NOTES

Marathon to Phaleron

In his reconstruction of the campaign of Marathon, Prof. N. G. L. Hammond postulates that the Persian fleet accomplished its hurried voyage from Marathon to Phaleron after the battle in a time of 9 hours, and in theory could perhaps have done it in 8 (*JHS* 1968, p. 43). This very fast time (9 hours for 58 sea miles = 6½ knots; 8 hours = 7), necessary if the fleet is to arrive in Phaleron in time to confront the Athenians on the same day as the battle (*sic* Plut. *Aristeides*, v, 5; but cf. *Mor.* 350 E), is justified by two arguments: (1) the wind blowing at the time was a north-easter, providing 'the fastest conditions for sailing'; and (2), the Phoenician galleys in the Persian fleet were faster than Greeks, making figures based on Greek performance irrelevant.

(1) A strong north-easter is indeed very probable. During the summer and until mid-September (i.e., there is a strong probability that Marathon is covered, whichever date one prefers for it) the etesian winds (nowadays known as the *meltemi*) are blowing in the Aegean. These winds are of great strength and regularity, blowing only by daytime, and more or less from the North (Dem. iv 31; viii 14; Arist. *Meteo.* ii 361–2; A. R. Burn, *Persia and the Greeks*, p. 388). But the conditions they offer are not favourable for fast sailing from Marathon to Phaleron. Off the east coast of Attica a very choppy sea builds up. The seas come rolling down from the North, and in the funnel-shaped Thorikos Channel, between Makronissi and the mainland, build up to some really heavy weather between Lavrion and Sounion, particularly in the afternoon.[1] This would delay the war galleys. Little is known about Phoenician war vessels, but they appear to have been triremes of some sort—light craft that can make good speed only in calm water. Far from a 'following sea' being favourable, a trireme would not give of its best in a sea of any kind, coming from any direction.

Again, it is not easy to see how a north-east wind—or indeed any wind at all—could have created fast sailing conditions from Marathon to Phaleron, given the U-turn at Sounion. This is illustrated by FIG. 1, in which the Persians' course is drawn in on a map of the coastline of Attica. The angle of a NE wind is also indicated, and it will be seen that on the long stretch from the Isle of Patroklos to Vouliagmeni the wind will not be 'on the starboard quarter . . . from Sunium to Phalerum' as Hammond says, but on the beam or slightly ahead of it; while on the homestretch from Vouliagmeni onwards it becomes a head-wind at 75° to the course. Ancient square-riggers are thought to have been able to sail only to within 80° of the wind (L. Casson, *TAPA* 1950,

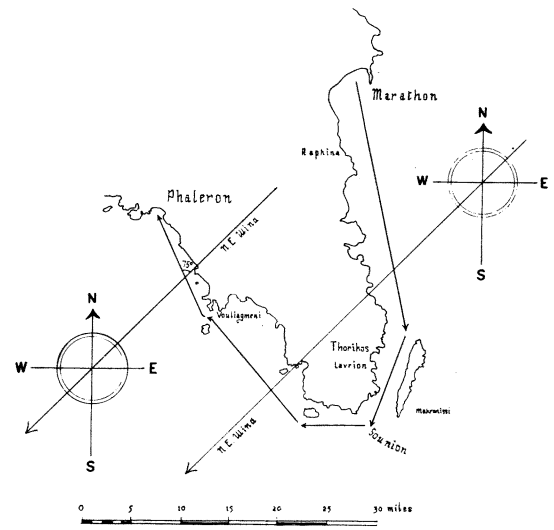

FIG. 1

p. 45). As far as sail goes, therefore, a north-east wind does not provide the ideal conditions envisaged by Hammond and essential for the speeds he proposes. Moreover, as FIG. 2 shows, quite apart from

