De rebus nauticis. L'arte della navigazione nel mondo antico by Stefano Medas

Studia Archaeologica 132. Rome: «L'Erma» di Bretschneider, 2004. Pp. 234, with 91 figures. ISBN 88–8265–278–5. Cloth € 70.00

Reviewed by
Fabio Acerbi
Venzone (UD), Italy
fabioacerbi@libero.it

This book is an introduction to the techniques of navigation in antiquity. With respect to classical expositions of the same subject [cf., e.g., Casson 1971], the range of the arguments covered is wider, but each argument is treated in a less detailed fashion. Stefano Medas' book was in fact originally conceived as a tool for students of classes in the history of ancient navigation. The didactical purpose is clear from the expository style, which is plain, clear, and never too technical. No point, however simple, is left unexplained; several ancient sources are translated and discussed, but no room is left to easy conjectures. In a word, this is a useful book of popularization written with a firm grasp of what serious scholarship should be. Details and bibliographical references are confined to notes, aptly placed at the end of each chapter. All sources are analyzed with a critical attitude: the author typically tries to sift reliable information from unsound statements, especially when literary texts are at issue.

The book is divided into five chapters. The first chapter (*Definizioni e documentazione*) discusses some introductory material, stressing the non-theoretical character of ancient seamanship. The several kinds of testimonies at our disposal are discussed, the author wishing to emphasize the wide range of research tools required for such a study. The second chapter (*Esperienza, sapere pratico e senso marinaio*) gathers material related to the practice of navigation: the need for continuous care of the rigging, the seasons of the year fittest for navigation, the speed and time required for a sea journey, the main winds (with details about the dominant winds in the eastern Mediterranean and along the sea-course from Egypt to India), some basic ideas in practical meteorology, the decisive role of the conspicuous points in sailing along the coast and their range of visibility, the

ISSN 1549–4497 (online) ISSN 1549–4470 (print) ISSN 1549–4489 (CD-ROM)
Aestimatio 1 (2004) 126–130

problems related to navigation near the coast (mainly, sandbanks and rocks), the practice of pouring oil in case of storms, the signs revealing approaching land (namely, the appearance of particular species of birds and of refracted or reflected waves), the archeological evidence of the sounding lead (a device of fundamental importance), and the use of the latter as attested in ancient authors. All of this is presented with precise and uninterrupted reference to ancient sources. The closing discussion of the relationships between ancient and traditional navigation is important in that it allows one to assess the methodological premisses of the discipline. (I will return to this briefly in what follows.)

In the third chapter (*Testi di nautica e peripli*), Medas presents the extant written sources. A passage from Plutarch [*An seni respublica gerenda sit* 790d] attests to the existence of γράμματα κυβερνητικά, that is, technical treatises concerning the art of the commander. Regrettably, none of them is extant. The surviving written testimonies about seamanship range from occasional mentions in literary sources to the wide literary genre of the *peripli*. (A *periplus* was a more or less detailed description of the topographical characters of certain tracts of coast, with information about the conspicuous points—promontories, anchorages and harbors, river mouths, for instance—to be met along the way and about the distances between them.) Several lengthy passages from the main *peripli* are translated and commented on, with particular attention paid to the *Stadiasmus*. Next, the problem of ancient cartography and of the use of maps in the actual practice of navigation is discussed. Medas' conclusion is that no testimony from antiquity allows us to assert that navigation was conducted with the aid of nautical maps. The last section of the chapter deals with the reports of exploratory travels. After a short description of what remains of the *peripli* of Polybius and Pytheas, Medas discusses the reports of the travels of Hanno and of Nearchus at some length.

The next chapter (*Navigazione astronomica e navigazione nautica*) deals with the several ways in which the direction of the seacourse can be determined by referring to the stars or to the Sun. Medas discusses the precession of equinoxes as well as the related problem of the variation, from antiquity to modern times, of the latitude at which the two *Ursae* still appear to be circumpolar. Last is treated the problem of determining one's latitude in antiquity.

In the fifth and final chapter (*Vele e manovre*), Medas turns to the characteristics of the various riggings used in antiquity. The primary form of rigging (namely, the square sail) is described in detail, and it is shown how it was set and used in different conditions of wind. In particular, Medas explains how the square sail may be employed in windward sailing. Other kinds of rigging are then described (the lateen sail and the spritsail), and the extant evidence for their use in antiquity is analyzed. The volume ends with a wide-ranging and up-to-date bibliography and a glossary of technical terms.

