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# Searching the East by the West: Martin Behaim revisited

Rui Manuel Loureiro

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# **Special Issue**

# Crossing Borders: The Social and Economic Impact of the Portuguese Maritime Empire in the early Modern Age

Edited by

Nunziatella Alessandrini and João Teles e Cunha

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# Special Issue

Crossing Borders: The Social and Economic Impact of the Portuguese Maritime Empire in the early Modern Age

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# Searching the East by the West: Martin Behaim revisited

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#### Abstract

Martin Behaim is a historical figure presently known as responsible for the conception of a terrestrial globe that is associated with his name. The Behaim Globe, produced in 1492 and kept at the Germanisches National Museum, Nuremberg, is the oldest extant terrestrial globe. Martin Behaim's life and work have been exhaustively dealt with by modern historiography, particularly in connection with the great Iberian voyages of maritime exploration of the end of the fifteenth century. But the biography of this German merchant / cosmographer / navigator, who spent an important part of his life in Portugal, continues to raise problems and perplexities, which are revisited in the present text.

#### Keywords

Portugal; 15th century; Martin Behaim; History of European expansion; Geography.

#### Resumo

Martin Behaim é uma figura histórica atualmente conhecida como responsável pela concepção de um globo terrestre que está associado ao seu nome. O Globo de Behaim, produzido em 1492 e conservado no Germanisches National Museum, em Nuremberg, é o mais antigo globo terrestre existente. A vida e a obra de Martin Behaim foram exaustivamente tratadas historiografia moderna, em particular no que se refere às grandes viagens ibéricas de exploração marítima do final do século XV. a biografia deste mercador / cosmógrafo / navegador alemão, que passou uma parte importante da sua vida em Portugal, continua a suscitar problemas e perplexidades, que são revisitadas no presente texto.

#### Palavras-chave

Portugal; século XV; Martin Behaim; história da expansão europeia; geografia.

1. Conclusions. - 2. Bibliography. - 3. Curriculum vitae.

Martin Behaim is a historical figure currently known primarily as responsible for the conception of a terrestrial globe that is associated with his name. Although there are

testimonies of other older specimens, the *Behaim Globe*, dated from 1492 and preserved in the Germanisches Nationalmuseum, in the city of Nuremberg, is the oldest known today. The life and work of Martin Behaim have been treated extensively by modern historiography, particularly in its connection with the great Iberian voyages of maritime exploration of the late fifteenth and early sixteenth centuries. Thus, many of the legends associated with the name of Behaim have been duly criticized. But the biographical trajectory of this German, who spent an important part of his life in Portugal, still raises some perplexities, so it certainly deserves a new evaluation<sup>1</sup>.

Behaim was born in 1459 in Nuremberg, then one of the most cosmopolitan German cities, in a family of rich merchants originating from Bohemia. Nothing is known about his formative years, but surely, he will have carried out the same humanistic studies as the young people of his time and condition, that would include the learning of writing and reading, Latin grammar and arithmetic. A sixteenth-century Portuguese chronicler suggested that young Martin would have studied with Johannes Müller, the famous mathematician of Königsberg. Indeed, João de Barros, in his *Primeira Década da Asia* (First Decade of Asia) printed in Lisbon in 1552, writes about "a certain Martin Behaim (...) who claimed to be a disciple of Johann Monte Regio, famous astronomer among the scholars of this science"2. Regiomontanus, as he was also known, lived in Nuremberg between 1471 and 1475, where he maintained an astronomical observatory and a multi-purpose workshop, in which astronomical instruments and celestial globes were manufactured, and where there was also a printing press<sup>3</sup>. João de Barros was a generally well-informed chronicler, who had access to a very diversified set of sources, in order to prepare the various parts of his monumental Asia, which dealt with Portuguese overseas activities<sup>4</sup>, so that it is not impossible that Martin Behaim, between ages 12 and 15, at some point frequented as an apprentice the workshop of Johannes Müller.

From 1476, and for eight years, Martin Behaim lived in the Flemish cities of Mechelen and Antwerp, working with important textile merchants. Several letters of his are preserved from this period, during which he devoted himself to learning the secrets of the international trade of textiles and dyes (Ravenstein, 1908, pp. 107-111). Behaim himself, in addition to collaborating with other Flemish and German merchants, also dedicated himself to this same business

Regarding Behaim, see the classical study by Ravenstein, 1908, that still deserves attentive reading; more recently, Crone, 1961; and above all, Pohle, 2007, where the facts and controversies about Behaim are systematized.

<sup>&</sup>lt;sup>2</sup> Barros, 1932, p. 127 (4-2): "hữ Martim de Boémia (...) o qual se gloriáua ser discipulo de Joãne de Monte Regio afamádo astrónomo entre os professóres desta sciēcia".

<sup>&</sup>lt;sup>3</sup> About Regiomontanus, see Zinner, 1990.

<sup>&</sup>lt;sup>4</sup> Regarding Barros, see Loureiro, 2018a.

activity. His presence in Flanders, in part, explains the subsequent course of his life. On the one hand, he surely contacted the Portuguese factory in Bruges, which as a result of the Portuguese voyages of discovery in the Atlantic had become an important centre for the exchange of exotic products and the dissemination of news about overseas geographic exploration<sup>5</sup>. Perhaps his curiosity about Portugal and the Portuguese navigations emerged from exchanges with the Portuguese merchants, who at that time owned a house in the city of Bruges. On the other hand, a few years later Behaim was to maintain close relations with the Flemish community living in Lisbon and in the Atlantic archipelagos that were then being colonized by the Lusitanian crown. Most likely, during his residency in Flanders, the young German established links that would allow him to later interact with the Flemish settled in Portugal.

