ROWING ASTERN - AN ANCIENT TECHNIQUE REVIVED

This paper discusses a technique for rowing astern which seems to have been used in the ancient Mediterranean, forgotten for two thousand years and just recently revived. About half the evidence was published in an article written in 1973 in collaboration with Mrs. Valerie Fenwick. The rest has come to light more recently.

The paper depends a good deal on ancient representations of ships. Most work on the iconography of ancient ships has been subjective, not scientific. It is generally held that ancient artists were inaccurate when they tried to depict ships, and that their supposed errors have to be corrected before useful conclusions can be drawn. I quote a typical opinion:

> "When an Attic vase painter has illustrated a potter at work .... one can be pretty sure that his drawing is right in every practical detail, but when the same artist paints a ship, for example, one is often left in considerable doubt about the accuracy of his detail. Indeed it is only too painfully clear that some vase painters had no idea either how a ship was constructed or how it was sailed".
> (Hodges, 1970, 4).

M. Lucien Basch has gone further:

> "In the case of every ship representation, whether painted or carved, irrespective of whatever period it may be referred to ... *error is always to be presumed unless the contrary is proved*"
> (Basch, 1985, 413).

The trouble with that approach is that each writer feels free to "correct" the supposed inaccuracies in the actual evidence to suit his preconceived ideas. People with different ideas offer different corrections, so that one person very rarely convinces another.

Another factor militating against scientific objectivity is the emphasis on representations that are time-worn or otherwise obscure, and the putting forward of arguments based on intangibles, such as supposed ancient paint of which there is now no trace (Morrison and Williams, 1968, 171), or on supposed small features which the artist did not actually include (Morrison and Coates, 1986, 150), or on a supposed original of which the actual monument is supposed to be an inaccurate copy (Basch, 1988, 179).

In this paper it is intended to avoid subjectivity, first by making no claim that its deductions from the iconography are true - only that they are in accordance with the evidence; and second, by arguing only from features which are too clear to be disputed. If these limitations are accepted, a scientific approach becomes possible.

This (Fig. 1) is part of a 6th century B.C. Corinthian plaque. It shows the after part of a ship. There are two complete oarsmen, rowing with their backs to the stern. On the left are part of a third oarsman and his oar, rowing in the same unusual way as the other two. The helmsman seems to be encumbered with two steering oars both on the same side - not a practical method of steering.

There is an empty oar-port. Clearly, one oarsman's place is vacant. Someone has recently been rowing and has retracted his oar in order to do something else.

The ship is being rowed stern first. This was noticed by R.T. Williams, who in 1968 remarked that "... the oarsmen seem to be backing water" (Morrison and Williams, 1968, 89) but he did not comment on the method they are using. It is unusual to modern eyes. The custom today is for oarsmen to back water by staying in their normal position facing aft, and to push their oars instead of pulling. A seated man pushing his oar generates much less power than when he rows ahead by pulling in the normal manner, as we heard yesterday. So this technique seems superior because it gives as much power when rowing astern as when rowing ahead.

One authority on ancient naval warfare, Vice Admiral Rodgers (whose book has recently been reprinted and is on sale here) shrewdly divined the need in ancient warships for a method of rowing astern by pulling the oars instead of pushing them, but he cited no evidence for it. He suggested that when required to row the ship astern, each oarsman stepped over his oar (Rodgers, 1937, 10) or ducked under it (Rodgers, 1937, 120) and sat facing the bow on the rowing bench next abaft his usual one. But this picture (Fig. 1) shows a slightly different technique. Each man keeps to his own bench, but turns round and uses the oar which is generally pulled by his shipmate next towards the ship's bow. These oarsmen (in Fig. 1) had been rowing in the normal way, facing the stern. Their first movement was to throw the right leg over the rowing bench, so as to sit astride it, at the same time taking hold of the next man's oar with the right hand. The second movement was to throw the left leg over the bench and sit facing forward, ready to pull with both hands on what was normally the other man's oar.

There are two complications. In the bow, an oarsman with no oar: in the stern, an oar with no oarsman.

This (the foremost of the two oars held by the helmsman in Fig. 1) is the oar with no oarsman. It is not a steering oar. It is normally used by the stroke oarsman when he is facing the other way. The helmsman, as soon as he gets the chance, will unship it and stow it inboard. This explains why the stroke (aftermost) oar is rowed over the gunwale while all the others run through oar - ports - it is in order to make it easier to unship the oar when the ship is rowed astern.

