3. Monitoring the Paths of the Sea: Rutters, Laws, and Long-Distance Control in Sixteenth-Century Iberian Empires

José María Moreno Madrid

Abstract: Among the many processes triggered by early modern Iberian maritime expansion was the juridical appropriation of the oceans. Discussions regarding the regulation of oceanic spaces occurred at both international and internal levels, with the aim of developing efficient procedures to monitor the performance of the Portuguese and Spanish fleets on their voyages. This chapter examines several innovative juridical mechanisms created by the administrative apparatuses of the Iberian empires during the sixteenth and seventeenth centuries to establish and oversee the precise 'route' to be followed by their ships. In theory, these regulations sought to control long-distance voyages; however, in practice, the regulation of areas so distant from the centers of decision-making proved to be a challenging task.

Keywords: routes, history of law, rutters of instruction, Spain, Portugal, long-distance control.

Introduction

Oceanic navigation and its consequent overseas expansion brought about profound changes in the early modern European world. From lands that had been considered nonexistent only a few decades earlier, a flood of objects and information now arrived, fascinating but also overwhelming the minds and institutions of the Old Continent. A "change of scale" in global

perception and interaction was taking place.¹ The process of adapting to this new reality took place at different speeds in the European states, due to the different chronologies of their involvement in transoceanic projects. Portugal and Spain, which were the first to go further out into the Atlantic, were also the first to be forced to deal with problems and situations that had never been faced before and for which innovative solutions were needed.² Deepening knowledge of the natural world and the systematic accumulation of information about it were common processes used to address many of these issues and build the foundations of empire.³ Therefore, this endeavor was key to overcoming one of the major obstacles to establishing, consolidating, and maintaining an overseas empire: systematizing and controlling long oceanic routes.⁴ As might be expected, the imperial legal apparatus was a fundamental tool in the attempt to regulate long-distance navigation.

- 1 Henrique Leitão, "Um mundo novo e uma nova ciência," in 360º Ciência Descoberta, ed. Henrique Leitão (Lisboa: Fundação Calouste Gulbenkian, 2013), 15–41.
- 2 In this context were created specific institutions for technical education and for the accumulation and management of information—e.g., the Casa da Índia in Portugal and the Casa de la Contratación in Spain—; new professionals, intermediate between scholars and artisans, emerged; and new cognitive devices—such as cartographic models or oceanic rutters—were developed. See Henrique Leitão and Antonio Sánchez, "Zilsel's Thesis, Maritime Culture, and Iberian Science in Early Modern Europe," *Journal of the History of Ideas* 78, no. 2 (2017):191–210.
- As Antonio Sánchez states: "Atlantic empiricism was not based on the causal analysis of the secrets of nature, but on procedures of observation, experimentation, and representation of the phenomena in response to the utilitarian demands of the imperial policies," in Antonio Sánchez, "Practical Knowledge and Empire in the Early Modern Iberian World: Towards an Artisanal Turn," Centaurus 61, no. 3 (August 2019): 4. On this topic, see also Antonio Sánchez, "The 'Empirical Turn' in the Historiography of the Iberian and Atlantic Science in the Early Modern World: From Cosmography and Navigation to Ethnography, Natural History, and Medicine," Tapuya: Latin American Science, Technology and Society 2, no. 1 (January 1, 2019): 317–334; Antonio Barrera-Osorio, Experiencing Nature: The Spanish American Empire and the Early Scientific Revolution (Austin: University of Texas Press, 2006); Antonio Barrera-Osorio, "Empire and Knowledge: Reporting on the New World," Colonial Latin American Review 15, no. 1 (2006): 39-54; Jorge Cañizares-Esguerra, Nature, Empire, and Nation: Exploration of the History of Science in the Iberian World (Stanford: Stanford University Press, 2006); Juan Pimentel, "The Iberian Vision: Science and Empire in the Framework of a Universal Monarchy, 1500–1800," Osiris, Nature and Empire: Science and the Colonial Enterprise, 15 (2000): 17–30; Arndt Brendecke, Imperio e información. Funciones del saber en el dominio colonial español (Madrid: Iberoamericana; Frankfurt: Vervuert, 2012).
- 4 As John Law already noted for the Portuguese India Run in John Law, "On the Methods of Long-Distance Control: Vessels, Navigation and the Portuguese Route to India," *The Sociological Review* 32, no. 1 (1984): 234–263. It also can be found in John Law, "On the Methods of Long-Distance Control: Vessels, Navigation, and the Portuguese Route to India," in *Power, Action and Belief: A New Sociology of Knowledge? Sociological Review Monograph*, ed. John Law (Routledge: Henley, 1986), 234–263.

Legal practices related to the sea were not unaffected by the "change of scale." It is true that Roman maritime law remained the basic legal reference,⁵ and that certain medieval codes could still be observed;⁶ however, all of them had been designed to be applied in the *small* European seas, so the scope of their answers was limited.⁷ As early as the fifteenth century, the eagerness of Portugal and Spain to share the newly discovered lands led to bilateral treaties, usually ratified by papal authority.⁸ A landmark

- 5 Since ancient times, the coasts were considered "common use" (res commune), the sea itself being understood as a space for communication and trade. This status could change in times of war, when the coasts became a gateway for invasion and had to be defended. Thus, as conflicts between peoples increased, maritime coasts became targets for fortification and a certain informal concept of belonging began to permeate them. A paradigmatic example of this process is the Mediterranean at the time of the Roman Empire. The Mare Nostrum was almost entirely dominated by Rome, and consequently Celsus (67–130) claimed that its shores were also the property of the Roman people. Celsus's words, however, were not supported by the Code of Justinian, one of the great Roman legal monuments: it stated that the air, the flowing waters, and the sea—and therefore the coastline—were res communes and therefore could not be appropriated. Such a condition did not extend to islands and territories abandoned at sea, which could be subject to occupation because they were considered res nullius. Fernando Marín Castán, "Marco jurídico de la seguridad marítima," Cuadernos de Estrategia 140 (2008): 171–172.
- 6 Concern for the legal regulation of the sea resurfaced vigorously in the late Middle Ages, in contrast to the modest production of legal texts in the early Middle Ages. Behind this revival could be the ambitions of several states that, from the twelfth century onwards, sought a privileged position in the European seas. This is the case of Sweden and Denmark in the Baltic and Norwegian Seas, Venice in the Adriatic, Pisa in the Ligurian Sea, and Britain in the so-called British Seas (Benjamin Parameswaran, *The Liberalization of Maritime Transport Services* [Berlin: Springer, 2004], 77). Therefore, during that period a number of highly relevant legal texts appeared, among which stand out the *Rolls of Oleron*, the *Libro del Consulado del Mar*, the *Laws of Wisby*, and the *Tabula Amalfitana*. No less important were the *Partidas* of Alfonso X of Castile, which drew on Justinian law in maritime matters, keeping the sea and its shore as *res commune* (Marín Castán, "Marco jurídico de la seguridad marítima," 172).
- All these texts, despite their undoubted relevance for the history of law, are still local compilations that do not integrate and/or constitute a common law of the sea for the maritime areas they regulate. Edda Frankot demonstrates this for the North Sea in Edda Frankot, "Medieval Maritime Law from Oléron to Wisby: Jurisdictions in the Law of the Sea," in Communities in European History. Representations, Jurisdictions, Conflicts, ed. Juan Pan-Montojo and Frederik Pedersen (Pisa: Edizioni Plus-Pisa University Press, 2007); Edda Frankot, "Of Laws of Ships and Shipmen": Medieval Maritime Law and Its Practice in Urban Northern Europe (Edinburgh: Edinburgh University Press, 2012).
- 8 In 1436 Eugene IV promulgated the bull *Dudum cum ad nos* to resolve the conflict over the possession of the Canary Islands; in 1452 Nicolas V promulgated the bull *Dum diversas*, which granted Afonso V of Portugal the right to enslave Saracens and pagans in West Africa; in 1455 the same pope promulgated the bull *Romanus Pontifex*, which reinforced the provisions of the previous bull and granted Portugal the ownership of the territories located south of Capes Bojador and Nam; in 1456 Calixtus III promulgated the bull *Inter caetera*, which reaffirmed the validity

event in this process was the signing of the Treaty of Tordesillas in 1494, which divided the known world between Spain and Portugal through a line that would be placed 370 leagues west of the archipelago of Cape Verde. The rich history of the conceptualization and practical understanding of this line is beyond the scope of this chapter. Suffice it to say that it played a fundamental role as a diplomatic instrument, preserving peace on the Iberian Peninsula for more than a century. Some authors have considered this treaty as a reasonable starting point for the development of the current law of the sea.

of the *Romanus Pontifex*; in 1481 Sixtus IV promulgated the bull *Aeterni Regis*, which sanctioned what had been agreed upon in the Treaty of Alcaçovas; in 1493 Alexander VI promulgated the bulls *Inter caetera*, *Eximiae devotionis*, a second one called *Inter caetera*, and *Dudum siquidem*, all very favorable to the interests of the Catholic Monarchs with regard to the ownership of the new American lands.

