MOCHLOS IC

Period III. Neopalatial Settlement on the Coast:
The Artisans' Quarter and the Farmhouse
at Chalinomouri.

The Small Finds



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Frontispiece. Stone vases in various stages of manufacture: **IC.176**, **IC.169**, **IC.171**, **IC.170** (S 244, 100, 242, 233; from top to bottom). Drawn by Doug Faulmann.

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Mochlos IC

Period III. Neopalatial Settlement on the Coast: The Artisans' Quarter and the Farmhouse at Chalinomouri

The Small Finds

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by
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Published by
INSTAP Academic Press
Philadelphia, Pennsylvania
2004

Design and Production
INSTAP Academic Press

Printing
Sun Printing House, Philadelphia, Pennsylvania

Binding
Hoster Bindery, Philadelphia, Pennsylvania

Library of Congress Cataloging-in-Publication Data

Mochlos IC Period III. Neopalatial settlement on the coast, the artisans' quarter and the farmhouse at Chalinomouri : the small finds / Jeffrey S. Soles ... [et al.].
p. cm. — (Prehistory monographs ; 9)
Includes bibliographical references and index.
ISBN 1-931534-08-X (alk. paper)
1. Mochlos Plain (Greece)—Antiquities. 2. Excavations (Archaeology)—Greece—Mochlos Plain. 3. Minoans—Greece—Mochlos Plain. I. Soles, Jeffrey S., 1942- II. Series.
DF221.C8M66 2004
939'.18—dc22

2004007630

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Philadelphia, Pennsylvania
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Printed in the United States of America

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Acknowledgments

The excavation of the Artisans' Quarter at Mochlos and the farmhouse at Chalinomouri was a joint Greek-American collaboration sponsored by the University of North Carolina at Greensboro and the Archaeological Institute of Crete under the auspices of the Greek Ministry of Culture and the American School of Classical Studies at Athens. The editors are grateful to the Greek Archaeological Service for granting the excavation permit, to the staff of the 24th Ephoreia in east Crete for facilitating the work, and to all of these organizations for their assistance in seeing the project through to a successful completion.

The Institute for Aegean Prehistory and the National Endowment for the Humanities provided the major funding for the excavation, but numerous individuals also contributed financial support, including Philippe and Marion Lambert and Karen Morely Westcott. The Institute for Aegean Prehistory also provided the major funding for the study seasons which followed the excavation and made the publication a reality. The Samuel H. Kress Foundation was particularly helpful in supporting our conservation efforts. Additionally, all the authors of the book would like to thank their respective universities and academic institutions for providing support in various ways during the preparation of this volume. They include the University of Athens, the University of North Carolina at Greensboro, Willamette University, Stanford University, the Field Museum of Natural History, the North Carolina Museum of Art, the Isotrace Laboratory at the University of Oxford, the British Academy, the Science Research Council of Great Britain, the University of Sheffield, the University of Plymouth, the Laboratory for Quaternary Wood Research in Adliswil, Switzerland, the University of Valencia in Spain, the Wiener Laboratory of the American School of Classical Studies in Athens, the University of Thessaloniki, the University of Crete, and the Institute of Mediterranean Studies in Rethymno.

A large number of individuals have made this part of *Mochlos* vol. I possible, either as direct contributors to its various chapters or as researchers or technicians who assisted in the work that went into the preparation of these chapters. The volume editors would like to thank the various chapter authors listed in the Table of Contents and the individuals who worked behind the scenes and contributed to the book in other ways. For Chapter 1 we are particularly grateful to Ann Nicgorski who helped to edit the original manuscript. For Chapters 2, 3, and 5 we are indebted to an array of undergraduate and graduate students from many universities who helped with the measuring and weighing of cataloged items. They include Kate Kilackey, Christopher Wilson, Jason Galbraith, Astrid Van Giffin, Jerrie Lee Parpart, and Sara

Jarmer. The editors and authors of Chapter 3 would like to thank Neil Boulton of the Isotrace Laboratory at Oxford University who performed the lead isotope and energy dispersive X-ray fluorescence (ED XRF) analyses for the metals. We are also thankful to Demetrios Anglos of the Foundation for Research and Technology, Hellas, who did the Laser-Induced Breakdown Spectroscopy (LIBS) analyses for these metals. For Chapter 6 we are indebted to many individuals who contributed toward the collection and processing of environmental material over many years. Students who washed and/or sorted the residues from the water flotation program include Maureen Smyth, Jessie Hastings, Brian Shelbourne, Maria Droungaki, Penelope Roumanou, and Dimitra Mylona. Niki Spanou, Dimitra Mylona, and Lena Mandalara sorted most of the flot. For Appendix A we are also indebted to Darden Hood of Beta Analytic who calculated the weighted average radiocarbon age for the LM IB carbon samples. We would like to thank Robert Grill for Concordances A and B at the end of the book.

As always, we are grateful to the staff members of the Institute for Aegean Prehistory Study Center in East Crete, particularly members of its publication support team. Doug Faulmann provided all of the drawings for Chapters 2 and 3. Stephania Chlouveraki and Michel Roggenbucke performed most of the conservation on the small finds cataloged in Chapters 1, 2, and 3. Kathy May photographed these objects and composed the layout for the plates in the book. In addition to these members of the INSTAP team, we are also grateful to several other individuals who contributed in these efforts. We are indebted to the late Thomas Phanourakis, the expert artist of the Herakleion Museum, for the drawing of the Makrygialos seal discussed in Chapter 1. We thank Laura Labriola and Cathy Pack for their hard work in illustrating the stone implements in Chapter 4. We are also grateful to Stavroula Golfomitsou who served as metal conservator and preserved the bronze objects discussed in Chapter 3. Without her meticulous reconstruction of the bronze bowls discussed in this chapter, it would have been impossible to identify their original shapes.

Several authors would also like to thank various individuals for their support and suggestions in writing their respective chapters. Tristan Carter is grateful to a number of colleagues for their invaluable help in the preparation of Chapter 4 on stone implements, particularly Harriet Blitzer and Doniert Evely, plus Philip Betancourt, Andy Bevan, John Clark, Cesare Dannibale, Heidi Dierckx, Chris Doherty, Karl Taube, Mike Lewis, Jennifer Moody, Jim Muhly, Polymnia Muhly, Scott Pike, Hara Procopiou, Cemal Pulak, and David Reese. Tristan Carter and Christopher Witmore are grateful to Sidney Carter for his critique of the stones and minerals identified in Chapter 5. Anaya Sarpaki and Joanna Bending would like to thank E. Panagiotakopoulu for verifying dung as insect dung, as well as discussing olive infestation, and Mike Charles, University of Sheffield, for permission to use University facilities in order to check seeds of the Bioarchaeology Laboratory's collection. The author of Appendix A would like to thank Darden Hood, Tom Brogan, and Malcolm Wiener for their suggestions.

