

Indian Ocean Navigation as a Meeting Point Between Arabic and Western Nautical Traditions [RL-IOW]

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When the Portuguese fleets rounded the Cape of Good Hope at the closing of the fifteenth century, they came face to face, institutionally and nationally speaking, with a cultural reality which they had hitherto only known through reports, partially and haphazardly. Among many novelties, they encountered in the flesh what was perhaps the longest uninterrupted tradition of nautical savoir-faire on earth: the maritime network of the Extended Indian Ocean.¹ Before the arrival of Bartolomeu Dias (1488) and Da Gama (1498), individual travellers, traders, envoys, had provided the Portuguese Crown with information about the routes criss-crossing the Arabian Sea, most of them ancient routes already described in antiquity by the anonymous *Periplus of the Erythraean Sea* (Περίπλους τῆς Ἐρυθρᾶς Θαλάσσης, 1st century AD), and most overlapping with the Maritime Silk Route which flourished between the 2nd century BC and 15th century AD.

It was around the second half of the 15th century, precisely, while the Portuguese explored methodically and persistently the west coast of Africa, that a nautical corpus of momentous importance took shape, in Arabic, at the hands of two authors, Aḥmad ibn Mājid and Sulaymān al-Mahrī, both original from the southern Peninsula, respectively near Julfar (Ra's al-Khaimah) and Shiḥr (Yemen).

Most of the works by Ibn Mājid (ca. 1420–end of 15th century) are technical instructional poems, with the exception of his encyclopedic *Commentaries on the Principles and Foundations of Maritime Science* (*Kitāb al-fawā'id fī uṣūl 'ilm al-baḥr wa-al-qawā'id*; hereafter *Fawā'id*). In his own view, though, his main work is the didactic poem titled *Comprehensive Summary on the Principles of the Knowledge of the Seas*

¹ In these pages, I shall freely alternate between this expression, the Indian Ocean tout court, and the Indian Ocean World (IOW), to designate the maritime space comprising “eastern Africa, the Middle East, Southeast Asia and (...) China and India.” (Schottenhammer 2019, vi).

(*Hāwīyat al-ikhtiṣār fī uṣūl ‘ilm al-biḥār*). Sulaymān al-Mahrī (ca. 1480–1550) is a strictly technical author, treating topics which partly overlap with and develop those of Ibn Mājid, while expanding on astronomical and calendrical topics. His most important treatise is *The Reliable Mahrī Treatise on the Exactitude of Maritime Sciences* (*al-‘Umdah al-mahrīyah fī ḍabṭ al-‘ulūm al-baḥrīyah*).

The corpus formed by the works of these two authors is the bedrock of our line of research. It is preserved in manuscripts around the world [RL-IOW1], amounting roughly to more than a thousand pages of modern printed editions (there are good critical editions of a good number of them), and it has an unparalleled historical importance due both to intrinsic and extrinsic reasons. It is of intrinsic value because it contains a wealth of historical, literary, scientific, and technical information [RL-IOW2]. It is extrinsically important because of its pivotal place in history: it synthesizes centuries of multicultural traditions [RL-IOW3], picking up strands of astronomical and cosmological lore otherwise lost or barely attested, including some of likely ancient origin [RL-IOW4], and this synthesis was there right in place when the Europeans started using the Cape Route. It is also of importance because it influenced greatly later nautical works, notably in Turkish and some Indian languages, some later Arabic works, and some in European languages as they benefitted from local knowledge [RL-IOW5].

[RL-IOW1] The unique relevance of the Arabic nautical texts owes mainly to two factors, one geographical and one cultural: 1) the position of the Arabian Peninsula between the Red Sea, Persian Gulf and East African shores on one hand and the West Indian shores on the other hand made of the main regional ports, like Muscat, Hormuz, Aden and Shiḥr truly central destinations and entrepôts for all the main routes of the Western Indian Ocean. 2) From the 7th century onwards, the consolidation and expansion of the Islamic polity, especially with the establishment of the pilgrimage routes to Mecca, was compounded with the geographical factor to further an intensification and deepening of transoceanic relations. This is why the first task of our research line consisted of a survey of the existing literature, including, as far as was allowed by the pandemic limitations, archival research in person or through the help of colleagues and existing available catalogues. Through a generous bequest by the Al-Furqan Islamic Heritage Foundation and Manuscript Centre, London, we obtained access to key materials on Islamic codicology and global library catalogues. The first direct product of this research objective has been our Technical Note titled *Indian Ocean Arab Navigation Studies Towards a Global Perspective: Annotated Bibliography and Research Roadmap*. Also part of this first task has been the analysis and description of a hitherto unstudied nautical manuscript housed at the Biblioteca Nacional de Portugal, with the ensuing publication of the article “[A New Arabic Nautical Manuscript in Lisbon](#)”. An additional basic groundlaying task is a forthcoming interpretative study of references to navigation in the Qur’an and hadith literature, including the traditional commentaries.

