

LM IB pottery

relative chronology and
regional differences

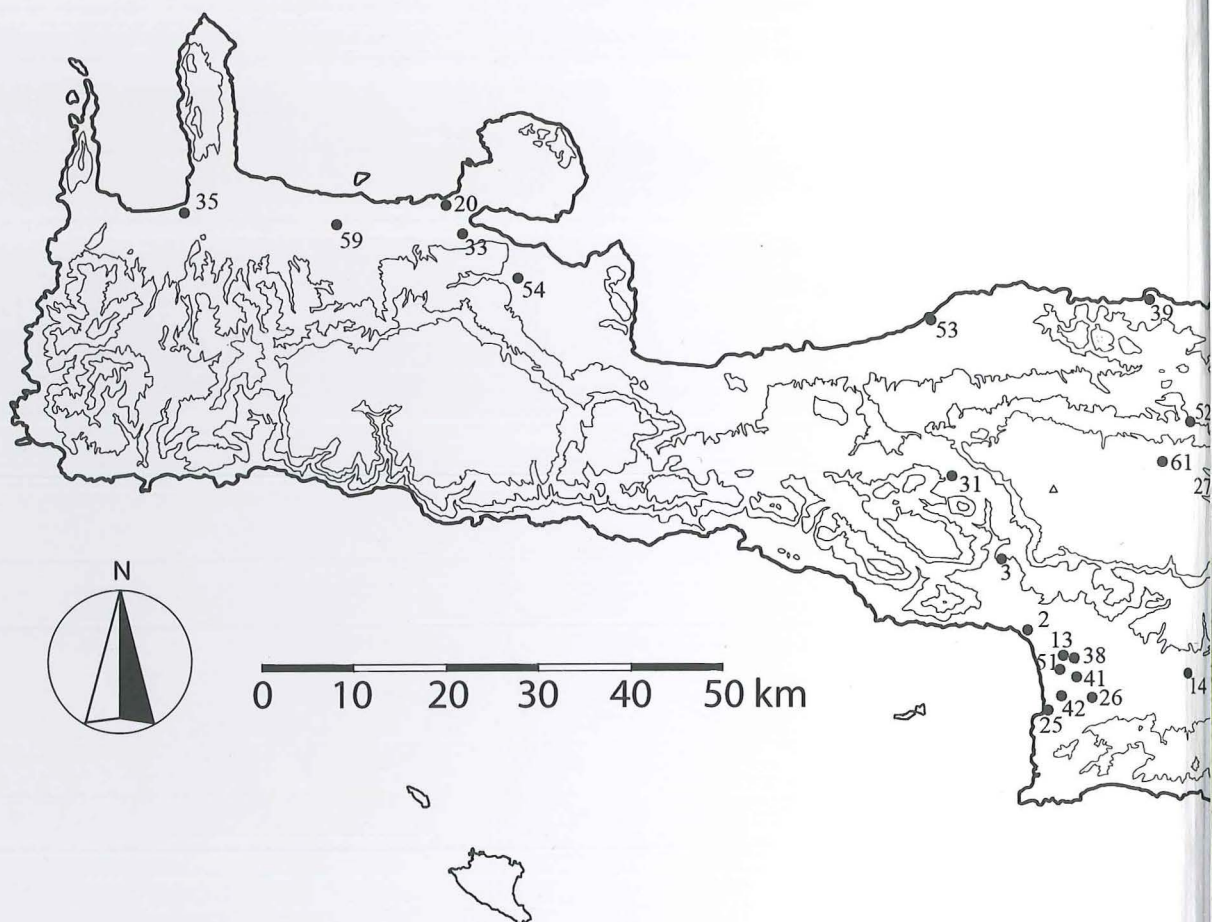
Acts of a workshop held
at the Danish Institute at
Athens in collaboration
with the INSTAP
Study Center
for East Crete,
27-29 June 2007