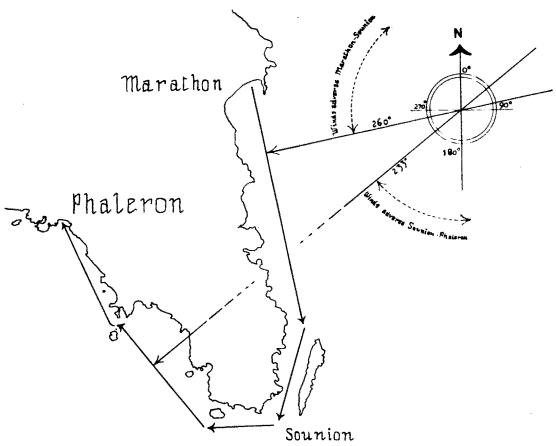

FIG. 2

a north-easter, there are very few winds that would be favourable. Any wind on a compass heading greater than 260° would be adverse (i.e., forward of the beam) for the Marathon—Sounion stretch, and anything less than 233° would be adverse from Sounion to Phaleron. Winds favourable for the entire voyage are thus restricted to the range of 27°

[1] I am indebted to Mr Peter Throckmorton, who kindly took me round the shipyards of Perama and Salamis interviewing caique and yacht captains on weather conditions.

lying between 233° and 260°, but even this means counting as 'favourable' any wind that is not actually adverse. Even a wind on 246°, the very centre of the arc of favourable winds, works out at an angle of 15° abaft the beam on both halves of the course, which will not give very high speeds. The only way a ship (not a fleet, which always is slower than a single ship; *v.* W. W. Tarn, *CR* 1909, pp. 184–6) could maintain Hammond's 7 knots is if it had a strong stern wind all the way; which is impossible on a U-shaped course.

But could the triremes not have rowed around, helped out by sail where necessary? Quite apart from the fact that ancient fleets behaved the other way round, sailing all the way and helping out with oars, not vice versa, and apart from the delay from the heavy seas, 6½–7 knots is battle speed, attainable only in short bursts. There is no question of it being maintained by a fleet over 70 miles without the help of a strong wind all the way. Again, triremes move more slowly when they are being used to transport an army; 'an increase in the number of "passengers" aboard had a great effect on the speed of triremes' (A. W. Gomme, *Commentary to Thuc.* Vol. II, p. 217), and it was because they were στρατιωτικωτέρον παρεσκευασμένοι that Phormio's Corinthian opponents could not match his performance (Thuc. ii 83, 3. *v.* also Gomme *ad loc.*). Again, the pace of the fleet would be set by the slow horse-transports (the value of the cavalry for the dash up from Phaleron is often stressed). Whether these were, like later Athenian ones, converted triremes with only one bank of oars, or merchant vessels, they cannot either way have maintained trireme speeds under oar-power; and Livy (xliv 28) describes horse-transports as an unhandy type of vessel (*inhabili navium genere*).

(2) Very little is known about Phoenician galleys, what there is being summarised by Casson,[2] and the episode quoted by Hammond (Herod. vii 179–82) is inconclusive. It has already been noted by Hignett (*Xerxes' Invasion of Greece*, p. 159, *q.v.* for a discussion of this passage) that 'it is surprising that an Athenian trireme could keep ahead of its pursuers, the swiftest ships in Xerxes' navy, during a chase of 70 miles'. Far from proving that Phoenician ships were faster than Greeks, it goes far towards showing that they were not, or only marginally so if it took them so long to catch up. And in any case it is risky to generalise from individual episodes where a Phoenician outsails a Greek; the Phoenician superiority could spring from a more experienced crew (D.S. xx 6, 2, makes this point explicitly), or from not having a foul bottom. Most authorities think of the Persians as being faster on the evidence of four passages: (*a*) Herod. viii 10 describes the Persian ships at Aphetai as ἄμεινον πλεούσας (tr. by Godley, the Loeb editor, 'more seaworthy', i.e., not necessarily faster). The engagement ended in a draw so the superiority of the Persians, who were confident of easy victory, may be imaginary. (*b*) viii 60, where Themistocles describes the Greek ships at Salamis as βαρυτέρας (Plut., *Themist.*, 14 says the opposite and is accordingly rejected by How and Wells (II, p. 255); but the high Phoenician gunwales (Casson, *loc. cit.*) *would* make their ships look higher and heavier to Greek eyes). Being heavier, one assumes the Greeks would also be slower. This is perhaps not so. As is pointed out by W. L. Rodgers (*Greek and Roman Naval Warfare*, p. 33), it is an engineering rule that with similar vessels the larger (and heavier) will always go faster. This might indicate that at Salamis it was the Greeks who were the faster. (*c*) vii 44 and (*d*) vii 96, on the other hand, are clear statements of Phoenician superiority to the rest of Xerxes' fleet. They must be given their full weight, but do not directly compare Phoenician performance with Greek and Roman experience, on which our time estimates are based. I would myself be reluctant, on the strength of this evidence, to attribute to the Persian fleet a speed as far outside the normal range of estimates as does Hammond.

