

## **FROM MIDDLE NEOLITHIC TO EARLY BRONZE AGE: CONSIDERATION OF EARLY BOAT MODELS.**

This paper is the second part of a paper given in 1990 at the Congress "Thalassa" in Corsica<sup>1</sup>. The first part examined the earliest known Aegean three-dimensional boat representations, dating mostly from the Late or Final Neolithic Age and thus preceding the famous Cycladic incised or lead boats. Now, in view of new evidence<sup>2</sup> and following reconsideration of the old material, we can go back further to the Middle Neolithic and forward towards the Early Bronze Age.

One has to underline two major difficulties concerning the study of miniatures in general: First, some artefacts which could have been tools or vases are shaped in such a way that they could also be considered as autonomous plastic representations, and therefore it is impossible to attribute to them a primary function - utilitarian or symbolic<sup>3</sup>. A number of everyday activities could in fact be related to several figurative themes, although not necessarily. - Second, precise identification of an original modelled in reduced size is a very complex matter<sup>4</sup>, even though a general idea may be instinctively implied.

In spite of these problems, an attempt at identification of primitive craft models has resulted in the recognition of a varied typology as early as the Neolithic Age and showed a differentiation, not only between possible boat types, but also presumed model functions between the Neolithic and the Early Bronze Age.

The earliest<sup>5</sup> known terracotta boat models from South-East Europe come from Serbia and Thessaly. Two of them belong to the Vinča B2 and "Early Vinča" cultures: an "ellipsoid vase" from Crnokalačka Bara<sup>6</sup> and a recently published small "shallow container" interpreted either as a model boat or as a possible loom piece from Selevac<sup>7</sup> phase II (Fig. 1). Both have two projections, one at each end; those of the Selevac artefact are perforated, therefore it has been suggested that it could possibly have been used as a bobbin in the manufacture of textiles, since it could "hold a small ball of thread"<sup>8</sup>. The same alternative interpretation has been suggested for a number of artefact types with horizontal or vertical perforations through which a thread could have passed -and did- as well as protuberances, such as figurines, amulets, the so-called cross-pieces and perforated cylinders from the same site<sup>9</sup>. Quite apart from the possibility of accidentally combining both a suggestive form and a practical use, an alternative interpretation proposed in the publication on terracotta weights should also be mentioned here, that is, their possible use as net weights or net sinkers in fishing and trapping<sup>10</sup>: it is

possible that use has influenced the shape. If we add the fact that certain fish species consumed at Selevac must have been caught (by means of lines with large baited bone-hooks) in the Morava or Danube rivers, flowing at some hours distance, smaller fish probably deriving from local waters<sup>11</sup>, we can consider the representation of a fishing boat as highly likely, although we cannot guess another practical function for the artefact. This representation is all the more likely, since the actual model was found with other miniatures, in particular several figurines and a miniature piece of furniture. The perforated extremities of the boat model, through which a thread could have passed -and it actually did- do not contradict the possibility of identifying it as a dugout, holes being frequently attested through logboat ends. On the other hand a miniature, whether a house, chair, figurine, vase or boat, may either be suspended or lie on its own: stability and possibility of suspension may coexist<sup>12</sup>.

The third model, found at Tsangli<sup>13</sup> (south-eastern Thessaly), can, without doubt, be identified as a boat, although its structural characteristics are not easy to interpret. It has an astonishing keel-like device, a hydrodynamic hull and prow, a length/width ratio of only 1,5 (10,2:6,7cm) and an internal transversal separation shaped like a slot receiving a fitted transom (Fig. 2-3).

