

Note

Some Recent Publications on Ancient Warships

This paper comments on some recent publications concerning ‘liburnians’ and other ancient warships, which the author considers misleading. Most of the passages considered here have to do with the number embodied in the name of an ancient warship or used in its description—did it indicate the number of files of oarsmen in that type of ship, or the number on each side. It makes a great difference in the case of triremes of the Classical era. Were they sizeable ships with six files of oarsmen at three different levels, or smaller, lighter and faster craft with only three files of oarsmen, perhaps the arrangement shown on the Athenian ‘Siren Vase’ (Tilley, 2007: figs 3–4) or perhaps in some other way.

Liburnians

Roman vessels called *liburnae* were described in the 5th-century-AD *Epitoma Rei Militaris* by Flavius Vegetius (4.37) as follows:

Quod ad magnitudinem pertinet, minimae liburnae remorum habent singulos ordines, paulo maiores binos, idoneae mensurae ternos uel quaternos interdum quinos sortiuntur remigio gradus.

Adler gives what seems to be a literal translation:

So far as size is concerned, the smallest warships have one rank of oars at a side, those slightly bigger two ranks, those of appropriate dimensions, three, four, sometimes five ranks for their oarage (2010: 72).

But the phrase ‘at a side’ is not in the passage from Vegetius. It is an insertion. Vegetius goes on to describe ‘scouting boats with 20 oarsmen on each side’, which might suggest that when he meant ‘on each side’ he said so, and conversely that if he did not say so he did not mean it. Had Vegetius’ Latin included a phrase meaning ‘at a side’ it would, of course, have been entirely clear. By contrast, if the insertion ‘at a side’ is removed, Adler’s unembellished translation gives the impression that Vegetius meant one, two three, four and five ranks in all.

That would have described a range of vessels comparable with the boats carried on major warships of the 1930s, the largest of which raced with six files of oarsmen (Rodgers, 1937: 8). In that case, to translate *liburnae* as ‘pinnaces’, as in the translation from Appian that Adler gives (2010: 73), would be more appropriate than ‘warship’. Moreover, liburnians are generally regarded as ‘light and swift galleys’ (Meijer,

2007a), and many people would consider a galley with ten files of oarsmen too big to be described as ‘light’.

It is quite difficult to discover that Adler’s ‘at a side’ is an insertion, because there is no translation of Vegetius published in the Loeb series, which is widely recognised as accurate, and has the original Greek or Latin text alongside the translation, making it easy for a reader acquainted with the original language to question any supposed error. The only readily-available English translation contains the same insertion, but without the original Latin beside it the insertion cannot be seen for what it is (Milner, 1996: 143).

In 1941 the late Professor Morrison translated Vegetius literally: ‘As far as concerns size, the smallest liburnians have one row of oars each, the slightly larger two, while those of proper size are given three or four, sometimes five levels for the rowing’ (Morrison, 1941: 17). However, in a later rendering of this passage, Morrison added ‘a side’: ‘There are several kinds of liburnians, the smallest have one column or file (*ordo*: i.e. of oarsmen) a side, the slightly bigger ones have two a side, while those of the ideal size have three or four a side; sometimes they have five levels (*gradus*) a side’ (Morrison and Coates, 1986: 9). That made Morrison’s then views clear, but left it to the reader to guess whether he had changed his mind between 1941 and 1986 or, on the other hand, considered the two renderings to be essentially the same.

It is equally unclear whether Adler made her insertion on her own initiative, or whether she followed Morrison’s 1986 version. To her credit, Adler cited a web-site from which the Latin can be downloaded, but it is likely that many students of ancient ships will mistake the insertions for evidence. If Morrison (Morrison and Coates, 1986) and Adler (2010) had offered a straightforward translation of the Latin, followed by their opinions of what the ancient author meant, all would have been clear. I do not here express a view on whether Vegetius intended to tell his readers the total number of files of oarsmen or the number on either side. But it is important to register the failure by Morrison and Adler to make a clear distinction between translation and commentary. Boris Rankov (2003: 921–2) published an unembellished translation but in a relatively obscure publication. However, Milner’s translation is recommended in *The Oxford Encyclopedia of Maritime History* by Murray (2007: 69), which may lead more people to accept the renderings which have insertions.

