HERODOTUS ON ARTEMISIUM

Herodotus is viewed as an unmilitary historian by many scholars because some of his descriptions of battles in the *Persian Wars* are unconvincing.[1] This may be due to the incomplete or contradictory nature of his sources, his omission of logistical considerations, and his tendency to seize on single rather than multiple causes for events. An example of such problems is his account of the battles of Artemisium.

The Hellenic League,[2] formed in 481 B.C. to prepare for the anticipated Persian invasion (Hdt. 7.145), concentrated troops at the pass of Thermopylae after the abortive expedition to Tempe (Hdt. 7.173-174). A fleet was also dispatched to Artemisium (Hdt. 7.175), where it would be in communication with the Greek land forces (Hdt. 7.175).

Herodotus interpreted the naval engagements at Artemisium as part of a preconceived battle plan. There is evidence, however, suggesting that the Greeks intended, but were unable to employ, tactics different from those ultimately executed.

The size of the land and the sea forces at Thermopylae-Artemisium indicates that the Greek army was meant only to hold the pass. With approximately 7000 men (Hdt. 7.202-203), the Greeks could do nothing more. On the other hand, the size of the Greek fleet—271 to 324 triremes plus 9 pentekonters (Hdt. 8.1-2, 14), that is, approximately the same number that later fought at the decisive battle of Salamis—indicates that a major battle with the Persian navy was anticipated.[3] Some scholars believe that, because of the paltry size of the Greek army at Thermopylae and the fact that only a portion of the Greek fleet was present at Artemisium, the Greek efforts were merely holding actions until more ships and troops could be mustered for defense at the Isthmus of Corinth and Salamis.[4]

I would suggest that the Greeks initially adopted at Artemisium a "narrow water" strategy, which was later used at Salamis with success. They hoped to lure the Persian fleet into the waters south of the Oreos

[1] For a summary of these criticisms of Herodotus and a defense of him as a military historian see A. Ferrill, "Herodotus and the Strategy and Tactics of the Invasion of Xerxes," *AHR* 72 (1966) 102-15.

[2] For details on the Hellenic League see P. A. Brunt, "The Hellenic League against Persia," *Historia* 2 (1953) 135-63.

[3] F. Miltner, "Des Themistokles Strategie," *Klio* 31 (1938) 226-27; and J. F. Lazenby, "The Strategy of the Greeks in the Opening Campaign of the Persian War," *Hermes* 92 (1964) 270-72 also hold this view. J. Labarbe, "Chiffres et modes de répartition de la flotte grecque à l'Artémision et à Salamine," *BCH* 76 (1952) 388, totals 327 triremes by including the 3 captured scout ships. He states, *ibid.*, 390, that 350 Greek ships fought at Artemisium on the last day.

[4] M. H. Jameson, "A Decree of Themistokles from Troizen," *Hesperia* 29 (1960) 205; M. H. Jameson, "Waiting for the Barbarian: New Light on the Persian Wars," *G & R* 8 (1961)11. J.A.S. Evans, "Notes on Termopylae and Artemisium," *Historia* 18 (1969) 405, believes that Artemisium-Thermopylae were intended to delay Xerxes' army until the weather and lack of supplies forced it to withdraw.

Channel (see map, p. 179 below),[5] but the Persians recognized their intent and the actual battles were fought in the more open waters north of Euboea off Artemisium. The Artemisium-Thermopylae expedition has been debated,[6] but such debate has neglected the naval operations at Artemisium. They were of decisive importance for the outcome of the war.

Spartan domestic politics may have been represented the small number of Laconian troops sent to Thermopylae under the command of Leonidas.[7] Yet, the fighting of the first two days there indicates that the size of the force sent was sufficient to perform its mission. Herodotus (7.210) viewed Xerxes' four-day wait in front of the Greek positions as an indication of Persian anticipation of a Greek withdrawal once the size of his army was ascertained. This seems doubtful. The league had earlier sent spies to Sardis (Hdt. 7.145-146), and consequently the Greeks had a fairly accurate knowledge of the size of the Persian forces long before they dispatched troops to Thermopylae.[8] It might be argued that Xerxes was waiting for the Persian fleet, that he planned to destroy the Greek navy and then to aid his army in an attack on the Greek positions at Thermopylae.[9] Yet this seems unlikely, given the vulnerability of amphibious landings, and in view of the conduct of the Persian navy during the first two days of fighting at Artemisium (see below).[10] More logically Xerxes waited four days for all of his marching columns to join the main position before Thermopylae and spent the time reorganizing them into attack groups.

