

## EARLY EUBOEAN SHIP BUILDING\*

Last year's (1986) Greek-British excavations in Lefkandi, Euboea which are conducted under my direction and with the cooperation of Prof. Mervyn Popham of Oxford University, were once again centred around the Toumba cemetery<sup>1</sup>. These tombs lie to the east of the low mound which covered a large building and two important central burials of the early 10th cent. B.C. The Toumba cemetery as a whole belongs to the years following 950 B.C. up until approximately 825 B.C., whereupon all burials on the hill ceased entirely and the site was abandoned<sup>2</sup>.

From the excavated disturbed tomb T.61 come six spherical pyxides belonging to a local ceramic workshop, two imported attic pyxides of the early "Middle Geometric I" period (ie. the years immediately after 850 B.C.), as well as a few other grave offerings. The attic pyxides accurately date the rest of the finds and especially the local spherical pyxides which bear cross-hatched maeanders and swastikas as main decoration. It can thus be concluded that all the pottery from the tomb belongs to the years from 850 to 825 B.C., and perhaps to the end of this 25 year period.

One of these local pyxides (height 0.29 m) also bears a pictorial decoration as - something rare for the pottery of the period. The drawing on the belly of the vase is bordered and depicts a long ship moving towards the right. Above it and facing in the same direction are two birds in flight, while in the sea below, swim two fish schematically rendered<sup>3</sup>.

The description of this early ship of the years around 840-830 B.C. is of particular interest but also presents us with certain difficulties since, in the absence of contemporary written sources, relevant information can only be found in the "Homeric" Epics - although this oral tradition was codified and written down at least 100 years later.

Despite the schematic design of the ship (fig.1), one can discern the curved stern at the back, where the steering oar is also to be found. The prow is elevated and vertical with small projections, while it ends above in a backward-turning component, possibly the "ἀφλαστον" of the Epos. Down at the front at the ship's waterline, a protruding part (the later-named ram) can be observed. It is not clear whether the series of small vertical lines on the long side of the ship (31 in number) indicate a series of thole pins (the Homeric "κλειδες") where the oars were fastened or if, in conjunction with the horizontal lines, they mean to depict the ship's side framework and rail. It should be noted that the ships of the Geometric period do not as yet appear to have a deck. There is also a main mast which is forked at the top, where a rope is fastened (the "πρότονος"). However, no sail is shown<sup>4</sup>.

At the rear end of the ship 2-3 spears are depicted. They were, I believe, intended mainly as an indication of the ship's combative capacity. Spears in this position appear quite frequently in later examples of war ships of the 8th cent. The depiction of the spears should not, in my opinion, be connected with some abstract mythological representation<sup>5</sup>, but understood simply as stating the military intention of the ship (perhaps it is the Homeric "ναύμαχον ξυστόν",

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II.XV, 388-9 and 677). Neither, I believe, do the birds shown above the ship have any allegorical meaning, as some scholars have stated<sup>6</sup> regarding similar examples of a later date. Together with the fish depicted below, I think that they constitute a schematic rendering of the surroundings, the sky and the sea, in which the ship is moving, desiring perhaps to show that she is on a voyage and not in harbour.

However this representation of an early Euboean ship from the Toumba cemetery is not the only example from Lefkandi. In the older excavations of the nearby group of tombs called Skoubris (after the owner of the site) and in the fill of a gully which is dated in the 9th cent., a fragment of a crater (original diameter ca.0.45m.) was found and has already been published<sup>7</sup> (fig.2). The pot was the product of a local workshop of the years before the site was abandoned, that is prior to 825 B.C. The representation of a ship can be seen in a metope, although unfortunately only the front of the vessel is preserved, depicting the elevated prow with its backward-turning component. A mast can not be discerned, but the body of the ship is divided into smaller parts, which might indicate positions for the oarsmen, or the frame-work of the vessel<sup>8</sup> or even railings. Below, in front of the ship's waterline, the ram can be observed. Obviously the ship is again one of war.