Phoenician warships

There is a comparable rendering of Thucydides which, like the translations examined above, involves few words but has caused considerable confusion. Thucydides (I.13.2–4) wrote that the Corinthians had been the first in Greece to build triremes. In an argument against the trireme having been a Phoenician invention, Morrison (Morrison and Williams, 1968: 158–9) omitted Thucydides' qualifying phrase 'in Greece', making it appear that Thucydides had credited the Corinthians with having been the first absolutely. Morrison later (1979: 57–8) included 'in Greece' in his translation, although he still maintained that triremes were invented in Corinth. Most people interested in ancient ships know the passage in Thucydides as Morrison first rendered it. Fewer people have noted his corrected version.

Morrison (1995: 146) finally came to agree with me that a Phoenician warship of c.700 BC, shown on a relief from the palace of Sennacherib, now in the British Museum, was indeed a trireme. The relief shows oars pivoted at two levels. For Morrison in 1995 it was a three-level ship with its uppermost level unmanned, but he did not refer to his earlier opinion (Morrison in Morrison and Williams, 1968: 162) that it was 'a Phoenician ship of two oar-levels'. What was sadly his last published opinion on the subject is not as well-known as his earlier opinion. The British Museum still labels the ship on the wall-relief as a bireme.

Lengths of oar

The *Oxford Encyclopedia of Maritime History* contains an unusual evidence-free assertion (Meijer, 2007b: 201) which will also affect opinions on ancient warships: 'All the oars of a trireme were of the same length'. No mention is made of the generally-accepted view (for example Morrison and Williams, 1968: 289) that they came in *two* lengths, nine and nine-and-a-half cubits. Those two lengths are very suitable for the three-file Siren Vase rowing system (Tilley, 2004: 46). However the two oar-lengths are recorded in the Athenian naval lists for the *spare* oars. It can be argued that the spares were shorter than normal working oars, provided just for limping home after battle damage, and hence that the length or lengths of the working oars is or are not known. But most people feel that to have provided two so slightly different lengths for emergency oars would have been improbably finical. Meijer's assertion could be true, despite the lack of evidence to support it. It would surely have been helpful, however, to have mentioned that his view differed from the generally accepted one, and that there is no evidence to support it.

Between 1985 and 1987 a vessel intended to be a replica of an ancient trireme was built in Greece to a British design based largely on the ideas put forward by the late Professor Morrison (Morrison and Will-

iams, 1968: 169–80). The vessel, named *Olympias*, was commissioned into the Greek navy and launched in 1987. Trials of her performance under oars were carried out between 1987 and 1990. The vessel would have performed better if the rowers on the two upper levels had had longer oars. The ones actually used conformed with the ancient figures for spare oars, so they sloped down much too steeply for efficient seated rowing.

Even though the biggest and strongest rowers occupied the thranite [uppermost] level they still found it very hard work. The steep angle of the oar made pulling it awkward. At the finish hands were high, making it difficult to apply the downward force necessary to recover the blade (Whitehead *et al.*, 1989: 40).

Figure 15 in the same publication shows just how awkward it was.

Oars at three levels

Meijer also asserts that: 'John Morrison proved conclusively that the ancient trireme had three levels' (2007b: 201), but recent opinion is more sceptical. One of the most important difficulties with the three-level trireme theory is the absence of three-level representations from the iconography of the trireme era, something which Morrison tried to explain thus:

It seems likely that the ship had become so complicated a subject to depict, with its three banks of oars [read 'oars at three levels'] and the problems of perspective which these, as well as the outrigger supports and deck-stanchions, presented, that artists in general had been avoiding the task (Morrison in Morrison and Williams, 1968: 169).