Jeffrey S. Soles
Costis Davaras

Abbreviations

The following abbreviations are used in this volume:

A	Building A, Artisans' Quarter
A.1, A.2, etc.	Building A, Room 1, etc.
Am^2	ampere meter squared
Am^2/g	ampere meter squared per gram
B	Building B, Artisans Quarter
B.1, B.2, etc.	Building B, Room 1, etc.
CF	coarse fabric
Ch	Chalinomouri
Ch.1, Ch.2, etc.	Chalinomouri, Room 1, etc.
Chap.	Chapter
d.	diameter
dims.	dimensions
EBA	Early Bronze Age
ED XRF	Energy Dispersive X-ray Fluorescence
EH	Early Helladic
EM	Early Minoan
est.	estimated
ext.	exterior
F	fused
FN	Final Neolithic
g	gram
GS	ground stone
h.	height
HM	Herakleion Museum
int.	interior
kg	kilogram
LBA	Late Bronze Age
LC	Late Cycladic
Le	left
LM	Late Minoan
mA/m	milli amps per meter
MDA	maximum deviation angle
MH	Middle Helladic
MM	Middle Minoan
MNI	Minimum Number of Individuals
m	meter
max.	maximum
mos.	months
mT	milli tesla (magnetic field unit)
n.	note
NM	National Archaeological Museum in Athens
NR	North Room, Building A, Artisans' Quarter
pres.	preserved
R	right
T	tesla
UF	unfused
w.	width
yrs.	years
-/- -	complete/fragments

Introduction

Jeffrey S. Soles and Costis Davaras

This book contains the small finds, including artifacts and ecofacts, from the Artisans' Quarter and the Chalinomouri farmhouse, which the Greek-American Excavations at Mochlos uncovered in the summers of 1990–1994. It is the third part of Volume I in the Mochlos Publication Series, in which Part A deals with the stratigraphy, architecture, and functions of the two sites and Part B deals with the Neopalatial pottery. Like Part B, it provides more detailed information about finds that are discussed in their contexts in Part A and listed after the room by room descriptions in that part of the volume. It also treats individual items as distinct groups in a synthetic fashion and provides a body of comparable material from other Minoan sites. This part completes the publication of these two coastal sites, and it should also prove a useful addition to the resources available for studying the material remains of Minoan civilization.

Chapter 1 explores the meaning of the most remarkable find among the pottery from the two sites—the enigmatic Ship Cup, with its frieze of three ships encircling the cup. Chapter 2 contains the catalog of all ceramic, stone, bone, and shell objects that were inventoried from the excavation. These objects include tools used in manufacturing processes, as well as products, and they permit a further discussion of the manufacturing techniques that are described in Part A of the volume. Chapter 3 contains the catalog of all metal finds from the excavation, including raw materials, waste, and final workshop products, and discusses the geological sources of the copper ingots, lead objects, and certain bronze objects. Chapter 4 lists all ground and chipped stone implements collected from the excavation. It gives the identification of the source of non-local stone and discusses the manufacturing techniques used to create these implements and their uses. Chapter 5 describes the mineral resources employed in the various craft activities at the two sites, particularly in metal working and stone vase making. Chapter 6 discusses the faunal remains, including mammal, shell, and fish remains, and the floral remains, including wood charcoal as well as seeds. It gives some indication of the various foods available to the artisans and farmers who lived there. The conclusions in Chapter 7 discuss the evidence for trade and offer a theoretical model to explain

some of the choices that the artisans made in practicing their crafts. The two appendices address the chronology of the period when the Artisans' Quarter and the Chalinomouri farmhouse were in use. Appendix A gives a series of nine radiocarbon dates obtained from the excavation, and Appendix B contains an archaeomagnetic study of the three kilns found in the excavation.

The bulk of this part of the volume, Chapters 2, 3, 4, and 5, is especially indebted to the work of R.D.G. Evely who provided in his two volume work on Minoan Crafts a comprehensive and detailed examination of many tools and techniques that are discussed here.[1] Like Evely, the authors of this volume attempted to discuss the different aspects of the pursuit of a craft by providing catalogs of different tool types and products and by examining details of the manufacturing process revealed by these objects. The discussion of manufacturing processes is limited by the evidence at hand, however, because neither the Artisans' Quarter nor the Chalinomouri farmhouse preserved all of the equipment that might be needed for the various craft and farming activities that occurred at these two sites. For a more comprehensive picture and the historical background of these tools and processes, the reader should turn to Evely's work and to the specialist studies referenced in the footnotes. There is also little discussion of the socio-economic conditions of the artisans and farmers whose tools are examined in this part of the volume. For this, the reader should turn to Part A of the volume where such discussion, which is largely theoretical, is located in the conclusions in Chapters 3 and 5.

Small items of everyday life, such as the objects in this book, reflect wider aspects of society. They reveal how Minoans constructed their buildings and made their pottery, bronzes, and stone vases, but they also provide interesting insights into the behavior and beliefs of individual Minoans as well as the religious and sociopolitical structure of their society. The objects inventoried in this book have a small, but important part to play in the reconstruction of Minoan civilization, which is our ultimate goal.

Introduction Note

1. Evely 1993, 2000.

1

The Mochlos Ship Cup

Costis Davaras

Introduction: the Painted Scene

A rounded cup, **IB.202** (P 472), was found broken and only about one-third extant in Room 2 of Building A in the Artisans' Quarter. It displays three remarkable crescent-shaped ships in a frieze on the shoulder (Fig. 1).[1] Below the ships are a pair of two horizontal bands, each with one added white line, that may have been intended to convey the impression of the ships floating on the sea. Although the surface is badly worn, clearly the ships are solidly painted in a sketchy and highly stylized manner. Only small parts of each ship are preserved, but because the ships appear to be basically identical to one another, it is possible to make a reasonable reconstruction (Fig. 1B).

Side A of the cup, with the leftmost part of the frieze, is the least well preserved. All that can be seen here is the left end of one ship and part of a mysterious, oblong object that rises from the horizontal band below. As the cup is turned to the side opposite the handle, a second ship appears. Only about one third of this ship is preserved, i.e. the left side representing an end and part of the hull. On Side B of the cup, the right half of a third ship is shown with the end and part of the hull occupying the extreme right part of the frieze. The hull of this ship touches the horizontal band below. To the right of this third vessel is the handle, which is solidly slipped with added white horizontal slashes.