It is not impossible that Martin Behaim, during this period of his life, heard about the ill-fated expedition of Eustache Delafosse to the Gulf of Guinea<sup>6</sup>. The Flemish merchant left Bruges in mid-1479 and travelled to Seville, where he embarked on a caravel bound for the coast of Africa. He was trying to reach the gold producing regions of Elmina, where the Portuguese, during those years, were developing a lucrative trade with their African partners, in a regime of total exclusivity from a European perspective, under the protection of successive papal bulls (Witte, 1958). But in the early days of 1480, Delafosse and his companions were imprisoned by four Portuguese ships sailing in those seas. One of the Lusitanian captains, curiously, was "ung nommé Diago Can" (Escudier, 1992, p. 30), that is to say, a certain Diogo Cão, a Portuguese navigator who in the following years would explore a large portion of the West African coast, and to whom Martin Behaim will make references in some of his writings, as it will be noted later. Eustache Delafosse, after a complicated itinerary, returned to Bruges in early 1481, and surely the fame of his overseas adventures reached Antwerp, where at that time Behaim was residing.

At the end of 1484 or the beginning of the following year, Martin Behaim was already in Portugal, since a later document, written around 1500 by one of his relatives, states that in February 1485 the German merchant "was knighted (...) by the hand of the very powerful King João II of Portugal", in the town of Alcáçovas, in Alentejo<sup>7</sup>. This nomination is not confirmed by Portuguese documentation. But in that month of 1485 the Portuguese monarch was in

<sup>&</sup>lt;sup>5</sup> On the Portuguese factory in Flanders, see Marques, 1965, pp. 217-267.

<sup>&</sup>lt;sup>6</sup> For details about this expedition, see Escudier, 1992.

Pohle, 2007, p. 29: "in der Stadt albassomas (…) wartt ritter geschlagen M. B. von nurmberg van der hant des grosmechtigen konig hern Johanse des andern von Portugal". King João II of Portugal ruled from 1481 to 1495.

Alentejo, and signed several documents in other neighbouring towns, such as Montemor-o-Velho or Viana do Alentejo (Serrão, 1993, pp. 176-178). Obviously, the fact that Martin Behaim was knighted by King João II as soon as he arrived in Portugal is the subject of speculation. Would it be a reward for services rendered to the Portuguese king at an earlier time, on maritime exploration voyages, for example? It is unlikely, as there are no indications of Behaim's presence on Portuguese territories in the period prior to 1484. It was not uncommon for the Portuguese monarch to attribute the title of knight to foreigners recently arrived in Portugal, especially when they represented important European commercial interests. That was the case of young Martin, who could prove his connections to important merchant families in Nuremberg, such as the Hirschvogel. King João II, at that time, was trying to attract foreign investors for his overseas trading projects (Pohle, 2017), and the welcoming reception extended to Martin Behaim could well fit into this strategy.

Most likely, Behaim was carrying with him from Antwerp introductory letters to the Flemish community in Lisbon. Thus, in a short time we find him in excellent relations with Josse van Hurtere (or Jos de Utra, as he is named in some Portuguese documentation). The Flemish merchant had been living in Portugal since the mid-1460s, where he had arrived on the recommendation of Isabel of Portugal, wife of Philip the Good, Duke of Burgundy. In 1468, Prince Fernando, nephew of the Duchess of Burgundy, handed over the captaincy of the Faial island, in the Azores archipelago, to Josse van Hurtere, who took charge of the respective settlement, recruiting Flemish emigrants. Years later, in 1482, the Faial grantee also received the captaincy of the neighbouring Azorean island of Pico<sup>8</sup>. Martin Behaim, so it seems, quickly integrated into this Flemish community, since between his arrival in Portugal and 1488 he married Joana de Macedo, daughter of Josse van Hurtere. Obviously, his life was organized in commercial deals between Lisbon and the Atlantic Islands, not only the Azores but also Madeira, where his father-in-law had interests in the sugar trade. In these maritime circuits, evidently, Behaim learned some of the secrets of Atlantic navigation. Recalling that he had started in Flanders in the textile business, it is not impossible that he would have been interested in the dyes produced in Madeira and the Azores, such as pastel and dragon's blood9.

Curiously, in this Portuguese period of his life, we find indications of Martin Behaim's participation in at least three geographical exploration projects coordinated by King João II, but in all of them without irrefutable documentary confirmation. The Lusitanian crown, by those years, was investing its main

<sup>8</sup> On the Flemish in the Azores, see Leite, 2012.

<sup>&</sup>lt;sup>9</sup> Regarding these dyes, see Faria, 1991.

financial resources in the exploration of a maritime route to India<sup>10</sup>. At least since 1475, Portuguese cosmographers indicated the African route as the most viable alternative, that is, to sail south along the African coast, to find a sea passage to the Indian Ocean. The western route was open to private initiative, always with the permission of the Portuguese monarch, obviously, but without any financial support from the crown. That is why the 'Indian project' of the Genoese Christopher Columbus – to reach Asia by a western sea route – was rejected by King João II around 1485<sup>11</sup>. The voyages of exploration along the West African coast continued, and in the 1480s the Portuguese navigator Diogo Cão led three successive expeditions, the last of which arrived at the Parda mountain range (on the coast of present-day Namibia) in 1486<sup>12</sup>. Two years later, another Portuguese navigator, Bartolomeu Dias, was able to navigate beyond the Cape of Good Hope and confirmed the possibility of sailing directly from Lisbon to India<sup>13</sup>.