The Late and Final Neolithic Ages offer even more variation on possible boat types. Since they have already been presented elsewhere<sup>14</sup>, I will simply list them. The artefacts come from Polgar (Vinča C)<sup>15</sup>, Vučedol<sup>16</sup>, Bitola<sup>17</sup> and Suplevec<sup>18</sup> (Pelagonia), Maliq<sup>19</sup> (south-eastern Albania), Osikovo<sup>20</sup> (near Razgrad, Bulgarian Thrace), Drama<sup>21</sup> (near Burgas, Bulgarian Thrace), Otzaki<sup>22</sup>, A. Sophia<sup>23</sup>, possibly Pyrgos<sup>24</sup> and Platia Magoula Zarkou (Fig. 12)<sup>25</sup> (Thessaly) and further away from Cascioarele<sup>26</sup> (Muntenia, Romania). To these should be added a model from Teliš-Redutite<sup>27</sup> (Pleven, Bulgaria). The types include possible dugouts of symmetric (Cascioarele, Pl. Magoula Zarkou, Teliš-Redutite) or asymmetric (Osikovo) form, rather quadrangular (A. Sophia) or ellipsoid transversal sections, mostly ellipsoid longitudinal sections and an unusual anthropo- or zoomorphic end, shaped like a figurehead (Otzaki), fitted transoms (Teliš-Redutite), as well as probable paired logs (Bitola, Maliq). The length/width ratio of those complete models whose measurements are known, could be from 2,02 up to 3,44 or even 5,8 (Osikovo: 22,3: circa 11cm; Otzaki: (estimated) 10:2,9 cm; Pl. Magoula Zarkou: 7:1,2 cm; cf.: Teliš-Redutite: (length) 19,2 cm).

Since some of the more developed types, such as the paired logs or the Tsangli boat, could have been used in the sea, the above mentioned evidence

resulted in the paradoxical conclusion of an Aegean craft, or, at least, Aegean craft models of continental origin. Nonetheless, the problem of the missing link between these primitive continental boats -apparently used in inland waters, rivers or lakes for fishing, water-fowling, crossing, transport of bulky material, people or animals- and the Cycladic sea-going paddled vessels of the Keros-Syros phase of EB II, remains open.

After re-examination<sup>28</sup> of an artefact published in the '30s<sup>29</sup>, we can now move a step forward (or, rather, backwards): a small terracotta model (preserved length 8,8cm, original length not less than 10cm) from the Vth town of Thermi, in the island of Lesbos, dating from the end of EB I or the beginning of EB II, contemporary of Troy I-IIa-c (end of town I or beginning of town IIa-c<sup>30</sup> phase, depending on the accepted chronological system), narrowly precedes the Syros and Naxos longboats. This model presents a distinct "keel" (or central plank) and slightly wavy sides, due apparently to the crude modelling: it is asymmetrical, though unfortunately, the ends are not completely preserved: the hull and "keel" at one of the ends are wider, but at the same time the height of the "keel" itself is smaller; this end clearly rises higher than the other one, at an angle of about 10 to 20 degrees, but we don't know how it ends. The other (broken) end of the "keel", rising very slightly (5 degrees), almost horizontal, is higher but narrower; the gunwale, partly broken, is also clearly narrower on this side, and should actually end here; it leaves the "keel" projecting distinctly. The length/width ratio is 3,82 (according to the preserved length, 8,56: 2,24) and should originally be approximately 4,46 (according to an estimated original length of 10:2,24) (Figs. 4-7, 10).

From the point of view of typology, we have to admit that the Thermi boat model shows similarities with some of the two-dimensional boat representations from the Dorak finds. The latter -their genuineness has often been contested<sup>31</sup> - are supposed to be contemporaries of Thermi II-V (Troy II)<sup>32</sup> and to belong to the neighbouring so-called Yortan culture which is related to Troy<sup>33</sup>. Of course, once more, we have here the famous Cycladic (Korphi t' Aroniou slabs<sup>34</sup>, Syros frying pans<sup>35</sup>) and Cretan (Palaikastro terracotta model<sup>36</sup>) "keel projection"<sup>37</sup>.

If we add the fact that Syros (Kastri settlement) had contacts with the North-East Aegean<sup>38</sup> and the fact that most of the longboats of the "cycladic" type incised on frying-pans come from, or are related to, the Syros (Chalandriani) cemetery<sup>39</sup>, the question remains, whether the Thermi V (Troy II) inhabitants knew the "cycladic" type of boat before, or at the same time, as its presumed inventors.