The American classicist Borimir Jordan is among those not convinced:

In my opinion artistic incapacity should have been rejected as nonsense at the outset. One wonders how educated men, familiar with the ancients' unsurpassed understanding of the much more complicated human and animal anatomies, could claim they were incompetent to draw ships (Jordan, 2006: 233).

Meijer's article may have gone to press before Jordan's comments were noticed.

At the conference which in 1983 drew up the specification to which the replica should conform, no mention was made of any need to conform with iconographic evidence or of Morrison's explanation (quoted above) for the absence of three-level ships from the iconography of the trireme era. 'The fact that no-one doubted that the ship should have oars at three levels presumably accounts for the omission of that requirement' (Coates, 1993: 21). Thus it appears that the supposed replica *Olympias*'s three-levels configuration was based on subjective opinion without reference to ancient evidence.

Rowing performance

Meijer's endorsement of the three-level design was probably based on performance assertions which were widely accepted until recently: '*Olympias* comes close to the ancient examples in performance' (Morrison, 1996: 267). This un-evidenced assertion did not quote the actual figures given in the reports of trials. The best sprint speed, maintained by *Olympias* over just five minutes, was 7.1 knots (Shaw, 1993: 42), considerably less than the estimate, based on the ancient evidence, with which Morrison had started the project—a cruising speed of 12 knots and a top speed considerably higher (Morrison, 1975)—a vast discrepancy.

Meijer's 2007 article would also have gone to press before the publication of an article by Pain (2007: 46–7) which concluded that: 'Modern crews who tried to match this feat [an Athenian trireme's dash to Mytilene] in a reconstructed trireme [*Olympias*] have never come close' and asks: 'Were ancient Athenian oarsmen supermen?' Pain quoted Rankov, a classicist, a champion oarsman and a member of the Trireme Trust: 'Their [the ancient Athenian oarsmen's] endurance was extraordinary. In that respect, compared to anyone you could find today they were super-athletes'. Yet the city of Athens is said to have produced 34,000 of them to row 200 triremes.

Pain goes on to wonder whether ancient oarsmen had more athletic genes, and quotes physiologist Harry Rossiter: 'Whatever the explanation, we are left feeling distinctly inferior' (Pain, 2007: 47). But the article does not consider the alternative explanation for the discrepancy between ancient and modern performance under oars: the possibility that ancient triremes were lightly-built and efficient rowing-machines, whereas *Olympias* is not. There is evidence that *Olympias* is a good deal heavier than ancient triremes, and that

Casson was right to describe them as 'much like an overgrown racing shell ... light enough to be drawn up by their crews at night' (1995: 89). Herodotus (7.188) gives a vivid account of a Persian invasion-fleet caught by an unexpected storm:

Those who realised in time that the blow was coming managed to beach their vessels and to get them clear of the water before they were damaged ... but the ships that were caught well off-shore were all lost.

It is worth noting that the survivors got their ships far enough up the beach to be clear of the water. It was not just a matter of grounding the ships' sterns. At the conference held at Oxford in 1983 to determine specifications for a replica trireme, 'the need to beach to escape bad weather and overnight was *not* agreed' (Coates in Coates and McGrail, 1984: 87). The emphasis is in the original, as though it were a deliberate repudiation of Herodotus.

Another feature of the *Olympias* which was revealed during trials but may not have been noticed by Pain was that: 'The most striking feature of the performance of both crews was the ineffectiveness of the thalamians. ... The thalamian [lowest] level was not worth its place in the ship' (Coates *et al.*, 1990: 77). That is unlikely to have been the case in Athenian triremes. As Rankov has pointed out: 'it is safe to assume that ancient crews would, over a period of several centuries, have evolved a highly efficient technique to propel these ships' (1994: 133). If we accept that opinion, which seems extremely probable, there is no need to suppose ancient supermen, just superior ships, slim, light and fast, very different from the modern *Olympias*.

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