

World Map from the "Walters Deniz Atlasi" [Walters Sea Atlas]  
Walters Art Gallery, Baltimore, MD

The *Walters Sea Atlas* is an illuminated and illustrated maritime atlas, referred to as the *Walters Deniz Atlasi*. It is an early Ottoman atlas, perhaps dating to the tenth century AH / 16<sup>th</sup> century CE. The work contains eight double-page charts executed on parchment. Four of the maps show the Mediterranean, Aegean, and Black seas. There is also a world map and a chart of the Indian Ocean. The various geographical names are written in black *nasta'liq* script. A distinguishing feature of this atlas is the detailed approach to representing such features as city vignettes. Size: 22.5 x 30 cm.

On the eve of great naval battles like the Ottoman siege of Malta in 1565, the Ottoman conquest of Cyprus in 1570, and the Battle of Lepanto in 1571, copious amounts of world maps, navigational charts, and *portolan* atlases prepared in Ottoman Turkish circulated in the Ottoman court in Constantinople. Each of these works appears to have been commissioned for the Ottoman sultan or one of his courtiers, or presented to them to curry political or financial favor. One fine example of this is the *Walters Deniz Atlasi* (ca. 1560) which features seven *portolan* charts and a world map reminiscent of those produced for the courts in Europe. Thomas D. Goodrich, who discovered the only copy of this work in Baltimore in 1984, believes that the atlas was probably prepared in Italy for an Ottoman patron. The similarities between this atlas and contemporary atlases produced in Europe both in style and content led Goodrich and Svat Soucek to the same conclusion. Although we can identify neither the cartographer nor the client, the elaborate illustrations on the charts suggest that the atlas was prepared for artistic purposes and for a wealthy and prestigious customer, possibly a member of the Ottoman court. Like Piri Reis' guidebook, this atlas and its contents point to the growing awareness of a wider world and the role

that cartography played in enhancing a deepening appreciation of the world and imperial space at the Ottoman court.

The *Walters Deniz Atlasi* contains seven *portolan* charts, which depict the following (in order): (1) the Black Sea; (2) the Aegean Sea and the eastern Mediterranean Sea; (3) the central Mediterranean and the Adriatic Sea; (4) the western Mediterranean Sea and Iberia; (5) Northwest Europe; (6) Europe, the Mediterranean, and North Africa; and (7) the Indian Ocean, East Africa and South Asia. The atlas also includes the oval projection world map shown above.

Two Ottoman world maps, contained respectively in the *Ali Macar Re'is Atlas* and in the anonymous atlas called *Walters Sea Atlas*, share the unique feature of showing the ecliptic (the Zodiac) as two straight segments. Both maps were drawn in the 16<sup>th</sup> century in a cartographic projection that is usually called "oval" and was quite popular at that time. The Zodiac must have been important for the authors of these atlases because in both maps it was given a prominent graphic treatment and was one of the last elements to be drawn.

However, the geometric study of both maps reveals that the shape of the ecliptic in them is inaccurate, particularly in the *Walters Atlas*, while several contemporary terrestrial and celestial planispheres show the same astronomical line in a geometrically correct way. This difference suggests that the intention of the Ottoman authors in tracing the ecliptic might have more to do with symbolism or aesthetics than with geometric accuracy. Drawing the Zodiac on a world map has little practical utility, hence we can postulate that the authors only sought to simultaneously represent the Heavens and the Earth. This would match both Ottoman world maps with cosmographic diagrams, schemes in which the Zodiac often appears.

On the other hand, the coincidence of the same erroneous form of the ecliptic on two different maps indicates that its authors should be based on some common source of inspiration. The existence of an Arab cosmographic diagram representing the Zodiac as a set of four straight segments reinforces the probability of the existence of a prototype diagram common to both world maps.

On the *Walters* world map the Ecliptic is drawn as two straight segments highlighted in gold color. Neither the Tropics nor the Polar Circles appear on this map. The Ecliptic is divided into 12 sections, on each of which the name of a sign of the Zodiac is written in Arabic, i.e. in the usual way of naming Zodiac signs in the 16<sup>th</sup> century Ottoman Empire. The sign names and most of the rest of the text on the map were written with the map oriented to the south (i.e. south at top).

