

BIRD-HEAD DEVICES ON MEDITERRANEAN SHIPS

Introduction

Ten years ago I published a study of the five Sea Peoples' ships depicted in the scene of a naval battle on the outer wall of Ramses III's mortuary temple at Medinet Habu¹. I concluded that the type of Sea Peoples' ship depicted by the Egyptian artists derived from a contemporaneous Helladic galley design illustrated repeatedly in the art of the Late Helladic III B-C periods. This interpretation has been confirmed by the discovery of the most detailed version of this ship type to date, depicted on a krater found at Kynos and discussed at the previous symposium².

One of the most striking elements of these five depictions of the invaders' craft are the water-bird-head devices capping the stem and sternposts of the invaders' ship (Fig. 1). It seemed worthwhile to examine the origins and spread of these bird-head devices.

Little did I imagine at that time the extent of use of water-bird-head devices on Mediterranean craft. I had stumbled, quite inadvertently, onto a subject of considerable depth and breadth to which clearly insufficient scholarly attention had been given in the past. I found that bird-head finials, in a myriad of forms, served as symbolic - and prophylactic - devices on Mediterranean ships, beginning no later than the second millennium.

The bird-head devices that are the hallmark of Roman cargo ships are familiar to us all. These were depicted as a long-necked bird-head stern device, that usually faced outboard (Figs. 2:3:D). On occasion, this stern device faced inboard (Fig. 3:G). Together with these naturalistic representations, an abstract form of a horizontal stern bird-head's device facing inward also appears (Fig. 3:B)³. In the Imperial Roman period a variety of birds make their appearance as stern ornaments on merchant ships (Fig. 3: A, C, E-F).

It transpires, however, that *bird-head devices were also a standard device on warships of the Late Bronze Age, Iron and the Classical period*. Further more, a strong argument may be presented for identifying these bird-head devices as the immediate precursors of two specific devices that appear on Greek and Roman warships - the volute and the apllaston.

Sea Peoples, “bird-head” and the Central European connection

One of the greatest enigmas concerning the Sea Peoples pertain to their origins. The bird-head symbols may be of help in this regard. A connection, difficult to define as it might be, appears to exist between the Sea Peoples and the Urnfield cultures of Central and Eastern Europe. A possible Sea Peoples’ ship, complete with a bird-head stem device with an up-curving beak, that is depicted on a crematory urn from Hama in Syria seems to support this connection (Fig. 4)⁴.

The manner in which the bird-head devices are positioned on the Sea Peoples’ ships at Medinet Habu - facing outboard at stem and stern - invites comparison with the “bird boats” (Vogelbarke) of Central Europe, a connection first noted by Hencken⁵.

Bouzek dates the earliest Central European bird boars to the early Bronze D period (ca. 1250-1200 BC)⁶. These are ornaments from the Somes River at Satu Mare in northern Rumania and from Velem St. Vid in Hungary (Figs. 5-6). An ornament from Grave 1 at Grünwald, Bavaria dates to the Halstatt A 1 period (ca. 12th century BC). (Fig. 7:A). The motif continues to appear on Urnfield and Villanovan art (Figs. 7: B-E, 8-10). Bouzek suggests that a double bird-headed decoration on a Late Helladic III C krater fragment from Tiryns may portray a bird boat, although the painter may not have been aware of what he was depicting (Fig. 11).

Finally, a possible indication of the influence that the beliefs of the newly arrived Sea Peoples mercenaries had on the Egyptians during the Ramesside period is found in the tomb of Ipy where the deceased fowls from a papyrus raft with a bird-head stem decoration (Fig. 12). Bird boat-like craft that appear on two Syro-Palestinian seals of Iron Age date portray a god in a boat (Fig. 13)⁷.

Several Late Helladic III C ship depictions have another element that may be related to European cult iconography. The Skyros ship’s bird-head device has a vertical projection rising from the back of it’s head (Fig. 14)⁸. A similar projection exists on one of the two drawings given by Marinatos for a stem ornament on a ship depiction from Phylakopi, on the island of Melos (Fig. 15: A); in the other depiction the stem ends in a bird-head with a extremely upturned beak identical to the beak of the Skyros ship’s stem device (Fig. 15: B)⁹. This “projection” may represent horns on the bird’s head or a crest. Horned birds and “animal-birds” are known from later European art (Figs. 16-17); bird heads with crests appear in Villanovan art (Figs. 18-19)¹⁰.

Cyclic development of bird-head devices

The key to understanding the different forms - varying from naturalistic to abstract - in which bird-head devices may be depicted in the Mediterranean itself is to be found on ships portrayed on three Cypriot jugs dating to the seventh century BC (Fig. 20). On the first ship (A), a naturalistically depicted bird-head device, complete with eye, caps the stern and faces inboard. In the second ship (B), the bird's eye has disappeared and the head has become stylized. The final, abstract, phase appears on the third craft (C) where the sternpost has become little more than a complex curve. Even if this progression is due to nothing more than the abstraction of the bird head by the artist(s) who created these three ships, the bird-head devices on these ships show a clear and obvious connection.

To judge from the iconographic evidence this cyclic development of the bird-head devices was repeated constantly on ships in antiquity. Natural depictions gave way to stylized representations. These evolved into totally abstract forms that are little more than a curve¹¹. These are repeatedly followed by a "rejuvenating" trend to return to the natural depiction of an actual bird's head.

If only the final, abstract phase of this constantly evolving bird-head form is studied, out of context of the entire cycle, the curved beak of these Mediterranean vessels may - and has been - interpreted as representing a bull's horn or other symbolic figure¹².

Each phase of this cycle blends into the next, and at times, we find two different stages of development on the same ship representation. These bird-head devices may point inboard, outboard, up or down. On the same ship they can appear at both extremities, as on the Sea Peoples' ships, or at only one end. The permutations are nearly endless.

Bird head devices in the Late Bronze Age

Bird-head devices on Mediterranean craft seem at present to have originated in the Aegean. The earliest known example of a bird-head device is on a fragment of a Middle Helladic ship depiction from Aegina (Fig. 21).

Ornaments representing entire birds also appear on the stems of ships, beginning in the 13th century and continuing down into Geometric times. One such device appears on the stem of a Late Helladic III B ship depiction from Enkomi (Fig. 22: A). The device on the stem of the Tragana ship, long thought to be a fish, has been demonstrated by Korrés to be a bird with upturned beak (B)¹³. These

birds and bird-head devices clearly represent the same type(s) of water-bird commonly depicted on contemporaneous Mycenaean and Philistine pottery¹⁴.

Homeric “beaked ships” and bird-head devices in the Iron Age

During the Geometric period bird-devices are, on occasion, affixed to the stem and sternposts of warships (Fig. 22: C-D, 31: C). Slightly later, in the Archaic period, birds appear at the bow and stern of a galley (Fig. 23). Devices in the form of bona fide birds are known both from antiquity (for example, the Minoan swallow device), as well as from modern ethnographic parallels (Figs. 24-26)¹⁵.

During the Late Bronze Age the bird/bird-head device was normally stationed on the stem and faced outboard, as for example the devices on the Gazi, Skyros and Kynos ships and a Late Helladic III C terra-cotta ship model from Tiryns (Figs. 14, 27, 42: A, C-D)¹⁶.

By the 12th century the number, the direction, and the position of the bird-head devices began to vary on ships. At Medinet Habu, they appear for the first time - on a depiction of a seagoing ship - at the stern facing outboard (Fig. 1)¹⁷. The earliest-known bird-head device facing inboard appears on a Late Cypriot III askos/ship model (Fig. 28)¹⁸.

During the Protogeometric period, the bird's long, up-curving beak becomes the center of attention. The bird's head itself virtually disappears as, for example, on the Fortetsa ships, as well as on a ship painted on a krater from Dirmil, Turkey (Fig. 30)¹⁹. This continues a propensity to recurve the device's beak, a feature that had already become visible in the 12th century BC. The Fortetsa devices find their closest parallels on a ship depiction from Kynos (Fig. 42: C). In Figure 30:A the devices from the latter are placed on either side of the Fortetsa ship for comparison (see also Figs. 14, 22: B, 42: B, D).

Homer describes his warships as being “beaked” or “crook-beaked”²⁰. A similar word is the name of a seabird, perhaps a shearwater²¹. This term describes accurately the stylized/abstract bird-head devices, facing inboard from both the stem and sternposts that were popular in the Geometric period. In these devices emphasis was placed on the bird's beak. The devices on the warship-shaped fire-dogs from Argos are indeed sufficiently naturalistic so that the bird's head and beak may be differentiated (Fig. 31: A). In other Geometric ship representations, the head-beak has become one continuous curve (Fig. 31: B-C). Compare these to the abstract bird-head device capping the stern of the ship in Figure 20: C. The

naturalistic, regenerating phase of the bird-head stem device appears on depictions of galleys dated to the last quarter of the 8th century BC (Fig. 32).

The stem device is usually portrayed horizontally and faces backward, toward the stern. A slight angle may differentiate the “head” from the beak (Fig. 33: D). More often, the device appears as one continuous compound curve. At times the stem ornament is shown in outline and filled with a hatched decoration (Figs. 31: B; 33: C)²². Earlier this motif appeared on a device from Kynos (Fig. 42: D).

The stem device on one Geometric galley begins in an inward-facing abstract bird-head; but it then recurves, copying the throat and head of a long-necked bird that stands in front of it (Fig. 33: C). This phenomenon is repeated later on an Archaic bronze fibula (Fig. 23).

By the 8th century the water bird-head device had ceased to be solely a Helladic tradition. A Phoenician warship, depicted in a relief from Karatepe, has an inboard-facing bird-head as a stern device (Fig. 34)²³. Here, the naturally depicted head, complete with eye, is differentiated from the beak by a vertical line. Approximately contemporaneous to this is an early-7th-century Archaic ship whose stern terminates in a naturalistic inboard-facing bird-head device (Fig. 35)²⁴. The beak is spoon shaped, as if seen from above.

