

RETHINKING GREEK GEOMETRIC ART: CONSEQUENCES FOR THE SHIP REPRESENTATIONS *

Introduction

Ship construction in the Geometric period constitutes one of the crucial phases of ancient Aegean naval architecture, both as trustee of the Bronze Age heritage, and as precursor to Archaic and Classical developments. The reconstruction offered by the specialists has been linked since the 1890s to an overall conception of Geometric art which has gone largely unchallenged since its initial formulation¹. The present paper aims to re-examine this hermeneutical vision, show that it is inadequate when not false, and propose a revised reading with significant consequences for our understanding of Geometric ships and of the subsequent evolution towards the *τριήρης*².

The prevalent view considers it axiomatic that Late Geometric I artists - primarily the Dipylon Master - did not depict scenes in the Minoan-Mycenaean tradition of profile views³. On the contrary: the object represented was rendered through a combination of significant aspects, so as to mirror not what could actually be seen, but what the artist knew to be there, although not necessarily visible. Thus a horizontal surface, nominally a line in a profile view, could be raised into a plane view, while elements duplicated on the far side were brought forward to the near side⁴.

To illustrate (Fig. 1A): single-axled chariots are rendered with the furtherside wheel brought onto the same plane as the nearside wheel, giving an erroneous impression of being double-axled. The floor of the chariot box is seen in plan, that is, tilted ninety degrees, and the charioteer (and warrior, if present), is perched on its upper edge. The side rail is moved backwards so as not to cut across the legs⁵.

In *prothesis* (the mourning of the dead as the corpse lies in state) and *ekphora* scenes (the procession to the grave with the bier on a chariot) the alleged Late Geometric vision of things concentrates on three elements: the corpse, the bier, and the shroud (Fig. 2A). Since the Geometric artist is thought incapable of rendering the human body in a strict profile view, it is argued that it is seen from above. A plan view is also postulated for the bier, which surface rises vertically

below the corpse, and for the shroud, which, although in reality spread over the corpse, is depicted raised above it.

This vision of three-dimensional objects is also extended to the pictorial structure⁶. A bird's-eye perspective is employed, placing participants further away from the viewer on a single compressed plane in superposed registers, and providing each file of mourners with its own base line⁷.

Finally, the ship is rendered in a remarkably complex manner (Fig. 3): the hull combines two superposed profile views and one plan view. The near side is seen from the outside, the further side from the inside, and the thwarts and central deck connecting the two are seen from above⁸.

Thus, the consecrated view suggests that the Geometric vase painter endeavored to depict depth of field within a pictorial vision which ignored the use of perspective. Instead of employing lines united at vanishing points, the main surfaces to have been affected are raised into visibility by use of a plan view. Planes further away from the spectator, instead of appearing smaller, and partly obscured, retain the same scale and are lifted above the main scene⁹.

Criticising the traditional view

The generally accepted view of Geometric art, when critically analysed, raises serious problems, not only in regards to the interpretation itself, but also to the handling of archaeological data. The explanation given for Geometric pictorial structure may be compressed into a single statement: things are not what they seem to be. To read Geometric representations successfully it is necessary to turn to the scholar, thus implying that it is not the image itself which holds the key to its understanding, but the scholar¹⁰.

This intrusion of the scholar effaces the borderline between refurbished fact and unsubstantiated fiction: personal predilections permit the scholar to reject conflicting data, redesign uncomfortable images¹¹, and generally to create readings which, when uncritically accepted by peers, enter the body of scholarly knowledge as factoids¹². The framing assumption underlying this attitude is that the artist is liable to make mistakes, and that the scholar is capable of recognizing and correcting them. Yet to perceive an artist's error is dependent on there being available a body of data considered correct against which the error is highlighted. The existence of such a body is negated by the manipulative entry of the scholar into the hermeneutic equation. In the case under consideration here, the Geometric pictorial structure, the massive alterations rendered necessary by the traditional reading

to attain the object or the scene originally observed by the artist should destroy any illusion of an objective reconstruction.

It is here argued that a reconsideration of Greek Geometric art is an urgent desideratum, and that it must be undertaken within an epistemological framework which explicitly states that the image is correct unless sufficient evidence to the contrary can be generated by the body of examined data itself. To alter a well-known dictum: error is never to be presumed unless proven¹³.

Even without the objectional *carte blanche* which the basic conception of pictorial hermeneutics offers the scholar, the traditional view faces a serious challenge if objectively analysed¹⁴. The very sherds upon whose testimony the reading was founded presented contradictory evidence which had to be refuted through auxiliary hypotheses (when not merely ignored)¹⁵. A brief review of the problems created by the current conception of Greek Geometric art follows, divided into four sections based on the major objects/ scenes depicted: chariots, biers, shrouds, pictorial structure of prothesis and ekphora scenes. Each section concludes with an alternative reading which makes no use of scholarly filters by which to distort the material. It accepts the data on face value, and attempts to understand the images on their own terms¹⁶. Once conclusions can be drawn, the ship representations can then be reinterpreted¹⁷.

The chariot

The accepted view postulates that a chariot is depicted with two wheels, a cross-hatched surface representing the floor of the box, with charioteer and warrior standing on its upper edge, and a loop-like rail at each end. This pictorial configuration appears but rarely. More frequent are chariots exhibiting traits in conflict with this canon, such as chariots depicted with a single wheel (Fig. 1B)¹⁸, legs hidden behind the cross-hatched surface (Fig. 1C), the purported floor reduced to a long narrow rectangle (Fig. 1D).

Chariots with a single wheel are explained as a “*formelhafte Abkürzung für einen Zweiradwagen*”, a reading thought to be supported by the prevalence of single-axled clay models of chariots¹⁹. Yet the same scholar accepts the chariot carrying the bier on the krater NM 990 as two-axled²⁰, although it employs, abstraction made of the removal of the rails so as to accommodate the bier, exactly the same pictorial means as the chariots appearing in the procession in the lower register²¹. This “*Abkürzung*” is, according to other scholars, caused by insufficient space for the canonical rendition²². The single-wheeled chariot can also be treated

as a stylistic device, "ein nur dekorativer Wechsel der Räderzahl"²³. Finally, the second wheel may derive from necessity: the lengthening of the chariot body to carry charioteer and warrior requires an additional wheel to support it²⁴.