Without further evidence, one might well doubt that explanation, regarding it as a mere contrivance thought up to fit a theory. But this ship (Fig. 2) does indeed have the stroke oar running over the gunwale, like the steering oar, while all the others run through oar-ports. R.T. Williams's descriptions is never disputed:

> "Nine oars emerge from the hull well below the gunwale ... the stroke oar, however, is rowed over the gunwale"
> (Morrison and Williams, 1968, 86)

A peculiarity of this method of rowing astern is that the foremost (bow) oarsman ends up empty handed. He could of course join in with the others, using an extra oar kept ready for the purpose. But it is sometimes an advantage if the bow oarsman stops rowing before the others. In the ancient Mediterranean, ships typically secured by going stern-first towards a beach, letting go one or two anchors over the bow before the stern grounded. English-speaking sailors call it "Mediterranean mooring". Then, you need someone forward to work the anchor(s) and an empty-handed oarsman will do nicely.

This (Fig. 3) shows a vessel going astern using the method I have described. Odysseus is finally coming home. He intends to secure the ship by Mediterranean mooring. We can see four starboard-side oarsmen facing the bows and rowing the ship astern, while a fifth man (the foremost) is also facing the bows, but empty-handed. He is available for anchor work. There are no steering oars to be seen. They have been unshipped and stowed inboard, because they would have dug into the sand when the ship beached. Odysseus is looking astern, controlling the ship's speed and direction by ordering the oarsmen on one side or the other to vary their stroke. It is the same with many of today's twin-screw ships: when going astern the rudder is left amidships (centred) and the ship controlled by varying the speed of one engine or the other.

M. Lucien Basch has said of the maker of this mosaic (Fig. 3):

" ... son ouvrage est d'une qualité si médiocre qu'on ne peut décider s'il a eu tort ou raison de représenter ses rameurs face à l'avant" (Basch, 1975, 238).

But in this paper the question of artistic error is not relevant, because my theory is put forward merely on the grounds that it is in accordance with the evidence. One can say as a matter of fact, not opinion, that the three apparent anomalies in this picture (Fig. 3):

the oarsmen facing forward
the empty-handed man in the bows
and the lack of steering gear,

are all explained by the one hypothesis, and have never been explained in any other way except by impugning the evidence.

This slide (Fig. 4) shows part of an Attic crater of the late Geometric period, found in Athens and now in the Louvre. The ship has always proved something of a puzzle. The crew has been described, by R.T. Williams again, as follows:

"The attitude of the thirteen oarsmen is unique. They sit with their ... chests to the front, and each with his right hand holds his own oar ... and with his left hand holds the oar of the man behind him; the stroke oarsman seems to have no oar and to be grasping with his right hand either the stern balustrade or the oar of an invisible far-side oarsman" (Morrison and Williams, 1968, 25).

Williams also asked "where is the helmsman?" Moreover, we can see that there is apparently no steering gear.

The hypothesis advanced in this paper will explain all these apparent anomalies. The ship is about to beach stern first. The first action was to unship and stow the steering oar or oars. The oarsmen are turning round to face the bow, and at the instant captured by the artist they sit astride their rowing benches, each man with one hand on his own oar and his left hand grasping his shipmate's oar. The aftermost man is not an oarsman. He is the helmsman or the captain, relieving the stroke oarsman of his propulsive oar. The crew will complete the drill by throwing the right leg over the rowing bench and turning to face the bow, with both hands on the oar that is not normally theirs. The helmsman will stow the stroke oar. The arrangement will then be just the same as in Fig. 3 - no steering gear, oarsmen facing the bows and pulling on their oars to row the ship astern, and an empty-handed man right forward, ready to let go an anchor.

Here again, the hypothesis explains the picture in an exact and objective way. Even though one were to agree with Kirk that the picture is really " ... a singularly naive attempt simply to portray rowers in action" (Kirk, 1949, 99) one could not deny that the hypothesis and the picture fit each other exactly.

In a criticism of this interpretation of Fig. 4, M. Lucien Basch pointed out, quite understandably, that Valerie Fenwick and I had ignored the funerary nature of the vase. He commended the idea of a ceremonial greeting in honour of the deceased (Basch, 1976, 232). But there need be no clash between the hypothesis put forward in this paper and the idea of ceremony, greeting or salutation. In naval boats of the present century, the actions that make up a ceremonial salute are exactly the same as those used in the ordinary course of manoeuvring. In double-banked boats the oars are "tossed", that is to say held vertically in the air, both ceremonially as a salute and routinely, to get the oars out of the way when the boat comes alongside. In single-banked boats, the oars are never tossed, but the position of the salute - the oars held horizontally at right angles to the keel - is the same as that used in routine manoeuvres.