Athens viewed the Euboean straits as one of the last strategic locations to engage the Persian sea force before it reached Athens.[11] Yet, there is

[5] Evans, *ibid.*, 398, mentions such a strategy as a means of checking, not defeating, the Persians. He gives no details on the tactics the Greeks might have employed.

[6] For controversy concerning the adequacy of the forces sent to Thermopylae and Leonidas' actions, see J. R. Grant, "Leonidas' Last Stand," *Phoenix* 15 (1961) 14-27; J.A.S. Evans, "The 'Final Problem' at Thermopylae," *GRBS* 5 (1964) 231-37; J. B. Bury, "The Campaign of Artemisium and Thermopylae," *BSA* 2 (1895-6) 102-04. On the topographical questions, see A. R. Burn, "Thermopylae and Callidromos," in *Studies Presented to David Moore Robinson*, 1 (St. Louis 1951) 480-89; and W. K. Pritchett, "New Light on Thermopylai," *AJA* 62 (1958) 203-13. For tactical and logistical considerations see M. B. Wallace, "Herodotus and Euboia," *Phoenix* 28 (1974) 22-44. Concerning the contingent of 200 Persian triremes sent around Euboea to take the Greek fleet in the rear, see C. Hignett, *Xerxes' Invasion of Greece*, (Oxford 1963) 386ff.; W. K. Prentice, "Thermopylae and Artemisium," *TAPA* 51 (1920) 8-9; and W. W. Tarn, "The Fleet of Xerxes," *JHS* 28 (1908) 215. Synchronism of land and sea battles at Thermopylae-Artemisium has been debated in Prentice, *ibid.*, 7; Bury, *ibid.*, 94-97; G. B. Grundy, "Artemisium," *JHS* 17 (1897) 226-27. In light of Herodotus' statement (8.15) that the battles at Artemisium and Thermopylae occurred on the same days, this debate should be laid to rest.

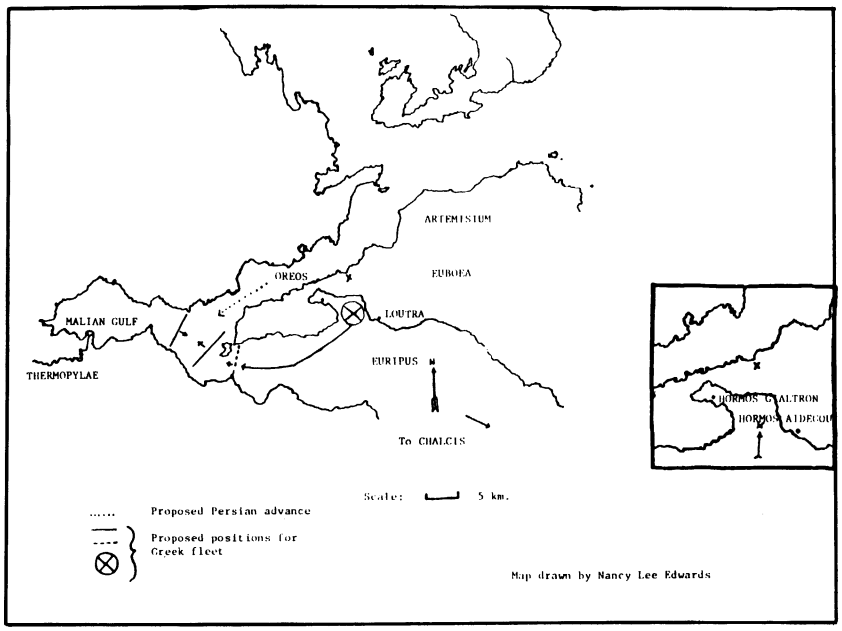
[7] Grant, *op.cit.*, 22-25.

[8] Lazenby, *op.cit.*, 268 also believes this.

[9] For the possibility of the Persian ships coming close to shore and aiding their land forces, see the analogous situation of 279 B. C. in Pausanias 10.21. G. B. Grundy, *The Great Persian War and its Preliminaries* (London 1901) 265, comments on Pausanias' passage.

[10] On amphibious operations in antiquity see Evans, *Historia*, 398.

