

Jan Huygen van Linschoten and the *Reys-gheschrift*: updating Iberian Science for the Dutch expansion*

Nuno Vila-Santa

University of Lisbon, Portugal

Abstract

In 1596 Jan Huygen van Linschoten published his *Itinerario*. It contained a section called the *Reys-gheschrift*, which was the first nautical compendium to include sailing routes on the earth's three main oceans. This publication enabled the Dutch and the English to launch successful maritime strategies. In this article I discuss how Iberian Science, mainly its sources, was employed in the *Reys-gheschrift*, as well as the major changes made prior to publication and the reasons why Linschoten introduced them. These topics are connected with a major debate concerning the drive for geographical knowledge, in which I attempt to demonstrate the importance of Iberian Science for the onset of the Dutch maritime expansion and for European seamanship more broadly in the sixteenth and seventeenth centuries.

The onset of long oceanic voyages in the sixteenth century had multiple consequences for the history of Europe. One of these was the emergence of an extensive body of literature on navigational practices, circulating in both manuscript and printed versions.¹ These nautical books were fundamental to the development and maintenance of the oceanic empires of the Portuguese and the Spanish, and later on those of the French, the English and the Dutch. Scholarly attention has lately turned to comparative approaches to the history of maritime empires.² As sailing directions were a key tool of empire building during the sixteenth and seventeenth centuries, they are of critical importance to this history.

In this broader process, Jan Huygen van Linschoten's (1563–1611) *Itinerario* of 1596, and in particular its *Reys-gheschrift* (a compilation of a number of essential contemporary nautical routes),³ played a pivotal role in the nascent Dutch overseas expansion. Linschoten both provided the route followed by the first Dutch fleet sent to Asia and, through his book, directly affected the 1598 Netherlandish race to build fleets for Asia. For these reasons, some scholars contend that the *Reys-gheschrift* is even more important

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¹ J. M. M. Pereira, *Os roteiros e a expansão marítima europeia* (Lisbon, 2017), p. 36.

² *Empires of the Sea: Maritime Networks in World History*, ed. R. Strootman, F. van den Eijnde and R. van Wijk (Leiden, 2020).

³ The literal translation of *Reys-gheschrift* in English would be 'voyage writings', something that is inaccurate as a description of Linschoten's publication. Since the term *Reys-gheschrift* is also used in several Dutch works of the sixteenth and seventeenth centuries, in this article I choose to use the Dutch designation rather than an English translation.

than the better-known remainder of the *Itinerario*.⁴ This is due to the fact that Linschoten brought Spanish and Portuguese rutters, known for their rigour and precision,⁵ to the Dutch Republic. Indeed, the first Dutch expeditions to Asia made a habit of taking the *Itinerario* on board, a practice later adopted by the English and the French. Linschoten's *Reys-gheschrift* was used on the English expedition of Thomas Best (1570?–1638?) to the Indian Ocean in 1611, helping the crew select routes and find places to replenish their water supplies. It was so frequently exploited by the English that the V.O.C. forbade republication in 1619, hoping to stem the flow of strategic information to their rival in Asia.⁶ Nonetheless, the *Reys-gheschrift* continued to be reprinted, separately from the *Itinerario*, for some years. After the first (Dutch) version was released in 1595, other editions of the *Reys-gheschrift* followed in 1604 (Dutch), 1614 (Dutch), 1619 (French), 1623 (Dutch), 1638 (French) and 1644 (Dutch). The continuous republication of Linschoten's *Reys-gheschrift* is thus an eloquent testament to its significance to European seamanship during the seventeenth century. Overall, the *Reys-gheschrift* can be approached as a case of appropriation of Iberian Science (both the nautical rutters and the broader geographical knowledge), with critical consequences for Dutch and English maritime expansion.

The relevance of this nautical knowledge acquisition needs to be stressed, since prior to Linschoten no one seems to have been able to acquire so many Portuguese nautical rutters. Although Petrus Plancius (1552–1622) sent the Houtman brothers on an espionage mission to Lisbon in 1592, the would-be spies failed to procure the desired rutters (instead they purchased maps from Portuguese cartographer Bartolomeu de Lasso).⁷ Such espionage attempts at securing Portuguese cartography and rutters were complicated by the Portuguese crown's early orders to destroy rutters and cartography every time a Portuguese ship was captured by the enemy,⁸ something that did not happen in the Spanish case. The *Reys-gheschrift* is moreover a valuable piece of Portuguese maritime history, since some of the rutters therein survive only in Linschoten's publication. His printing of the main rutters of the Portuguese India Run permitted other maritime powers to update their technical knowledge of the route to India.⁹ Since Linschoten's book was the first published attempt at covering several areas of the Atlantic, Indian and Pacific Oceans, his *Reys-gheschrift* left an indelible mark on later approaches to the printing of nautical rutters. Despite all these facts, no serious study has been dedicated to the content and context of the *Reys-gheschrift*. Where scholarly attention has been paid to this crucial section of the *Itinerario*, the discussion has been dominated by theories regarding Linschoten's means of acquiring the Portuguese and Spanish rutters during his Iberian career between 1580 and 1592.

The main aim of this article is to discuss what was published in the *Reys-gheschrift*, what changes were introduced for its publication and who else, aside from Linschoten, intervened in the writing of it. In the process, I will attempt to show how the global race for geographical knowledge in the 1590s Dutch Republic could lead to the wholesale reshaping of the

⁴ *Itinerario, voyage ofte schipvaart naer Oost ofte Portugaels Indien 1579-1592*, ed. H. Kern and H. Terpstra (The Hague, 1955), pp. 24, 38.

⁵ C. Koeman, 'Jan Huygen Van Linschoten', *Revista da Universidade de Coimbra*, xxxii (1985), 27–47, at p. 34; and C. R. Boxer, 'Portuguese roteiros, 1500–1700', *Mariner's Mirror*, xx (1934), 171–86, at p. 178.

⁶ A. Delmas, 'L'itinerario de J.H. van Linschoten, ou l'histoire d'un divorce entre le livre et la compagnie hollandaise des Indes Orientales (VOC), 1595-1619', *Quaerendo*, xlii (2012), 1–26, at pp. 16, 21.

⁷ C. M. Parr, *Jan van Linschoten: the Dutch Marco Polo* (New York, 1964), p. xvii.

⁸ In 1540 Brás Baião wrote to King John III stating that pilots used to destroy nautical rutters and charts to prevent their falling into the hands of the Castilians on the Moluccas but that a good pilot knew all the information (J. S. de Matos, *Roteiros e rotas portuguesas no Oriente nos séculos XVI e XVII* [Lisbon, 2018], p. 145).

⁹ M. A. Taveira, 'Os roteiros portugueses do Atlântico de finais do século XV à primeira década do século XVII. Elementos para o seu estudo' (unpublished NOVA University of Lisbon M.A. thesis, 1994), pp. 29–30, 256.

original Iberian Science. I will start with a brief overview of the reasons why Linschoten accumulated all the nautical knowledge that he published and how it impacted the *Reys-gheschrift* chapter's organization. I will also compare the contents of the *Reys-gheschrift* with extant sixteenth-century Portuguese nautical rutters. I will then address the main changes made to Linschoten's manuscript prior to its publication and suggest reasons why they were introduced. Finally, I will discuss the authorship of the *Reys-gheschrift* and will also probe whether we may approach the *Reys-gheschrift* as a learning document of sorts, used not only aboard ship but also at nautical schools in the Dutch Republic.¹⁰ In the conclusion I will explore the more immediate impacts of the text's publication and its legacy.

A brief note should be made concerning the version of the *Reys-gheschrift* I consulted for this article. Since I am not fluent in sixteenth-century Dutch, I used the 1598 English edition of the *Itinerario*, edited by John Wolfe.¹¹ I chose this option because the English edition was printed soonest after the Dutch edition (1596) and is the earliest translation of the *Itinerario*. I also suspect that changes were introduced in the rutters of the *Reys-gheschrift* in later editions, complementing documented alterations to its cartography.¹² After all, throughout the sixteenth and seventeenth centuries, charts and textual sailing instructions were deeply linked aspects of nautical science. As it is possible that adjustments were also made between the original Dutch edition and the English translation I used, further inquiry may be warranted.

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Born in Haarlem in 1563 to a Catholic family, Linschoten departed for Spain in 1579 with the aim of exploring the world. After some years learning with merchants in Spain and Portugal, he embarked on a voyage to Asia in 1583 in the retinue of D. Vicente da Fonseca, the archbishop of Goa (1583–7) named by Philip II (r. 1556–98). I have argued elsewhere that Linschoten's acquisition of Iberian Science during his years in Goa and the Azores (between 1583 and 1591) should not be seen as a spy mission.¹³ Instead, due to Philip II's orders and scientific interests, Archbishop Fonseca charged Linschoten with the writing of a cosmographical work to be addressed to Philip II. In this context Linschoten was given special authorization to access manuscripts and books that were archived in both the archbishop's and the viceroy's palaces in Goa. Also due to Fonseca's order, Linschoten was able to build a diverse network of informants in Asia (continued later in the Azores), which enabled him to collect several nautical rutters. These rutters were subsequently published in the *Reys-gheschrift*. Thus, it is relevant to start by presenting the contents of the *Reys-gheschrift*, as the publication was much more than a simple compendium of Iberian Science.