So far, all the evidence has been iconographic. I hope that even some of those who are skeptical of iconography will be impressed by the way in which one hypothesis explains all the hitherto unexplained oddities in four different pictures. However, for those who hold resolutely to M. Basch's dogma that "error must always be presumed unless the contrary is proved", there is experimental evidence. The method has been used in the *Olympias*. I quote from the report of the 1987 trials:

> "BACKING WATER It was very awkward to attempt to back water by pushing the oar away, and the ship did not back very quickly. ...the Rowing Master tried having the thranites and zygians spin round in their seats, each rower taking the oar of the rower immediately behind, and actually rowing the ship backwards. ...Although there was some awkwardness in finding an appropriate place to brace the feet, the arrangement worked quite well with only two levels"
>
> (Morrison and Coates, (ed.) 1989, 106).

So wrote S.F. Weiskittel, the author of the section of the trials report entitled "How to Row a Trieres". The editors of the report took the unusual step of adding their own comments, putting forward four objections to the method:

> "The absence of any ancient evidence for this procedure for backing at any period, the non-participation of the thalamians, the difficulty experienced by the participating oarsmen in bracing their feet, as well as the confusion such movements would cause in the heat of battle, make its use very unlikely"
>
> (Morrison and Coates (ed.) 1989, 106).

The contention that there is no ancient evidence is surprising, because R.T. Williams had written of Fig. 1 in the book he co-authored with J.S. Morrison: " .... the oarsmen seem to be backing water" (Morrison and Williams, 1968, 89). However, by 1988, when the method was tried again, the other three editorial objections seem to have evaporated:

> "Two ways of going astern were tried. The "normal" way of pushing the oarhandles rather than pulling them produced only about 3 kts; and so another way was tried. Rowers turned round in their seats and then pulled. This produced a speed of about 4 knots, but as the rudders are unbalanced they tend to take charge at that speed. There is accordingly no point, in *Olympias*, in departing from the normal method, and in any case the ancient Greek word *proeressein* is authority for retaining it"
>
> (Coates *et al.*, 1990, 31).

The difficulty with the rudders when going briskly astern is not so much as objection to the method as confirmation of the iconographic evidence that the steering oars of small vessels were generally brought inboard before the vessel moved astern. In bigger ships, the rudders or steering oars were brought clear of the water into a horizontal position, as can be seen on the Lindos relief and the Ficoronian *cista*. This modern painting (Fig. 5) will remind us. It was made for the 1987 Symposium in this series. There is a ship with her stern on the beach and the steering gear hoisted up horizontally, but the artist has also shown men facing the ship's bow for rowing the ship astern. I wonder who painted this picture and whether the artist had in mind the method that is the subject of this paper.

The *Argo* is a twenty-oared boat built for Tim Severin, who with his crew rowed around the Mediterranean in a re-creation of Jason's quest for the Golden Fleece. The boat is now on the river Thames, and is rowed under the auspices of the (British) Nautical Archaeology Society. Admiral Rodgers' method of going astern is often used. As I mentioned earlier, Admiral Rodgers suggested that

each oarsman moved one bench further aft, faced the bow and then used his own oar to pull the ship astern.

This (Fig. 6) shows the *Argo* with the port bank facing the bow and rowing astern, while the starboard bank row ahead in the normal manner. The object is to make a tight turn in a narrow space. It is quite possible that the ship in Fig. 1 is also making a tight turn, rather than going astern with both banks of oars, a possibility I omitted earlier for the sake of simplicity.

The *Argo's* use of this method of rowing astern is particularly valuable evidence because it is used regularly, in real earnest, by skippers with no particular interest in ancient ships, not merely as an experiment in nautical archaeology.

One of archaeology's perennial teasers is the question of diffusion versus separate invention. Oddly enough, I have not been able to find out which of the two applies to rowing astern in the *Olympias* and the *Argo*. Both rowing masters told me that the idea came to them from some now-forgotten member of the crew.

If anyone has information, I would be glad to share it. I would also like to know of any other ancient ship pictures which seem relevant, and of any reference to the use of these methods in modern times.

For anyone convinced by this paper, it may have done more than show a better way of rowing backwards. It may have shown merit in the approach to marine iconography that I advocate: to try much harder to find a theory that fits the pictures before questioning the artist's accuracy. If such an approach were more widely adopted, several long-standing problems, including how to row a trireme, might well be settled.

But more than that. If one looks at Fig. 4, for example, and assumes as Kirk did, that it is " ... a singularly naive attempt simply to portray rowers in action", or if one looks at ancient ship pictures in general while telling oneself that "Error is always to be presumed unless the contrary is proved", there is a risk that the bird-brained woolly-mindedness thereby ascribed to ancient maritime artists and their patrons will affect one's overall view of a people who were (with the possible exception of their modern descendants who have so generously hosted this symposium) the most intelligent the world has ever known.

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ILLUSTRATIONS

1. Corinthian plaque. 6th century B.C.
2. Attic Black figure hydria in the Louvre. 6th century B.C.
3. Mosaic with the ship of Odysseus.
4. Late Geometric Attic crater in the Louvre.
5. Modern painting of a ship.
6. *Argo's* trials in the Thames.