- There is a vast body of literature on the Treaty of Tordesillas. Among others, see: Luis de Albuquerque, "O Tratado de Tordesilhas e as dificuldades técnicas da sua aplicação rigorosa," in El Tratado de Tordesillas y su proyección (I Colóquio Luso-Espanhol de História do Ultramar, Valladolid: Universidad de Valladolid, 1973), I:221–257; Ana María Carabias Torres, "Los conocimientos de cosmografía en Castilla en la época del Tratado de Tordesillas," in El Tratado de Tordesillas y su época, ed. Luis Antonio Ribot García, Adolfo Carrasco Martínez, and Luís Adão da Fonseca (Madrid: Junta de Castilla y León, 1995), 959-976; F. Paulino Castañeda, "El Tratado de Alcaçovas y su interpretación hasta la negociación del Tratado de Tordesillas," in *El Tratado de Tordesillas* y su proyección (Valladolid: Universidad de Valladolid, 1973), I:103–115; Ricardo Cerezo Martínez, "El meridiano y el antimeridiano de Tordesillas en la Geográfia, la Náutica y la Cartográfia," Revista de Indias 54, no. 202 (1994): 509–542; Lourdes Díaz-Trechuelo, El Tratado de Tordesillas y su proyección en el Pacífico (Madrid: Asociación Española de Estudios del Pacífico, 1994); Thomas Duve, "El Tratado de Tordesillas: ¿Una "revolución espacial"? Cosmografía, prácticas jurídicas y la historia del derecho internacional público," Revista de Historia del Derecho 54 (December 2017): 77-107; Ursula Lamb, "Dos huellas científicas del Tratado de Tordesillas," in Cosmographers and Pilots of the Spanish Maritime Empire (Aldershot: Variorum, 1995), X:185–193; Eufemio Lorenzo, Francisco Gallego, and Gloria Tejedor, El Tratado de Tordesillas (Madrid: Junta de Castilla y León, V Centenario Tratado de Tordesillas, and Anaya Educación, 1995).
- 10 See: José María Moreno Madrid and Henrique Leitão, *A longitude do mundo. Viagens oceânicas, cosmografia matemática e a construção de uma Terra global* (Lisboa: Imprensa Nacional-Casa da Moeda, forthcoming).
- 11 Tullio Treves, "Historical Development of the Law of the Sea," in *The Oxford Handbook of the Law of the Sea*, ed. Donald R. Rothwell et al. (Oxford: Oxford University Press, 2015), 3; Scott G. Borgerson, *The National Interest and the Law of the Sea* (New York: Council Foreign Relations, 2009), 6. At present, "maritime law" should not be confused with "law of the sea" or "international maritime law." The first, "maritime law," refers to legal rules applied to maritime disputes between private parties, while "law of the sea" or "international maritime law" is an international body of law that regulates the rights and duties of states in the maritime field. For broader, non-Eurocentric perspectives on the origins and development of the law of the sea see R. P. Anand, *Origin and Development of the Law of the Sea: History of International Law Revisited* (The Hague: Martinus Nijhoff, 1983); Hassan Salih Khalilieh, *Islamic Maritime Law:*

As the sixteenth century progressed, both Iberian kingdoms expanded their areas of influence in the waters that were no longer considered *res* communes but mare clausum under the Treaty of Tordesillas. This means that, in practice, Portugal and Spain really considered vast swaths of territory—like the Atlantic or the Pacific—to be private property. For most of the century, this circumstance did not pose an international problem, since no other European power systematically practiced long-distance oceanic voyages; nevertheless, several Spanish authors questioned under what prerogatives it was possible to claim ownership of the seas. 12 By the 1570s, English nautical science had improved enough to pose some serious challenges to the Iberian mare clausum.¹³ For example, when Philip II's ambassadors in England demanded that Elizabeth I (1533–1603) answer for Francis Drake's raids in the Pacific, she invoked the Justinian Code stating that "the use of sea and air is common to all; neither can any title to the ocean belong to any people and private man, for as much as neither nature nor regard of the public use permitteth any possession thereof."¹⁴ The debate gained in intensity with the entry on the scene of the Dutch and their pretensions on the Portuguese Carreira da Índia, 15 and reached a turning point in 1609 with the publication of Hugo Grotius's (1583–1645) Mare

An Introduction (Leiden: Brill, 1998); Hassan S. Khalilieh, Islamic Law of the Sea: Freedom of Navigation and Passage Rights in Islamic Thought (Cambridge: Cambridge University Press, 2019). For an approach to current legislation see, among others: Yoshifumi Tanaka, The International Law of the Sea, 2nd Edition (Cambridge: Cambridge University Press, 2015).

- 12 Nieves San Emeterio, "El debate sobre el domino de los mares en el imperio español durante los siglos XVI y XVII," *Iberian Journal of the History of Economic Thought 7*, no. 2 (October 22, 2020): 133–142; Nicolás Salom-Franco, "Vitoria y Grocio frente al mar," *Estudios Socio-Jurídicos* 3, no.1 (2001): 93–141.
- 13 See David W. Waters, *The Art of Navigation in England in Elizabethan and Early Stuart Times* (London: Hollis and Carter, 1958); David Waters, *The Iberian Bases of the English Art of Navigation in the Sixteenth Century* (Coimbra: [Separtata da *Revista da Universidade de Coimbra* 24], 1970).
- 14 Quoted in: Siobhan Carroll, An Empire of Air and Water: Uncolonizable Space in the British Imagination, 1750-1850 (Philadelphia: University of Pennsylvania Press, 2015), 221.
- 15 André Murteira, *A Carreira da Índia e o corso neerlandês*, 1595–1625 (Lisboa: Tribuna da História, 2012); André Murteira, "Ingleses e neerlandeses contra a Carreira da Índia no Índico Ocidental, 1621–1623," *Oriente* 19 (Otono 2008): 3–26; André Murteira, "La Carreira da Índia y las incursiones neerlandesas en el Índico Occidental, 1604–1608," in *España y Portugal en el Mundo (1581–1668)*, ed. José Antonio Martínez Torres and Carlos Martínez Shaw (Madrid: Edições Polifemo, 2014), 299–314; André Murteira, "Combates luso-neerlandeses em Santa Helena (1597–1625)," *Anais de História de Além-Mar* 7 (2006): 65–80; Martine Julia van Ittersum, "Hugo Grotius in Context: Van Heemskerck's Capture of the *Santa Catarina* and Its Justification in *De Jure Praedae* (1604–1606)," *Asian Journal of Social Science* 31, no. 3 (January 1, 2003): 511–548.

Liberum. ¹⁶ Considered by many to be the founding text of the present-day law of the sea, Grotius's work sparked the so-called "Battle of the Books": a sort of open debate in which several contemporary jurists and scholars—Nicolás Bonaert (1564–?), Serafim de Freitas (ca. 1553–1633), John Selden (1584–1654) and William Welwood (1552–1624)—gave written replies to the Grotian postulates on the freedom of the seas. ¹⁷

Although this is a very interesting issue for the history of international maritime law, it is obvious that the sovereigns and administrators of the empires of the time did not pay much attention to it when organizing and regulating their transoceanic enterprises. Even less so in the sixteenth century, when the problem was just beginning to surface. In practice, control was sought through the legal apparatus of each empire, which differed significantly from the legal systems that govern us today. Regarding the legal instruments in Iberia, ¹⁸ Arndt Brendecke explains that, at the time, it was difficult to distinguish between genuine *legal acts* and the rest of the royal correspondence with statements that constituted *law*—resulting in a wide range of legally valid documents. ¹⁹ Thus, royal provisions, decrees, charters,