There is no need of course to discuss the use of the original Thermi boat in the Aegean. The settlement is situated within view of the sea (Fig. 8-9) and the Asia Minor coast is not far away. Relation with sea resources is more than evident here: Fish is consumed and shell occupies an important place in the cuisine<sup>40</sup>. Cultural and commercial exchanges with Troy, Poliochni and the Cyclades have often been discussed. Distances between the latter and the islands of the North-East Aegean can be covered in a relatively short time<sup>41</sup>. When Thermi V was abandoned – since no signs of conflagration or of any other catastrophe mark the end of Town V<sup>42</sup> –, its inhabitants would have left by sea -by boat- presumably towards the south<sup>43</sup>. If longboats have sometimes been considered as more appropriate for warfare and raiding and if other mercantile boat forms may have appeared in the EBA, as it has been argued<sup>44</sup>, perhaps the Thermi boat, rather more modest in size than the longboats, could also have been one of them.

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Boat models have to be considered in relation to other contemporary three-dimensional reduced terracotta representations of man-made structures or humans and animals. In MN and LN this miniature material can be found together in pits, houses, foundation offerings or general domestic context. Relevant evidence on boat models is rare, but the MN Selevac artefact was found in the preserved northern part of a post-hole house (Selevac House 4)<sup>45</sup>, on the Southern edge of feature 23, the latter being clay rubble coming from a wattle-and-daub structure and containing the remains of an oven floor. The preserved post-holes belonged to the northern wall (feature 59) of the house<sup>46</sup> (Fig. 11). In addition to the boat model, an important concentration of material was found at the same time in and around feature 23 and the underlying feature 44 (which is associated with feature 23): ceramic sherds, bone-tools, pieces of copper and copper-ore rock, some clay cones, a clay decorated disk, as well as twenty anthropomorphic figurines and a stool or table model fragment of approximately the same length as the boat<sup>47</sup>. In the Late and Final Neolithic general domestic associations are certain in most cases. Precise associations of boat models, in particular with other miniatures or/and with figurines are however rarely specified, as at C'ascioarele or in an Otzaki pit, but the foundation offering at Platia Magoula Zarkou (beginning of the Late Neolithic) contains a model which could be interpreted as a monoxylous craft, although other alternatives might be more plausible<sup>47bis</sup>. This presumed craft model was also situated near the (model) house oven, as were several figurines and some unidentified models (or figurines) (Fig. 12). It is worth noting this similarity of space disposition between the real Selevac house and the fictive Platia Magoula Zarkou house model.

Besides figurines, neolithic miniature iconography generally comprises subjects from the domestic interior<sup>48</sup>, furniture, vases and fixed structures (such as ovens), boats having rarely been identified. Of course it seems difficult to introduce a boat into a house interior, unless the object, represented at Pl. Magoula Zarkou, which looks like a dugout, is in fact a tool, or if the same shape or the same implement could be used in both ways. One could also argue that the house model did not show the real household and their implements, but rather the miniatures and figurines a real house was fit out with.

In contrast with the above-mentioned situation, the boat model in EBA Thermi was found in the main street, in EA area, in front of the most important houses of the town (group Λ), since they have *antae*, their anteroom is equipped with an unusual platform (Λ 2)<sup>49</sup>, they are situated on the highest point of the site and the street in front of them is paved<sup>50</sup>. Unusually four anthropomorphic figurines or fragments (two heads, a body, a torso) and a miniature bowl have been found in five different rooms<sup>51</sup> in this group. Thermi V (Fig. 8-9, 13) is a fortified<sup>52</sup> proto-urban<sup>53</sup> settlement, with wide streets, free-flowing circulation on the main thoroughfare, itself at right angles with the street leading from the main entrance and gateway to the interior of the town<sup>54</sup>. Thermi has no yards, but the streets become larger in some places<sup>55</sup>. At a short distance from the Λ houses, in the centre of the town, a space (N2) had been paved as a square or market place (Fig. 14)<sup>56</sup>. Three streets (two wide ones and an alley) branch off and lead from this main street towards the sea. Parts of this main street are bare, others are covered with pebbles. It passes in front of open space N2 and reaches the southern gateway. In front of what seem to be the principal buildings in Λ (Fig. 14), it is very well paved with large stones and pebbles. Projecting walls form porches<sup>57</sup> in front of rooms Λ2 and Λ3<sup>58</sup> (called thus “megara”<sup>59</sup>), the anteroom of Λ4 being enclosed by one of the walls of Λ2. These porches must have been open, because the paving of the street extends inside them, at a higher level than the foundation of the walls<sup>60</sup>. Communication with the main street is evident.