[11] The Greek fleet could have taken a defensive position at the narrows at Chalcis or, as A. Köster, "Studien zur Geschichte des antiken Seewesens," *Klio Beiheft* 32 (1934) 58, suggested, between Euboea and Andros.



Euboea and Adjacent Mainland

no evidence that Athens or the other Greek states sent their entire fleets to Euboea. J. Labarbe suggested that the Greeks held back a mobile reserve for the battle which they planned at Salamis.[12] It seems doubtful that the Greek ships held back from Artemisium (Hdt. 8.42) were reserved solely for an anticipated battle at Salamis or for defensive maneuvers about the Isthmus of Corinth. Artemisium was not merely a holding action; too large a fleet was sent for that. Had the Greeks been victorious there, a mobile reserve would not have been needed.

Retention of mobile units possibly accounts for the failure of the entire fleet to appear at Artemisium, but it cannot be the only reason. Conceivably, the narrow waters at the juncture of the Oreos and Euripus restricted the number of vessels which could effectively be maneuvered there.[13] But this suggestion is debatable too, since it has been argued that

[12] Labarbe, *op.cit.*, 413-17.

[13] R. Custance, *War at Sea: Modern Theory and Ancient Practice*, (Edinburgh/London 1919) 13-14, believes that the number of Greek ships was sufficient to block the northern end of the Oreos Channel (see his map between pp. 14-15). Thus the Greek flanks would have been protected by the mainland on the left and Euboea on the right. Such a deployment would have forced the Persian navy to make a frontal attack which could not fully utilize its superior numbers. This interpretation has been disputed by J. Kromayer and G. Veith, *Schlachten-Atlas zur antiken Kriegsgeschichte*, 4 (Leipzig 1926) cols. 3-5 and map on Griech. Abt. Blatt no. 1. They believe that the third day's battle was not fought in front of the northern entrance of the Oreos Channel, but to the east, north of the Bay of Pevki.

an equal number of Greek triremes was later deployed at Salamis,[14] a more confined area, even though the figures for ships in the more critical engagement at Salamis and their dispositions are in doubt.

Herodotus fails to take into account problems of food supply.[15] The difficulty of feeding the crews of the Greek ships in Euboean waters would be considerable. At the outset the Greeks could not determine the length of their campaign at Thermopylae-Artemisium and so would limit their crews, and ships, to a level deemed manageable with regard to supply.[16] Tactics would demand a limited number of Greek vessels in Euboean waters and the location of the Greek fleet further south, thus assuring a much shorter and more secure supply line than if the entire fleet had been stationed at Artemisium.[17]

That the original Greek battle plans differed from those ultimately employed in the open waters north of Euboea is suggested by Herodotus' report that the Greek admirals contemplated or actually executed a withdrawal from Artemisium on three separate occasions: 1) to Chalcis following news of the capture of three Greek scouting ships off the Thessalian coast (7.182); 2) when the Greeks saw the number of Persian ships anchored at Aphetae (8.4); 3) after the third day of battle, in which the Greek fleet had been roughly handled (8.18) and news of the fall of Thermopylae (8.21) had been received.[18]

I agree that the Greeks undertook these actions described by Herodotus, but the motives for them are debatable. Grundy, one of the main critics of Herodotus' account, attributed the first withdrawal—to a location behind Mr. Kandili, not to Chalcis as Herodotus says—to the first storm (Hdt. 7.188) which occurred during the operations at Artemisium,[19] not to the capture of three Greek scout

[14] Herodotus said (8.42) that there were more Greek ships at Salamis than at Artemisium, and that more Greek cities furnished ships at Salamis than at Artemisium. In 8.48 Herodotus totalled 378 Greek ships at Salamis, but his figures (8.43-48) add up to 366. It is not certain if all 378 were in the Salamis channel or if this is the total for all Greek ships involved in the overall Salamis operation. Perhaps Aeschylus' total of 310 at Salamis (*Pers.* 339-340) is more probable.

[15] Wallace, *op.cit.*, 26-28, deals briefly with the supply question at Artemisium, but does not indicate how this might have affected Greek tactics there. Herodotus frequently fails to consider questions of supply, and Wallace, *ibid.*, 27 also notes this.

