

THE ENIGMA OF THE LONG PLANKS PRE-DYNASTIC BOATS ON THE UPPER NILE

A. Abstract: The most common type of boat in the iconographic repertory of Egyptian Predynastic boats, whether from vase painting, rock drawings, or small size models, is that of a long canoe with as many as fifty paddlers. In more detailed depictions it is clear that two cabins, of shrine type, were located all over the beam of the boats, one behind the other - sometimes even connected by a bridge at their second storey's level. The context of most of these iconographic documents is burials; and the religious ceremonial character of these vessels is quite obvious. Yet there is no reason to believe that the daily riverine vessels of the Amratic and Gerzaean people of the Nile valley were of a different type. This notion creates some difficulty: the type of the hull is undoubtedly fashioned by long timbers, sewn at both ends, with flat floor (much like the later, Papyriform, Royal ship of Cheops). Keeping in mind that this basic hull-form is the one which characterizes the earliest depictions from Upper Egypt, one might wonder how such a hull, so typical for long plank vessels, could originate in a geographical area where no possible source for such timber was available. The only possible source for long timber logs for the Nile valley could have been the Levantine coast of the Mediterranean (as it was all through the Dynastic era). Yet the type is known from Lower Egypt and the Delta region only in the later phase of the Predynastic era. In other words, the part of the Nile Valley which is farthest away from any known source of long, straight tree logs is the one that nourished water vessels characterized by this very type of timber for its construction from the earliest beginnings.

One probable explanation for such a contradiction might be found in the geographic provenance of the civilization that used such boats before its members entered the Nile Valley.

B. The iconographic documentation is the only source of information we have for the type of boats that fared on the Nile during the late prehistoric era. This time-period is known as the Amratic and Gerzaean phases, the last two in the general Predynastic era in the Nile Valley, covering, probably the better part of the fourth millennium B.C. At that period the people of that area had developed a highly complicated agricultural society, based on ever developed central organisation that controlled public works such as irrigation channels, fortified

settlements, military units and international trade in mineral ores, luxurious commodities and probably even timber logs and olive oil (Kantor 1965:6). Towards the mid 4th millennium the so-called Gerzean culture of upper Egypt intensified these foreign trade connections and developed some kind of feudal-like society, which was controlled by a relatively small group of high class privileged people of foreign origin who mastered the mass of peasants (Derry 1956; Emery 1961: 30-31). The rich and densely populated valley of the upper Nile thrived and expanded its political and cultural grasp both toward Nubia in the south (Williams 1980) and toward the people of the so-called Maadian culture in the north, at the Delta region (Hoffman 1979: 149). Such activities demanded an ever intensified nautical activity on the Nile, and judging from the central place river crafts took in Gerzean art, boats were everywhere in the daily life of the communities. Depictions of boats are to be found as a major theme in Rock-drawings outside the Nile valley proper, in upper Egypt, Nubia and even toward the Western desert (Engelmayer 1965; Hofmann 1979:243-8; Winkler 1938:26-7, 35-9). Yet, the main source is the hundreds of painted jars from burials in the Nile valley itself, ranging from Amratic to Late Gerzean period, on which boats are the main decorative feature in most cases (Petrie 1921). In some of these graves there were also clay and wooden models, usually of small, simple boats, that add for us the missing third dimension of the paintings and rock-drawings. The funerary context of most of these iconographic documents seems to be a limiting factor, because in most cases the depicted water craft is clearly of some kind of ceremonial and religious function (Baumgartel 1960: 144-149). Yet, judging from types depicted in rock-drawings and from the close resemblance in hull construction of ceremonial and utilitarian dynastic boats, one might take the available illustration as a relevant source for reconstructing the technical and typological features of the riverine crafts of the predynastic Nile Valley. The most common type of a boat among these painted vases is the so-called "Boomerang shape" (Basch, 1987: 57-60; Kantor 1944: 115; and see Fig. 2). Most of the painted vases depicting this type were found at the upper part of the Nile valley. This is particularly true for the earlier Gerzean and all of the Amratic specimen (S.D. 35-42, and see Petrie 1920, 1939; Landström 1970:12;Figs. 4-11). The features of that type of boat which are common in all the vase paintings are:

1. A shallow curved hull of sided with an even width from end to end. The bow and sterns are terminated diagonally, with their upper part shorter than the bottom end.