Early Bronze Age miniature iconography in general comprises clearly fewer (implement) models than the preceding periods<sup>61</sup>. Relative frequency of boat models is however greater. Besides, models are now distinctly differentiated from the other categories of miniature representations, that is, vases and figurines. Not only have they been found in distinct contexts, but also different settlements are now specialized in the production of specific categories of miniatures<sup>62</sup>. Thermi is one of the exceptional sites, if not unique, in that it specializes in terracotta figurines (phases III-V) as well as miniature vases. Town V has produced a total

of eleven figurines and six miniature vases. The boat model is unique, only one or two other terracotta models (a tool and an unidentified implement) are known from the whole settlement, a fact which makes this boat model all the more striking. Most of the small number of miniatures from all categories, which date from Thermi V and whose context is certain, are concentrated in area A.

In conclusion, when considering miniatures, we may remark that, if boats were modelled in reduced size, in the Neolithic they are probably to be considered as domestic implements. In view of the primarily agricultural economy and family social structure of the neolithic settlements, these boat models were probably related to the land, and consequently survival -food acquisition-, and to the house: house models are often represented open and furnished<sup>63</sup>. One of the models' functions could be magic or prophylactic, as is suggested by the discovery of the Pl. Magoula Zarkou model under the floor of a Thessalian neolithic house. On the other hand, EBA model iconography shows an opening to the exterior of the house, the house models, which are now rarer, are hermetically closed<sup>64</sup>; it also shows a tendency for communication, trade and specialized activities, since the number of boat models increases, miniature tools are more frequent and musicians are carved in marble.

Clearly distinguished from EBA stone or metal offerings in select tombs, as well as from the so-called domestic "cult scenes" of the Neolithic, terracotta miniatures found in EBA streets or squares should, in several cases, attest open-air activities. Proximity of a boat model to important buildings of a proto-urban settlement could hardly be considered as fortuitous. This artifact could have belonged to an important family. Considering these facts, and without excluding other possibilities, its crude execution could possibly be understood if the Thermi boat model had in fact been the toy of a rich child.

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## NOTES

1. Marangou 1991a.
2. Ibidem, p. 24, note 37; cf. p. 28, note 78 about Middle Neolithic boat models.
3. Cf. idem, 1992a, p.2 and idem 1992b.
4. Idem 1992a, pp. 3-4.
5. Earlier (Early Neolithic) boat models of different types come from Central Europe. I am grateful to Dr. O. Höckmann for this personal communication. Greek unpublished material might include Early Neolithic boat models.
6. Vinča; *L'art des Premiers agriculteurs en Serbie*, number 119, p. 117, National Museum of Krusevac, inv. number 41. L/w ratio 19:16 (circa 1, 18).
7. Length: 6,3cm; thickness: 2,2cm (width circa 3cm; L/w ratio circa 2). Tringham et alii 1990, p. 336, pl. 10.5, no (02-1178) and p. 373. Vinča B2, Gradac phase/VinCa-Tordos II.
8. Ibidem, p. 336.
9. Ibidem, p. 325 and 334; cf. Chapman 1981, pp. 122-123 about loom pieces.
10. Tringham et alii 1990, p. 334.
11. Brinkhuizen in Tringham et alii 1990, p. 246. Nonetheless, judging from their quantity, fish remains seem to be of comparatively little importance at Selevac.
12. See, for example, Marangou 1992a, p. 206.
13. Giannopoulos 1910, Fig. 3; Marangou 1991a, pl. IV, VIIb-IXd. Plate no VIIIa of the last paper mistakenly illustrates the same (starboard) side (reversed) as plate no VIIIb; the former should be replaced by Fig. 2 of the present paper, illustrating the port side. Plate no VIIC of the 1991a paper, showing the lower side of the model, has also been reversed. I am grateful to Mrs. Argyroula Indzesiloglou for permission to study this model at the Volos Museum.
14. Marangou 1991a.
15. Gordon Childe 1929, p. 81.
16. Schmidt 1945, pl. 42, Fig. 9.
17. Sanev et alii 1976, no 430.
18. Prendi 1982, p. 42.
19. Prendi 1982, pl. IX, 10-11.
20. Razgrad: *Le Premier Or*, p. 91, no 74; Frey 1991, Fig. 2.
21. Published since by Frey 1991, Fig. 1, 1.
22. Hauptmann and Milošević 1983, pl. 23, no 10.
23. Milošević et alii 1976, pl. 18, no 12.
24. Batziou A. in *Anthropologika* 2 (1981), p. 110, Fig. 1b; cf. Marangou 1991a, p. 23, note 15.
25. Gallis 1985.
26. Stefan 1925, Figs. 18,9 and 26, no 14.
27. Busch 1981, p. 160, no 175; Ellmers 1986; Frey 1991, Fig. 1,2.