The ships belong to a well known, oblong, crescent-shaped type that exhibits ends rising high. Because only one partly effaced end is preserved in all three cases, it is unclear whether both ends of the three ships rose equally high, or whether one end rose higher than the other. In all three cases, the preserved end, rising up to the band that decorates the cup's rim, displays a double ornament set at an almost right angle to this end, consisting of two small parallel crescents pointing downward. This somewhat enigmatic motif appears on other ships, and it has been described in the literature as a "barbed point,"[2] a "pronged ornament," a *fleur-de-lys*, an *akroterion*, or, more exactly, an *akrostolion.*

The preserved ends of the three ships do not rise at the same angle. Those of the first and third ships appear to rise steeply at almost 80°, curving the hull sharply like a sickle, while the preserved end of the second ship in the middle rises smoothly at about 45°. This fact might give the impression that

the extremity of the second ship represents a different end of the ship compared to the first and third ships. However, this impression cannot be correct because the akrostolion is typically found on the prow of a vessel, so three prows of three different vessels should be represented here.

Two objects are placed vertically on board the third ship (Side B), and the same objects were probably repeated on the other two ships because they are so similar in all other respects. The first is a ladder-like object that rises perpendicularly next to the prow. On the third ship, it is mostly preserved, although effaced in the upper part; on the second ship, it also appears, although only its left side is preserved. Both ladder-like objects display six horizontal, rung-like lines, although the second ship may have a seventh, placed somewhat obliquely below the others and slightly protruding beyond the perpendicular post. That of the third ship touches the hull with one post, while the other post stands in the air above the curving hull. Another strange element rises near the center of the hull on the third ship. It resembles a sketchily painted "arrowhead" pointing upward, or perhaps a mast with its rigging incomprehensibly falling down to the hull, at one point touching it. As the second ship is much less preserved than the third, nothing remains of this element. On the first ship, neither the ladder-like object nor the "arrowhead" is preserved.

The objects on board the ships have an emblematic character as if they summarily allude to some iconographic scene that would have been well-known to the Minoan onlooker, one that was clearly and frequently depicted in other contexts. These objects would be virtually incomprehensible today, however, and they would give rise to various explanations or speculations, had not a unique seal come to light two decades ago at the LM IB villa of Makrygialos.[3] This seal (Fig. 1C; Pl. 1A), a masterpiece of glyptic art equal to a fine gold ring and perhaps originally covered with gold foil, shows a scene that serves as an "archetypal picture" or *Urbild*. With its help we can gain insight into the meaning of the enigmatic Ship Cup from Mochlos and decode what is here summarily executed in a formula-like, hieroglyphic way, understandable only to the contemporary onlooker. Indeed, Minoan art often works in this way. Consider, for example, the inadequate architectural representations or the conceptual rendering of the landscape in frescoes—images that did not reflect the real world, but rendered it in a conventional way that was supposed to be decoded by the "initiated" eye of the contemporary spectator.[4]

The Makrygialos seal shows an extraordinary scene with a cult ship or boat carrying a priestess making the typical Minoan adoration gesture, with one fist above or between her eyes, while she stands in front of a sacred palm tree rising in the middle of the hull.[5] This tree, a real *arbor* or *albero* (the Latin and Italian words for "tree" and "mast" are the same), was believed by some experts in Minoan glyptic art to be an actual mast with rigging somehow "sagging." The ship, therefore, was described with "two stays [that] hang slackly [on] either side of the mast," with the specific difference, of course, that the stays are concave, as they should be, not convex like on the Ship Cup from Mochlos.[6]

An *ikrion* is placed next to the tree near the ship's rising end on the Makrygialos seal. It could also be described as an altar-like wooden shrine or enclosure, similar to the example on the ship in the famous, now lost, Mochlos ring (Fig. 2A).[7] Whereas the scene on the Mochlos ring is clearly mythological or transcendental because the goddess herself is visiting a coastal sanctuary on board her self-propelled, magical boat, one end of which is formed like a hippocampus or a dragon head, the scene on the Makrygialos seal represents a real ritual action that was aptly postulated more than three decades ago by St. Alexiou.[8] The high priestess of the Sea Goddess at this coastal villa takes part in a very important ceremony.[9] She is seen raising her hand, certainly not in mourning,[10] but probably in connection to the holy palm tree and perhaps related to an epiphany. In any case, the important fact revealed by the Makrygialos seal is the existence of a previously unknown Minoan ritual, the transference of a holy tree on board a ship along with a light, wooden construction, perhaps from or to some coastal shrine. The scene summarily shows the culminating point of the ceremony with only the three most important elements: the tree, the wooden construction, and the priestess, or the goddess herself, in the case of the Mochlos ring

The unexpected appearance on the Mochlos Ship Cup of three boats formulaically displays the same essential elements including the palm tree with its

crown drooping in an exaggerated way, the characteristic wooden construction, and perhaps the priestess or goddess in the missing places. Such pictures were commonplace at this time and immediately recognizable even if the picture became hardly intelligible, like a hieroglyphic sign developing into a cursive script sign, as it were. If this conclusion is valid, then the scene suggests that such a ritual, where a holy tree was transported on board a cult ship, was a common and important ceremony in the Minoan world.

The reason three ships performing the same ceremony are represented on one cup is unclear. It is possibly a simple case of the triplication of a sacred motif or ritual ceremony on a cup designed to play some important role in this ceremony. This triplication may even enhance the numinous influence of the cup, or rather of the liquid inside it, like the reduplication of the edges of a double axe or of horns of consecration. An alternative interpretation is that the three similar ships on the Mochlos Ship Cup represent as *pars pro toto* a procession with a flotilla of cult ships in some sea ritual, possibly a spring festival, perhaps not unlike the famous Fleet Fresco from Thera.[11] Such ship processions were known also in later times and places, like the *navigium Isidis* or the famous ships at Nemi that were supposed to have been used for processions in the cult of Diana Nemorensis.

The Iconographic Elements of the Ship Cup

The *Akrostolion* and the Prow

The unusual ornament at the extremity of the ships is variously known in the scholarship on Minoan glyptic arts as a "pronged ornament" or *fleur-de-lys*.[12] It is sometimes considered a "puzzling feature,"[13] although Sp. Marinatos correctly identified it as an *akrostolion*, according to an ancient word designating the prow's extremity.[14] This ornament, seen on the ships of the talismanic seals,[15] consists of a tripartite combination in which a long central point is framed by two almost rectangular hooks pointing downward that actually resembles a very stylized and linear *fleur-de-lys*.

