

AEGEAN SHIPS FROM THE 2ND MILLENIUM B.C.

Excavation holds many surprises for the archaeologist, and at times yields evidence for something that one would not expect from a particular place. In our case, a rescue excavation at inland Argos has brought to light a clay ship model, which provides information about construction of ships in antiquity.

The model,* of Mycenaean date, was made by hand of reddish clay, it is 21 cm long, 7,5cm wide and 4 cm high. Although part of one end is missing and projecting parts are broken, it is fairly well preserved (fig. 1). Its base is flat, so that, the model stands steadily, and its interior is concave. In the centre of the hull a projecting broad mass of clay has been broken off (fig. 2). At equal distances from it, two strips of clay run across the width of the hull. The preserved end has a small platform. At one side of the platform, near the gunwale there is a small projection and beside this a strip of clay, which is hung by the gunwale (fig. 3).

This clay model is a unique find for Argos, where till now no other representation of a ship has been found dating from the Late Helladic period.

A number of catalogues of the representations of ships from the Aegean Bronze Age have been published: the first collected by S. Marinatos in 1933¹, was

expanded by L. Casson,² J. Sakellarakis,³ C. Laviosa,⁴ D. Gray,⁵ S.C. Humphreys⁶ and this last exclusively for the models A. Göttlicher.⁷ In addition, a great number of seals decorated with representations of ships were published in the volumes of the *Corpus Der Minoischen und Mykenischen Siegel*. Other finds have been reported: representations of ships on a Middle Bronze Age jug from Argos,⁸ a ship incised on a stone mould from the palatial workshop of Thebes⁹ another indistinguishable in detail on a sarcophagus from the cemetery of Tanagra¹⁰ and a mast on fragments from the frescoes of Pylos.¹¹ In a chamber tomb from Tanagra¹² and a chamber tomb from Kastelli at Thebes,¹³ clay models of boats were discovered. Two seals with representations of ships came from Crete, one from Makryialos¹⁴ and another from Anemospilia at Archanes.¹⁵ It was made clear by the excavator that the part of a clay model of a ship from Zakros represents a prow and a prow-man.¹⁶ Part of a stem of a clay model was identified among the finds from the acropolis of Mycenae.¹⁷ The initial publication of a picture of the Asine clay model of a boat inspired S. Washman to write about it in detail.¹⁸

K. Westerberg has completed the view of the seamanship in a broader area in her book about Cypriot ships.¹⁹

Generally in the Aegean area, clay models of ships are fewer than ships represented in other artistic modes, such as painting or seal engraving.

When one undertakes a study of a representation of a ship, the first thing that one asks is what end is the stem and what is the stern. A number of different criteria have been used, many of which were not considered convincing because the elements in the representations rarely allow precise identification. The fact that the clay model from Argos does not have both its ends intact does not allow us to apply either of the old arguments that the high end is the stem or conversely the stern, arguments that remained for years and are still being used as a starting point of discussion of ancient ships.

As a proof of his argument for a high prow, Casson²¹ cited evidence taken from the graffito from Enkomi, Cyprus, where the sail is represented bellying out toward one side of the mast and indicates that the ship is moving in the direction toward which the higher end is pointed. The argument that the higher end is the prow is supported at least for Mycenaen ships, by the discovery of the rest of the sherds of the pyxis of Pylos. It is proven that the sail was placed toward the stem,²² which can be identified because we know that the other end is the stern, where the steering oar is clearly represented. The earlier reconstruction of the pyxis showed by mistake the sail bellying out from both sides of the mast. The newly discovered sherds prove that the stem also had a high akrostolion (figure-head) giving it much more height, because it comes near the upper frame of the representation.²³

In general, for the Aegean area, the miniature fresco of the ship procession from Thera is considered to provide a solution to the problem, because there, too, the stem is higher than the stern.²⁴ In addition to their contemporary elements, which aid the study of ships of the Middle Bronze Age, the vessels of the ship

procession contain many older elements which go back to the Early Bronze Age. This conservative aspect is due to the religious role played by the ships in the fresco.