2. The superstructures consist of two cabins, sometimes connected by a bridge-like passage (see e.g. Fig.2: A,D,E.). The cabins are depicted with twin "Ears", or arched top poles and their sides covered with mats. In some cases one of the cabins attached to the back of the after one (Fig.2:B) or in front of the fore one (Fig.2:A), or both (Fig.2;e,d).
3. In most cases there is a vertical pole behind the after cabin, topped by a sign. In some cases this sign was omitted (Fig.2:A.c.), and at least in one case there are two different ones on the same boat (Basch 1987: 44, Fig.66). These signs were considered to be protosymbols of Egyptian nomes (Newberry 1914). The claim was that some of these signs of the Pharaonic era, are mostly of nomes of the Delta region. This notion is questioned by later scholars who have pointed out to the missing signs, the double signs on one boat, the fact that depiction of boats with different signs were found in the same burial and the geographical discrepancy between the location of these burial (and rock drawings) and the area suggested for these nomes (Basch 1987: 43, n.4). So, it seems as if the notion that the religious and ceremonial context of these boat depictions is prevailing one might consider these signs as symbols of various deities (Baumgartel 1947: 13, 72).
4. A prominent feature in all the depictions of this type is the tree branch which is placed in a special device at the prow of the boats. This type of decoration was depicted in all the earlier specimen, and became less consistent and more schematic in later, Ptorodynastic depictions. Whether this type of symbolic decoration points out towards some Mesopotamian influence (Arkell 1959; 52-3), or the more convincing arguments for Ethiopian origin (Larsen, 1957), there are no reasons to follow the notion that these branches initiated the use of sails in Egypt (Basch 1987: 49). The more convincing proto-sails can be found among the later Gerzean depictions of a mat fixed on a vertical pole (Landström 1970: 13, Fig. 14), or the hides fixed on a cross form and a pole, as shields (?), depicted on the wall painting from the brick tomb at Hierakonpolis (Quibell and Green 1902, Pl.XXV) and the painted vase for Naqada (Fig. 3).
5. The last device which is shown in most depictions is of a "Broom" (Fig.2: A,B,L.) or a kind of knotted rope, loosely dinged down from the prow (Bowen 1960: 120, Fig.2). The overall repertory of this device might be

considered as a purifying one, keeping the sacred barge, or boat, off any possible floating impurity during its ceremonial sailing.

Most of the depicted boats have multitude of what seems to be oars, usually divided into two groups, leaving the central area between the cabins free. Having no indication for rowing in the Nile Valley prior to the fifth Dynasty period (Clowes 1932: 16) it is quite clear that these oars were used for paddling, as in canoes (Kantor 1944: 118). The grouping of the oars might not indicate an artistic convention of depicting the paddles of two sides of the boat (Clowes 1932: 15), or for better clarity of the scene (Kantor 1944: 119-121). There is at least one depiction that shows the oars of both sides in more accurate way (Fig. 4). Judging also from one of the earlier depictions (Fig. 2:L) it is quite clear that the oars were used by the paddlers only along the free area foreword and behind the cabins, which would fill the entire breadth of the boat (and see the depiction of a bird-eye view of Amratic boat at Landström 1970: 12, Fig.4).

The paddling technique is clearly depicted on the painted linen from El Gebelein (c.f. Bass 1972, 27, Fig.7, and Fig. 5 hereby).

Finally, though this "Boomerang shape" type is characteristic for most of the Gerzean vase painting form Upper Egypt and the only clearly defined type depicted in rock-drawings and painted pottery of the earlier, Amratic era, there are two later iconographic sources for this type. The first one is the painted brick wall from the tomb 100 in Hierakonpolis (Quibell and Green 1902, pl.III), where of six depicted vessels five are of this type (Fig.2:A). It is interesting to note that though this iconographic source is few centuries later than that of the Amratic era (Fig. 2:L), they do not differ much, both in their hull-shape and the upper structures. Unlike the depictions from the painted vases which seem to show only divine figures of deities, this wall painting describes human figures on the boats, probably in more realistic scale. If this is the case the actual length of the white boats from Hierakonpolis was as much as 30m and their height just over 1.5m. The other Protodynastic iconographic source is the famous Gebel el Arak knife (Bénédicté 1916). This flint blade knife has a carved handle which was made of hippopotamus tusk, decorated on both sides in an elaborated protodynastic fashion (Fig.6). On one side there are various wild animals, typical to the mountainous region of both sides of the upper Nile area, including hunting dogs. This side is crowned by a typically Mesopotamian antithetic scene of a hero, with a helmet or hairdress of Sumerian type, controlling two lions.