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28. I am grateful to the Ephor of Antiquities of Lesbos, Mrs. Aglaia Archontidou, for kindly permitting the study of this model (Mytilini Museum).
29. Lamb 1936, p. 156, no 31.5, pl. XXIV.
30. Naumann 1971, p. 484.
31. For the Dorak treasure, see Podzuweit 1979, p. 72, note 571 for references and a short discussion; see also Basch 1987, pp. 90-93, Figs. 189-190 (particularly nos 2, 8, 10, 14) for the boat representations.
32. Troy IIg according to Podzuweit 1979, p. 72.
33. Kâmil 1982, p. 8 and note 40.
34. Early Cycladic II or III; Doumas 1965, p. 53, Fig. 7, pl. 37a; see also the recent Κυκλαδικός Πολιτισμός, Fig. and no 88, p. 89, EC II-III.
35. Early Cycladic II; Tsountas 1899, pp. 90-91; Coleman 1985; Basch 1987, p. 80ff; Broodbank 1989.
36. Early Minoan II; Bosanquet and Dawkins 1923, p. 7, Fig. 4.
37. For a recent discussion see Basch 1987, pp. 85ff. and Morgan 1988, pp. 135-137.
38. See for instance Stos-Gale et alii 1984, especially p. 31; cf. Doumas 1986.
39. Broodbank 1989, p. 331, 336.
40. A premaxilla of a Wrasse (*Labrus* sp.) and a few vertebrae of more than one species of small shark have been found (Lamb 1936, p. 216).
41. Cf. Broodbank 1989, p. 333, Fig. 6.
42. Lamb 1936, p. 51.
43. According to Doumas 1986, p. 28.
44. Broodbank 1989, pp. 334, 336.
45. Tringham et alii 1990, p. 180, Figs. 4.28, 4.53, pl. 4.30.
46. Some other post holes found in the southern part of house 4, could also have belonged to internal supports of the roof.
47. Preserved length: 6,4; height: 1,3; originally it would be about 13 cm long.
- 47bis. Cf. Marangou 1991a, p. 23-24 and note 24.
48. Marangou 1992a, pp. 166, 171.
49. Lamb 1936, p. 50.
50. Lamb 1936, p. 47.
51. Figurines: rooms 1, 2, 4, anteroom 1; miniature bowl: room 3.
52. Naumann 1971, p. 218.
53. Renfrew 1972, p. 127.
54. Thermi V is a town rather than a village: Naumann 1971, pp. 218, 341, 484.
55. Naumann 1971, p. 341.
56. Lamb 1936, pp. 43, 51.
57. Covered anterooms? (Naumann 1971, p. 337).
58. Naumann 1971, Fig. 450b.
59. Cf. Naumann 1971, p. 340.
60. Lamb 1936, p. 47.
61. Marangou 1992a, p. 171.
62. *Ibidem*.
63. Besides Pl. Magoula Zarkou cf. the Sitagroi III, Thermi and Vassilica (Eastern and Central Macedonia) open house models (Sitagroi: Renfrew et alii 1986, Fig.8.20a, pl. XL 1a-d; Thermi: Marangou 1991b, no MK 9; Vassilica: fragment at the Thessaloniki Museum; I am grateful to Dr. D. Grammenos and Mrs. M. Pappa for granting permission to study the Vassilica and Thermi miniature material).
64. See for instance Zapheiroupolou 1969 = Κυκλαδικός Πολιτισμός, no and Fig. 23, p. 56, a *poros* house model from Melos.