During the 7th-5th centuries, the bird-head stem device is less common on Greek galleys. When it does appear it faces inboard with the beak positioned vertically (Fig. 36). At times, the beak is recurved over the bow, replicating a bird-head device like that on the Skyros ship placed on its back (Figs. 36: B, 14). The devices vary from smooth (Fig. 36: A-B) to angular (C). In the latter case, the head is differentiated from the beak. This vertical bird-head is rare in later times, although its appearance on a small 2nd-century-BC craft indicates that the form is latent - but not forgotten (D).

During the 7th and 6th centuries, the stern device on Greek warships also undergoes a metamorphosis. The vertical, abstract bird head is rarely depicted (Fig. 37: B). The bird-head is now more often shown in a naturalistic manner, the eye and beak often differentiated. The heads face inboard and downward, but are shortened and recurve strongly, forming the outline of a volute (Fig. 37: A, C-D). A progression of Archaic bird-head stern devices dating to the 7th and 6th centuries illustrates how the volute may have developed from this particular form of bird-head device (Fig. 38). In other ships of this time, the sternpost bird-head device adopts a more angular shape and points downwards (Fig. 39).

The *aphlaston*

Appearing first in its developed form in the 5th century BC, the *aphlaston* became the hallmark of warships in the Classical, Hellenistic and Roman periods. It did not appear suddenly from the void. The *aphlaston* is best understood as a developed form of an abstract bird-head with multiple beaks facing inward from the stern. In the *aphlaston* the bird's eye was enlarged and became the so-called "shield" that normally appears at the base of the *aphlaston* (Fig. 40: B-C). An ethnographic parallel to this phenomenon is seen on a stem device in the form of an abstract frigate bird-head used to the Solima canoes of the Solomon Islands (Fig. 41)²⁵.

On Geometric galleys several strike ends sometimes project from the curving stem and sternposts (Figs. 22: D, 31: B-C, 33: B)²⁶. As this is not due to a technical problem, the planks were evidently left to spring free for a reason. Similarly, in the 6th century, a second, abstract bird-head is sometimes depicted above the naturalistically depicted one [Figs. 37: (A?), C, 38: B-C(D?)]. Both of these phenomena may have led to the introduction of a multiple-beaked bird-head device.

Alternately, the *aphlaston* may have derived from the protuberances jutting from the upper or lower edges of the bird-head devices' beak and head. These items appear first in the 13th century on the Gazi ship (Fig. 42: A). In the 12th century they appear on the ship depictions from Tragana and Kynos (Fig. 42: B-E). In the Enkomi ship the protuberances are found on the inner face of the stem (Fig. 22: A). Horizontal lines, apparently representative of the same items, are painted on the stems of Helladic terra-cotta models ship (Fig. 27-28)²⁷. In the seventh century BC, an identical set of lines appears on the lower edge of an inboard-facing bird-head device with a highly recurved, vertical beak (Figs. 20: C, 43).

Due to the limited size of the depictions, the protuberances comprise little more than lines or dots. Thus, the identity of these protuberances remains uncertain. Perhaps they represent rows of tiny bird-head ornaments affixed to the decorative devices surmounting the posts similar to the one nestling in the crook of a stern ornament on a Greek 5th century galley (Fig. 40: A).

Why multiply the bird's beak? This is best understood as a strengthening of the device's prophylactic power. Broodbank, in his study of ships on Cycladic "frying pans", notes that in primitive societies, the doubling of motifs must be read

not as a numerical duplication, but as a doubling of the power and attribute of the image²⁸.

Ethnological parallels of the recent past are useful when trying to understand this phenomenon. Bird-head devices were used on the New Hebrides island of Atchin. The large seagoing canoes have devices at both stem and stern (Fig. 26: A); the smaller coastal canoes carry the device at the stem only (B). These devices appear in two forms, with one head or with a double head. Haddon notes:²⁹

The figurehead (*solub*) is lashed on the fore end of the hull of the smaller canoes. In the ordinary bird figurehead (*solub e res*), to which anyone has the right without payment, the slit, representing the mouth of the beak, ends at the first bend (Fig. 44: A). A figurehead in which the slit is continued down the neck is called *solub wok-wak* (Figs. 44: B-C) and the right to this has to be bought from someone already possessing one. When a man gets on in years he feels the need of something superior to a plain *solub wok-wak* on his everyday canoe. He then goes to one whose figurehead is decorated with a pig or other figure and after having arranged a price one of the parties to the negotiation will make a copy of it. There is a third type (*solub war*) which resembles the *solub wok-wak* except that the tip of the under beak is reflected over the upper beak, doubtless to represent a deformed boar's tusk, hence its name.

In the *solub wok-wak* the single bird head of the *solub e res* has evolved into two separate bird heads. The multiplication of the beak enhances the value of the *solub wok-wak*. A similar phenomenon may have taken place in the ancient Mediterranean.

Clearly these bird-head images were not attached to ships because they were considered aesthetically beautiful, but rather for the magical properties with which they were thought to invest the craft³⁰. The multiplication of the bird's beak may have been perceived as strengthening the protective magic of the device's deity.

The significance of the bird head

What significance did the ubiquitous bird-head device, in its many forms, have for the ancient mariner? Hornell, in discussing the tutelary deity of Indian ships, describes most clearly the basic need that primitive man felt for a prophylactic presence to guard his craft:³¹

Among Hindu fishermen and seafaring folk in India and the north of Ceylon numerous instances occur indicative of a belief in the expediency of creating an intimate association between a protective deity and the craft which they use, be it catamaran, canoe or sailing coaster. The strength of this belief varies within wide limits; occasionally it is articulate and definite; more often it is vague and ill-defined, often degenerating to a level where the implications of the old ceremonies are largely or even entirely forgotten. In the last category the boat folk continue to practise some fragmentary feature of the old ritual for no better reason than the belief that by so doing they will ensure good luck for their ventures and voyages, a belief usually linked with a dread of being overlooked by the "evil eye".

Outside of India similar beliefs were probably widespread in ancient times; to-day shadowy vestiges remain here and there, their survival due mainly to a traditional belief, sometimes strong, sometimes weak, in their efficacy to ensure good fortune or to counteract the baleful glance of the mischief minded.

Ethnological parallels suggest that devices mounted at the stem and stern were intended to endow the ship with a life of its own. Bishop, in describing the dragon-boats of south-eastern Asia, notes that the practise of attaching the carved head, and sometimes the tail, of a dragon, to these craft prior to ceremonial races originated in the belief that the devices magically transformed the boats into the creatures they represent³².

This concept of the ship having a life of its own is illustrated by a ceremony reported by Hornell³³. The Hindu ships that traded between the Coromandel Coast and the north of Sri Lanka had *oculi* carved on either side of the prow. The final rite prior to the launching of a new ship was termed "the opening of the eye". This was meant to endow the boat with sentient life and constituted it the vehicle of the protective goddess. The goddess would live in, and protect, the ship during sea voyages. The protective entity was thus installed in the craft, her individuality being merged with it. In India the protective deity is nearly always feminine. Hornell writes³⁴:

By this association of the boat with a female deity, the identity and sex of the protectress are merged with those of the boat itself; as we may infer that many other peoples have reasoned and acted similarly, this may explain the fact that ships are generally considered as feminine³⁵.

Returning now to the Mediterranean water bird-head device, it is worth pondering the identity of the deity which the device represented. It seems likely that it was a female deity³⁶. Of particular interest in this connection is a Protovillanovan Type O European bronze razor from Italy, dated ca. the 9th century BC (Fig. 45). The razor, of unknown provenience, is in the abstract form of a female idol. Its head is formed by the handle of the razor; the neck is decorated. A double-axe, serving as a central motif, is decorated by a mirror-image figure with arms formed of bird-boats with inward-facing bird-heads³⁷. Additional figures are positioned within the two cavities of the double-axe. These have legs made of bird boats with outboard and downward-facing bird-heads. Four additional water birds nestle at the corners of the figure³⁸. In this case the symbolism strongly suggests that the bird-boat is symbolic of a female deity.

Modern manifestations of bird-head and bird-boats

We have followed the development of bird-head devices in the Mediterranean down to the Roman period. Bird-head devices continued to be in use into the latter part of the sixth century AD, when a Nile vessel is described as “wild-goose-sterned”³⁹. Presumably, they did not cease at that time, however. Indeed, decorative devices reminiscent of bird heads, and bird boats, are still found today.

In present-day Greece devices capping the sternposts of some fishing boats are sometimes bird-head shaped (Fig. 46: A). On occasion the “beaks” of these ornaments are multiplied in a manner reminiscent of the *aphlaston* (B). Similarly, “bird-boat”-like ornaments have been recorded on modern-day Indian craft, as witnessed by Hornell’s drawing of the decorated bow of a Ganges River cargo boat at Benares (Fig. 47). The same design in a degenerated form is recorded on the bow of a *kalla dhoni* recorded at Point Calimere, South India (Fig. 48). The relationship, if any does indeed exist, of these modern decorative motifs to the bird-head devices of antiquity remains to be determined.

Finally, what are we to make of this curious ship, sighted and described by W.J. Childes in this century?⁴⁰.

A sight of this kind I watched one summer evening on the coast of the Black Sea, when a long boat, whose bow was shaped like a swan’s breast, put off from the shore. Her stern projected above the hull and was curved into a form resembling roughly the head and neck of a bird preparing to strike. Upon the mast, hanging from a horizontal yard, was set a single broad square-sail, and under the arching

foot could be seen the black heads of rowers, five or six men on either side, and a bare-legged steersman placed high above them in the stern.