There is no difficulty in recognizing the *akrostolia* on the Mochlos Ship Cup, although the hooks are redoubled and curvilinear, not angular, probably because there is more space in this vase painting than in glyptic representations to depict this ornament more accurately, i.e. redoubled. Similarly, on the splendid, large ring of the Stathatos Collection said to come from Thebes and now in the National Archaeological Museum in Athens,[16] the ample space also allows for a more realistic representation of details than on the much narrower field of the talismanic seals because the *akrostolion* does feature a double pair of hooks as on the Mochlos Ship Cup (Fig. 2B). The hooks on the ring, however, are rectangular, perhaps because this shape was easier for the ring carver to execute.

The same ornament takes another, oversimplified form like a solid, bifurcated end in the ships on the MM II prisms.[17] In this class of seals, however, the ships have a hull with an angular contour of equal width, representing an even more stylized vessel. D. Gray was persuaded that this bifurcation, usually seen on the ship's higher end, represents the stern.[18] She was perhaps led to this viewpoint because she thought the bifurcation imitated a fish tail, the whole vessel thereby taking the form of a fish and possibly personifying it. A. Evans also saw a type of ship whose prow "terminates either in a barbed point or a kind of open beak," evidently again like a fish.[19]

Against Gray's interpretation, A. Onassoglou correctly argued that this bifurcation is nothing other than an extremely stylized *akrostolion*. Gloriously decorated *akrostolia* are, of course, much more realistically depicted in great detail in the Fleet Fresco from the West House at Thera (Pl. 1C). The glyptic representations of *akrostolia* (as well as those of the Mochlos Ship Cup) are clearly stylized versions in various degrees of the real decoration, or even a

cipher of it, that were immediately recognized by a Minoan viewer even on a tiny scale.

The same is true regarding Sign 64B of Linear B, which "represents the prow of a ship with a foliated *akroterion*."[20] M. van Effenterre suggested that prows with a kind of hook, reminiscent of the *fleur-de-lys* as well as "hooks and ornaments such as flowers etc., in whichever direction they are figured on top of a ship's extremity, normally indicate the prow."[21] Rarely, however, ships do display one bifurcated or *fleur-de-lys*-type *akrostolion* at each end. Such depictions are, of course, nothing other than representations of ships with a conventional ornamental character.[22] Thus, the existence of three *akrostolia* on the Mochlos Ship Cup does not necessarily prove that the preserved images should be identified as three prows, although the alternatives are improbable. Space is available in the frieze for three ships.

The extremity with the *akrostolion* should be the higher end, although the other extremity can in some cases be almost equal in height. In the case of the Mochlos Ship Cup, the other end of all three ships is missing, but normally it would be lower. Of course, more cannot be said here. On this old and much discussed problem, from 1899 to today, concerning which end is higher in prehistoric ships, the answer unexpectedly came from a clay ship model in the Mitsotakis Collection,[23] where the high prow contrasts with the low stern. These upcurving prows that appear in artistic representations must correspond to real examples, which were undoubtedly very useful in cleaving the heavy surf of the Mediterranean Sea.

L. Basch, in his monumental work about ancient ships in general, made the bold suggestion that the Minoan *fleur-de-lys* ornament should be identified as a linear rendering of a flying bird with spread wings represented at the prow's extremity.[24] Basch's theory found the support of another authority on ancient ships, A. Göttlicher, who even described it as "*zwingend und logisch*."[25] If this daring theory were valid, the evidence brought by the Mochlos Ship Cup should indicate that it is a question of two birds, one behind the other, in a group flight formation. But, if the ship personifies some creature, e.g.the hippocampus or dragon of the lost Mochlos Ring, which is placed at the stern but undoubtedly turns into the ship, one would normally expect to see just one bird instead of two. In the Theran Fleet Fresco, however, whole lions looking toward the rear form the stern's extremity, while the prow is decorated by the elaborate *akrostolion* (Pl. 1C). In this case, the lion can perhaps personify the ship. But when the lion is painted on the hull's side with a series of dolphins swimming in the same or opposite direction, or when a series of birds flying toward the prow appear on the hull of another ship, these are perhaps magico-religious paintings featuring strong or swift creatures, certainly not personifications of the vessel.

Basch's thesis about a bird on the prow is seemingly untenable because of the fact that among the elaborate ornaments on some of the Theran ships' *akrostolia*, we can see clearly a hook-like rectangular element,[26] the function of which is not absolutely clear yet it closely resembles the upper side of a *fleur-de-lys*. If so, the *fleur-de-lys* proper should be *pars pro toto* of a complete, elaborate *akrostolion* heavy with symbolic elements like those of the Theran ships, summarily but very clearly designed for the smaller field of a seal or vase. In any case, we may perhaps postulate a certain association between this *fleur-de-lys* and the Minoan sacred lily because of the quite exceptional emphasis given to this special form of the *akrostolion*.

The Palm Tree

The transportation of an upright tree on board a ship seems like a very strange idea to the modern viewer. Even before the appearance of the Makrygialos seal, however, Minoan glyptic iconography (e.g.the Mochlos Ring) attested to this unknown ritual. Because the combination of tree and boat was seemingly incongruous, some early scholars wrongly supposed that the tree was not meant to be on board the ship, but on dry land extending invisibly in the background. Now we can be convinced of the contrary.

N. Marinatos, in her study about tree shrines and tree rituals in Minoan art, observes that "no tree grows naturally from the terrain" and that "it is very

likely that we are dealing with transportable plants,"[27] repeating a remark made by earlier scholars and now fully justified. However, Marinatos' lengthy speculation about the tree being brought perhaps from the wilderness, placed atop a shrine in connection with a season of fertility or prosperity, and then eventually destroyed as a corollary to a new beginning, must of necessity stay *sub judices*.

In all the cases, the trees are transported in a ship, but let us be reminded that, as Evans remarked, "the tree itself was at times endued with a mysterious power of locomotion and the fable of trees going forth to choose a king (*Judges* IX, 8ff.) may find its origin in a circle of ideas still represented in modern folklore."[28] Evans also quoted *Macbeth* (Act IV, Scene 1).