The first project in which Behaim participates is mentioned years later by João de Barros. In his aforementioned *Primeira Década*, the Portuguese chronicler reveals that King João II, on an unspecified date – but probably around 1485 –, had commissioned a group of technicians to solve the problem of determining more rigorously the distances travelled by ships on the high seas. In the equatorial regions it was not possible to use the Polar Star as a point of reference, and that is why alternative processes had to be found. This group included "Master Rodrigo" and "Master Joseph the Jew, both his physicians, and one Martin of Bohemia, born in those parts" <sup>14</sup>. Martin Behaim, thus, is associated with master Rodrigo de Lucena and master José Vizinho, two important physicians and astrologers at the court of King João II. Both had participated shortly before in the commission of experts gathered to analyse the proposal presented to the Lusitanian monarch by Christopher Columbus, to "discover the island of Cypango by this western sea" <sup>15</sup>. The three technicians,

<sup>&</sup>lt;sup>10</sup> On this theme, see Loureiro, 1998.

About the reception of Columbus's project in Portugal, see Randles, 1990. Regarding the Genoese navigator's life and deeds, see the recent work by Thomaz, 2021.

<sup>&</sup>lt;sup>12</sup> The chronology of the voyages of Diogo Cão has been revised by Radulet, 1990.

<sup>&</sup>lt;sup>13</sup> On Bartolomeu Dias, a rather enigmatic character, see Randles, 1988.

Barros, 1932, p. 127 (4-2): "méstre Rodrigo e méstre Josepe judeu ambos seus medicos, e a hữ Martim de Boémia natural daquellas pártes".

Barros, 1932, p. 113 (3-11): "descobrir a jlha de Cypãgo per este már occidental". Regarding Rodrigo de Lucena, it must be noted that his brother Afonso de Lucena was the personal physician of Isabel of Portugal, the Duchess of Burgundy; both were brothers of Vasco Fernandes de Lucena, an important humanist in the court of King João II. See Ferreira, 2015, 26-27. About Master José, see Canas, 2016. With respect to Columbus's project, see Randles,

according to João de Barros, established a method of "nauegar per altura do sól", that is, a method of determining latitudes by the sun, using the astrolabe and also "tauoádas pera declinaçam" or declination tables (Barros, 1932, p. 127 (4-2).

These complex measurements involved a journey to the equatorial regions, but its exact date is not clear in the contemporary sources. However, an annotation consigned in one of the books later acquired by Christopher Columbus – the *Historia rerum ubique gestarum*, by Aeneas Silvio Piccolomini, in the Venice edition of 1477 – states that "The King of Portugal sent to Guinea, in the year of the Lord of 1485, Master José, his physician and astrologer, to recognize the elevation of the sun in all of Guinea"16. Thus, most likely, Martin Behaim would have travelled in 1485-1486, with the two physicians, on a ship commanded by João Afonso de Aveiro, who was the first Portuguese navigator to contact the kingdom of Benin, in the Gulf of Guinea<sup>17</sup>. In his Vida e feitos d'el-Rey Dom João segundo (Life and deeds of King John II), a work published years later, in Evora in 1545, the Portuguese chronicler Garcia de Resende, who at the time of this voyage lived in the court of King João II, says that João Afonso died in Benin, but then "the first pepper seen in Guinea was brought to Portugal" 18. This was a type of pepper different from malagueta pepper, which the Portuguese had known for years, and it was later called *pimenta-de-rabo* (*Piper* guineense), soon becoming one of the main commodities of Portuguese trade in these parts of Africa. A few years later, the captions of the Behaim Globe (which will be discussed later) refer that Martin Behaim himself participated in the expedition of two Portuguese caravels to the Gulf of Guinea, "where the pepper discovered by the King of Portugal grows, 1485"19.

The second project to which the name of Behaim is associated is the voyage of discovery of the island of the Seven Cities<sup>20</sup>. In the year 1486, King João II granted authorization to Fernão Dulmo and João Afonso do Estreito to make a voyage of discovery of unknown islands or lands in the Atlantic, in the unexplored regions to the west of the Azores archipelago. Fernão Dulmo (or Ferdinand van Olmen) was a Flemish who held the captaincy on the island of Terceira, in the Azores, and João Afonso was one of the captains of the island of

<sup>1990.</sup> 

<sup>&</sup>lt;sup>16</sup> Columbus, 1992, p. 91: "(Rex) Portugalie misit in Guinea anno Domini 1485 magister Ihosepius, fixicus eius et astrologus, (ad comperien) dum altitudinem solis in totta Guinea".

<sup>&</sup>lt;sup>17</sup> For a biography of this navigator, see Christo, 1960.

Resende, 1994, p. 252: "veo a Portugal a primeira pimenta que se vio de Guine".

Ravenstein, 1908, p. 100: "do der pfeffer wechst den der konik in Portugal gefunden hat año 1485".

<sup>&</sup>lt;sup>20</sup> On the subject of this mythical island, see Buker, 1992.