[16] Herodotus 7.184 cites a ship's complement, including marines, as 230 in Xerxes' fleet. In 8.17 he cites 200 for the complement of a Greek ship, 170 rowers and 30 marines. This figure of 200 may include only rowers. Thus when considering 200 and 230 as minimum and maximum complements for 271-333 Greek ships at Artemisium, there appear to have been 54,200 to 76,590 sailors, a considerable body of men to feed.

[17] Most of the supplies required by the Greek fleet would be transported by sea from Attica and elsewhere in Euboea. The mountainous terrain and high cost and difficulty of land transport would preclude this method of supply. On land and sea transportation see A.H.M. Jones, *The Later Roman Empire, 284-602*, vol. 2 (Norman, OK 1964) 841-42.

[18] A recent review of the topographical evidence for siting Aphetae and Artemisium may be found in W. K. Pritchett, "The Battle of Artemision in 480 B. C.," in his *Studies in Ancient Greek Topography Part II [Battlefields]* (Berkeley/Los Angeles 1969) 12-18.

[19] Grundy, *The Great Persian War*, 324; Grundy, "Artemisium," 217ff. H. Hörhager, "Zu den Flottenoperationen am Kap Artemision," *Chiron* 3 (1973) 48ff., agrees with Grundy. Herodotus' reasons for the first and second contemplated withdrawals seem ri-

ships.[20] There are two objections to Grundy's theory and Herodotus' account. Firstly, a sudden and violent storm blowing up from the east (Hdt. 7.188) [21] would lead the Greeks to beach their ships at Artemisium rather than to sail to the Euripus through the Oreos Channel, which must have been quite dangerous during a storm. Secondly, the retreat of the Greek fleet some distance into the Euripus—whether behind Mt. Kandili or Chalcis—would have allowed the Persian fleet to sail south, engaging in amphibious operations against the Greek rear guard at Thermopylae and holding off the Greek fleet until Thermopylae had fallen.[22]

Herodotus' contention (8.4) that the Greeks contemplated withdrawal, following the arrival of the Persian fleet at Aphetae, because they feared the size of the enemy fleet, cannot be accurate. Intelligence reports from Asia Minor (Hdt. 7.146), from the Hellespont, and from sympathetic inhabitants along the path of the expedition gave the Greeks information about the size of the Persian fleet before they decided on the engagement at Artemisium.[23] The Persians could not conceal their naval movements. It might be argued that the Persian fleet sailed at night to avoid detection. This is unlikely; nocturnal sea travel along the Greek coast is very hazardous. It is equally unlikely that the Persian battle fleet sailed in open waters to escape discovery, for, as A. W. Gomme shows,[24] the need for triremes to put to shore for reprovisioning and to rest the crews would make open water impractical.[25]

In addition, the first and second sea battles at Artemisium were initiated by the Greeks (Hdt. 8.9, 14). Such initiative weakens the credibility of Herodotus' statement that the Greeks feared the size of the Persian fleet so much that they considered retreat.

Since the motives Herodotus gives for these movements are questionable, some other explanation must be sought for the Greek actions. One alternative explanation is that Herodotus' sources were ignorant of

diculous to Grundy, *The Great Persian War*, 323-24; Grundy, "Artemisium," 217; cf. A. R. Burn, *Persia and the Greeks: The Defence of the West, c. 546-478 B. C.* (London 1962) 387; Hörhager, *ibid*; 51; Köster, *op.cit.*, 58.

[20] Hörhager, *ibid.*, 48ff. believes that the Greek fleet withdrew into the Oreos during the storm. Grundy, *The Great Persian War*, 324 believes that the Greek fleet withdrew part way down the Euripus to behind Mt. Kandili, where it could shelter from the storm. According to Livy 28.6.9-10 Chalcis was an unsatisfactory anchorage as tides change irregularly, and the area is also subject to sudden squalls. Perhaps Herodotus' statement (7.183): "They changed their anchorage from Artemisium to Chalcis," should be interpreted as meaning that the Greek fleet withdrew to the territory of Chalcis rather than to Chalcis itself. At that time, the area in question may have extended from Chalcis up to the northwestern end of the island. This withdrawal might then be the one designed to lure the Persian fleet into the narrow waters adjacent to the southern end of the Oreos Channel.

[21] Grundy, *The Great Persian War*, 324, on storms in the Aegean.

[22] See note 9.

[23] See note 8.