It is difficult to believe that the error on the *Walters* map may be due to an erroneous estimate of the value of the obliquity of the Ecliptic. First of all, astronomers and cartographers have known the angle of the obliquity with very good approximation since Antiquity. Quite accurate values like 23 or 23.5 degrees are widespread in 16<sup>th</sup> century cartographic and astronomic works. Furthermore, adopting different values of latitude for the northern and southern points of tangency is a conceptual error; whatever the value of the obliquity, those two latitudes cannot be different in any case.

One possible explanation of the *Walters* map's error would be that the person who drew the Ecliptic on it was ignorant of its astronomic meaning and just made a mistake when copying the line from some other map where it was correctly drawn. Maybe the draughtsman mistook parallels 30°N and 30°S on the *Walters* map for the Tropics drawn on the hypothetical model map. Another possibility is that he just wanted to draw a symbolic Zodiac and did not worry much about the accuracy of its geographic position.





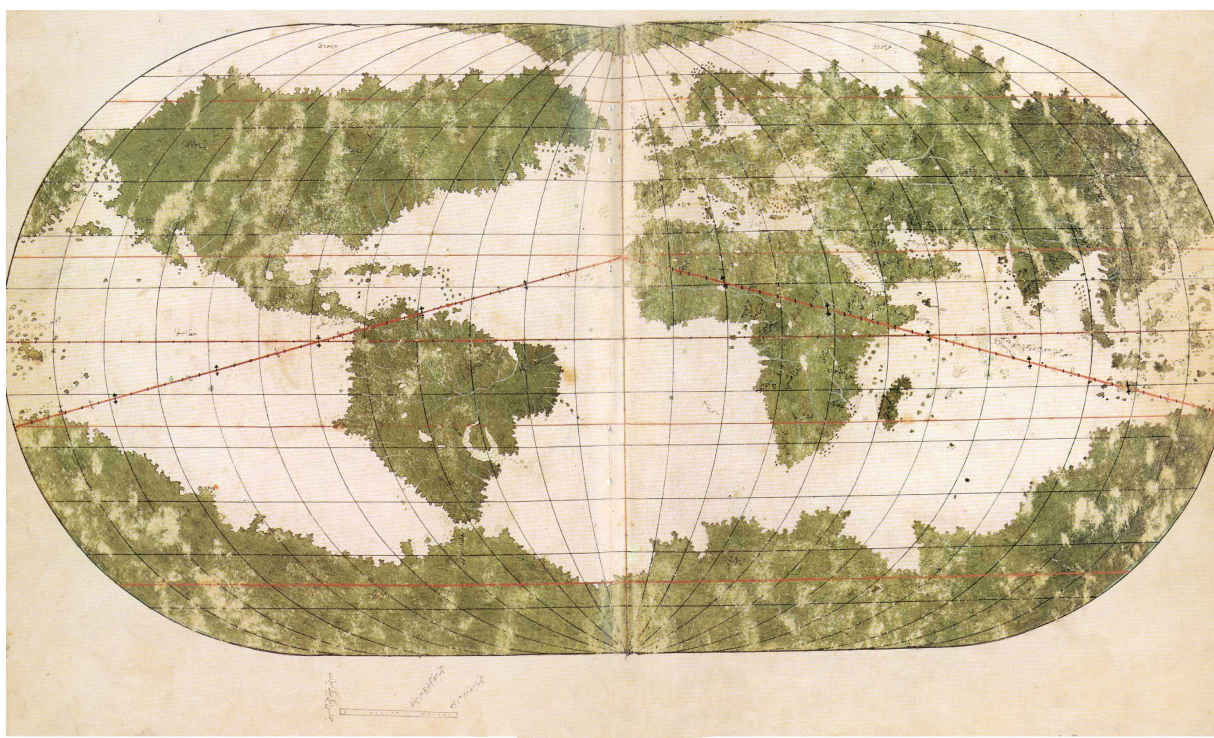
*Superimposition of the theoretically exact shape of the Ecliptic (dashed pink line) on the Eastern hemisphere of the Walters world map.*

*This shows that the shape of the Ecliptic drawn on the Walters world map is rather inaccurate. The most obvious difference is that the Ottoman chart displays the Ecliptic as straight lines instead of a curve. There is, however, another more subtle inaccuracy: the points of tangency with the Tropics are incorrect in latitude. The northern one is apparently placed at around 28°N whereas the southern one is at 30°S, i.e. more than 6 degrees to the south of its true position.*