Of course N. Marinatos, in the paper mentioned above, discussed trees on top of shrines, while the trees depicted on the Mochlos Ship Cup are represented next to a shrine (the *ikrion* as suggested below). These trees also should be identified as palm trees, the Minoan sacred trees *par excellenc*e, as Marinatos also demonstrated.[29]

Some time ago I collected many diverse parallels from several cultures of a tree being transported in a boat.[30] Evidently the Minoans adopted this ritual from other cultures like those of Egypt and Mesopotamia, especially because the palm tree was also the Oriental sacred tree, or the Tree of Life. If we are not sure that N. Marinatos correctly argued that the sacred tree was destroyed by a devotee bending it out of shape, thus ending a "festival time" period,[31] we can be fairly sure that the palm tree, as a tree of life, represents fertility and even distinctly shows the male or female sex (φοῖνιξ ὁ ἐρσην or φοῖνιξ ἡ βαλανηφόρος according to Herodotos). In the later Greek tradition, it is exactly this tree that Leto, certainly a survival of the Minoan Mother Goddess, grasped when she gave birth to Apollo and Artemis on Delos with *mogostokos* Eileithyia in attendance, who was a Cretan goddess with a Cretan *xoanon* on Delos.[32]

This island itself, with its famous palm tree, was considered to be like a ship, not resting directly on the sea bottom, but floating on the top of the sea—a fair parallel to the Makrygialos seal and the Mochlos Ship Cup. Of course, according to Thales, soil itself floated on the water rather like wood. In addition, curiously enough, the island of Crete itself was called φοῖνιξ.[33]

In both cases we have mentioned, the palm trees cannot be considered saplings because they obviously display a full grown, heavily drooping crown. This is the reason why the palm tree on the Makrygialos seal was misunderstood as a "sagging rigging" even by experts.

It would be out of place to discuss here the insistent connections between the palm tree and the bull often seen in glyptic art and even frescoes.[34]

The "Altar," "Shrine," or *Ikrion*—An Enclosure?

The high, ladder-like construction (an expression used by M. Nilsson) on board the three ships on the Mochlos Ship Cup was evidently made of a light material like wood, which was easily transportable on a vessel.[35] The relatively simple fabrication consists of a basic rectangular frame connected by five or six horizontal bars.[36]

It is not possible to say with certainty whether this construction is really an *ikrion* or cabin, an altar, or a shrine, or whether it is movable or fixed on board. On the talismanic seals, a similar construction consisting of two or three upright poles with latticework between them has been called a "cabin" (Fig. 2C). The class of ships that feature this construction is therefore known as *Kajütenschiffe* ("cabin-ships").[37] This structure was first interpreted as a cabin by V. Stais in 1915,[38] although later scholars totally misunderstood, identifying it instead as a fish or as some kind of freight. In any case, it seems to be open at the top, so it is not a real cabin in the modern sense.

This apparent cabin of the ships on the talismanic seals is placed next to the prow,[39] exactly like the extant feature on the two ships of the Mochlos Ship Cup. Therefore, on the third ship of the Mochlos vessel, where only the *akrostolion* of the prow is preserved, a similar "cabin" probably should appear in the same position. However, the placement of the

ikria in these artistic representations is not realistic, but rather "hieroglyphic," corresponding to the style of drawing

This basic cabin or *ikrion* was also depicted in great detail in the Theran West House on the ships of the Fleet Fresco. This time it is shown next to the stern with a person inside it (Pl. 1C). In a neighboring room, additional *ikria* are represented even more elaborately on a grand scale as separate units arranged in a row. The same can be seen in a simpler way and smaller scale on the ring of the Stathatos Collection mentioned above (Fig. 2B). It is noteworthy that on this ring the cabin is placed near the stern, as on the Theran ships. This placement probably more exactly reflects the real situation, whereas the cabin near the prow is possibly a more conventional "formulaic" way of rendering the essential elements of the picture, especially if the rear part of the hull is omitted.

In the case of the ships on the Mochlos Cup, the painter probably wanted to include an element in the picture other than the palm tree, perhaps a human figure, which is now missing, and this explains why the "cabins" appear next to the prows. This unrealistic placement of these "cabins" exemplifies Nilsson's "oracular evidence," as mentioned by Onassoglou,[40] meaning that in a "formulaic" representation not every detail is trustworthy. Also, the placement of the "cabin" construction should be near the stern for stability.

The structures on the Mochlos Ship Cup do not, after all, seem to depict this kind of Theran "cabin" or *ikrion*, whose sides were covered with a bull or ox hide. Rather, some kind of wooden, altar-like "shrine" consisting of perpendicular and horizontal bars like a "ligature" of several H's is illustrated. This kind of construction is also seen in glyptic art, sometimes as an obvious altar on top of a mountain, like on a gold ring from Tholos Tomb 4 at Pylos[41] and another example from Aïdonia Korinthias,[42] or again as the enclosure of the sacred tree on board the goddess' magical boat on the lost Mochlos ring. It is also interesting to note on a recently published seal, probably from Crete, a female figure in front of a palm tree and an altar "saluting" in the typical Minoan way.[43]

As far as the Mochlos Ring is concerned, this wooden construction may be nothing more than a planter containing the sacred tree, not an enclosure, according to N. Marinatos.[44] In fact, the same idea had been suggested long ago by R. Vallois: "D'après les proportions et la situation, il faut imaginer un coffre en bois rempli de terre végétale."[45] Certainly, on the Mochlos Ship Cup, these elements could be depicted independently as hieroglyphs in a *parataxis*. In any case, the construction on board the Mochlos Ring ship closely resembles the shrine depicted on land as well as the Mochlos Ship Cup structures. It is also important to note here that the goddess is arriving on the Mochlos ring, not departing, as N. Marinatos and L. Morgan before her correctly argued. This conclusion means that the dragonhead-shaped extremity of the Mochlos Ring ship is the stern and not the prow as usually interpreted; the latter is a variant of the *fleur-de-lys*-shaped *akrostolion*, albeit a very elaborate one.

In any case, I. Pini's doubts about whether the enclosure with the sacred tree on the Mochlos ring is to be seen on board the ship or behind it on land seem today unjustified.[46] For that matter, the same is true regarding a seal in Oxford where V.E.G. Kenna sees a "jetty" above an impossibly "three-masted ship," which is clearly a typical "talismanic" "cabin-ship."[47]

There is one other example of the multi-H-shaped "altar" that appears on the Mochlos ring where, in a double version, only the upper bars are straight while both the lower pairs are crescent-like.[48] Probably the various shapes of the "altar" are a case of rendering the same thing conventionally in several versions. A similar explanation also pertains to the latticework on the talismanic seals (Fig. 2C). Onassoglou does not believe it is a mere filling ornament but the rendering of some real element.[49] Curiously, this multi-H-like "altar" or "enclosure" is seen again on the Mochlos ring next to the *fleur-de-lys akrostolion* as a Linear A sign,[50] indeed a very linear, essential abbreviation.