It is clear that a single rigid remplate cannot be imposed upon Geometric art²⁵. But it is equally obvious that greater sensitivity is required to understand the image. And greater methodological rigor. The two-wheeled chariot appears in the Late Geometric I period. In Late Geometric II it is exceedingly rare, at a time when the chariots are single-axled, depicted in profile, and directly related to Archaic and Classical chariots²⁶. Occasional appearances of single-wheeled chariots in the earlier period²⁷ suggest forerunners of the single-axled type, rather than exceptions to a purported representational system²⁸.

It is not possible to definitely refute the traditional view on the basis of the wheels alone. A number of disturbing inconsistencies in regards to the chariot box do greater damage. If the cross-hatched surface represents the floor of the box tilted up into the view of the spectator, a certain consistency could be expected, especially since the consecrated reading postulates such a behavior. The number of exceptions to this "rule" are remarkable (or frightening, for a traditionalist). Particularly significant are the krater-fragments Louvre A547²⁹: on one sherd both charioteer and warrior clearly stand behind the screen since their calves are obscured by it (Fig. 1C), whereas on another, the charioteer is treated in a like manner, while the warrior, on a smaller scale, stands on the edge (as the traditional view would demand)³⁰.

This reduction in size of charioteer and warrior³¹ is balanced by a reduction in the height of the cross-hatched surface³². The cross-hatching is replaced, due to lack of space, by parallel vertical lines, or, as on Louvre A517³³, is filled in (Fig. 1E). This latter case is particularly interesting since the feet of both charioteer and warrior are behind the screen. A similar occurrence is manifest on the Late Geometric II amphora Folkwang K969³⁴, which also shows a siderail running across the legs (Fig. 1F).

This phenomenon, so at variance with the traditional view, may find a plausible explanation when the chariot with crew is viewed as a profile image, and placed in its context: muscular legs are a mainstay of Geometric human figures, regardless of their size³⁵. Hiding the legs would suggest a diminishing of the man's force, while shrinking his stature to place him on the screen created an unwanted contrast to the warrior. In fact, the screen had to yield. The presence of the rail attached

to the aft edge of the screen even when the latter has been reduced to nothing (Fig. 1D, 1E) indicates that a screen is at the root of this modification.

It is therefore suggested that it is the sidescreen, not the floor, of the chariot which is depicted by the cross-hatched surface. The removal of one of the pillars upon which the traditional view is founded casts doubt on the other, that concerning the repositioning of the wheel. By reading the evidence on face value, two types of wheeled transport are attested to for the Geometric period, the single-axled chariot also known from epic poetry, and the two-axled wagon, alluded to by poetry and imagery³⁶.

The bier

The suggestion that the cross-hatched area of the chariot is not the floor tilted ninety degrees into view can be tested against the bier which is constituted by an analogous surface. The treatment of the bier shows no single consistent pattern which would unconditionally support the traditional view. A diminution of the width of the surface is observed, similar to that affecting the chariot sidescreen, particularly in the work of the Dipylon Master, who as the probable creator of the Late Geometric I pictorial style could be expected to adhere to the purported pictorial principles. This renders it necessary to seek an alternative explanation.

Two parameters determine the appearance of the bier, the width of the horizontal surface, and the number of legs, two or four. The additional legs are nearly always a smaller pair placed inside the main legs, as if in an attempt at perspective drawing. A general reading in terms of the traditional view is rendered inapplicable by instances where the bier is clearly seen in profile³⁷. A partial application would be possible for such cases where the surface is wide, were it not for incompatible traits, some of which may be cited here.

The treatment of the legs offer a starting point: the upper end is usually subcircular or triangular, detached from the leg proper by a narrowing, indicating the part to which the frame-members are attached (Fig. 2B). When the horizontal surface remains within this upper part, it is unlikely that it represents more than the frame or the material which forms the bed surface as it is folded around the frame (cf. Fig. 2C). The fact that a second pair of legs appears in cases such as these indicates that the additional legs do not impose a perspective aspect. They should rather be compared to the multiplication of verticals such as horses' legs³⁸.

Lest the instances of wide surfaces expanding beyond the upper end of the legs be thought conclusive evidence, a number of observations should be considered.

The sherd NM 812³⁹ from a krater depicts a bier with a wide cross-hatched surface, but the corpse is under a shroud (cf. Fig. 2D for the bier): it may be surmised that the artist has attempted to show the dead in profile without employing the normal formula for the human body, identical whether standing or lying⁴⁰.

A second observation notes the behavior of the pattern employed to cover the horizontal surface of the bier. On three occasions it flows out into the space between the two legs at either end of the bier. On Metropolitan 14.130.14 (Fig. 2H) and NM 18062 this appears in an embryonic form⁴¹, whereas on Brussels A1506 the entire area is invaded (Fig. 2E)⁴². Here, the bier is reduced to the containing lines for the cross-hatching. When compared with two neck metopes on amphoras, Cleveland 1927.27.6 and Baltimore 48.2231 (Fig. 2F)⁴³, it becomes plausible to suggest that the artist is employing the pattern on the bier as a filler⁴⁴.

A third, different, line of thought is significant for the rebuttal it offers to the traditional view. Since the discussion of the chariot referred to Archaic and Classical chariots, it is permissible to look forward in time at later bier-like furniture. The Geometric bier is, in fact, a forerunner of the standard κλίνη shown in countless symposion scenes⁴⁵. Frequently, the κλίνη has its frame and the top of the legs obscured by the wide overhang of the blanket upon which lies the symposiast (Fig. 2I)⁴⁶. The edge of the blanket is decorated with tassels, which also appear on a Geometric vase⁴⁷. On one occasion, similar dowel holes are cut at the top of the legs of a Geometric and a Red Figure representation⁴⁸. It is therefore not inconceivable that the supposed flipped-up bier surface is in fact the overhang of the blanket upon which the corpse is occasionally explicitly shown to be lying (Fig. 2G)⁴⁹.

The analysis of the bier suggests two possible explanations to the cross-hatched, or otherwise decorated, surface: either a decorative extension of a pattern, or as depicting a concrete object, the blanket under the corpse. The first alternative, although it makes an issue of statistically insignificant but visually blatant images, is of interest when examining the shroud.

The shroud

The Geometric artists treated the shroud in essentially two fashions, either as a large rectangular surface filled with a checkerboard pattern, or as a formless area delimited by a circumscribing line, attached to the bier at each end, and filled with cross-hatching⁵⁰. The first form appears to have been introduced by the Dipylon Master. It covers the entire area between the corpse and the upper edge

of the metope. It frequently extends to the left and right into the empty space above the mourners immediately next to the bier. In such cases, the shroud may be held by the mourners (Fig. 2A).