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D. From Este, Italy. Este II (=Villanovan II).
After Hencken 1968: 516 fig. 478: a, b, e, and g.
10. Terra-cotta ship models of the Villanovan Culture bearing bird's-head insignia facing outward at stem and stern (A) or at stem alone (B and C). First half of first millennium BC.
After Göttlicher 1978: Taf. 35: 460 (after Montelius), 461 and 469.
11. "Bird-boat" painted on a krater sherd from Tiryns. Late Helladic III C.
After Bouzek 1985: 177 fig. 88:6.
12. Duck headed papyrus raft. Tomb of Ipy (T.217). Ramses II.
After Davies 1927: XXX.
13. A. Seal with a deity in a boat with bird-head ornaments. Ibid.
B. Seal of Elishama' son of Gedalyahu with motif similar to A.
A after Culican 1970: 29 fig. 1:d. B after Tushingham 1971: 23.
14. Crested or horned bird-head device on the stem of the Skyros ship depiction. Late Helladic III C.
After Sandars 1985: 130.
15. Marinatos' two versions of the stem device on a ship depicted on sherds from the site of Phylakopi on Melos. Late Helladic III C.
After Marinatos 1933: pl. XIII: 16 and 219 fig. 10.
16. Horned animal-bird figures.
A. From Vienna-Vösendorf. Halstatt A.
B. From Čicarovče, Slovakia. Halstatt B or C.
After Hencken 1968: 521 fig. 480: c,f.
17. Horned bird figure. Greece, provenience unknown. Geometric period.
After Hencken 1968: 523 fig. 481: f.
18. A. Bird-head insignia on the stem of a terra-cotta ship model from Monterozzi. Villanovan I-II.
B. Crested bird-heads on a double-headed bird boat ornament on a bronze vessel from Impiccato, Grave I. Villanovan IC.
A after Göttlicher 1978: Taf. 34: 447. B after Hencken 1968: 119 fig. 108: c.
19. Birds decorating a bronze girdle from Monterozzi. Undated.
After Hencken 1968: 270 fig. 252:a (after Montelius 1904).
20. Ships depicted on 7th-century BC Cypriot jugs illustrate the progressive

- transformation of a naturalistic bird head (A) to a stylized (B), and then abstract (C) sternpost device.
After Karageorghis and des Gagniers 1974: 122-123 nos. XI: 2, 3, 1.
21. Ship depicted on sherds from Aegina bears a bird-head stem device. Middle Helladic.
After Buchholz and Karageorghis 1973: 301 fig. 869.
 22. Ship devices in the form of birds:
A. Bird stem - ornament on a ship krater from Enkomi. Late Helladic III B.
B. Ship's bird stem - ornament on a pyxis from Tragana. Late Helladic III C.
C. Bird ornament on the stem of a ship depicted on a Geometric Attic skyphos. Ca. 735-710 BC.
D. Bird ornament portrayed twice on the sternpost of the same ship portrayed on a Geometric Attic krater. Ca. 735-710 BC.
A after Sjöqvist 1940: fig 20:3. B after Korrés 1989: 200 C-D after Casson 1971: 30, 65-66.
 23. Birds on the stem and sternposts of an Archaic galley. Note how the shape of the stem device imitates the bird's head and neck. Ca. 700-650 BC.
After Morrison and Williams 1968: pl. 8: d.
 24. A. Stem decoration from Walckenaer Bay, Netherlands Papua.
B. Side view of a small canoe with bird device from Papua.
C. Ornaments on a Ora canoe from the Solomon Islands.
D. Figurehead of an Arab ganja.
A-C after Haddon 1937: 317 fig. 180: a, 316 fig. 179: c, 88 fig. 59: a.
D after Hornell 1970: 236 fig. 46.
 25. A. Bird-head decorations on a small canoe from Papua.
B. Bow of a seagoing outrigger canoe (nimbembew). South-western Maleluka, New Hebrides.
After Haddon 1937: 316 fig. 179: a, 22 fig. 12.
 26. Canoes of Atchin, New Hebrides.
A. Large seagoing canoe with ordinary, single beaked solub e res figureheads.
B. Coastal canoe with double bird-head solub wok wak figurehead.
After Haddon 1937: 27 fig. 15: b, a.
 27. Terra-cotta ship model from Tiryns. Late Helladic III B.
After Kilian 1988: 140 fig. 37: 8.
 28. Askos in the form of a ship, from Lapithos. A bird-head ornament tops the stem and faces inward, toward the stern. Late Cypriot III.
After Göttlicher 1978: Taf. 9: 149.
 29. Bird-head stem of sternpost ornament of a ship model. From Maroni, Tomb 17, Cyprus. Late Helladic IIIA: 2.
After Johnson 1980: pl. LXIII: 132.
 30. A. One of two ships depicted on a Protogeometric krater from Fortetsa, Crete. The bird-head devices capping the stem and sternpost are compared to the device on one of the Kynos ships (see Figure 42: C).
B. Ship painted on a Protogeometric krater from Dirmil, Turkey.
A after Kirk 1949: 119 fig. 6. B after van Doorninck 1982B: 279 fig. 3.

31. Abstract bird-head ornaments in the form of a compound curve topping the stem and sternposts of representations of Geometric warships. 8th century BC.
A after Gottlicher 1978: Taf. 25: 338-339. B-C after Casson 1971: figs. 72 and 65.
32. Bird-head stem ornament on a Geometric aphract galley. Ca. 725-700 BC. After Casson 1971: fig. 64.
33.
 - A. Bird in front of Geometric galley on an Attic krater. Ca. 760-735 BC.
 - B. Bird behind a Geometric galley on the same krater.
 - C. Long-necked bird before the bow of a Geometric galley. The ship's stem device copies the shape of the bird's head and neck. Ca. 735-710 BC.
 - D. Galley with stem and stern decorations in the shape of abstract birds' heads. Ca. 760-735 BC.
 A and B after Morrison and Williams 1968: pl. 2: c-d; C and D after Casson 1971: 74 and 62.
34. Bird-head stern device on a ship depicted on an orthostat from Karatepe, Turkey. Ca. 700 BC.
After De Vries and Katzev 1972: 55 fig. 6.
35. Bird-head decoration on an Archaic galley. Ca. 700-650 BC.
After Morrison and Williams 1968: pl. 8: b.
36. A-C. Abstract bird-head stem decorations on Greek warships. A ca. 510 BC; B ca. 520-480 BC; ca. 400-322 BC. The device on ship B is compared to the bird-head device on the stem of the Skyros ship (see Figure 14).
D. Abstract bird-head stem decoration ca. 2nd century BC.
A and C after Morrison and Williams 1968: pls. 20: e, 27: a. B and D after Casson 1971: figs. 84, 176.
37. A. Bird-head stern decorations on Greek warships. Ca 530-480 BC.
B. Stern of an Archaic galley on an ivory plaque from the Temple of Artemis Orthia in Sparta. Ca. 650-600 BC.
C-D. Stern decoration on archaic Attic black-figure (C) volute krater and (D) hydria. Ca. 600-550 BC.
A after Casson 1971: fig. 90. B-D after Morrison and Williams 1968: pls. 10: d, 11: a, d.
38. Sixth-century BC stern decorations on Archaic galleys in the form of a bird's head develop into an inward curving stern volute. A-D ca. 550-530 BC; E-H ca. 530-510 BC; I ca. 510 BC.
After Morrison and Williams 1968: pls. 14: g, 13, 14: b, a; 17: d, c, a, e; 18: d.
39. Sixth-century BC stern bird-head devices on Archaic galleys. Note that in C the device has developed into an inward curving volute. A-B ca. 510 BC; C - D ca. 520-480 BC; E ca. 530-480 BC. F ca. 600-550 BC.
A to E after Morrison and Williams 1968: pls. 18: a, b; 21: b, d; 16: c; F after Casson 1971: fig. 83:
40. *Aphlasta* on Greek and Roman warships. A ca. 480-400 BC. B ca. 200 BC. ca. 2nd century AD. A after Morrison and Williams 1968: pl. 26: a. B-C after Casson

- 1971: figs. 108, 114.
41. Bow device of a *Solima* canoe in the form of an abstract frigate bird and other motives. Solomon Islands.
After Haddon 1937: 88 fig. 59: b.
42. Bird, or bird-head, devices with numerous projections extending out from the upper or lower surfaces. These projections have no structural purpose.
A. Bird-head on ship painted on the Gazi larnax. Late Minoan III B.
B. Head of bird device on the bow of a warship depicted on a pyxis from Tragana. Late Helladic III C.
C-D. Bird-head stem devices on ship depictions from Kynos. Late Helladic III C.
E. Stem of ship from Kynos. The stem's upper part is missing but the beginning of a curve and the protuberances on the stem's inboard side indicate that it was originally capped by a bird-head. Late Helladic III C.
A after photo by S. Wachsmann. B after Korr s 1989: 200. C-E after photos courtesy F. Dakoronia.
43. A row of protuberances appear on the lower (inboard) part of the beak of a bird-head stem ornament of a 7th-century BC ship depiction on a jug from Cyprus.
After Frost 1963: monochrome pl. 7 (opp. p. 54).
44. A. Single beaked solub e res figurehead.
B. Double bird-head solub wok wak figurehead.
C. Solub wok wak figurehead with a pig.
After Haddon 1937: 28 fig. 16: a-c.
45. Bronze razor in the abstract form of a female idol. The head is formed by the razor's handle; the neck is decorated. Embellishments include a double-axe decoration, water birds and anthropomorphic figures with arms and legs formed from "bird-boats". From Italy, provenance unknown.
After Bouzek 1985: 216 fig. 103: 11.
46. Stern devices on modern Greek boats at Ayia Galini, Crete. Photos taken 1980.
Photos: S. Wachsmann.
47. A. Decorated bow of Ganges River cargo boats, Benares.
B. Detail of inverted bird-boat-like ornament.
After Hornell 1970: 279 fig. 68.
48. A. Bow of a kalla dhoni with an abstract bird-boat-like ornament. Point Calimere, South India.
B. Detail of the ornament.
After Hornell 1970: 272 fig. 67.

NOTES

1. Wachsmann 1981; 1982. See also Wachsmann 1995: 25-33; in press A; in press B.
2. Dakoronia 1990: 122 fig. 2; 1995.
3. Casson (1971: 348 and fig. 147-center) identifies this as a "pennant on a short pole socketed into the top of the stempost". This is not a ship's light in the form of a torch. While ships carried lights in their stern, these were placed in lanterns (Casson 1971: 247-248 ns. 91-92).