Linschoten published a total of sixty-seven rutters. Of these, sixty-three were of clear Portuguese origin, as they detailed routes sailed mostly by the Portuguese, and only four had a Spanish basis. To these rutters were added other materials, such as a list of the latitude co-ordinates of various ports around the world, a regiment of the magnetic needle variations in the India Run voyage from Portugal to India and back, and a section on questions and answers for sailors. I will comment on these additions later, as I will start with a brief overview of the general contents of the rutters and Linschoten's chapter organization. This analysis will help to clarify Linschoten's judgement concerning the

¹⁰ On this topic, see M. E. Schotte, *Sailing School: Navigating Science and Skill, 1550–1800* (Baltimore, 2019).

¹¹ J. H. van Linschoten, *Discours of the Voyages Into East and West Indies*, ed. J. Wolfe (London, 1598).

¹² G. Schilder, *Monumenta Cartographica Neerlandica* (8 vols., Alphen aan den Rijn, 2003), vi. 205.

¹³ For a review of Linschoten's career in the Iberian world, see N. Vila-Santa, 'A chronicler or a spy? Rethinking Jan Huygen van Linschoten and his *Itinerario*', *Modern Asian Studies*, forthcoming.

geographical areas that he believed the Dutch should exploit first and also relates directly to the changes and authorship issues that I will address in the following sections.

As Linschoten stated, he had initially planned to publish only those rutters concerning Asia,¹⁴ but he ended up publishing other materials he had compiled, including navigational routes used by the Spanish. He was, however, most concerned with printing Portuguese rutters, which were largely unknown in Northern Europe. He also decided to focus on the navigation of certain regions, as a listing of the routes shows.

The first nine chapters dealt with navigation between Portugal and the Indian subcontinent. For these chapters Linschoten used two rutters of the India Run by Portuguese pilots Diogo Afonso and Vicente Rodrigues. As I will explain below, these rutters were divided across multiple chapters. Linschoten concluded his treatment of the India Run in chapter 10, in which he described the coast stretching from the Cape of Good Hope to Mozambique. From chapter 11 to chapter 14 he discussed navigation from India to places in the Gulf of Bengal (such as Chatigan, Arrakan and Pegu). Chapters 15 to 18 detailed the sailing routes between Goa and Melaka. Chapter 19 gave a coastal description of the island of Ceylon and served as a concluding chapter for his coverage of this area of the Indian Ocean.

In the following chapters Linschoten provided rutters that covered the navigation between places in present-day Malaysia, Indonesia, China and Japan. He began with a detailed rutter for sailing between Melaka and China (chapter 20) and proceeded to smaller rutters detailing the routes to Siam and Cambodia (chapters 21 to 23). One rutter concerned navigation between Macau and the Singapore Strait (chapter 24). Chapters 25 to 27 contained the route from Melaka to the Sunda Strait near the island of Java. As he had done for the other geographical areas, Linschoten dedicated chapter 28 to a coastal description of the island of Sumatra, to be crossed during the voyage from Melaka to Java. This section ended with chapter 29 and its description of the route between Sunda and China.

It was at this point that the reader arrived at the main section of the *Reys-gheschrift*, which set out the routes from China to Japan. Linschoten started this section with a rutter for the Chinese coast (chapter 30). Chapters 31 and 32 contained the first voyages between China and Japan made by a Portuguese pilot (aboard a Chinese ship). Chapters 33 and 34 addressed the route between Macau and Japan (the first voyage ends at Bingo and the second at Umbra). Both rutters provided precise descriptions of the coastal profiles, and the second was produced aboard a Chinese ship. In chapters 35 and 36 Linschoten published two rutters of the voyage between Macau and Nagasaki. This was the most important part of the trip made annually by the Portuguese *nau do trato* (ships following the route that linked Goa and Nagasaki). Aware of its relevance, Linschoten provided two different rutters for this route. One of them was written by the pilot of the *Santa Cruz*, the ship on which his friend Dirck Gerritsz Pomp (1544–1608) had travelled to Japan in 1585 as constable of artillery. Identifying Nagasaki as a major commercial hub on the Japanese coast, Linschoten dedicated chapter 37 to explaining how best to enter its harbour. He followed this with two small rutters on the voyage from Japan to China (chapters 38 and 39). Chapters 40 to 42 addressed navigation between Nagasaki and Macau. The first of these chapters (chapter 40) contained an account of the Guoto islands, while the others were comparatively technical. Chapter 41 outlined the return voyage of Pomp from Japan to China, written by the pilot of *Santa Cruz*, while chapter 42 contained another description of this voyage made by a different Portuguese pilot.

¹⁴ Linschoten, *Discours*, p. 423.

This section on China and Japan ended with chapter 43, which covered navigation in the channels of Macau.

Before addressing Spanish navigation in the Pacific, Linschoten decided to systematize a topic that he had mentioned in several rutters: the currents, tides and monsoon navigational system in the area between Melaka and China. Chapters 44 and 45 provided cursory descriptions of the Melaka area, while chapters 47 to 49 expounded on the monsoons, winds and tides off the coast of China. In these chapters notes were provided on the best and worst times of the year to travel. For this purpose, Linschoten included an interesting document in the *Reys-gheschrift*: the observations of a Portuguese pilot on the relationship between the tides and the moon in Macau (chapter 46). Although out of sequence, this chapter seems to have been a complement to chapter 43, in which Linschoten described how to avoid the myriad perils en route to Macau caused by its numerous channels and unpredictable tides.

In the following chapters Linschoten turned to Spanish navigation in the Pacific Ocean. The sailing route between Macau and the Philippines (chapter 50) and the rutter between Luzon and Acapulco (chapter 51) were briefly set out. Only after making his own comments did Linschoten give information on this area derived from Francisco Gali's (1539–86) expeditions in the Pacific.¹⁵ In chapter 52 Linschoten discussed Gali's voyages between Acapulco, Manila, Macau and New Spain, focusing on the route between Acapulco and Manila. Chapter 53 addressed a controversial route (one that Linschoten knew quite well to be officially forbidden) stretching from Manila to Macau. Chapter 54 described Gali's voyage from Macau to New Spain, a pioneering route first completed by sailing eastwards and north of the Japanese archipelago to higher latitudes. Aware of the uniqueness of Gali's nautical achievement, Linschoten decided to publish it for almost the same reasons he printed, in chapter 55, an account by Nuno da Silva. Silva, the Portuguese pilot employed by Francis Drake (1540?–96) on his 1579 circumnavigation voyage, provided an exhaustive and technically accurate account of the crossing of the Strait of Magellan,¹⁶ as well as a discussion of navigation in the Spanish Mar del Sur (the Pacific coast of South America). Linschoten printed this account not only as a practical resource for mariners, but also in order to publicize the breakthroughs being made by contemporary navigators. This tendency was also in evidence in Linschoten's 1601 account of his own 1594 and 1595 voyages to the north in search of a route to China, in which Linschoten was hailed as a Dutch Magellan or Vasco da Gama.¹⁷ In the *Itinerario*'s first edition Linschoten was also praised in sonnets for his nautical accomplishments.¹⁸

Since Silva's account contained a description of navigation in the Atlantic (mainly along the Brazilian coast), Linschoten then explained that, since he had the materials for it, he had created a section on the Atlantic that would help to systematize knowledge of this area. Although this was not his initial intention, Linschoten had decided to do so in the hope of contributing to the glory, honour, growing trade and missionary goals of the Dutch Republic.¹⁹ Therefore, I consider chapter 55 both the end of the Pacific section of the *Reys-gheschrift* and the resumption of the discussion of Atlantic sailing that had

¹⁵ On this topic, see R. M. Loureiro, 'Inquérito sobre um navegador enigmático. Francisco Gali e as suas viagens transpácificas', *Revista de História da Cultura*, lx (2019), 90–103.

¹⁶ For a broader overview of European crossings of the Magellan Strait, see H. Leitão and J. M. M. Madrid, *Atravessando a porta do Pacífico. Roteiros e relatos da travessia do Estreito de Magalhães* (Lisbon, 2020).

¹⁷ E. van den Boogaart, *Jan Huygen van Linschoten and the Moral Map of Asia* (London, 1999), p. 20.

¹⁸ E. van den Boogaart, *Civil and Corrupt Asia: Word and Text in the Itinerario and the Icones of Jan Huygen van Linschoten* (Chicago, 2003), p. 5.

¹⁹ Linschoten, *Discours*, p. 423.

begun with the earlier chapters on the Portuguese India Run routes. In this section on the Atlantic, chapter 56 contained a rutter on the navigation between the Cape Verde islands, the Brazilian coast and the Plata river. An overview of the area's landmarks was also included. More in-depth descriptions of the region were supplied in chapters 57 to 62, in which Linschoten provided navigational insights and coastal profiles for the voyage between the northern tip of the Brazilian coast and the bay of the Plata river. This Portuguese-sourced section on Atlantic sailing ended with the final chapter of the *Reys-gheschrift*, concerning navigation between Cape Lopo Gonçalves and Luanda (chapter 67). For unclear reasons, Linschoten placed the Atlantic route to Angola, invented by Portuguese navigators, at the end of the *Reys-gheschrift*, after all the Spanish rutters.

The final section, concerning Spanish navigation to the West Indies, was organized under the rubric of Atlantic voyages, but with a different structure. Chapter 63 seems to have been an amalgam of several Spanish nautical rutters, since Linschoten started at La Gomera, then commented on navigation to the Antilles and Cartagena, and concluded by describing the voyage back to the Azorean islands and to Spain. Thus, this first rutter served as a general guide of sorts for the Spanish Atlantic routes, while the other chapters addressed more specific routes. Chapter 64 covered navigation between Cartagena and the coast of New Spain via the Havana channel. Chapter 65 contained a short account of the voyage between the islands of La Desejada and Puerto Rico. Finally, chapter 66 presented an extensive listing of marine depths measured at a variety of far-flung locations.