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**ILLUSTRATIONS**

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1. Middle Neolithic model from Selevac (after: Tringham et alii 1990, pl. 10.5)
- 2-3. Middle (?) Neolithic model from Tsangli; port- and starboard side (photos by the author).
- 4-7. Early Bronze Age model from Thermi (photos by the author).
8. Thermi settlement (Town V): watch tower, western gateway and main thoroughfare (after Lamb, W., in BSA XXXI, 1930-31, pl. XXIV, 4).
9. Thermi settlement (Town V): view of southern area and street in  $\Lambda$  (lower left) (after Lamb, W., in BSA XXX, 1928-29 and 1929-30, pl. III, 2).
10. Early Bronze Age model from Thermi (drawings by the author).
11. Selevac House 4, building horizon 77-78: VII, trenches 18/21 and 15 (after Tringham et alii 1990, Fig. 4.28).
12. House model containing figurines and miniatures from Platia Magoula Zarkou (after Gallis 1985, pl. XVb).
13. Thermi Town V (after Naumann 1971, Fig. 67).
14. Thermi Town V, group of houses in  $\Lambda$  (after Lamb 1936, plan 6).

FROM MIDDLE NEOLITHIC TO EARLY BRONZE AGE:  
CONSIDERATION OF EARLY BOAT MODELS.

