

## 9 Amerigo Vespucci in Lisbon (1500-1501)

**Summary** 9.1 The Supply Ship Reaches Lisbon. – 9.2 King Manuel Invites Amerigo Vespucci to Lisbon Twice. – 9.3 Amerigo Ends the Long Letter to Lorenzo Di Pierfrancesco. – 9.4 Vespucci's Long Stay in Lisbon, Careful Preparations for the Astronomical Observations.

### 9.1 The Supply Ship Reaches Lisbon

Little is known of the return voyage of the old and dilapidated *naveta* loaded with brazilwood and destined for demolition, but navigation is subject to precise rules and therefore it is not difficult to reconstruct the vicissitudes it had to face. André Gonçalves sailed in view of the coast of the New World, yet keeping as far out to sea as possible in order to avoid reefs and shallows. Having reached Cape of Saint Augustine – the eastern point of the New World – in about fifteen days, captain Gonçalves had to decide which course to set: sailing towards the north-west to reach the Antilles and then crossing the ocean in safety following an already tested route, or undertaking the crossing using a shorter route never before taken in that direction. He chose to face the dangerous equatorial waters and reach the Portuguese-inhabited Cape Verde Islands, and so avoid the Spanish-controlled waters.

The crossing was problem free and very fast. On May 18, they passed a deserted island already sighted by Cabral's flagship, which at that time had been named Quaresima,<sup>1</sup> but Gonçalves did not know this. The island was covered by great forests and surrounded by menacing rocks. The captain chose to take note of its position, named it after Saint John (the saint of the day, Pope John I) and continued sailing fast towards the Cape Verde Islands. From there, in twelve days – just over what it had taken during the outward voyage – Gonçalves reached Lisbon in mid-June.

King Manuel was immediately told about the first part of Cabral's voyage, he read the letters sent to him from Porto Seguro, and was pleased about

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**1** The island appears on the Cantino Planisphere with the name given it by Cabral, Quaresima, during Lent (Quaresima) of 1500. Today it is called Fernando de Noronha and belongs to Brazil, and it is occupied by a village and a small airport. It also appears on Juan de La Cosa's map.



**Figure 9.1** The island of many names: Quaresima, São João, Fernando de Noronha. This may have been the bay in which Vespucci found refuge. © Wikimedia Commons

the brazilwood: its quality was as good as that from Asia and cost nothing, except the transport which was much shorter. As for the vast Land of Vera Cruz, which Cabral had taken possession of in name of the Portuguese Crown, there was a substantial problem: in order to claim legitimate possession, it was indispensable to prove that it was situated within the limits established by the Treaty of Tordesillas. This was necessary and urgent, as it was known that Spanish ships had already reached unknown lands in that area and Spanish expeditions were underway to return there. There was also recent news that a number of caravels had returned from those places and the captain of one of them, Amerigo Vespucci, had measured its longitude.

There were only a few expert sailors in King Manuel's small kingdom. Many of them were sailing in the East with Cabral; others were engaged in the traditional commerce of hides, cloth and other goods with northern Europe, or fishing along the African coasts to then sell the catch to people in the Mediterranean. Furthermore, as soon as Cabral returned, the King intended to send a third fleet towards the east under the command of Vasco da Gama with whom he had reconciled (see § 5.1). He wanted to establish a continuous flow of luxury goods from the Asian markets.

The King decided that it would be opportune to prepare a small fleet and to take on an expert pilot - Vespucci to be precise - to carry out the most urgent work, at little cost and in the utmost secrecy. The *política do sigilo* - the *policy of secrecy* - had never betrayed him or his predecessors. Perhaps this is why we have no details of who the captains were on this expedition: most historians believe, rightly, that the captain general was André Gonçalves, who knew the route back to Porto Seguro very well.