As this enumeration evidences, the *Reys-gheschrift* was an assortment of carefully selected materials distributed piecemeal across multiple chapters to fill an information vacuum. In describing Asia from west to east, Linschoten took up a classical tradition adopted by Portuguese authors, precisely as he did elsewhere in the *Itinerario*. Since he also touched on Spanish areas, Linschoten could have presented the *Reys-gheschrift* from the (Spanish) vantage point of the Pacific Ocean, but chose not to.²⁰ Not only did Linschoten internalize the Portuguese framework for writing about Asia, but he also tacitly suggested that the Dutch should follow the Portuguese, and not the Spanish, cosmographical tradition.

Another inescapable fact relates to Linschoten's decision to describe certain geographical areas instead (or at the expense) of others. Linschoten's primary focus was on the contemporary Singapore Strait, Indonesia, China and Japan, which took up almost forty chapters (chapters 15 to 54) of a text totalling sixty-seven chapters. This is no coincidence, and it requires an explanation. In the *Itinerario* Linschoten had already identified the route followed by the Portuguese *nau do trato* as the most profitable commercial route for the Portuguese in Asia.²¹ His painstaking report on the China–Japan area both reflected the amount of material he had collected and, more importantly, highlighted a lucrative trade region that Dutch merchants should explore. Linschoten's description of the voyage from Acapulco to Manila underscored the profits to be made in silver and the Spanish–American rulers' aim to open a direct route between the Americas and the Chinese market.²² On the other hand, this focus on the China–Japan area was quite possibly linked to Linschoten's own personal interest. In a letter to his parents dated 1584, he noted with evident regret that he lacked the money to sail to China and Japan

²⁰ On this topic, see R. Padrón, *The Indies of the Setting Sun: How Early Modern Spain Mapped the Far East as TransPacific West* (Chicago, 2020).

²¹ Linschoten, *Discours*, ch. 25.

²² Linschoten, *Discours*, p. 411.

for business with his friend Pomp.²³ His information on the routes for the Melaka Strait and to Java (crucial regions in the early days of the Dutch enterprise in Asia) may also have been directly related to his statement in the *Itinerario* that the Bantam market lay beyond Portuguese control and was ripe for exploitation.²⁴

As I will discuss in the next section, it is also highly probable that Linschoten had compiled rutters of other geographical areas that he did not publish. This is especially likely in the case of the sailing routes to the Red Sea and the Persian Gulf. This omission may have resulted from Linschoten's reading of the strategic potential of these routes for the Dutch. In 1595 he counselled Cornelis de Houtman (1565–99) to sail to Indonesia and avoid India, where the Portuguese were too strong.²⁵ If Linschoten had published the rutters of this area, he would have been implicitly endorsing the use of routes he had warned Houtman against. This also explains why certain matters were not fully explained in the *Reys-gheschrift*. For instance, why did Linschoten say nothing about the monsoon system in India (despite discussing it in relation to Melaka and China), when his stated intention was to publish details of all the tides, weather conditions and local names of places as they had been noted down by Iberian pilots?²⁶ Simply because in another chapter of the *Itinerario*, he had already described the Indian monsoon system.²⁷ In other cases, however, Linschoten's choices were related to the more prosaic matter of accessibility (or inaccessibility) of information and materials. Thus, we must examine the original sources that Linschoten used to write the *Reys-gheschrift* in order to understand the major changes he introduced for publication.

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In the Iberian context nautical rutters had circulated in global ports and cities and on ships in manuscript form since the very beginning of the Portuguese maritime expansion. With the rise of European navigation across all oceans, compilations of manuscript nautical rutters started to be issued.²⁸ Among the Portuguese several seamanship books were used in the sixteenth century. All of them contained nautical rutters. These included works by João de Lisboa, André Pires, Bernardo Fernandes, Manuel Álvares and Pero Vaz Fragoso. Around the turn of the seventeenth century, Gaspar Moreira also compiled several rutters. Although it is hard to know the precise date of all the rutters contained in these books (or, in many cases, even the final date of compilation), a comparison between them and the *Reys-gheschrift* shows that Linschoten printed very similar rutters to those already contained in seamanship books. Since nautical rutters constantly moved between pilots and seamen, however, they were updated regularly with new pertinent information. Warnings about sailing hazards (currents, tides, depths, shallows and sudden changes in meteorological conditions) were routinely added, as well as supplementary physical and geographical descriptions. Routes, both new and old, were revised and expanded. All this means that since Linschoten's original notes from Asia are considered lost, we cannot with certainty pinpoint which versions of particular rutters he employed.

²³ *Itinerário, viagem ou navegação de Jan Huygen van Linschoten para as Índias Orientais ou Portuguesas*, ed. A. Pos and R. M. Loureiro (Lisbon, 1997), p. 57.

²⁴ Linschoten, *Discours*, ch. 20.

²⁵ A. Saldanha, 'The itineraries of geography: Jan Huygen van Linschoten's *Itinerario* and Dutch expeditions to the Indian Ocean, 1594–1602', *Annals of the Association of American Geographers*, ci (2011), 149–77, at pp. 161–4.

²⁶ Linschoten, *Discours*, p. 307.

²⁷ Linschoten, *Discours*, ch. 34.

²⁸ J. M. Malhão Pereira, 'Roteiros portugueses, séculos XVI a XVIII. Sua gênese e influência no estudo da hidrografia, da meteorologia e do magnetismo terrestre' (unpublished University of Lisbon Ph.D. thesis, 2017), p. 36.

Nonetheless, I believe that Linschoten copied out the majority of the rutters in the *Reys-gheschrift* at the viceroy's palace in Goa. Some, if not all, of the contents of compilations by Lisboa, Pires, Fernandes, Álvares and Vaz Fragoso must have been archived at this palace. Goa was equipped with its own shipyard (*ribeira*), frequented by Portuguese rulers of India to co-ordinate the dispatch of fleets to all corners of Asia. We can assume that rutters, alongside nautical instruments, would be handed over to pilots before they set off from Goa; where better to store such sensitive nautical materials than at the viceroy's palace? It was through such an active repository, I contend, that Linschoten secured access to copies of several rutters (including those covering India Run navigation, routes to the Gulf of Bengal and Melaka, and navigation to Sunda on the island of Java). Some rutters and nautical information on China and Japan could likewise have been copied from the viceroy's palace in Goa. But the most probable source for East Asia was Pomp, Linschoten's friend and compatriot and three-time traveller on the *nau do trato*. Two rutters (chapters 36 and 41) come from the logbook of the *Santa Cruz*, on which Pomp travelled. Since Pomp had a close connection with Francisco Pais, the captain of Macau and of the voyage of the *nau do trato* in 1584, he may have compiled this information and later given it to Linschoten.²⁹ The rutters based on Gali's expedition were very obviously accessed at the viceroy's palace. A copy of them was sent to viceroy D. Duarte de Meneses (1584–8) from Macau, and Linschoten affirms that he transcribed verbatim.³⁰

Not all the rutters that Linschoten published, however, came from the palace in Goa or from Pomp. During Linschoten's stay in the Azores between 1589 and 1591, he had many opportunities to debate nautical knowledge with Portuguese, Spanish and English seamen. He may have become acquainted with Iberian rutters for Atlantic Ocean navigation as a result of his friendly relationship with Juan de Urbina, the governor of Terceira island. This is how, I think, he accessed the Spanish nautical rutters concerning navigation to the West Indies that are published in the *Reys-gheschrift*. The lack of a systematic study on Spanish nautical rutters makes it difficult to know exactly which rutters he incorporated. Although there are mentions of his accessing an unidentified Spanish rutter of 1586,³¹ it is more likely that Linschoten consulted a Spanish rutter compilation similar to that published in the Prague manuscript, or a modified version of the 1579 Isidro de La Puebla rutters. The Prague manuscript was organized by someone who had commercial interests in Spanish navigation and seems not to have circulated widely. Since it was compiled around 1568,³² and bearing in mind Linschoten's relation with Urbina, it is possible that the Dutchman perused it in Angra.

After returning to the Dutch Republic, Linschoten became familiar with the work of an Italian writer named Filippo Pigafetta (1533–1604), who had interviewed the Portuguese ambassador to Congo, Duarte Lopes (1550–?), during his travels. Using Pigafetta's information, Linschoten wrote the rutter on navigation to Congo and Angola,³³ with additional data on the winds and currents up to the Zaire river.³⁴ It was probably in the Dutch Republic that Linschoten became acquainted with Nuno da Silva's rutter as

²⁹ A. Pos, 'Dirck Gerritsz Pomp e Jan Huygen van Linschoten, amigos-aventureiros na Índia portuguesa e pioneiros da expansão marítima holandesa', *Revista Portuguesa de História do Livro*, iii (1999), 57–92, at p. 76.

³⁰ Linschoten, *Discours*, p. 416.

³¹ *Roteiros portugueses inéditos da carreira da Índia do século XVI*, ed. A. F. da Costa (Lisbon, 1940), p. 97.

³² *Livro de marinaria. O manuscrito de Praga*, ed. A. T. de Matos and J. M. Teles e Cunha (Lisbon, 2009), pp. 12, 15, 17.

³³ D. Lopes and F. Pigafetta, *Relação do Reino do Congo e das terras circunvizinhas*, ed. I. do Amaral (Benavente, 2000), pp. 49–54, 57–62.

