

José Manuel Malhão Pereira

*Estudos da história da Náutica e das navegações de alto-mar*  
(*Studies on Nautical History and High Seas Navigation*)

(4 vols)

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The impending publication of the fourth volume of *Estudos* by Cmdr. Malhão Pereira gives us a welcome opportunity to dwell on the qualities of the whole four-volume collection, and thus to give a thoughtful appraisal of his publications in general. I do not plan to be exhaustive, but the absence of Malhão Pereira's works from most international bibliographies of his themes of expertise is an anomaly which must be addressed and remedied, and it is partly my intention to throw a light on this hitherto rather neglected corpus, which is full of treasures for anyone interested in the nautical arts and sciences.

It is important to remark from the outset that these four volumes, handsomely produced by the Portuguese Navy's Cultural Commission over the last decade, are mature works, the product of a lifetime of high-seas experience—including countless nights of celestial observations—and of archival study of the highest caliber, including paleographic work on early modern sources. It should also be noted that although they do not include all the published works of the author, they do provide direct access and a very rounded picture of the author's broad interests and contributions.

Three of the four volumes have been compiled by the author from his own conference proceedings or talks, workshops, reviews, invited chapters given in the most diverse contexts in Lisbon, Greenwich, Riga, Cape Town, Istanbul, Delhi, Nanjing and elsewhere, before audiences ranging from the strictly nautical to the diplomatic and academic. In fact, over the past thirty years, Malhão Pereira has been contributing to the international maritime community by providing first-hand, authoritative and meticulous accounts of Portuguese naut-

ical history and sciences. Far from doing this with a nationalistic “us first” agenda, he has been a bridge-builder all the way, drawing attention repeatedly to the role of navigation and nautical exchanges in the development of harmonious relations among peoples. Even after obtaining his PhD in History of Sciences in his late seventies, Malhão Pereira insists on being “merely a practitioner of mathematics applied to nautical studies,” and “a humble sailor who tries to interpret history with some of the experience I have got aboard sailing and motor ships of my country’s navy and of my family’s navy,” and this in order “to be of use to true historians.” He has just been “calling scholars’ attention to the importance of marine archaeology for the history of navigation and astronomy applied to navigation” (2.241).<sup>1</sup>

If it is true that he remained for decades on the margins of the academic circuits, Malhão Pereira is far from being an idiosyncratic, isolated, scholar. In fact, he is heir to the rich tradition of Portuguese nautical scholarship, taking the baton from the likes of Fontoura da Costa and Teixeira da Mota, fully engaged with the previous landmarks in his field, like David W. Waters and Eva Taylor, and in active collaboration with scholars from all over Europe and Asia, like Roderik Ptak, Lotika Varadarajan and Jin Guo Ping, often having access to publications that have yet to reach the shelves of specialized scholarly libraries in the West.

I shall now give an overview of the contents of the four volumes, drawing attention to the major articles and also to thematic clusters developed through the collection; this will be followed by comments summarizing his oeuvre in general. The illustrations below, all drawn from the *Estudos*, are meant to give a “taste” of the pertinence and generosity of the visual aids used by the author, sometimes in the form of juxtapositions of medieval and early modern sources with modern instruments, or appendices providing visual support and direct access to the original sources, like 18th-century nautical diaries (2.74), or detailed mathematical calculations (4.110), or his own naval school teaching materials.

Language-wise, given the various international contexts of publication mentioned above, it is no surprise that almost half of the articles have been written originally in English, with the majority being in Portuguese and a few in French or Spanish. Here below I provide both original and translation of the Portuguese titles, but quotations are only in translation.