Naturally, comprised in this first objective are the re-evaluation and collation of existing sources, and thus Arabic palaeography and philology are at the basis of our work. To this effect we assembled early on an international reading group of interested and specialised scholars, the [Lisbon Arabic Science and Philosophy Reading Group](#), meeting weekly now for more than two years, dedicated to an in-depth yet convivial reading of the sources. This multi-disciplinary approach to the texts is every week yielding new insights into the literature and the existing translations, which we are gradually improving. Some of these insights are shared publicly in [our related blog](#). More relevant work is ongoing, including the publication of a new critical edition of Ibn Mājid's *Fawā'id*, collating for the first time the oldest manuscript of the text, from the Bodleian Library, Oxford, and upcoming publications, for the first time, of translations of Sulaymān al-Mahrī's treatises.

[RL-IOW2] The contents of the corpus include technical information on the navigation routes, which we have been studying in detail, joining forces with a team at New York University Abu Dhabi to produce accurate geomapping of the Red Sea and Persian Gulf routes.

The sophisticated usage of stars, asterisms, and heavenly bodies is one of the most salient features of Indian Ocean nautical literature, and as a first step to tackle this aspect, we have expanded and improved on the only previous dedicated existing publication on this topic (I. Khoury, 1990), with our Technical Note "[The Stars of Indian Ocean Arab Navigation](#)", which is being supplemented by conference presentations.

[RL-IOW3] Questions like star nomenclature make palpable the plurality of languages and folk traditions which act as tributaries of Arabic nautical literature. Words of Persian or Southeast Asian origin, Chinese instruments like the compass, and the Indian/Chinese correspondences of the all-important lunar stations (*manāzil al-qamar*) are as many witnesses to the centuries-long exchanges at every level. With this transcultural dimension in mind we issued the call for our first international workshop, "Sailing the Early Modern Indian Ocean: Texts and Practices in Contact" (24–25 January 2022), where we had the opportunity to bring together scholars devoted to Chinese navigation, Malayalam texts, Red Sea routes and Portuguese nautical literature. This workshop gathered scholars of the Indian Ocean from a specifically nautical perspective. Including scholars of the South China Sea and the Western Indian Ocean, it was hailed as "the addition of an important piece to the Indian Ocean World puzzle, bringing texture to issues that had been flattened so far."

Our recent presentation at the 8th IMHA International Congress of Maritime History (June–July 2022) was devoted specifically to "The Cross-Cultural World of Arabic Nautical Literature", drawing from Arabic and other sources as we populate with concrete cases what is known to be a decentralised and truly multipolar region. [RL-IOW4] This approach is already enabling us to uncover and trace with some clarity the contours of still only vaguely attested technical and scientific exchanges, notably the input from Persian, Indian, Malay and Chinese traditions.

[RL-IOW5] Having a clearer picture of the constitution of the Arabic sources, we will be in a much firmer position to develop what is an important aspect of our work: discerning the points of contact and interactions with contemporary and later nautical traditions, that is, what may be called the comparative dimension of our research. One such comparison, already delineated in its broadlines by some of our recent conference presentations, touches on the training, nature and social status of the pilots on both sides of the Cape. By understanding how the master navigators of Asia related to state institutions, we have already started to understand further, in a different light, the relations between the Iberian crowns and maritime exploration. This in turn impinges directly on discussions about the role of craftsmen and artisans, and their embodied, or tacit, knowledge in the development of early modern science.

Within the structure of the RUTTER project, supported at every step by the combined knowledge of our colleagues and peers, we are ideally placed to do justice to the complexity of the East–West encounter, establishing precise lines of transmission while also appreciating the general historical framework in its development. It is already well known that this encounter inaugurated a new geopolitical era; we have now started showing exactly how influential and decisive Arabic nautical literature was in that process, in that fusion of worlds, and how threads of technoscientific knowledge flow unbroken through and in spite of the vicissitudes of the external historical clashes.



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