³⁴ Taveira, *Os roteiros*, p. 206.

well; we have no reason to think he consulted Silva's text while in the Azores. The close connection between the Dutch and the English in the 1580s and 1590s make it probable that it was Dutch merchants, diplomats or printers who handed over Silva's rutter to Linschoten for publication. This would certainly not have been out of the ordinary; it is well known that Plancius loaned Linschoten his own maps for the *Itinerario*. Indeed, the *Itinerario's* editor, Cornelis Claesz (1551–1609), Plancius, Lucas Waghenar (1534–1606), Judocus Hondius (1563–1612) or even Franciscus Maelson (1538–1601) could all have given Linschoten access to this report. All were Linschoten's close contacts; all were figures interested in nautical rutters in general; and some had connections to England.

A different explanation can be provided for the origin of the Portuguese nautical rutters on the Brazilian coast published in the *Reys-gheschrift*. I maintain that Linschoten had access to these nautical rutters during his Azorean stay. In a study of Linschoten's so-called bird's-eye view of Angra, Humberto Oliveira concludes that Linschoten must have been aided by one or several skilled cartographers. Among these was Portuguese cartographer Luís Teixeira (?–1604),³⁵ who is known for having sent cartography to Abraham Ortelius (1527–98) that was later printed by Claesz and used by Plancius to produce his 1592 world map.³⁶ Teixeira is also connected with the Low Countries through his world map of 1585, the first map with isogonic lines that was produced using the values of the earth's magnetism, and which was later used by Plancius in his 1598 book.³⁷ Oliveira argues that Teixeira was in the Azores at the same time as Linschoten, in which case a meeting would have been likely. Whether Linschoten knew Teixeira personally or not, he must have been aware of his work. Urbina had asked Linschoten to make a map of Angra, and in the process the latter should certainly have come across the atlas-rutter of Brazil. This atlas-rutter is normally attributed to Luís Teixeira, who had been tasked by governor Luís de Brito e Almeida (1573–8) with mapping and writing rutters of the Brazilian coast during his sojourn there in the 1570s.³⁸

A comparison of the nautical rutters of this atlas-rutter with those published in the *Reys-gheschrift* shows that Linschoten followed them very closely, although he reorganized their original structure. While Teixeira had three main chapters, Linschoten chose to divide the rutters into a greater number of chapters and to end the description at the Plata river (and not at the Strait of Magellan, as the atlas-rutter did). A similar pattern is discernible in other rutters Linschoten published, as I shall discuss. Nevertheless, Maria Armada Taveira states that Linschoten may have drawn on work by Gabriel Soares de Sousa dating to 1587 and dedicated to D. Cristóvão de Moura.³⁹ The depiction of Angra attributed to Linschoten also bears Moura's coat of arms. Linschoten may have seen Sousa's work at Angra with the authorization of Urbina. Admitting already the multitude of cartographic sources Linschoten could have utilized, we should remain open to the possibility that he brought further, still-unknown cartographic information back to the Dutch Republic, which would eventually figure into the numerous works of Plancius.

Sorting out the original sources of the rutters concerning Portuguese navigation within Asia is a more challenging matter. By the time Linschoten arrived in Goa, the compilations by Lisboa, Pires, Álvares, Fernandes and Vaz Fragoso had already been

³⁵ H. Oliveira, *Angra na visão de Linschoten* (Borba, 2012), pp. 428–35.

³⁶ Schilder, *Monumenta*, vi. 111.

³⁷ J. A. Gaspar and H. Leitão, 'Luís Teixeira, c. 1585: the earliest known chart with isogonic lines', *Imago Mundi*, lxx (2018), 221–8.

³⁸ *Roteiro de todos os sinais, conhecimentos, fundos, baixos, alturas, e derrotas que há na costa do Brasil desde o cabo de Santo Agostinho até ao estreito de Fernão de Magalhães*, ed. M. F. da Costa (Lisbon, 1988), pp. 31–3.

³⁹ Taveira, *Os roteiros*, p. 311.

issued. It is almost impossible to know which version of their works Linschoten used. This issue is further complicated by the fact that nautical rutters were always updated during maritime voyages. Many rutters never found their way into the works cited above but nonetheless circulated in other compilations. The cases of the seventeenth-century Codex Castelo Melhor and the Codex Cadaval are clear examples. A primary study of these has been undertaken, but much research remains to be done, since not all the rutters were transcribed and only a listing of them was made available.⁴⁰ Having compared these codex-rutters with the *Reys-gheschrift*, I suspect that Linschoten used a compilation similar to the Codex Castelo Melhor and Cadaval, which he could have accessed at the viceroy's palace in Goa.

It is also clear that Linschoten referenced a later compilation by Moreira and attentively consulted the rutters of Álvares. Furthermore, his work at times resembles compilations by Fernandes and Vaz Fragoso. A comparison with Pires and Lisboa (the earliest figures to compile rutters) shows that several of Linschoten's rutters strayed from their versions. The rutters produced by Manuel Mesquita Perestrelo, on the orders of King Sebastian (1557–78), on the route between the Cape of Good Hope and Cape Correntes also seem not to have been used by Linschoten.⁴¹ Had Linschoten consulted Perestrelo's work, we ought to have seen the latter's stamp on the *Reys-gheschrift*'s description of eastern Africa, and such an influence is noticeably absent. The same can be applied to the famous rutter by Portuguese governor of India D. João de Castro (1500–48). Castro's rutters for the India Run, Goa to Diu and Goa to the Red Sea were not published by Linschoten, possibly because he could not gain access to them. Castro's rutter for the India Run was replete with high-quality scientific data; if Linschoten had consulted it, he surely would have included the findings in his own book. A more detailed analysis of the use of certain nautical compilations will help to clarify how Linschoten employed them. Next, drawing on several of the scholarly works cited above and my own research, I will attempt to explain how Linschoten employed these nautical compilations.

While it is difficult to identify sources for the rutters concerning navigation in the areas of Melaka, Indonesia, China and Japan, the origins of the earlier chapters of the *Reys-gheschrift* are more straightforward. Its first rutter (chapter 1) seems to have been an India Run rutter, compiled earlier than the one by Diogo Afonso (c. 1535). This rutter bears some resemblance to those published by Lisboa and Pires,⁴² although Linschoten evidently made some abridgements. Some of Linschoten's additions seem to have come from Álvares, although the rutter was not as exhaustive as that of Álvares. Chapter 2 contained part of a rutter by Diogo Afonso. The rutter's second half was contained in chapter 8, where it was erroneously listed as the work of an anonymous pilot.⁴³ It can only have been Afonso's rutter, since it contained values relating to the deviation of the magnetic needle and this rutter is known for having been the first to include such data.⁴⁴ Afonso's rutter was a more sophisticated version of previous India Run rutters, such as the instructions of Vasco da Gama to Pedro Álvares Cabral in 1499, the *Esmeraldo*

⁴⁰ Matos, *Roteiros e rotas*; and P.-Y. Manguin, 'A mid-17th century collection of *roteiros* for Asian waters (the Códice Castelo Melhor)', *Studia*, xlviii (1989), 187–211.

⁴¹ *Roteiro da África do sul e sueste desde o Cabo da Boa Esperança até ao Cabo das Correntes (1576) por Manuel Mesquita Perestrelo*, ed. A. Fontoura da Costa (Lisbon, 1939).

⁴² *O manuscrito de Praga*, p. 52.

⁴³ A. F. da Costa, *A marinharía dos Descobrimentos* (Lisbon, 1940), p. 311.

⁴⁴ A. T. da Mota, 'Atlantic winds and ocean currents in Portuguese nautical currents of the sixteenth century', *Proceedings of the Royal Society of Edinburgh*, lxxiii (1972), 59–67, at p. 61.

of Duarte Pacheco Pereira and the rutters by Lisboa.⁴⁵ Nonetheless, some authors state that chapter 8 was actually Linschoten's record of his nautical voyage to Europe in 1589.⁴⁶ For chapters 3, 4, 9 and 10 Linschoten closely followed Álvares's rutters. Chapters 5 and 7 were a version of pilot Vicente Rodrigues's first rutter. Written in the 1570s, the work survives only in Linschoten's publication. Rodrigues's account of sailing with Earl D. Luís de Ataíde (1516–81) leads me to think that this rutter dates to 1577–8 or later.⁴⁷ Linschoten also seems to have followed it for chapter 6.⁴⁸ For chapters 11 and 12 Linschoten lifted information from the work of Vaz Fragoso.⁴⁹

In the case of Pires's book, the 'livro de rotear', some nautical instructions on how to calculate the distance to the equatorial line, a list of locations and their degrees of latitude, and even the regiment of leagues parallel several questions and answers for sailors in the final section of the *Reys-gheschrift*.⁵⁰ Regarding the Fernandes compilation, Linschoten seems to have relied on parts of this work for his coastal description of eastern Africa, for the Cochin-Bengal and Cochin-Melaka routes, and also for information on the monsoons and currents in the Melaka area.⁵¹ Nor should we forget that Linschoten drew heavily on Álvares in several chapters. His extensive use of these sources, however, did not preclude the introduction of several changes, which will be analysed in the next section.