To an outsider (such as the present reviewer), there are two methodological points that seem of considerable interest. Both points are rightly emphasized by the author, whose exposition is thoroughly informed by them. The first is that the research involved requires a multidisciplinary approach. First of all, a critical attitude towards ancient sources is necessary and this must often be combined with philological expertise when refined analyses are required. Archaeological findings such as the data from submerged remains of shipwrecks are, of course, fundamental to the field. In addition, researchers will profit by using a basic technique which Medas calls 'experimental archaeology' and which involves collecting data from the actual experience of sailing full-scale models of ancient ships. The construction of such models is by no means an easy task, since detailed technical descriptions of ancient ships are lacking. However, there is information to be gathered from the extant literary sources as well as from paintings, graffiti, bas-reliefs, engravings, and other archaeological findings.[1] Still, the experience of sailing such ships is invaluable. Such research also demands knowledge of a large body of iconographic material. There is, moreover, an anthropological facet. One crucial fact is that traditional navigation, i.e., sailing without the support of technological instruments, is most likely to have undergone only very slight changes from ancient to modern times. Hence, studying traditional navigation today can afford useful indications for reconstructing ancient techniques of navigation. The basic principles of orienteering and of sailing are in fact the same, and more recent inventions such as that of the compass or of certain kinds of rigging can easily be taken into account. Even more interesting are the data

[1] To give an idea of the problems involved, only one ship's mast has been found so far in excavations.

that can be collected by studying the techniques of navigation in civilizations that in modern times were still untouched by any technological development, such as those of the Polynesian navigators. On the other hand, in that traditional navigation is mainly based on oral tradition and transfer of practical knowledge, it is now being lost because of the very fast social and technological transformations that occurred in the last century. In effect, studying ancient navigation serves to keep alive a body of traditional wisdom, preserved through the millennia, that modern technology is wiping out.

The second point is the thesis, supported by all the data we have, that ancient navigation was entirely founded on an empirical basis: it was an 'art', as the title of the book rightly points out. Overemphasizing the theoretical facet of ancient disciplines and human activities is a common defect of some modern reconstructions which tend to grant to the ancients many more theoretical tools than they demonstrably had. A case in point is the problem of navigation in open sea. Medas rightly shows that we have no evidence for pelagic or open-water navigation, not even during exploratory travels, and that there was really no need of such a shortcutting of safe coastal courses. Emphasizing the empirical character of ancient navigation is also a way to remind us that we should not assume that what is obvious to us was obvious to the ancients too. For instance, the use of a single, central rudder, the very concept of the speed of a ship, or the use of maps to keep the right course, were unknown to ancient seamen.

Two remarks on matters of detail. On page 75, the value 2.04 in the formula $P = 2.04(\sqrt{H} + \sqrt{h})$ which gives the range of visibility in miles of an object of height h seen from a point placed H meters above the sea level, cannot be merely a 'constant coefficient of refraction', since it is obtained by suitable combination of other parameters too, such as conversion factors and the square root of the terrestrial radius. On pp. 110 and especially 158, Medas offers what he calls conjectures about the contents of a treatise on nautical astronomy ascribed to Thales. But these conjectures are totally unwarranted. Both Plutarch [*De Pythiae oraculis* 402f] and Diogenes Laertius [*Vitae* 1.23] are somewhat reluctant to endorse such an ascription, whereas Simplicius [Diels 1882, 23.33] admittedly refers to a traditional and unverified report. Apart from the doubts expressed in the sources themselves, we have no idea of the status of 'scientific' astronomy in the times of Thales. Moreover, one should remember

that it was a standard move among later authors to attribute discoveries of basic scientific results to first thinkers, according to the *topos* of the *primus repertor* or first discoverer.[2]

The volume is quite expensive and very weighty, owing to the high quality of both the binding and the paper employed and to the presence of 91 full-color figures in the text. I have found only a few misprints, some of them in Greek words (the latter on pp. 9, 31, 33, and 114). (The etymology proposed on p. 136, by the way, is mistaken: αὐτοπτέω is not a compound of αὐτός and ὀπτεύω.) The reader would have appreciated an index of the passages cited and an index of names, as well as a short and schematic list of the main literary sources useful for the study of ancient seamanship.

BIBLIOGRAPHY

Casson, L. 1971. *Ships and Seamanship in the Ancient World.* Princeton.

Diels, Hermann. 1882. *Simplicii in physicorum libros quattuor priores commentaria.* Commentaria in Aristotelem Graeca 9. Berlin.

[2] In the same vein, Thales is ascribed the foretelling of an eclipse as well as proofs of simple theorems found in the first book of Euclid's *Elements*.