- 16 English translation of the text: Hugo de Groot, *The Freedom of the Seas, or the Right Which Belongs to the Dutch to Take Part in the East Indian Trade*, tr. Ralph van Deman Magoffin, ed. James Brown Scott (New York: Oxford University Press, 1916).
- 17 On the "Battle of the Books" see: W. S. M. Knight, "Grotius in England: His Opposition There to the Principles of the Mare Liberum," Transactions of the Grotius Society 5 (1919): 1-38; Eric G. M. Fletcher, "John Selden (Author of Mare Clausum) and His Contribution to International Law," Transactions of the Grotius Society 19 (1933): 1–12; R. Warden Lee, "Grotius—The Last Phase, 1635–45," Transactions for the Year 31 (1945): 193; Jonathan Ziskind, "International Law and Ancient Sources: Grotius and Selden," The Review of Politics 35, no. 4 (1973): 537-559; George Smith, "The Concept of Free Seas: Shaping Modern Maritime Policy within a Vector of Historical Influence," International Lawyer 11, no. 2 (January 1, 1977): 355-363; Peter Borschberg, "Hugo Grotius, East India Trade and the King of Johor," Journal of Southeast Asian Studies 30, no. 2 (1999): 225-248; Monica Brito Vieira, "Mare Liberum vs. Mare Clausum: Grotius, Freitas, and Selden's Debate on Dominion over the Seas," Journal of the History of Ideas 64, no. 3 (2003): 361-377; Martine Julia van Ittersum, "Mare Liberum versus the Propriety of the Seas? The Debate between Hugo Grotius (1583-1645) and William Welwood (1552-1624) and Its Impact on Anglo-Scotto-Dutch Fishery Disputes in the Second Decade of the Seventeenth Century," The Edinburgh Law Review 10 (2006): 239-276; Helen Thornton, "John Selden's Response to Hugo Grotius: The Argument for Closed Seas," International Journal of Maritime History XVIII, no. 2 (December 2006): 105-127; José Antonio Martínez Torres, "Gobernar el Mundo'. La polémica Mare Liberum versus Mare Clausum en las Indias Orientales (1603–1625)," Anuario de Estudios Americanos 74, no. 1 (2017): 71.
- 18 Brendecke's analysis is based on the Spanish reality, but it can be broadly applied to the Portuguese context.
- 19 Brendecke, *Imperio e información*, 348. There is also an English translation: Arndt Brendecke, *The Empirical Empire: Spanish Colonial Rule and the Politics of Knowledge* (Berlin: De Gruyter Oldenbourg, 2016). This does not mean that no progress at all was made in the organization and systematization of legal texts. In the case of Spain, the legislative work of the Catholic Monarchs

warrants, ordinances, and *pragmáticas* could all contain legally binding decisions of the monarch, which were often made on a case-by-case basis. This practice is also known as "subjective law," and its defining characteristic is that the legal norm was in principle granted to the individual or reported to the institution concerned; that is, it was not mandatory to record such norms in a generally valid and publicly accessible compilation of laws.²⁰

This is the context in which, from the end of the fifteenth century, a new regulable entity appeared within the framework of long-distance control: the oceanic route. For the architects of the *mare clausum*, the oceanic routes stretched across the oceans, just as the terrestrial routes stretched across their land-based imperial domains.²¹ As such, they could (and should) also be subject to legal control. What was the *exact* route to follow? Was it possible to deviate from the established route? If such a possibility existed, what were the circumstances under which it could be exercised? Who was responsible for establishing the procedure to be followed in the event

was of great importance. For example, in 1480 they approved the ordenamiento of the Courts of Toledo, one of the most comprehensive in terms of judicial organization, since it gave new organization to the royal council, adjusted the functioning of the chancillerías and the audiencias and regulated the function of the corregidores, among other things. Charles V (1500-1558), for his part, approved the *ordenamiento* of the Courts of Valladolid of 1518, the *ordenanzas* of the Courts of the same city of 1537, the Colección de Ordenanzas of 1543 for the alcaldes mayores or the ordenanzas for the audiencias and royal council of 1554. José Tomé Paule, "La organización judicial española durante la Edad Moderna," Revista de Derecho Procesal Iberoamericana Separata (1982): 453-487. In the case of Portugal, the process of consolidation and organization of the state gained special relevance with King Manuel I (1469-1521). During his reign, the concept of the "state" as a legal person, endowed with rights and duties, became a reality. Consequently, previous legislative texts were revised, specifically the Afonsine code—issued during the reign of Afonso V (1432-1481). For this task, King Manuel commissioned a group of jurists to compile a new legislative code for the kingdom, which was published in 1514 under the name of Ordenações Manuelinas. This text was replaced in 1521 by a second updated version. The Ordenações da Índia, published in 1520, is another example of the effort to systematize and organize previous legal texts. Bruno Neves, "A legislação da Carreira da Índia: Caracterização e análise da sua evolução, 1500-1580" (MA thesis, Lisboa, Universidade de Lisboa, 2004), 35.

- 20 Brendecke, Imperio e información, 347-348.
- 21 The metaphor of sea routes as "pathways over water" was already common at the time and can be found in several nautical texts by important authors. Perhaps one of the most famous is this one by Martín Cortés de Albacar: "I say that sailing is nothing more than walking on water from one place to another. [...] This way differs from the way of the earth in three things: that of the earth is firm, this way is flexible; that of the earth remains, this way is movable, and that of the earth is marked and that of the sea is unknown. And if the ways of the earth are steep and rough, the sea pays for them with the serenes in storms. Being such a difficult path, it would be difficult to put it into words, or to write it down with a pen." Martín Cortés de Albacar, *Breve compendio de la sphera y de la arte de navegar con nuevos instrumentos y reglas, ejemplificado con muy sutiles demostraciones* (Sevilla: Antón Álvarez, 1551), f. 61v.

of a deviation? Were any penalties imposed for an unjustified deviation? Which ones? The following pages will attempt to identify instances where these questions were addressed by the judicial apparatus of the overseas empires of the sixteenth century. This will be done by examining specific documentary examples and more general compilations of laws.

3.1. Rutters of Instruction and the Route of the Aviso Ships

One of the challenges posed by the "change of scale" was the organization and distribution of official correspondence around the globe. In the case of the Spanish empire, the solution devised for the oceanic routes was the *Aviso* ships. These were small, fast, shallow-draft vessels that were reinforced from the end of the sixteenth century to counter the threat of pirates and corsairs. After the reorganization of the fleets in 1561, the *Aviso* ships sailed in convoy to America, accompanied by merchant ships and warships; then they returned alone to the Iberian Peninsula. The Casa de la Contratación was the institution responsible for the equipment and dispatch of these ships. The royal treasury allocated up to 10,000 ducats for their maintenance and 30,000 ducats for the payment of salaries, the dispatch of mail and the payment of taxes. ²²

On these critical journeys, where it was so important to follow the fastest and safest route, a special document was always present on board: *rutters of instruction*. As Carmo Lacerda and I recently explained, "these rutters constitute an anomaly within the textual category itself since they were produced in a very particular context and with a very specific purpose."²³

- 22 Jaime Ascandoni Rivero, "El correo durante el reinado de Felipe II," in *Ciencia y técnica en la sociedad española de los siglos XVI y XVII*, ed. Enrique Mártinez Ruiz, 1st ed. (Barcelona: Labor Universitaria, 1979), 267. For an in-depth analysis of the *Aviso* ships and the correspondence between America and Spain see: José María Vallejo García-Hevia, "Los navíos de aviso y los correos marítimos a Indias (1492–1898)," *Ivs Fvgit* 7 (1998): 197–266.
- 23 Carmo Lacerda and José María Moreno Madrid, "A Remarkable Collection of Rutters, 16th–18th Centuries: Derroteros que hacía el piloto mayor para que llevasen los jefes de las embarcaciones que iban a Indias," RUTTER Technical Notes Series 6 (2021): 4. A significant part of these rutters used by the Aviso ship are preserved in a bundle in the Archivo General de Indias (Seville) [AGI] with reference number "Contratación, 4890." The first historian to note their importance was José Pulido Rubio, who transcribed three of them in José Pulido Rubio, El piloto mayor de la Casa de la Contratación de Sevilla: pilotos mayores, catedráticos de cosmografía y cosmógrafos de la Casa de Contratación de Sevilla (Sevilla: CSIC / Escuela de Estudios Hispano-Americanos, 1950), 532–536. More recently, José María García Redondo has emphasized their importance in relation to the textual dimension of the padrón real in José María García Redondo, Cartografía e imperio. El Padrón Real y la representación del Nuevo Mundo

Some differences between these documents and what we conventionally call "rutters" or "sailing directions" should be emphasized. 24 Rutters of instruction were produced on land, rather than during the voyage itself as an immediate outcome of the observation of the natural world. They did not consist of a spontaneous recording, but were the result of filtering and adapting the information previously stored in the Iberian "centers of calculation." ²⁵ Since the Casa de la Contratación was responsible for the technical and scientific aspects of the Aviso voyages, and given their importance, it is not surprising that the pilot major (piloto mayor) was entrusted with the production of rutters of instruction. ²⁶ It is worth noting that they constitute a very interesting example of how a cognitive device was constructed in the early modern Iberian "epistemic setting."²⁷ The information on the route was collected by pilots and sailors, representatives of the artisanal communities linked to the nautical world. The rutter, however, was written by the pilot major, one of the "intermediate professionals" par excellence, who combined his theoretical training with the need to work with seamen. All of this took place under the auspices of a "specific institution" such as the Casa de la Contratación.²⁸ But beyond that, these documents have a

(Madrid: Doce Calles, 2018), 115–133 and José María García Redondo, "Derroteros, avisos y mapas. La dimensión textual del Padrón Real de la Casa de la Contratación," in *Navegação no Atlântico. XVIII Reunião Internacional de História da Náutica*, ed. Francisco Contente Domingues and Susana Serpa Silva (Lisboa: CHAM-Centro de Humanidades, 2019), 147–161.