Concerning the geographical area of Melaka, Jorge Semedo de Matos has already arrived at the conclusion that Linschoten used a rutter from Melaka to Sunda – an unusual document in the sixteenth century, since it covered a route that was abandoned by the Portuguese in 1526.⁵² This rutter was much more detailed than the comparable rutters by Lisboa and Pires. When describing the route between Sunda and China, Linschoten wrote more carefully than the authors of the versions compiled in the Codex Castelo Melhor and Codex Cadaval. Linschoten also printed the earliest known rutter on the route to Cambodia. Linschoten's version of the route from Melaka to Siam surpassed the later account from Moreira. Linschoten's *Reys-gheschrift* additionally holds the distinction of being the first published work to have provided the route between Manila and Macau, although the rutter was weak in its description of the navigational hazards offshore of Manila.⁵³

For some of these geographical areas, the influence of Moreira is quite evident. Linschoten started by using navigational details for the coast of India for his chapter on the route between Goa and Cochin and also on the voyage between Melaka and Goa. Moreira's rutter from Trincomale to Ceylonese Colombo seems to have figured in Linschoten's coastal description of the island. Linschoten likewise lifted Moreira's data for the routes to the Gulf of Bengal in his two chapters on the crossings to Bengal and Arrakan. Parts of Moreira's rutter from Goa to Melaka were used in the chapter on navigation between Pulo Simbalião and Melaka. Moreira's rutter from the Canton islands

⁴⁵ Malhão Pereira, 'Roteiros portugueses, séculos XVI a XVIII', p. 59.

⁴⁶ Koeman, 'Jan Huygen', p. 37; and Pos, 'Amigos-aventureiros', p. 74.

⁴⁷ *Roteiros portugueses inéditos*, pp. 83–4. Ataíde travelled to India as an earl only in 1577–8, since this title was granted to him by King Sebastian in 1577, when he was named viceroy of India for the second time. On this topic, see N. Vila-Santa, *Entre o reino e o império: a carreira político-militar de D. Luís de Ataíde (1516–1581)* (Lisbon, 2015), pp. 233–6.

⁴⁸ *Roteiros portugueses inéditos*, p. 116.

⁴⁹ *O livro de marinharia de Pêro Váz Fragoso*, ed. L. de Albuquerque (Coimbra, 1977), pp. 29, 34–40.

⁵⁰ *O livro de marinharia de André Pires*, ed. L. de Albuquerque and A. Cortesão (Lisbon, 1963), pp. 200, 202–3, 205, 218, 220–2.

⁵¹ *Livro de marinharia de Bernardo Fernandes (cerca de 1548)*, ed. A. F. da Costa (Lisbon, 1940), pp. 69–75, 89–97.

⁵² *O manuscrito de Praga*, p. 53.

⁵³ Matos, *Roteiros e rotas*, pp. 53, 68–9, 114, 116, 175, 182, 198.

to Melaka was also adopted in Linschoten's chapter on navigation between Melaka and Pulo Timão. Linschoten used a rutter on sailing from Japan for several chapters concerning navigation between Nagasaki and Macau. A rutter from Sunda to China filled out Linschoten's chapter on sailing between Melaka and Sunda. The route between Siam and Pulo Condor was put into service for two chapters: one on navigation between Pulo Condor and Siam, and one on sailing from Siam to China. Information from Moreira's rutter for sailing from Pulo Sisir to China appeared in Linschoten's account of the voyage between Siam and China. Several other adaptations of Moreira's book were recorded by Luís de Albuquerque.⁵⁴ Given this abundance of direct links, it appears that Moreira's was the seamanship compilation that Linschoten adhered to most strictly when addressing navigation from India to China and Japan.

But in the process of writing the *Reys-gheschrift*, updates were also made, something that complicates any attempt to identify the original sources employed. Nevertheless, it is crucial to locate and characterize the major changes Linschoten did make and to try to discern the reasons behind them. If it is true that in the *Reys-gheschrift*, Linschoten was trying to update, for the Dutch, knowledge relating to the main Portuguese routes in Asia, his previous experience in Goa placed him in an excellent position to introduce his own technical changes to the rutters. The same can be applied to the Spanish rutters. During his Iberian career (and even more so after returning to the Dutch Republic), Linschoten had many chances to debate nautical science with scientific experts such as Petrus Plancius and Lucas Waghenaeer. We should next attempt to clarify, therefore, whether the *Reys-gheschrift* was meant to function as a teaching document for Dutch sailors, produced with the type of Iberian Science that the Low Countries had been importing since the fifteenth century.⁵⁵

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As has been outlined in the sections above, the *Reys-gheschrift* features several structural departures from extant versions of Linschoten's likely sources. We may now examine those changes attributable to Linschoten and consider the motivations underlying them.

Several rutters of the *Reys-gheschrift* included interruptions in the discourse to explain specific scientific details. One was contained in the rutter for sailing between India and Pegu, in which Linschoten paused to clarify the meaning of the Indian term *almadia*. In the rutter of the voyage from Melaka to Goa, Linschoten also broke off from his description to explain the winds that the Portuguese termed 'viracoins', a meteorological phenomenon he had already mentioned many times. This concern with glossing potentially unfamiliar words also appeared in the rutter of a Chinese ship's voyage from China to Japan, in which Linschoten suddenly stopped to define the Portuguese word *monção* (monsoon), which he had been using. He also took the opportunity to mention that the Portuguese had borrowed their league system from the Japanese, and that two Japanese leagues were equal to one Portuguese league. In another rutter Linschoten explained what a typhoon was and how it affected navigation. It was only after these short asides that Linschoten detailed the monsoon system in Melaka and China. Finally, in the lengthiest Spanish rutter of the *Reys-gheschrift*, he reiterated his definitions of the 'vendavais' and 'brisas' winds, concepts used by Iberian sailors in the Atlantic.⁵⁶

⁵⁴ *Le 'Livro de Marinharia de Gaspar Moreira'*, ed. L. de Albuquerque (Lisbon, 1977), pp. 43, 77–9, 80–7, 89, 98, 107, 121–2, 138, 145, 154, 156, 190, 199, 201, 210.

⁵⁵ R. W. Unger, 'Dutch nautical science in the Golden Age: the Portuguese influence', *e-Journal of Portuguese History*, ix (2011), 68–83.

⁵⁶ Linschoten, *Discours*, pp. 334–5, 379–80, 390, 406, 431–2.

In other instances Linschoten intervened in the text to make it easier for Dutch sailors to understand the technicalities of Iberian rutters. This can be seen in his comparison of the *sargaço* of the West African coast to local herbs of Verhaegen in Holland, or in his explanation of the *olho de boi* (a type of cloud encountered on the route between China and Japan).⁵⁷ Linschoten also adapted the material of his sources to make the *Reys-gheschrift* more coherent and less repetitive. The most obvious example can be found in chapter 9, in which the description of the voyage to Portugal was cut short at the Cape of Good Hope (because the rest of the journey had already been explained in a different chapter). The same thing happened in chapter 21 during a discussion of the route between Pulo Condor and Siam.⁵⁸ Linschoten's voice also came through in a series of personal comments. For instance, while writing about navigation between Macau and Japan, he remarked that Xiquij was a good port to anchor in. He also noted that some Portuguese sailors were murdered there, due (in his opinion) to the customary arrogance and ostentation of the Portuguese when landing in a foreign port, something that did not sit well with the Japanese.⁵⁹

Linschoten further altered his source materials by expanding on the usual navigational warnings given in rutters, drawing on both personal experience and second-hand accounts. This can be seen in the rutter for Cochin to Melaka. Linschoten urged sailors not to stop at the Gomespola islands because they lay close to the Aceh Sultanate, a deadly enemy of the Portuguese that should be treated with the utmost caution. In the rutter for Melaka to Macau, Linschoten listed the technical mistakes made by Portuguese sailors and offered remedies based on information given to the crew of the *Santa Cruz* by Siamese mariners. The last rutter on the Brazilian coast was subjected to Linschoten's intervention as well. After a description of the Plata river bay, Linschoten mentioned that the bay made a good place to anchor but only for short periods because the Portuguese and Spanish had their warehouses nearby and might easily attack.⁶⁰

Thus, the *Reys-gheschrift* synthesized elements of various source rutters and Linschoten's own adaptations, expansions and original contributions. The dissimilarity between some surviving rutters and the *Reys-gheschrift* may be due to Linschoten's energetic editorializing, or indicate that some of the rutters were written by Linschoten himself. The latter may be true of chapter 28, in which Linschoten described the coast of Sumatra island and navigation to Sunda; chapter 16, which contained so many additions that he appears to have produced the majority of the rutter; and perhaps chapter 50, since he mentioned the route between Macau and New Spain only in very general terms and acknowledged that he had not sailed the area. But the most impressive case was in chapter 51, in which Linschoten outlined the galleon *Manila's* route and returned to navigation between Macau and New Spain, always stressing contemporary Spanish interest in the route and the riches that could be made in the silver trade. Before publishing Gali's rutters in this same chapter, he also cast doubt on the notion that Gali had even made the journey and argued that some of the trip had instead been completed by Portuguese sailor Aires Gonçalves de Miranda. He counselled any prospective navigators on this route to provision themselves for a long oceanic voyage and to hire a Spanish pilot along with twelve or thirteen Chinese or Indian seamen, a crew easily found in Macau.

⁵⁷ Linschoten, *Discours*, pp. 309, 393.

⁵⁸ Linschoten, *Discours*, pp. 319–20, 347.

⁵⁹ Linschoten, *Discours*, p. 383.

⁶⁰ Linschoten, *Discours*, pp. 329, 343, 429.