## 9.2 King Manuel Invites Amerigo Vespucci to Lisbon Twice

On their return to Andalusia, Vespucci and de La Cosa informed Queen Isabella and King Ferdinand of the unknown lands they had visited. They gave the Queen the few treasures they had found: large crystals of amethyst and beryl as well as “an oyster in which there were 130 pearls and others which had less, the Queen took the one with 130 pearls and I found a way not to let her see the others”,<sup>2</sup> as Vespucci wrote in his “Lettera a Soderini”. However, in the Latin translation this passage is omitted, while in the “Prima lettera familiare” he wrote: “we took out 14 pearls grown in the oyster’s flesh that greatly pleased the Queen”.

Following this important visit, Amerigo took up residence in a beautiful house in Seville, made available to him by Bishop Fonseca by order of King Ferdinand of Aragon. The navigator was recovering from the fatigue of the voyage and malarial fever: two days of fever and one without, the rhythm of the ‘double quartan’ form. The terrible cold pervading the body and the violent trembling accompanying the rising fever, even during the hottest summer days, had disappeared, but he was still unwell.

In the meantime, a messenger arrived with an astonishing request: “come to Lisbon because the King of Portugal has an assignment he wishes to entrust to you and for which you will be well-paid”.<sup>3</sup> Amerigo, who was unaware of André Gonçalves’ return, and did not imagine that news of his own recent expedition had reached Lisbon, was amazed by this request. After seeking advice, perhaps from his wife, he replied with these words: “I am in ill health. When I am well, if Your Highness still wishes to make use of me I will do what is commanded”. In those days, he also received a letter from Lorenzo di Pierfrancesco asking for news, to which he began to reply with difficulty.

Amerigo had not yet forgotten King Manuel’s invitation, or finished the letter to Lorenzo, when a friend from Florence came to visit him in Lisbon. This was Giuliano di Bartolomeo of the del Giocondo family,<sup>4</sup> wealthy silk producers and traders who had been in contact with Lorenzo di Pierfrancesco, who also raised silk worms on his estates. After talking about common acquaintances and discussing the situation in Andalusia and Portugal, Giuliano del Giocondo explained the reason for his visit: King Manuel needed an expert to calculate the longitude of the lands discovered by Cabral in order to decide whether, according to the Treaty of Torsedillas, they belonged to Portugal or not. The King assured that three caravels were ready to sail, and that his astronomer, Abraham Zacuto, a Sephardic Jew, would provide assistance in defining a method for establishing longitude. Moreover, the astronomer had a collection of useful instruments for this purpose. Lastly, Giuliano del Giocondo added that Amerigo would be well-paid for this work.<sup>5</sup>

<sup>2</sup> Formisano, *Lettere di viaggio*, 57, ll. 27-30. This subterfuge is only mentioned in the edition of the “Lettera a Soderini” printed in Florence (1505?). Was it perhaps an attempt at tax dodging?

<sup>3</sup> “Lettera a Soderini”. *Codice Vaglianti*, folio 115ra.

<sup>4</sup> On this family, see Pallanti, *La vera identità della Gioconda*.

<sup>5</sup> In the “Lettera a Soderini”. *Codice Vaglianti*, folio 115ra, the text reads: “venne el detto Giuliano a Sivilia, per la venuta e prieghi del quale fui forzato a venire”. The arguments put forward by Giuliano del Giocondo are inductive reconstructions based on what subsequently occurred; according to J. Gil, cited by Varela, *Colombo e i fiorentini*, Vespucci’s decision to go to Lisbon



**Figure 9.2** This image shows the Indios of Porto Seguro helping to cut and load brazilwood. From a map by Lopo Homem, *Terra Brasilia*, included in the Miller Atlas (1519). Note the native using an iron tool given to him by the sailors. The dot marked on the coast indicates Porto Seguro, the triangle indicates Mount Pascoal, in the shadow of which Cabral's fleet anchored. The flags with five circles, belonging to the Portuguese navy, indicate the boundaries (very liberally calculated) of Portugal's large colony. Provenance: Bibliothèque nationale de France

Vespucci, who during his period of convalescence had thought many times about the Southern Sky, resplendent with thus-far unknown stars, said that the commission interested him and that he would go to Lisbon. Giuliano del Giocondo hastened to take him back to the Portuguese capital. It was the beginning of July.