- 24 Some useful definitions of what is conventionally understood as a "rutter" can be found in: Charles R. Boxer, "Portuguese *Roteiros*, 1500–1700," *The Mariner's Mirror* 20, no. 2 (1934): 171–186; José Manuel Malhão Pereira, "Roteiros portugueses, séculos XVI a XVIII. Sua génese e influência no estudo da hidrografia, da metereologia e do magnetismo terrestre" (PhD diss., Universidade de Lisboa, 2017); José Manuel Malhão Pereira, *Os roteiros e a expansão maritima portuguesa e europeia* (Lisboa: Academia das Ciências de Lisboa, 2017).
- 25 Lacerda and Moreno Madrid, "A Remarkable Collection of Rutters, 16th–18th Centuries," 4. On the concept of "centers of calculation" see Bruno Latour, *Science in Action* (Cambridge, MA: Harvard University Press, 1987).
- 26 For example, many of them are signed by the Pilots Major Juan Cruzado de la Cruz y Mesa (†1692) and Francisco Antonio de Orbe (†1727). For the former see Pulido Rubio, *El piloto mayor de la Casa de la Contratación de Sevilla*, 867–905, and for the latter 907–945.
- 27 This is an expression coined by Brendecke, *Imperio e información*. Antonio Sánchez explores this process using the nautical chart as an object of study in Antonio Sánchez Martínez, "Artesanos, cartografía e imperio. La producción social de un instrumento náutico en el mundo ibérico, 1500–1650," *Historia Crítica* 73 (July 2019): 21–41.
- 28 See footnote 2. I develop this idea by following Sánchez Martínez, "Artesanos, cartografía e imperio"; Leitão and Sánchez, "Zilsel's Thesis, Maritime Culture, and Iberian Science in Early Modern Europe"; Sánchez, "The 'Empirical Turn' in the Historiography of the Iberian and Atlantic Science in the Early Modern World"; Antonio Sánchez and Henrique Leitão, "Artisanal Culture in Early Modern Iberian and Atlantic Worlds," *Centaurus* 60, no. 3 (August 2018): 135–140.

peculiarity that makes them (tentative) tools for controlling long-distance oceanic voyages.

Rutters of instruction were delivered as part of a set of legally binding documents called "Instruction" (*Instrucción*) that were given to the admiral of a fleet before it set sail. In addition to the rutter itself, the pages of the instruction contained other guidelines on various matters to be followed during the voyage. ²⁹ Thus, these rutters were "imbued with a certain legal power" and specified several duties (assigned to those responsible for the completion of the journey), together with the penalties for non-compliance. A common closing paragraph for these instructions was as follows:

You are commanded, *under pain of death*, not to enter any port during your voyage until you reach the port of San Juan de Ulua. And in order to reach it with the required brevity, you shall exercise extraordinary diligence, as is expected of you.³¹

It is difficult to know whether such a strict order was followed to the letter in every case. There is an obvious problem between the theory and practice of power in such a situation, as the mandate may be very clear on paper, but control over what happens on the ship gradually diminishes as it moves away from the port. 32

However, there is some documentary evidence that those in charge of the vessel were held accountable after the voyage. For example, the owner and *maestre* (Miguel de Rribas) and the pilot (Miguel de Hordiola [?]) of the *Aviso* ship *San Juan*, which completed its voyage to New Spain in 1582, were thoroughly interrogated at the Casa de la Contratación upon their

- 29 Lacerda and Moreno Madrid, "A Remarkable Collection of Rutters, 16th–18th Centuries," 4.
- 30 Lacerda and Moreno Madrid, "A Remarkable Collection of Rutters, 16th-18th Centuries," 4.
- 31 "Y asimismo se os manda so pena de la vida que no entreis en ningun puerto en el discurso de vuestro viage hasta entrar en el de San Juan del Ulua, y para llegar a el con la brevedad que se requiere areis extraordinaria diligencia como de vos se confía." Italics are my own. "Instrucion de lo que vos, Alonsso de [...], maestre del barco nombrado San Antonio y vos Valerio de Solís, piloto del dicho varco, aveis de guardar en el viaje que aveis de hacer por mandado de Su Majestad a la Provincia de Nueva España, con despachos de Su Real servicio, la qual aveis de guardar en la manera siguiente" (1609), in AGI, Contratación, 4890. Transcribed in Lacerda and Moreno Madrid, "A Remarkable Collection of Rutters, 16th–18th Centuries," 15–16.
- 32 I have recently addressed this problem in relation to the circulation of cartographic information in José María Moreno Madrid, "Circulation and Contacts in Sixteenth Century New Cartography: Spain, Portugal and Italy," *Culture & History Digital Journal* 10, no. 2 (October 2021): e015. See also Alison D. Sandman, "Controlling Knowledge: Navigation, Cartography, and Secrecy in the Early Modern Spanish Atlantic," in *Science and Empire in the Atlantic World*, ed. J. Delbourgo and N. Dew (New York: Routledge, 2008), 31–51.

return.³³ As expected, the "voyage and navigation"³⁴ carried out both on the outward and return journeys was one of the key questions for them. But the Spanish institutions' desire to control the high seas went beyond a mere interrogation.

The Archivo General de Indias has a set of pages—in a precarious state of preservation—entitled "Routes Followed on the Voyage by this *Aviso* Ship," dated 1612, and written by a high-ranking crew member of the *Aviso* ship *Buen Jesús*.³⁵ The text describes the events of the voyage in detail, and it resembles more a logbook than a rutter—contrary to what the title might suggest. The characteristics and context of the document suggest that it could be one of the *relaciones particulares* that pilots and masters had to write by order of Philip II's famous royal decree of 1575.³⁶ The information about the voyage contained in this document is of great interest, and a careful reading reveals some of the practices that were used to ensure that the navigation was carried out according to the pre-established indications. The first paragraph states:

Captain Juan Marín [...] ordered me to make a report of what had happened on the voyage. I was to do this in the presence of the people on board: *maestre*, pilot, and the other sailors and cabin boys who have embarked on board the ship. When the voyage is over, it shall be read in their presence, and they shall each sign it in their own name; and they shall swear to it when necessary.³⁷

These reports were not "secret" but were written publicly under the supervision of the entire crew, who had to ratify and sign them at the end of the voyage—regardless of rank. From the account itself, we know that the *Buen Jesús* successfully completed its transatlantic crossing, arriving at the Villa Rica of Veracruz in August 1612. Shortly before docking, the crew gathered around the document in question and then:

- 33 Archivo General de Simanas [AGS], Guerra y Marina, 124, Doc. 112.
- 34 "Viaje y navegación." AGS, Guerra y Marina, 124, Doc. 112.
- 35 "Derotas del barco de aviso que se hisieron en el viage." AGI, Contratación, 4890. Transcribed in Lacerda and Moreno Madrid, "A Remarkable Collection of Rutters, 16th–18th Centuries," 18–22. Hereafter, the published transcription will be used.
- 36 AGI, Indiferente, 1956, L.1, f.266rv.
- 37 "El capitan Juan Marin, [...] me ordenó que donde oy dia de la fecha tomase la raçon de lo que susediese en el biaje y en precencia de la jente que ba dentro, maestre y piloto, y los demas marineros y grumetes que ban enbarcados dentro en el nabio para que acabado el biaje en precencia de ellos se les lea y los firmen de sus nonbres para cada y cuando que fuere menester lo juren." Lacerda and Moreno Madrid, "A Remarkable Collection of Rutters, 16th–18th Centuries," 18.