**Volume 1:** An important part of this volume is devoted to cultural exchanges and Indian Ocean-related topics, with pieces like “East and West Encounter at Sea,” and “The Stellar Compass and the Kamal. An Interpretation of its Practical Uses,” which engage most fruitfully with the works by Férrand and Tibbetts on Arabic navigation. This is also partly the

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<sup>1</sup> I shall cite the *Estudos* by volume number followed by page number.



draw attention to the achievements and works of two figures from the 16th and 18th century respectively. A profusely illustrated longer article, “Os Céus de Gago Coutinho e Sacadura Cabral” (“The Skies of Gago Coutinho and Sacadura Cabral”), delves into the practicalities and technical subtleties of aviators Coutinho and Cabral’s feats, with particular attention to the flight navigation problems they had to solve. One fascinating aspect of this article is the way that 20th-century and early modern navigation problems are seen to relate and overlap between air and sea. Other articles in this volume deal with nautical schooling in Goa, with the introduction of the Mercator chart and logarithms to Portugal, and with the nautical teachings at the famous College of St. Anthony (Colégio de Santo Antão).



O NE Sagres, onde se efectuaram as experiências.



Observação de revés. Comparação com o sextante.



Observação nocturna da estrela Polar.

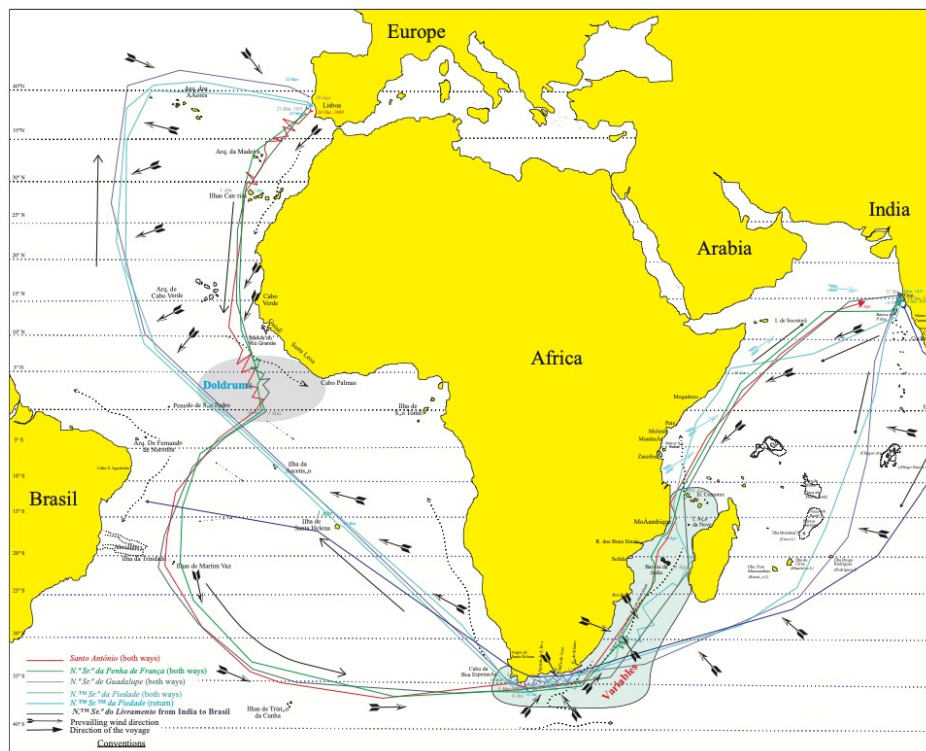


Observação de revés. Comparação com o sextante.