All occurred in a great hurry and Amerigo, who in Lisbon completed his letter of reply to his former employer, regretfully admitted to having left the house where he had spent his convalescence, *insalutato hospite*, without taking proper leave of his host.

### 9.3 Amerigo Ends the Long Letter to Lorenzo Di Pierfrancesco

Following the death of Giannotto Berardi and the definitive collapse of the company, Amerigo was perhaps annoyed by the fact that Lorenzo had made arrangements for the bank in Seville but had not provided for him, leaving him without any prospects in a foreign country. Amerigo's compatriots who travelled back and forth to Seville on business had informed him of the troubles in Florence, where rival factions were constantly clashing. He had heard of Piero de' Medici's banishment from the city in 1494. He also knew that Lorenzo di Pierfrancesco and his brother Giovanni had repudiated the House of Medici and its coat of arms, a shield decorated with five balls, and had taken the new surname Popolano. Amerigo may have known about Lorenzo di Pierfrancesco's journey to Naples in the same year. He had perhaps been told of the vehement preaching of the Dominican friar Savonarola against the Medici's corruption and ambition, which threatened the city's Republican regime. He may have heard how the Medici faction, in agreement with the Vatican, had managed to get the friar hanged and his body burned in a public square in 1498.

Therefore, he understood that Lorenzo had not deliberately abandoned him; he just did not have the time to deal with him, "And now - Amerigo asked himself - what shall I tell him?" He thought about what to do and then considered that no grumbling was expedient and thus decided to make it clear that the King of Spain in person had given him an assignment, which he had completed with both success and profit.

Amerigo had not written a letter for a long time and he began with difficulty: 'Magnificent Lord', then repeating several times 'Your Magnificence'. He also found a quip, which he thought amusing, and in the end told the story of his second voyage that had ended two months previously.

Your Magnificence will understand how on the commission of his Highness the King of Spain I departed with two caravels on May 18, 1499 to go and explore in the west via the Ocean Sea.<sup>6</sup>

So began Amerigo's account. He wrote of crossing the Atlantic in twenty-four days, *departing from the Canary Islands* and arriving in those places, and he spoke of his amazement at the Equator around midday: the sun was vertical, that is in a position creating no shadows. He told of the enormous

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was also influenced by the fact that the Spanish royals had forbidden foreigners from participating in voyages of discovery from 1500 onwards, a very near date.

6 "Prima lettera familiare". *Codice Vaglianti*, folio 41rb.

mass of water pouring into the sea from a vast river (the Amazon), making the seawater drinkable at a great distance from the river mouth, of the mangrove forests along the banks, so dense that it was impossible to land with the boats. He told of an island (Curaçao) populated by men of giant stature and of the brief terrifying encounter with them. However, when he should have continued with the arrival of Alonso de Ojeda and his acts of piracy, he cut the story short and did not mention him.

Lastly, at the end of this “Prima lettera familiare”, there is a passage that is not easy to interpret but from which interesting conclusions can be drawn:

I decided, Magnificent Lorenzo, just as I have recounted by letter what happened to me, to send two figures of the description of the world made by my own hand, and you shall see that they are a flat figure [planisphere] and a globe which I intend to send to you via our Florentine agent Francesco Lotti who is here: I believe they will please you, especially the spherical map, as a short time ago I made one for their Highnesses and they value it a great deal.<sup>7</sup> I wished to bring them myself, but the new plan to return once again to discovery affords me neither the place nor the time. There is no lack of people in that city [Florence] who know the figure of the world who would perhaps correct some things on it, however, whosoever would send me [objections], should await my arrival so that I can defend myself.<sup>8</sup>

In short, after his second voyage, Amerigo told Lorenzo di Pierfrancesco that he had made a map and globe that would please him. He added that if some Florentines wished to criticise or correct his new idea, they should wait for his return to Florence, as he would know, perhaps, how to defend it. To what idea was Vespucci referring? The answer is that he was already persuaded that the recently discovered lands were not part of Asia, but constituted a new continent and that an examination of the globe would provide the proof. It is a great pity that the map and globe have not come down to us; however, it is plausible that the globe he described was the prototype for the one published by the cartographers of Lorraine whom I will discuss in detail later (see Chapter 13).