In the presence of the *maestre* Gonçalo Domingues, the owner of the ship, the pilot Sebastian Fernandes and all the sailors, they were given [the record of] all the *derrotas*³⁸ and things that happened during the voyage, which they saw being written [during the voyage]. They said that all that was written therein is true, and they swore to it, and they will say so whenever they are asked. The witnesses were Gonçalo Domingues, master; Sebastian Fernandes, pilot; Francisco Rodrigues, a pilot who served as a sailor; Cristóbal Ganicho (?), sailor (he said he did not know how to sign and asked a witness to sign for him); Pedro Montoya, sailor; Juan Dias, sailor; [damaged] Domingues, sailor; Rodrigo Suares, cabin boy (who asked someone [...] to sign for him); Simón Hernandes, cabin boy.³⁹

Far from being a mere formality, this signature sheet was reviewed and certified the following September 17 by the authorities of Villa Rica de Veracruz in a document entitled "Signature Acknowledgement." It confirmed that the voyage had taken place as described in the report, which was confirmed by the signatures. This allowed the captain to be cleared of all charges:

The said Captain Joan Marín fulfilled the duty he had in the service of His Majesty, coming by night and day, managing his watch as a good seaman and knowledgeable person, and keeping vigilant at night with great care and diligence as he was obliged to do. And so it was declared for the record.⁴¹

- 38 In this context *derrota* could be translated as "journey" or "navigation." However, it has a connotation closer to the idea of "pathway over water" that makes it difficult to translate it properly.
- 39 "Y en precencia del maestre Gonçalo Domingues, dueño del barco, y piloto Sebastian Fernandes, y de toda la jente de mar se les lego todas las derotas y cosas que an sudedido en el biaxe, como lo an bisto que se benia escribiendo, q dixeron que es berda todo que aqui esta escrito y lo juraron y lo diran cada y cuando que les fuere preguntado, siendo testigos Gonçalo Domingues, maestre, y Sebastian Fernandes, piloto, y Francisco Rodrigues, piloto que ba en plaça de marinero, y Cristobal Ganicho (?), marinero, y dixo que no sabía firmar y rogo a un testigo que firmaçe por el; Pedro Montoya, marinero, y Juan Dias, marinero y [damaged] [Do] mingues, marinero, y Rodrigo Suares, grumete, que rogó [damaged] que firmase por el; y Simon Hernandes, grumete." Lacerda and Moreno Madrid, "A Remarkable Collection of Rutters, 16th–18th Centuries," 22.
- 40 "Reconocimiento de firmas," AGI, Contratación, 4890.
- 41 "Y el dicho capitán Joan Marin cumplio con la obligacion que tenia a el servicio de Su Magestad biniendo de noche y de dia gobernando su quarto (?) como buen marinero y persona que lo entiende y belando de noche con mucho cuidado y dilixencia como tenia obligacion y asi lo declararon para que le conste." AGI, Contratación, 4890.

Several excerpts from the logbook also emphasize the importance of following the Instruction regarding the prescribed route. When, after several days of unfavorable weather, they reached an altitude of 18 degrees, it is reported that they "changed [their] *derrota* [...] in compliance with their instruction";⁴² when they sighted the islands of La Deseada and La Antigua, they set out to pass by the northern side "to carry out the instruction"⁴³, and also when they saw the island of Cuba "they navigated according to the *derrota* ordered by the instruction."⁴⁴

Last but not least, the text contains a very interesting detail about how the information about the route to be followed was managed among the crew itself:

Today, Sunday the fifth of August, I told the *Maestre* and the people on the ship where we were going. Until then I had hidden this [information] in case we met enemies and our misfortune was so great that we fell into their hands. So there would be no one to tell the enemy where we were going in the service of His Majesty, because it would be hidden only in my mouth, and it would not be so if many knew. As His Majesty's servant, I have exercised this diligence. Now that we are out of the area where there could be enemies, I have announced it, and I read to the *maestre* the instruction that I brought along with the *derrotas*. He has seen that we have complied with it and that it is written here.⁴⁵

The ship left on June 13, so the instructions and the route were not revealed to the *maestre* and the rest of the crew until almost two months later. It can be assumed that the "guardian" of the instructions would have given

- 42 "Mudamos derrota [...] en cumplimiento de nuestra ystruicion." Lacerda and Moreno Madrid, "A Remarkable Collection of Rutters, 16th–18th Centuries," 19.
- 43 "Bide la tierra de la Deseada y Antigua ya mucha [damaged] buelta por pasar por la banda del norte por cumplir [damaged] [ins]truicion y mude derrota." Lacerda and Moreno Madrid, "A Remarkable Collection of Rutters, 16th–18th Centuries," 19.
- 44 "Y de allí gobernamos [damaged] [siguiendo la] derota que nos ordena la ystrucion." Lacerda and Moreno Madrid, "A Remarkable Collection of Rutters, 16th–18th Centuries," 20.
- 45 "Oy domingo sinco de agosto le manifeste al maestre y a la jente del barco adonde ybamos con nuestro biaxe, porque hasta aqui lo tenía oculto por si acaso topasemos enemigos y fuese nuestra desgracia tanta que tubiesemos de benir a sus manos que no ubiese quien manifestase al enemigo donde ybamos en serbicio de Su Majesta, porque en mi boca estaria oculto y entre tantos no podría. Como chriado de Su Majesta hice esta delijencia y agora porque estamos fuera de donde podria aber enemigos lo declare y le ley al maestre la ynstrucion que traya juntamente con las derotas, que la visto que [h]emos hecho y estan escritas aquí." Lacerda and Moreno Madrid, "A Remarkable Collection of Rutters, 16th–18th Centuries," 21.

indications to the captain and the pilots until that date, so that the voyage would unfold under prearranged conditions. Whether all this happened as reported is impossible to know. In any case, this text perfectly illustrates the attempts at control on the high seas, a space that remained difficult for the empire's institutional tentacles to reach.

3.2. Systematic Voyages, Systematic Rules

Although they eventually acquired a rhetoric of their own, the instructions and accompanying rutters of instruction were documents issued for specific journeys with adapted directions. Nevertheless, the regulation of long-distance oceanic voyages and the exact route to be followed constituted a matter of such significance that it was also addressed in more general compilations of laws.

For example, Ordinance 174 of the Casa de la Contratación of Seville stipulates, in rather general terms, the obligation of the ship to follow its route without deviation until it reaches its destination: "Item. From the moment of departure from the bar and port of Sanlúcar, the voyage will proceed directly to any location within the Indies where the aforementioned vessel has been dispatched." Somewhat more detailed is the seventh chapter of the "Instruction of the Juez Oficial," promulgated by Charles V, whose descriptor indicates that the Juez Oficial must "proclaim that the ships wait and salute the captain, [...] and do not change its derrota without license." However, it was the "Instruction to Generals and Admirals" issued by Philip II in 1597 that regulated with particular caution the vicissitudes associated with the standardization of ocean routes. Chapter 16 describes the general's duties before and during navigation, 48 and specifies how he should respond to a request to change the route during the voyage:

- 46 "Maestres, desde la hora que saliere de Sanlúcar vaya derecho para donde se fletó, y lo que se debe hacer. Ytem. Que desde la hora que hiziere vela de la barra y puerto de Sanlucar, aya de yr derechamente en qualesquier partes de las Indias donde alli fuere fletada la tal nao," Ordenanças reales para la Casa de la Contractacion de Seuilla y para otras cosas de las Indias y de la nauegacion y contractacio[n] dellas (Sevilla: En casa de Martín de Montesdoca, 1553).
- 47 "Pregonar que las naos aguarden y saluden a la capitana, y tomen el nombre y no muden derrota sin licencia." This law was updated under the reign of Charles II (1661–1700), adjusting the punishment to that contained in the "Instruction of Generals" of 1674. Book IX, Title V, Law X of the Recopilación de leyes de los Reinos de las Indias, mandadas imprimir y publicar por La Magestad Católica del Rey Don Carlos II, Nuestro Señor, vol. III (Madrid: Boix, 1841), 178.
- 48 "Instrucción a generales, almirantes, etc: armadas de Indias," AGI, Patronato, 260, N.1, R.30, f.3v.

Any pilot who, while navigating, thinks it would be good for the admiral's ship to change the *derrota*, should say so freely. The general, having understood the reason for which he says so and having consulted with him, will provide and command what is most convenient.⁴⁹

While it is true that the general had the final say on the route, the authority of the pilots in this matter cannot be overlooked, since the order does not refer specifically to the pilot major of the fleet, but to *any* of the pilots in the fleet. This chapter is supplemented by the twenty-first, in which the monarch orders the fleet to "endeavor to follow its route with all possible haste." ⁵⁰

Where there are obligations, there are penalties for noncompliance. Chapter 17 denounces that the generals do not apply the penalties specified in their Instructions with sufficient severity, resulting in:

many ships $derrotados^{51}$ and departed from their flagship without the influence of a storm or any other motive, but with malice. And so many of them have fallen into the hands of the enemy. They are bait for the corsairs, who are becoming more and more numerous for this reason, and cause other great damage. 52

These instructions of Philip II also include some chapters dedicated to the regulation of specific routes. This is the case of chapter 35, which sets out in great detail the route to be followed and the obligations of the generals who would command the fleets to New Spain.⁵³ For the return trip, since unforeseen events were more likely to occur, greater flexibility was allowed