Finally, Linschoten entreated mariners to aim for Acapulco and from there to set off for any other destination, stressing the ill-advisedness of sailing directly to Callan of Lima.⁶¹

Linschoten's interventions ranged from minor rephrasing in several rutters to much more significant changes. In some rutters a 'copy-paste' procedure accounts for much of the provided content; in others whole paragraphs were erased. In this compilation/editorial process Linschoten sometimes committed grave errors. In the rutter for the coast of Sumatra, he mangled the translation of local names and unwittingly invented places that did not exist in the sixteenth century. He also confused Cape Varela, on the Champa coast, with a local Hindu temple.⁶²

In the India Run rutter for the voyage from Lisbon to India, Linschoten referred to a certain type of bird as 'alcatrazes' rather than *entenais*, the usual term used in Portuguese rutters. He changed the latitude for the Cape of Good Hope from 36 to 35 degrees, and he added a note that Afonso had died when he was swallowed up by the sea, when in fact his ship had simply been wrecked and he had not died. He also changed league distances, switched the latitude of the shallows of Judia to 22 degrees, relocated the Angoche islands and altered the latitude degrees for the currents around Socotora. Similar technical amendments were introduced in his account of the voyage back to Portugal. The Lopo Soares islands were redefined as shallows and their distance to Madagascar increased. In these last cases Linschoten also removed a number of paragraphs, including references to storms and the moon's influence on tides, ubiquitous in contemporary rutters, as well as cutting the rutters covering the Red Sea altogether.⁶³ I posit that this kind of change was introduced by Linschoten in all the rutters that he published. It is impossible to be entirely sure of this, however, since some changes may have already been in the original copies that Linschoten accessed. But why did Linschoten so often, and sometimes so radically, alter his source materials when compiling the *Reys-gheschrift*?

While in some cases we can attribute these deviations to sloppy copying or flawed source material, I maintain that Linschoten's scientific changes reflect his hard-earned knowledge of the areas he was addressing. Such is the case for the changes in the India Run rutters. Linschoten made these voyages himself (in 1583 and 1589) and had the opportunity to debate technicalities with Portuguese pilots (such as Gaspar Ferreira Reimão, who later wrote his own rutters, and perhaps Rodrigues). In many other instances, and definitely in those in which Linschoten erased several parts of a rutter, I believe he sought to simplify technical knowledge for his Dutch readers, unschooled as they were in the navigation of several regions covered by the *Reys-gheschrift*. A desire to render the rutters more easily understood may also have driven other changes, to be discussed below.

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Among the statements that could have been written by Linschoten are several in chapters that used the first rutter by Rodrigues, which survives only in the *Reys-gheschrift*. The assertion that storms near the equatorial line were not caused by the currents in the area but by the proximity of the equator falls under this category. Linschoten himself noted this fact during his voyage. Regarding marine journeys between Tristão da Cunha and the Martim Vaz islands, the *Reys-gheschrift* pointed out that the distance in nautical charts was exaggerated. In this rutter the author (whether it was Linschoten or that of his original source) disparaged the sailors' practice of relying on coastal profiles to navigate the Cape of the Needles, when they ought to avail themselves of a compass

⁶¹ Linschoten, *Discours*, pp. 357–8, 409–11.

⁶² Matos, *Roteiros e rotas*, pp. 71, 73, 76–7, 155.

⁶³ *O livro de marinharia de André Pires*, pp. 63–4, 66, 68–70, 72–4, 76–7, 79, 82, 84–9.

as well.⁶⁴ Since such information was accessible to Linschoten but hardly a secret, it is difficult to discern whether these represent the Dutchman's own contributions or were updates already present in his source materials.

A similar instance occurred at the end of the chapter on navigation along the Chinese coast, in which the *Reys-gheschrift* presented data contributed by Portuguese nobleman Pero da Cunha, who spent several years in the area, and a pilot from the Algarve. The warning about sea bandits and reference to a secret for successful navigation along the Japanese coast (sailing at a good distance away from the shoreline) could likewise have come from either Linschoten or a Portuguese pilot.⁶⁵ Several sections containing intricate instructions for avoiding shipwrecks (such as in the rutter for the Melaka area) seem to have been written by Linschoten. We may also assign authorship to Linschoten of passages in which he identified himself with the Portuguese. For instance, when discussing the island of the fisherman (en route between Melaka and China), he urged that special attention be given to the local population. Despite being friendly, Linschoten noted, the population had good reason to be afraid of 'us'.⁶⁶ Multiple references to local names in both Portuguese and Chinese across the rutters also seem to have been Linschoten's work. Similar cases to Linschoten's comments can be discerned in Pomp's travel chapter – which included an account of an on-board dispute that had arisen when the *Santa Cruz* had arrived at Meaxuma island and some pilots had argued that they had arrived at Guoto island – and in passages containing detailed explanations on how to anchor at Nagasaki, following the opinion of old and experienced pilots.⁶⁷

Additional cases of ambiguous authorship can be found in the reports on Asian nautical traditions that, by the end of the sixteenth century, had been fully integrated into Portuguese navigational practice. Also of uncertain origin, but plausibly attributable to Linschoten, are the assertions that Chinese pilots should be hired to sail along the Chinese coast due to its many dangers and rivers; that the assistance provided by Chinese pilots during a voyage to Japan, although they were fearful of sailing outside the monsoon season, had helped a Portuguese pilot during the voyage and that they in turn had ended up taught by the Portuguese pilot how to avoid a dangerous shallow; that along the Japanese coast it was normal to be approached by Japanese small ships that assisted with anchoring and that these should not be confused with the sea rovers; and, impressively, that a Chinese man from Chinchon, after providing commercial information about China and Japan, had suggested that there was a passage between Tartary and New Spain. This last statement was even reiterated in his own rutter by Gali, who, looking at the fish in the area, considered the assertion quite credible.⁶⁸ A similar remark on the passage between Tartary and New Spain appeared in Pomp's interview with Waghenaer in 1592.⁶⁹ The connection between this information and Linschoten's voyages in 1594 and 1595 to find a northern passage from Europe to China cannot be ignored. Linschoten may well have used this report in his attempts to sway Dutch leaders and merchants and secure finances for his mission. Had Linschoten been uncertain on any points of navigation in the region, he could have turned to Pomp for assistance, since he was the only one of the pair to have sailed in Chinese waters.

⁶⁴ Linschoten, *Discours*, pp. 313–14.

⁶⁵ Linschoten, *Discours*, pp. 373, 384–5.

⁶⁶ Linschoten, *Discours*, pp. 338, 342.

⁶⁷ Linschoten, *Discours*, pp. 395, 397.

⁶⁸ Linschoten, *Discours*, pp. 367–8, 371, 373–6, 390, 397, 414–15.

⁶⁹ Pos, 'Amigos-aventureiros', pp. 89–90.

The discussion so far has traced the complexity and nuance confronting conventional notions of authorship when applied to the *Reys-gheschrift*. Having already documented cases of alterations to the source materials used for the text's compilation, we may now more directly ask who, other than Linschoten, may have been involved in the writing of the *Reys-gheschrift*, and why.

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It is widely known that the *Reys-gheschrift* was rewritten by Linschoten after his return to the Dutch Republic. Some authors state that he was asked by his editor, Claesz, to write the section with the rutters on the navigation to America. While engaged in voyages in the north, Linschoten handed off the task to Claesz,⁷⁰ who completed the *Reys-gheschrift* with the addition of its final sections: the list of latitudes, the regiment on the deviation of the magnetic needle on the India Run voyages, and the set of questions and answers for sailors.⁷¹

Since Claesz regularly collaborated with Plancius and Waghenauer, I consider their direct involvement in the writing of the *Reys-gheschrift* quite probable. In Waghenauer's case, his close connection with Linschoten is demonstrated not only by his public plaudits to him in his works but also by their enthusiastic exchange of nautical knowledge. The two worked together to publish rutters on the Arctic, at the end of which Waghenauer lavished praise on Linschoten.⁷² The case of Plancius's collaboration with Linschoten is more complex and requires a more detailed examination. A driving force behind the onset of Dutch overseas expansion, Plancius was a radical Calvinist preacher and mathematician.⁷³ He worked alongside Claesz and Waghenauer for years, publishing nautical and cartographic materials from Iberian sources like Portuguese cartographer Luís Teixeira.⁷⁴ As the head of the Dutch espionage network,⁷⁵ he sent the Houtman brothers to Lisbon in 1592 to acquire Portuguese nautical rutters. Around the same time, he bought information from the English on their Scandinavian and Russian navigational attempts, begun in the 1550s, to find a passage to China.⁷⁶ His use of English cosmographer Edward Wright's (1561–1615) tables in his works is likewise well documented.⁷⁷ As a teacher at the Amsterdam school for sailors, Plancius was, alongside Robbert Robbertsz le Canu (1563–1632), charged with examining pilots.⁷⁸ It is natural that he would have had an interest in Linschoten's *Reys-gheschrift*, although the relationship between the two was fraught with scientific rivalry.

Plancius tried to exclude Linschoten from the 1595 debate on the route of Cornelis de Houtman's fleet, disagreed with him on the coordinates of Bantam and became involved in numerous heated public disputes with him. He was accused of madness, possibly even by Linschoten, because he increased the scale of maps of Scandinavia and Russia to defend his intention of sailing to China through the Arctic rather than by coasting.⁷⁹ He convinced Willem Barentsz (1550–97) to sail on his Arctic route in 1597 and patronized Gerrit de Veer's (1570–98) account of these expeditions against Linschoten's version.⁸⁰ In response Linschoten published his own academic edition of his travels to the north

⁷⁰ Parr, *Jan van Linschoten*, p. 216.

⁷¹ Saldanha, 'Itineraries', p. 157.

⁷² Parr, *Jan van Linschoten*, p. 189.

⁷³ Parr, *Jan van Linschoten*, pp. 211–12.

⁷⁴ Schilder, *Monumenta*, vi, 105, 110–11, 299.

⁷⁵ Parr, *Jan van Linschoten*, pp. 211–12.

⁷⁶ Parr, *Jan van Linschoten*, p. 210.