The extensions and the holding by the mourners particularly on the earlier vases, allied with a tendency by the checkerboard to expand into otherwise unoccupied space, suggest an alternative explanation to the traditional view. When composing the prothesis image within the central metope, the artist was faced by the large empty space above the corpse. The Dipylon Master, so it is suggested here, grasped upon a ritual performed during the mourning, the revealing of the corpse by raising the shroud, and employed the pattern woven into the shroud, a checkerboard, as a filler⁵¹.

The extensions left and right depend on the available space⁵². On Metropolitan 14.130.14⁵³, this space extends downwards to a level just below the top of the bier (Fig. 2H). The checkerboard has, in addition, risen from immediate vicinity of the bier so as to form a large horizontal decorated surface with vertical extensions above an area which includes the bier and corpse, as well as one standing mourner to the right⁵⁴. A more obvious loosening of the bonds attaching the shroud to the bier is exhibited by NM 18062⁵⁵: the checkerboard is no longer associated with the bier. It has become a patterned border at the top of the metope⁵⁶. A similar detachment is observed on NM 990⁵⁷, although here it is less manifest since the shroud does not extend beyond the area above the bier.

The comments occasioned by the analysis of the bier and shroud point in the same direction, towards an explanation founded on the pictorial structure of Late Geometric vase paintings. Again it should be noted that the greater hermeneutical force is provided, in the reading offered here, by the exceptions. In absolute terms, this is not unassailable, but these instances serve to point out, by exaggeration or caricature, the intentions invested by the artist in these large uniformly decorated surfaces.

The use of pictorial space

The evidence briefly discussed above militates against the traditional view of Geometric space administered in terms of a "bird's-eye perspective", as being insufficient to explain the processes subjacent to the creation of representations on large Late Geometric vases. An explanation which is in greater accordance with the evidence must be generated from a global view of the image.

The Geometric artist worked in two dimensions⁵⁸, on a flat surface, which he endeavored to fill as completely as possible without loss of clarity due to thoughtless cluttering with subsidiary elements. This was attained by translating concrete objects into decorative panels filled with patterns more restful than the profusion of fillers placed between men, women, horses, and chariots. Occasionally the chariot box, but primarily the bier with its overhanging blanket below the corpse, and the shroud, raised above the deceased by the mourners, served this purpose⁵⁹. In the later half of the period, when sexual differentiation of women was achieved through clothing, the skirt came to serve the same purpose⁶⁰.

The examination of the chariot and the bier suggests a strict profile approach to physical objects. This is in accordance with the conception of Geometric pictorial space as rigidly two-dimensional, indicated by the use of the shroud as a decorative surface. Depth of field and perspective do not enter into Greek vase painting until much later, and not in a very satisfactory manner: the inherent two-dimensionality of the flat, curving surface of the vase was never dominated in the manner that free painting is thought to have achieved depth and perspective⁶¹.

The illusion of space thought to be present in Geometric vase painting by virtue of the placing of figures on various levels is little more than an illusion of scholars. The seated or standing mourners placed in panels above the main scene are not there to indicate that they are standing on a plane situated deeper into three-dimensional space, but merely to fill the available surface with patterns related to the central image⁶². This approach to pictorial space grew naturally out of the gradual conquest of the vase surface by the decorative system based on metopes⁶³. The various elements in the Late Geometric painter's repertoire are part of an overall strategy of decorating previously empty two-dimensional space⁶⁴.

The ship

If this re-evaluation of Late Geometric pictorial vase painting is acceptable, the traditional view becomes an erroneous attempt at reconstructing the naval architecture of this time. A strict profile view, as suggested by the chariot and the bier, renders a reading as double-leveled ships inevitable⁶⁵. The thick line above the hull becomes the deck supported by stanchions, as indicated by figures using this line as their baseline (Fig. 3C, 3E)⁶⁶. The figures shown crossing this line indicate that the deck does not cover the entire beam (Fig. 3A, 3B), but should rather be considered as running along the gunwale, leaving a central lane open for rapid movement within the vessel, and for operations involving the mast⁶⁷. A quarterdeck, midway between the level of the lower rowers and the deck can be

postulated at the bow and at the stern on the basis of figures shown in an intermediary position⁶⁸. The Late Geometric ship could be rowed from both levels (Fig. 3D, 3F)⁶⁹, or from one or the other⁷⁰. Tholepins were provided for the lower level, whereas the upper oars took purchase on the continuation of the stanchions above deck level, providing the necessary stagger between the levels (Fig. 3A-C)⁷¹.

The minority view of Geometric ship architecture⁷² depends for its acceptability on decked hulls having been introduced some time before the Late Geometric I period since it is unlikely, given the slow rate of change evidenced by naval construction in the ancient world, that two so portentous stages were attained in rapid succession⁷³. Single-level, partially decked vessels are attested to for the Bronze Age, in the Late Minoan I A period by the large ships on the West House miniature wall painting in Akrotiri, which have at least a stern quarterdeck, possibly also a deck at the bow, and in the Late Mycenaean III period by the Pyrgos Livnaton ships, doubtlessly longitudinally decked⁷⁴.

The deck is attested for the Middle Geometric II period by virtue of the ships on the Metropolitan 34.11.2 krater (Fig. 4C, warriors on deck not depicted)⁷⁵: every second vertical line rises above the gunwale line to support a slightly raised deck. The height does not appear sufficient to allow the rowers to take cover below it, thus rendering the position of the deck, along the gunwales or down the center, problematic⁷⁶. Insufficient data are available to extrapolate on the developments in hull construction more fully and propose reconstructions, but enough is extant to perceive the major lines: the longitudinal deck appears towards the end of the Late Bronze Age, survives the evidential gap preceding the Middle Geometric phase, where it is once again manifest, and is then further developed in the Late Geometric I period with the addition of a second level of rowers.

A recent find adds a further aspect: the ship on the pyxis from Toumba grave 61⁷⁷ is depicted with three parallel horizontal lines above the hull (Fig. 4A). Tholes are painted, but no stanchions. Nonetheless, the general pattern is sufficiently alike than seen on Late Geometric I two-leveled ships to suggest an intimate relationship⁷⁸. Whether the three lines serve to render more than lateral protection for the rowers is uncertain, but a function as part of a deck construction cannot be excluded. The date: Middle Geometric I, in absolute terms 850-825 BC⁷⁹.

The Toumba pyxis does not constitute proof for whichever interpretation is preferred by virtue of its status as a chronologically and geographically isolated find, but it does indicate that future discovery may well rewrite conclusions drawn on the currently available database⁸⁰.