On the other side there are pairs of combatants fighting each other, with maces, clubs and sticks. All human figures are dressed and look like typical predynastic inhabitants of the Nile Valley. The lower part of that side depicts two groups of boats, with drowning people in the area between them. The two boats of the upper group have been studied and discussed by many. Their close resemblance to boats depicted on contemporary Mesopotamian cylinder seals of Gemdet Nasr style, combined with the antithetic motif on the other side led scholars to consider the decoration as a symbolic depiction of an ethnic, political, or cultural conflict between the two main cradles of civilisations at birth (Emery, 1961:38-9). Others saw it as an indication for ever growing Mesopotamian influence in protodynastic Egypt, coming from the north, via Syria and Palestine (Helck 1962:6-9). Kantor, in her thorough study (1965: 6-17), have tried to incorporate the scenes and motifs within a sequence of sea borne connections between Mesopotamia and the Upper Nile valley via the Red sea, the Indian Ocean and Wadi Hammamat (see Fig.1), starting from sporadic indirect maritime voyages in the Amratic and early Gerzean periods and culminating to a more direct and steady borrowing at the later Gerzean and Protodynastic eras. Lately there was an attempt to re-read these intrusive Mesopotamian elements and to see the Gebel el Arak knife decorations as a depiction of a culture combat between the culture of the Upper Nile (represented by the lower group of boats) and the People of the Delta region, as a phase on the way for a political unification (Hoffman 1979: 340-344). Basch (1978:60) suggests that the Mesopotamian boats on the knife represent the invading "Dynastic Race", which were West semitics that entered Egypt through the Delta. The lower group includes three boats of the same type and double cabins as the "white" boats from Hierakonpolis, though much shorter and with an additional device that looks like a bovine head at the prows of two of them, replacing the traditional branches.

C. Three dimensional models of predynastic boats are not many. Of dozen, or so, found in burials of the period, five are clearly of the "Boomerang Shape" type. The earliest, which is dated to the Amratic, or Early Gerzean era is now at the museum of Berlin (Fig.7). It is composed of two parts, with one end (the prow?) made separately and lashed to the hull after the model was baked. The shape of the hull is symmetric, with two cross benches at either pointed end. Yet, at one side (the prow?) there is additional cross beam, behind the bench, with two narrowing slots towards the boat's tip. Judging from other depictions these slots might been used for insertion of prow branches. There is painted area at midship, similar to the intercabins one on the side of the largest boat from Hierakonpolis

(Fig. 2: A). It is characteristic to the type that the sides of the model are not pointed or tapered off, but somewhat broader than the sides of the midship. The floor is flat and the section is of a U-shape. The length/breadth ratio is 5/1, much smaller than the estimated 12/1 ratio of long riverine canoes.

The next group is of three small clay models found at Naqada and presently on display at the Ashmolean Museum in Oxford (Fig. 8). All three are rather crude flat bottom hulls, similar in shape to the former one, except for one detail - the upper part of both ends had been trimmed, so as to give them a triangular profile, of which the point is the continuation of the curved line of the bottom (see Fig. 6: B).

The last model is one made of wood, from the museum of Cairo (Fig.9). It is similar in shape to the group from Naqada, but much slender, with length/breadth ratio of about 11/1.

All these models represent two facts that should be added to the data about the characteristics of the "Boomerang shape" predynastic boats derived from the paintings and rock drawings: one is the fact that the bottom of that types hull was flat and its cross-section of a U or rather (inverted π) shape, as it kept being in all Egyptian wooden water crafts till the end of the Old Kingdom.

The second and most unusual feature is the adhered sides of the boats on both ends. This unique feature cannot typify canoes that had been derived from a *Monoxyle pirogue* (Landström, 1970: 12-16). It has only one constructive logic - the adhered (swen or stitched) side boards were made of planks, long enough and properly fastened to each other in order to enable the needed curvature. Such a curvature would hardly fit a prototype made of unsewn logs, such as in log rafts (Kapitan, 1987).

D. The Prototypes of the "Boomerang Shape" Boats should had been fashioned by building materials with the affinities of long, flexible wooden planks. Such a conclusion is carefully suggested by Basch (1987: 57, n.19). Yet, if one would take two boards of thin wood and sew them face of face at both ends for about 15% of their total length at each side, and then hold each side in one hand and push inside (and a little upward); the exact replica of a "Boomerang Shape" boat will be produced. One has to cut and shape a spearhead form for the floor, which would maintain the proper curvature of the model, in order to complete the replica.

The question is “how come”?