What is the normal estimate? Most writers now favour 12–14 hours (= 4–5 knots), but this is usually based on known voyages in (often) unknown weather. Hammond remarks that the top speed of ancient sailing ships is not known. More pointedly, it is not relevant. What is relevant is what speed they could make on that particular voyage and with the winds of that particular day. This is why it can be misleading to take the figures for one known voyage and apply them to the Marathon-Phaleron run. Even for a rowed galley high speed will be maintained over a long distance only with the assistance of the sails, and that means a voyage more or less in a straight line, not a U-turn. Casson (*op. cit.*, p. 296 f.) in an analysis of fleet speeds comes to a clear conclusion: 'Before a favourable wind a fleet could log between 2 and 3 knots. With unfavourable or very light winds a fleet usually could do no better than 1 to 1½ knots.' Assuming a north-east wind Casson's first figure will apply as far as Sounion, and the second from there on (*cf.* Fig. 1). The total time works out at 30–45 hours (*cf.* Herod. viii 66). The Persians could cut quite a lot of time from this inconveniently pessimistic figure and still be far above 12–14 hours, let alone Hammond's 9-hour dash. This high figure, naturally, has serious repercussions for the Marathon campaign as a whole. This Note is not the place to explore them, though we may observe that a cardinal contradiction has always bedevilled discussion of this topic—the fact that while strategy demands that the Persians rush to Athens with all speed, the voyage round Sounion was an uncommonly slow way of doing it. But given Casson's analysis, his figures must be either disputed or applied (for the third possibility, that

[2] L. Casson, *Ships and Seamanship in the Ancient World* (Princeton, 1971), pp. 94–6. I must also thank Prof. Casson for much helpful advice on the material of this paper.

Marathon is a special case to which they are inapplicable, I can see no evidence; we cannot simply argue that, willy-nilly, the fleet *must* have made a fast run to save Plutarch's credibility). Casson's figures have not been disputed, to my knowledge, in the 24 years they have been in print (first published in *TAPA* 1951, p. 146 f.). I am not myself a specialist in shipping, and am willing to accept amendment in detail of Casson's position, but on the whole the analysis seems to me to be right, and it seems fair that anyone not applying it to the Marathon voyage must first bear the onus of disproof.

Finally, it may help to set the Persians' speed in context if we compare it with the speeds of modern sailing craft of sophisticated design. There are two obvious subjects, the tea-clippers and ocean-racing yachts. The log of the fastest run ever made by a clipper (the *Thermopylae*, sailing from London on November 5, 1868) has been published[3] and it shows that speeds of 10–12 knots (the speed of Hammond's caique) were quite uncommon. Racing for home, they were achieved on 18 days out of 91, just 1 in 5. When one realises that at 12 knots Hammond's caique was making a speed achieved on only 4 days out of 91 by a record-breaking tea-clipper one must wonder whether so exceptional a performance offers useful evidence. What of the yachts, then? I am informed by Mr Emil 'Bus' Mosbacher and Mr Olin J. Stephens II, the skipper and the designer of the American yacht *Intrepid* which defeated the Australian challenger *Dame Pattie* in the 1967 America's Cup, that 'the maximum speed of a 12-meter [yacht] would be something slightly over 9½ knots, but the average speed would probably be nearer 7 or so'. In fact, in the 1967 competition *Intrepid* usually completed the course at an overall average of about 6½ knots. We must surely at least take a second look at a Persian fleet that, at 7 knots, manages to go faster, horse-transports and all—*inhabile navium genus*—than the *Intrepid* winning the 1967 America's Cup.

