Clearing Up the "Seres Misunderstanding"
and the Contributions of the Portuguese to the History of European Cartography

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"Seres" is an ancient geographical term. The literature of the classical Western geographers, such as Ptolemy's *Geography* and his famous world map, indicated a country in the northern part of East Asia named "Seres," to the south of which was another country named "Thin" or "Sina." China and East Asia were thus regarded as two separate countries for a very long time. This misunderstanding about the geography of East Asia and China lasted for many centuries and can be called the "Seres misunderstanding" (see Map 1).

In the Mongol-Yuan period (the 13th-14th centuries), this view was challenged by some European travellers to Asia such as John of Plano Carpini

Map 1. Claudius Ptolemy, *World Map*, in Ptolemy's *Cosmographia*. Ulm: Lienhart Holle, 1482 (from: Comissão Territorial de Macau para as Comemorações dos Descobrimentos Portugueses, *Macau: Cartografia do Encontro Ocidente-Oriente*. Macao, n.d., p. 16).

Map 2. André Homem, *Planisphere* (1559), in the Bibliothèque Nationale, Paris (from: Roncière and Mollat du Jourdin, *Les portulans*, Map 55). The ten pieces into which André Homem's Planisphere was cut when reassembled.

(Giovanni de Piano Carpini) and William Rubruck (Guillaume de Rubruques), two papal envoys to the Mongol Empire who reached as far as the northern part of Asia and managed to gain reliable information about East Asia. They were even able to identify the "Seres" of the classical era with "Cathay," a common European name for China at that time. Later on, Marco Polo came to China, and, after staying there many years, took his experiences back to Europe. In spite of all this, people in Europe still did not have a very clear idea about East Asia. Rather than being challenged, however, their traditional beliefs were often strengthened by the new information these travellers brought back. During the first half of the sixteenth century, European maps still reflected the classical misunderstanding relating to Seres, as well as a subsequent lack of clarity as to the "Cathay-Mangi" overlap (see Maps 2 and 3).

Europe entered the Age of Discovery at the end of the fifteenth century. Bartolomeu Dias arrived at the southwestern tip of Africa in 1487. Christopher Columbus reached America in 1492. Vasco da Gama sailed to India by way of South Africa in 1497 and 1498. Ferdinand Magellan started sailing westwards in 1519 to find a route to the East, and one of his ships thereby completed the first circumnavigation of the globe. All these voyages were intended to explore new sea routes from Europe to East Asia, and marked the beginning of a new era in which human beings came to a better understanding of world geography. In this research project, I sought to analyse how European understanding of Asia in general, and of China in particular, changed as a result, how the European understanding of East Asia was cleared up and the role the Portuguese played in these historic changes. These are important issues in the field of world history and more specifically the history of cultural exchange between the East and the West. This research aims to answer these questions by studying in greater depth the history underlying the understanding of Seres.

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HISTORIOGRAFIA

The image of Asia in the minds of European people and the history of Seres have long been the focus of attention among a wide spectrum of people, not only historians. In the thirteenth century, when European envoys visited the vast areas of Asia under the control of the Mongol Yuan dynasty, they expressed their concerns over this issue. When Matteo Ricci arrived in China in the late sixteenth century, he also raised this as an important question in his report to the Vatican. However, it was not until the nineteenth century that serious research was conducted on this subject.

The most important research concerning Seres published since the late nineteenth century includes *Cathay and the Way Thither*, by Henry Yule in 1866[1]; *Textes d'auteurs grecs et latins relatifs a l'Extrême Orient*, published by George Coedès in 1910[2]; the research of Paul Pelliot, especially his detailed examination of the study of the origins, development, and main arguments about "Seres" and "Thinae" (or "Sinae") in his book *Notes on Marco Polo*[3]; Donald Lach's three-volume work *Asia in the Making of Europe*[4]; *Os Descobrimentos Portugueses* by Jaime Cortesão, a scholar of the Age of Discovery[5]; and Armando Cortesão's *A History of Portuguese Cartography*.[6] In addition to these works, I have also consulted numerous articles about the activities of the Portuguese and other Europeans in the East during the Age of Discovery published since the 1980s in the *Review of Culture*. Finally, the edition of *Portugaliae Monumenta Cartographica*[7] by Armando Cortesão, has been crucial to the present research. In designing this project, I began with the following three research questions:

Mpa 3. André Homem, *Planisphere* (1559), detail (from: *PMC*, Vol. II, Plate 189E). The top right piece of the ten pieces into which Homem's *Planisphere* was cut. Note that both "Serica" and "China" appear on the map.

1. What were the origins of the misunderstanding about Seres and how did it develop prior to the Age of Discovery?

2. What kind of knowledge did Europeans in general, and the Portuguese in particular, have of East Asia when they first set out on the voyages now known as the "Great Discoveries"? More specifically, what was their understanding of Seres?

3. How did the Portuguese expansion in the East contribute to clarifying this issue?

THE ORIGINS OF THE "SERES MISUNDERSTANDING" AND HOW IT DEVELOPED

Our understanding of how the misperceptions relating to Seres originated and developed in the classical era is quite clear, thanks primarily to two books published in the late nineteenth and early twentieth centuries: Yule's *Cathay and the Way Thither* (1896), and Coedès' *Textes d'auteurs grecs et latins relatifs à l'Extrême Orient* (1910). We know that such misunderstandings were bound to occur in exchanges between the Far East and the West in ancient times. In fact, if we were to expand our study, we would find many such examples, not only in the minds of Westerners about the East, but also vice versa. Therefore, the present paper does not delve too deeply into the specific reasons for this particular misunderstanding but rather focuses on two key questions: first, what impact did Arab and Islamic geography have on the Europe of the Dark Ages? Arabia and the Islamic world were situated between Europe and the Far East, and thus were able to obtain more

accurate knowledge about the East and convey it to Europe. Secondly, how and to what extent did European travellers to the East during the Mongol-Yuan period influence understanding of Seres?

The Arabs rose to world prominence in the seventh century, when they began to play an important role in the exchange between Europe and the East. At that time, the only way Europeans could get information about the Far East was from the Arabs, who inherited their geographical knowledge from the Greeks and who had direct contact with the East. The research investigated relations between China and the Arabic world during this period, and the records that the Chinese and Arabs kept about each other's countries – particularly Arab geographers' descriptions of, and Arab travellers' reports about, the East. In the Arab mind, there was only one China in East Asia (called "Sin" in Arabic), even though their understanding of China was still rudimentary, and they were strongly influenced by Ptolemy's geographic works (which had been translated into Arabic). Here, I will briefly recount the influence of three important Arab-Muslim scholars: al-Istakhri, Ibn Hawqal, and al-Idrisi.

Al-Istakhri, a well-known Arab geographer of the tenth century, depicted Asia in his book.[8] From this, we can make a political map of East Asia as it was understood at the time. The map shows that in the Arabic records, China was a unified whole. In their minds as well as in their descriptions, there was no "Seres misunderstanding" such as existed in Europe.

Ibn Hawqal was a tenth-century scholar of the Balkhi school of Islamic geography. The members of this school developed their own style of cartography, in which world maps were usually round in shape. Some scholars point out that medieval European "T-O maps" may have influenced the Balkhi school. But the scholars of the Balkhi School also made regional sketch maps based on the framework of their round world maps. On these round maps (such as those by Ibn Hawqal[9]), although the figure of China did not very closely resemble its form in reality, China was nonetheless an integral country, and there was only one China on the East Asian continent.

Al-Idrisi, a well-known Arab geographer and cartographer, was born in Ceuta, Morocco, in North Africa on the extreme western edge of the Islamic world. He began his extensive travels when he was very young, and counted among his destinations France, Britain, Spain and even Asia Minor. Al-Idrisi's works and maps, completed in 1154[10] demonstrated not only the Arabs' unprecedented knowledge of Asia, but also the great scientific achievements made by Islamic geography. In al-Idrisi's maps, China was also a unified country.[11]

Therefore, although Arabic and Islamic geography and cartography were influenced by classical European geography, Arab and Muslim scholars were not affected by any misconceptions relating to Seres. Rather, their work often constituted a direct challenge to it. However, despite the influence of Arab and Islamic learning on Renaissance Europe, when European scholars embarked upon a "new wave" of geographical studies, their interest in reviving the knowledge of the classical era—which included the question of Seres—led them to ignore the correct information provided by Arabic and Islamic geography.

In the early thirteenth century, the Mongols began to dominate the world arena. After unifying the Mongolian Steppes, they swept southwards into China, conquering dynasties and kingdoms including the Xixia, Jin, Dali and Southern Song. Then they sent troops westwards and moved across Central and West Asia into eastern Europe. The war caused great destruction to the countries in Asia and Europe, but at the same time it also provided new opportunities for strengthening contacts between the East and the West.