Regarding the form of these Euboean ships it is interesting to compare an example from nearby Oropos. This is a clay model of a ship dated, as V. Petrakos suggests in his publication<sup>9</sup>, in the Geometric period and not in the Mycenaean age as scholars have recently maintained<sup>10</sup>. It was pulled along on four wheels and would have been a child's plaything, probably from a child's tomb, like similar examples of clay animals and carts with or without wheels from tombs in Lefkandi. Unfortunately today the Oropos model is incomplete and reconstructed but the elongated shape of the ship, the high prow with the ram, as well as the curved stern can be clearly distinguished. Also well formed are the vertical sides of the ship, without a deck. The long shape and the presence of a ram are, in my opinion, vital elements of these early vessels and denote their military character.

I believe we can discern the existence of these elements in an early form already from the beginning of the 9th cent. (around 900 B.C.), in the two ships that are designed in outline on a crater from Fortetsa, Knossos<sup>11</sup>. Of great interest in these cretan ships are the four small protrusions in the prow, which are also to be found later on the Lefkandi ship. Perhaps this element is an Eastern influence.

More developed are the two ships noted by D. Gray, painted below the handles of a crater which was found by G. Bass on the Halicarnassus peninsular, near Dirmil, in Asia Minor<sup>12</sup>. These ships are, like those of Fortetsa, designed in outline but their relatively elongated shape, the ram and the formation of the elevated prow are depicted more clearly. It would appear that these ships are connected with those from Lefkandi, since the Dirmil crater as well as the vases found with it, belong to the early 9th cent. and are probably Euboean.

A still more advanced warship form can be found on the engraved catchplate of an early "Boeotian" bronze fibula dated ca. 850 B.C. from a grave in the Athenian Kerameikos<sup>13</sup>.

The study of the representations of the two ships from Lefkandi, in conjunction with the more general study of the area where they were found, lead to certain observations regarding the important position of shipbuilding within the early Euboean economy and the advanced standard of the relevant skills:

1. Towards the end of the 9th cent. B.C., it seems that the inhabitants of Lefkandi had at their disposal ships of war whose similarities of construction allows us to speak of a common type: the long shape, the elevated backward-turning prow and the existence of a ram.

2. The timber for the construction of such ships must have come from the high mountains of the Euboean mainland and, as we know from the Epos, pine was used for the hull and fir for the mast of the ship<sup>14</sup>. The art of carpentry was generally very advanced in Lefkandi as we can conclude from the large wooden posts used in the building ("oikos") of the 10th cent. Beautifully worked wooden planks were also found lining the large tombs of this period.

3. Weaving skills - for the possibility of linen sails - were also of a high standard as the exceptionally well woven, thick linen garment that has been preserved in Lefkandi and belongs to a contemporary tomb shows<sup>15</sup>.

4. The natural location of Lefkandi is also of note, as it is a coastal site with small, sheltered sand bays, where the ships could be towed during the winter months.

5. The intense commercial activity between Lefkandi and the East which is noted in the 10th and 9th cent., would certainly have also caused the mooring of Eastern (Phoenician?) ships in Euboean waters<sup>16</sup>. From these ships, local ship-builders were perhaps inspired refinements and improvements for the construction of their own vessels.

Nevertheless, the portrayal of ships, is most unusual for 9th cent. Lefkandian pottery, all the more so as we have two such cases, the crater and the pyxis. Vase decoration during this period in general is, as we know, exclusively confined to linear designs: circles, semi-circles, wavy lines, triangles, diamonds etc. The portrayal of people, animals or objects is totally absent - or almost so. Ships must have played a very important role in the life of the inhabitants of Lefkandi during the end of the 9th cent. B.C., for contemporary potters to wish to depict them on their vases.

Additionally, the fact that the only two surviving representations from Lefkandi are specifically of war ships is not, I believe, mere chance. It is already known from the Mycenaean period that - according to the surviving representations - ships can be divided into simple, sailing merchant ships without an offensive ram (as the one from Skyros<sup>17</sup>), and ships of war (as the one from Tragana, Messenia<sup>18</sup>). The fact that after two centuries of peaceful commerce, the refined representation of war ships appears for the first time in Lefkandi at the close of the 9th cent. B.C., must be due to specific reasons. It might be proven that the Euboean ship builders of the period reinforced their vessels with the military component of a ram and designed longer and more dynamic hulls, for the more successful confrontation of rivals that their sea-faring countrymen would now face with increasing frequency along the sailing routes of the Aegean.