On the Ali Macar Reis world map (shown below) the Ecliptic appears as two straight segments in the same red color as the Equator, the Tropics and the Polar Circles. The Ecliptic is divided into the usual twelve Zodiac signs, named in Arabic. The name of each sign was written with the map oriented to the East. Furthermore the Ecliptic is graduated by dots at intervals of five degrees, like the Equator. The precise reason why the Zodiac was drawn on these two Ottoman maps is unknown but this line seems to have been important in the mind of their authors, as evidenced by the prominent graphical treatment it received in both charts.

Ottoman officials, working collaboratively in a specific place, the Imperial workshops of Topkapi Palace, produced this world map for a specific purpose (a naval campaign to Southeast Asia). This map is one of the best-known examples of 16<sup>th</sup> century Ottoman cartography: the world map included within the pages of the atlas of Ali Macar Reis, or “Ali the Hungarian Sea Captain,” housed today in the collection of the Topkapi Palace Library (Topkapı Sarayı Müzesi Kütüphanesi, H. 644). This map, completed in 1567, has been thoroughly studied by a number of modern scholars, and has been identified as a work closely based on a Western prototype of the school of the Italian cartographer Giacomo Gastaldi. As Professor Goodrich has pointed out, the map bears a particularly strong resemblance to an updated version of Gastaldi’s *mappamundi* dating from 1561 (now housed in the British library, #383), although it also shares similarities with a number of other roughly contemporary adaptations. One such example, Paolo Forlani’s *Universale Descriptione*, published by the Venetian printer Ferdinando Bertelli in 1565 (#398), seems an especially likely candidate as it was widely circulated and appeared in print just two years before the date of Ali Macar’s atlas; although it was unusual for Ottomans to work directly from printed, as opposed to manuscript, maps. In any case, it is clear from the details of Ali Macar’s map that, whatever specific chart may have served as a model, it was based not on the original Gastaldi map of 1546 but on a much more recently updated version (or perhaps more than one version) completed sometime in the

1560s. One element of Ali Macar's map that has no obvious relationship to any Western prototype: its Turkish-language captions. Of these, the overwhelming majority are simple place names, some drawn from everyday usage in colloquial Turkish (e.g. *Ak deniz* or "White Sea" for the Mediterranean), others rooted in the terminology of classical Arabo-Islamic geography (e.g. *Serendib* for Sri Lanka), and still others that are neologisms derived, at least in principle, from Western sources (e.g. *Portukāl Iskelesi* or "the Port of the Portuguese" for the Isthmus of Panama). There is, however, one, and only one, location on the map that Ali Macar has chosen not merely to name but to briefly describe. This, rather surprisingly, is the Maldive Archipelago, to which the author refers as "The Twenty-Four Thousand Islands, twelve of which are deserted and the other twelve of which are cultivated" [*Yigirmi dört bin cezire on ikisi viran ve on ikisi ma'mur*]. This legend is similar to one contemporary geographic work of Ottoman provenance in which we find quite similar language: the intelligence report of Lutfi Reis, who between 1564 and 1566 traveled through the Maldives while on a secret diplomatic mission to the court of the Sultan of Aceh in Southeast Asia.



*Ali Macar Reis map, 1567 Istanbul, Topkapı Sarayı Müzesi Kütüphanesi, H. 644. fols. 7b-8a.*

Alongside his text about the Maldives, Ali Macar has prominently labeled *Aceh* (Aci) on his map as well. This addition, of obvious strategic interest for the Ottomans of the time, is also interesting to us for a more analytic reason: The sultanate of "Aceh," as distinct from the island of Sumatra on which it is located, does not typically appear on contemporary Western Gastaldi-type maps, nor is it to be found in classical Arabic geographies (having risen to prominence only in the 16<sup>th</sup> century). As such, only the exigencies of contemporary politics—and the guiding voice of Lutfi Reis—can explain its inclusion on Ali Macar's map.

At some point in the mid-1560s, most likely the early months of 1567, Ali Macar was commissioned by his employers in the Ottoman palace to draft a Mediterranean atlas.