In 1245, the Council of Lyons, convened by Pope Innocent IV, decided to send ambassadors to the Mongolian king, hoping to dissuade him from invading Christendom. Ridiculous as this decision might sound, it led to the establishment of direct contacts between the East and the West, as well as the opportunity for Europeans to observe first-hand these distant parts of the world. After the Council of Lyons, John of Plano Carpini, a Franciscan, and Friar Stephen of Bohemia, led the first mission to Mongolia. They left Lyons on April 16, 1245, and were joined at Breslau by Friar Benedict, a Pole. They arrived at the Court of the Grand Khan at Karakoram, where they were received by Kuyuk Khan. They began their return voyage on November 13, 1246 and reached Avignon in 1247. Carpini's report, entitled *History of Mongolia*,[12] and an outline of Friar Benedict's journals,[13] describe the political conditions, ethnography, history, and

geography of the Mongolian Empire. Carpini's *History of Mongolia* was the first book about the empire compiled by a European based on his own experiences, and was probably very influential at that time.

Soon after Carpini arrived back in Europe, other European envoys were sent to visit the Mongols in West Asia. One mission, led by Simon of Saint Quentin, was sent by Innocent IV to Persia, where a Mongolian commander-in-chief was stationed; another, led by Andrew of Longjumeau, was sent by St. Louis, King of France, to the Mongolian Court in 1248. In 1253, Franciscan William Rubruck (Guillaume de Rubruques) was sent by St. Louis to convert the Mongols to Christianity. Rubruck's mission can be considered the most important of that period. He travelled across the Eurasian Steppes, reached the winter camp of the Grand Khan south of Karakoram at the end of 1253, and was received there by Grand Khan Mangu, who escorted him to Karakoram. After staying in Karakoram for nearly two months, Rubruck returned home, bearing a letter from Mangu to the King of France. On the return journey, Rubruck took a somewhat more northern route, arriving first at Cyprus and then at Tripoli in the spring of 1255.

Rubruck's account of his journey was regarded as "the greatest geographical masterpiece of the Middle Ages."[14] He left a detailed description of his journey as well as of the natural and social conditions in the Eurasian Steppes.[15] For the purposes of this paper, however, the most important aspect of Rubruck's account is his discussion of the question of Seres: "As for the Great Cathay, I think the nation was the ancient Seres. They could produce the best silk (they called it silk), and they were named after one of its cities as Seres."[16]

Based on his own experience, Rubruck identified the "Cathay" of his time with the "Seres" of ancient European literature. This identification was a significant advance in European knowledge about the Far East, and especially about China. Soon after Rubruck returned from Asia, Roger Bacon met him in France and asked him about his findings on the trip. Bacon proceeded to include almost every geographic detail he learned from Rubruck in his masterpiece, *The Opus Majus*.[17]

However, we should not exaggerate the influence of Rubruck's report. First, like John of Plano Carpini, he lived in an era that was dominated by classical learning and legends, which must have shaped his understanding of his experiences in important ways. Second, Rubruck did not give up the idea that East Asia was divided into two parts, north and south. He was the first European to mention the term "Mangi," the name given by the Mongols to southern China during the Yuan. Although he did not provide any further explanation of the term "Mangi," Rubruck identified Cathay with northern China, implying that he believed that Mangi was the name of a separate country in the south.

It was Marco Polo who pointed out, for the first time in European records, what "Mangi" actually referred to. Marco Polo lived in Yuan-dynasty China for many years and travelled extensively on missions for the Yuan government. In his descriptions of his trips to the south and southeast, he mentions many Chinese place names. He divided the area over which the Great Khan of the Yuan Dynasty ruled into three parts: Tartar, Cathay[18] and Mangi[19] (sometimes referred to as the "Country of Mangi"). The borderline between Cathay and Mangi was that between Jin and Song.

Marco Polo and other western travellers in the Mongol-Yuan period got to know China on their own. Their records of these experiences greatly enriched European knowledge about the East; however, Marco Polo's report also exerted some negative influence on the advancement of European knowledge about Asia. Cathay had already been mentioned by other European travellers and Rubruck had even identified it with the Seres of the classical era. Meanwhile "Mangi," which figured simply as an ambiguous East Asian place name in Rubruck's report, was described in more detail in Marco Polo's accounts. In fact, China was a unified country during the Yuan period. Although the residents of the territory ruled by the Yuan Dynasty were divided legally into four social classes with distinctive regional characteristics (of which the fourth class referred to the ethnic Han people of southern China, conquered by the Mongols at a later stage), they were all residents of a united country. By identifying southern China as "Mangi," Marco Polo provided new evidence for the existence of Seres. The Seres of the classical age had already been identified as Cathay in the Mongol-Yuan period. Thus "Thin" (or "Chin") of the ancient records was turned into "Mangi" by Marco Polo.

Other European travellers to Asia after Marco Polo also left records of their journeys. Odoric of

Pordenone (Odorico da Pordenone) began his eastward trip in 1314. The account of his travels was based on what he saw and heard during this trip.[20] In his book, whose influence on European views of the East was second only to Marco Polo's, Pordenone divides China into two parts: Cathay in the North and Mangi in the South. Therefore a new layer was added to this misconception, which I call the "Cathay-Mangi" formula. If Tartary in the North were also taken into consideration, the formula would become "Tartary-Cathay-Mangi." Thus the old and new misunderstandings strengthened each other and exerted a great deal of influence over the West. In an age when Europeans, be they scholars or ordinary people, had no direct access to knowledge about the Far East, the reports of these travellers were of crucial importance. They clarified some ambiguities and inaccuracies of the classical era. For example, there was no longer any confusion about how silk was produced, and some oriental customs were described correctly. The legendary Prester John was no longer associated with China, and nomads in the legends of Alexander the Great were no longer identified with the Mongols. But all these travellers divided China into two parts. Therefore, during the Mongol-Yuan period, when travel and contacts between Yuan China and medieval Europe were at their peak, there were new mechanisms and a new impetus allowing this misunderstanding to spread.

PORTUGUESE KNOWLEDGE OF EAST ASIA PRIOR TO THE AGE OF DISCOVERY

The era of the Great Discoveries began in the late fifteenth century. But what did the Portuguese know about East Asia at that time? This was one of the three key questions driving this research, but to answer it we first need to elaborate somewhat on the contributions of the Portuguese voyages of discovery. Therefore, this section is divided into three parts: 1) the voyages of the Portuguese in this period and the impact of these voyages on Portuguese cartography; 2) the influence of traditional Ptolemaic geography on the Portuguese; and 3) the impact that Portuguese voyages around the Cape of Good Hope had on their knowledge about the East.

Two key figures in the history of the Portuguese voyages were King Denis of Portugal (1279-1325) and Prince Henry the Navigator (1394-1460). Denis encouraged and promoted maritime exploration in the early fourteenth century, and invited Venetians and Genoans to lead the Portuguese fleet. They introduced the advanced navigational skills necessary to sail around the world – especially the portolan, a kind of navigational chart developed first in the Mediterranean. The use of the portolan was a major development in European nautical science, and later on some world maps were made on the basis of existing portolans.[21] In 1410, the Portuguese signed a peace treaty with Castile, marking the beginning of its independence and laying the foundation for the development of a nation-state. By that time, the Portuguese had already gained considerable experience in navigation. Under the leadership of Prince Henry, and building on the historic impact of the Muslims who once controlled the Iberian Peninsula,[22] in this period Portuguese maritime voyages were launched on an unprecedented scale.

Prince Henry sent ship after ship on voyages of discovery beyond Cape Bojador, south of the Canaries, and westwards into the Atlantic. He also secured the services of the accomplished cartographer Master Jácome of Majorca, son of Abraham Cresques, who had most probably helped his father make the famous "Catalan Atlas" (PMC, vol. xxxi-xxxii). Jacome, a specialist in navigation, came to Portugal in 1420, or soon thereafter, to help improve the nautical charts used aboard Portuguese ships. At the same time, being a geographer, he provided more detailed knowledge about the coastal and inland regions of Northwest Africa; he introduced information about the maritime route from Europe to Asia; and he taught the Portuguese how to build some important sailing instruments. Thus Prince Henry's patronage of these maritime voyages provided an enormous boost to the development of cartography in Portugal. However, at that time the Portuguese voyages were limited to the West African coast and the islands of the Atlantic, not far from Portugal; they had yet to reach the South African coast. The information gained on these voyages made important contributions to the science and practice of navigation in the Atlantic Ocean, but the voyages of the fifteenth century did not have a fundamental impact on European knowledge of Asia in general or China in particular. And it was precisely at that time, during the Renaissance, that Ptolemy's geographic works were rediscovered in Europe.