Conclusions

It is suggested here that the traditional interpretation of Late Geometric pictorial structure is incapable of accounting for the full range of data in a satisfactory manner. Too many conflicting details are left unexplained. Perhaps even more damning, the consecrated reading, if retained, diminishes the worth of the Dipylon Master, long considered one of the foremost personalities in the history of Greek art. The purported tilting of horizontal surfaces appears only in his work and that of his immediate followers: by Late Geometric IIA, vase painters had returned to the conception of pictorial space which had prevailed for centuries before the Master, and which was to dominate Greek vase painting until its demise in the early fourth century BC. The Dipylon Master becomes a freak interlude with no continuation. His sole claim to fame would be his monumentality and the formulaic composition⁸¹.

The proposed alternative view points out flaws in the traditional conception, suggests more appropriate hermeneutical approaches to specific objects depicted, and attempts to place the Late Geometric developments within a coherent overall explanatory framework which takes into account the nature of vase painting. By necessity short, and thereby incomplete, the present paper owes the reader a more fully argued account. Such an undertaking must carefully analyse the genesis of the traditional view, note alterations undertaken by single scholars during its century-long reign as the consecrated explanation of Late Geometric vase painting⁸², criticize individual texts, and discuss all the available evidence in detail. Nevertheless, these lines contain sufficient objections to necessitate a profound rethinking of Greek Geometric art.

To conclude with the ships: the present paper does not prove the existence of Greek two-leveled ships as early as circa 750 BC. But if the above analysis is correct, adducing a second level best accounts for the observed pictorial phenomena. The question raised does not yet concern technical prowess or rower arrangements⁸³. It concerns the logical structure of the arguments, the use of the evidence, and the resulting presumed artistic vision. These three aspects of the account given by the textbooks are deficient, unacceptable, and inadequate, respectively, in their attempt to explain the pictorial structure of Greek Late Geometric vase painting.

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NOTES

* The present paper represents a fully rewritten text based on an appendix in the author's doctoral dissertation (Wedde 1992), a paper presented at the Archäologisches Seminar der Universität Mannheim, and the oral version read at the symposium in August 1991, as well as further considerations. It replaces the above-mentioned appendix and prepares a major work on the subject, presently being undertaken. A pendant on decks appears in *Tropis V* (cf. n.80). Remarks by Prof. Dr. Wolfgang Schiering, Prof. Dr. Reinhard Stupperich, and the students of the seminar in Mannheim have been helpful. As usual, Mrs. Ethel Wedde and Ms Nina Wedde have read, discussed and criticized the text. The author would also like to thank Mr. Harry E. Tzalas for the opportunity to speak, and for accepting the unforeseen circumstances causing a belated submission of the text with understanding and sympathy, and Prof. Dr. William M. Murray, Prof. Dr. David Samuel, Cmdr Alec F. Tilley, and Mrs. Eve Black for encouragement.

Periodicals are abbreviated as laid out in the *American Journal of Archaeology* 90, 1986, 384-394, and 92, 1988, 629-630, with the exception of:

MM *Mariner's Mirror*.

Further abbreviations used:

BM the British Museum, London.

NM the National Archaeological Museum of Athens.

1. Concerning the ship representations, it appears to have been first formulated by Pernice 1892, 1900. Williams 1949-50:128-129, 1958:122-125, Morrison/Williams 1968:12-17, Gray 1974:86-90, Basch 1987:161-184 argue in favor. General works on Geometric art adhering to the traditional view abound; an enumeration would by necessity be incomplete, and prove nothing unless discussed. It is therefore reserved for the work mentioned above.
2. The ancient Greek word is retained in preference to the latinized "trireme" since a ship type designated "trireme" existed in Roman times, although not necessarily related to the Greek vessel in more than general form and name.
3. The few examples of Bronze Age images not employing the profile view are hermeneutically insignificant (for instance the well seen from a conceptual rather than a perceptual angle on the north wall of the West House at Akrotiri [Morgan 1985:8-9 and 8 fig. 1], and the chariot depicted from above with the wheels flat on the ground on the larnax from Kavrokhori Maleviziou Irakleiou [Rethemiotakis 1979:231 fig. 3]). A closer analysis of this problem will have to be undertaken elsewhere.
4. For good formulations, cf. Morrison/Williams 1968:12-17, Basch 1987: 161-162.
5. Concerning the rail, cf. Wiesner 1968: 68-70.
6. "Pictorial structure" is defined as the system which rules how the various components of the image are organized within the confines of a two-dimensional support. For a discussion, cf. Wedde 1993.
7. Cf. Ahlberg 1971:268-280, esp. 277; with frequent reference to Brunnsåker 1962. For

related statements concerning Minoan art, cf. Walberg 1986: 120, Laffineur 1990: 247, and elsewhere.

8. Cf. Basch 1987:163-164 and 168-170 figs 341, 345, 346 for a reconstruction.
9. As space is lacking for an analysis of the terminology employed for these phenomena, and its history, it is preferable to speak of "the traditional view" or "the consecrated reading" and similar terms.
10. It may be objected that good parallels for these alleged phenomena appear in Egyptian art (for a concise account, cf. Brunner-Traut 1990:7-14, with examples discussed id.: 15-40). A rebuttal favoring an internal Greek development notes the following problems with the comparison: the Dipylon Master and his associates recreate pictorial art in Greece after a period of purely geometric patterns at a time when the evidence for systematic contact with the East either goes back to the Late Bronze Age, or has yet to begin in the so-called "Orientalizing" period. Whether or not a collective memory, refreshed by intermittent direct or indirect contact, reintroduced the Egyptian aspective approach, never known from the Bronze Age in the form the traditional view imposes on Geometric art, is besides the point: the explanation proposed must account for all the data. Aspective art is an insufficient explanation for Geometric art. It should also be noted that the Geometric pictorial style grows naturally out of the basic characteristics of Geometric vase painting in general.

The author has previously militated against the scholar usurping the role of yardstick for the interpretation of archaeological pictorial evidence (cf. Wedde 1992: Chapter One). A fully systematic study constitutes a future work.