*Observations with the balestilha or Jacob's staff, on board the Sagres.*

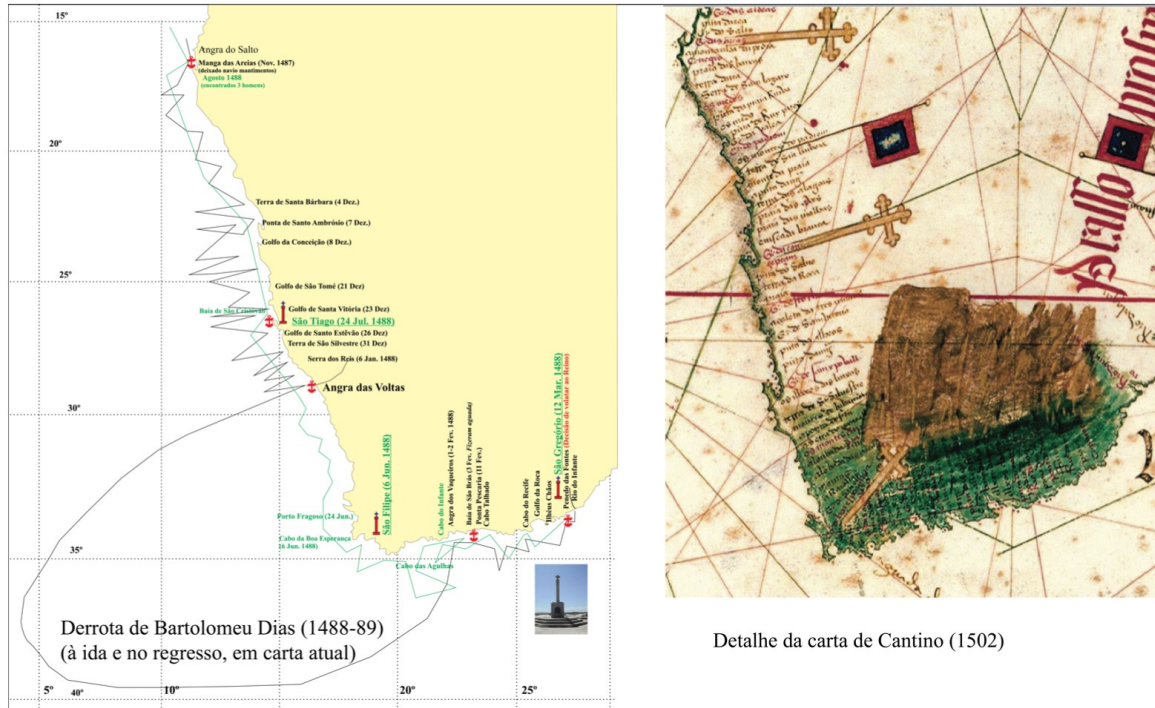
**Volume 3**, all in Portuguese, reads more like a monograph in six parts. It gathers some of Malhão Pereira’s previous publications for the Naval Academy. Parts 1 and 2 are a comprehensive account of the evolution of Portuguese navigation, considered here particularly as the spearhead of European navigation, towards the planetary-scale oceanic endeavour it was

bound to become over less than a century. This historical account includes a systematic, ninety-page analysis of Da Gama’s first voyage. Malhão Pereira elaborates on the influence that Mediterranean sailing techniques had on the Atlantic explorations, and on their fundamental evolution as they adapted to new climates. The rest of the volume is under the heading “Navios, Marinheiros e Arte de Navegar” (“Ships, Seamen, and the Art of Sailing”). Parts 3 and 4 deal with “Métodos e Instrumentos de Navegação” (“Sailing Methods and Instruments”), and Parts 5 and 6 with “A Roteirística Portuguesa” (“Portuguese Rutter Literature”); each of these pairs is divided chronologically in two periods, first 1500–1668, that is, from the return of Da Gama to the conclusion of the Treaty of Lisbon, and then 1669–1823, until the beginning of the Constitutional Monarchy in Portugal.



*Typical India Run routes, with nautical details.*

**Volume 4:** This volume also includes many pages devoted to Portuguese nautical and naval developments while reprising some of the major topics of the previous volumes. “Ventos e Correntes e Expansão Marítima” (“Winds, Currents, and Maritime Expansion”), an article devoted to the physical determinants of the oceans (*condicionalismo físico dos oceanos*), includes a wealth of detailed examples illustrating their impact on navigation and even on geopolitical history. It is also as concise a summary of the history of oceanic navigation as might