Madeira. They were both supposed to sail at their own expense, without any financing from the Portuguese crown. The document mentions "a great island or islands or continental land, which is presumed to be the Island of the Seven Cities", which is granted to its potential discoverers. But, curiously, King João II refers to a certain "German knight, who will sail in their company, and the said German can choose the caravel in which he will sail"<sup>21</sup>. That is, there is a German knight – who can only be Martin Behaim – who is about to depart with Fernão Dulmo and João Afonso, freely choosing the ship in which he wants to travel. As much as our sources testify, the voyage of Dulmo, Afonso and Behaim never took place, for unknown reasons. But it is significant that this German gentleman is associated with such a journey of discovery of western lands. Once again, the captions of the Behaim Globe (which will be discussed later) refer to the "island of Antilia, called Seven Cities"<sup>22</sup>.

Finally, the third project in which Behaim could have participated is related to Pêro da Covilhã's journey. King João II, in 1487, while preparing the fleet of Bartolomeu Dias that in the following year would sail beyond the Cape of Good Hope, sent two men, Pêro da Covilhã and Afonso de Paiva, via the Mediterranean routes, in order to recognize the eastern regions that the Portuguese were trying to contact by a direct maritime route<sup>23</sup>. Many years later, in 1520, after the Portuguese settled in India, Father Francisco Álvares travelled to Ethiopia in a Portuguese embassy, and met Pêro da Covilhã, who had lived in that African kingdom for more than thirty years. The Portuguese traveler, before leaving Portugal, had received from King João II a "a sailing chart drawn from the world map", for his guidance, as Álvares writes in his *Verdadera informaçam das terras do Preste Ioam* (True account of the Kingdom of Prester John), a work published in Lisbon in 1540<sup>24</sup>.

This map, according to the version reported by Pêro da Covilhã, had been prepared by "bachelor Calçadilha, who is the Bishop of Viseu, and doctor master Rodrigo (...) and doctor master Moyses, who at this epoch was a Jew"<sup>25</sup>. That is, we find the same experts, master Rodrigo and master José Vizinho, and also a third, D. Diego Ortiz de Villegas, a Castilian who for many years served

<sup>&</sup>lt;sup>21</sup> Ramos-Coelho, 1892, p. 58: "huữa gramde ylha ou ylhas ou terra firma per costa, que se presume seer a ylha das Sete Çidades"; "cavalleiro allemam, que em companhia d elles ha de ir, que elle alemam escolha d ir em qualquer carabella que quiser".

<sup>&</sup>lt;sup>22</sup> Ravenstein, 1908, p. 77: "Jusula antilia genat Septe ritade [sic]". Regarding this hypothetical voyage, see Verlinden, 1964 and also Garcia, 2012.

<sup>&</sup>lt;sup>23</sup> It is still worth checking the classical study by Ficalho, 1988.

<sup>&</sup>lt;sup>24</sup> Álvares, 1974, p. 279: "carta de marcar [sic] tirada de Mapamundo".

<sup>&</sup>lt;sup>25</sup> *Ibidem*: "ho liceçiado Calçadilha que he bispo de Viseu, e ho doutor mestre Rodrigo (...) e ho doutor mestre Moyses a este tepo iudeu".

the Portuguese crown<sup>26</sup>. Now, years later, Francisco López de Gómara will refer to this episode in his *Historia general de las Indias* (General history of the Indies), originally printed in Zaragoza in 1552. The Spanish chronicler also mentions the "chart where" Pêro da Covilhã and his partner "got their bearings", that "was copied by the bachelor Calzadilla, Bishop of Viseu, doctor Rodrigo, master Moisén". But he adds one more detail: that the three experts who worked for King João II had taken this partial chart from a "map that should be from Martin of Bohemia"<sup>27</sup>.

Behaim's three participations in geographical exploration activities developed by the Portuguese are hypothetical, and evidently, they need further documentary confirmation, which has not been possible until today to obtain. But it is significant that his name is mentioned in these contexts. There is, however, in this same period, another connection of the Nuremberg merchant with Portuguese enterprises of maritime discovery. Before 1490, Behaim met Diogo Gomes, a man who was at that time *almoxarife* (or treasurer) of Sintra, in the outskirts of Lisbon, and who in his younger years had made several maritime journeys of exploration and commerce in the western coast of Africa and in the Atlantic archipelagos<sup>28</sup>. By 1488, the old Portuguese navigator, apparently at the request of Martin Behaim, wrote in Latin a detailed account of his voyages of discovery, with the title *De prima inventione Guinee* (The first discovery of Guinea)<sup>29</sup>. The only copy of this account is preserved in a long manuscript known as the *Codex Valentim Fernandes*, now deposited in a library in Germany (Costa, 1997, pp. 277-309).

Valentim Fernandes was a printer originally from Moravia, who settled in Portugal at the end of the fifteenth century, where he developed important typographic activities, working closely with the Portuguese royal house. Besides his printing enterprises, Fernandes was interested in the geographical exploration movement accomplished by Portuguese navigators<sup>30</sup>. In Portugal, the Moravian collected a set of travel accounts and geographical descriptions of various authors, which he gathered in a codex written in his own hand, and which he eventually sent to Conrad Peutinger, an Augsburg humanist<sup>31</sup>. The

<sup>&</sup>lt;sup>26</sup> Regarding this man, see Cristóvão, 1998.