This he executed in what can be called the “Ottoman portolan style,” a school of mapmaking that, combining the traditions of Piri Reis (#322) and the conventions of contemporary Italian *portolan* charts, would have been familiar to him from his years of working for the palace as both a cartographer and a sea captain. However, because his commission coincided with a flurry of activity related to the upcoming expedition to the Indian Ocean—an area of the world about which this mapmaking tradition had very little to say—he also procured an updated Gastaldi-type world map, and used it as the prototype for a double-folio *mappamundi* that he appended as the last chart in his atlas. He then cross-referenced this map with Lutfi’s report (or perhaps talked with Lutfi directly), and made additions that would render the map more useful for the purposes at hand. These additions included the brief description of the Maldives—a place that figured prominently in Lutfi’s narrative and through which the Ottoman expeditionary force undoubtedly expected to pass—as well as the caption for “Aceh,” the ultimate destination of the Ottoman fleet.

Even so, it has sometimes been suggested that when it comes to *mappaemundi*, as opposed to *portolans* or other use-specific maps (such as siege diagrams or architectural layouts), the Ottomans were comparatively uninterested in their accuracy or their utility, tending instead to see them as projections of an entirely abstract vision of religious and political space. Without dismissing such considerations, which are undoubtedly important for understanding the importance of world maps as a genre, Ali Macar’s *mappamundi* offers us a fleeting glimpse of some of the ways in which the Ottomans could also use such maps for much more concrete purposes. In August of 1567, as the latest urgent dispatches from the arsenal in Suez reached Istanbul, it is an easy thing to imagine the Sultan and his viziers huddled around their new map and scrutinizing its every detail—as they reviewed their master plan, gauged its chances of success, and pondered the potential gains of their great gamble in Southeast Asia. And so, at least in this isolated case, the Ottomans’ use of world maps proves not to have been so mysterious after all.

Accordingly, all the Ottoman world maps in this genre carefully show the New World as a disconnected landmass, even while differing among themselves in other respects. Indeed, the separation of continents seems an apt metaphor for the larger conceptual divide between the textual *karta* of the scholar-geographers and the visual *papamundi* of these mariners—the former completely denying the changed reality of the 16<sup>th</sup> century and the latter completely rejecting the conventions inherited from the pre-16<sup>th</sup> century past. It is clear, especially in the depiction of North America and the far north landmasses, that these two Ottoman world maps differ significantly even though they were both produced in the mid-16<sup>th</sup> century. While different in shape, they both display a large southern continent.