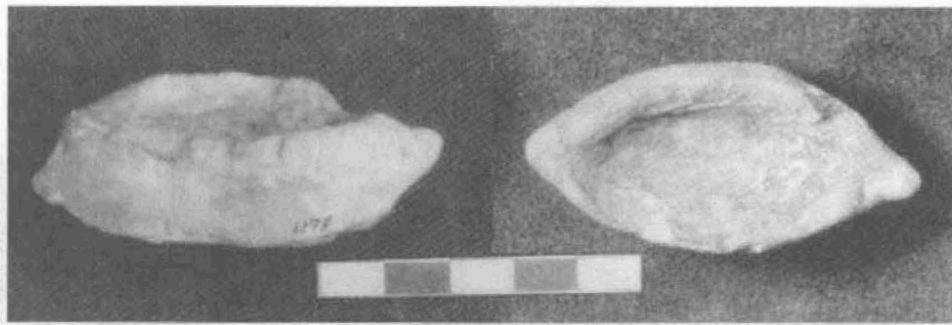


FIG. 1



FIG. 2

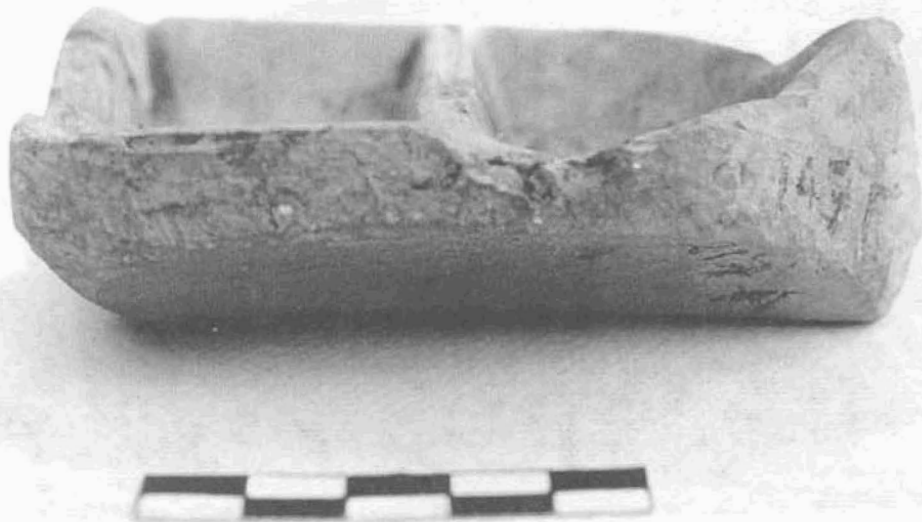


FIG. 3

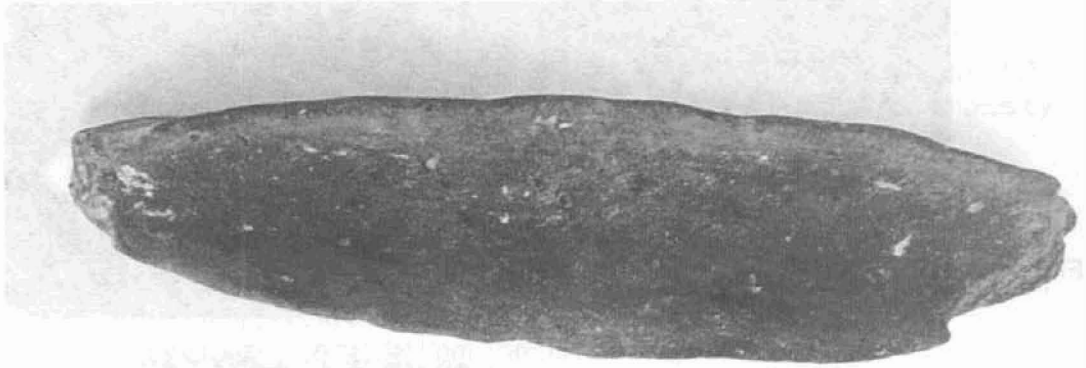


FIG. 4

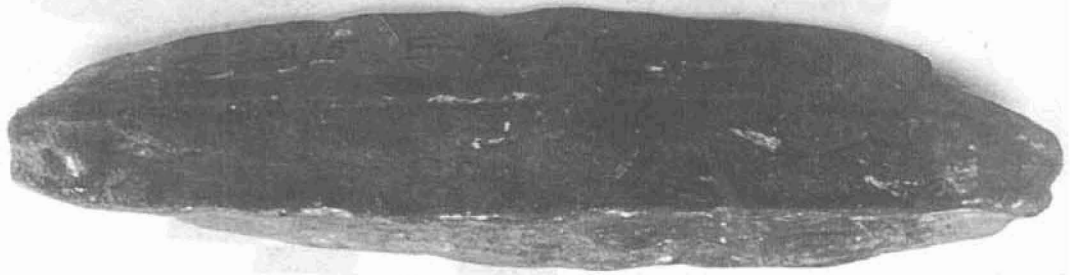


FIG. 5

FIG. 6



FROM MIDDLE NEOLITHIC TO EARLY BRONZE AGE:  
CONSIDERATION OF EARLY BOAT MODELS.

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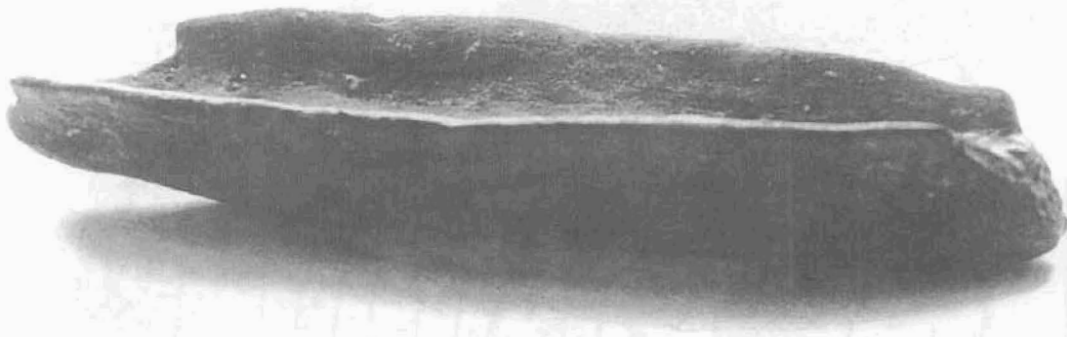