López de Gómara, 1965-1966, I, 188: "tabla por donde se rigiesen"; "que sacaron el licenciado Calzadilla, obispo de Viseo, el doctor Rodrigo, el maestre Moisén"; "de un mapa que debia ser de Martín de Bohemia".

<sup>&</sup>lt;sup>28</sup> See a biography of Gomes in Oliveira, 2002.

<sup>&</sup>lt;sup>29</sup> I use the edition by Daniel López-Cañete Quiles, Sintra, 1991.

<sup>&</sup>lt;sup>30</sup> About this printer's activities, see Anselmo, 1981, pp. 146-198; about his collector's activities, see Jüsten, 2007.

<sup>&</sup>lt;sup>31</sup> Regarding Peutinger, see Pohle, 2017.

text of Diogo Gomes, recounting his journeys to the coast of Guinea and the islands of Cape Verde in the decades from 1440 to 1460, begins with a reference to Martin Behaim: "discovery that Diogo Gomes, treasurer of the royal palace of Sintra, recounted to Martin of Bohemia, an illustrious German knight"<sup>32</sup>. For years it was speculated that Behaim could be the author of this account, but it is now established that Diogo Gomes wrote the text in Latin, which he probably by 1488 yielded to Martin Behaim, who, in turn, communicated it later to Valentim Fernandes<sup>33</sup>.

In the first months of 1490 Martin Behaim travelled from Portugal to Nuremberg, for reasons related to family heritage, and for three years he remained in that German city. Apparently, he came from Portugal with a reputation of a travelled man, an experienced navigator and an eminent cosmographer: he had established his residence in the remote island of Faial, in the middle of the Atlantic; he had travelled repeatedly on board Portuguese ships, heading to the Atlantic islands and to the coast of Guinea; and he had participated in projects of a scientific nature, following a direct invitation by King João II, who had distinguished him with the title of knight. In the German city, in this period, we find traces of his participation in various projects of geographical and cartographic nature.

Behaim was the intermediary in the acquisition by the municipality of Nuremberg of a map of the world. A document of 1494 refers to the payment to "her Merten Beham" (that is, Mr. Martin Behaim) of a considerable sum for "a printed world map, representing the entire world, (...) which will be hung at the chancellery"<sup>34</sup>. It is unknown what kind of map it was – and besides, being of a "printed" nature –, but it seems clear that Martin Behaim was not the cartographer responsible for the production of this enigmatic planisphere. Before 1490 there are no indications that the German could have obtained the technical skills necessary to draw a world map – except for the reference to the Pêro da Covilhã map. It is more likely that he would have acquired the planisphere, possibly in Portugal, in the nautical and geographical circles of Lisbon. Meanwhile, the same document refers to the fact that this world map was used as a model in the construction of a globe that is still preserved in Nuremberg today and that is precisely known as the *Behaim Globe* (Ravenstein,

Sintra, 1991, p. 3: "quam inuentionem retulit Dioguo Gomez, almoxeriff palatti Sinterii, Martino de Bohemia, incliti militi Alemano".

<sup>&</sup>lt;sup>33</sup> Besides Sintra, 1991, see also Sintra, 2002, where Aires A. Nascimento confirms that the account was written in Latin by a Portuguese.

Ravenstein, 1908, p. 112: "her Marten Beham umb ein gedrukte mapa mundy, da die gantse welt ina wegriffen Ist (...) in die kantzley gehenkt wirtt".

1908, p. 112). Which means that the world map of Nuremberg could be of a type similar to the planispheres that in those years were being designed in Florence by Henricus Martellus, also from Nuremberg<sup>35</sup>. Could there be a personal connection between Behaim and Martellus, contemporaries, originating from the same German city, and both interested in cartographic subjects? It is a possibility that would explain the origin of the world map acquired for the municipality of Nuremberg through Martin Behaim.

By contrast, it is certain that Martin Behaim worked on the team that built the famous Nuremberg globe between 1490 and 1492<sup>36</sup>. The project of the globe was a municipal initiative, under the coordination of Georg Holzschuer, one of the city councillors, and had the collaboration of several technicians and artists. The globe has a diameter of 50 cm, is mounted on a pedestal, and is drawn in a wide variety of colours. From the cartographic point of view, it presents a compromise between the Ptolemaic representation of the world and the new information stemming from the Portuguese voyages of discovery on the coast of Africa. More than 1000 place-names appear on the globe, complemented by 48 flags, 15 coats of arms and 48 miniatures of kings and rulers. Martin Behaim, in addition to obtaining the printed world map used as a model, will have been primarily responsible for the information recorded in the extensive captions of the globe, handwritten in German, which included autobiographical references.

It is possible that one of the objectives of the construction of the globe was to visually demonstrate the possibility of a direct maritime route between the western coast of the Iberian Peninsula and the East Indies, that is, of the viability of navigation to Asia by a western route. In face of the advancement of the Portuguese voyages of discovery along the west coast of Africa, which operated in a monopolistic regime, this project had been circulating in some Iberian maritime circles. Christopher Columbus had been one of its proponents and was then in Spain preparing his expedition to the easternmost islands of Asia, following a western route. The globe, thus, could be seen as a product of the cosmographic speculations of the German humanists, mixed with the Iberian experience of Martin Behaim and with the interests of the Nuremberg merchants to intervene in the overseas trade more actively<sup>37</sup>.