Recently, Johnston²⁵ reopened discussion arguing for a lower stem, firstly for the Early Cycladic ships of Santorini using as main arguments parallels from Predynastic Egypt and modern ethnological studies and the fact that on the large ships of Santorini the high stern has a decorative and not a functional character, a feature according to him, of ships which are represented on Early Cycladic frying pans. But, the Egyptian graffiti of ships²⁶ are unclear enough and chronologically very far from the Cycladic representations, so that it is preferable to compare them to contemporary lead models from Naxos²⁷ and the clay model from Palaikastro.²⁸ The large ships on the fresco from Thera though they are a millenium later than the Early Cycladic ones have elements that are related to them because they display archaistic characteristics that served the religious role they played in this particular scene. Even in the case of the ships which are represented on the clay frying-pans, one can't be sure if the high end is functional or a decorative addition. In some cases²⁹ this end is decoratively differentiated from the rest of the hull and it is probable that the manner of its depiction is due to the formal nature of the Early Cycladic art. On the other hand the lead models from Naxos and the clay model from Palaikastro have a very thin point at their high end. The smaller opening of the angle of the hull and the stem is not enough evidence for one to conclude that they represent a type of craft different from the dug-out.³⁰ Even if one accepts the decorative character of the high end for several Early Cycladic ships, must take into account the plain decorative akrostolia on the frying-pans and the graffiti of Naxos,³¹ elements link them with the stem of the ship in the scene on the miniature fresco. There we are sure that similar decoration belongs to the bow. The ethnological parallels are not sufficient for they can be used equally well to support the view of the high stem. In an effort to interpret the purpose of the ramshaped projection at the stern of the big ships on the miniature fresco of Santorini, one can look for parallels on Portuguse boats³² (*xavega* or *saveiro*) which have many similarities to the ships from Santorini, including a plain higher stem. However, the same ramshaped projection, which is observed at the stern of the ships from Thera and Northeast Asia³³ is proven to have a religious ceremonial role. This same ramshaped projection on Early Cycladic ships is found at the lower end and at that period probably had only practical use. In other words, its purpose was to protect the hull when the ship was coming to land³⁴ and to keep the ship in balance when it was loaded,³⁵ it may even have served as a gangplank as it seems to be used by a human figure on the graffiti from Naxos. In any case this projection at the end of a ship identifies it as the stern.

As a result, we think that these arguments for a high stern are inconclusive and that other elements of representations of ancient ships should be examined in an attempt to identify the stem and the stern. Certainly the surest points of identification are: the direction of the sails, the position of the steering oar and the

position of the oarsmen.

In the Argive model the thinner end is broken and is preserved at the same height with the other one. On the platform formed on the oval end of the latter one, a low cylindrical projection is preserved from which the upper part is broken. It probably represents the beam that supported the steering oar, as presumably occurs on the clay model from Aghia Triada³⁶ and again on Egyptian ships during the Old Kingdom.³⁷ The identification of the place of the steering oar automatically leads to the recognition of the stern at this exact end of the ship. It is well known that Bronze Age ships in the Aegean as a rule had just one steering-oar placed at the side of the stern of the ship.³⁸

At first sight, it seems that the position of the steering-oar on the left side of the platform would make the handling of the ship difficult for a right handed sailor, who would sit on the platform (fig. 1 and 2). That this was not a problem is shown by the representation on a seal from the Numismatic Museum in Athens, where the steersman, sitting on the platform of the stern holds the steering oar with his left hand, while he handles the tiller with his right hand.³⁹ The tiller is usually not depicted on representations of ships from the Aegean in the second millenium B.C. probably because it is a minor detail. There is no tiller on ships in the procession from Santorini, as it is clear from the way in which the steering-oars are used by the steersmen.⁴⁰ The lack of a tiller refers to simpler ships of earlier periods and this reflects the religious character of the representation.

However, on the pyxis from Pylos where the steering oar is represented disproportionately large compared to the ship, the tiller and the rope which connects it, are indicated.⁴¹ On Egyptian ships its use and representation begin in the Old Kingdom and evolve becoming permanent in the Middle and New Kingdoms, as on Greek ships represented on Geometric pictorial pottery.