Around 1406, Ptolemy's *Geography* was translated into Latin and soon became popular in Europe.[23] *Geography* was not only the most detailed geographic work available at that time, but also the work done by the most famous mathematician and astronomer of ancient Greece. Therefore, it was regarded as one of the most important treasures of the Renaissance period. However, in Ptolemy's book, the world looked considerably different from how people in the fifteenth century conceived it, and especially from how it was described in Marco Polo's accounts. In spite of this, by adopting Ptolemy's basic principle that all important points of the known world should first be determined by their latitudes and longitudes, and then plotted accordingly onto maps, Europe accepted the world that this book described. Almost at the same time, modern printing technology was developing in Europe and was soon applied in the field of cartography, thus gaining a greater audience for Ptolemy's ideas. Under such circumstances, the misperception surrounding Seres common in the classical era was not only revived, it was given a basis in science.

Map 4. Fra Mauro, *Mappamundi*, 1459, reoriented
(from: CTMCD, *Macau: Cartografia do Encontro Ocidente-Oriente.* Macao, n.d., p. 18).

However, not everyone agreed with Ptolemy's descriptions. By then, Europeans had already learned of the customs and geography of the East from travellers to the Mongolian empire such as Marco Polo. They had read the *Travels of Sir John Mandeville*. Thus when the Seres misunderstanding arose again in the Renaissance, Europeans had to revise Ptolemy's map. It was assumed by many that Ptolemy himself would have approved of these revisions. In the fifteenth century, many cartographers made maps according to Ptolemy's methods and depicted the East or "updated" their own knowledge about the East according to Ptolemy's descriptions. Critical as these cartographers were towards Ptolemy, they still followed his methods in studying the East. By way of example, I will focus on the round world maps made by the famous cartographer Fra Mauro in the mid-fifteenth century.

Fra Mauro depended primarily on Marco Polo's descriptions in depicting Asia on his map. He was even believed to have improved the maps Marco Polo brought from China. Fra Mauro was the first European to identify Sumatra on a map; he also identified the "isola de Zimpagu"—the island of Japan—on his map. Though its position was entirely inaccurate, it was the first time that Japan was mentioned on a European map. On Mauro's map, the location of China and of Chinese cities, as well as some annotations and even some figures beside individual cities, were gathered primarily from the writings of Marco Polo. However, Fra Mauro's map differed from the Catalan Atlas of 1375 in some important ways. First, Fra Mauro depicted the coastlines of China as being segmented by a series of long, narrow bays. Second, China's two major rivers, the Yangtze River and the Yellow River, were properly portrayed on Fra Mauro's map, unlike the Catalan Map which depicted China's water system as originating in Khanbalik and flowing towards the

southeast (Map 4). However, Mauro's map was not without defects. The biggest of these was that south Asia and southeast Asia were depicted as being far larger than they actually are. But considering the limited knowledge about the East at that time, this mistake was quite understandable. The second most significant error was that Mauro failed to obtain the latest information about Africa that the Portuguese had gained on their voyages. At that time, the Portuguese authorities considered new advances in navigation to be "top secret," strictly off-limits to foreigners. The "política de sigilo" (a policy of keeping silent of overseas navigation) was a persistent practice of the Portuguese authorities. This fact may serve as a reminder that when studying the history of European geography of Asia based on their maps, it is necessary to take into consideration the gap between their actual knowledge and that which is reflected on these maps. This is especially so in the sixteenth century, a period in which the Portuguese had gained considerable experience and knowledge of Asia, but continued to depict a good deal of "outdated" information on their maps. We should not come too hastily to the conclusion that European (or at least Portuguese) knowledge about the East was lagging behind.

All in all, the fifteenth century was a rich and eventful one. The expansion of maritime activities and navigational techniques, the development of cartography, and the rediscovery of ancient forms of knowledge paved the way for the Portuguese contributions in the next century.

After King João II of Portugal came to power in 1481, the Portuguese voyages gained new momentum. Bartolomeu Dias departed southwards from Portugal in August 1487, and rounded the Cape of Good Hope in early 1488. This not only realized Portugal's century-long goal of sailing the length of the west coast of Africa, but also confirmed their belief in the accuracy of Fra Mauro's maps, which they had obtained in the mid-fifteenth century. Now they could proudly and confidently declare that their geographic knowledge was correct. At the same time, the King of Portugal sent Pêro da Covilhã to travel eastward by land. Covilhã and his companion Afonso de Paiva left Cairo in the spring of 1488. Travelling through Suez, they took a ship south through the Red Sea to Aden. Then they boarded an Arab ship to Calicut in India. Later they went to Goa and then back to Hormuz. After Covilhã returned to Cairo, he met with envoys sent by King of Portugal, and asked them to bring back to Portugal his letters reporting on his experiences in India and the east coast of Africa. Covilhã's secret report, however, is no longer extant, so we have no way of knowing whether or not he mentioned anything about China or East Asia. There were quite a number of Chinese businessmen in Calicut and Hormuz, so in theory, even if he did not actually meet any Chinese businessmen, Covilhã could have learned that there was a large country in East Asia that was the source of a wide variety of goods. Like Dias' voyage, Pêro da Covilhã's trip must have taught the Portuguese a great deal about the East and how to get there. It was based on this knowledge that Vasco da Gama embarked upon his famed voyage some years later.

At the end of the fifteenth century, Europeans made great efforts in exploring new routes to East Asia. However, there were two different approaches to realizing this goal. One was influenced by the southward voyages along the west coast of Africa made by the Portuguese, while the other drew on the experiences of Spanish voyages across the Atlantic. In August 1492, it was with this second approach in mind that Christopher Columbus, supported by the King of Spain, led his fleet westward. After an arduous voyage across the Atlantic, Columbus and his fleet arrived at Guanahani Island in the Bahamas on October 12. He returned to Spain at the beginning of 1493. Columbus successfully completed his westward trip, but he mistakenly believed that the place he had reached was his original destination—India—and that the aboriginal peoples he met and brought back to Europe were Indians, a general name used by Europeans at that time for the peoples of both South and East Asia.[24]

Columbus' success shook the whole world and also aroused conflict between Portugal and Spain. The two countries held negotiations in Tordesillas, where they signed the Treaty of Tordesillas in 1494. What is pertinent here is that this agreement reflected the geographical mindset of the Portuguese. They questioned whether Columbus had truly reached "India". They still stuck to their idea of sailing eastward to Asia by way of the southern tip of Africa. In other words, what the Portuguese wanted was not to deny Spain's right to sail westward across the Atlantic, but

rather to define the westernmost limits on Spain's sphere of influence.[25] Portuguese ideas about the size of the earth and their general sense of the geography of East Asia were clearly correct, which demonstrates that the Portuguese had already taken the lead in the European field of geography. When Vasco da Gama successfully sailed eastward to "India" by way of the southern tip of Africa, this simply confirmed Portuguese views of geography. It bears emphasis that Europeans, including both the westward-sailing Spanish and the eastward-sailing Portuguese, actually knew very little about East Asia. Their ideas about East Asia were still based on the concepts prevalent during the era of Marco Polo. However, the arrival of the Portuguese in Asia and their activities there had a revolutionary impact on European knowledge of East Asia.