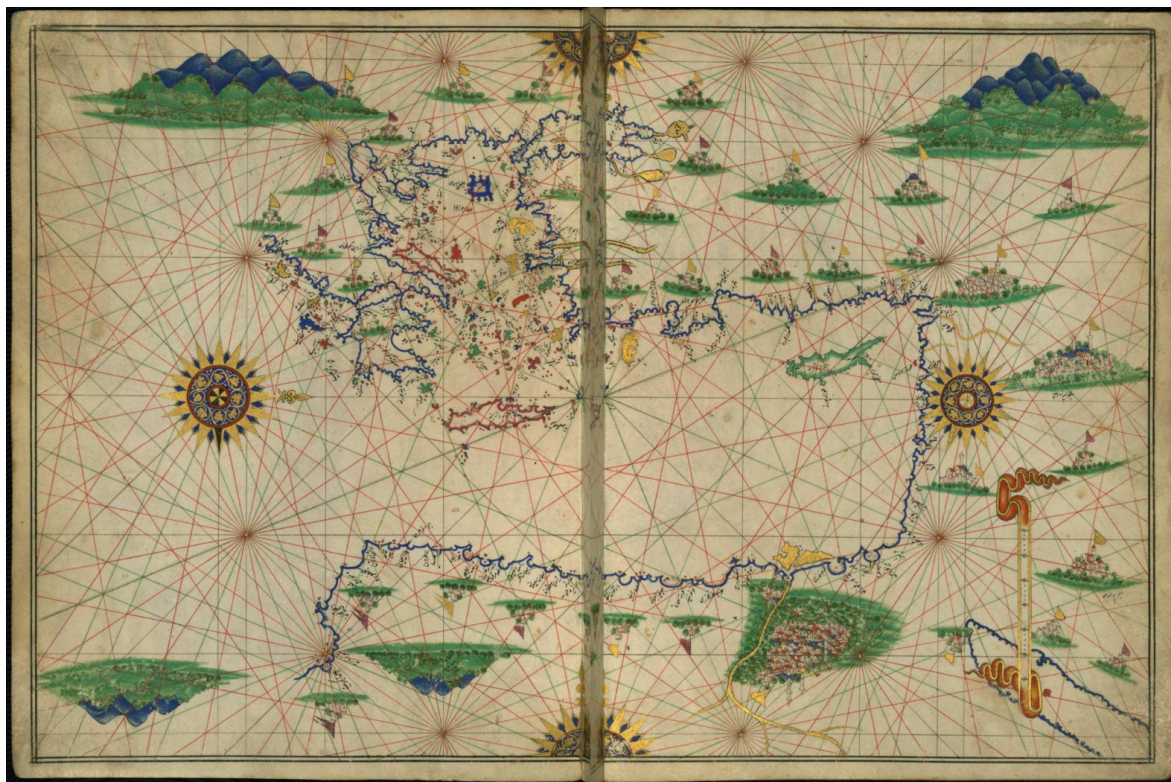
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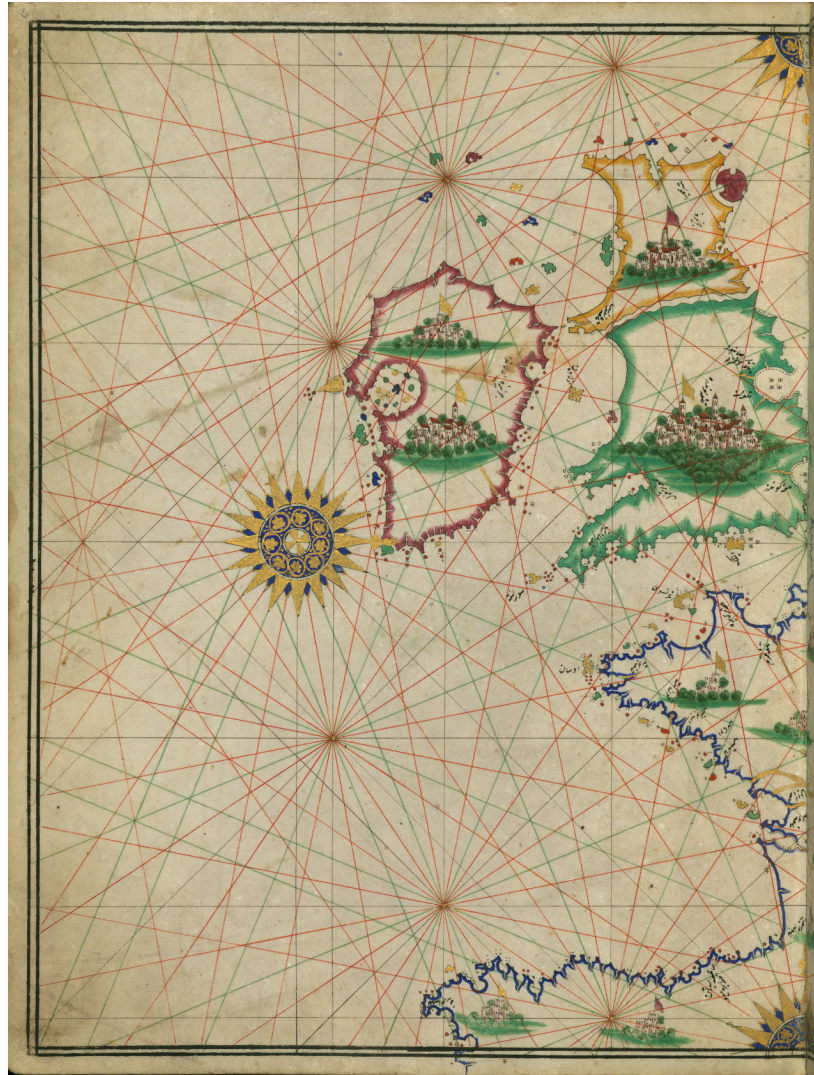


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*Eastern Mediterranean and the Aegean Sea Isles in the Walters Deniz Atlas*



*Northwestern Europe and the British Isles in the Walters Deniz Atlas*