⁷⁷ C. Koeman, *Flemish and Dutch Contributions to the Art of Navigations in the XVI Century* (Lisbon, 1988), p. 5.

⁷⁸ Schilder, *Monumenta*, vi, 229.

⁷⁹ Parr, *Jan van Linschoten*, p. 279.

⁸⁰ Parr, *Jan van Linschoten*, p. 279.

in 1601. Most of the tensions between Plancius and Linschoten were rooted in scientific disagreements, and one outcome of Linschoten's own voyages was to disprove Plancius's ideas about Russian coastal geography.⁸¹

A self-made scientist, Linschoten was the first to ask permission from the States General to construct a nautical chart for Arctic navigation from the Dutch Republic to China. At the request of Adriaen Veen, he used loxodromic nautical charts on his voyages to the north. While all of the duo's differences came to light in the aforementioned 1601 edition,⁸² we should nonetheless remember that not long before his death, Linschoten was enlisted by Plancius to argue the viability of the northern route before the States General (at a time when it had been roundly discredited). Their rivalry was witnessed and recorded by Bernardus Paludanus (1550–1633), Linschoten's mentor, in his correspondence. It was indirectly present in a 1596 letter from Paludanus to Abraham Ortelius, in which the former promised Linschoten would send Ortelius a copy of the *Itinerario*.⁸³ The prestige such a recommendation implicitly conferred on Linschoten made him, in the eyes of his peers, a worthy challenger to a renowned scientist like Plancius.

But in 1595 Plancius and Linschoten were forced to put aside their divisions and join forces to prepare Houtman's expedition for departure. It was during, or as a result of, this period that Plancius ended up giving Linschoten more than just cartographic materials for publication in the *Itinerario*. Bearing in mind that Houtman departed with rutters from Linschoten, information on China and Japan provided by Pomp, and a set of unsigned secret instructions very probably written by Plancius,⁸⁴ a picture emerges of a more than pro forma collaboration between Linschoten and Plancius for the first Dutch voyage to Asia. In his memorandum to Houtman, Plancius gave details of navigation in the Atlantic, including currents, tides and the problem of the earth's magnetism. It is possible that he grounded his writing in certain 'secrets of Portuguese navigation' acquired by the Houtman brothers' spy mission of 1592 in Lisbon. A lack of research on the Houtmans' manuscript, held at the National Maritime Museum in Amsterdam, precludes a deeper analysis at present.⁸⁵ Nonetheless, Linschoten not only gave the route that Houtman followed between Madagascar and Java island but provided the magnetic deviations of the needle in several rutters that he published in the *Reys-gheschrift*. These would prove fundamental to Plancius's work on the topic, among them his attempts to solve the longitude problem at sea.⁸⁶ The preparation of Houtman's fleet, conversely, must have led to Plancius's handing over more materials for the *Reys-gheschrift*.

The list of latitude co-ordinates, the regiment on the magnetic deviation of the needle, and the set of questions and answers for sailors were provided and prepared by Plancius and Claesz, probably using information acquired from the 1592 mission to Lisbon. There are also indications that this was a later addition to the *Reys-gheschrift*, included just in time for Houtman's departure in April 1595. The set of questions and answers for sailors bears some similarities to Iberian analogues but has a chaotic organizational structure (with easier and more difficult scientific questions jumbled together indiscriminately),

⁸¹ Parr, *Jan van Linschoten*, p. 273.

⁸² Koeman, *Flemish and Dutch Contributions*, pp. 11–12.

⁸³ J. D. Tracy, *True Ocean Found: Paludanus's Letters on Dutch Voyages to the Kara Sea, 1595-1596* (Minneapolis, 1980), pp. 36–38, 72.

⁸⁴ Saldanha, 'Itineraries', p. 171.

⁸⁵ Schilder, *Monumenta*, vi, 229–36. I have been informed that Dutch scholar Erik Odegard is currently working on a study of this manuscript.

⁸⁶ K. Davids, 'Dutch and Spanish global networks of knowledge in the early modern period: structures, connections, changes', in *Centres and Cycles of Accumulation in and Around the Netherlands During the Early Modern Period*, ed. L. Roberts (Münster, 2011), pp. 29–52.

pointing to its hasty compilation for publication. The list of co-ordinates was probably edited by Plancius and loaned to Linschoten for printing in the *Reys-gheschrift*. Both the questions and answers and the regiment on the deviations of the magnetic needle were crucial to the success of Houtman's expedition. It was precisely this kind of on-board information that could make the difference between life and death on the first Dutch nautical voyage to Asia. The indispensability of this knowledge may have been Plancius's motivation for sharing his work with a scientific adversary. Indeed, such a pattern of collaboration was emblematic of Dutch scientific production during this period and is evident in the publishing activities of Claesz's circle. The whole project of Dutch overseas expansion was at stake, and this was a cause Plancius defended until his death. He certainly would not have gambled with it in 1595.

But this handover by Plancius may have had other consequences for the writing of the *Reys-gheschrift*. Dekker has stated that it is highly probable that Plancius ordered Cornelis de Houtman and his brother Frederik (1571–1627) to make astronomical observations on the voyage, which were presumably given to Plancius after their return in 1597 and were later used in his works.⁸⁷ But in 1598 Plancius also commanded that all scientific data for the fleet of Jacob van Neck (1564–1638) was to be compiled in books and delivered to him alone upon the fleet's return. The crewmen responsible for gathering data were forbidden from keeping their own copies and had to sign an oath of secrecy.⁸⁸ This 1598 order relates to the Dutch rivalry with the English in the north and Asia and was given in the same year that the *Itinerario* and the *Reys-gheschrift* were translated and published in English. Plancius's concern with controlling information leads me to think that a similar policy may have already been adopted in 1595 for Cornelis de Houtman's expedition and that this may have had consequences for the *Reys-gheschrift*.

The first example of the effects of this hypothesized policy of secrecy is the absence from the *Reys-gheschrift* of several materials that Linschoten had certainly compiled. The most obvious such example is the lack of a chapter on navigation between Madagascar and Java, the route that Houtman followed in 1595, even though we know that this information was given to Houtman by Linschoten.⁸⁹ The same can be said of the absence of any nautical rutter on the Moluccas. It is hard to believe that Linschoten did not compile this information at the viceroy's palace in Goa; almost all contemporary collections of Portuguese nautical rutters had guides to this area. Our best explanation may be that Plancius and Claesz barred the publication of these materials in 1595 to avoid competition from the English and the French in areas where the Dutch hoped to establish themselves.

Another silence in the *Reys-gheschrift* that is hard to ignore is the lack of declination tables for the position of the sun. Such tables had been a cornerstone of Portuguese nautical literature since the late fifteenth century. The omission may have been ordered by Plancius for the same reason cited above with regard to van Neck. Plancius was keenly aware of the dangerous obstacle to Dutch expansion presented by the English, who under Elizabeth I (1558–1603) had a head start of several decades over the Dutch in oceanic navigation. In the 1590s competing nations sought scientific knowledge of navigation with ever-intensifying rapacity. The Dutch were perfectly cognizant of the

⁸⁷ E. Dekker, 'Early explorations of the southern celestial sky', *Annals of Science*, xlv (1987), 439–70, at p. 441.

⁸⁸ Schilder, *Monumenta*, vi. 236.

⁸⁹ A. Pos, 'A stranger's testimony: some of Jan Huygen van Linschoten's views on and from Goa compared with Portuguese sources', *Itinerario*, xxviii (2004), 117–34, at p. 129.

fact that if they wanted to surpass the English, they had to carefully plan their expeditions, often under a veil of technical secrecy.⁹⁰

Despite extensive borrowing from Iberian sources for his discussion of their Atlantic routes, Linschoten also filled out these sections by interviewing Dutch sailors,⁹¹ as well as by calling on the knowledge of Plancius and Waghenar. These additions may have contributed to the deviations of the *Reys-gheschrift* from extant Spanish and Portuguese rutters. Considering the fact that Claesz provided Linschoten and Paludanus with access to several non-Dutch scientific works for the *Itinerario*, we might also expect Paludanus to have intervened in some sections of the *Reys-gheschrift*, especially those concerning the Spanish Atlantic. The organization and contents of the *Reys-gheschrift* cannot be disconnected from this context, since in the end it became another work of many hands, exactly like the rest of the *Itinerario*. It is now time to return to the initial question of the importance of this whole process of updating the *Reys-gheschrift* with Iberian Science and its connection with the major global race for geographical knowledge at the end of the sixteenth century. I will start with the immediate consequences of the *Reys-gheschrift*'s publication so that the legacy of Linschoten's text may be grasped.

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As I have argued, the *Reys-gheschrift* is more than a compilation of Iberian nautical rutters. In the process of compiling and editing Iberian Science, Linschoten became the author of some of these rutters. His scientific knowledge led him to introduce changes to rutters from geographical areas that he had sailed, as well as comment on regions he had never travelled to. In this process he also committed errors. Some of these mistakes, once published and translated into the main European languages, raised serious doubts about Iberian navigational expertise. The impact of Linschoten's oversights was most keenly felt among Portuguese practitioners of nautical science, since the majority of Linschoten's rutters were of Portuguese origin. Since the beginning of the sixteenth century, interest in Portuguese nautical and cartographic science had been heady, prompting rival European nations to seek access by whatever means necessary.⁹² But because Portuguese nautical rutters had never been read by a wide audience until they were published by Linschoten, Linschoten's errors were taken as indications of the less than stellar state of sixteenth-century Portuguese science. The pall cast by the *Reys-gheschrift* affected the first Portuguese compilation of nautical rutters, published by Portuguese cosmographer Manuel de Figueiredo (1568–1622?) in 1608. Although Figueiredo proclaimed himself the first to organize and correct gross errors in several nautical rutters, he was in fact following in Linschoten's footsteps. His compilation may therefore have been an attempt to re-establish the legitimacy and reputation of Portuguese nautical science.