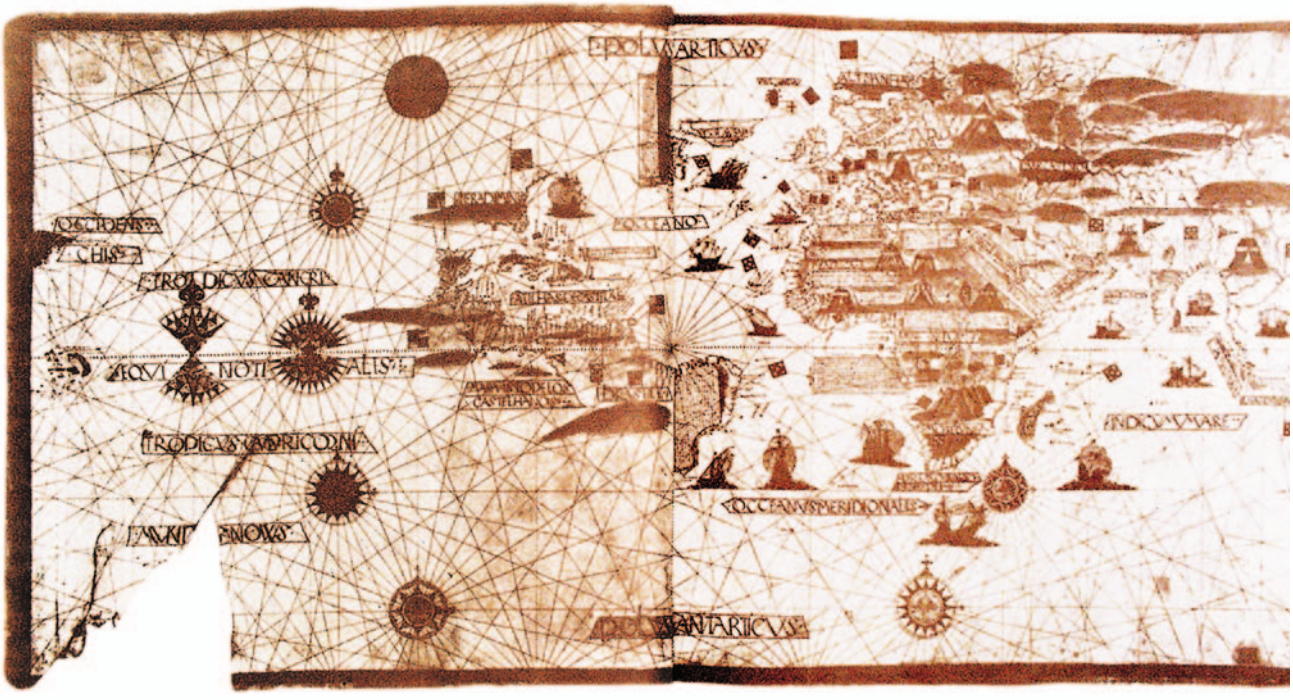
In what follows, I explore the influence of Portuguese maritime voyages on the geographic knowledge of the era through an examination of a variety of maps made after 1500.

As early as 1500, Vasco da Gama's trip was plotted on a world map made by Juan de la Cosa. De la Cosa had once been Columbus' helmsman and was very well versed in the art and science of navigation. On his map, the figure of India was shortened, and Southeast Asia was comprised of two peninsulas, both of which were rather too long. This map also included the *Magnus Golfus Chinarum*, which had once appeared on Ptolemy's map. However, there was an inscription above the depiction of India, which stated that India had been discovered by the Portuguese. By 1502, more detailed European knowledge about the East was clearly reflected on the so-called "King-Hamy-Huntingdon Chart," which shows, for example, Calicut drawn clearly on the west coast of India.[26]

The *Cantino Planisphere* (or world map) of 1502 further revealed the Portuguese understanding of Asia. At that time, the Portuguese government kept top-secret official maps of the world (called "Padrao"). Whenever Portuguese sailors returned from their voyages, the government would collect from them the geographical information they had learned and include it on these maps. The *Cantino Planisphere* replicated, at least in part, this secret world map (see Map 5).

The Cantino map includes a large amount of the latest available information gained on the Portuguese voyages—especially information about the Far East and the Far West. East Asia on this map differed markedly from how it appeared in Ptolemy's framework. Rather than being a land-locked continent, as it was on Ptolemy's map, here East Asia was surrounded by ocean. There is, however, a short eastward-facing coastline at the top of the coastline that today we recognize as China's. Short though it is, it indicates that the author of the map was perhaps

Map 5. Anonymous, *The "Cantino" Planisphere* (1502), in Bibilioteca Estense, Modena (from: *PMC*, vol. I, Plate 4).



Map 6. Anonymous, *Pedro Reinel, Planisphere* (c. 1519), detail, formerly in the Wehrkreisbucherei, Munich (from: *PMC*, vol. I, Plate 12).

not bold enough to give up on Ptolemy's view entirely. This point bears emphasis, since scholars have not recognized its significance: because the Portuguese voyages to the East at this point had not crossed the Indian sub-continent, their knowledge about the East was rather limited. Another aspect of the Cantino map that is worth mentioning are the extensive notes about South Asia, Southeast Asia and East Asia.[27] These notes on the Cantino Planisphere and other European maps seem to resemble those in some Chinese historical records, such as the *Zhu Fan Zhi* (*Description of Foreigners*) and the *Daoyi Zhilue* (*Brief Record of Island Peoples*). However, the place names and information about the Far East in these notes demonstrate that European knowledge of the East at that time was very limited, and only through accumulated experiences could this knowledge be augmented.

Another map that drew upon the same original information as the Cantino map (or was perhaps based on the Cantino map) was the Caveri (or Canerio) world map. The Cantino Planisphere and the Caveri map exerted an enormous influence on the development of European cartography during the following quarter-century.

PORTUGUESE EXPANSION IN THE EAST AND ITS ROLE IN CLARIFYING THE "SERES MISUNDERSTANDING"

After Vasco da Gama returned from his Indian voyage, the Portuguese began to expand their activities in the Indian Ocean with explicit plans to establish their dominance in this region. Their activities along the coast of the Indian Ocean, however, provoked resistance from the local residents. With their advantages in terms of weapons and organization, the Portuguese defeated local armies and cruelly reaped profits, revealing the essentially imperialistic nature of their project. However, these Portuguese activities in the Indian Ocean, South Asia and Southeast Asia also augmented Europe's knowledge about the East, especially about South Asia. In this section of the paper, I investigate the impact of Portugal's activities in the Indian Ocean, South Asia and Southeast Asia on the accumulation of Portuguese geographic knowledge about the East.

Since 1500, when Cabral led the first Portuguese fleet to India after da Gama's voyage, Portuguese fleets had conducted various activities in the Indian Ocean and South Asia. At that time,

sending fleets to the East and stationing troops in India led to the accumulation of Portuguese knowledge about the East. In the first few decades of the sixteenth century, several Portuguese became famous for their activities in the East. For example, Diogo Lopes de Sequeira led a fleet to Malacca; Afonso de Albuquerque, a very cruel governor-general in India, made great contributions to the history of the Portuguese Discoveries; and Ferdinand Magellan, a Portuguese who once worked for Spain, led his fleet in the first circumnavigation of the globe. The activities of the Portuguese and others in the East had a great influence on their geographic knowledge and cartography. Almost every step of Portuguese progress abroad was reflected on their maps. For example, a Portuguese map of 1510 was the first to reflect advances in the study of geography,[28] followed by the maps in the book by Francisco Rodrigues.[29] The so-called Reinel maps, including "Anonymous – Pedro Reinel, Chart of c.1517,"[30] "Anonymous – Pedro Reinel, Chart of c.1518,"[31] and part of the "Anonymous – Jorge Reinel Planisphere, 1519,"[32] further reflected Portuguese activities in the Indian Ocean, South Asia and Southeast Asia (see Map 6).

However, at this time, such geographical knowledge about East Asia still had yet to attain the status of undoubted truth. In other words, European geography of the East was still at a transitional stage. Any new information would be carefully noted, added to the existing body of knowledge, and reflected on new maps only after being compared with existing data. It was not yet possible for the new information to override or rectify inaccuracies in the existing body of knowledge. Therefore, in the early sixteenth century, while the Portuguese were trying to revise some of the traditional cartographic descriptions based on the experiences of their voyages, most other Europeans were content to improve and add to Ptolemy's map, rather than scrapping it completely and making a new world map on their own. Because they were primarily interested in modifying and perfecting the Ptolemaic model with newly available information, Ptolemy's central idea about East Asia—namely the "Seres misunderstanding"—could not be fundamentally challenged. Even some outstanding Portuguese geographers and cartographers in the mid-sixteenth century (to whom we will return later) refused to give up Ptolemy's ideas completely.

In short, although information gathered in the process of the Discoveries was continuously being brought back to Europe, most European cartographers still clung to the idea that maps should be made according to the basic theories and structures set out by Ptolemy. Through these cartographers and their maps, the "Seres misunderstanding" was perpetuated, in the pattern of "Seres-Chin" or "Cathay-Mangi." The complete rejection of Ptolemy's framework would require many more years, and a different approach.

The second issue in this section is the expansion of Portuguese activities in the Far East and their significance. In what follows, I will attempt to answer a number of questions about the Portuguese understanding of the East and about the persistence of the misperception surrounding Seres, through a study of the descriptions of the East on Portuguese maps.