The other piece of clay (fig 1, 2, 3, sect. Δ-Δ), that looks like a heap under the platform of the aft becomes thinner as it goes up and falls out of the gunwale, where it is broken, probably represents the rope which was used to fasten the steering oar to the pole or to fasten an anchor.⁴³ Its thickness is exaggerated compared to the other dimensions of the hull, but that is not surprising because a thick rope would have been necessary if we consider the Egyptian models of the New Kingdom for the steering oar⁴⁴ and the Greek sources for the anchor.⁴⁵

The base is flat (sect. B-B), as is usual on many models of ships, without any indication of a keel. One would expect to see such a base on earlier boats, dug-outs which were made of the trunks of trees, during the third millenium B.C. and continued to be used in the Mediterranean till the 5th c.A.D.⁴⁶ Other elements of the Argive ship model distinguish it from this category, but we cannot exclude the possibility that a long plank took the place of the keel. In contemporary Egypt of the New Kingdom the keel began to be used precisely at this period.⁴⁷ One possible indication of a keel is seen in the angular cross section of the clay model from Mycenae.⁴⁸ A keel is clearer on the representation of the ship on the sarcophagus from Gazi,⁴⁹ where its small projection toward the stem is indicated. Both of these

contemporary representations of keel suggest that the shape of the base is a convention providing a flat surface on which the model stood. A later piece of a clay model from Mycenae dating from Late Helladic IIIC, bears a clear indication of the keel.⁵⁰

The ship is angular in section (fig. 3, 4, sect A-A), in contrast to the curving shape of all the ships depicted on the frescoes from Thera and Crete in Middle Minoan times.⁵¹ This tendency for straight lines and angles can be observed in many representations of ships from the mainland and also from Late Minoan Crete after 1.400 B.C. when the whole Aegean area shared common cultural characteristics: for instance on the stone mould from Thebes,⁵² the Late Minoan IIIB ship on the sarcophagus from Gazi,⁵³ the ships on the sherds from Phaestos⁵⁴ and the ship on the graffiti from Thebes.⁵⁵

The ships of the Late Bronze Age Aegean, by having this general angular profile can be distinguished from the category of small crafts with curving profile which were built for short voyages and not for long distance trips. These small boats resemble the larger ships, but there are other differences: In representations many of these boats are highly decorated either with painted zones or akrostolia, shaped as bird's heads or as other animals recalling the richly decorated ships for the religious ceremony of the Nautical Festival of Thera. Certainly there were decorated ships, which were not used for religious purposes, since Homer mentions the so called "φοικοπάρηες νῆες".⁵⁶ In several cases these small boats have religious meaning, either they have attributes with a sacred character or they were found in a religious context. Also the fact that there are masts and that the sails are either missing or furled as occurs on the ships of the Thera frescoes, is evidence of religious conservatism which goes back to the small rowing crafts of the third millenium B.C.

In the internal part of the hull the base of the mast is (fig. 1, 2) preserved and the fact that it is almost in the centre is a solid argument that the ship is to be classified with large vessels. Though it is known that ships were sailing in the Aegean since the beginning of the second millenium B.C. there exist only representations of the vessels. The model from Argos is the second model of a large ship to be found after the one from Aghia Triada which dates to the Late Minoan IIIC period.⁵⁷ It is not possible to know the height of the missing upper portion which would have been made of fragile material. The clay might have been completed in wood with a piece of cloth at the upper part, which would indicate sails. Clay models of ships have been found in the Near East and Cyprus⁵⁸ which bear a hole where a wooden mast would be fixed.

We have described two clay strips, that cross the width at almost equal distances from the mast (fig. 1, 2). The benches of a clay model from Mycenae⁵⁹ are indicated in a similar way. In that example the strips occupy a limited area at the bottom of the hull and their length does not reach the gunwale, as in the Argive example and, moreover, they do not touch the floor but are a short distance above it. Similarly, in the clay model from Aghia Triada⁶⁰ the benches are placed

under the deck and do not reach the gunwale. Thus, these differences lead us to the conclusion that the strips in the Argive ship do not indicate benches but rather the cross beams of the hull.⁶¹ There is no reason for the number of the cross beams to be realistic.