[24] A. W. Gomme, "A Forgotten Factor of Greek Naval Strategy," in *Essays in Greek History and Literature* (Oxford 1937) 192ff.

[25] For the speed of ancient fleets, especially the Persian fleet at Marathon, see A. T. Hodge, "Marathon: The Persians' Voyage," *TAPA* 105 (1975) 155-73.

the original intentions of the Greek high command at Euboea. Privy though he was to the Greek intentions at Salamis,[26] Herodotus' sources do not seem to have been as accurate for the unsuccessful Euboean campaign. His account would have to be based on the reports of common seamen serving in the fleet, who could report only rumor and hearsay or who may have been deliberately misinformed by their commanders.[27]

I suggest that the sailors were unaware of the admirals' plan to lie in wait for the Persian fleet, hidden behind the mountainous northwest corner of Euboea in the Hormos Gialtron and Hormos Aidegou. The plan was to surprise the Persian fleet in the narrow waters at the juncture of the Oreos and Euripus where only a limited number of ships could maneuver. Alternatively, by feigning withdrawal on the pretext of fright, the Greeks hoped to lure the Persian fleet down the Oreos Channel. The Greeks meantime would have stationed themselves either at the mouth of the Malian Gulf and northern entrance to the Euripus or at the mouth of the Malian Gulf alone. This plan would also utilize the narrow waters strategy.

Obviously the narrower waters at the southern end of the Oreos Channel were more advantageous to the Greeks than the more open seas off Artemisium. The sea area between the southern exit of the Oreos Channel, the mouth of the Malian Gulf and the northern end of the Euripus covers a distance of approximately 45-60 square km. which an estimated 271 to 333 Greek ships (Hdt. 8.1-2, 14)[28] could be expected to protect if the Persians came down the Oreos Channel. At Salamis, on the other hand, 310 (Aeschylus, *Pers.* 339-340) to 378 Greek ships (Hdt. 8.43-48)[29] covered an area of 8-10 square km. against the advancing Persian fleet. Although the narrow waters of Euboea were not as advantageous as the subsequent position at Salamis, they were, nevertheless, tactically and logistically superior to the position at Artemisium. Still, the Greeks were constrained to make the best of the topography in which they found themselves.

Herodotus said (7.175) that the Greek fleet was stationed at Artemisium in order to insure communications with the army at Thermopylae. It is approximately 41 km. from Artemisium to Thermopylae.[30] The navy would have been in much closer communication with the army if it were located further south in the area I have proposed, that is, at the entrance

[26] Hdt. 8.108-112.

[27] Similar deceptive action was taken by Themistocles subsequently at Salamis (Hdt. 8.62, 75-76) where he retained successfully the Spartan and Corinthian contingents. For deception of one's own forces as a tactic see Frontinus, *Stratagems*, 1.10.3; 1.11.1; 1.11.2; 1.11.6-7; 1.11.9; Dio Cassius 68.23.2 epitome.

[28] These figures consider the 9 pentekonters and the 53 ships which arrived after the first sea battle, as they may have been included in the Greek tactical considerations. On the 53 Athenian ships see Lazenby, *op.cit.*, 272ff. Bury, *op.cit.*, 88-9; Labarbe, *op.cit.*, 388, 390-94, 402, 405; R. Lattimore, "The Second Storm at Artemisium," *CR* 53 (1939) 57-58; Grundy, "Artemisium," 223 and n. 1; J.A.R. Munro, "Some Observations on the Persian Wars," *JHS* 22 (1902) 307, 311.

[29] See n. 14.

[30] Custance, *op.cit.*, map between pp. 14-15; 22 nautical miles = ca. 40.77 km.

to the Malian Gulf, the northern entrance to the Euripus and southern entrance of the Oreos Channel. Perhaps in this statement of Herodotus we find a further clue to the actual intention of the Greeks to do battle, not at Artemisium, but at the southern exit of the Oreos Channel.

Here supply lines would have been much shorter. Here there are beaches adequate for landing ships. The author observed in August, 1979, that the best location and water supply was at the Hormos Gialtron and Hormos Aidegou west-northwest of Loutra.

The reason for the original stationing of the Greek fleet at Artemisium may have been the desire to reconnoiter in strength.[31] Herodotus said (7.183) that when the Greek fleet withdrew the first time its lookouts were left on the headlands of Euboea. It seems unlikely that the Greek fleet would have abandoned its lookouts if its retreat was in fact real, rather than a feint.