4. Wachsmann 1981: 205-206, with additional bibliography listed there.
5. Hencken 1968: 568-570, 627. De Boer (1991) suggests a possible Thracian connection for the Sea Peoples.
6. Bouzek 1985: 178. The Br D may be somewhat higher than previously thought (Bouzek 1994: 217).
7. Culican 1970; Tushingham 1971.
8. Hencken 1968: 537 fig. 486.
9. Marinatos 1933: 173 no. 16 and fn. 1, 218-219. These sherds have been lost.
10. Hencken 1968: 519-531.
11. In Figures 30-31, 33: D, 36: A, C-D and 37: B, which depict ships with abstract bird-head devices, I have included for further clarification, copies of the bird-head device from Figure 20: A to illustrate the direction of the head in each case. Similarly, in figure 30: A copies of the bird-head device on one of the Kynos ships (Fig. 42: C) have been appended at either side and in Figure 36: B a copy of the device on the Skyros ship (Fig. 14) is included.
12. As, for example, does Artzi (1987: 80).
13. Korr s, 1990: 199-200, 202.
14. Furumark, 1941: 253 fig. 30. 255 fig. 31: nos. 36-52; Benson 1961; Dothan 1982: 201-202 figs. 61-63.
15. The festive bird shaped stem decorations portrayed on Late Bronze Age Minoan/Cycladic craft represent a swallow, as is evident from the bowsprit of one of the ships taking part in the festive race at Thera (Basch 1987: 107 figs. 192-193). These were apparently connected to the craft during festivities and were not a normal fixture on the bow. The Helladic ornament, on the other hand, represents a water bird and seems to have been a permanent fixture on the stem and sternposts of Helladic oared galleys.
16. Hencken 1968: 537 fig. 486; Wachsmann 1981: 202-203 figs. 17-18; Kilian 1988: 122-123; Dakoronia 1990: 122 figs. 1-2.
17. For photographs of the ships see Wachsmann 1982: 299-303 figs. 1-5
18. A similar, although earlier (Late Helladic III A:2), bird-head device that originally capped the stem or sternpost of a terra-cotta ship model was found at Maroni in Cyprus; however, it is unclear if this faced inboard or outboard (Fig. 29).
19. Kirk 1949: 118-119 fig. 6; Morrison and Williams 1968: 12 (Geom. 1); Casson 1971: 36, fig. 60; van Doorninck 1982.
20. Il. 18: 338; Od. 19: 182, 193.
21. Liddel and Scott 1953: s.v. ἡ κορῶνη. It is possible that this is a deliberate play on the two similar words and that the term implies "having curved extremities that are bird-shaped" (Lenz, in press).
22. Morrison and Williams 1968: pls. 1: e, 2: a, 4: c.
23. Casson 1971: 57-58 fn. 80.
24. Morrison and Williams 1968: 73 (Arch. 2), pl. 8: b.
25. Haddon 1937: 88.
26. Morrison and Williams 1968: pls. 2: a, 4: a, c.
27. Casson 1971: fig. 29; Buchholz and Karageorghis 1973: 470 fig. 1720.
28. Broodbank 1989: 328.
29. Haddon 1937: 28.
30. Svoronos 1914: 127.
31. Hornell 1970: 271.
32. Bishop 1938: 415.
33. Hornell 1970: 272-273.
34. Hornell 1970: 275.
35. Interestingly, when Greek ship names become available in the 4th century BC, with the exception of the Argo, they are feminine in gender (Casson 1971: 346 n. 10, 350-354).

-
36. Egypt has been suggested as the ultimate source for the European bird and sun-disk design (Hopkins 1955: 78-80; 1957: 334-335). This seems most unlikely.
 37. Compare a somewhat similar figure painted on a Daunian dish from Siponto in southeastern Italy of 6th-5th century BC date (Gimbutas 1989: 16 fig. 26: 8).
 38. A better preserved, though less decorated, version of this motif is also known (Nefer: 10).
 39. Casson 1971: 348: 15.
 40. Clarke 1920: 51.