How come that the typical boat for the upper Nile from the earlier phase of water transportation at that region is characterized by building materials that could not be found there, or even in other nearby areas? From the above described iconographic depictions we know that these “Boomerangs Shape” boats were slim, long canoes, not broad enough for rowing, but paddled in regular canoe propulsion fashion. Such type of a canoe must have been formed along water courses where long, straight tree trunks were at hand, and saws of quality fits for the task were manufactured, in order to cut planks from the tree. Having the offsprings of that alleged prototype depicted at Nubia and Upper Egypt early in the 4th millennium B.C. indicates either:

- a. There were long, straight tree trunks along the upper Nile at that period, or sometimes earlier.
- b. The people of that region came to settle there, from elsewhere bringing with them the tradition and the technical know-how for long plank boats. They most had immigrated from a place where this type of boat would fit the available building material and nautical practice. At their alleged place of origin they must have had saws big enough for slicing tree trunks. This type of saw could had been made of metal, but not as an exclusive choice. The archaeological finds from the prehistoric (Neolithic) settlements of the Nile valley and the Western Sahara include flint saws of size and finesse that might did the job. There was also the alternative of using a composite tool, a saw made of microliths inserted along a bone or stick of hardwood, much like the Neolithic sickles (see e.g. Emery, 1961, pl. 40).

Having no remnants of conifers or other long, straight tree trunks at the vicinity of the Nile valley since the beginning of the Holocene we have to consider the other explanation. This is backed by ideas of many scholars who would look for highly cultural immigrants that allegedly entered the Nile valley during the late 5th and early 4th millennia B.C., triggering the technical and social evolvement of the Amratic and Gerzean cultures and eventually facilitated the unification of Egypt under the Pharaonic regime. Some would consider these invaders to be of dolichocephal race (Negroid? Indo-Arian?) that is documented in Gerzean burials of nobelities in Upper Egypt (Derry 1956). Others would question the validity of anthropomorphic data for such a case and would follow the Mesopotamian connection (Emery 1961: 40; Kantor 1965: 14-17). The antidiffusionists, such as

Renfrew and Kemp would serve for Hoffmans claim for "Almost local" fertilizing immigrants from the "almost farmers" of eastern Sahara (the western desert) and the highlands of the Red Country (Hoffman 1979: 303-5). More problematic in terms of accessibility is the theory about Nubia and even Ethiopia (Adams 1984; Larsen 1957). It is true that there is resemblance between some Gerzean decorations and the aloe plant of Ethiopia (see e.g. Fig.3), but the cataracts and the distances would make it hard to bring down timbers from the Blue Nile. There is also no good geographical candidate for the combination of trees and water courses in East Africa that might evolved the alleged prototype for the "Boomerange Shape" boats.

Eastern Mediterranean provenance is quite tempting one, particularly so since we know of Byblus and the Cilician coasts as the prime sources for timbers into Egypt since the beginning of the Dynastic era. This hypothesis (Basch 1987: 60; Kapitän 1987) cannot be accepted because of two main reasons:

- a. If this type of boat and the people to whom it belonged would have had come to the Nile valley from the north, how come we find their material culture and nautical tradition in the southern part first (and exclusively so for at least half a millennium)?
- b. The technological idea of using canoes for maritime, or riverine transportation was never known in the Levant and would hardly be suitable for its coastal topography.

The last geographic region to be considered as a candidate for being the place of origin for the alleged prototype of the "Boomerang Shape" boats might be looked for in the west, the southern part of the Sahara, lake Chad and further to the West, in the region of the Upper Niger.

As farfetched as it appeared at first, there are score of clues and similarities that make this potential provenance a probable one:

- a. During the time period of the early Holocene (7.000 - 3.000 B.C.) the southern half of the Sahara was much more humid than now. Geomorphological and paleoclimatological studies made a strong case for perennial rivers flowing from the high, rocky plateaus of central Sahara, south to the Greater Lake Chad, south-west to the Great Bend of the Niger, and east, from the Tibesti plateau toward the Nile (Fig. 10). A series of oasis in the Western desert were then incorporated, as agricultural areas within a Park-Savannah landscape (Butzer 1975; Hoffman, 1979: 221-243).

- b. There is archaeological evidence to indicate that pastoral societies actually fared for long distances over the southern line of oasis, from Hoggar, via Tibesti, Gilf Kebir and Nabta, to the upper Nile Valley (McHugh 1971).
- c. There are several similarities between certain traditions of the Pharaonic culture of the Nile Valley and the sub-saharan cultures of the area west of Lake Chad, such as Burnu, Mali and Songhai (Wainright 1949). Among those are the Matrilinear inheritance system and the tradition of ceremonial procession by water, carrying the late chieftains to their afterlife across the river or the lake. As intriguing as such a theory may be, and still in need for much more substantial data to support it, the west African venue is to be tried seriously (Fig. 11).