One of the captions of the globe refers to some of the sources of information used by Behaim and his collaborators: the ancient cosmographic work of Ptolemy, rediscovered by European humanists in the fifteenth century, and

<sup>&</sup>lt;sup>35</sup> See Winter, 1961 and Davies, 1977. About Martelus, see Van Duzer, 2019, pp. 2-42.

<sup>&</sup>lt;sup>36</sup> Regarding the globe, see Ravenstein, 1908, pp. 57-105; and also López-Cañete Quiles, 1995.

<sup>&</sup>lt;sup>37</sup> See Pohle, 2017. On the German interest about the Iberian voyages of exploration, see Johnson, 2008.

repeatedly published in Germany and other European regions; the medieval travel books by Marco Polo, which had a first edition in Latin precisely in Nuremberg in 1477, and by John of Mandeville, whose first illustrated edition was published in Augsburg in 1481; and the explorations ordered by "don Johann von Portugal", that is, textual or cartographic testimonies of the Portuguese voyages of exploration along the African coast<sup>38</sup>. But it is possible to identify in the captions of the globe many other texts deriving from ancient and medieval literary sources, such as the works of Herodotus, Strabo, Pliny, Pomponius Mela, Isidore of Seville and others, and also detect the use of cartographic sources, such as the already mentioned maps of Henricus Martelus<sup>39</sup>.

Two captions of the Behaim globe are particularly interesting from an autobiographical point of view. In the first, the Nuremberger declares that in 1484 he participated in a journey ordered by King João II of Portugal to the coast of Guinea, and more specifically to the "konik furfursland" (that is, 'to the country of King Furfur'), where there "grows portogals pfeffer" (that is, 'pepper of Portugal')40. This would be the aforementioned trip of João Afonso de Aveiro to the kingdom of Benin, in which it is not impossible that Behaim participated. In the second caption, Martin Behaim mentions the history of the colonization of the Azores and alludes to "hern jobsst võ hürtter" (that is, 'Mr. Josse van Hurtere')41, noting that the captain of the Faial and Pico islands was his fatherin-law. It should be noted here that the textual and cartographic information transmitted by the globe about the regions that were being explored by the Lusitanian crown - the coast of Africa and the Atlantic Ocean - are not absolutely rigorous, denoting that Martin Behaim would not be in possession of the most updated information available in Portugal. Interestingly, in the same year in which the Behaim team completed the construction of the Nuremberg globe, Christopher Columbus sailed from Palos de la Frontera to begin his journey of discovery of a western route to the Indies, which was about to revolutionize the European conception of the world, and also its cartographic representation. The image of the world transmitted by the Behaim Globe, one year after its conclusion became definitely anachronistic (Brotton, 1997, pp. 46-

During the period of residence of Martin Behaim in Nuremberg, and perhaps with links to the construction of the globe, another project of globalizing

<sup>&</sup>lt;sup>38</sup> Ravenstein, 1908, p. 62.

<sup>&</sup>lt;sup>39</sup> About the sources of the globe, see *Ibi*, pp. 62-71.

<sup>40</sup> Ibi, p. 72.

<sup>&</sup>lt;sup>41</sup> *Ibi*, p. 76.

geographical scope was underway. Hartmann Schedel, one of the most eminent humanists of the German city, coordinated the edition of the *Liber chronicarum cum figuris e imaginibus ab initio mundi*, a monumental chronicle of the world, widely illustrated, which was printed in Nuremberg in 1493, first in a Latin version and then later in a German version<sup>42</sup>. One of the most active collaborators of the project, who prepared several texts for the chronicle, was Hieronymus Münzer, another German humanist who then lived in the city. Martin Behaim, who could have met both of them before, was recruited for the project, and provided information for the section on Portugal, which is not exactly the same in the Latin and German versions. An interesting detail, the two humanists, Schedel and Münzer, possessed important libraries, which could have been used by Behaim in the preparation of the texts for the Nuremberg globe (Goldschmidt, 1938).

The section on Portugal of the *Liber Chronicarum* (Schedel, 2001, ff. cclxxxv-cclxxxv<sup>v</sup>) includes information about an alleged journey that Behaim made to the southernmost coast of Africa. According to this chronicle, the Portuguese King João II, in 1483, would have ordered the preparation of two ships for a voyage beyond the Pillars of Hercules, towards the regions of Ethiopia (that is, Africa). The captains of these two vessels were "Jacobum canum einen Portugalier und Martin Beheym einen teutschen von Nurmberg", that is, the Portuguese Diogo Cão and the Nuremberger Martin Behaim(Schedel, 2001, f. cclxxxv<sup>v</sup>). Obviously, Behaim himself was the source of this information, which is not confirmed by the Portuguese contemporary documentation. The *Liber Chronicarum* further added that Behaim was a very knowledgeable man on the geography of the world (perhaps an indirect allusion to the Nuremberg globe) and much experienced in maritime navigation. We can thus verify that everything concerning the demonstration of the maritime experience and the geographical knowledge of Martin Behaim remains problematic.

In 1493 the Nuremberger returned to Portugal, and possibly was the bearer of a letter from doctor Hieronymus Münzer for King João II, dated from Nuremberg in July of that same year. A Portuguese translation of the letter, made by the Dominican Álvaro da Torre, preacher of the Lusitanian monarch, is preserved, and curiously enough was published in Lisbon, in a nautical guide entitled *Regimento do estrolabio e do quadrante* (The rules of the astrolabe and the quadrant). This work has no publication date, but it was probably printed around 1515<sup>43</sup>. Münzer's letter, apparently, had been written at the request of

<sup>&</sup>lt;sup>42</sup> See Schedel, 2001 (with a facsimile of the German version). About the chronicle, see Wilson - Wilson, 1976.