Even before this, however, the *Reys-gheschrift*'s publication had more immediate consequences for the Spanish and the Portuguese. Starting with the voyage of Houtman, the original route from Madagascar to Melaka (used by the Portuguese in the late 1570s and 1580s), became a Dutch mainstay.⁹³ Not only did it allow Dutch vessels to avoid encounters with Portuguese ships, but it also enabled them to circumvent some aspects of the monsoon navigational system in the Indian Ocean. As early as 1600 Portuguese

⁹⁰ On this topic, see also D. van Netten, 'Sailing and secrecy: Information control and power in Dutch overseas companies in the late sixteenth and early seventeenth centuries', in *Information and Power in History. Towards a Global Approach*, ed. I. Nijenhuis and others (London, 2020), pp. 157–71.

⁹¹ Schilder, *Monumenta*, vi. 282.

⁹² L. de Albuquerque, *A projeção da náutica portuguesa quinhentista na Europa* (Coimbra, 1972).

⁹³ Pos, 'A stranger's testimony', p. 129.

cosmographer João Baptista Lavanha (1550–1624), reacting to the publication of the *Reys-gheschrift*, ordered the issuing of a new India Run rutter.⁹⁴ In 1613 Lavanha even sent a spy to infiltrate the Dutch and discover the scientific details of the ‘new’ route they had been using so successfully.⁹⁵ The route, moreover, influenced Portuguese attempts to produce coastal charts and rutters of Madagascar during the 1610s and affected other administrative restructuring plans in Portuguese Asia.

But Linschoten’s publication had further implications aside from its Iberian impact. Several studies have already shown the critical role that translations of Iberian rutters such as the *Reys-gheschrift* played in English, Dutch and French seafaring. Most rutters were used as a basis for navigation but were also updated over time. Data on the earth’s magnetism contained in such translations likewise left a mark on non-Iberian literature on related topics.⁹⁶ Linschoten’s work is a striking example of this transmission of scientific knowledge, moving data on magnetism from Iberia to the Dutch Republic. Art Jonkers has shown the importance of Portuguese and Spanish sailing’s contributions to data on the earth’s magnetism.⁹⁷ Although sometimes daunting in its technicality, the *Reys-gheschrift* did not lack for an audience, in the hands of whom it had the power to irreversibly shake up the development of early modern geopolitics and science. Here again, the connection with the struggle for geographical information and its importance leads to a clear conclusion. It is thus time to reflect more globally on the legacy of Linschoten’s opus in the early modern period.

Being formally the work of a cross-cultural broker,⁹⁸ and less formally another work by multiple writers, and thus quite typical of the Dutch cultural and scientific ecosystem during the 1590s, the *Reys-gheschrift* began a process that bears interesting similarities to its Portuguese antecedent. Whereas the dissemination of Portuguese nautical science and cosmography conditioned the rise of the Dutch and English East India companies (the V.O.C. and E.I.C., respectively), a similar development occurred in the fifteenth century, when the Portuguese adapted Mediterranean sailing techniques for their early expeditions in the Atlantic.⁹⁹ The movement of information between the Portuguese and the Dutch is mirrored in the flow of knowledge characterizing Portuguese-Spanish, French-Iberian and English-Iberian relations. Such relations are manifest in the itinerancy of nautical experts, exemplified by the migrations of sailor Ferdinand Magellan (1480–1521) and the Faleiro brothers to Spain, that of Portuguese pilot Jean Alphonse (1484–1544) to France, and the well-known case of Sebastian Cabot (1477–1557) from Spain to England. The employment of Portuguese, Spanish and French pilots in English navigations of the Elizabethan era is also well documented. David Waters has long since demonstrated England’s debt to Iberian nautical science.¹⁰⁰ The case of Portuguese pilot Nuno da Silva, whose account Linschoten published, demonstrates decisively how dependent Drake’s 1579 circumnavigation of the globe was upon Iberian nautical knowledge.¹⁰¹

⁹⁴ R. C. D. Baldwin, ‘The development and interchange of navigational information and technology between the maritime communities of Iberia, North-Western Europe and Asia, 1500–1620’ (unpublished Durham University M.A. thesis, 1980), p. 187.

⁹⁵ M. E. M. Santos, ‘O problema da segurança das rotas e a concorrência luso-holandesa antes de 1620’, *Revista da Universidade de Coimbra*, xxxii (1985), 121–59, at pp. 138–40.

⁹⁶ Malhão Pereira, ‘Roteiros portugueses, séculos XVI a XVIII’, pp. 267–8, 271–4.

⁹⁷ A. T. R. Jonkers, *Earth’s Magnetism in the Age of Sail* (London, 2003), pp. 48–57.

⁹⁸ K. Raj, ‘Go-betweens, travelers, and cultural translators’, in *A Companion to the History of Science*, ed. B. Lightman (Chichester, 2020), pp. 39–57.

⁹⁹ A. T. da Mota, *Evolução dos roteiros portugueses durante o século XVI* (Coimbra, 1969), p. 31.

¹⁰⁰ D. Waters, *The Iberian Bases of the English Art of Navigation in the Sixteenth Century* (Lisbon, 1970).

¹⁰¹ L. B. Wright, *English Explorers’ Debt to the Iberians* (Coimbra, 1980).

In this sense, the *Reys-gheschrift* is testimony to an open secret of life in sixteenth-century Europe: that even between overt rivals, strategic nautical knowledge and texts crossed borders and could not be controlled indefinitely. It points to a world of nautical experts in motion, ranging from common sailors to navigators and cosmographers; a motion that could not be stopped by the Portuguese and Spanish crowns, despite their attempts to do so. This intense movement had a significant impact on the emergence of scientific ideas about the earth and brought about a new consciousness and conception of the world as a globe, discussed in depth by Denis Cosgrove.¹⁰² The unprecedented length of maritime journeys undertaken at the end of the fifteenth century and in the early years of the sixteenth century could not help but change the socio-scientific discussion surrounding navigation. The voyages brought greater numbers and more diversely trained people on board, creating conditions for the dissemination of scientific practices to new echelons of society and a larger audience overall.¹⁰³ With these voyages and their concomitant documentation, the notion that the entire earth could be known and described seized the imagination of European stakeholders and inspired improved scientific approaches.

We cannot, therefore, overstate the significance of sixteenth-century Iberian Science, embodied in nautical rutters as privileged documents where we can observe this process in action. This process began in the sixteenth century, although it acquired greater clarity in the seventeenth century. The escalation of navigations explains why, in the seventeenth century, the competition for global nautical knowledge reached fever pitch, as evidenced in the spate of ‘espionage’ missions. If in the sixteenth century it was mainly the French, the English and the Dutch spying on Iberian Science, by the seventeenth century the Portuguese and the Spanish were also eager to lay hands on the technical updates made by the Dutch and the English. Nonetheless, as in the sixteenth century, albeit with greater intensity, we are confronted with a scientific world of nautical experts on the move.

It is precisely in this context that the *Reys-gheschrift* became so important for this broader process. Not only is Linschoten emblematic of these scientific transfer processes, but he clearly grasped the significant role that Iberian Science could play at the beginning of Dutch overseas expansion. More generally, Linschoten saw that geopolitical dominance in a world of maritime empires depended increasingly upon technical expertise. During his ‘apprenticeship’ aboard ship in Portuguese Asia, Linschoten himself became an expert, enabling him to actively intervene in the texts he compiled. I have no doubt that he would have been qualified to instruct Dutch seamen in matters like astronomical navigation, so common on his voyages on the Portuguese India Run. Nevertheless, even if we cannot document any pedagogical forays Linschoten may have made, as we can for Plancius and Waghenaer, the plausibility of this proposition, and its possible influence on the *Reys-gheschrift*, merits consideration.

In turn, Linschoten’s scientific collaborations with Claesz, Plancius, Waghenaer and Paludanus explain why the *Reys-gheschrift* was so successful, with the book eventually being reprinted several times in the seventeenth century. Not only did it have the ‘scientific authority’ of Linschoten, Plancius and Waghenaer, but it was a pragmatic text, ready-made for use on ships. It would be equally at home in nautical schools throughout Europe, teaching inexperienced pilots. This pedagogical intention cannot be separated from Linschoten’s own scientific status. This was a status that Linschoten

¹⁰² D. Cosgrove, *Apollo’s Eye: a Cartographic Genealogy of the Earth in the Western Imagination* (London, 2001).

¹⁰³ H. Leitão, ‘All aboard! Science and ship culture in sixteenth century oceanic voyages’, *Early Science and Medicine*, xxi (2016), 113–32.

actively constructed, transcending the artisanal level of knowledge he was born into and securing an almost academic reputation by the end of his life. That he may have shared authorship with Claesz, Plancius, Waghenaer, Pomp, Paludanus (to a lesser extent) and anonymous Dutch sailors diminishes neither his pedagogical programme nor the value of the *Reys-gheschrift's* scientific contributions. However, more research is required to understand the true scientific value of the *Reys-gheschrift* during the seventeenth century, beginning with a careful comparison of its several editions and the way it was updated and amended over time. Such a study would enable scholars to access nautical developments in motion during the seventeenth century. With further investigations of this kind, a clear picture of how the *Reys-gheschrift* affected key moments of the Dutch, English and French maritime expansions in the seventeenth century may finally emerge.