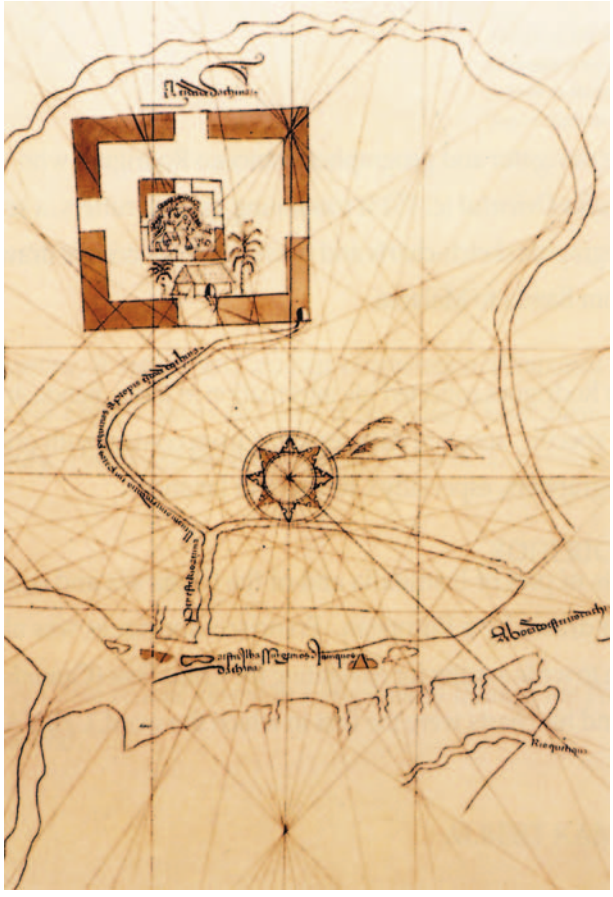
Once they had a foothold in South Asia, the Portuguese continued to push further eastward. Their earliest contacts with the Chinese can be dated to as early as 1500, soon after Cabral's fleet reached Calicut.

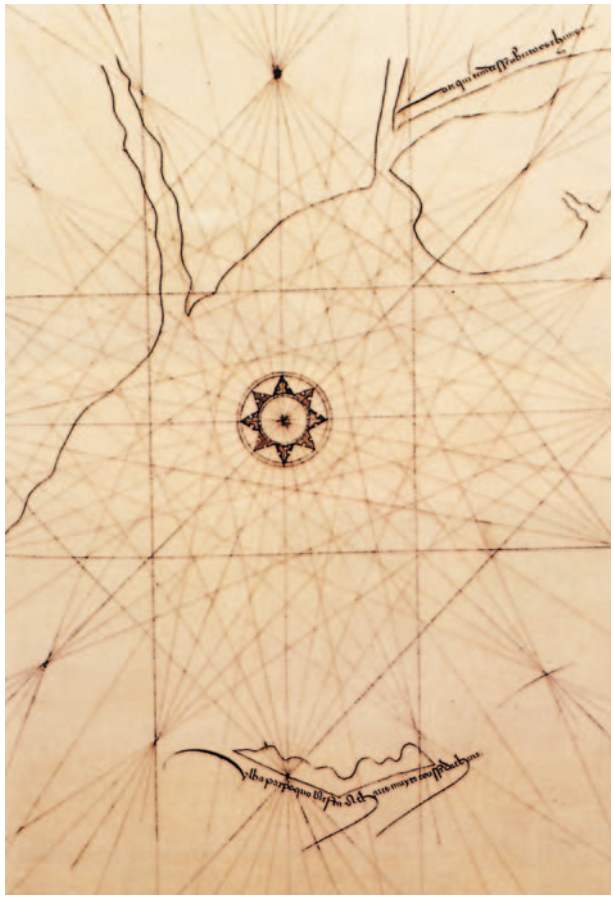
In the study of the accumulation of Portuguese geographical information about Asia, it is helpful to quickly review the development of relations between Portugal and China in the early sixteenth century and the important figures in these events: Diogo Lopes de Sequeira, who led a fleet sent by the King of Portugal to Malacca in 1508; Afonso de Albuquerque, the governor-general of India; Jorge Álvares, the first Portuguese to set foot in China, a businessman who arrived with a Chinese commercial fleet in 1513; Rafael Perestrello, who was sent to China by the Portuguese commander at Malacca; Fernão Peres de Andrade, whose fleet was dispatched to China by the new Portuguese governor-general in India in February 1516 and who established a good relationship with the local officials in Guangzhou; and Tomé Pires, a crew member on Fernão's ship, who left us an important account, entitled *Suma Oriental*, detailing his experiences in China, especially his trip to Beijing. Through a more detailed analysis of these figures we may have a better sense of the ups and downs of the relationship between China and Portugal. However, what is more important to the present study is that from this point forward, the Portuguese in Europe could observe China more closely and obtain more detailed information about it. Their sources of information included reports from

Portuguese officials and naval officers to the King about the East—especially about the "frontier" that was China—and eyewitness accounts of those who had been there. In these accounts, China was no longer the "Cathay" and "Mangi" described by Marco Polo, nor was it the "Cathay" or "Mangi" of ancient tradition. The real situation in China was communicated to Europeans by travellers who had had their own experiences in the country. Though this information was incomplete most of the time and could not by itself overthrow Europe's traditional ideas about the East, it did help Europeans gain a better understanding of China, and played a significant role in clarifying the Seres issue in Europe.

The information obtained by the Portuguese in the southern coastal areas of China was soon reflected on their maps. In this study, we have found that an important and often overlooked aspect of the maps and accounts by Francisco Rodrigues is that he uses the term "China" several times. His book contains a paragraph describing the sea route to China, whose original Portuguese title was "Camynho Da Chyna" – which translates into English as "The Route to China."[33] Rodrigues also includes in his book some regional sketch maps of China,[34] including "The Gulf of Tong King (with Hainan)," "Part of the South Coast of China and some islands, possibly the Philippines," "Entrance of the Canton River and probably Peking," "North-east Coast of China, with an island, *Parpoquo*, which may correspond to Japan," "Island which must represent Formosa."[35] Rodrigues uses the term "da China" repeatedly on his maps; for example, in "Entrance of the Canton River and probably Peking," he labels one city, generally considered to be Beijing, as "a cidade da China" (see Map 7-1 and 7-2). Rodrigues thus raises a tough question for us: Was "da

Map 7. Francisco Rodrigues, Maps in his *Book* (c. 1513). 1. Entrance of the Canton River and probably Peking.
2. North-east Coast of China, with an Island, *Parpoquo*, which may correspond to Japan, in the Bibliothèque de la Chambre des Deputés, Paris (from: *PMC*, vol. I, Plate 36).





Map 8. Diogo Ribeiro, *Planisphere* (1529), in the Thuringische Landesbibliothek, Weimar (from: *PMC*, vol. I, Plate 40).

China" his fixed term for China? It should be noted that authors who were contemporaries of Rodrigues, such as Tomé Pires, did not just use the term "China" to indicate that which we would now call China. In fact, Tomé Pires uses several terms for China, such as "Chys," "China," "Chijs" and "Chijna." In addition, we can find "China" in the term "Chinacochim" (Cochin-China) on the Cantino map of 1502. I cannot explain the reason behind the frequent variations in the names for China during this period, but on Rodrigues' maps, I can sense his persistence in using "China" instead of the other terms. More importantly, however, is that this form, "China," would soon become widely adopted. If Rodrigues learned and used the term "China" only by accident, his influence on later generations was far greater than he ever could have imagined, since "Seres" and the other names traditionally used for China in Europe were superseded by his unintentional but historic action.

I would also like to take a moment to analyse Diogo Ribeiro's maps, and the influence Portuguese activities in the East had on geographical knowledge after Rodrigues and Reinel.[36] From 1525 to 1532, Ribeiro made five exquisite planispheres,[37] whose geographical descriptions were far more accurate than those on the maps by Rodrigues and Reinel. On Ribeiro's maps, the coastline from Ceylon to Canton was rendered quite finely and precisely. He made some big changes to the shape of the coastline east of Malacca and Malaya, especially that of Indochina, which began to resemble reality quite closely. Although scholars hold that the Portuguese arrived in China in 1514, there is no proper evidence of this reflected on Ribeiro's maps.[38] In fact, judging from the depictions of East Asia on his maps of 1525, 1527, and 1529, we can see that his knowledge was increasing little by little and his depictions became more and more detailed. Besides, although there is no way of proving that Ribeiro had read Rodrigues' book, it seems that the way Ribeiro renders the name of China on his maps bears a close resemblance to the way Rodrigues rendered it in his books. On Ribeiro's map of 1525, China was labelled as "La China"; on his map of 1527, it was "Lachina" (with no space in between); on his map of 1529, it was just "China"; and on another map of 1529, there are some illegible notes below the name "China."[39] Though "Lachina" appears again on his map of 1532, it is quite obvious that Ribeiro was inclined little by little to the term "China." Ribeiro's maps exerted an enormous influence on Europe, which might be the reason for the widespread use of the term "China" even today (see Map. 8).