I believe that the new views and fresh interpretation of the historical facts as they are revealed by the recent archaeological excavations, can lead to the understanding of this phenomenon.

The recent excavations in Lefkandi, Euboea lead to the disclosure of a rich and dynamic Greek world that was active from the end of the 11th cent. until the end of the 9th cent. B.C.<sup>19</sup>. It is possible that Lefkandi will prove to have been an enterprising centre of this world, outposts of which have been identified - with new ones being added continuously - in the whole of Greece, in the south, central and north parts, islands and mainland alike.

This early Greek world was not solely Athenian-centred, as had initially been assumed because of the conclusions of earlier excavations, undertaken mainly by German archaeologists, in the

Athenian cemeteries of Kerameikos and elsewhere. More recent investigations indicate the existence of other centres, such as the Euboean-Thessalian group, which were not dominated by Athens. Further research will show whether the name "Lefkandi Period", which I attributed generally to the whole of this period is justified. The period covers the years from the end of the 11th cent. B.C. until the end of the 9th cent. B.C. - and according to the conventional terminology derived from the ceramic styles, from the beginning of the "Protogeometric" up to the end of the "Middle Geometric I" period.

This world was orientated towards the sea of the Aegean and thence towards the East: Cyprus, the Syrian and Palestinian coast and perhaps also Egypt. The movement towards the East is verified by the first migration movement from Central Greece towards Asia Minor and Cyprus (around 1000 B.C.), while that from the East is in turn witnessed by the eastern products found in Greece. One can additionally bear in mind the eastern origin of certain Greek heroes such as Pelops, Kadmus, Phoinix, Aigyptus, and others.

It was however a peaceful world, without walled cities or fortified acropolis, unlike the earlier, Mycenaean, period. Now habitation was dispersed, based on detached unfortified households (the "oikoi"), each one of which was founded at the top of a low hill. Each "oikos" housed one family ("οικογένεια") of a patriarchal type, perhaps a "genos". The normal architectural type of the "oikos" was a megaron-like building with double-reclining roof and one of its narrow sides apsidal, a brilliant example being the "oikos" found in Lefkandi, (length 48m)<sup>20</sup>. Such an "oikos" would hold the family's possessions and provisions in store-rooms, as well as housing the family worship - since there did not as yet exist communal temples or sanctuaries. Neither were there common, extended cemeteries but each genos usually buried its own dead at the foot of the hill upon which the "oikos" was built, thus forming many, small and dispersed cemeteries. Special burial honours were reserved for the leading members of the families, including the erection of a tumulus, sacrifice of horses, etc. For this world was based on the personal bravery and prominence of the leaders of the families. In later years, it was in my opinion these leaders who were named "heroes", and the exploits and deeds attributed to them formed the corpus of the rich, Greek mythology, as in my opinion, the age of these mythical heroes coincides with the Protogeometric period, the "Lefkandi Period"<sup>21</sup>. Not the least because it evokes the concept of a closed and isolated community, while the new facts point to an enterprising, sea-faring one, whose commercial interests cultivated the art of ship-building and refined it through contact with the seafaring peoples. The knowledge gained from such peaceful commercial interchange could also be put in use for the construction of ships of war.

The economy of the "oikoi" must have been based mainly on pastoralism and the exchange of goods (barter system and gifts) and less on agriculture. On the other hand the sea routes were also exploited as is shown by the archaeological finds.

The bonds with the East (chiefly Cyprus, Syria, Phoenicia and Palestine) are positively verified by the finds of the excavation in Lefkandi. Almost all of the Toumba tombs included luxury goods originating from the East and devotedly placed as ornaments and offerings for the dead: jewellery and vessels of faience, gold or ivory jewels, bronze vessels, scarabs, and other such. All these articles, imported in a peaceful place such as Lefkandi, indicate prosperous and continual commercial activity, obviously based on the exchange of products. In this interchange, Euboea would have offered, apart from the clay vessels (containing wine, oil etc.) that have been

found in the East, perhaps also timber and metals, possibly iron products, as the fine iron swords and other weapons that were found in tombs of this period, indicate.

To this brilliant Greek world of the 10th and 9th cent. B.C., as it is now revealed from the excavations, one can not of course apply the term "Dark Ages", which is nevertheless still used by various historians and archaeologists.