<sup>&</sup>lt;sup>43</sup> See Albuquerque, 1991, pp. 185-187, which includes a facsimile of the very rare first edition.

Emperor Maximilian, who was trying to encourage the Portuguese king "to search for the very rich land of Catay", that is to say, to organize a maritime expedition that tried to reach Asia by a western route, departing from the islands of the Azores. Various scholarly arguments were used to verify the viability of the project; as Münzer wrote, many authors declared "the begging of the inhabited east to be very close to the ends of the inhabited west"<sup>44</sup>.

Obviously, this project was similar to the one that Christopher Columbus had tried to achieve with his first Atlantic voyage. Which implies an immediate question: In Nuremberg, the news of the arrival of the Genoese navigator to Lisbon and then to Seville in March 1493 were surely known. Columbus's letter about his discovery had been published in Barcelona in May of the same year (Columbus, 1956). How to explain, then, the proposal of Emperor Maximilian to King João II, to repeat the same project that Columbus had apparently concluded with success? Probably, as has already been suggested, Martin Behaim, the instigator of the project, "thought that the islands that the Admiral of the Ocean Sea had reached did not really belong to India", which thus were "still to be discovered" (Gil, 2007, p. 81).

Or then, another possible alternative, Behaim would have had news about the debates that took place at the court of King João II, right after the visit of Columbus to Portugal, about the opportunity of sending an expedition to the western parts of the Atlantic, precisely from Madeira or the Azores<sup>45</sup>. There was also talk about Francisco de Almeida, an important Portuguese nobleman, commanding this exploratory journey, in order to determine rigorously the nature of the lands allegedly discovered by Columbus<sup>46</sup>. At this juncture, Münzer's letter seems extremely timely, for he also recommended to the Lusitanian monarch "Martin of Bohemia to see this project through", that is, Martin Behaim was proposed by the Emperor Maximilian as the most capable man to command an expedition to the eastern parts of Asia by a western route (Albuquerque, 1991, n.p.n.).

Nothing is known specifically about the development of this Portuguese Atlantic exploration project. But information recorded in two letters from the Spanish Catholic Monarchs of May and June 1493 mentions certain ships sent by the king of Portugal from the island of Madeira, "to discover islands or land to other parts where the Portuguese have not been before"<sup>47</sup>. Furthermore,

<sup>&</sup>lt;sup>44</sup> Albuquerque, 1991, n.p.n.: "ho principio do Oriente habitauel ser achegado asaz ao fim do Occidete abitauel".

<sup>&</sup>lt;sup>45</sup> About Columbus's visit to Lisbon, see Loureiro, 2018b.

<sup>&</sup>lt;sup>46</sup> Regarding this expedition, see Cortesão, 1973.

<sup>&</sup>lt;sup>47</sup> Fernández de Navarrete, 1825, p. 109: "a descobrir islas ó tierra á otras partes que non han

many years later, at the end of the sixteenth century, doctor Gaspar Frutuoso, author of an extensive manuscript chronicle of the Atlantic archipelagos, mentions a voyage of maritime exploration to the western Atlantic that would have been inspired by Martin Behaim. In the sixth book of the *Saudades da Terra*, in a passage that relied on oral information collected in the Azores, the Portuguese chronicler wrote that "with information and instructions that the King had from him, he sent certain men (so they say) to discover the Antilia, giving them the rules to find the proper route". That is, Behaim had transmitted concrete instructions to King João II for the organization of an expedition to search for the islands recently discovered by Christopher Columbus. Gaspar Frutuoso concluded by writing that the Portuguese navigators, "tired from such a long journey, sailed back to the kingdom", without finding the land they were looking for<sup>48</sup>.

Martin Behaim, after returning from Nuremberg to Portugal, traveled immediately at the end of 1493 to Flanders and England, for somewhat enigmatic reasons, but probably related to his father-in-law's sugar businesses (Ravenstein, 1908, pp. 43-46). In April of the following year he was again in Portugal, and thereafter his trail fades, until his death in Lisbon in 1507. So, for more than a decade nothing is known about the enterprising Behaim, who disappears completely from the known sources. One possible explanation is that because of his apparently close ties with King João II he became a *persona non-grata* in the court of the new king, Manuel I, who ascended the throne in 1495<sup>49</sup>. Once again, there is no documentary evidence to prove such a hypothesis. Probably, Behaim lived in the island of Faial, in the Azores, after mid-1494, maintaining a discreet profile (Pohle, 2007, pp. 33-40).

Meanwhile, at the end of 1494, Hieronymus Münzer himself visited Portugal. The German humanist wrote a detailed account of his Iberian journey, which is preserved in a manuscript copy in the hand of Hartmann Schedel<sup>50</sup>. Münzer, who was on a long European tour, met King João II in Évora, but nothing transpires in his *Itinerarium siue peregrinatio* about the Atlantic exploration project. A few months earlier, in June 1494, a treaty that delimited the respective areas of influence of Portugal and Spain in the Atlantic had been

ido los portugueses fasta aquí".