11. An example is given by Köster 1923:84-95 who stresses the awkwardness of the Geometric artist, working without the benefit of a standardized pictorial system, and argues that each image must be translated into terms familiar to the scholar. Cf. also the hopefully one day infamous quote by August Jal, cited by Basch 1985:413. Kirk 1949:123-125, on the other hand, exudes reasoned belief in the artist's ability to accurately depict a ship.
12. On factoids, cf. Maier 1985: 32.
13. With apologies to Lucien Basch (cf. Basch 1985:413). Basch states that "*error is always to be presumed unless the contrary is proved*" (his italics). This view has been repeatedly criticized by A.F. Tilley (Tilley 1990:193, 1992:55). "Never" and "always" are, of course, exaggerated formulations.
14. Internal inconsistencies within individual accounts cannot be ignored: thus Brunnsåker 1962:206 accepts a profile view for the chariot and the bier, but prefers a plane view for the shroud and the corpse, in addition to arguing copiously in favor of the bird's-eye conception of space. The traditional view can only survive if it is correct in all its elements.
15. Examples will be given below; they concern mainly the chariots.
16. Only the most eloquent evidence is cited (full references will be given in the work mentioned in the initial note). A number of issues have had to be insufficiently treated or ignored here due to restrictions in length imposed by the format. The illustrations referred to are taken when possible from Ahlberg 1971, from Basch 1987 if ships. When the image is included among the figures appended to this paper, this is noted. It should be mentioned that material will be cited from all four Late Geometric sub-periods, IA, IB, IIA, IIB, with chronological arguments entering only where deemed significant. The Late Geometric period covers barely two generations, and exhibits a substantial overall stylistic unity with many tendencies active through-out the timespan. The fifteen years available for each phase approaches the kind of segments common to Black Figure and Red Figure, developments in Athenian pottery production believed to be more securely dated than any other. Too optimistic an attitude towards the dating process will obscure the tentative

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- nature of typological and chronological seriation and raise often subjective criteria to the status of scientific procedure. As will be seen below, there is room for caution.
17. The traditional view implicitly or explicitly connects hermeneutically chariots, biers, shrouds, and ships, occasionally also horses, and human figures, rendering the interpretation of the ships dependent on the former. Cf. Williams 1949-50:128, Williams 1958:122, Morrison/Williams 1968:13-14, Basch 1987:162. If alternative readings can be proposed for the other components of Geometric images, the ships cannot alone buttress the traditional view.
 18. The following convention is employed: "wheels" refers to the number of wheels that are visible to spectator, whereas "axle" indicates the number of axles regardless of the number of wheels depicted. Thus, the traditional view postulates two-wheeled chariots which have a single axle. The alternative reading considers the number of wheels to indicate the number of axles in a one to one relationship.
 19. Wiesner 1968:66, cf. also id.:68, and Hinrichs 1951:55. By referring to the clay models, Wiesner and Hinrichs merely establish that the models are one-axled.
 20. Wiesner 1968:67-68. Wiesner considers it bigger and sturdier, as does Greenhalgh 1973:34-35: the identical pictorial means are ignored in favor of a slight difference in size. NM 990 is illustrated by Ahlberg 1971:fig. 54. For a second instance, cf. Universität Bonn 16 (id.: fig.55a, b).
 21. Hinrichs 1955: 133, who, however, suspects a more formal equation.
 22. Williams 1958: 124, Morrison/Williams 1968:13.
 23. Hinrichs 1951:55. Brunnsåker 1962:208n1 also sees a possible formal variation.
 24. Brunnsåker 1962:194n6, Greenhalgh 1973:34.
 25. As Basch 1987:161-162 correctly notes.
 26. The attempt by Greenhalgh 1973:22 to read two wheels into the concentric circles depicting the wheel on Berlin 3203 (Davison 1961:fig.48 a-b) and Philadelphia MS 5464 (id.:fig.49) ignores their manifestedly decorative secondary function, as suggested by the identical shields carried by the soldiers. Greenhalgh 1973:34 also sees two conventions for the representation of horses, one, or two or more. Since a chariot with a central shaft cannot be drawn by one horse, the single horse is a chiffre for two. From this convention he deduces another, namely the representation of both wheels on a single-axled chariot. The horse-convention merely indicates that there was a convention regarding the horses.
 27. Nicholson 46.41 (Ahlberg 1971:fig. 14a, c, d; here Fig. 1B) employs identical means for the two chariots, yet the left one (with charioteer and warrior) has a single wheel. If two wheels had been *de rigueur*, the painter could have suppressed some mourners to the left of the bier, as he did to the right so as to accommodate a chariot with two wheels. If the suggestion by Marwitz 1961B:40 that the painter of Metropolitan 34.11.2 (Ahlberg 1971:fig.1) worked from left to right can be extrapolated upon, the painter of Nicholson 46.41 would have begun with the one-wheeled chariot.
 28. The existence of two-axled funerary wagons in near-contemporary Hallstatt contexts is interesting (cf. Barth *et al.* 1987), although not a compelling parallel.
 29. Ahlberg 1971:fig.13b, top left corner and second register right.
 30. Id.:fig.13c. The chariot is two-wheeled. One-wheeled variants with the lower legs obscured appear on "Eretria" no nr (Davison 1961:fig. 101) and Louvre A522 (frieze under the *prothesis* scene; Ahlberg 1971:fig.16a-c).
 31. Nicholson 46.41 (id.:fig.14c; here Fig.1B) depicts the passengers stunted in size.
 32. Cf. Robertinum 59 (id.:fig.55c), Metropolitan 14.130.14 (id.:fig.25a-e), NM 802 (id.:fig.7d), Louvre A522 (id.:fig.16a-b; here Fig. 1D).
 33. Id.:fig.4a-b.
 34. Id.:fig.41a, b, e, f. This is one of the rare Late Geometric II two-wheeled chariots referred to above.