Some years ago, a clay ship model was published from Oropos.⁶² But since the find was not from a stratified context it can only be dated by means of stylistic criteria. It is thought that it may date to the Late Helladic III period because of the type of its clay and paint.⁶³ One specific characteristic of this ship is the ramshaped projection of its base which can be compared to the projection on a piece of a clay model from Athens⁶⁴ and another from Phylakopi⁶⁵ that are dated to Late Helladic IIIC period. It is not easily compared to the sharp projection of the ram of late Geometric ships. The projection on the Oropos model could not function properly with an akrostolion. One assumes akrostolion was attached to this model because of the two horizontal pierced holes as well as one perpendicular hole with no opening. The fastening of the shrouds would be more easily done somewhere in the interior of the ship and not at its far end.⁶⁶ The closest parallel comes from the newly restored pyxis from Pylos which depicts the akrostolion: it is certain that a similar shorter ramshaped projection at the prow was a part of the keel.⁶⁷ After a detailed study of the representations of ships of the end of Late Helladic III period, especially of the IIIC period, one can conclude that all have such a ram at the stem, which was not meant to ram as the ram of the Geometric period would probably do, but was designed to help the ship pass through the sea and to land. The most ancient representation of this technical achievement is found on the ship from Gazi, dated to Late Minoan IIIB. It seems to coincide with the invention of the keel of which the so called ram is the end. On the other hand it is not just coincidence that the keel on New Kingdom Egyptian ships made its appearance at the same time.⁶⁸ That the ramshaped projection was not structurally independent of the keel is shown by the ships on a Protogeometric crater from Alicarnassus⁶⁹ and an Early Geometric sherd from Leftkandi.⁷⁰ These intermediary examples connect Aegean ships of the Late Bronze Age period with their representations of the Geometric period. During the 9th century and especially the 8th century it developed into a vessel of war suitable for conflicts with pirates, on long distance journeys in search of colonies, although there is not any representation depicting it in a naval battle.⁷¹ Its ceramic context dates the clay model to Late Helladic IIIA2-B1 at the time of the peak of Mycenaean civilization and its greatest expansion. Argos, where it was found, is mentioned in the Catalogue of the ships as one important force; thus, it is natural that a model of a ship would be found there. Although there is no evidence that Premycenaean mainland had a nautical tradition, it has been suggested that the Mycenaeans were the creators of a great navy.⁷² The main evidence is that on a tablet of Linear B from Pylos the largest percentage of nautical terms is Greek. It is possible that the Mycenaeans developed small ships into the stronger more powerful seafaring vessels.

When we look for a nautical tradition on the mainland during the Middle

Bronze Age, we find once more at Argos the representation of ships on a jug, which is the first depiction of a ship in the town and the only one predating the clay model.⁷³ The fact that other such representations of ships exist on the mainland at this time as well as pottery imported from abroad prove that the mainland was not isolated. Distances between areas in the Aegean are so short that even a primitive boat could bring them into contact, and it has been shown that as long ago as the Messolithic Franchthi imported obsidian from the island of Melos.

The little boats from the jug from Argos are crescent shaped, at their bottom parallel lines indicate oars and amidships there is a cabin with apsidal roof. The only contemporary representations of a cabin with absidal roof exist in Egypt, on the model boats of the dead from the Middle Kingdom. In the Aegean several representations of ships with a flat roof or without a roof have been found. To the second category belongs the cabin on the stern of the ship on the Theran fresco. The fact that their use was not practical but ceremonial is proved by their light weight construction unsuitable for travel in the open sea; the garlands which decorate them and the emphasis on the importance of the person who stands there. There are many talismanic Minoan seals, sacred objects themselves, which depict a similar cabin on the stern of a ship. Thus only the main part of the ship which is associated with religious beliefs, is represented. Isolated cabins decorated with garlands are painted on the walls of the West House of Thera. This representation has led to the identification of other cabins on fresco fragments from Mycenae.⁷⁴ Their role is considered religious firstly because of the hieratic character of the procession of the ships and the direct association to the representation of the priestess of the West House, and secondly because of their decoration with garlands and their similarity to the unroofed litters from Crete.⁷⁵