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[3] W. S. Lindsay, *History of Merchant Shipping and Ancient Commerce* (London, 1876), Vol. III, pp. 613–17.

NOTE: For further study of this voyage and the problems it raises the interested reader may wish to refer to my article 'Marathon: The Persians' Voyage', now being published in *TAPA* Vol. 104 (1975).

The Man-Eating Horses of Diomedes in Poetry and Painting

(PLATE XVIII)

Diomedes, king of the Bistones, a war-like people of Thrace, owned man-eating horses, which Herakles had to subdue: according to Apollodoros (ii 5.8) this was his eighth labour. Neither the number nor the order of Herakles' labours is certain;[1] our earliest evidence for a canonical twelve is the metopal decoration of the Temple of Zeus at Olympia (470–457 B.C.).[2] The second metope from the south corner of the eastern end of the temple[3] is badly preserved, but enough remains to make it clear that Herakles was here represented standing in front of a single horse,[4] subduing it in much the same manner as he does the Cretan Bull on the west end of the Temple. Earlier, in the sixth century, Bathykles had represented Herakles 'subduing Diomedes' on the 'throne' at Amyklae (Pausanias iii 8.12),[5] but of this nothing remains.

Until the publication in 1961[6] of a papyrus with more than fifty new verses of a poem by Pindar, our earliest literary evidence for Herakles' encounter with Diomedes was the *Alcestis* of Euripides (438 B.C.): Herakles comes to the palace of Thessalian Admetus, on his way to the Bistones (ll. 482 ff.).[7] The new poem, which probably antedates the *Alcestis* by several decades, begins, as preserved, with a brief mention of Herakles' theft of Geryon's cattle and the moral implications of his deed.[8] Then the poet turns to another labour in which Herakles was 'making just what is most violent', the subduing of Diomedes' horses.[9] At night, Pindar tells us, Herakles came into the stable where the horses were tethered to their manger by a single chain of bronze

[1] F. Brommer, *Herakles* (1972).

[2] B. Ashmole and N. Yalouris, *Olympia* (1967), 22 f.

[3] *Ibid.* 27 and figs. 177–9.

[4] In art Herakles tends to be represented with only one horse (on their number and sex, see below, n. 9), probably because the one-to-one ratio was compositionally more successful. Representations of Herakles and horses (which are not always clearly those of Diomedes; see below, n. 14) have been compiled by Brommer, *Vasenlisten*[3] (1973), 86 ff. and *Denkmälerlisten zur griechischen Heldensage*, i: *Herakles* (1971), 144 ff. ('Rosse').

[5] Pausanias does not specifically mention the horses in his brief description of the subjects represented on the 'throne'. They probably were included, but we cannot be certain of this from Pausanias' words. Since both Bathykles and his 'throne' are virtually unknown to us, we cannot know what influence they had on later art.

[6] E. Lobel, *The Oxyrhynchus Papyri* xxvi (1961), 141 ff. (no. 2450). See also *HSCP* lxxii (1968), 47 ff. (C. Pavese); *ibid.* lxxvi (1972), 45 ff. (H. Lloyd-Jones, with bibliography).

[7] Euripides also mentions the episode in his *Herakles*, 380 ff.

[8] *HSCP* lxxvi, 45 ff.

[9] The number and the sex of Diomedes' horses varies (cf. *Oxy. Pap.* xxvi, 149, on l. 4), although four mares seem most likely, since this was the ideal chariot team. Eurystheus did not order Herakles to kill the beasts, but to bring them back to him—according to Apollodoros (ii 5.8), so that he could use them for his own chariot. In art the full number is shown on a lekythos in Syracuse (see below, n. 21) and on some Etruscan gems (*cf.* E. Zwierlein-Diehl, *Antike Gemmen in Deutchen Sammlungen: Berlin* ii (1969), pl. 60, no. 392).