35. In Homer, a man's fighting force is characterized by breath in his chest and strength in his knees (cf., for instance, *Ilias* 9.610, 10.90). On knees, cf. Onians 1951:174-186.
36. The argument in favor of the two-axled wagon is less well documented than the existence of single-axled chariots. Some further notes may be helpful. The two-axled vehicle is known in four instances from the Bronze Age: a clay model from Palaikastro (Wiesner 1968:31 fig. 3b), a Linear A sign from Tyllissos (id.: 39 fig.6b), a stele from fragment the Shaft Graves in Mycenae (Crouwel 1981:pl.39), and a larnax from Ierapetra-Episkopi (id.:pl.33). In *Ilias* Book 24 Priamos brings Hektor's corpse back to Troy, in *Odyssey* Book 6 Nausikaa takes the washing to the sea in a two-axled wagon. It is also interesting to note that in Europe the Hallstatt wagon is completely replaced by the LaTène chariot in funerary contexts - the same development as is reflected by the Late Geometric I and II vase painting. Two-axled wagons are rare in post-Geometric times, the Vari clay model being a notable exception (Karouzou 1984:135).
37. As on the sherds NM 4310 (Ahlberg 1971:fig. 19), or the amphora Ny Carlsberg Glyptothek 2680 (id.:fig.29c).
38. Horses harnessed to a chariot are represented by a body common to all, separate neck and heads, and a forest of legs below. With four horses, cf. Folkwang 969 (id.:fig.41e-f); with three, cf. Odos Peiraios (id.:fig.8), Nicholson 46.41 (id.:fig.14c), Louvre A541 (id.:fig.15b) etc. Kyrieleis 1969: 108 notes that the κλίνη is depicted with four legs because it has four, not by virtue of an attempt at perspective.
39. Ahlberg 1971: fig.18.
40. Cf. *prothesis* scenes in general and fighting scenes with fallen warriors. The manner of treating the human body could be considered proof for a reconstructed image on line with the traditional view: legs, buttocks, arms and head in profile, chest *en face*. Not so: it is here considered that the artists were obliged to present the chest in a different aspect by the nature of the human body when depicted by simple means. It should be noted that Greek art before and after the Geometric period employs the same convention.
41. Id.:figs 25f and 24b respectively.
42. Id.:fig. 21b.
43. Id.:figs 36c and 37c respectively.
44. The krater Metropolitan 34.11.2 (id.:fig. 1e) indicates that this is not exclusively a late phenomenon: on this Middle Geometric II vase (on the date, cf. n.75), the space between the leg-pairs is filled with cross-hatching.
45. The word κλίνη designates both a bed or couch for the living and a bier or stretcher for the dead.
46. Particularly well-known, and early, examples are the Eurytos - and the Tydeus-kraters (Arias/Hirmer/Shefton 1962:pls 32, IX; XII, 33).
47. Cf. Folkwang K969 (Ahlberg 1971:fig. 41c): cf. Froning 1982:67.
48. Compare Metropolitan 14.130.15 (Ahlberg 1971:fig.22c) and the Red Figure kylix Louvre G467, conveniently united by Richter 1966: figs 330-331. A search for further parallels will follow in the detailed study under preparation.
49. Cf. Firenze, Museo Archeologico 86.415.85 (Ahlberg 1971:27a), Ny Carlsberg Glyptotek 2680 (id.:fig. 29c) Benaki 7675 (id.:fig. 46b), Louvre CA 3283 (id.:fig. 47b), possibly also Vlastos Coll. (id. fig. 44). Cf. also Kyrieleis 1969:107-108.
50. As this latter type is less relevant to the discussion to follow, it may be relegated to the notes. The best example is Berlin 1963. 13 (Ahlberg 1971: fig. 31a). The surface may be reduced to a loop over the corpse as on BM 1912.5. 22.1 (id.:fig. 45a, c-d). This amorphous area, rather the antithesis of the strictly ordered pictorial structure preferred by the earlier painters, can also carry a checkerboard, thus tying it to the Dipylon mode, cf. NM 18474 (id.:fig.34) and Cleveland (id.:fig.36c).
51. This reconstruction of a moment in the rites concerned with mourning is purely

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- hypothetical. It does not imply that Geometric art captures specific moments. An alternative explanation would see the hands touching the shroud as subsequent to the area having been filled by the checkerboard. When Hinrichs 1955:132 speaks of “das Zurschaustellen des Lakens” she errs: it is the corpse which is revealed. On the meaning of the checkerboard pattern, cf. Marwitz 1961A, Lambrinouidakis 1975.
52. Contrast NM 804 (Ahlberg 1971: fig.2b) and NM 802 (id.:fig.7b). Cf. also Sèvres (id.:fig.3c), Louvre A517 (id.:fig.4a, c), Odos Peiraios (id.:fig.8b), Louvre A541 (id.:fig.15b), etc. This would suggest that Hinrichs 1951:35 is incorrect in explaining the extensions as the overhang on the short sides. Note, however, a similar reading by Kyrieleis 1969: 114-115.
 53. Ahlberg 1971: fig.25f.
 54. Cf. Agora P4990 (id.:313textfig.2).
 55. Id.:fig.24b. Cf. Brussels A1506 (id.:fig.21b), on which a rectangle on the left filled with a rhombus pattern appears to fill the same function. There are some scant remains of a second rectangle to the right.
 56. Marwitz 1961A:11-12 is tentative on this point: “wo das Tuch sich über die ganze Breite der Schulterzone erstreckt, so dass es fast wie ein Ornamentstreifen wirkt”.
 57. Ahlberg 1971:fig.54a.
 58. Cf. Brunnsåker 1962:203.
 59. On NM 990 (Ahlberg 1971:fig.54), there is an alternation of crosshatched (chariot box, bier) and checkered (platform for the bier placed on the chariot, shroud) surfaces rising like a stabilizing pillar through the middle of the metope.
 60. As, for example, on Baltimore 48.2231 (id.:fig.37c). Surfaces filled with patterns also appear on Louvre CA 1940 (Rombos 1988:pl.50a), BM 1916.1-8.2 (id.:pl.50b), and the sherd K83 in the British School at Athens (id.:pl.48a).
 61. The raising of figures onto a higher level in the pictorial space appears to have been pioneered by Polygnotos, and is reflected in the Red Figure krater by the Niobid Painter (Arias/Hirmer/Shefton 1962:pls 173-175). When objects are depicted in perspective on vases, the lines do not converge on a single point, as illustrated by Richter 1987:324 fig. 438. Wall paintings, as evidenced by Roman copies, exhibit proof of a better understanding of perspective.
 62. Brunnsåker 1962:208 argues otherwise but is inconclusive concerning the ships, accepting both two-leveled hulls and raised farside rowers. Brunnsåker’s basic argument (id.:209-210) is that the picture is a translation from reality, yet he recognizes that real space is not represented, only a created, fragmentary space. Thus he shows an obsessional preoccupation with “real space”, although he considers the Geometric figure style as “abstract to an exceptional degree in Greek art” (id.:189). Some of his comments (examples on id.:210-213) are irrelevant to the question of the Geometric artist’s treatment of space. The borders of the metope, within which figures and objects are arranged, define the Geometric pictorial space, not an actual depicted space. There ensues a distinct overevaluation of three-dimensional space as practiced in perspective art (cf. also Brunnsåker on the Pithekoussai krater, id.:216-220). Similar fits of rationality are evident in Kirk 1949:125 regarding the oars and their relationship to the keelline/waterline, in Williams 1949-50:129 on the oars having to be depicted as reaching the water below the hull if an upper level is to be accepted, and in Williams 1958:123-124 concerning the absence of stanchions to support a deck.
 63. Cf. Kraiker 1954, Hurwit 1977:17-22.
 64. The loss of textile evidence, as well as representations on wood, as carriers of images otherwise unknown from the pottery and the metalwork should not be underestimated, but remains an unknown.
 65. Numerous scholars would disagree: their accounts must be reserved for later discussion in a larger format. Among more recent studies, cf. Kirk 1949, Williams 1949-50, 1958,