After Ribeiro's death in August 1533, not much progress was made in Portuguese cartography for the next twenty to thirty years. One of the few achievements was an anonymous map made in 1535. Originally even this date was unclear, but according to Armando Cortesão's research,[40] the terminology used on the map can identify it as a Portuguese work completed around 1535. Donald F. Lach believes that this was a very important map, reflecting the progress

of Portuguese geographic knowledge, particularly in depicting details about the Philippines and Borneo.[41] In addition, I think the descriptions of the Far East and China on this map are also worth remarking. There are few place names on the map, and only one line of words at the entrance to a river (obviously the Pearl River): "Rio de catam a china." In this respect, it is not even as detailed as Ribeiro's map of 1529, which notes many place names at the entrance of the Pearl River. However, on the 1535 map, in the Gulf of Tong King, below a cape that juts out sharply from the mainland, there is an island that is very probably Hainan Island. Though the shape of the island is entirely too spindly to correspond to reality, this was the first time that Hainan Island had been properly placed on a European map, which makes this 1535 map significant in the history of cartography in Portugal as well as in Europe. By the mid-sixteenth century, Hainan Island was marked on almost all European maps, and was being rendered in a more accurate shape. Therefore, this map played a pioneering role in this aspect.

Yet with the exception of this anonymous map, the field of cartography in Portugal entered a period of stagnancy after the death of Ribeiro. After the first official contacts between Portugal and China failed in the 1520s, Portuguese official activities in East Asia waned. This may be one of the reasons why there are relatively few extant records, either textual or cartographic, from that period. However, the diplomatic failure of the Portuguese in China did not cause them to retreat back to Malacca. Rather, based on their previous experience, they bypassed Guangdong and went northwards towards Fujian, where they engaged in surreptitious trade with local merchants.

Following Ribeiro's map of 1529, the next Portuguese world map with a definite date and author was the 1554 map by Lopo Homem. Lopo Homem was an important member of a Portuguese family of cartographers. His map of 1554 was the second largest Portuguese planisphere, and was an exquisite, finely drawn, and accurately scaled work. It was praised by scholars at the time and was often replicated. The map

Map 9. Lopo Homem, *Planisphere* (1554), in the Istituto e Museo di Storia della Scienza, Florence (from: *PMC*, vol. I, Plate 27).

Map 10. Fernão Vaz Dourado, *Atlas* (1571), in the Arquivo Nacional da Torre do Tombo, Lisbon (from: *PMC*, vol. III, Plate 284).

depicted all the coastlines in the known world at that time.[42] In its depiction of East Asia and China, the Lopo Homem map was a vast improvement over Ribeiro's map of 1529 and over the maps made by others in the 1530's. The coastlines of China are extended northward, instead of ending at Fujian; even the area around the Bohai Gulf is depicted, and the peninsula and islands to the east of the Bohai probably represent Korea and Japan. Portuguese flags appear north of Guangdong and Fujian. In addition, the shape of Hainan Island is considerably more accurate than ever before. The Lopo Homem map also indicates the names and positions of some ports and trading cities,[43] the most important of which was "Liampo,"[44] which may reflect the Portuguese activities in Ningbo (see Map 9).

Soon after Lopo Homem completed this map in 1554, his son, Diogo Homem, and another member of the family, André Homem, published another important map. It is remarkable that on Diogo's map, China is called "china" instead of the "sina" used by his father, Lopo.[45] Diogo's depiction of China also portrays a river whose course and estuary is located considerably further north than the Pearl River had been on previous Portuguese maps; this might be the Yangtze River (or Yellow River?). The peninsula to the east of the Bohai Gulf should be the Korean peninsula. Southwest of the Korean peninsula and north of Taiwan,[46] there is an archipelago that represents Japan.

However, all of the Homem cartographers—Lopo, Diogo and André—tended to retain use of ancient place names on their maps. They seemed to

combine traditional knowledge with the geographic knowledge brought back by the Portuguese returning from the East. Thus, in the mid-sixteenth century, when Portuguese cartography was in its prime, there emerged three different phenomena.

First, the overall geographic outline of the world was more or less complete. The improvements in this vein began with the Cantino Planisphere of 1502 and were reflected little by little on successive generations of Portuguese planispheres. On these maps, large geographic figures (e.g. the figures of the continents), large geographic units (e.g. continents), and the relative spatial locations of the different continents and other large geographic units were almost perfect by the mid-sixteenth century. As a result, some details of these maps were also becoming more accurate.

Second, regional maps became more and more precise. Regional maps came into being at a very early stage, since it was easier for people to get information about smaller regions and to make smaller maps. Compared with world maps, regional maps also made it easier for cartographers to add new information about navigation routes and to get rid of the influence of traditional knowledge. The making of regional maps continued throughout this period, and was later promoted even further with the advent of the atlas.

Third, Portuguese maps in the mid- to late sixteenth century still reflected the influence of some traditional knowledge. In fact, even on those maps that we have lauded above, we can find classical place names and traces of other traditional knowledge. This is not only true on the maps of the Homem family, but also on those made by other cartographers.

I once postulated that André Homem's map of 1559 was the last time that the "Seres misunderstanding" was rendered on a European map. But is it now necessary to modify this conclusion? If we do not accept the year 1559 as the date in which this misperception was rectified, what can we make of the relationship between Portuguese activities in the East in the sixteenth century and their maps? How can we understand a phenomenon whereby general progress in the field of geography coexisted in with the continued representation of traditional cartographic knowledge on maps? When in fact was the "Seres misunderstanding" finally clarified, and what was the Portuguese role in it? In this final section, I aim to address this series of questions.

The process by which human beings have come to know the world has been a very long one indeed. Even at present, we dare not say that we know about the world thoroughly, especially the inland areas. In the sixteenth century, European knowledge and descriptions of distant lands was greatly improved by the Discoveries. Not only did the Europeans "discover" the "new continents" of America and Australia, they also improved their knowledge about the East Asian part of the "old continent". The Portuguese took the lead in travelling to Asia, and opened a way to reach East Asia which had been closed to Europeans since the classical era. The outlines of Southeast Asia and East Asia were clearly defined and almost correct. "Seres" and "Chin," which had been the understanding of East Asia in the classical age, and "Catai" (or Cathay) and "Mangi" which had dominated Europeans' understanding of East Asia in the Middle Ages, no longer existed on most maps of China. Though depictions of inland China were still rudimentary in Portuguese maps of the 1550s, China's coastline was almost complete and remarkably accurate. The accuracy of these coastlines left no room for the existence of separate countries such as "Seres," "Catai," "Chin," or "Mangi."

However, there were still many places on the East Asian continent unknown to Europeans. The Portuguese and other Europeans knew little of China aside from its coastal areas: they had not mapped China's inland regions, not to mention its remote western or northern areas. European cartographers in the sixteenth century adopted one of three measures to deal with these gaps in their knowledge of China. One was simply to leave these areas blank on the map and not do anything about them. In the mid-sixteenth and seventeenth centuries, quite a number of cartographers adopted this approach in making planispheres. This study has referred to some of these maps for evidence. At that time, most of the inland regions of Asia were unknown to Europeans. If these places had been left unmapped, not only would the limited knowledge of the cartographer have been demonstrated, but the maps would not be aesthetically appealing. Thus the second solution to this problem, and perhaps the best one, was to fill the blank spaces with ornaments, such as drawings of plants, animals, human figures, buildings and cities, all of which could be found on the early Portuguese maps. In Fernão Vaz

Dourado's atlas of 1580, human figures and animals were drawn in the inland area of the South American continent, Muslims on horseback appear in the inland area of Northwest Africa, and pagodas decorate the inland areas of China.

The third method was to fill the blanks with available but out of date geographical information. Given that European cartographers were still using knowledge from classical authors and medieval travellers greatly influenced by the "Seres misunderstanding", when they used this knowledge to fill in the blank spaces on a map, contradictory situations, such as the coexistence of both "Cathay" and "Seres" on André Homem's 1559 map, could arise. In fact, by the mid-sixteenth century, Portuguese geographers no longer believed that East Asia was divided into two parts, north and south; a great number of their regional maps reflect this. However, they could not get access to any new information about the inland areas. Even Gerardus Mercator, the most important European cartographer of the sixteenth century, complained that he had no access to the new geographical information about East Asia, and that he had to rely for his mapmaking on the accounts of Marco Polo and even of geographers of the classical era.[47] The combination of the lack of access to up-to-date information, and the convention adopted by many cartographers of filling blank spaces with the information that they did have, thus resulted in a situation in which certain traditional forms of geographic knowledge, including the terminology of the classical era and the Middle Ages, was still being recorded on late sixteenth century maps. So we may conclude that even though the traditional terminology of the "Seres misunderstanding" was still used on these maps, it no longer had the same significance it had once and should therefore not be considered a true continuation of the misunderstanding.