- 49 "[...] A qualquier piloto que durante la navegación le pareciere que es bien que la capitana mude alguna derrota lo diga libremente, para que entendida la causa que da y conferido sobre ello el genera provea y mande lo que más convenga." "Instrucción a generales, almirantes, etc: armadas de Indias," AGI, Patronato, 260, N.1, R.30, f.4r.
- 50 "Haviendo salido de la barra capitana y Almiranta y las demás naos que han de yr el biaje procurará seguir su derrota con toda la priesa que el tiempo le diere lugar ..." "Instrucción a generales, almirantes, etc: armadas de Indias," AGI, Patronato, 260, N.1, R.30, f.4v.
- 51 Derrotarse. In this context, this expression literally means "to turn away from its derrota."
- 52 "Que muchas naos se derroten y aparten de su capitana sin tormenta ni occasion sino con malicia [...], y ansi han venido muchos dellos a poder de enmigos que es causa que los corsarios con este cebo crezcan y aya más, y de otros grandes daños." "Instrucción a generales, almirantes, etc: armadas de Indias," AGI, Patronato, 260, N.1, R.30, f.4r.
- 53 "Instrucción a generales, almirantes, etc: armadas de Indias," AGI, Patronato, 260, N.1, R.30, ff.7v–8r. In the margin of the folio, next to this chapter, is a corrigendum for the ships bound for Honduras. It is a brief text, which makes three or four adjustments to the "official" route to avoid the risk of hurricanes and corsairs. Brief but relevant, as it reflects that nautical safety issues were constantly being updated.

in preparing the way back to the Iberian Peninsula: "In order to better ensure the success of their voyage, they will meet and, with the consent of their admirals and pilots major, they will make an instruction of the navigation that they should do."⁵⁴

In the preparation of this new "Instruction of Navigation," the types of flags swarming the ocean were taken into due consideration. Indeed, the encounter with corsairs or enemy ships on the high seas was one of the greatest concerns of the Spanish institutions. A possible confrontation could result in great human and economic losses. For this reason, Philip II insisted on a policy of "the more precautions, the better," fully accepting a change of *derrota* if necessary. If the news of corsairs arrived when the ship had not yet left the Indies, a meeting should be held with the participation of the admiral, veedor, captains, maestre, and pilots of the fleet. They would be joined by royal officers and other judicial officials. If they were in New Spain, the results of this meeting had to be reported to the viceroy and the royal *audiencia*. ⁵⁵ Needless to say, the possibility of "changing the *derrota* at sea" was one of the issues discussed.⁵⁶ If, however, word of the corsairs came only after the ship had already reached the high seas, the change of the derrota would be both inevitable, and adopted on the fly. Philip II's instruction also had an answer for this eventuality:

The people of the navy and fleet will assemble, and they will discuss the *derrota* they should follow so as not to meet the enemy; and they will follow it. If it is convenient to arrive at any part or port of the Indies—or the islands of the Azores, or Canary Islands, or Spain—depending on where they are at the time they have the notice [of the corsairs], they will try to go to the part and port that seems most appropriate to be able to defend themselves from the enemy (if they are attacked). [It will also be] a good place to provide and supply themselves with what is lacking, [where they will be able to wait] until they give us notice of what has happened and they are ordered to do what they have to do. Everything

^{54 &}quot;Y para que mejor se acierte el buen subceso de su viaje, se juntaran entrambo y con acuerdo de sus almirantes y pilotos mayores harán una instrucción de la navegación que deven traer ..." "Instrucción a generales, almirantes, etc: armadas de Indias," chapter 102, AGI, Patronato, 260, N.1, R.30, ff.22v.

^{55 &}quot;Instrucción a generales, almirantes, etc: armadas de Indias," Capítulo 87, AGI, Patronato, 260, N.1, R.30, ff.19r.

^{56 &}quot;[...] en la mar mudar derota." "Instrucción a generales, almirantes, etc: armadas de Indias," Capítulo 87, AGI, Patronato, 260, N.1, R.30, ff.19r.

that happens in this regard is to be recorded by the royal scribe so that we may know what has happened. 57

As can be seen, the entire process that took place after the enemies were sighted and had to be verified by the royal scribe who traveled on board, including the change of *derrota*. This perfectly reflects the ambition of the Hispanic Monarchy to always have the *entera noticia* of everything that happened, even on the high seas. All these instructions, together with the "Ordenanzas of the Casa de la Contratación" and the "Instruction of the *Juez Oficial*" compiled by Charles V, were collected in the *Recopilación de leyes de los Reinos de las Indias*, published in 1681 after an encyclopedic effort of compilation and codification.⁵⁸

Needless to say, Portugal had also developed legal instruments and mechanisms to control oceanic voyages by the early modern period. One of the most interesting examples is the "Law on How Ships Sailing from these Kingdoms Are to Be Equipped,"⁵⁹ issued by King Sebastião in 1571. Several of its pages are dedicated to the regulation of the routes that connected Lisbon with the Portuguese overseas territories. The admirals⁶⁰ of the fleets set out with an Instruction, or *regimento*, specifying the route they were to follow. Consequently, to deviate meant to violate what was indicated in such documents, which were also endowed with a certain legal power. In the case of ships bound for São Tome, King Sebastião addressed the problem as follows:

If it is desired to change the path and *derrota* because of something that happens or because it is considered better, the opinion of the pilots and *mestres* of the other ships will be taken. It will be done what seems best

^{67 &}quot;Si esta nueva la tuvieren en la mar harán junta con la gente de su armada y flota, y trataran la derrota que pueden traer para no encontrarse con el enemigo, y aquella seguiran, y si conviniere arribar a alguna parte, o puerto de las Indias, o de las yslas de los Açores, o Canaria, o a Spaña según donde se hallaren al tiempo que tuvieren el aviso procurará que sea a la parte y puerto que pareçiere mas a proposito y sufficiente para poderse deffender del enemigo si acaso fuesse sobre el, y proveerse y basteçerse de mantenimientos, y de lo que faltare, hasta que nos de avisso y se le provea y ordene lo que ha de hazer, y todo lo que en esto passare se haga ante su escrivano Real para que sepamos lo que en ello huviesse pasado." "Instrucción a generales, almirantes, etc: armadas de Indias," chapter 90, AGI, Patronato, 260, N.1, R.30, f.17v.

⁵⁸ See Brendecke, Imperio e información, 347-58.

^{59 &}quot;Ley de como ham de jr armados os navios que destes reynos nauegarem." I use the transcription published in *Portugal e o século XVI: Leis sobre a navegação e possessões do Império. Lisboa 1570-1573* (Lisboa: Divisão de Publicações e Biblioteca-Agência Geral das Colónias, 1943).

⁶⁰ In Portuguese capitão-mor.

to all or to the majority of them. And all will always be obliged to follow it, both on the way out and on the way back, without deviating. ⁶¹

If, for any reason, a ship deviated from its course in defiance of the admiral's orders, the law required him to record everything that happened so that the judicial authorities could later "proceed against the guilty, and punish them according to their fault." ⁶² Those who disobey, the law states, would be imprisoned and punished as they deserve, whether they be the pilot, the captain, the sailors, or any other person involved in the infringement. However, it seems that King Sebastião was a bit more lenient when it came to punishment, since the sanction in this case would not be the death penalty, but a substantial fine. ⁶³

Conclusion

The Iberian maritime expansion of the sixteenth century shook the legal landscape of the time regarding the dominion of the seas. Portugal and Spain reached territories accessible only by sailing, which required systematic long-distance oceanic voyages to be controlled and profitable. In this sense, it was not so much a question of adapting the maritime voyages to an international legal framework as of fortifying the instruments for controlling the way in which these journeys were carried out. It was necessary to protect and regulate, as much as possible, the maritime routes on which the stability and advancement of the empire depended. This claim caused the "route," understood as a regulatable entity, to strengthen its presence in legal documents throughout the sixteenth century. As has been argued, several mechanisms were developed for this purpose. The complexity and scale of the maritime imperial enterprise meant that laws and rules of a

^{61 &}quot;E quando quiser mudar o caminho & derrota que levar por qualquer caso que aconteça, ou por aver assi por milhor, tomara o parecer dos Pilotos & mestres dos outros Navios, & o que a todos, ou á mayor parte delles parecerer se fará, & seram todos obrigados a sempre o seguir, assi á hida como á vinda, sem nenhum delles se apartar." Portugal e o século XVI, 24.

^{62 &}quot;[...] Fará o Capitam mór fazer de tudo autos que entregera ás Iustiças a que pertencer, pera se proceder contra os culpados & serem castigados conforme as suas culpas." *Portugal e o século XVI* 24

^{63 &}quot;Sob pena de serem por isso presos & castigados como o caso merecer, assi o Piloto & Mestre do Navio, ou Navios que se apartarem, como os Marinheyros & mays gente delles, que nisso forem culpados, & sendo condenados em pena de dinheyro se auera pellos fretes dos taes Navios & por suas fazendas." *Portugal e o século XVI*, 24.

more general nature had to coexist with others designed specifically for a particular voyage—all with their punitive component.