The Greeks would have had to cover about a 13 km. front to protect the mouth of the Malian Gulf and/or northern entrance of the Euripus, considering that the waters closer to shore were too shallow to require guarding. The placement of each of the 271 ships reported by Herodotus (8.1-2) across a 13 km. front would require one ship every 47-48 m. (see map [above, p. 179]). If the ships guarding the Euripus were stationed further southeast (broken line on map) the total front would have been only about 10 km., with one Greek ship every 36-37 m. Either of these deployments was possible.[32] The adjacent shores would have protected the flanks of the Greek fleet, if it had chosen to close in a pincer movement on the flanks of the advancing Persian ships.

A flank attack at the entrance of the Malian Gulf would have covered an approximate 6 km. front, with the Greek fleet deployed in at least two rows, one ship every 45 m. Lines of ships-in-depth is believed to have been the Greek deployment at Salamis. Might such a tactic have been planned earlier for an engagement at the mouth of the Malian Gulf? The advantage of this deployment is that it would have given more power to the Greek flank attack on one side. Deployment at both the entrance to

[31] There are numerous occasions in a wartime situation where units are sent to the wrong positions or orders are misunderstood. See N. Whatley, "On the Possibility of Reconstructing Marathon and Other Ancient Battles", *JHS* 84 (1974) 120-21, 129-30 for examples of this confusion. Such possibilities cannot be dismissed as reasons for the Greeks initially stationing themselves at Artemisium.

[32] The width of the fourth century trireme, according to C. Torr, *Ancient Ships* (1894, reprint Chicago, 1964) 22-23 and n. 57, and C. G. Starr, "The Ancient Warship," *CP* 35 (1940) 355-56, was ca. 20 feet (ca. 6 m.). However, L. Casson, *Ships and Seamanship in the Ancient World* (Princeton 1971) 82, believes that the width of the fourth century trireme was ca. 16 feet. J. S. Morrison and R. T. Williams, *Greek Oared Ships 900-322 B. C.* (Cambridge 1968) 285, credit an overall breadth of 5 m. (16 ft. 5 in.), based on dimensions of remains of ship sheds at Zea and Munychia cited on p. 182. The width of the fifth century trireme was probably about the same as that of the fourth century one, and with oars in the water, the width probably increased by ca. 4-4.5 m. On lengths of oars, see *IG* II-III, pt. 2, 1606.44; 1607.22, 23, 55, for 9 cubit lengths (*enneapecheis*) and 1607.14, 51 for 9.5 cubit lengths (*enneapecheis kai spithami*). The 45/47-8 m. or 36-37 m. available would be sufficient for maneuvering the Greek ships.

the Malian Gulf and at the northern exit of the Euripus would have contained the movements of the Persian fleet in a smaller area once it had passed the southern exit of the Oreos Channel; thus such a pincer movement may have been contemplated by the Greek commanders. The number of Greek vessels reported in Herodotus could have protected adequately any of these contemplated fronts ranging from 6 to 16 km. in length.

The first withdrawal, before the Persian fleet actually sighted the Greeks, was intended to coax the Persians down the Oreos to their doom. I suggest that the second contemplated withdrawal (Hdt. 8.4) never took place because the Persian fleet at Aphetae was so near the Greek fleet off Artemisium (Hdt. 8.4, 8). Persian proximity would not have given the heavier, slower Greek ships (Hdt. 8.60) enough time to take up stations at the southern exit of the Oreos.[33]

When the Greeks saw that their first ruse had failed they did not attempt it a second time. Instead, they decided to attack individual units of the Persian fleet as they lay anchored off Aphetae late in the afternoon (Hdt. 8.9, 14). This tactic was used twice. Piqued by the audacity and success of the previous two Greek forays and fearing the anger of Xerxes (Hdt. 8.15) if the losses continued, the Persians finally attacked the Greek fleet.

It might be conjectured that the Persian army was now low on supplies and needed naval support to dislodge the Greeks at Thermopylae.[34] The previous two actions initiated by the Greeks indicate that the Persian fleet was playing a passive role in countering the Greek navy. Contrary to what Herodotus says (8.15), Xerxes' anger with his fleet may have been due to its failure to render aid to his stalled forces at Thermopylae rather than to its defeat on the previous two days by the Greeks. In this third sea battle there were heavy losses on both sides (Hdt. 8.16, 18). The Greeks had decided to retreat prior to receipt of news from Thermopylae. Its fall confirmed their decision (Hdt. 8.21).