This "altar" construction on the ships of the Mochlos Cup is also depicted as an "impressionistic" cipher, an essential part of the cult ships according to the painter's style. But to the modern eye, it appears to suggest the instability of the vessel. Nevertheless, these constructions do closely resemble representations of Minoan/Mycenaean altars that are evidently made of wood as seen on mountain tops. Therefore, these constructions on ships can be taken *in concreto* if we bear in mind that, according

to tradition, there was a wooden altar on a mountain in Boeotia where the famous wooden *daidala* were burned, a fact with counterparts in Minoan Crete.[51]

Perhaps the difference between both types of these characteristic constructions on board, the "cabin"/*ikrion* and the "altar"/"shrine" or "enclosure," only seems great.[52] Maybe there is a certain degree of hybridization of various cultic elements. The religious nature of the latter is obvious, but the religious nature of the former should not be doubted, as already B. Rutkowski and later L. Morgan and M. Shaw have argued,[53] despite a certain skepticism by Onassoglou who favors a more prosaic "captain's cabin" that is nevertheless roofless like an enclosure and permeated with religious elements as in the case of the Theran Fleet.

Now, if some kind of enclosure is meant in these pictures, then the sacred tree normally should be represented inside it, as in the case of the Mochlos Ring where representation is elaborately rendered. In the case of the Makrygialos seal, where the field is too tiny to allow a more realistic representation, or in that of the Mochlos Ship Cup with its strong "formulaic" character, an unrealistic or rather "surrealistic" rendering of the essential elements in a *parataxis* occurs quite like a hieroglyph—a clear case of Nilsson's "oracular evidence" as mentioned above.

The Unidentified Object—A Talismanic Spray?

On the Mochlos Ship Cup, in front of the prow of the second ship, there is a fragmentary oblong object of curvilinear shape with three small protuberances on the upper side (Fig. 1B). The lower side shows no such protuberances. A second such object may also have appeared in front of the first ship where small dot(s) of paint appear just above the break. The object is undoubtedly painted in the same extremely stylized "formulaic" manner as the ships, but its meaning was no doubt instantly "decoded" by the Minoan onlooker. It has no necessary factual relation to the ship, seems not to be a mere filling ornament, is in no way simply decorative, and it resembles nothing that could be related to the sea, e.g. a fish or a reef. Neither can it possibly represent the land or something related to it. A likely interpretation is that it represents a talismanic spray. Indeed, such a spray is regularly combined with the class of "talismanic" ships as well as with the earlier Protopalatial ships, but no explanation has been given for the presence of this "spray" or "branch motif," as it is called.

Sometimes the motif is so oversimplified as to be unrecognizable or misunderstood. For example, on a Prepalatial seal in Herakleion, a ship with a high, bifurcated prow appears,[54] in front of which is a crescent-shaped branch with its foliage on only one side. The author identified it tentatively with reefs. The identification of the higher end as the prow to the right is corroborated by the appearance of two fish below the hull, which swim in the same direction as the ship. They certainly represent the natural environment, but not so the presumed "reefs." Similarly, on another seal in the Mitsotakis Collection, two fish swim below the hull in the direction of the higher, bifurcated end of the ship,[55] but no branch appears there. The same misunderstanding happened with respect to a seal from Mallia, where it is presumed that "ahead of the bow is a quantity which might well represent a fish."[56] In fact, it is an extremely simplified branch, having just two "leaves" on one side.

On two ships with a higher bifurcated end found on Protopalatial prisms,[57] the direction is also indicated by the series of oars below the hull, which always point to the stern. In front of the high prow, a huge branch is again depicted, in one case with the foliage likewise conventionally shown on only one side. Often the spray is not put in front of but above the bifurcated prow,[58] or high above the ship.[59] Sometimes this motif is multiplied. Because this talismanic spray regularly accompanies the talismanic ship, clearly it is intimately connected to the ship as a "determinative" to its "codified" meaning. Of course, several other meanings have been given to the branch motif in glyptic iconography.[60]

This talismanic spray, when clearly represented with ample space around it, usually looks very much like a palm branch. Of course, this appearance could be the result of the carver's tool that led

to an inevitable stylization of the branch motif. However, one is almost tempted to interpret it more literally as a palm branch. It possibly could be a "determinative" indicating that the ship is indeed a cult ship carrying a palm tree on board as on the Makrygialos seal, the Mochlos Ship Cup, and evidently on a seal in the British Museum.[61] With commendable caution, this latter seal has not been interpreted in the publications where it appeared, but it clearly represents a palm tree carried upright on board a ship, although its trunk does not touch the hull.[62] Onassoglou more daringly writes that "das pflanzliche Füllelement nimmt bei KO 23 eine konkrete Form an, also einer Palme, die erhebt vom Bug über die Kajüte" (in fact next to it).[63] Onassoglou does not go so far as to recognize that it is not a question of a mere "Füllelement," i.e. a "filling element," but of a *pars pro toto* "determinative" of the cult ship.

The Ship Cup and the Minoan Hieroglyphic Script

The manifest "hieroglyphic" painting style of the ships on the Mochlos Ship Cup leads inevitably to a comparison with the Minoan hieroglyphic script itself. Such a comparison is now greatly facilitated by the recently published *Corpus Hieroglyphicarum Inscriptionum Cretae* (*CHIC*).[64] This unusual connection between painting and writing on Crete brings to mind western Europe in the 12th century where "painting was indeed on the way to becoming a form of writing in pictures."[65] Here it is best to quote some parallel thoughts of P. Warren, who profited greatly from E.H. Gombrich's classic book, *Art and Illusion*. Warren writes,

> We may, then, agree that Minoan images...not only have their sensory properties, but are also an encoding of some part of the total range of belief. Deconstruction of the image into any component parts it may have may be one means of moving towards understanding part of the Minoan world of thought, or of decoding their visual language and reading it with some comprehension.[66]

As a matter of fact, it seems that everything in the picture on the Mochlos Ship Cup corresponds to a syllabogram of this script:

1. The ship is, of course, Sign 040 in *CHIC*.[67] This sign has correspondences in both Linear A and B.[68] Like the ships on the talismanic seals, the hieroglyphic ships regularly feature an *akrostolion* at the higher end, which is clearly distinguished as the prow by the direction of the oars pointing aft.[69] In fact, Number 309b in *CHIC* probably displays the most perfect extant *fleur-de-lys*-type *akrostolion* that is greatly enlarged in an "expressionistic" way with respect to the vessel, evidently in order not to leave any doubt about its identification.