By the end of the 9th cent. B.C. the peaceful world of the patriarchal "oikoi" is fast nearing its close amid general unrest. Facts that remain as yet unknown to us, overthrew the existing social and economic order and the patriarchal isolated "oikoi" were deserted. Now, for the first time in the historical age, organised, fortified settlements were established, and there the inhabitants of the district flocked. The fortified settlements of Old Smyrna, Emporio in Chios, Zagora in Andros, Ag. Andreas in Siphnos, the Oikonomou islet of Paros, Donoussa near Naxos, Xoburgo in Tenos, Thorikos and the Athenean Acropolis in Attica, Eretria and Chalkis in Euboea, must have been established for the first time in these tumultuous years of the close of the 9th cent. B.C.

The economy of the new settlements now turns more towards agriculture, abandoning pastoralism, since concentrated populations must be fed. The inhabitants of these concentrated settlements also establish, for the first time, organised sanctuaries and temples of the community and new, communal cemeteries. An intense involvement in naval activities is also noted. The danger which brought about these new conditions in the Hellenic world seems to have originated from the sea, from the Aegean, if we judge by the great number of new, fortified settlements in the islands and coastal regions<sup>22</sup>. I believe that this change, noted at the end of the 9th cent. (around 830-800 B.C.), is a very deep and substantial one, a land mark in the historical development of ancient Greece, whose importance has not yet been adequately emphasised.

The new circumstances led to the creation of the Greek "polis", the establishment of the Greek sanctuaries and temples, the founding of new institutions. But the crowding of populations within the tight confines of fortified settlements engendered internal social unrest too, which soon reached explosive dimensions, during the 8th cent. The exodus of some of the inhabitants in the form of colonisation then became the only possible solution with the Euboeans again in the lead<sup>23</sup>. The 8th cent. was a century of strife, as the now common figure-scenes of hoplites, land and sea battles on vase decoration indicate<sup>24</sup>, but also one of social upheaval, the originating causes of which are to be found in the late 9th cent. It is within that turbulent world of the end of 9th cent., that we note the first depictions of war ships, such as the ones from Lefkandi. Sea-ward dangers seem to have forced the inhabitants of the coastal regions to react and seek refuge in the "wooden fortress" (if the anachronism of the later Delphic oracle may be allowed). The ships however did not succeed in saving the world of Toumba, nor the new, unfortified settlement of Xeropolis in Lefkandi which were both eventually absorbed by their new powerful neighbours, the fortified cities of Chalkis and Eretria. Greece was now living the stormy but intensely creative 8th century B.C.