*The rounding of the Cape; comparing contemporary and 16th-century nautical charts.*

be wished for, fleshing out with diagrams and illustrations claims like: “it was the systematic exploration of the Atlantic Ocean which allowed the Europeans to establish a definitive connection between all the world’s seas,” or “it was the first time in the history of mankind that men would sail their ships continuously into the wind for periods longer than a month,” or “these navigations were possible because patiently, under the direction of highly strategically-minded rulers, the methods and instruments of navigation were increasingly perfected, as were shipbuilding techniques...” This article is complemented in the same volume by the shorter “O Mundo Natural e a expansão marítima” (“The Natural World and Maritime Expansion”). “Some Nautical and Geographical Consequences of the Voyages of Zheng He, 1405-1433”—partly a recapitulation and an expansion of Chinese-related articles in *Estudos 1*—looks in detail at the nautical and geographical knowledge of Zheng He’s expeditions, especially in comparison with the Arabic writings, and at their combined influence on the soon thereafter to appear Portuguese texts. “Nautical Aspects of Portuguese Cartography and Geographical Descriptions of Sri Lanka,” a talk delivered in Colombo, and the richly illustrated “Evolução da Roteirística e da Cartografia da Ilha de Moçambique (Séculos XV a XVIII), Como Testemunho das Trocas Científicas e Técnicas com os Povos do Índico e Pacífico Noroeste” (“Evolution of Rutters and Maritime Charts of the Island of Mozambique (15th–18th centuries) as a Witness of Scientific and Technical Exchanges With the Peoples of the Indian Ocean and Northwest Pacific”) complement the opening essays of Vol. 1 on

the topic of East–West exchanges. The Island of Mozambique and its related cartography and navigation guides, as compiled by successive Portuguese expeditions, are used as a privileged example of how European nautical tradition was gradually integrated with African and Asian traditions. Malhão Pereira takes here the opportunity to make the “humble suggestion” that “any serious studies of Indian Ocean nautical exchanges should be based on the knowledge of languages including Malay, Malayalam, Gujarati, Mandarin Chinese, Japanese, and, as a given, Arabic.”

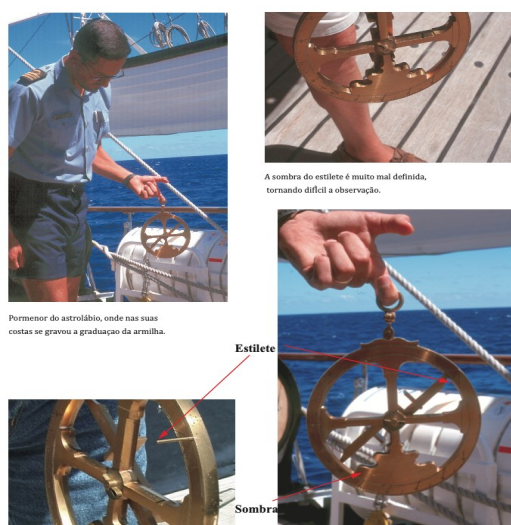
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So, what are the main recurring concerns of this remarkable oeuvre; what are its main takeaways and unique features?

I would suggest that one common thread, and one that chimes in with many distinguished precedents in nautical works of other centuries, is the sustained attention to verification through experience. As Malhão Pereira himself repeatedly explains, he is a practitioner, and thus it is with the trained hand and the keen eye of a seasoned mariner that he approaches the centuries-old manuscripts of Renaissance pilots and cosmographers. No observation and no recorded claim is left unexamined, but rather ascertained by previous experience and by carefully undertaken specific experiences. This explains why the attention to the physical determinants of the oceans (*condicionalismo físico dos oceanos*) plays such a prominent role in our author’s writings: the nautical knowledge and the shipbuilding traditions of every culture are in direct relation to very specific geographical, meteorological, hydrographical, astronomical factors, they are tailor-made, as it were, and it behoves the serious historian to take these factors into account. This concern for verification is also why he is one of the pioneers of experimentation of nautical instruments using precisely crafted and calibrated replicas. In this vein, some of the publications are remarkable didactic in their use of examples, like giving the history of the compass and the details of its nautical usage, and then adding what is almost an “Activities” section: “Let us now find the Cape!” And so, through these pages, one has at times the impression of being immersed in various sub-genres of nautical literature: the nautical biography, the nautical whodunnit, solving historical mysteries through nautical insights, the nautical short story, and so on.