The apsidal shape of the roof of the Argive ships is similar to a Mycenaean litter model of clay, which has been interpreted convincingly as having hieratic use.⁷⁶ The position of the cabin in the centre of the hull is parallel to the position of the flat-roofed cabin on the gold ring from Tiryns, where a religious scene is also depicted.

As far as the ship procession of Thera is concerned the furled sail, the ramshaped projection of the stern, the paddles and the decoration are considered to be imitations of archaic prototypes. As far as we know these characteristics some of which are preserved on Middle Minoan seals, go back to the Early Cycladic ships of which no one had a mast or sails. On the ships from Argos besides the cabin and the lack of a mast, the parallel lines may indicate paddles, as those on early Cycladic and Theran ships. We conclude that the ship on a seal from the Stathatos Collection⁷⁷ is also moved by paddles because the human figures are standing and face the stem. In addition, the religious character is proved by the long dresses of the figures,⁷⁸ the ramshaped projection and the cabin of the stern.

On another seal from Anemospilia in Crete,⁷⁹a human figure is depicted

padding a vessel which has a high stern, bird shaped at the lower stem, a characteristic of other sacred ships too.

Because the representations of ships from the Bronze Age Aegean, many times, contain religious elements, the study of ship construction is very difficult. The religious character of the ship is recognised by special features or by the excavation context, if for example the representation comes from a tomb or a sanctuary. A great number of ships have been discovered which have a certain religious role not only in the Aegean and the Orient, but also in Europe and it has been accepted that they are associated with vegetation deities and the cult of the dead, especially for people who live near the sea and rivers.⁸⁰

The clay model from Argos does not give a clear indication about its role, by itself. Evidently it is not an accurately portayed model of a ship, since its depiction is summary and unrealistic, at least as far as the flat base is concerned. It seems that it was destined to be an offering. This supposition is confirmed by its context, which consisted of fragments of anthropomorphic figurines, a piece of a throne model, fragments of animal figurines, a glass paste seal bearing the representation of a goat. The context and details such as the jewellery which is depicted on the anthropomorphic figurines and the flat base of the model are indications that this object had a religious aspect.