E. The Earliest Boats in the Southern Mediterranean and the adjacent Aegean archipelagos seem to be somewhat relevant to that enigma of long plank boats on the Nile, from both the conceptual point of view of nautical engineering and from striking similarities in “subsidiary” features. Whether it was a long raft (Kapitan, 1987) or a monoxylon (Basch 1987: 78) that was the early prototype of the lead models from Naxos, they represent a long plank type of a vessel. Basch makes reason in pointing out the revolutionary difference between the two types of canoes when it comes to their usage on high seas (op.cit.). In any case, the tapering raised end of these boats, and their construction by three lead tongues, fixed together in a U shape cross-section, are very much the same concept of engineering as the one we saw in the “Boomerang Shape” boats from Predynastic Egypt (Fig.12).

The group of engraved depictions of boats on the “poëlon” of frying pans from Syros and other Cycladic islands, are of the same general prototype, though with some additional features. The issue of the horizontal prolongation at their lower ends is beside the issue of this paper, but the almost vertical post of the other end and its dinged mat-like device can be compared with the upright prow of the black boat from the painted tomb in Hierakonpolis (Fig. 13) and the water-purging device depicted on many of the “Boomerang Shape” boats (see, e.g. Fig. 2: A.L. and Basch 1987, Fig. 78). It seems as if the zigzag decoration along the sides of some of the “poëlon” boats (Fig. 14: 3,4) might indicate that their boards of planks were sewn by ropes, much like the technique characterized the boats from the Nile Valley.

One might argue against drawing historical conclusions from imaginary iconographic resemblance, but there is still a conceptual paradox: how come long canoes were the type representing the nautical tradition, at least in its archaic, ceremonial context, of the Cycladics, with no remnant of an out-rigger which would be mandatory, if one would attempt sailing on high seas? How come such typically riverine craft is the prototype of the later Greek Longboats (Basch 1987:81). These boats are far from being primitive and would represent continuous technical development in nautical engineering over many centuries (op.cit.). Yet one may wonder where this tradition began?

There are many aspects of Lybian diffusion and even actual artifacts in Neolithic and Early Minoan Crete, as well as on the Greek mainland (see, recently, Bernal 1991: 95-99 for an update summation and bibliography). In the Biblical "Table of Nations" (Genesis, 10) it is Egypt which was the ancestor of the Cretans, from which the Philistines were descended (10,14). All originated from Ham the primeval father of the African nations.

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ILLUSTRATIONS

1. Map of Egypt, showing the distribution of important prehistoric sites (after Kantor, 1965, Fig. 1).
2. Various representations of Predynastic "Boomerang Shape" boats from Upper Egypt (after Kantor 1944, Fig. 3).
3. The decoration of a Gerzean painted vase from the collection of the University College in London (after Bowen 1960, Fig. 4).
4. Rock-drawing of a Gerzean boat from Wadi Abbad in Upper Egypt (after Basch 1987, Fig. 102).
5. The Gerzean boats from the El Gebelein linen cloth (after Bass, 1972, Fig. 7)
6. The decoration of Gebel el Arak knife handle (after Emery 1961, Fig.1).
7. A model of Amratic boat at the Berlin Museum (after Göttlicher and Werner, Taf. VII).
8. Three clay models of Gerzean boats from Naqada (after Basch 1977, Fig. 95).
9. Wooden model of Gerzean boat from Cairo Museum (after Landström, 1970, Fig. 20).
10. The impact of changing climate. Schematic diagram of changing landscapes in Upper Egypt since the Acheulean (after Hoffman, 1979, Fig. 5).
11. Contemporary sailing canoe on the Niger, carrying agricultural products and propelled by square sail near its bow.
12. Lead model of a canoe from Naxos, now at the Ashmolean museum in Oxford (after Basch 1987, Figs. 155,156).
13. The Black Boat from the painted brick tomb at Hierakonpolis (after Bass 1972, Fig.6).
14. Selection of boat depictions from Early Cycladic frying pans.