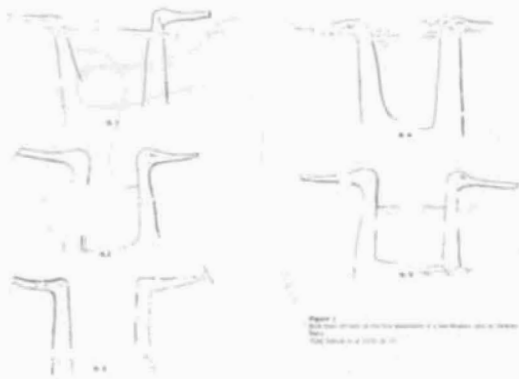


FIG. 1



FIG. 4A

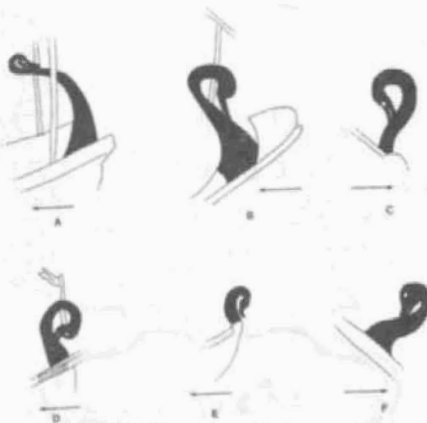


FIG. 2



FIG. 4B

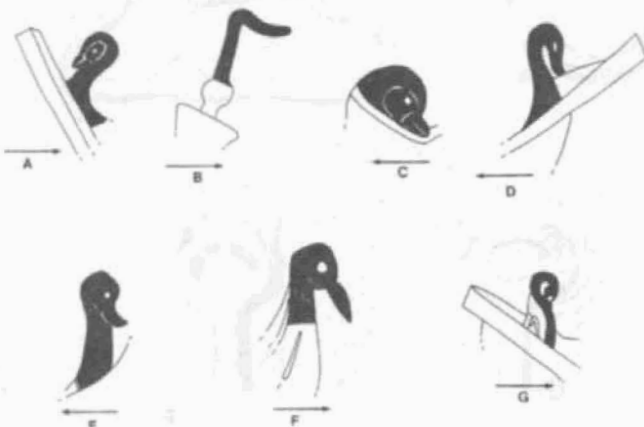


FIG. 3

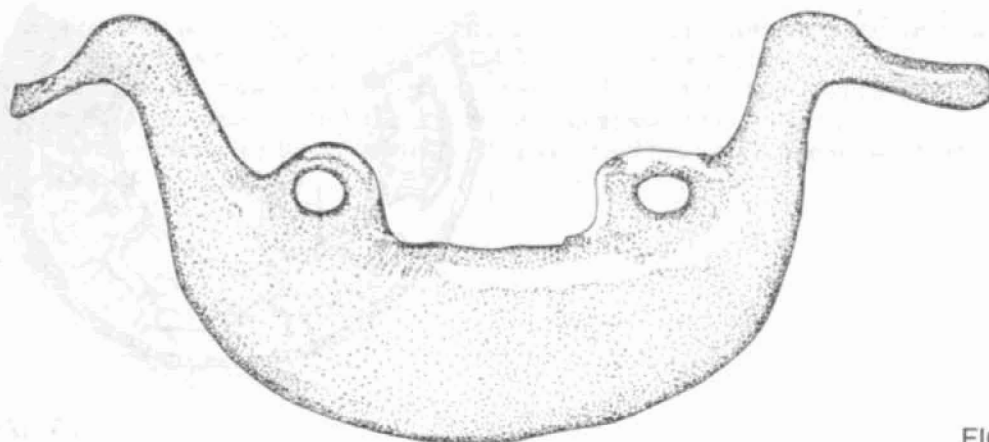


FIG. 5

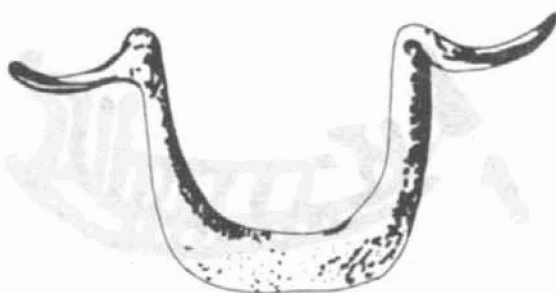


FIG. 6

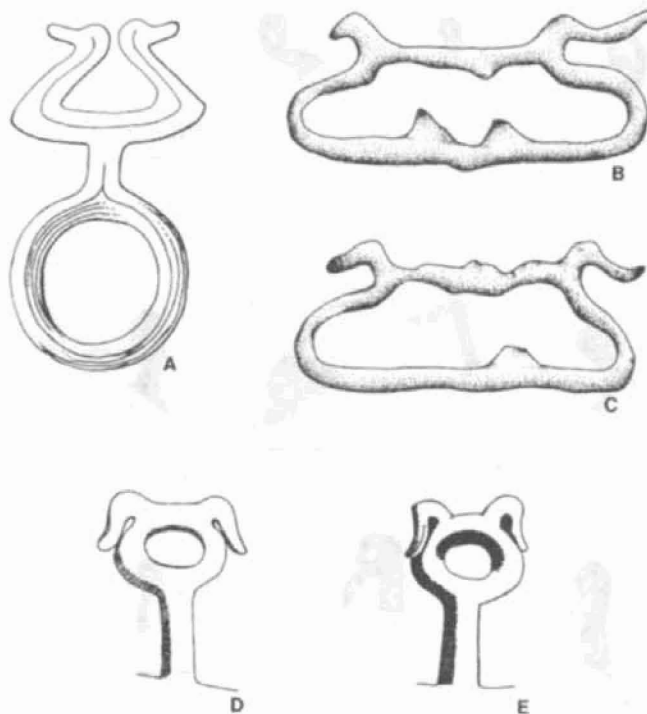


FIG. 7

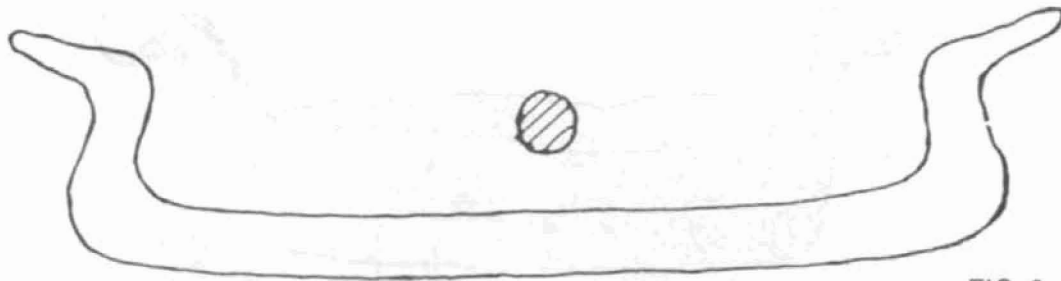
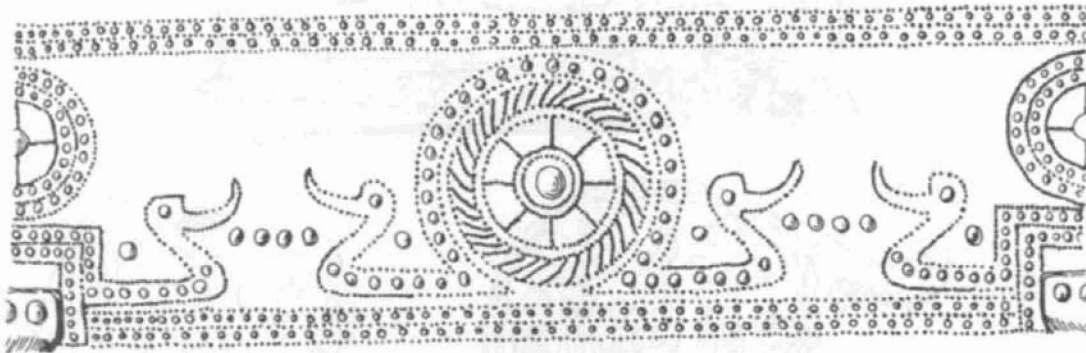
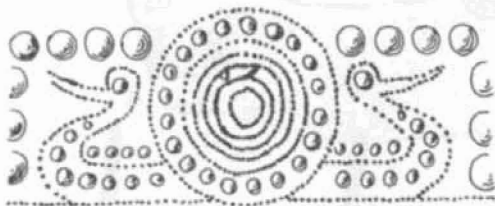


FIG. 8

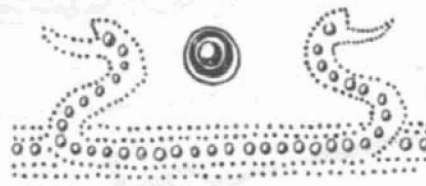
FIG. 9



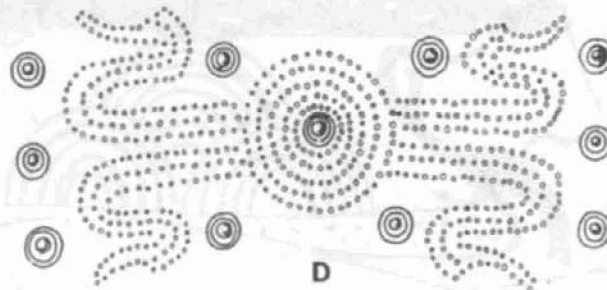
A



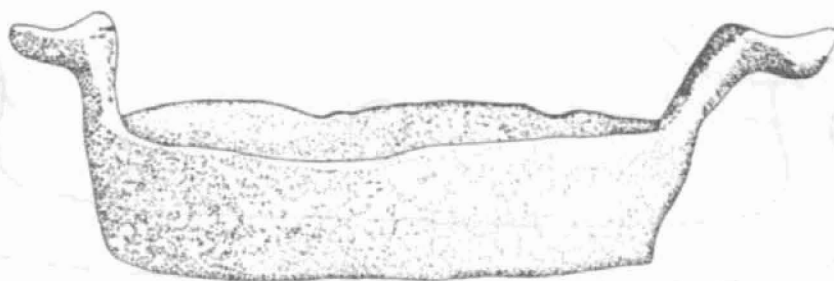
B



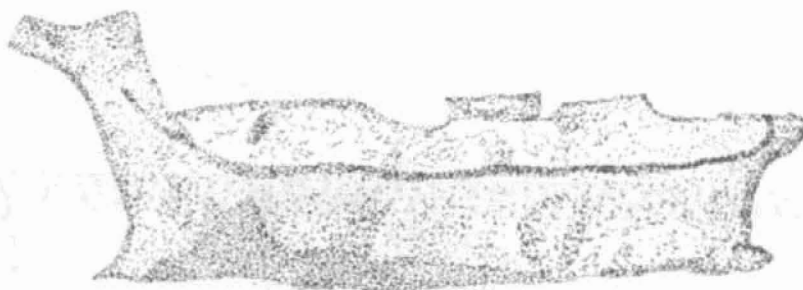
C



D



A



B



C

FIG. 10



FIG. 11



FIG. 12



A



B

FIG. 13

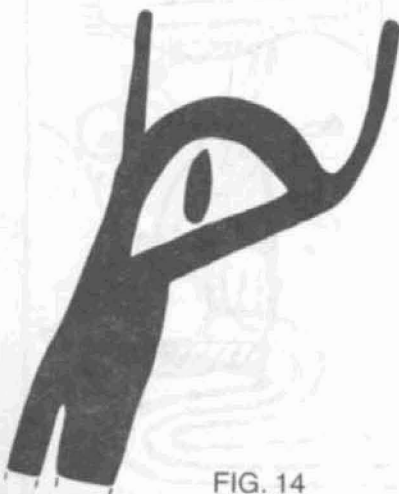


FIG. 14

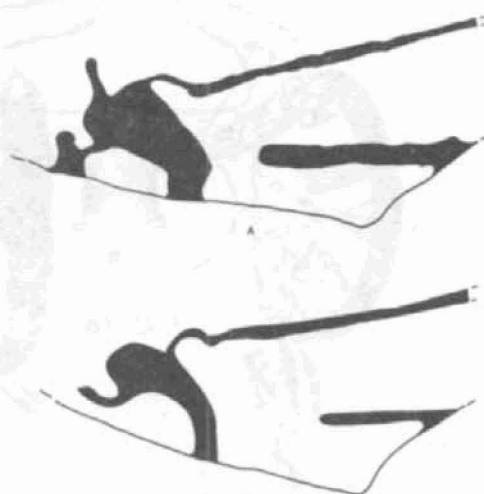


FIG. 15

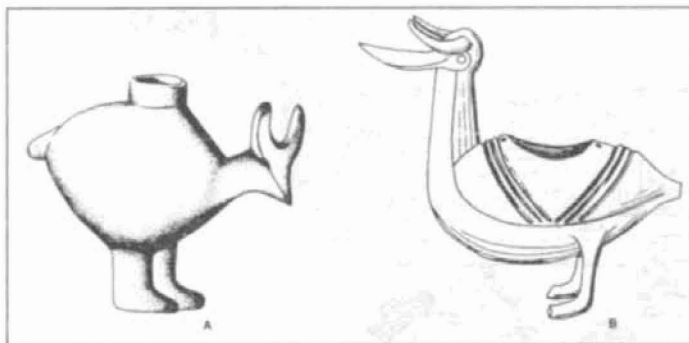


FIG. 16

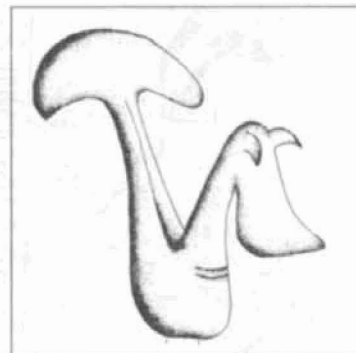
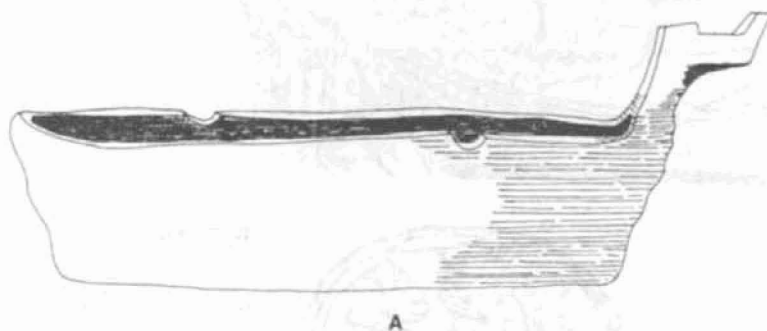
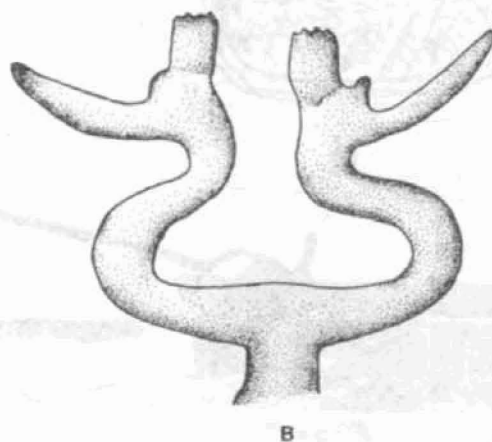