Yet there is another kind of map, dating from the mid- to late sixteenth century and even into the seventeenth century, on which information about Seres is still recorded. These maps were often placed at the beginning of an atlas, or sometimes elsewhere; the world maps included in Diogo Homem's atlases of 1558 and of 1568, and the map in Bartolomeu Velho's *Cosmographia* (PMC, vol. II, Plate 206, Fol. 10v, etc.) are good examples.[48] These were a kind of sketch map intended to give readers a general overall visual sense of the world. The information about Seres included in these maps, especially the classical and medieval place names, did not mean that the cartographers still believed in the existence of a country with that name. In fact, if we examine regional maps made by the very same cartographers, we find that they do not include this incorrect information. Therefore these sketch maps should perhaps best be thought of as a kind of historical map. We may suppose that the method of describing the world on the first page of these atlases resembles that in the *Tianxiatu*, a sketch map of the Korean peninsula in the late seventeenth century, whose creation may have been related to the introduction of western cartography into Korea.[49] If such a relationship did exist, this could provide another perspective from which to understand European cartography at that time.

In short, by the mid-sixteenth century, when Portuguese cartography was at its peak, and when large numbers of regional maps began to be published, the Seres misunderstanding was finally put to rest. The European belief that East Asia was divided into two separate parts, and the geographic terminology that reflected this belief, had become things of the past. Since the 1550s, Portuguese cartographers had published numerous maps that used the name "China" or a close cognate. These maps included the "Map of the Far East" in the 1560 Atlas by Bartolomeu Velho, which includes many place names along the southern coastal regions of China; the "Map of the Far East" in the Atlas of 1563 by Lazaro Luís, on which "China" and "Camtão" are clearly noted[50]; the "Map of China" by Sebastião Lopes, in which the "Cidade de catao" is especially prominent, and the region of Tartaria is marked in the north[51]; the "Map of China" in the Atlas of 1568 by Diogo Homem; the maps in the Atlas of 1571 by Fernão Vaz Dourado, in which the "Reinos da China," "Chinche" (Zhangzhou) and "Liampo" (Ningbo) are clearly marked[52] (see Map 10); the "Map of China" in the 1590 Atlas by Bartolomeu Lasso, in which the entrance to the Pearl River and the "Cidade da Cantão" are clearly marked[53]; and a specially made map of China, dating from 1575, by Luís Jorge de Barbuda (see Map 11).

Based on the existence of these maps, we can draw the conclusion that by this time the "Seres Misunderstanding" had been replaced by new geographical information on Portuguese maps. At that

Map 11. Luís Jorge de Barbuda, *Chinae* (c. 1576), in Abraham Ortelius' *Theatrum Orbis Terrarum Sinarum regiones, noua descriptio. auctore Ludouico Georgio* (from: CTMCD, *Macau: Cartografia do Encontro Ocidente-Oriente.* Macao, n.d., p. 150).

time, European geographical knowledge about the East as reflected on Portuguese maps was quite close to reality. Taking into consideration both André Homem's Map of 1559 and Bartolomeu Velho's Map of 1561, I think that we can conclude that this misperception was more or less entirely cleared up by the year 1560.

This chronicle of how the Seres misunderstanding was finally cleared up on Portuguese maps of East Asia reveals that Portuguese cartographers changed their views due to the first-hand information gained by Portuguese travellers who had voyaged to the coastal regions of east China. However, it would still be some time before other Europeans—be they cartographers or the general public—would understand the geography of Asia in any detail. This would not happen until a number of Jesuits recounted their own experiences of living and working in China. The maps of China these missionaries made, such as those made by Michele Ruggieri[54] and Matteo Ricci, were based on Chinese maps, and would contribute significantly to the development in Europe of the geography of Asia. However, in spite of all this, Europeans who had never been to China, and even those who remained in India, were doubtful about the reports of Jesuits, since there was little exchange between the Far East and the West at that time. Even in the late sixteenth century, when the Jesuits in India heard about a place called "Cathay" in East Asia and thought there might be some opportunities for missionary work there, they immediately sent envoys by way of Central Asia to find this "Cathay," and to find out what the difference was between "Cathay" and "China." Matteo Ricci has described this story vividly, and now we can also read

the notes of Bento de Goes, one of the main protagonists of this journey.[55] The fact of this journey proves not only that many Europeans at the time still knew very little about East Asia, but also that the Portuguese who travelled to China by sea knew only about "China"—not Cathay—and that the term "China" was already in widespread use in Europe by that time. Though their understanding of China was still far from ideal, Europeans were no longer in the grip of the Seres misunderstanding.

Europeans gradually built up a more accurate understanding about the geography of the East Asian continent through Portuguese maritime activities there. However, in the first half of sixteenth century, the Portuguese still considered the information they had collected from their voyages to be a national secret, and made every effort to block the spread of this information, sometimes going so far as to actively distort what they knew. Therefore Portuguese maps reflected only a part of their real geographical knowledge. If the competition between nations had not created this impediment to the free flow of information, the Seres misunderstanding might have been cleared up much earlier. RC

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Translated by Tang Jie 唐婕 and Hua Tao 华涛

NOTES

1 Henry Yule (trans. and ed.), *Cathay and the Way Thither*. London, 1866.

2 George Coedès, (trans. and ed.), *Textes d'auteurs grecs et latins relatifs a l'Extreme Orient depuis le IVe siècle av. J.-C. jusqu'au XIVe siècle*. Paris, E. Leroux, 1910. (The title was changed somewhat when this work was reissued in 1977: *Textes d'auteurs grecs et latins relatifs a l'Extrème Orient*). Chinese translation by Geng Sheng, Zhonghua Shuju, 1987.

3 Paul Pelliot and A.C. Moule (trans. and ed.), *Notes on Marco Polo*, Paris, Impr. Nationale, 1959, Vol. III, pp. 264-278.

4 Donald F. Lach, *Asia in the Making of Europe*, University of Chicago Press, Chicago and London, 1993 [1965].

5 Jaime Cortesão, *Os Descobrimentos Portugueses* (Lisboa: Livros Horizonte, 1975-1981), 6 v., 1635 pp., [28] p. of plates. Includes bibliographical references and indexes. Chinese translation by Deng Lanzhen et al., Zhongguo duiwai fanyi gongsi, 1996.

6 *History of Portuguese Cartography* (Junta de Investigações do Ultramar, Lisboa / Coimbra, 1971).

7 Armando Cortesão and Avelino Teixeira da Mota, *Portugaliae Monumenta Cartographica* (6 vols.; Lisbon, 1960-1962). Reprodução fac-similada da edição de 1960. Imprensa Nacional-Casa da Moeda, 1987 (hereafter *PMC*).The *Portugaliae Monumenta Cartographica* is a large-scale five-volume atlas of Portuguese historical maps which began publication in 1960. As it is a collection of Portuguese historical maps of the 16th and 17th centuries with a detailed bilingual introduction, its publication is of great significance to the present research. In the microfilm version of this atlas published in 1987, although the maps are monochromatic, there is an appendix by Alfredo Pinheiro Marques that includes maps discovered after publication of the last print edition, as well as a summary of the latest research and analysis of these maps, both of which make this *magnum opus* a work of inestimable value to the present research. I have drawn heavily on this precious resource.

8 Al-Istakhri, *Al-Masalik wa-l-Malalik* (*Bibliotheca Geographorum Arabicorum*, Vol. I), pp. 9-10. Almost the same in Ibn Hawqal, *Surat al-Ard* (*BGA*, Vol. II), Section 12.

9 Ibn Hawqal, *Surat al-Ard* (*BGA*, Vol. II), pp. 8-9.

10 The world map of Abu Abdallah al-Sharif al-Idrisi (c. +1150), made for Roger II, King of Norman Sicily. In Joseph Needham (with the collaboration of Wang Ling), *Science and Civilisation in China*, Vol. 3: *Mathematics and the Sciences of the Heavens and the Earth*, Cambridge University Press, London and New York, 1959, facing p. 564 (south is at the top).

11 This name is translated differently in the different Chinese versions of book.

12 Jean de Plan Carpin, *Histoire des Mongols*, translated and annotated by Jean Becquet et Louis Hambis, Paris: Maisonneuve, 1965. The Chinese translation is by Geng Sheng, Zhonghua Shuju, 1985.

13 Jean de Plan Carpin, *Mongols* (Chinese edition), pp. 160-165.

14 Oscar Peschel, quoted in *The Catholic Encyclopedia*: "Geography and the Church," www.newadvent.org/cathen/ 10285c.htm.

15 Cf. He Gaoji's Foreword to the Chinese edition of William Woodville Rockhill (ed.), *The Journey of William Rubruck to the Eastern Parts of the World*, Zhonghua Shuju, 1985, p. 184.