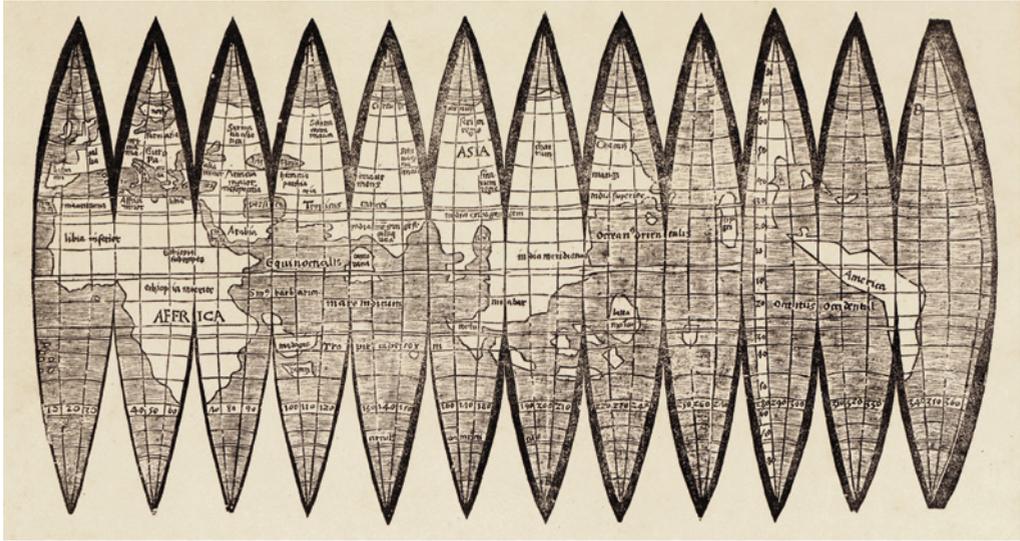
Towards the end of his “Prima lettera familiare”, Amerigo digressed and told how his first voyage ended with the capture of slaves that were then sold in Cadiz, the profits divided equally between the fifty-five surviving crew members. In other words, this was an informal letter written without respecting chronology, but aimed at satisfying Lorenzo’s curiosity and at letting him know that he, Amerigo, had managed to survive using his own resources.

When he reached Lisbon, Amerigo – who had not finished the letter – told Lorenzo about the voyage he was about to undertake, informed him of the return of King Manuel’s First Fleet and also of the recent departure of the Second Fleet. The long letter was completed on July 18, 1500, but he only departed from Lisbon eleven months later.

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<sup>7</sup> The passage is ambiguous as the context is the Kingdom of Portugal, while the Highnesses referred to seem to be the sovereigns of Spain: Isabella, who ruled in Castile and León, and Ferdinand, who ruled in Aragon and Catalonia.

<sup>8</sup> “Prima lettera familiare”. *Codice Vaglianti*, folio 47ra.



**Figure 9.3** Gores of Waldseemüller's globus (1507). Terrestrial globes were rare in the 1400s: the first and only one that has come down to us is that made by Martin Behaim in 1492, with a metal framework and about 50 centimetres in diameter. The next ones of which we have certain knowledge are those made by Vespucci: spheres 15-20 centimetres in diameter covered by paper segments, an expedient then used by Waldseemüller to print an image of the Earth like the one shown here. Note on the right the word 'America'. © Badische Landesbibliothek (Wikimedia Commons)

#### 9.4 Vespucci's Long Stay in Lisbon, Careful Preparations for the Astronomical Observations

In the Portuguese capital, preparation for the voyage was meticulous, especially that regarding the plan to calculate the longitude of those faraway places. Today, all we need to do is press a few keys until the artificial satellites tell us, to within a few metres, the longitude and latitude of our position, but at that time measuring the longitude of newly discovered lands was an epic achievement worthy of a monument.