FIG. 17



A



B

FIG. 18

FIG. 19

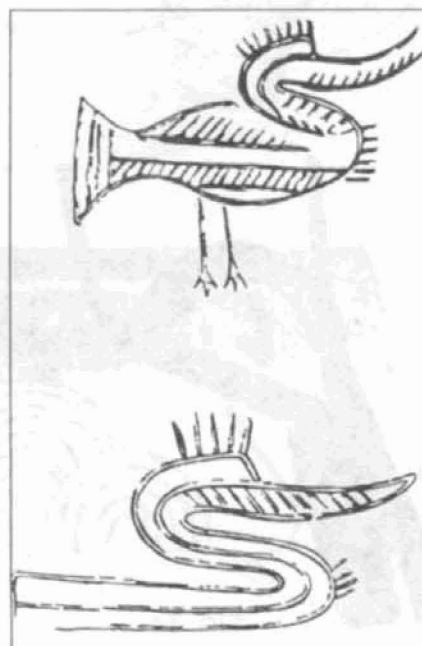




FIG. 21

FIG. 20

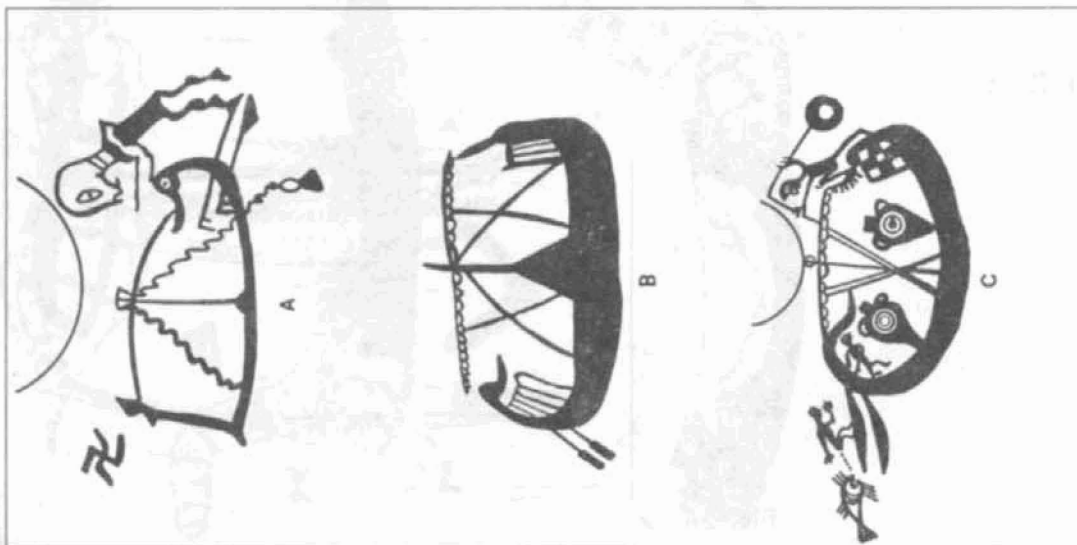


FIG. 22

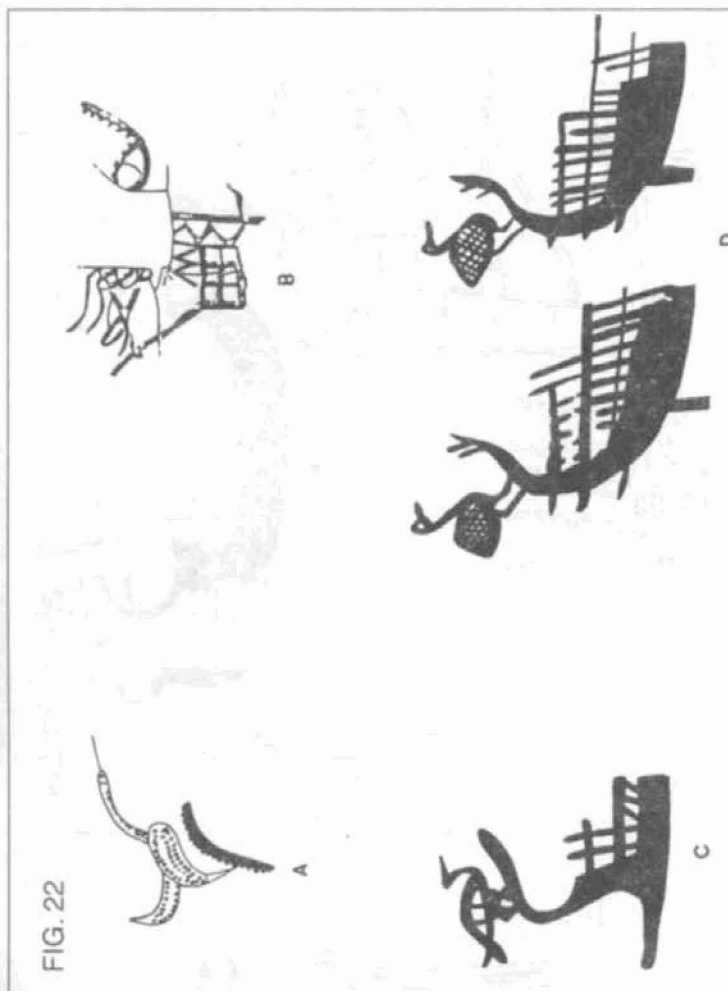




FIG. 23

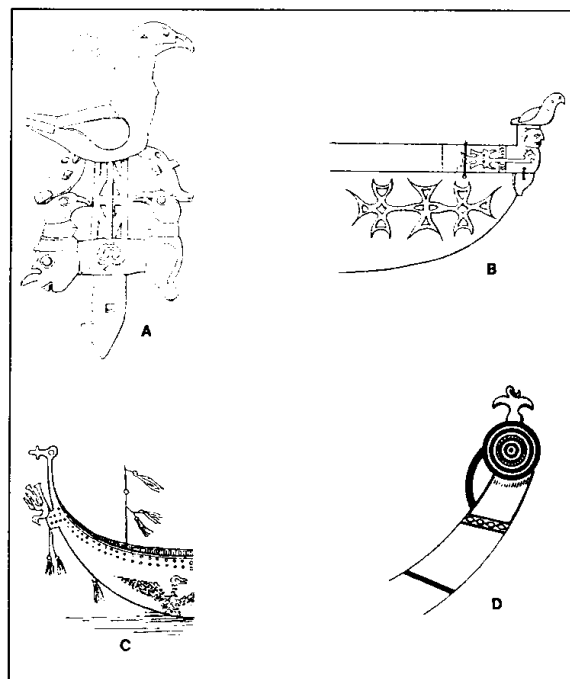
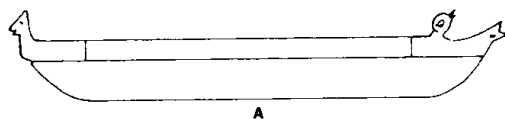
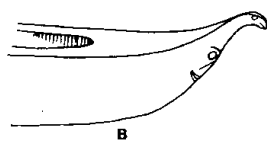