The limits to the effectiveness of these laws, as in so many other aspects of early modern maritime expansion, were set by the reality of life on the high seas. Once the ship was lost sight of beyond the horizon, control over it was drastically reduced. For the purposes of this chapter, however, this is beside the point. What has been emphasized instead is the complexity of the process of producing novel legal devices that sought remote control *in all its aspects*, ⁶⁴ with the conviction that it could be achieved. I believe that the documentation presented in this chapter illustrates a new mentality when it comes to organizing and thinking about institutional power, typical of the overseas empires of the modern era. They seem, moreover, to indicate that the control, regulation, and management of such peculiar entities as long-distance oceanic routes was one of the greatest challenges posed by the "change of scale" of the sixteenth century.

Acknowledgments

The author is grateful to Henrique Leitão, David Salomoni, and Šima Krtalić for their careful review of earlier versions of this text and their valuable suggestions for improvement.

References

Primary Sources

Cortés de Albacar, Martín. Breve compendio de la sphera y de la arte de navegar con nuevos instrumentos y reglas, ejemplificado con muy sutiles demostraciones. Sevilla: Antón Álvarez, 1551.

Groot, Hugo de, *The Freedom of the Seas, or the Right Which Belongs to the Dutch to Take Part in the East Indian Trade*. Translated by Ralph van Deman Magoffin, edited by James Brown Scott. New York: Oxford University Press, 1916.

Ordenanças reales para la Casa de la Contractacion de Seuilla y para otras cosas de las Indias y de la nauegacion y contractacio[n] dellas. Sevilla: En casa de Martín de Montesdoca, 1553.

Portugal e o século XVI: Leis sobre a navegação e possessões do Império. Lisboa 1570–1573. Lisboa: Divisão de Publicações e Biblioteca-Agência Geral das Colónias, 1943. Recopilación de leyes de los Reinos de las Indias, mandadas imprimir y publicar por La Magestad Católica del Rey Don Carlos II, Nuestro Señor. Vol. III. Madrid: Boix, 1841.

Secondary Sources

- Albuquerque, Luís de. "O Tratado de Tordesilhas e as dificuldades técnicas da sua aplicação rigorosa." In *El Tratado de Tordesillas y su proyección. Actas do I Colóquio Luso-Espanhol de História do Ultramar*, I:221–57. Valladolid: Universidad de Valladolid, 1973.
- Anand, R. P. Origin and Development of the Law of the Sea: History of International Law Revisited. The Hague: Martinus Nijhoff, 1983.
- Ascandoni Rivero, Jaime. "El correo durante el reinado de Felipe II." In *Ciencia* y técnica en la sociedad española de los siglos XVI y XVII, edited by Enrique Mártinez Ruiz, 1st ed., 253–275. Barcelona: Labor Universitaria, 1979.
- Barrera-Osorio, Antonio. "Empire and Knowledge: Reporting on the New World." *Colonial Latin American Review* 15, no. 1 (2006): 39–54.
- Barrera-Osorio, Antonio. *Experiencing Nature: The Spanish American Empire and the Early Scientific Revolution*. Austin: University of Texas Press, 2006.
- Borgerson, Scott G. *The National Interest and the Law of the Sea*. New York: Council Foreign Relations, 2009.
- Borschberg, Peter. "Hugo Grotius, East India Trade and the King of Johor." *Journal of Southeast Asian Studies* 30, no. 2 (1999): 225–248.
- Boxer, Charles R. "Portuguese *Roteiros*, 1500–1700." *The Mariner's Mirror* 20, no. 2 (1934): 171–186.
- Brendecke, Arndt. *The Empirical Empire: Spanish Colonial Rule and the Politics of Knowledge*. Berlin: De Gruyter Oldenbourg, 2016.
- Brendecke, Arndt. *Imperio e información. Funciones del saber en el dominio colonial español.* Madrid: Iberoamericana; Frankfurt: Vervuert, 2012.
- Cañizares-Esguerra, Jorge. *Nature, Empire, and Nation: Exploration of the History of Science in the Iberian World.* Stanford: Stanford University Press, 2006.
- Carabias Torres, Ana María. "Los conocimientos de cosmografía en Castilla en la época del Tratado de Tordesillas." In *El Tratado de Tordesillas y su época*, edited by Luis Antonio Ribot García, Adolfo Carrasco Martínez, and Luís Adão da Fonseca, 959–976. Valladolid: Junta de Castilla y León, 1995.
- Carroll, Siobhan. *An Empire of Air and Water: Uncolonizable Space in the British Imagination*, 1750–1850. Philadelphia: University of Pennsylvania Press, 2015.
- Castañeda, F. Paulino. "El Tratado de Alcaçovas y su interpretación hasta la negociación del Tratado de Tordesillas." In *El Tratado de Tordesillas y su proyección.*Actas do I Colóquio Luso-Espanhol de História do Ultramar, I:103–15. Valladolid: Universidad de Valladolid, 1973.

- Cerezo Martínez, Ricardo. "El meridiano y el antimeridiano de Tordesillas en la Geográfia, la Náutica y la Cartográfia." *Revista de Indias* 54, no. 202 (1994): 509–542.
- Díaz-Trechuelo, Lourdes. *El Tratado de Tordesillas y su proyección en el Pacífico*. Madrid: Asociación Española de Estudios del Pacífico, 1994.
- Duve, Thomas. "El Tratado de Tordesillas: ¿Una "revolución espacial"? Cosmografía, prácticas jurídicas y la historia del derecho internacional público." *Revista de Historia del Derecho* 54 (July 2017): 77–107.
- Fletcher, Eric G. M. "John Selden (Author of *Mare Clausum*) and His Contribution to International Law." *Transactions of the Grotius Society* 19 (1933): 1–12.
- Frankot, Edda. "Medieval Maritime Law from Oléron to Wisby: Jurisdictions in the Law of the Sea." In *Communities in European History. Representations, Jurisdictions, Conflicts*, edited by Juan Pan-Montojo and Frederik Pedersen. Pisa: Edizioni Plus-Pisa University Press, 2007.
- Frankot, Edda. "Of Laws of Ships and Shipmen": Medieval Maritime Law and Its Practice in Urban Northern Europe. Edinburgh: Edinburgh University Press, 2012.
- García Redondo, José María. *Cartografía e imperio. El Padrón Real y la representación del Nuevo Mundo*. Madrid: Doce Calles, 2018.
- García Redondo, José María. "Derroteros, avisos y mapas. La dimensión textual del Padrón Real de la Casa de la Contratación." In *Navegação no Atlântico. XVIII Reunião Internacional de História da Náutica*, edited by Francisco Contente Domingues and Susana Serpa Silva, 147–161. Lisboa: CHAM-Centro de Humanidades, 2019.
- Khalilieh, Hassan S. *Islamic Law of the Sea: Freedom of Navigation and Passage Rights in Islamic Thought*. Cambridge: Cambridge University Press, 2019.
- Khalilieh, Hassan Salih. *Islamic Maritime Law: An Introduction*. Leiden: Brill, 1998. Knight, W. S. M. "Grotius in England: His Opposition There to the Principles of the Mare Liberum." *Transactions of the Grotius Society* 5 (1919): 1–38.
- Lacerda, Carmo, and José María Moreno Madrid. "A Remarkable Collection of Rutters, 16th–18th Centuries: Derroteros que hacía el piloto mayor para que llevasen los jefes de las embarcaciones que iban a Indias." RUTTER Technical Notes Series 6 (2021).
- Lamb, Ursula. "Dos huellas científicas del Tratado de Tordesillas." In *Cosmogra*phers and Pilots of the Spanish Maritime Empire, X:185–93. Aldershot: Variorum, 1995.
- Latour, Bruno. *Science in Action*. Cambridge, MA: Harvard University Press, 1987. Law, John. "On the Methods of Long-Distance Control: Vessels, Navigation, and the Portuguese Route to India." In *Power, Action and Belief: A New Sociology of Knowledge? Sociological Review Monograph*, edited by John Law, 234–263. Routledge: Henley, 1986.