In addition to a portable sundial, Vespucci had equipped himself with a series of sand hourglasses and water-clocks (clepsydras) for establishing the local time, and he added 'balestilhas' (cross-staffs), instruments that function as goniometers, making it possible to follow the gradual approaching of two stars without too much trouble.

During his training, Vespucci often talked of the Southern Sky, of the opportunity of defining a map of that sky, which he had observed so many times and greatly wished to make known to the people of the Northern Hemisphere. Furthermore, it was decided that Abraham Zacuto himself was to observe the astronomical events relative to the calculation of the longitude in Lisbon. Vespucci was very grateful for this valid collaboration, but he did not provide any details.

At that time, calculating the latitude of a place, both on land and at sea, was relatively easy for whoever was in the Northern Hemisphere. It was enough to measure, in degrees, the height above the horizon of the Pole Star, correcting the result, if necessary, as the star was not on the exact celestial pole but was about three degrees off it. With the astrolabe, which originally was no more than a goniometer with a plumb line and other accessories

attached, the process was simpler and faster. In the Southern Hemisphere, the calculation was more complex, because there is no star situated on the celestial pole or thereabouts. By day, the latitude was estimated by measuring the height of the sun above the horizon at midday, and as this height varies with the changing seasons it was necessary to use purposely compiled tables. At night, instead, it was necessary to identify the southern celestial pole based on the position of several stars, the latitude of the celestial sphere along which they rotate having been calculated beforehand.

To calculate the longitude of a place with respect to a reference meridian is a long and complicated task. According to Amerigo's variation of Ptolemy's method (the only one in use in Europe at the time), it was necessary, as we have already seen (see § 7.7), to measure the exact local time of a conjunction (the point when two planets or a planet and the Moon are closest to each other), both in the unknown place and on the reference meridian. The difference in the times can be transformed into a difference in degrees, taking into account that in twenty-four hours a given point on the Earth's surface rotates, with respect to a fixed star, by 360°.<sup>9</sup>

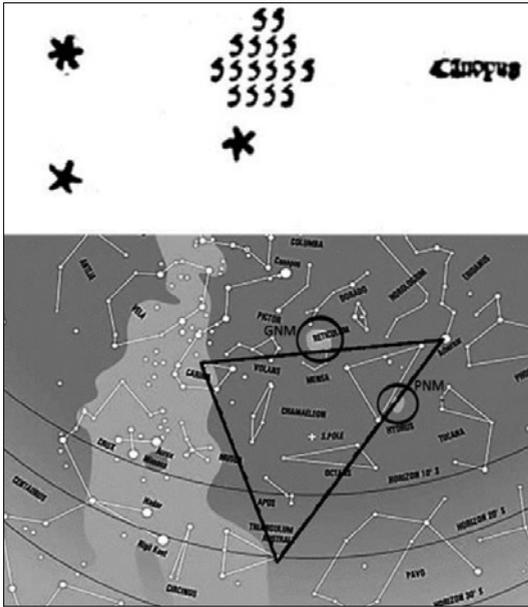
However, the dates and times of the planetary conjunctions had been measured, and even calculated for the future, by Spanish, German and Italian astronomers in order to draw up the horoscopes used to then predict the character, virtues and fortune of princely newborns and even the outcome of illnesses for rich patients. These dates and times, together with the dates of lunations, were collected in special almanachs called *Ephemerides*. They were not always precise, which was not a problem for making horoscopes but could certainly cause problems when measuring longitude. The astronomer Zacuto had calculated many dates for the Portuguese navy and had drawn up an *Almanach of Ephemerides* that was not only valid for several years, like preceding ones, but was 'perpetual'. In other words, with some small additions, it became valid for all occasions given that the astronomical events recur over the course of long or very long periods.