FIG. 24



A



B

FIG. 25

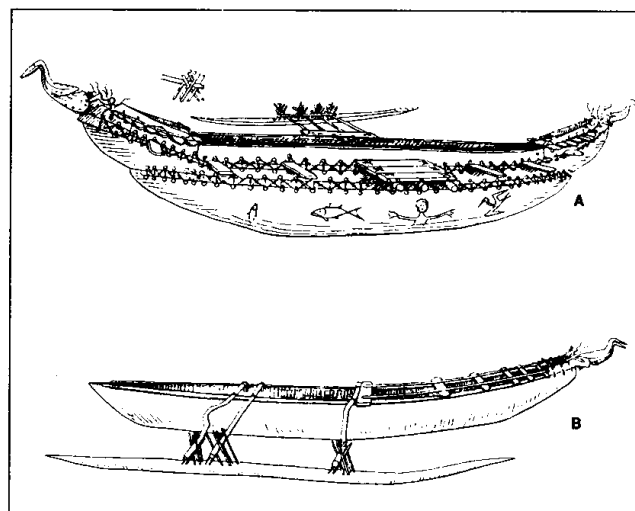


FIG. 26



FIG. 29



FIG. 28

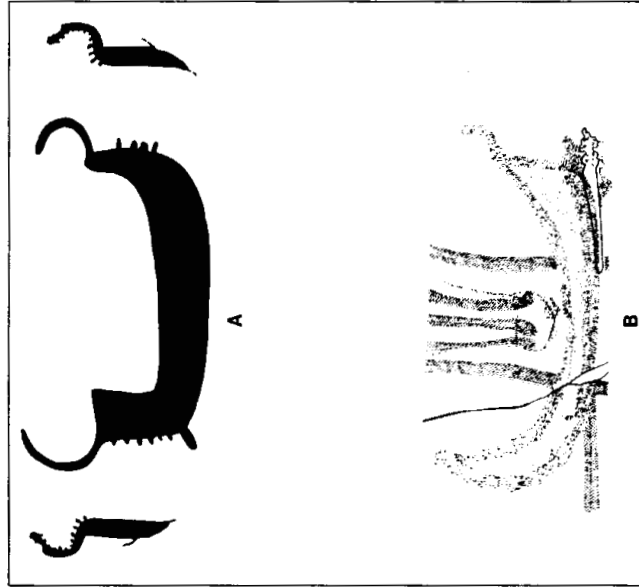


FIG. 30

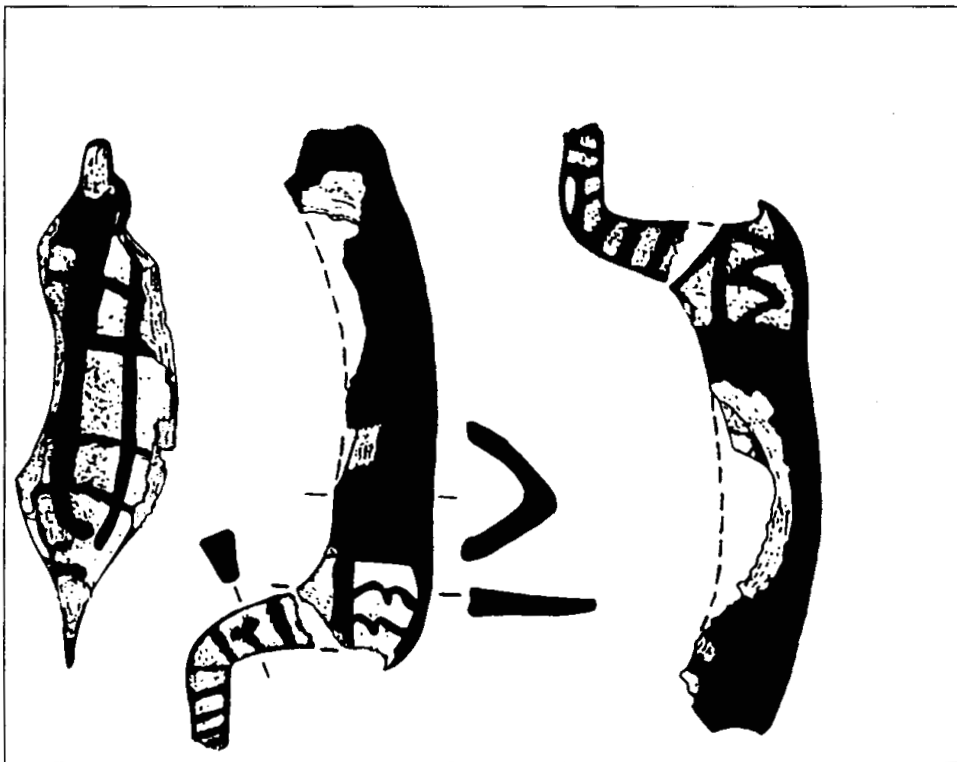


FIG. 27

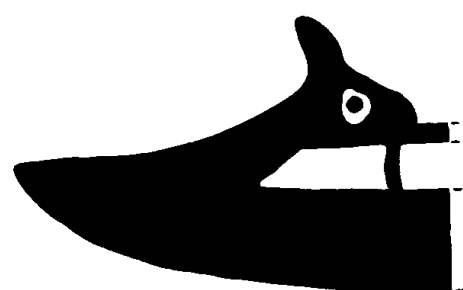
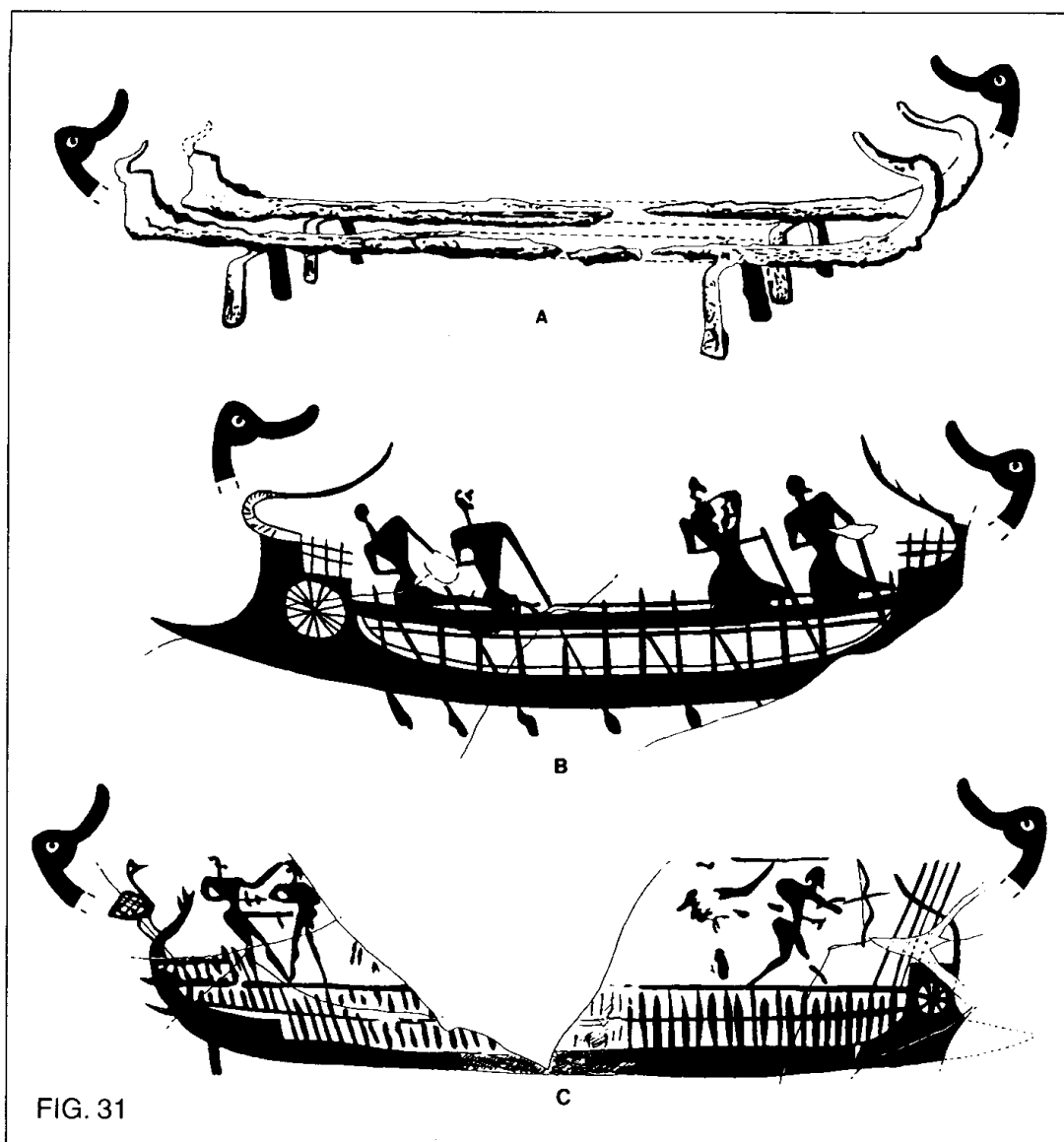


FIG. 32

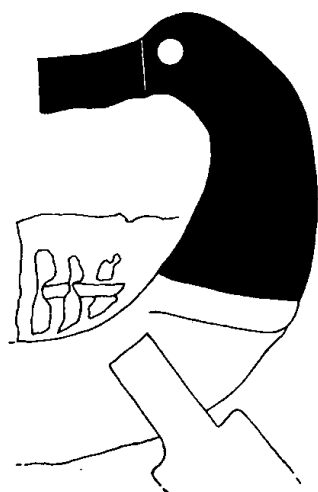
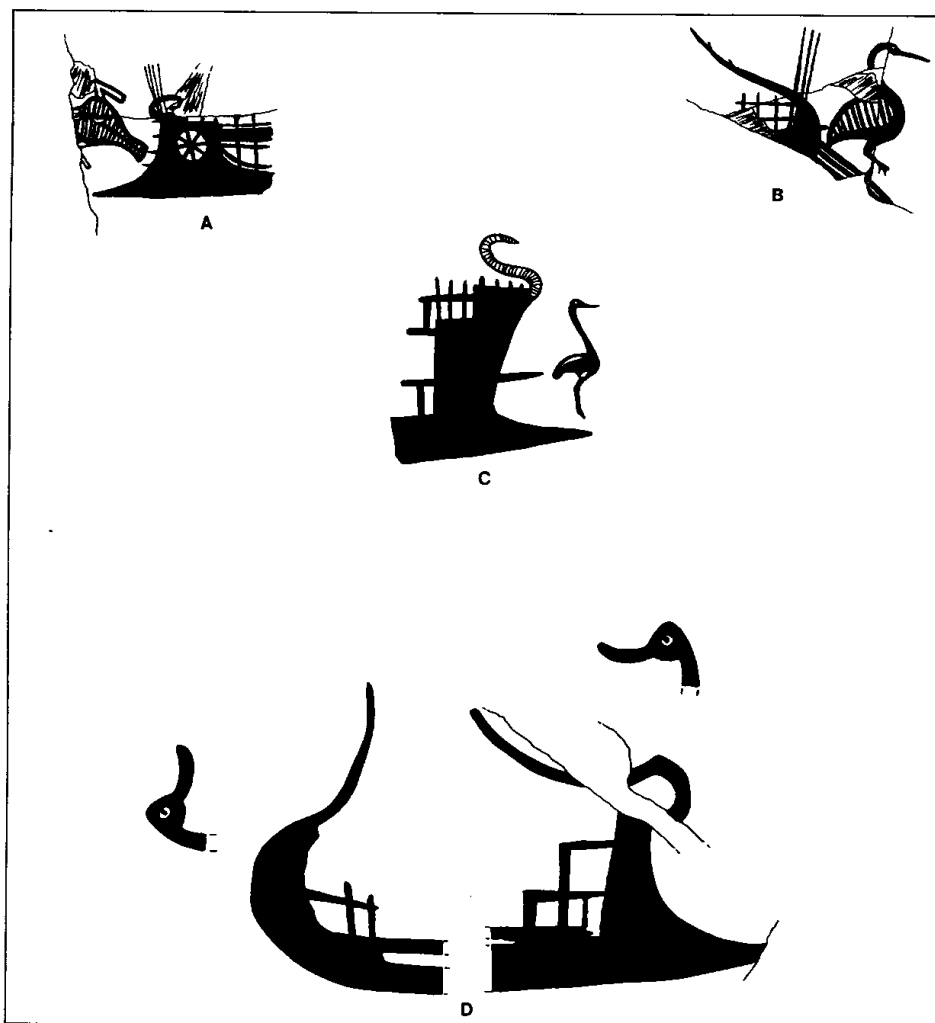