The decision to retreat would have been fatal to the Greeks stationed at Thermopylae if it had involved total withdrawal from Artemisium and from the waters of the northern Euripus. Is it not possible that the decision to retreat prior to receiving news of Thermopylae's fate was a decision to withdraw to positions in the northern Euripus as a secondary line of defense? Such an interpretation makes sense of Herodotus'

[33] Any abandonment of Artemisium might have led to a Persian amphibious landing there. The object would have been to seize the narrows at Chalcis. Such a force would have to be small to be really mobile, as it would be important to arrive before the Greek fleet had successfully engaged the Persians or withdrawn altogether. Mountainous, hostile and unknown terrain would have made such an idea unfeasible for a small force, and a larger force would have been too slow to arrive. The Greeks may have felt that the Persian fleet would be too anxious to move south to catch the Greek fleet and take the Greek army at Thermopylae in the rear, which was the immediate objective of the Persian attack. Both these objectives, the Greeks felt, would seem more important to the Persians than to chance sending a detachment across Euboea to Chalcis.

[34] See note 15.

comment regarding the fleet's move. As Herodotus states (7.175), the army and navy were dependent upon one another. If either failed to prevent the Persians from breaking through, the position of the other would soon have been outflanked and untenable. For that reason the navy would have been most reluctant to withdrawal totally from Euboean waters prior to learning of the fall of Thermopylae. On the other hand, it would have been disastrous for the Greek fleet to remain at Artemisium after the fall of Thermopylae. If the Greek navy failed to pass the narrows at Chalcis before the enemy occupied them, the only alternative for escape lay in a long, dangerous voyage along the northeastern coast of Euboea. This route was not favored by the Greeks.[35]

The suggestion that the Greek fleet could have hidden behind the northwestern corner of Euboea is most attractive. The Greeks may have felt that their best chance for victory lay in a surprise attack against the Persian fleet. In this case, lookouts (from the Persian force at Thermopylae or Aphetae) would not have been able to signal the Persian fleet as to the whereabouts of the Greeks. The Persians, learning that the entrance to the Malian Gulf was unguarded and believing that the Greek fleet had fled, conceivably could have sailed down the Oreos. A Greek lookout (see "X" on the map) could have signalled the Greek fleet on the approach of the Persians and so given the Greeks time to move into position. By the time the Persians realized the presence of the Greek fleet, they would have been too far advanced to retreat and would have been forced to fight in narrow waters. The Greeks then could have attacked the Persian fleet before it had time to enter the Malian Gulf. The Persian fleet, or at least a sizeable portion of it, would have been destroyed attempting to exit from the southern end of the Oreos on a narrow front. Surprise would compensate for Persian numerical superiority.

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The evidence in Herodotus suggests that the "narrow waters" tactic was planned for use at the southern end of the Oreos Channel. For some reason the Persian fleet did not fall into the trap. The Greeks were reluctant to attempt the same deployment a second time. Serious losses after the third sea battle (Hdt. 8.16, 18) might have forced the Greeks to consider the move as a secondary line of defense, thus making sense of Herodotus' statements on the Greek fleet's decision to retreat prior to news of the fall of Thermopylae (8.18, 21). I have proposed some alternative interpretations of the Greek tactical moves at Artemisium because Herodotus' uncritical attribution of motives and omission of logistical considerations require elucidation. Herodotus' problems are partially due to the nature of his sources, confined as he probably was to the interrogation of common sailors present at Artemisium. His accep-

[35] Undoubtedly the Greeks wished to avoid this route even before learning of the disaster which befell the 200 Persian ships. See Hdt. 8.13-14 for the loss of the Persian 200. For the location of the "Hollows of Euboea" and a summary of earlier scholarly opinion, see H. J. Mason and M. B. Wallace, "Appius Claudius Pulcher and the Hollows of Euboia," *Hesperia* 41 (1972) 138-39 and notes.

tance of these explanations for the Greek retreats and contemplated withdrawal is to blame because of his failure to speculate on what the Greeks actually planned. Herodotus' failure to reason speculatively in order to explain more adequately the first and third Greek withdrawals and the second contemplated withdrawal must be regretted.

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