- Morrison/Williams 1968, Basch 1987 etc. The issue is connected with that concerning the invention of the and *τριήρης* is therefore avoided here.
66. Cf. NM no nr. (Basch 1987:167 fig.337; here fig.3C), Louvre A530 (id.:172 fig.356; here Fig.3E); cf. also the man on the right edge of Louvre A528 (id.:166 fig.336). The stanchions are often omitted for clarity: cf. id.: 172-173 figs 354-359 (here Figs 3D-F).
 67. Louvre A534 (id.:166 fig.333; here fig. 3B), A527 (idem figs 334-335; for the latter, here Fig.3A). The longitudinal position of the deck suggested here is hypothetical, and in need of a thorough analysis.
 68. On Louvre A528 (id.:166 fig.336) a man is shown standing at half height in the bow, either on a small deck or on a step halfway between the thwarts and the deck, which runs out into the forecabin, as indicated by the enemy warrior with the arrow through this throat. The helmsman is either standing on the level of the thwarts, as on Louvre A540 (id.:171 fig.350) and NM no nr. (idem fig. 352), or on a small quarterdeck below the main deck, as on Louvre A530, (id.:172 fig. 355; here Fig.3F) and Brussels no nr. (id.:173 fig. 357).
 69. Louvre A532 (id.:172 fig.354; here Fig.3D).
 70. Upper: NM no nr. (id.:166 fig. 338), Louvre A517 (id.:172 fig. 353). Lower: Louvre A530 (id.:172 fig.355; here Fig.3F), Brussels no nr. (id.:173 fig. 357), Athens no nr. (id.:173 fig.358), Louvre A532 (id.:173 fig.359).
 71. Tholepins: cf. the material united at id.:166-167 (cf. Figs. 3A-C). The rowers on Louvre A517 (id.: 172 fig.353) are not shown using the stanchions as tholepins, but this appears to be the case with the single extant rower on NM no nr. (id.:166 fig.338).
 72. The present author is by no means the first to propose a two-level reading: cf. Casson 1971:49-60, 71-76, who, however, does not attempt to argue against the foundations of the traditional view. The interpretation as a deck prevailed in the earliest literature, cf. Cartault 1882-84:48, Assmann 1889:1596, Torr 1894:18-19; and was maintained by Köster 1923:87, and Kirk 1949:127-130 (although in his catalogue, Kirk occasionally adopts the reading as the far side of the hull [cf. his nrs. 28, 35a, 40], not always in a systematic manner. Note also that he rejects five "apparent biremes", [nrs 28, 29, 31, 32, 40] as products of "overambition and a faulty perspective-technique" [id.:129] and "artist's error" [id.:130]).
 73. *A terminus post quem non* of c. 700 BC is provided by the sherds NM 265 (Basch 1987:182 fig.384) and NM 266 (id.:183 fig.385; here Fig. 4G) from the Akropolis which allow no doubt as to depicting two-leveled ships.
 74. The Akrotiri ships: Marinatos 1974: col.pl.9 (cf. Wedde 1992: Section 4.6). The Pyrgos Livanaton ships: Dakoronia 1987.
 75. Basch 1987:178 fig. 374. On this vase, cf. Marwitz 1961B. Marwitz (id.:47) dates the vase to the Late Geometric II period, and is followed by Morrison/Williams 1968:30 and Basch. Davison 1961:130 places it, with reservations, before the Dipylon group. Coldstream 1968:23, 26, 349 correctly dates it to Middle Geometric II. Schweitzer 1969:39 places the vase after the skyphos Eleusis 741 and just before NM 804 by the Dipylon Master, to which he assigns a date of circa 770 BC. Cf. also the initial publication and the first half of the eighth century dating by Richter 1934:169.
 76. Kirk 1949:97, Casson 1971:52 consider the ship on the skyphos Eleusis 741 (Fig.4B) to be decked. If correct, this could suggest that a further two vessels are likewise decked, on a cup (Basch 1987:176 fig. 368) and on a hydria (idem fig.369). The date proposed by Young 1939:77-79 (late eighth-early seventh), Morrison/Williams 1968:32-33 Geom.26, 27 and 28, and Basch 1987:176-177 (Late Geometric II) is too low. Cf. also Brunnsåker 1962:189n2. Kahane 1940:473, 481-482 dates them to his Streng Geometrisch, in absolute terms circa 850-800, Kirk 1949:96-97 to the end of Strict Geometric, Coldstream 1968:22 to Transitional Middle Geometric II/Late Geometric I, circa 760 BC. Davison 1961:106-107 follows Young, but also suggests (id.:130) a date shortly before the Dipylon group. Himmelfmann-Wildschütz 1962:79 argues for the earlier date.

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77. Kalligas 1987:83 fig. 1; cf. Popham 1987:354 fig. 1, 356-357 figs 3-4, Catling 1986-87:14 fig. 18.
78. The spherical pyxis is a local Euboean product (Kalligas 1987:77, Popham 1987:356): the possibility that a different pictorial language to that employed in Athens is at work should not be excluded.
79. Kalligas 1987:77, Popham 1987:355.
80. A more detailed study of the evidence for decked ships in pre-Classical times is proceeding slowly. It will include a discussion of the criteria deemed essential for recognizing decks in profile renditions of ships. The overview of the Geometric evidence presented here is by necessity brief.
81. Middle Geometric pottery reintroduces the human figure, and presents the first major compositions. The formulaic composition appears already in the Bronze Age through the use of specific components in areas reserved for them (although formally they are less rigid than the Late Geometric pictorial vocabulary); cf. Wedde 1993.
82. Kyrieleis 1969:106-115 notes discrepancies in the traditional view concerning the κλίνη and the shroud, but does not attempt to go as far as the present paper.
83. This issue necessitates a careful look at the development from πεντηκόντορος to διήρης to τριήρης, as well as alternative systems (a rudimentary attempt is made in Wedde 1992: Chapter Five).

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Supplement 2.