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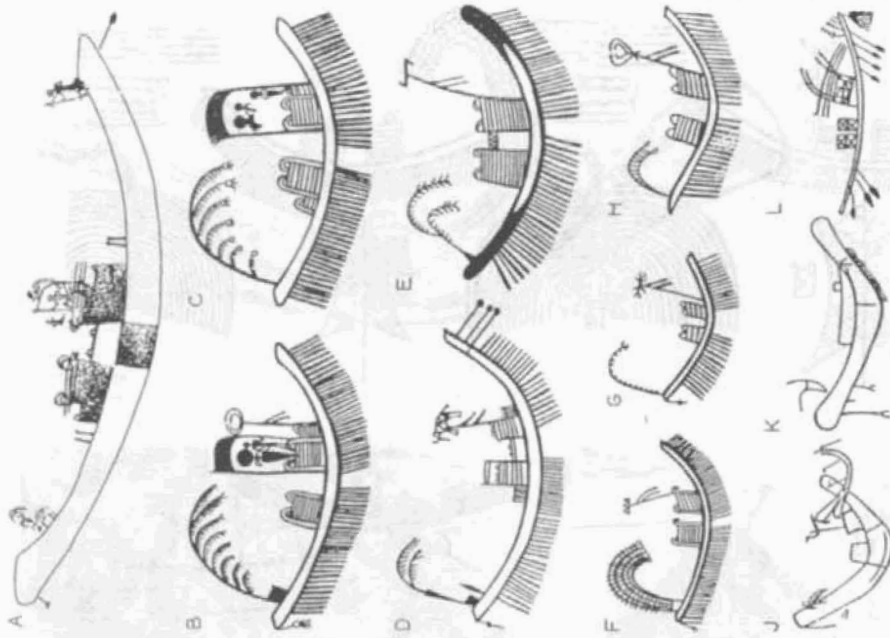


FIG. 2



FIG. 1

○ Sites important in or contemporary with Nar. 1-6
 ● Sites beginning in or contemporary with Ge. 4-6