FIG. 1

FIG. 2

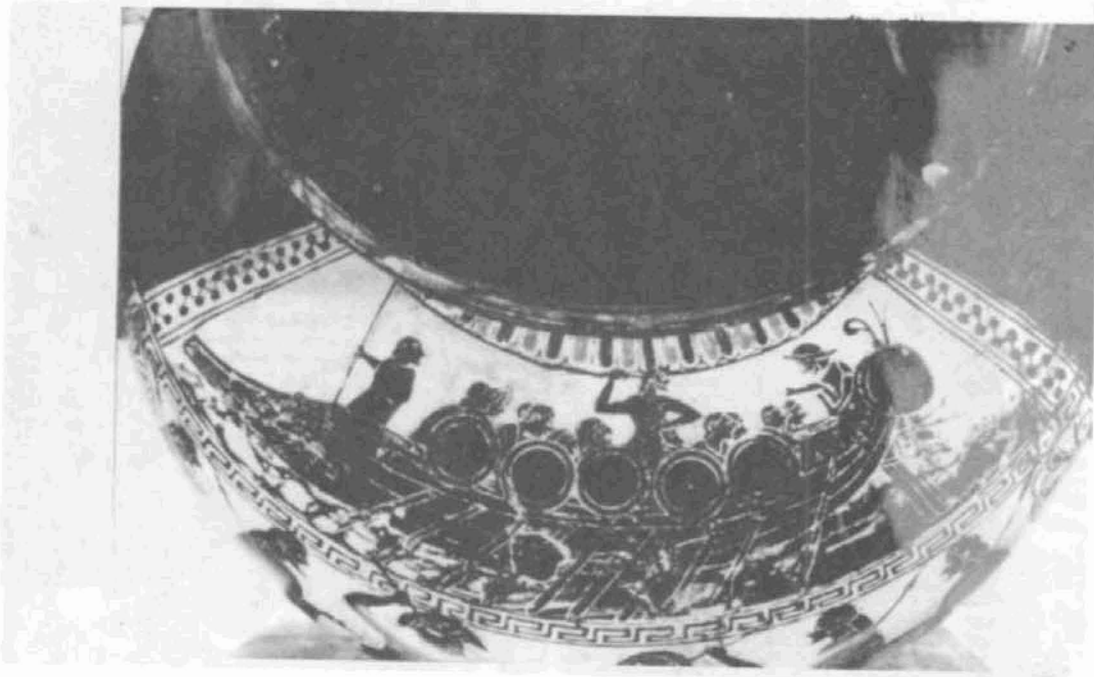

FIG. 3

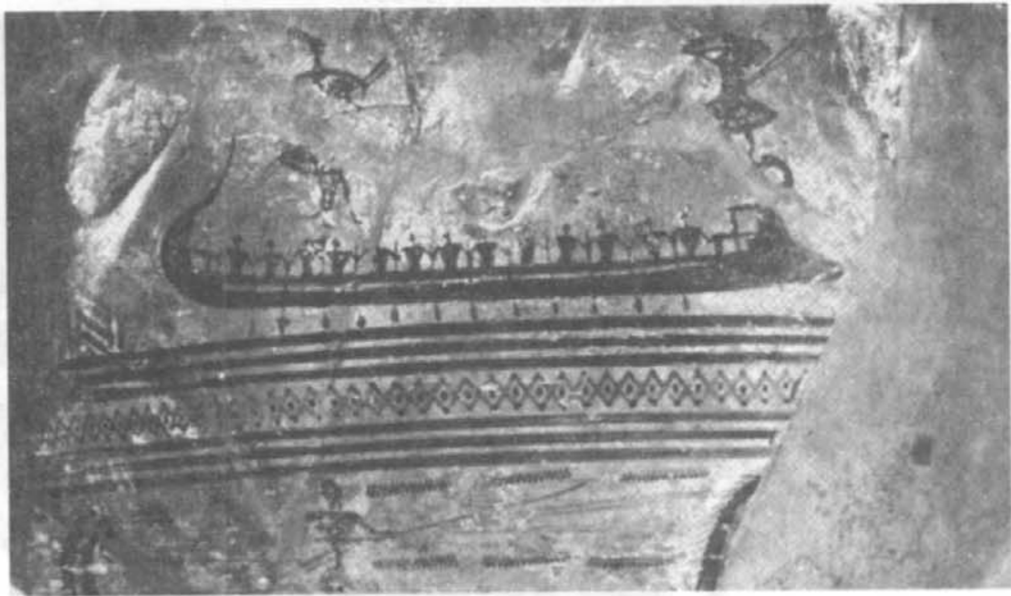

FIG. 4

FIG. 5

FIG. 6