2. The "unidentified" object (talismanic spray) before the second ship on the Mochlos Ship Cup is probably a stylized and incomplete version of Sign 025,[70] which is a linear, "palm-like" branch classified in *CHIC* in the large group of "vegetables."[71]

   Before the appearance of the very cautious *CHIC*, this sign was known more specifically as the "palm-branch" sign.[72] It regularly accompanies the hieroglyphic version of the "libation formula."[73] As Evans remarked, "this sign is distinguished by showing off-shoots on only one side," exactly like the object on the Mochlos Ship Cup that is especially close to Evans' Sign 100d.

3. The "altars" or "shrines" should certainly be identified with Sign 038, which is classified in the group of "buildings and parts of buildings." Very often this sign takes the form of the "altars" on the Mochlos Ship Cup,[74] sometimes even with the same number of horizontal bars. This hieroglyphic sign possibly has simplified correspondences both in Linear A and B.[75]

   According to Evans this sign corresponds to the well known—albeit too arbitrarily

dubbed—"gate" sign, "which may also signify an 'enclosure' generally; one of the most consistently recurring."[76] Evans sees two distinct classes of this sign depending on whether the bars are (a) horizontal, as in the case of the Mochlos Ship Cup, or (b) vertical. Sign 45 is closely related to this "gate." According to Evans, "this sign seems to be rather a hurdle or section of a fence, and may in its origin be a differentiation of the preceding, with which it is closely allied."[77]

4. Finally the palm tree could be Sign 049, tentatively classified in the group of "arms" because it is here identified as an arrowhead following Evans,[78] despite one round point on top and two at the end of its extremities, i.e. the "branches." Although this comparison is very speculative, the palm tree on the third ship of the Mochlos Cup is not too far removed in its general appearance from this much typified sign. It even displays a round extremity on its left branch. Anyway, the combination of the palm tree and the small round objects at the extremities of its branches is not unknown in glyptic art, as can be seen on a seal (Pl. 1B).[79] In this case, however, these round objects are multiplied, and they are usually interpreted as a cairn or holy *herme* from which the palm tree or branches "sprout" or with which they are combined.

Curiously, these round extremities appear again at the ends of the three left branches of the palm tree on the Makrygialos seal, not in the *CMS* drawing (Fig. 1C), but in the original drawing by the late Thomas Phanourakis (Fig. 2D)—the expert artist of the Herakleion Museum—that was published before the *CMS*.[80] In the very meticulous later drawing that enlarges every minute detail not seen by the naked eye, the *CMS* draftsman saw these round elements rather as the tops of the upright bars of the "altar." It is difficult to say which picture is more accurate, but Phanourakis' rendering more faithfully conveys the general impression given to the onlooker as seen by the naked eye (Pl. 1A), not through a magnifying glass. Of course, these round elements could also be interpreted simply as beam ends, as in many representations of Minoan buildings, unless they are related to the "palm-branches" framing the Minoan goddess on the famous gold pendant from Shaft Grave III at Mycenae, which end in similar "spheres."[81]

In any case, it is important to note that Sign 031, which tentatively belongs to the *CHIC* group of "vegetables,"[82] is very similar to Sign 049; however, it is standing, not hanging, and the three points at its extremities are aligned at the same height and point upward. Perhaps they are basically the same sign. The inverse direction is probably not a decisive element, and this is also the case with respect to other signs. *CHIC*, however, correctly differentiates the two signs and perhaps there is some minor difference in meaning that eludes us today. It is unlikely however that Sign 049 is a "vegetable" and Sign 031 is a "weapon," namely an "arrowhead." When the latter is represented in a more pictorial way, it very often displays palm-leaf-like "offshoots" at its base,[83] a resemblance which cannot be coincidental. Such offshoots are a regular feature of palm tree representations in vase painting, especially on LM III larnakes. This "tripartite" vegetal "hieroglyphic" scheme passed to other species, e.g. the "quasi-heraldic" lilies of Thera,[84] with exactly the same offshoots at the base. Evans thought that this Ψ sign represented a plant with shoots springing from the sides of the stem while "triple fruits and flowers rise from the summit," and suggested the possibility of silphium trade.[85]

If indeed both signs represent the palm tree, then perhaps there is some smaller differentiation between them; e.g. Sign 049 could be a large, fully grown tree with a heavy, drooping crown and Sign 031 could be a young sapling, possibly like the one Odysseus saw near Apollo's altar at Delos:

> Δήλῳ δή ποτε τοῖον ᾽Απόλλωνος παρὰ βωμῷ
> φοίνικος νέον ἔρνος ἀνερχόμενον ἐνόησα
> (*Odyssey* 6.162–163).

This description again brings to mind the seal with palm branches or sprouts combined with a cairn or holy *herme* that was mentioned above (Pl. 1B).

A long prism from Crete, now in Athens,[86] supports this interpretation. It repeats the branch Sign 025 no less than six times (a fact that drew Evans' attention),[87] and shows the boat Sign 040 once with an elaborate *akrostolion*, and Sign 049 once, in addition to the X-sign that is the usual initial

mark. Now, if Sign 049 really is a palm tree, then the "context" is not essentially different from the picture on the Mochlos Ship Cup.[88]

If one dared to "transliterate" *grosso modo* the central image on the Mochlos Ship Cup into the signs of the Cretan hieroglyphic script, the following "sequence" would result: *025-040-038-049-*? This possible "pictorial sequence"—in which the signs do not belong to a real hieroglyphic "sentence" composed by syllabograms, but instead they form an actual picture with each "syllabogram" in its proper pictorial place—is not unthinkable in terms of this script. In fact, on three-sided prisms, the sequence *038-031-025*, as well as other combinations probably of a formulaic character, are seen three times.

If such comparisons are legitimate, we could perhaps see the painting on the Mochlos Ship Cup as a pictorial rendering of a hieroglyphic inscription, or the hieroglyphic formula on a prism seal might be the earlier written version of such a picture despite the time lag and the difference of material. In both cases, the same underlying thought represents a long established ritual, and it could have been expressed in very different ways.

To recapitulate, the palm tree on the Mochlos Ship Cup would have had but a slight chance of being "deciphered" were it not for the Makrygialos seal, which was interpreted correctly as displaying a palm tree on board and not an imaginary, inversely concave "sagging or slack rigging." Now that the Mochlos Ship Cup has been interpreted correctly with a palm tree on board, it is possible to interpret Sign 049 as a palm tree, and Sign 031 as a possible variant of it. Further speculative thought is certainly to be avoided.