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## NOTES

1. *Arch. Reports* 33 (1986-87) (H.W. Catling), 12 ff. For the pyxis: figs. 17-18.
2. M.R. Popham et al., *Lefkandi I: The Iron Age Settlement and Cemeteries* (London 1979-80); M.R. Popham et al., *B.S.A.* 77 (1982), 213 ff; M.R. Popham et al., *Antiquity* 56 (1982), 169 ff; P.G. Calligas, *A.E.M.* 26 (1984-85), 253 ff; M.R. Popham, "Lefkandi and the Greek Dark Ages" in (ed. B. Cunliffe), *Origins*, (B.B.C. Books 1987), 67 ff.
3. See now M. Popham, "An Early Euboean Ship", *Oxf. Journ. of Arch.* 6 (1987), 353 ff. I thank Prof. M. Popham for discussing with me the problems of the Lefkandi ship before its publication.
4. For the representations of the Geometric ships: G. Kirk, "Ships on Geometric Vases", *B.S.A.* 44 (1949), 93 ff; J.S. Morrison and R.T. Williams, *Greek Oared Ships* (Cambridge 1968), 12 ff; L. Casson, *Ships and Seamanship in the Ancient world* (Princeton 1971, 1986), 43 ff. About the ram: F. van Doorninck, *I.J.N.A.* 11 (1982), 283 ff.
5. cf. G. Ahlberg, *Fighting on Land and Sea in Greek Geometric Art* (Stockholm 1971), 45 ff.
6. cf. J.L. Benson, *Horse, Bird and Man* (Amherst 1970), 26 ff
7. *Lefkandi I* (1980), 267, pl.274:918 and pl.284:11.
8. For the rendering of the ship's framework compare the Late PG (9th cent.) clay model of a boat from Crete: J.K. Brock, *Fortetsa* (Cambridge 1957), 53, no.542, pl.36; (ed. A. Delivorrias), *Greece and the Sea* (Amsterdam 1987), 162, no. 59.
9. V. Petrakos, *A.D.*29 (1974) - Mel. 98-9, pl.57; (ed. A. Delivorrias), *Greece and the Sea* (Amsterdam 1987), 154, no.53.
10. F. van Doorninck, *I.J.N.A.* 11 (1982), 282, fig.6b; K. Davaras, *A. Eph.* (1984), 62, no.23.
11. J.K. Brock, *Fortetsa* (Cambridge 1957), 12, no.45, pls.4 & 135.
12. G. Bass, *A.J.A.* 67 (1963), 357 ff, pl.83, fig.15; D. Gray, "Seewesen", in *Arch. Hom. I* (Gottingen 1974); G.21 (D.3), 57, Abb.16b.; F. van Doorninck, *I.J.N.A.* 11 (1982), 277 ff.
13. K. Kübler, *Kerameikos V.1* (1954), Grave 41, 193 ff, pls. 160-11; J.N. Coldstream, *Geometric Greece* (London 1977), 58, 64; H. Catling, in *Lefkandi I* (1980), 242-4; F. van Doorninck *I.J.N.A.* 11 (1982), 283.
14. For the timber mentioned by the Epos: Casson, 46, note 22; For the Euboean timber in antiquity: P.G. Calligas, "Euboea and the Cyclades" in (ed. L. Fitton) *Cycladica, Studies in Memory of N. P. Goulandris* (Br Museum, 1984) 89, note 15; For "μεσοόδια" connecting megara with ship-masts see Morison-Williams (1968), 52 and H. Plommer, *J.H.S.* 97 (1977), 80.
15. For the linen cloth see M. Popham et al, *Antiquity* 56 (1982), 173, pl.xxv.
16. J.N. Coldstream, "Greeks and Phoenicians in the Aegean", *Madrider Beitrage* 8 (1982), 261 ff. For the problem of the position of the Phoenicians in modern historiography, see the interesting views of Martin Bernal, *Black Athena v.1* (London 1987), 400 ff., esp. 426 ff.
17. Stirrup jar from Skyros (LH. III C-1); L. Parlama, *Η Σκύρος στην Εποχή του Χαλκού* (Athens 1984), 146 ff, no 9, Dr 31-32, PLA and 62-64; (ed. A. Delivorrias) *Greece and the Sea* (Amsterdam 1987), 153, no.52.
18. Cylindrical pyxis from Tragana, Messenia (LH. III - C); K. Kourouniotes, *A. Eph.* (1914), 107 -9, figs. 13 -15 ; Fr. Schachermeyer, *Griechenland im Zeitalter der Wanderungen* (Wien 1980), 117, Abb.31b, Taf.15 (= a new reconstruction showing that a bird and not a fish was depicted on the stem); (ed. A. Delivorrias), *Greece and the Sea* (Amsterdam 1987), 156, no.56.
19. Basic handbooks: (a.) A. Snodgrass, *The Dark Age of Greece* (Edinburgh 1971); (b.) V. Desborough, *The Greek Dark Ages* (London 1972). Also M. Popham, in *Lefkandi I* (1980), 355 ff. See also P. Calligas, Η Ελλάδα κατά την πρώιμη Εποχή του Σιδήρου, in *Ανθρ. και Αρχ. Χρονικά* 26 (1987), 17ff.
20. M. Popham and al., "The Hero of Lefkandi", *Antiquity* 56 (1982), 169 ff; P. Calligas, Ανασκαφές στο Λευκαντί Ευβοίας, 1981-84, in *Αρχ. Ευβοϊκών Μελετών* 26 (1984-5), 253 ff.
21. M.I. Finlay, *The World of Odysseus*, (Harmondsworth 1982<sup>3</sup>), 26 ff. Also P. Calligas, "Hero-cult in Early Iron Greece" in (ed. R. Hägg) *Early Greek Cult Practice* (Stocholm 1988), 229 ff; P. Calligas, Αρχαίοι Ευβοϊκοί Μύθοι, in *AAX.* 1 (1986), 103 ff.
22. cf. A. Snodgrass, "The Historical Significance of Fortifications in Archaic Greece", in (ed. P. Leriche et H. Trésiny) *La Fortification dans l' Histoire du Monde Grec* (C.N.R.S. Paris 1986), 125 ff (favours the theory of piracy); P. Calligas, *A.A.X.* 2 (1987), 17ff. (takes a more general view).
23. M. Popham, "Why Euboea?" *A.S. Atene* LIX- N.S. LXIII (1981), 237-9. To the 8th cent. possibly also belongs the general characterisation of Euboea as "famous for her ships" (ναυσικλειπή Ευβοία) found in the Homeric Hymn to Apollo ( lines 31, 219)
24. T. Webster "Homer and Attic Geometric Vases" *B.S.A.* 50 (1955), 38 ff; G. Ahlberg "Fighting on Land and Sea in Greek Geometric Art" (Stockholm 1971), passim; See also: A. Snodgrass "Towards the Interpretation of the Geometric figure-scenes" *A.M.* 95 (1980), 51 ff. (on Webster's theory).