FIG. 35



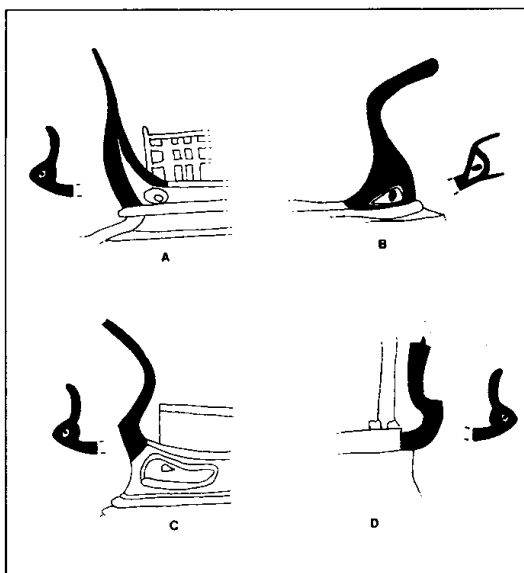


FIG. 36

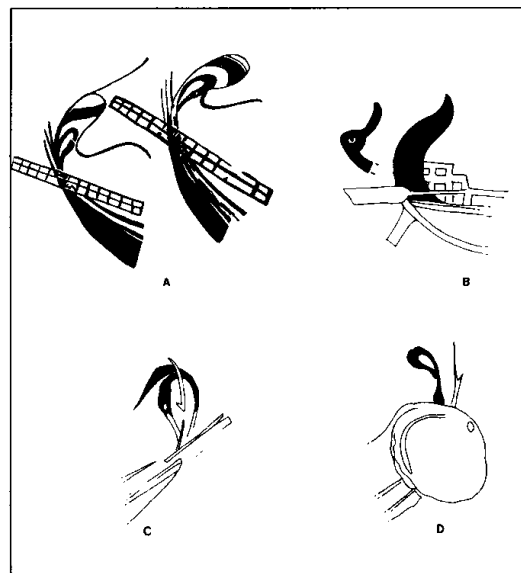


FIG. 37

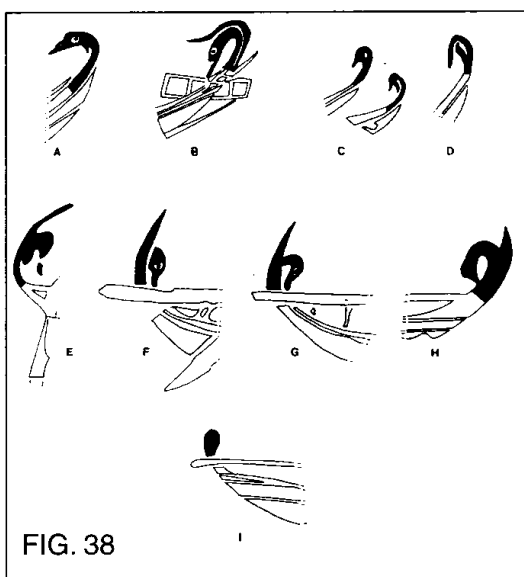


FIG. 40

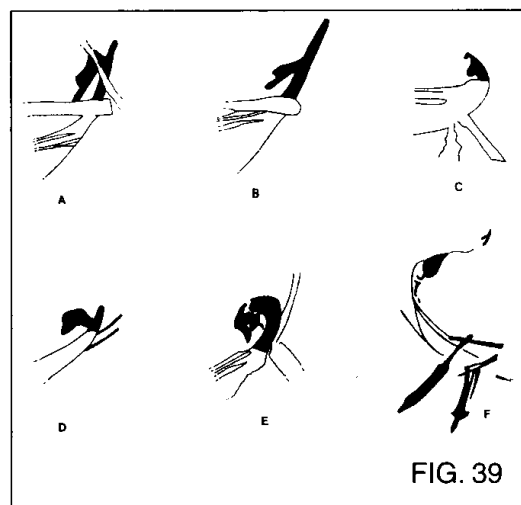


FIG. 39

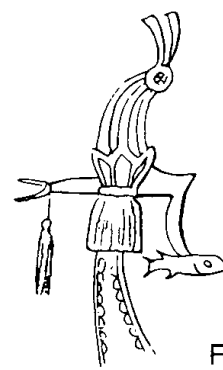
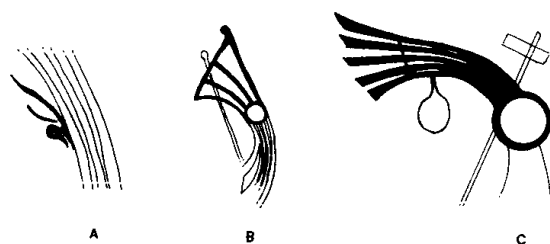


FIG. 41

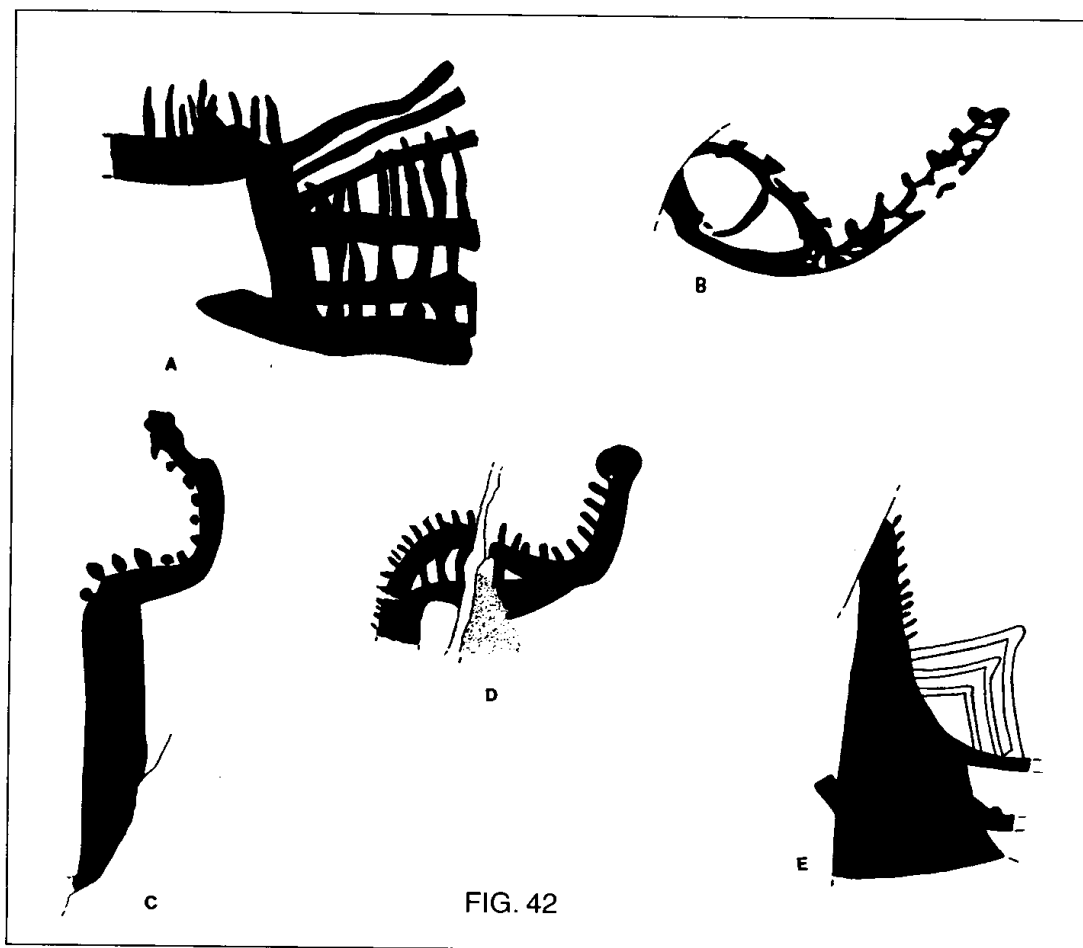


FIG. 42

FIG. 44

FIG. 45

FIG. 43

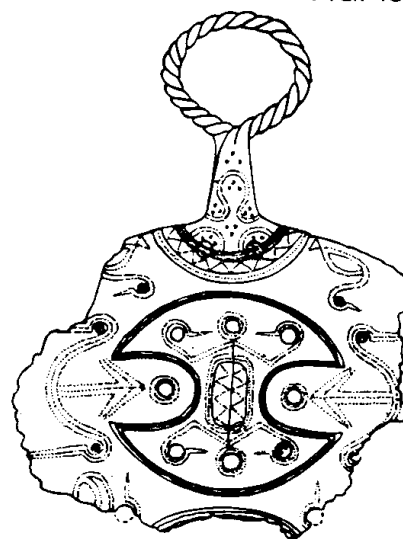
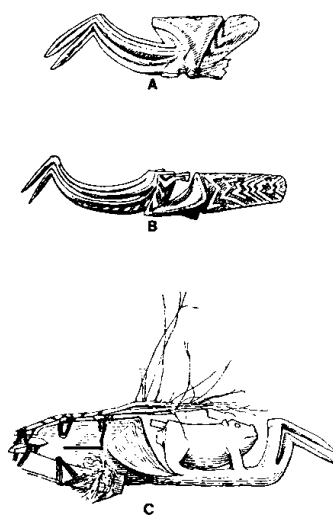
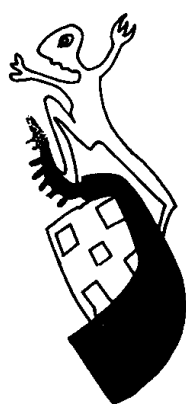




FIG. 46a

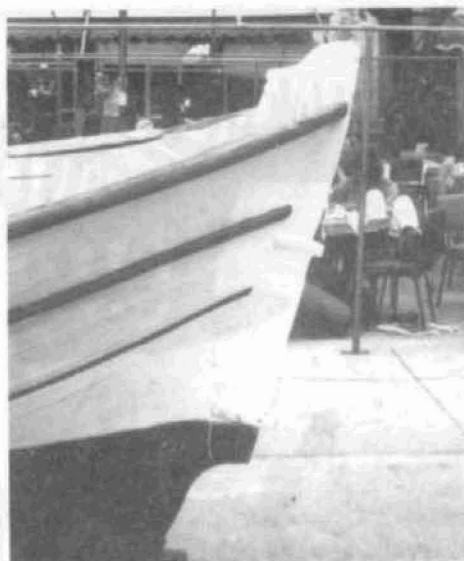


FIG. 46b

FIG. 47

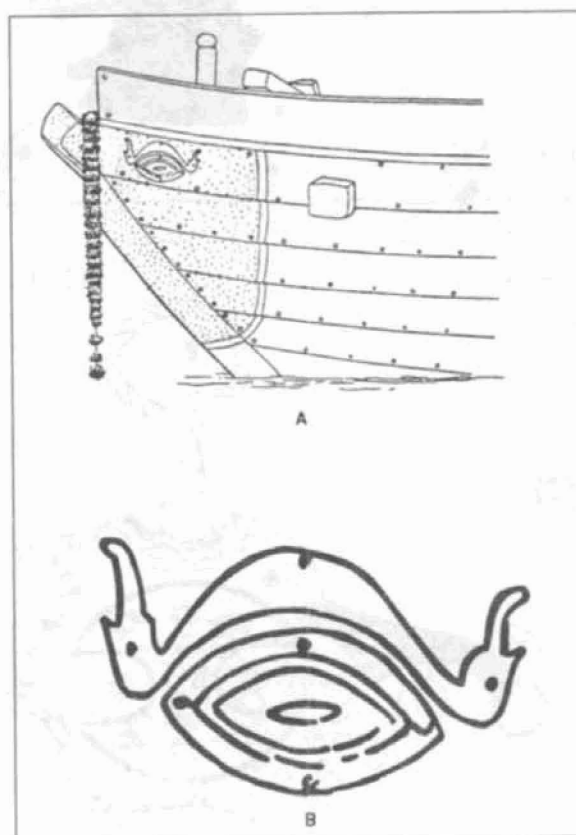


FIG. 48