The "hieroglyphic" and "formulaic" representations on the Mochlos Ship Cup possibly allow some comparisons to the Cretan hieroglyphic script, although surely no more than mere conjectures can be drawn. If these comparisons are valid, then the Mochlos Ship Cup may be a "pictorial precursor" of the later stirrup jars with Linear B inscriptions on their shoulders, although there is no evidence that these vessels were used in cult. In addition, the unique "pictorial hieroglyphs" or "pictorial formula" of the Mochlos Ship Cup suggest that perhaps other Minoan images outside the glyptic arts may sometimes have a "hieroglyphic" character.

It is curious to note, by way of comparison, that the final paragraph of the last paper by the late E. Grumach,[89] suggests the possibility that some representations of dolphins and other marine creatures on larnax panels in combination with double axes on the other side are, in fact, a pictorial rendering of a magic formula. According to Grumach, this formula could be tantamount to the famous Minoan libation formula seen in Linear A script on libation tables and vessels. After all, as E. Gombrich remarks, "We do well to remember, once in a while, that pictures and letters are really blood relations."[90] Likewise in Egypt, as E. Russmann remarks, "Figural art and hieroglyphic writing developed together as parts of a single system, in which they were not only interdependent, but not infrequently interchangeable."[91] As J. Papadopoulos notes, "The fact that painting and writing are indistinguishable in Egypt finds an interesting Greek parallel, inasmuch as the Greek word γράφειν means to write and to paint. It's also the word used for inscribing and incising as well."[92] If indeed the idiosyncratic Minoan art had a tendency not to differentiate a formulaic picture from a written formula, both having a magical function, then perhaps we can partly answer, as N. Marinatos recently asked, "why the Minoans, although they had a script, never used it in connection with visual narration."[93] We should also bear in mind that outstanding scholars like S. Morris and S. Hiller have seen a formulaic depiction comparable to the literary epic in the famous Fleet Fresco from the West House at Thera, a fresco and a building that abound in painted *ikria*.[94] So J. Wohlfeil seems to be quite right when she concludes regarding the Fleet Fresco, "Die Bedeutung der Bilder ist sehr komplex; sie übernehmen die Funktion von Schrift, Bild und Sprache gleichzeitig."[95] If our suggestion is true, we should be extremely cautious in our interpretations of Minoan iconography in a too literal, *in concerto* way; instead I would like to suggest a more symbolic, *in abstracto* way of "reading Minoan art." As many have pointed out, things happen in art that do not happen in reality. Failing to understand this axiom could lead to gross misinterpretations in understanding the idiosyncratic idiom or narrative of the Minoan artist. More than enough has been said on this subject, rather as a hint to further research; if indeed this can really be a working hypothesis *videant doctiores*.

Conclusions

The Mochlos Ship Cup, along with the Mochlos Ring and the Makrygialos seal, indicate that the Minoans had an important ceremony in which a cult ship transported a sacred tree. This was usually a palm tree with its planter, an enclosure, or a wooden altar. The boat originated from some place, perhaps Knossos or another palace, and journeyed to another place, possibly in the wilderness. Perhaps the boat traveled from a coastal shrine to another during a festival, perhaps connected with the spring renewal of nature as has been argued for the Theran Fleet Fresco, where nevertheless no tree appears. The clear "formulaic" or "hieroglyphic" character of the representation on the Mochlos Ship Cup supports this interpretation. If such a festival took place, it would have been one of the main Minoan religious festivals, already established in Protopalatial, if not Prepalatial times. And if this conclusion is correct, it is not remarkable that artistic evidence, such as seals, rings, or vase paintings, has been found in important coastal settlements like Mochlos or Makrygialos.

Furthermore, perhaps there is some inner relationship between the arrival of the sacred tree and that of the goddess, a figure seen only in the Mochlos Ring. The goddess is possibly invisible, or her epiphany is implicit in the tree. In both cases we can agree with W. Burkert, that "die Ankunft des Neuen, die Ankunft der Göttin im Schiff, dies ist ein uraltes, über Jahrtausende zurückzuverfolgendes Motiv, das als Bild des 'Advents' noch in unseren Liedern klingt."[96] To see the ship on the Mochlos Ring as arriving, according to the excavator,[97] and not as departing, according to Evans,[98] is a question of correctly understanding Minoan narrative style—a subject recently and thoroughly discussed by N. Marinatos with respect to other themes. Thus, doubts about "the rules of the Minoan picture language" do not seem justified any more.[99]

Accordingly, we should see the ships on our cup as arriving, not departing, with their precious, numinous load that is probably not an object of worship *per se*, but perhaps it is tantamount to an epiphany of the goddess.[100] The boat itself should belong to the special class of "cult boat" that was correctly identified by Sp. Marinatos, who also ascribed the boats on the Phaistos Disc to this class.[101]

In any case, because of the Mochlos Ship Cup, the sacred tree is now a focus of ritual action in Minoan vase painting as well as in Minoan glyptic art, as N. Marinatos recently argued[102] in relating the trees carried on board to those atop shrines or growing from the rocky terrain. It is, however, a pity that the missing parts of the Mochlos Ship Cup are exactly those that might enable us to more precisely understand this ritual action, although these missing parts were certainly also represented in a similarly formulaic manner. Nevertheless, despite its fragmentary state, the Mochlos Ship Cup and the Makrygialos seal are contemporary pieces of evidence and go *de pair*, one in vase painting from the north coast and the other in glyptic art from the south coast.

To recapitulate, the cursory, formulaic, and abstract style of the painted images on the Mochlos Ship Cup suggests that these pictures were well known symbols to the Minoan onlookers. They evidently represent a climactic moment in an important ritual involving the arrival of a sacred tree on a cult ship during a major sea festival that was well known all over Crete. With the Mochlos Ship Cup, the evidence for this ritual has now begun to accumulate and will perhaps in the future allow us to acquire a more accurate understanding of it and its nexus of religious concepts. Indeed, it seems that we are now about to uncover a previously unsuspected, multifaceted, and major Minoan ritual, the clarification of which could illuminate many aspects of Minoan religion. That this ritual is related to the marine aspect of the Great Goddess seems likely, whether it is a palm tree or some other species of tree that is being transported, whether the ships contain priestly persons in cabins (as in the Theran Fleet) or in front of empty cabins, or whether the goddess herself is arriving

Clearly the common denominator in all these scenes is the arrival of the cult ship or boat carrying a sacred tree, an "altar" or "shrine," or a sacralized "cabin" with a priestly person or a goddess inside or next to it. It seems likely, therefore, that the ritual represented in these scenes is related to a major festival that celebrates the renewal of nature, in this case representing some myth connected to the hoary and still surviving archetypal conception of cyclic