<sup>&</sup>lt;sup>48</sup> Frutuoso, 1976, p. 274: "com informações e instrução que el-rei dele tinha, mandou certos homens (segundo dizem) descobrir as Antilhas, dando regimento por onde ele os encaminhava"; "enfadando-se da viagem, fizeram volta caminho do reino".

<sup>&</sup>lt;sup>49</sup> King Manuel I of Portugal ruled from 1495 to 1521.

<sup>&</sup>lt;sup>50</sup> For a recent and complete English translation, see Münzer, 2014.

signed at Tordesillas<sup>51</sup>. For the Portuguese crown, the project of navigating to Asia by a western route had already lost all of its importance. And Münzer, who visited Seville a few days earlier, had collected unpublished information about the discoveries of Columbus, also writing a *Treaty on the discovery of the Indies*, which has not yet been located<sup>52</sup>.

Curiously enough, the Lusitanian monarch, in Évora, "publicly knighted Lord Anthony Herwart, (...) from Augsburg", one of Münzer's fellow travelers, a member of an important merchant family<sup>53</sup>. King João II had done the same thing years ago with Martin Behaim, in pursuit of the same strategy of seduction of Germanic merchant groups. Continuing is journey, Münzer visited Lisbon, where he stayed "in the lodgings of Lord Martin Behaim's father-in-law, Lord Iodocus of Hurder" (Münzer, 2014, p. 93). Interesting detail, Valentim Fernandes was in Lisbon the interpreter of the German humanist (Costa, 1997, p. 174). In the Castle of São Jorge, Münzer was able to observe "a map of the world on a large and well-designed gilt table", as he writes in his travel account (Münzer, 2014, p. 89). Was there any relation with the world map that Martin Behaim used for the construction of his globe? It is impossible to say, because Münzer makes no more allusions in his manuscript itinerary to Behaim, who at that time was probably in Portugal, perhaps in the Azores.

Could there be a relationship here with the map of Behaim that Antonio Pigafetta, the chronicler of the first circumnavigation, will mention a few decades later? At the end of 1520, when the expedition led by Fernão de Magalhães (or Magellan) was searching, in the southernmost shores of the New World, for a passage to the Spice islands, Pigafetta makes an enigmatic reference in his travel account, which was published for the first time in Paris around 1535. The Italian mentions that Magellan had seen a representation of the much sought-after strait "in a sailing chart belonging to the king of Portugal, which chart had been drawn by a great pilot and mariner named Martin of Bohemia"<sup>54</sup>. Pigafetta was traveling on Magellan's ship, and certainly correctly reproduced the words of his captain. Which means that the Portuguese navigator probably thought he had consulted a world map attributed to Martin Behaim, which would exist in a building in Lisbon, perhaps in the Castle of São Jorge. Obviously, this map could be a later

<sup>&</sup>lt;sup>51</sup> On the treaty of Tordesillas, see Coben, 2015.

<sup>&</sup>lt;sup>52</sup> Münzer, 2014, p. 163. Also see Calero, 1996.

<sup>&</sup>lt;sup>53</sup> Münzer, 2014, p. 86. Regarding the Herwart family, see Pohle, 2017.

I translate from the French version published by Castro - Hamon - Thomaz, 2007, p. 106: "sur une carte marine du roi de Portugal, laquelle carte un grand pilote et marinier nommé Martin de Bohême avait faite".

development of the planisphere that in 1492 had been used to produce the Nuremberg globe, and of the world map that Hieronymus Münzer had been able to see during his visit to Lisbon, successively updated in the sequence of the great Iberian maritime expeditions (Hennig, 1948).

#### 1. Conclusions

Martin Behaim, as we could see, is still an enigmatic figure, difficult to frame within the known documentary sources, but always in the background of important events. There is no doubt that he was intimately related to the Portuguese maritime circles that in the late fifteenth century were actively involved in the search for a sea route to the Indies. He repeatedly sailed on Portuguese ships across the Atlantic, in business ventures and geographic explorations. He acquired without a doubt capability as a cartographer, which he applied in the production of globes and world maps. And at a certain moment in his career, he defended the possibility of navigating to Asia through a western route. Curiously, after his disappearance, a Behaim legend developed within Iberian intellectual circles, as we saw in the quoted works of Antonio Pigafetta, Francisco López de Gómara and João de Barros. Martin Behaim gained a reputation as a mathematician, cosmographer, cartographer, and above all his world map was repeatedly mentioned, several of its avatars appearing in sixteenth century chronicles, particularly in the context of the discovery of the Strait of Magellan. This is the case of the *Historia de las Indias* by Bartolomé de Las Casas (1875-1876, IV, p. 377) and the Historia general by Gonzalo Fernández de Oviedo (1992, II, p. 229), for instance. At the end of the sixteenth century, the Portuguese chronicler Gaspar Frutuoso, in his already mentioned Saudades da Terra, briefly summed up this surprisingly positive image of the Nuremberger, alluding in his account of the island of Faial, in the Azores, to "a foreigner, German, whom they said was a great nobleman, astrologer and mathematician, and some even said that he was a necromancer, called Martin of Bohemia"55.

<sup>&</sup>lt;sup>55</sup> Frutuoso, 1976, p. 273: "um estrangeiro, alemão, que diziam ser grande fidalgo, astrólogo e matemático, e dizem alguns que era nigromântico, chamado Martim de Boémia".

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#### 3. Curriculum vitae

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