POSEIDONIOS ON BEATING TO WINDWARD

(FGH 87F46 and related passages)

BY

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Could ancient sailing ships make progress against the wind, i.e. could they ‘tack’ or ‘beat/work to windward’ (Dutch ‘laveren’; French ‘louvoyer’; German ‘lavieren’; Italian ‘bordegiare’; etc.)? This is a question which has again and again been answered in the negative, although there is positive evidence for the practice and although the balance of probability is in favour of it. Pure sailing ships, i.e. ships without any means of propulsion other than the sail, appear in the pictorial record at the end of the sixth century BC; references to ‘round’ ships and holkades, terms equivalent to ‘sailing ship’ (cf. SSAW, 169), are found already in Pindar, Herodotos and Thucydides. A myriophoros, i.e. a holkas with a cargo capacity of ‘ten thousand’ (medimnoi/amphoreis, i.e. roughly 500 m³), is mentioned by Thucydides in his account of the hostilities at Syracuse in 413 BC (VII 25.6). It seems very improbable that such big merchantmen could have been a paying proposition if they really were wholly dependent on following winds or wind abeam. The circumstance that ancient sailing, i.e. bulk carrying, ships were especially active

1) = T22 Edelstein-Kidd, F18 Theiler. I am very grateful to my colleagues S.L. Radt and D.M. Schenkeveld for valuable contributions to my documentation, and very helpful criticism; to Mr. M.W. Karreman of Utrecht University Library for assistance in consulting the important Lulofs Collection of classical geographica; and to my son G.J. Wallinga for correcting my English. I employ the following abbreviations: Flacelière = R.F., Plutarque, Sur la disparition des oracles (1947); Rougé = J.R., Recherches sur l’organisation du commerce maritime en Méditerranée sous l’empire romain (1966); GOS = J.S. Morrison/R.T. Williams, Greek oared ships 900-322 B.C. (1968); SSAW = L. Casson, Ships and seaman ship in the ancient world (1971); Travel = L. Casson, Travel in the ancient world (1974). I refer to current translations of ancient authors (Budé, Loeb, Penguin) simply by the name(s) of the author(s).

2) Brit.Mus. B 436 = SSAW fig. 81-2 and GOS Arch.85.

3) στρογγύλη ναυάγος/ολικός: Pind. Nem.V 2; Hdt.I 163.2 (στρ.), III 135.2-3 (ό.); Th. I 137.2 (ό.), II 97.1 (στρ.).
on routes where etesian winds are predominant—the grain routes from Athens to the western and northern Black Sea coasts and those from Italy to Egypt, notably the latter—made the ability to beat to windward a necessity. In particular, the regular provisioning of the city of Rome would have been impossible otherwise, as is justly stressed by Rougé (66); the prevailing winds on the route between Alexandria and Italy were north-westerly in the summer months when the Egyptian grain became available.

In spite of all this, no less a scholar than A.H.M. Jones flatly declared that “ancient ships could not beat against the wind” (The Later Roman Empire [1964, repr. 1973], 842). Even more recently O. Höckmann has suggested that “<man> wahrscheinlich . . . im Altertum erst allmählich gelernt <hat> durch entsprechende Einstellung des Segels auch Seitenwind auszunützen” (Antike Seefahrt [1985], 72), implying that the ancients never learnt to tack, as was indeed assumed in older books on ancient seafaring such as Breusing’s Nautik der Alten and Vars’ French adaptation of it. Yet, in 1909, in a paper which has been totally ignored in later work in this field, T. Rice Holmes had analysed a considerable part of the literary evidence and cautiously concluded that “where the wind was not too strong and tacking was safely practicable . . . it was resorted to”, a conclusion which I consider incontrovertible. Accordingly, Casson describes the procedures recognizable in the ancient literatures and the accompanying terminology without bothering to go

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4) A. Breusing, Die Nautik der Alten (1885), 152; J. Vars, L’art nautique dans l’antiquité (1887), 183. C. Torr (Ancient ships [1895], 95-6) and A. Köster (Das antike Seewesen [1923], ch. XVI, esp. p. 172) give the impression of ascribing tacking to the ancient seafarers, but neither is very explicit about it. A. Trevor Hodge suggests that a ship on the stretch from Greece to Massalia had to make “no doubt a number of stops to wait for the right wind to carry on a stage further” (Massalia, meteorology and navigation, The Ancient World 7 [1983], 76). L. Sprague de Camp (Sailing close-hauled, Isis 50 [1959], 61-63) is also of the opinion that “Larger <square-rigged> merchantmen . . . made direct trans-Mediterranean passages before seasonal winds” (my emphasis).  

5) Could ancient ships work to windward?, CQ 3 (1909), 26-39. Rice Holmes had the very unhappy notion that the south shore of Asia Minor was a suitable place for tacking, whereas there land- and sea-breezes alternate and tacking therefore is not an obvious option; in his conclusion he is silent about the route between Egypt and Italy where the technique was needed and demonstrably used: see L. Casson, The Isis and her voyage, TAPA 81 (1950), 43-51.