Columbus and then Magellan stole partial copies that could not, of course, be exhibited in Portugal. Both went on to Spain and there obtained the means they needed, the one missing the other.



The other one deliberately showing the dimensions of the globe, the other one showing an incomplete map. As early as 1493, however, the King of France was concerned about the division of the world between the Portuguese and the Spanish, as determined by Alexander VI. He decided to prove that the Iberian powers had not discovered anything. He acted through his good cousin the Duke of Lorraine and had the Map of Dieppe, voluntarily mutilated, published in Saint-Dié. There were indiscretions and Schóner, a few years later, gave its complete layout. Nothing remained of the Dieppe secret, except the mystery of the "Discovery" and that of an impossible map. We believe we have unveiled them.

## BIBLIOGRAPHICAL NOTES

- (<sup>1</sup>) Herrmann, Paul: *Historia de los descubrimientos geográficos*, Spanish translation, Barcelona, 1967.
- (<sup>2</sup>) Gan día, Enrique de: *Primitivos notables tescos*, Buenos Aires, 1942.
- (<sup>3</sup>) Ibarra Grasso, Dick Edgar: "La *representación* de América en rrtopos romanos *de tiempos de Cristo*", Buenos Aires, 1970 (The inverted commas are the author's).
- (<sup>4</sup>) Mahieu, Jacques de: *El gran viaje del Dios -Sol*, Buenos Aires, 1976.
- (<sup>5</sup>) Braudel, Fernand: *Les civilizaciones octioles*, Castilian translation, Madrid, 1969.
- (<sup>6</sup>) Cortesão, A. Z.: *Cartografía e cartógrafos dos séculos XV e XVI*, Lisbon, 1935. Aristotle:
- (<sup>7</sup>) De coelo, II, 14. Aristotle: De
- (<sup>8</sup>) mundo, III.
- (<sup>9</sup>) Aristotle: *Meteorologicus*, II, 5. Strabo:
- (<sup>10</sup>) *Geographia*, L. 1.
- (<sup>11</sup>) Seneca: *Questiones naturales*, Praefatio. Seneca:
- (<sup>12</sup>) *Tragedia*, Actus II, Chorus, in fine.
- (<sup>13</sup>) Macrobius: *Commentarius in somnium Scipionis*, L. III. ch. 9. Plutarch:
- (<sup>14</sup>) *De incunabulis in orbe lunae*.
- (<sup>15</sup>) Plutarch: *De defectibus ortuum*, ch. 18.
- (<sup>16</sup>) Pseudo Aristotle: *De meteoris*, ch. 84. Diodorus of Sicily: *Bibliotheca*, V, 19, 20.
- (<sup>17</sup>) Plutarch: *In vita Sertorii*, ch. 8. Saltistio:
- (<sup>18</sup>) *Fragment*, 439.
- (<sup>19</sup>) Oviedo y Valdés, Gonzalo Fernando de: *Historia general y natural de las Indias, islas y tierra firme del mar Oceano*, Madrid, 1815.

- (2°) Cosmas Indicopleustes: y'opoprephje christiano,- cap. Christi-  
 ti<normum opinio de mundo.  
 t°.) El Edrisi: AlJricn.
- ( ) Dante Alighieri: Dirino Co imedie, Purgatorio, Canto J, v.  
 Inferno, Canto XXXIV, v. 100-12.7.
- (24) Albert the Great: Liber *cosmographicus de nottro locorutn.* ( )  
 Humboldt, Alexandre de: Christopher Columbus and the *discovery of*  
*Arnoric. History of the geography of the one continent.*  
*g de los progresos de ta astronosta nóutica en tos siglos XV p*  
*XVI, Spanish translation, Madrid, 1926.*
- ( ) Navarrete, Martín Fernández de: Colección de tos t'iojes p  
 descubrimientos que hicieron por wiar los españoles, Madrid,  
 1825.
- (27) Barcia, Andrés: Historiodores *prm\*ívos* de te India, Madrid,  
 1749.
- (21) Martyr d'Anghiera, Piero: Opus espistolartim, De rebus ocea-  
 nicis et de Orbe novo, Basileae, 1593.
- (\*°) Madariaga, Salvador 'ie: *Vido de iMuy Magnafico Señor don*  
*Cristóbal Colón, Buenos Aires, 1940.*
- (° ) Pinedo Yáñez, Rafael: Lo isto p Cotón, Buenos Aires, 1955. (3°1  
 Wiesenthal, Simon: *Les t'ottes de i'espoir*, Paris, 1972.
- (3°) Cronau, Rudolf. *America*, Spanish translation, Barcelona, 1892.
- î\*\*\*) Casas, Bartolomé de las: *Historia de los fndios*, Madrid, 1875. (^)  
 Nunn, George E.: *The Creographital conceptlon o Colitmbtis*,  
 New York, 1924.
- (") Barros, Joam: *Da Asia. Dos Jacios* que os portugueses *Jtze- r'irn*  
*no descubr\*mertto e conquista dos mares e temas do Oriente*,  
 Lisbon, 1542.
- (^ ) Herrera, Antonio de: *Décadas*, Madrid, 1601.
- (°1 Pigafetta, Antonio de: *Primo t'taggio intorno el globo*, Venice,  
 1700.
- (38) Furlong, Guillermo: Martin Waldseemüller p su 'rrinpo de  
*1\$0'1*, in LA NACION, Buenos Aires, 1969.
- (°-) Ruiz-Guiñazú, Enrique: *Proas de Espniñ en el Mnr M'igo- lkínico*,  
 Buenos Aires, 1#45.
- (^ ) Un géographe bibliophiê: *Martin M g tacomp tus W'iiltzenü- lter,*  
*sis otiurages et ses collobornteurs*, Paris, 1867. ( Attributed to M.  
 d'Avezac.)
- (41) Ingstad, Helge: *Vinland mins proce V\*ktttgs Joond the N ew World*, in  
 NATIONAL GEOGRAPHIC, Washington, '1964.

- (43) Gravier, Gabriel: *Découverte de l'Amérique par les Normands*, Paris, 1874.
- (43) Mahieu, Jacques de: *Le monte del Ojos-Sol*, Buenos Aires, 1917.
- (") Ramusio, Giovanni Battista: *Terzo volume delle notizioni e topografi*, Venice, 1556.
- (43) Cartier, Jacques Breton: *Récit et description de la découverte de Jacques Cartier*, Paris, 1556.
- (43) Cleirac: *Us et coutumes de la mer*, Paris, 1661.
- (46) Levesque, René: *L'archéologie à Brodor*, rapport préliminaire de la Société d'Archéologie de la Côte Nord, Québec, 1968.
- (47) Lescarbot, Marc: *Histoire de la Nouvelle-France*, Paris, 1611.
- (°) Guernier, Eugène: *Jacques Cartier et la première colonisation*, Paris, 1946.
- (49) *Kiepert's Grosses Hand-Atlas*, Berlin 1894. Map N° 44. Mahieu,
- (50) Jacques de: *Drekkars en el Amazonas*, Buenos Aires, 1978.
- (51) Mollat, Michel: *de commerce maritime remontant à la Wikipédia du Moyen-Âge*, Paris, 1952.
- (52) Anthiaume, A.: *Cartes maritimes, voyages et découvertes chez les Normands, 1500-1550*, Paris, 1916.
- (53)

# **BERSERKER**

---

## **BOOKS**

---