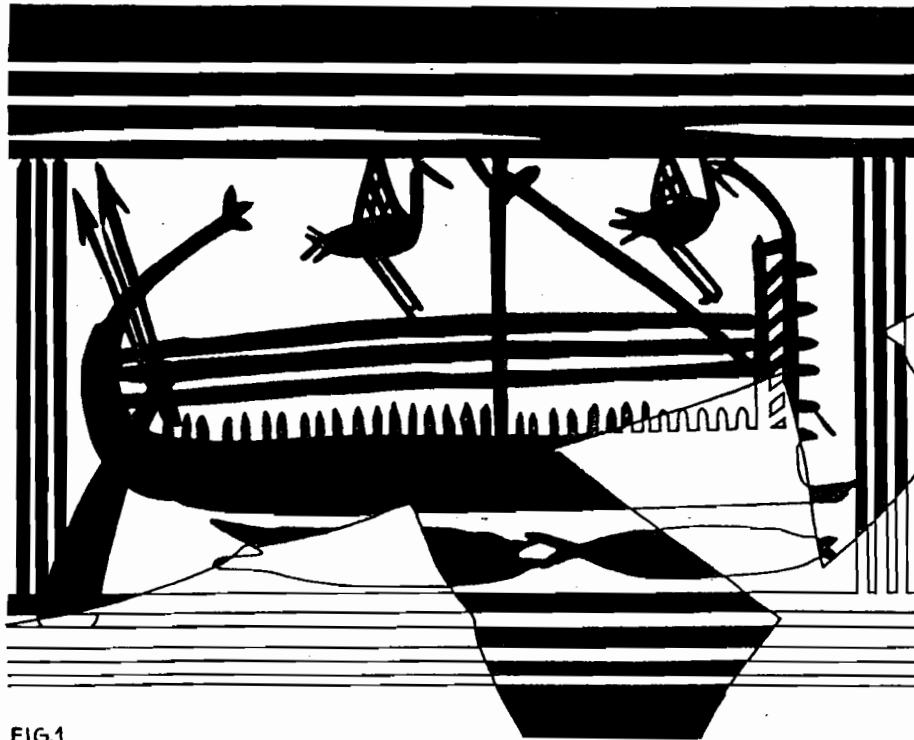


FIG.1

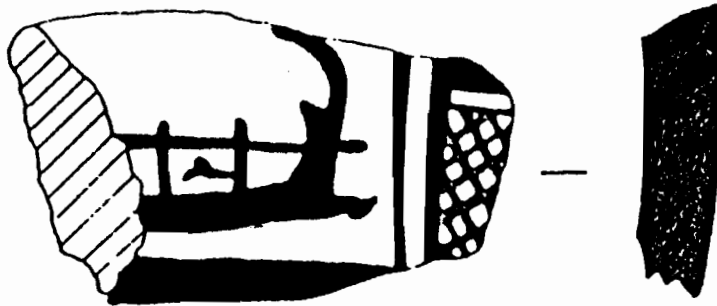


FIG. 2