16 Rubruck, p. 254. *The Journey of William Rubruck to the Eastern Parts of the World, 1253-1255 as narrated by himself, with two accounts of the Earlier Journey of John of Pian de Carpine*, trans. from Latin and edited with an Introduction Notice by William Woodville Rockhill, London, MDCCC, pp. 155. Yule (Vol. ii) He was considered to be the first western scholar to identify Seres with Cathay.

17 *The Opus Majus of Roger Bacon, a translation by Robert Belle Burke*, University of Pennsylvania Press, Philadelphia, 1928, reprint by Thoemmes Press, 2000, p. 387. It should be noted that people soon forgot about Rubruck. His works and knowledge were rediscovered in the sixteenth century.

18 Marco Polo, *The Description of the World,* translated and annotated by A. C. Moule, and P. Pelliot, London, 1938, vol. I, p. 353.

19 Marco Polo, *Description,* vol. I, pp. 304, 309, 353.

20 Odoric of Pordenone, *The Travels of Friar Odoric,* translated by Henry Yule, Wm. B. Eerdmans Publishing Co., Michigan, U.S.A and Cambridge, U.K., 2002. Chinese translation by He Gaoji 何高济, Zhonghua shuju, 1981. For background information, cf. Chen Dezhi (ed.), *Zhongguo Tongshi: Yuan Shiqi* 中国通史元时期 [Chinese History: Mongol-Yuan Period], Shanghai Renmin Chubanshe, 1997, p. 81.

21 A. Cortesão, *History of Portuguese Cartography* , pp. 38-51 (an important introdution to Portolan maps from 1325 to 1400).

22 See J. Cortesão, *Os Descobrimentos Portugueses* (Chinese translation), pp. 196-197 and pp. 222-223 for positive comments on the influence of Arabic geography.

23 There has been some dispute over whether or not the *Geography* and the maps in it were truly Ptolemy's work. However, there is not much debate over the fact that they are, at the very least, based on his views. Cf. Lach, *Asia,* Vol. I, Book One, pp. 67-68.

24 *Shijie tan xian shi*, 世界探险史(Chinese translation by Qu Rui and Yun Hai of Yosef P. Magidovich, *Essays on the history of geographical discoveries*), Shijie Zhishi Chubanshe, 1988), p. 149.

25 *Shijie tan xian shi*, p. 161.

26 For Juan de la Cosa's maps and the "King-Hamy-Huntingdon Chart," see Lach, *Asia*, Vol. I, Book One, p. 219.

27 *PMC*, Vol. I, p.13.

28 *PMC*, Vol. I, Map 9 and pp. 29-31nn.

29 For background information on Rodrigues, see *PMC*, Vol. I, pp. 79-84 and Map 34-36; and Armando Cortesão (tr.), *The Suma Oriental of Tomé Pires and the Book of Francisco Rodrigues*, London, the Hakluyt Society, 1944, especially the Introduction, "The Pilot and Cartographer Francisco Rodrigues" and "The Book of Francisco Rodrigues."

30 *PMC*, Vol. I, pp. 33-34 and Map 10. The title of the map is "Anonymous—Pedro Reinel, Chart of c.1517." The reason it is "anonymous" is because most of Reinel's extant maps carry no signature. But scholars today have no question as to who authored these maps. See *PMC*, Vol. I, p.19.

31 *PMC*, Vol. I, pp. 35-36 and Map 11. For more on the history of research on this map, see *PMC*, Vol. I, p. 36.

32 *PMC,* Vol. I, Map 12.

33 *Suma Oriental of Tomé Pires*, pp. 320 and 301.

34 The titles of the following maps and their numbers are taken from *PMC*, Vol. I. These titles were not originally given to the maps by Rodrigues.

35 The title of this last map is "Formosa" (*PMC).*

36 For background on Ribeiro, see *PMC*, Vol. I, pp. 87-94 ("The Cartographer Diogo Ribeiro and his Work"). For an introduction to Diogo Ribeiro's Map of 1529, see Monique de la Roncière and Michel Mollat du Jourdin, *Les portulans: Cartes marines du XIII au XVII siècle*, Office du Livre S. A., Fribourg, Switzerland, 1984.

37 *PMC*, Vol. I, Maps 37-41. Map 41 was originally regarded as a separate map, but some scholars have argued that it was in fact part of a planisphere (*PMC*, Vol. I, pp. 107-109). Later, another world map of Ribeiro's (Map 523, made in 1530) proved that the former was indeed part of a larger map. See *PMC*, Vol. V, pp. 5-6.

38 Lach, *Asia,* Vol. I, Book 1, pp. 221-222 cites the well-known cartographer Kammerer as saying this. Kammerer's book is not available to me, but obviously he was making comparison between Ribeiro and Rodrigues. Besides, since they had not yet discovered the route to Japan, its location was not clear.

39 In the *PMC*, these notes are too small to be read. Lach (in *Asia,* Vol. I, Book 2, p. 816) quotes these notes as saying: "In this Chinese province, there is a lot of silk, musk, rhubarb and china ..." This note appears on the map directly below the name "China."

40 *PMC*, Vol. I, pp. 123-124.

41 Lach, *Asia*, Vol. I, Book 1, p. 223.

42 The central Pacific Ocean, as well as northwest and southwest America, were left off this map. It is hard to understand why the Americas were not included, since by this time they had been depicted on other maps. See *PMC,* Vol. I, p. 67.

43 It is very difficult to identify the names of cities in the *PMC*, but Cortesão has made a study of these names. See Armando Cortesão, *Cartografia e Cartógrafos Portugueses dos Séculos XV e XVI*, Lisbon, 1935, Vol. II, Plate XVIII (cited in Lach, *Asia*, Vol. I, Book 2, p. 817).

44 For the identification of Liampo, see Comissão Territorial de Macau para as Comemorações dos Descobrimentos Portugueses, *Macau: Cartografia do Encontro Ocidente-Oriente*, n.d., pp. 56-57.

45 On a map of 1561, Diogo Homem marked a place in southern China that he called "Terra Leucorr;" this may be a reference to "Ryukyu," however, this term is quite confusing. See Lach, *Asia*, Vol. I, Book 2, p. 817.

46 On the original map, Taiwan is called "Formosa."

47 Filippo Bencardino, "China in European Cartography between the Fifteenth and Seventeenth Centuries," in *Review of Culture* (English Edition), No. 34/35, 1998, p. 24.

48 Though no information related to the "Seres Misunderstanding" appears on this map, judging from the maps by Velho discussed earlier, it seems reasonable to conclude that he would not have rejected it.

49 See Xu Ning 徐宁, *Lichao Houqi de Tianxiatu Yanjiu* 李朝后期的天下图研究 (Research into the Tianxiatu [Korean World Map] in the Late Li Dynasty), unpub. MA thesis, Nanjing University, 2002. Xu Ning studied the relationship between the introduction of European-style world maps (in Chinese translation) to the Korean pennisula and the emergence of the "Tianxiatu." However, by this time, Portuguese and other European maps were already widely used in Japan. Thus Japanese maps in the Portuguese style may have had a more direct influence on the Korean "Tianxiatu."

50 Luís renders "China" as "Achina." However, in studying other place names in his atlas, I have found that he often prefixed these names with an "A," such as in "Apersia" (see Map 216).

51 See Lopes' world map of 1583 (Map 408 in *PMC*).

52 On some of Dourado's maps of China, China was called "Reinos da Chin" only when following "Liampo" (Dourado, 1570, Map 270); on others, he did not provide the name "China" but instead noted only the names of cities such as "Camtam" (Guangdong/Guangzhou) and "Liampo" (see Dourado, 1576, Map 340 in *PMC*).

53 Lasso's maps from 1592 to 1594 provide more detailed descriptions about the entrance of Pearl River, and more place names (see Map 383 in *PMC*).

54 See Fernando Sales Lopes, "The *Atlante della Cina*," in *Review of Culture*, No. 34/35, 1998, pp. 7-10; and Michele Ruggieri, "Four Maps of Southern China," in *Review of Culture*, No. 34/35, 1998, pp. 35-37.

55 See Matteo Ricci and Nicolas Trigault, *China in the Sixteenth Century: the Journals of Mattew Ricci: 1583-1610*, translated by Louis J. Gallagher, S.J., Random House, New York, 1953, Book 5, No. 11 (Cathay and China: The Extraordinary Odyssey of a Jesuit Lay Brother) and Book 12 (Cathay and China Proved to Be Identical). Chinese translation by He Gaoji and others, Zhonghua Shuju, 1983. For the same descriptions, see "The Journey of Benedict Goes from Agra to Cathay" in Yule, *Cathay*, pp. 529-591.