Among the conjunctions that were to occur between 1500 and mid-1501, several were chosen that would be visible during the night both in Lisbon and from the coasts of the New World. In theory, only two measurements would have sufficed, but it was better to plan for a few more in case bad weather prevented the observation of the conjunctions in one place or the other. It was understood that the same observations would also be made in correspondence with the Lisbon meridian (thus following Ptolemy's suggestion) with the aim of eliminating any errors that had crept into the earlier calculation.

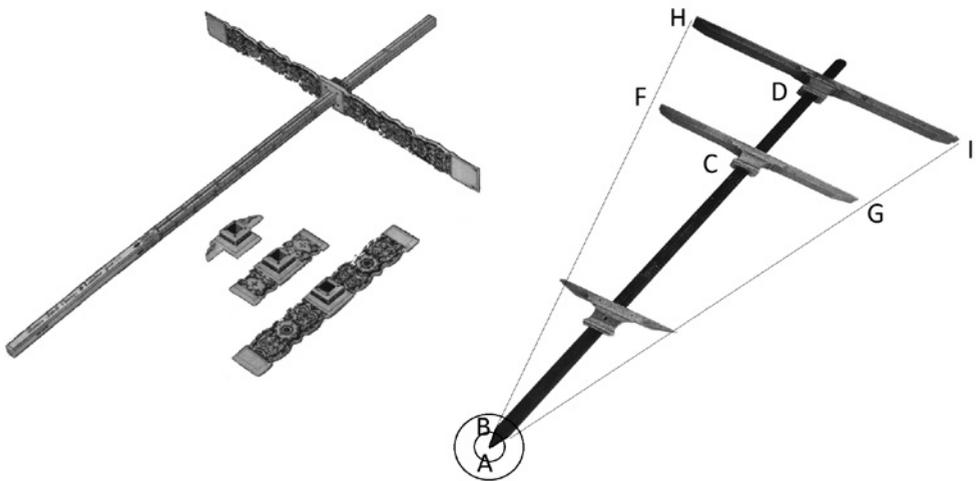
However, Vespucci was able to calculate the longitude on the other side of the ocean based on the more precise ephemerides relating to Lisbon that he carried with him. They would be needed for planning the route home from the New World. The possibility of calculating longitude during the voyage in order to decide on the return route reduced the risks and inspired confidence in the crew.

In Lisbon, Vespucci also practised calculating the orbit of the brightest stars, in other words establishing the latitudes of the celestial sphere along which they seemed to travel. To this end, he practised using astronomical instruments that he did not have access to in Seville.

<sup>9</sup> At the time, it was thought that the celestial sphere turned 360° in a day around the Earth; the result of the calculation remains the same in both cases.



**Figure 9.4** To identify the position of the southern celestial pole, the following expedient can be adopted: look for it among the three largest stars *Achernar*,  $\alpha$  *Trianguli* and  $\beta$  *Carinae*. The constellation described by Vespucci in *Mundus Novus* could correspond to the constellation of *Hydrus* situated inside the large triangle whose hypotenuse touches the Small Magellanic Cloud (PNM in the figure) (from Omodeo, "The Authenticity of Amerigo Vespucci's *Mundus Novus*", 378)



**Figure 9.5** The 'balestilha' or cross-staff was the instrument most commonly used by astronomers before the discovery of the telescope in the early 1600s. It consists of a staff or pole with graduations on three (or four) sides and three (or four) cross-pieces or transoms. The observer looked down from one end of the main staff (B), lining up the end of one transom (H) with a star whose position is known and sliding the transom until its other end (I) coincides with the star whose angular distance is to be measured

Lastly, it was established that a mason should sculpt several markers (*padroes* in Portuguese) in Lisbon stone to be taken on board and then left for future reference in the places of observation: as the Portuguese had done previously along the coasts of Africa. The use of a much greater number of precisely predictable astronomical events, according to Vespucci's advice, gave a substantial impulse to the measuring of longitude, thus improving navigational safety and the production of nautical maps, while the study of planetary events, no longer involving superstition, but with technical and scientific aims, contributed to the rise of modern astronomy.