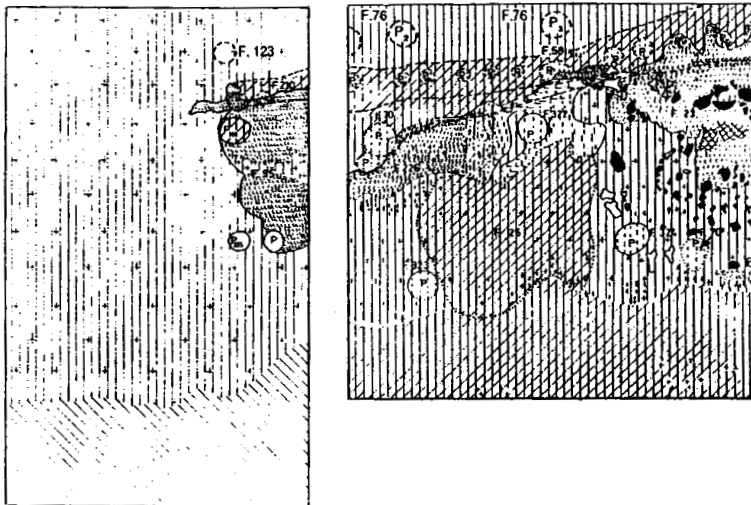
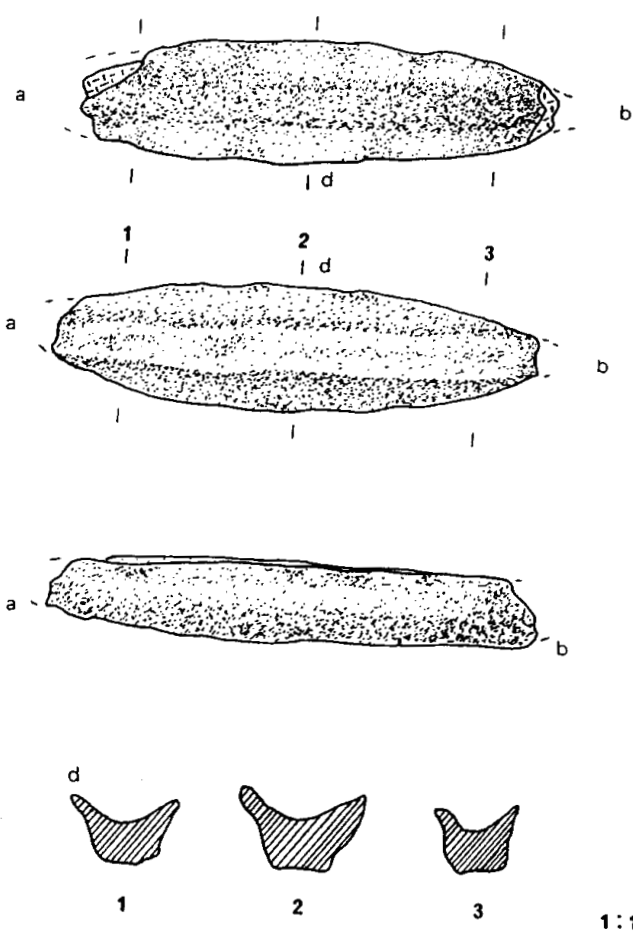
FIG. 7



FIG. 8



FIG. 9



FROM MIDDLE NEOLITHIC TO EARLY BRONZE AGE:  
CONSIDERATION OF EARLY BOAT MODELS.



FIG. 13



FIG. 14