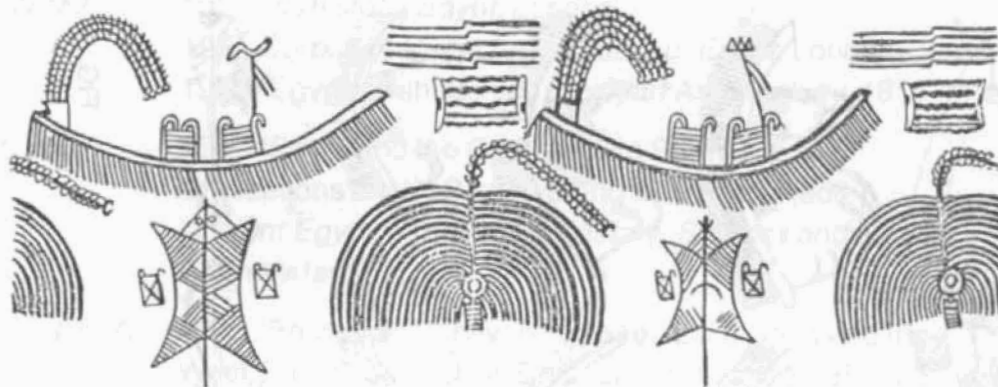


FIG. 3



FIG. 4

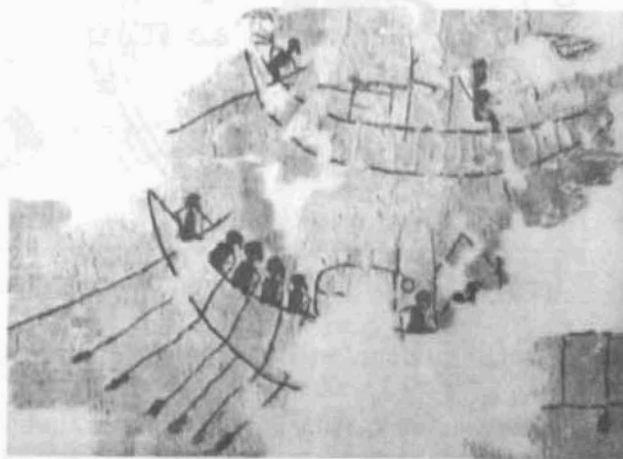


FIG. 5

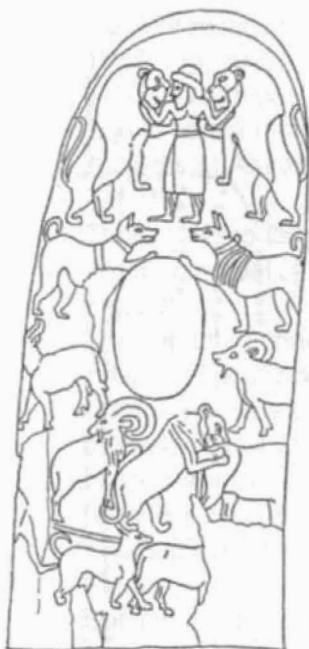


FIG. 6

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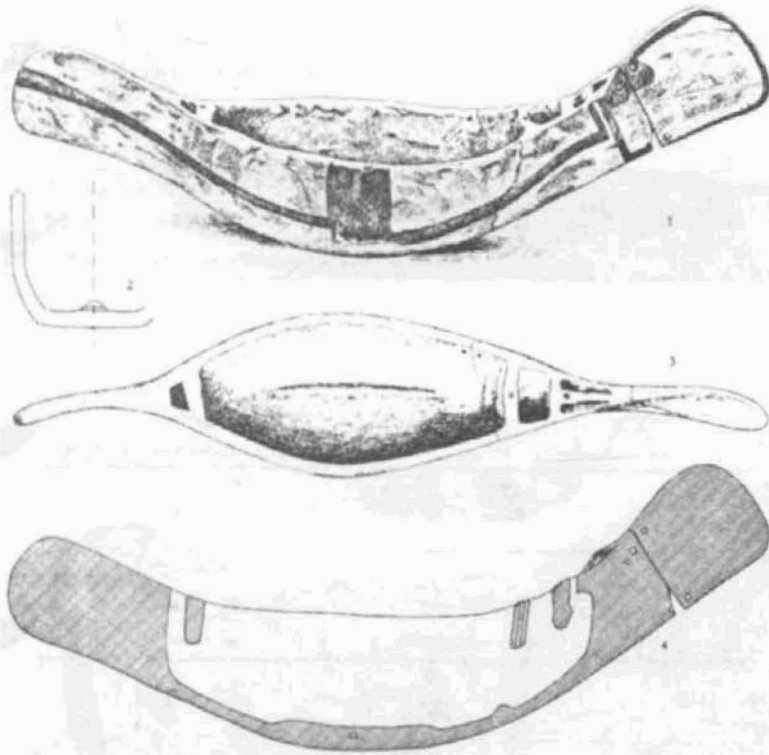