An important manifestation of this concern for verification is the recurrent treatment of positional astronomy in all its aspects and in all its manifestations in different traditions, including, naturally, the study of the instruments of observation. Also worthy of mention here is the systematic research on measures and error analysis, which can give precious insights into early modern voyages. Equally under this rubric comes the attention paid to maritime

archaeology, especially the study of wreckages, to which several essays are devoted throughout the volumes.



*Onboard experiences with the nautical astrolabe (armilha náutica).*

Having been outside the academic circles for most of his career, Malhão Pereira has benefited from a historiographic “freedom” which he has used to focus on sometimes neglected figures and periods of Portuguese history, highlighting their importance or simply drawing attention to one or other fine point of nautical science previously unheeded. This is how he has contributed to the rescue of Jesuit-period nautical scholarship, focusing on António Vieira, Fernando Oliveira and others, and in the role played by the College of Saint Anthony.

Bibliographically, he has documented and emphasized the importance of rutters allied to charts as a decisive expansion factor in early modern European navigation, and in so doing he has paved the road directly for the kind of broader surveys now under way by the ERC-funded [MEDEA](#) and [RUTTER](#) projects. The combination of direct research from primary sources with experimental work plays out somehow like this: painstakingly extracting nautical course details from manuscript logbooks, diaries, etc. with attention to every single useful indication, then plotting, step by step, the courses on modern charts, to acquire a concrete understanding of the knowledge and methods of sailors of old.

As to their comparative dimension, these essays are such on two complementary accounts: first, “in order to better understand Portuguese sources,” and second, as a demonstration, explicit in several essays, of the technoscientific commonalities found across cultures, making colleagues out of men and women from the most diverse provenances and



times. This transcultural aspect goes as far as including some passing geopolitical-historical reflections on *métissage* and the future of humanity (2.70).

Finally, as if setting the human parameters of his own scholarship and life achievements, the author gives us this very Vitruvian description: “a Navy officer necessarily has an eclectic make-up: he is a leader of men, an administrator, a diplomat, and he will be, or at least ought to be, a mariner. He will also have to be to a great extent a man of science, or rather, a man of many and sundry scientific interests... His sphere of action, that of the sea and of ships, is a world in miniature, or a community with its human and material aspects in which science and technique merge... Furthermore, I might say that a Navy officer will, in principle, have a very limited attachment to material possessions, for if he wanted to become wealthy, he would not choose this profession” (*Estudos*, 4.60).

Throughout the writings of Cmdr. Malhão Pereira one corroborates at every turn the detachment and the self-effacement implicit in the above lines. Now, these qualities, allied to the full command of his art and his science, and to his didactic ability, inscribe him neatly into an age-old lineage of master-pilots and cosmographers. In fact, the family air between some of his elucidations and those found in medieval and early modern texts, Portuguese, Arabic, Indian, is quite evident and at times astounding.

When reading these works, we are on one hand reminded of the original meaning of Greek *sophia*, wisdom, a practical knowledge which by its excellence and consummation can enlighten every aspect of life; and on the other hand we are witnesses, quite palpably, of that famous “dialogue of the minds” as it takes shape through the centuries.

Malhão Pereira’s participation in the same activities described by the nautical documents of past centuries allows him to tap into the shared, tacit knowledge of his discipline, understanding with clear intuition what would escape a historian untrained in the business of the sea. This immediacy of the living past of navigation is without doubt one of the most distinctive traits of his writings.

Lisbon, 21 September 2021  
[www.rutter-project.org](http://www.rutter-project.org)

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The interested readers will find a number of Comdr. Malhão Pereira's publications, including some which are not to be found in the volumes under review, available [online, at the personal page](#) of the Centro Interuniversitário de História das Ciências e da Tecnologia (CIUHCT), University of Lisbon, to which he is affiliated.

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