ILLUSTRATIONS

1. Late Geometric chariots
A NM 990 (drawing by author from Ahlberg 1971:fig.54a).
B Nicholson 46.41 (computer scan from id.:fig.14c).
C Louvre A547 (computer scan from id.:fig.13b top left).
D Louvre A522 (drawing by author from id.:fig.16b).
E Louvre A517 (computer scan from id.:fig.4b).
F Folkwang K969 (drawing by author from id.:fig.41e).
2. Late Geometric *prothesis* scenes and biers
A NM 804, *prothesis* scene (from Ahlberg 1971:fig.2b).
B Benaki 7675, bier (from Laser 1968:19 fig.1e).
C Odos Peiraios, bier (from id.:fig.1f).
D NM 812, bier (from id.:fig.1a).
E Brussels A1506, bier (from id.:fig.1k).
F Baltimore 48.2231, bier (from id.:fig.1o).
G Ny Carlsberg Glyptotek 2680, bier (from id.:fig.1d).
H Metropolitan 14.130.14, *prothesis* scene (from Ahlberg 1971:fig.25f).
I Eurytos-krater, symposion scene (drawing by author from Arias/Hirmer/Shefton 1962:pl.IX).
3. Late Geometric ships
A Louvre A527 (from Basch 1987:166 fig.335).
B Louvre A534 (from id.:166 fig.333).
C NM no inv.nr (from id.:167 fig.337).
D Louvre A532 (from id.:172 fig.354B).
E Louvre A530 (from id.:172 fig.356).
F Louvre A530 (from id.:172 fig.355).
4. Evolution of Geometric ship architecture
A Toumba Grave 61 (from Kalligas 1987:83 fig.1).
B Schematic drawing by author based on Basch 1987:177 fig.372 and 176 fig.368.
C Metropolitan 34.11.2 (drawing by author from id.:179 fig.375).
D Schematic drawing by author based on id.:174 fig.360.
E Schematic drawing by author based on id.:168 fig.341.
F Schematic drawing by author based on id.:177 fig.370.
G NM 266 (from id.:183 fig.385).

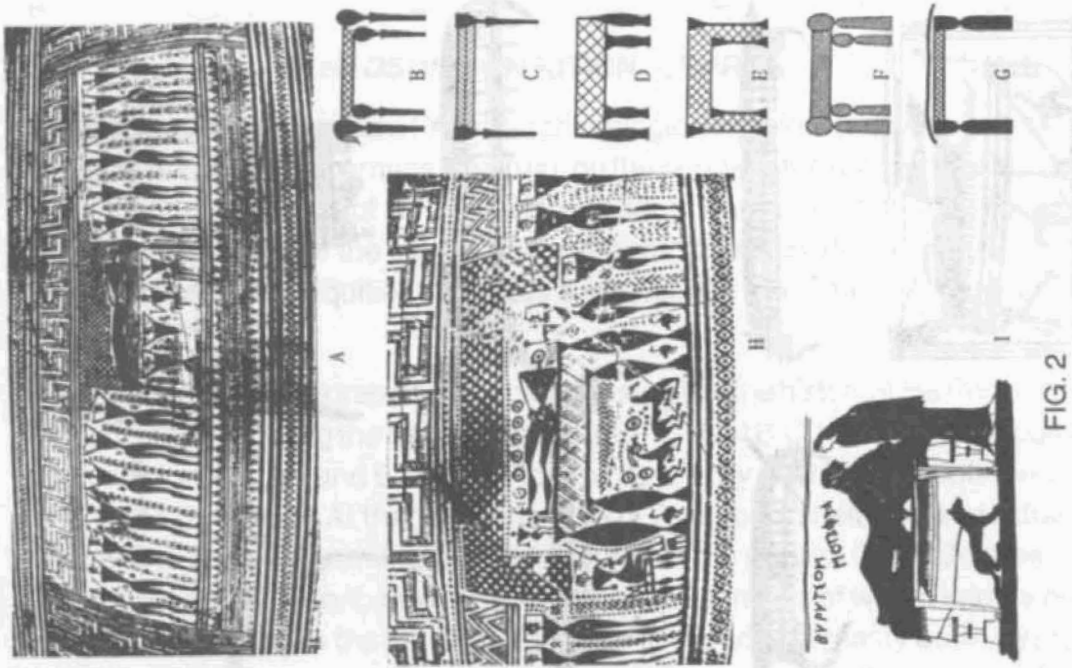


FIG. 2

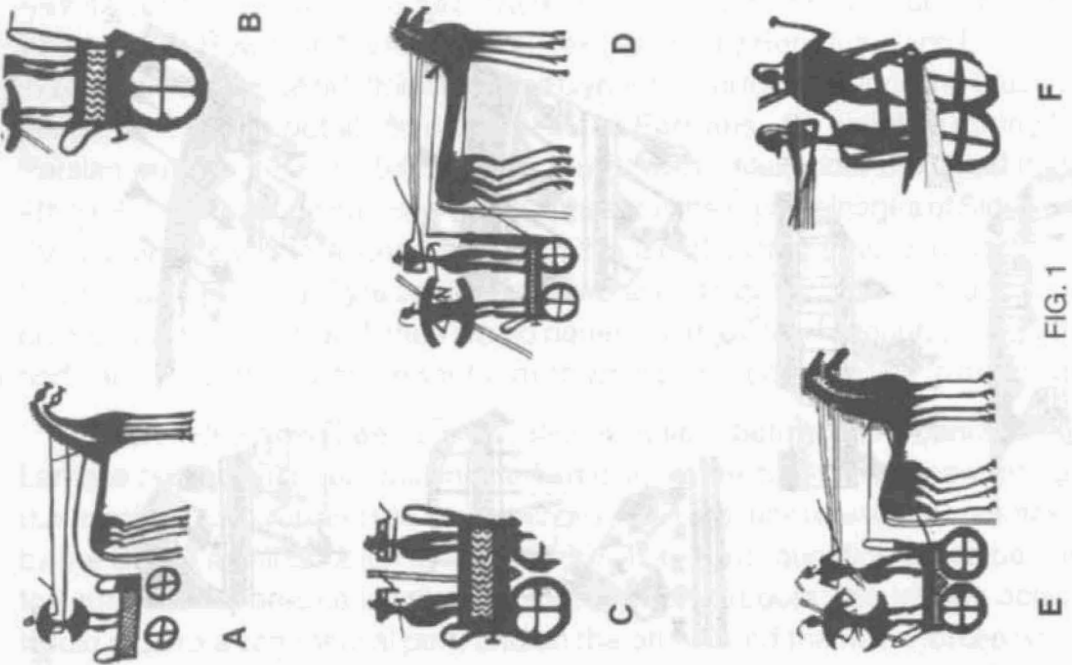


FIG. 1