- Law, John. "On the Methods of Long-Distance Control: Vessels, Navigation and the Portuguese Route to India." *The Sociological Review* 32, no. 1 (1984): 234–263.
- Lee, R. Warden. "Grotius—The Last Phase, 1635–45." *Transactions for the Year* 31 (1945): 193.
- Leitão, Henrique. "Um mundo novo e uma nova ciência." In 360º Ciência Descoberta, edited by Henrique Leitão, 15–41. Lisboa: Fundação Calouste Gulbenkian, 2013.
- Leitão, Henrique, and Antonio Sánchez. "Zilsel's Thesis, Maritime Culture, and Iberian Science in Early Modern Europe." *Journal of the History of Ideas* 78, no. 2 (2017): 191–210.
- Lorenzo, Eufemio, Francisco Gallego, and Gloria Tejedor. *El Tratado de Tordesillas*. Madrid: Junta de Castilla y León, V Centenario Tratado de Tordesillas, and Anaya Educación, 1995.
- Malhão Pereira, José Manuel. *Os roteiros e a expansão maritima portuguesa e europeia*. Lisboa: Academia das Ciências de Lisboa, 2017.
- Malhão Pereira, José Manuel. "Roteiros portugueses, séculos XVI a XVIII. Sua génese e influência no estudo da hidrografia, da metereologia e do magnetismo terrestre." PhD diss., Universidade de Lisboa, 2017.
- Marín Castán, Fernando. "Marco jurídico de la seguridad marítima." *Cuadernos de Estrategia* 140 (2008): 171–242.
- Martínez Torres, José Antonio. "'Gobernar el Mundo'. La polémica *Mare Liberum* versus *Mare Clausum* en las Indias Orientales (1603–1625)." *Anuario de Estudios Americanos* 74, no. 1 (2017): 71.
- Moreno Madrid, José María. "Circulation and Contacts in Sixteenth-Century New Cartography: Spain, Portugal and Italy." *Culture & History Digital Journal* 10, no. 2 (2021): e015.
- Moreno Madrid, José María, and Henrique Leitão. *A longitude do mundo. Viagens oceânicas, cosmografia matemática e a construção de uma Terra global.* Lisboa: Imprensa Nacional-Casa da Moeda, forthcoming.
- Murteira, André. *A Carreira da Índia e o corso neerlandês*, 1595–1625. Lisboa: Tribuna da História, 2012.
- Murteira, André. "La Carreira da Índia y las incursiones neerlandesas en el Índico Occidental, 1604–1608." In *España y Portugal en el Mundo (1581–1668*), edited by José Antonio Martínez Torres and Carlos Martínez Shaw, 299–314. Madrid: Edições Polifemo, 2014.
- Murteira, André. "Combates luso-neerlandeses em Santa Helena (1597–1625)." *Anais de História de Além-Mar* 7 (2006): 65–80.
- Murteira, André. "Ingleses e neerlandeses contra a Carreira da Índia no Índico Ocidental, 1621–1623." *Oriente* 19 (Otono 2008): 3–26.
- Neves, Bruno. "A legislação da Carreira da Índia. Caracterização e análise da sua evolução, 1500–1580." MA thesis, Universidade de Lisboa, 2004.

- Parameswaran, Benjamin. *The Liberalization of Maritime Transport Services*. Berlin: Springer, 2004.
- Pimentel, Juan. "The Iberian Vision: Science and Empire in the Framework of a Universal Monarchy, 1500–1800." *Osiris, Nature and Empire: Science and the Colonial Enterprise* 15 (2000): 17–30.
- Pulido Rubio, José. El piloto mayor de la Casa de la Contratación de Sevilla. Pilotos mayores, catedráticos de cosmografía y cosmógrafos de la Casa de Contratación de Sevilla. Sevilla: CSIC / Escuela de Estudios Hispano-Americanos, 1950.
- Ribot García, Luis Antonio, Adolfo Carrasco Martínez, and Luís Adão da Fonseca, eds. El Tratado de Tordesillas y su época. 3 vols. Valladolid: Junta de Castilla y León, 1995.
- Salom-Franco, Nicolás. "Vitoria y Grocio frente al mar." *Estudios Socio-Jurídicos* 3, no. 1 (2001): 93–141.
- San Emeterio, Nieves. "El debate sobre el domino de los mares en el imperio español durante los siglos XVI y XVII." *Iberian Journal of the History of Economic Thought* 7, no. 2 (October 22, 2020): 133–142. https://doi.org/10.5209/ijhe.70813.
- Sánchez Martínez, Antonio. "Artesanos, cartografía e imperio. La producción social de un instrumento náutico en el mundo ibérico, 1500–1650." *Historia Crítica* 73 (2019): 21–41.
- Sánchez, Antonio. "Charts for an Empire: A Global Trading Zone in Early Modern Portuguese Nautical Cartography." *Centaurus* 60 (2018): 173–188.
- Sánchez, Antonio. "The 'Empirical Turn' in the Historiography of the Iberian and Atlantic Science in the Early Modern World: From Cosmography and Navigation to Ethnography, Natural History, and Medicine." *Tapuya: Latin American Science, Technology and Society* 2, no. 1 (2019): 317–334.
- Sánchez, Antonio. "Practical Knowledge and Empire in the Early Modern Iberian World: Towards an Artisanal Turn." *Centaurus* 61, no. 3 (2019): 1–14.
- Sánchez, Antonio, and Henrique Leitão. "Artisanal Culture in Early Modern Iberian and Atlantic Worlds." *Centaurus* 60, no. 3 (August 2018): 135–140. https://doi.org/10.1111/1600–0498.12197.
- Sandman, Alison D. "Controlling Knowledge: Navigation, Cartography, and Secrecy in the Early Modern Spanish Atlantic." In *Science and Empire in the Atlantic World*, edited by J. Delbourgo and N. Dew, 31–51. New York: Routledge, 2008.
- Smith, George. "The Concept of Free Seas: Shaping Modern Maritime Policy within a Vector of Historical Influence." *International Lawyer* 11, no. 2 (January 1, 1977): 355–363.
- Tanaka, Yoshifumi. *The International Law of the Sea.* 2nd ed. Cambridge: Cambridge University Press, 2015.
- Thornton, Helen. "John Selden's Response to Hugo Grotius: The Argument for Closed Seas." *International Journal of Maritime History* XVIII, no. 2 (December 2006): 105–127.

- Tomé Paule, José. "La organización judicial española durante la Edad Moderna [Texto Impreso]." *Revista de Derecho Procesal Iberoamericana* Separata (1982): 453–487.
- Treves, Tullio. "Historical Development of the Law of the Sea." In *The Oxford Hand-book of the Law of the Sea*, edited by Donald R. Rothwell, Alex G. Oude Elferink, Karen N. Scott, and Tim Stephens, 1–24. Oxford: Oxford University Press, 2015.
- Vallejo García-Hevia, José María. "Los navíos de aviso y los correos marítimos a Indias (1492–1898)." *Ivs Fvgit* 7 (1998): 197–266.
- van Ittersum, Martine Julia. "Hugo Grotius in Context: Van Heemskerck's Capture of the *Santa Catarina* and Its Justification in *De Jure Praedae* (1604–1606)." *Asian Journal of Social Science* 31, no. 3 (January 1, 2003): 511–548. https://doi.org/10.1163/156853103322895360.
- van Ittersum, Martine Julia. "Mare Liberum Versus the Propriety of the Seas? The Debate between Hugo Grotius (1583–1645) and William Welwood (1552–1624) and Its Impact on Anglo-Scotto-Dutch Fishery Disputes in the Second Decade of the Seventeenth Century." The Edinburgh Law Review 10 (2006): 239–276.
- Vieira, Monica Brito. "Mare Liberum vs. Mare Clausum: Grotius, Freitas, and Selden's Debate on Dominion over the Seas." Journal of the History of Ideas 64, no. 3 (2003): 361–377.
- Waters, David. The Iberian Bases of the English Art of Navigation in the Sixteenth Century. Coimbra: [Separata da Revista da Universidade de Coimbra 24], 1970 Waters, David W. *The Art of Navigation in England in Elizabethan and Early Stuart Times*. London: Hollis and Carter, 1958.
- Ziskind, Jonathan. "International Law and Ancient Sources: Grotius and Selden." *The Review of Politics* 35, no. 4 (1973): 537–59.

About the Author

José María Moreno Madrid is a Teaching Assistant in History at the University of Limerick (Ireland). His PhD dissertation, "Pilots Always Win: A Socio-Epistemic History of European Early Modern Navigation" (July 2024), provides a new approach to nautical science in the early modern period by deepening the artisanal epistemic framework of pilots and sailors. He has published in several peer-reviewed history journals and has co-authored three monographs with Henrique Leitão: Atravessando a porta do Pacífico. Roteiros e relatos da travessia do Estreito de Magalhães, 1520–1620 (2020), Drawing the Gateway to the Pacific: Maps, Charts and Other Visual Representations, 1520–1671 (2021) and A longitude do mundo. Viagens oceânicas, cosmografia matemática e a construção de uma Terra global (forthcoming,

2025). He has presented research papers at several congresses and conferences in the United States, Britain, Ireland, Belgium, Spain, and Portugal. In 2023 he was awarded an Andrew Mellon Fellowship in the Department of History of Science, Technology and Medicine of the University of Oklahoma (Norman, OK) and a Residential Fellowship at the Linda Hall Library (Kansas City, MO).