FIG. 7

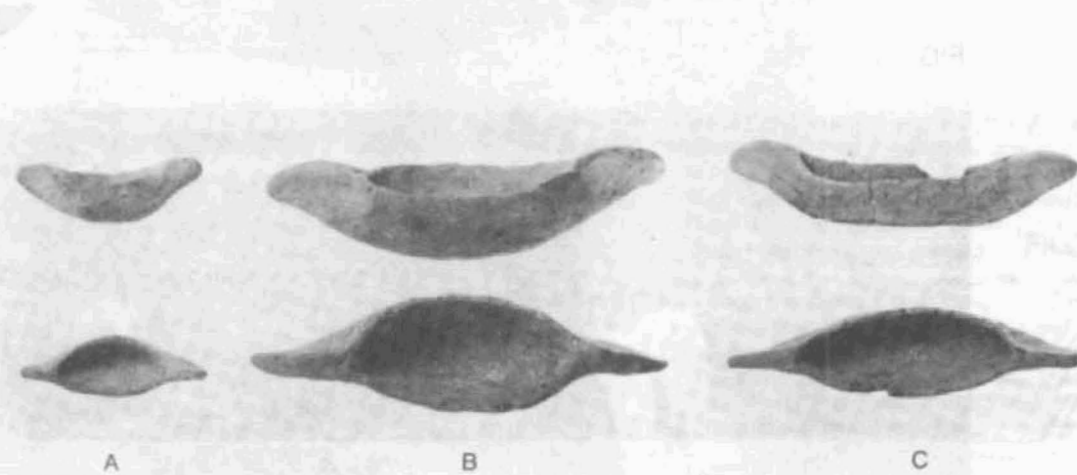


FIG. 8

FIG. 9



FIG. 10

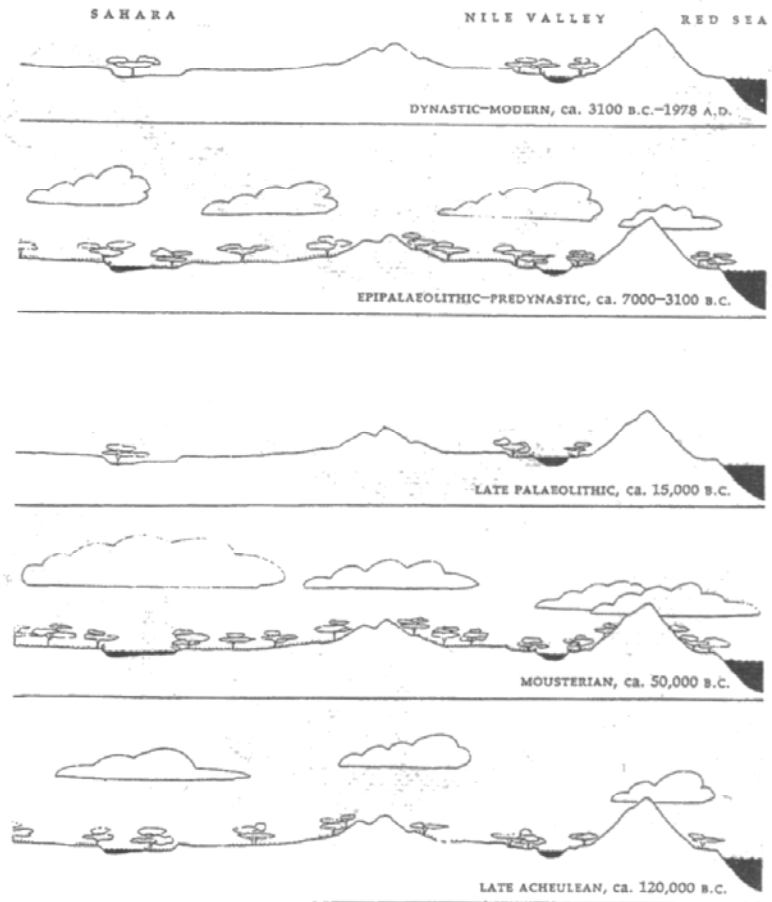


FIG. 11



THE ENIGMA OF THE LONG PLANKS
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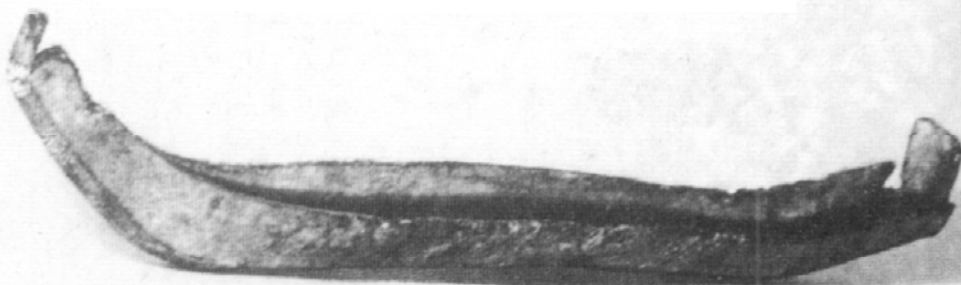


FIG. 12

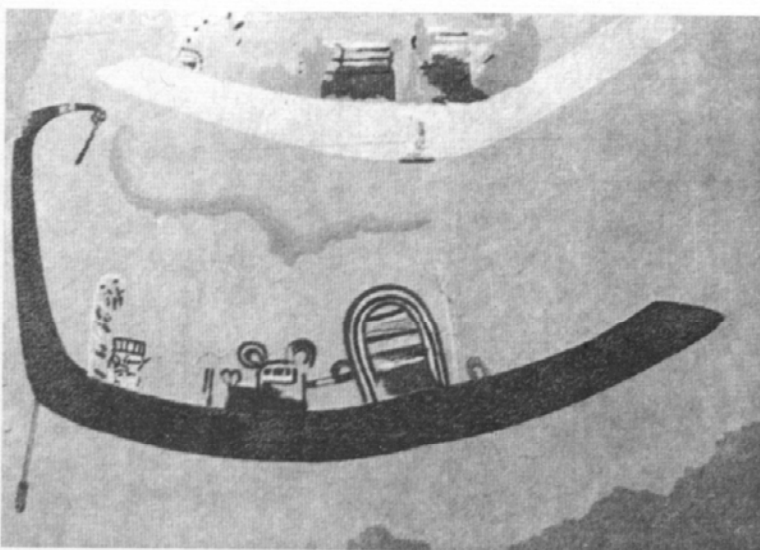


FIG. 13



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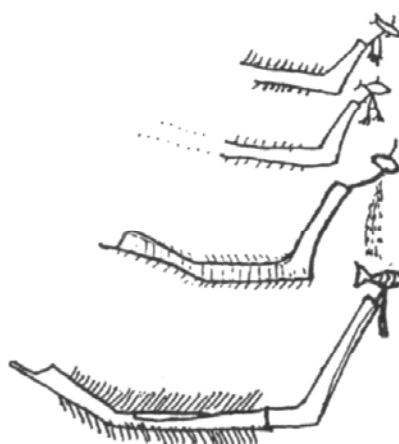


FIG. 14