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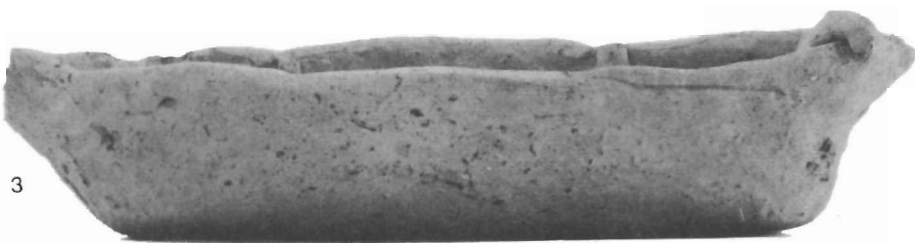
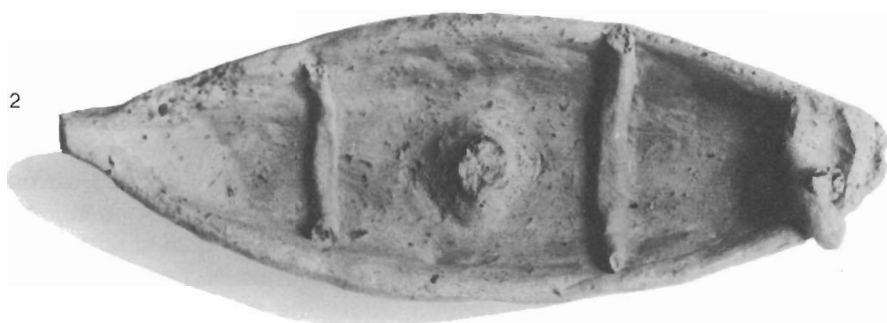
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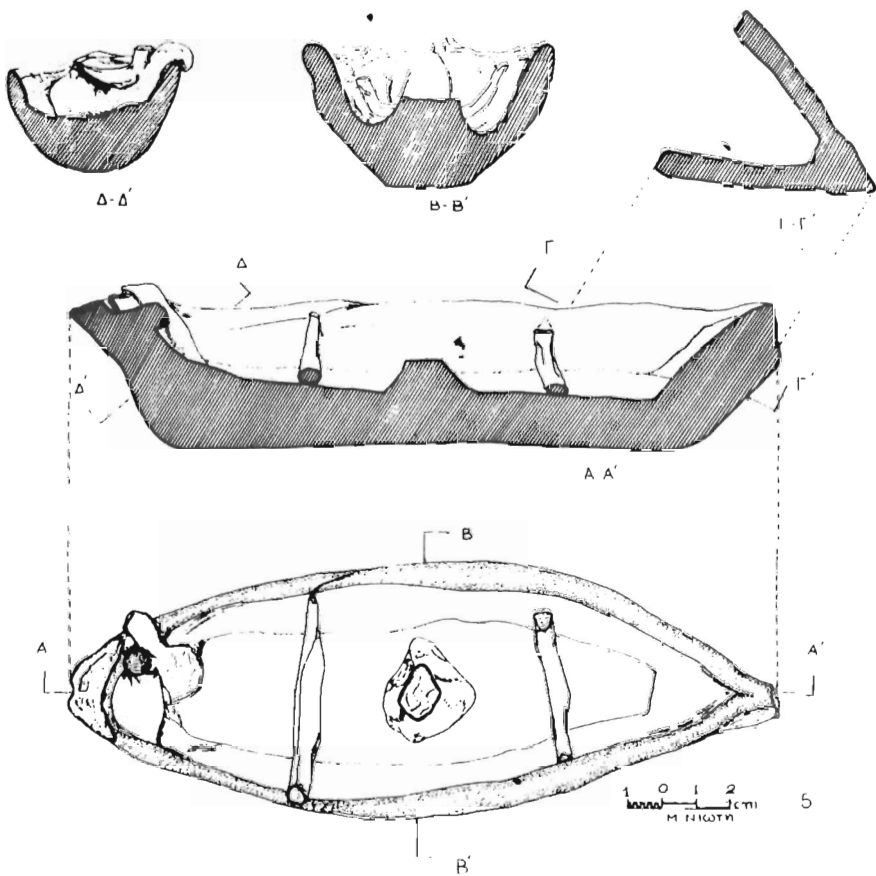
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35. L. Morgan-Brown loc. cit. (supra n. 14), 638, S. Wachsman loc. cit. (supra n. 33) where all the opinions are collected. The writer suggests that the projection had a ceremonial role even during the third millennium B.C.
36. C. Laviosa, loc. cit. (supra n. 4), 27, fig 27b Gray, loc. cit. (supra n. 5) G 18, C 32 Göttlicher loc. cit. (supra n. 7) Nr. 319.
37. Lanström, loc. cit. (supra n. 26), 52, 147-7.
38. L. Casson, loc. cit. (supra n. 33, 1) 7.

39. I. Pin: CMS V:1 1575, 142, Nr. 184.
40. L. Casson, loc. cit. (supra n. 33, 1) 7.
41. L. Casson, loc. cit. (supra n. 2) fig. 28, 1 Σακελλαράκη, loc. cit. (supra n. 3) fig. 9.
42. for ex. L. Casson loc. cit. (supra n. 2) fig. 74.
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54. C. Laviosa loc. cit. (supra n. 4), 9-13, fig. 1—3.
55. Θ. Σπυρόπουλος, *Πλακίδιον μὲ ἐγχαράκτους παραστάσεις ἐκ Θηβῶν ΑΔ 1969, 47-50, σχεδ. 2.*
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