Edited by
Thomas M. Brogan
& *Erik Hallager*



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Map of Crete showing sit

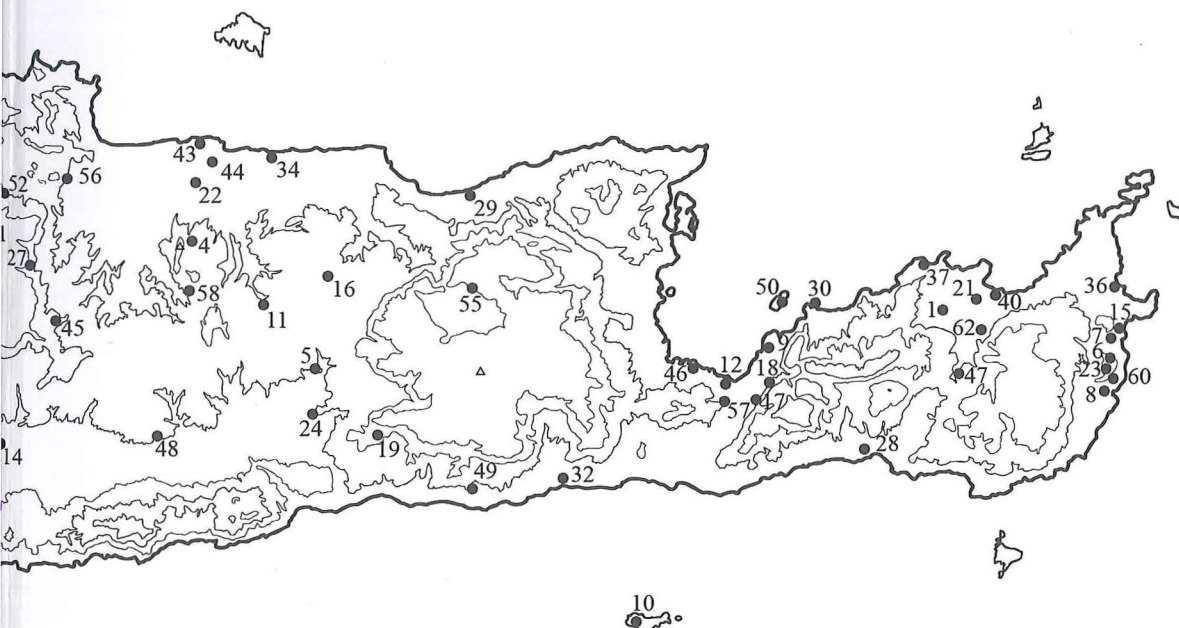


- 1 Achladia
- 2 Aphratia Tymbaki
- 3 Apodoulou
- 4 Archanes
- 5 Avli
- 6 Azokeramos
- 7 Chochlakies
- 8 Choiromandres
- 9 Chrysokamino
- 10 Chryssi
- 11 Galatas
- 12 Gournia
- 13 Hagia Triada

- 14 Kannia
- 15 Karoumes
- 16 Kastelli Pediada
- 17 Katalimata
- 18 Kavousi
- 19 Kephali Chondros
- 20 Khania
- 21 Klimataria Manares
- 22 Knossos
- 23 Kokkino Phroudi
- 24 Kolokythi Skinias
- 25 Kommos
- 26 Kouses

- 27 Krouson
- 28 Makryg
- 29 Malia
- 30 Mochlo
- 31 Monasti
- 32 Myrtos
- 33 Neroko
- 34 Nirou C
- 35 Nopigia
- 36 Palaikast
- 37 Papadio
- 38 Patrikies
- 39 Pera Ga

tes mentioned in the text



sonas
ygiolos
los
stiraki
os
kourou
Chani
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astro
iokampos
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Galenoi

- 40 Petras
- 41 Phaistos
- 42 Pitsidia
- 43 Poros
- 44 Prasa
- 45 Prinias
- 46 Priniatikos Pyrgos
- 47 Prophetes Elias (Praisos)
- 48 Protoria Damantri
- 49 Psari Phorada
- 50 Pseira
- 51 Seli Kamilari
- 52 Sklavokampos

- 53 Stavromenos
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- 55 Trapeza Cave
- 56 Tylissos
- 57 Vasiliki
- 58 Vathypetro
- 59 Vrises
- 60 Zakros
- 61 Zominthos
- 62 Zou

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Double vase from the Royal Road: North at Knossos

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The participants of the workshop gathered in the Hagia Aikaterini Square outside the Danish Institute.

Preface

Once upon a time – in early 2005 – when the Minoan Seminar was still under the auspices of the Danish Institute at Athens, Tom Brogan mentioned that it might be a good idea to have a workshop on LM IB pottery focusing on the disagreement and unsolved problems connected with recent excavations in East Crete. We talked about it a couple of times without doing much, but then during the summer of 2006 we started to ask around and found that the time was ripe for such a workshop. We were particularly fortunate because the timing of the 10th Cretological Congress in Khania allowed us to discuss the matter with our colleagues who were not resident in Greece. After many positive reactions we started to plan. Because it had to be a low-budget workshop, we chose late June 2007 when most excavators with knowledge of LM IB pottery would be in Greece and accommodations in Athens would not be so difficult to arrange.

With the experience from the LM III pottery workshop held at the Danish Institute in 1994, we decided to invite excavators with unpublished, stratified LM IB deposits as speakers. Each speaker would also have a respondent who was an excavator with unpublished LM IB material so that they could use the experience and knowledge from their own excavations in preparing their responses. In the few cases where we could not find excavators with LM IB material as respondents, we invited scholars who were experienced in the topic. As with the LM III pottery workshop, there were no strict time limits for any of the presentations. Not everyone was able to attend the workshop, and we are grateful that Leonidas Vokotopoulos offered his paper on Karoumes for the publication and that T.M. Brogan, Ch. Sofianou, and J.E. Morrison could provide a response to his paper. We also thank Eleni

Banou for her reply to the Petras paper, which was read at the workshop in her absence.

For three days, from the 27th to the 29th of June 2007, 30 scholars presented their material and responded to questions from a wider audience in an informal and relaxed atmosphere, and there was plenty of discussion after each of the presentations. We want to thank the staff of the Danish Institute, who kindly facilitated our workshop during a very warm spell in Athens, and Yuki Furuya, who helped manage logistical problems and recorded the discussions. We also owe a warm round of thanks to Alexander MacGillivray for transcribing the discussions.

Concerning the publication of the workshop, the editing of the figures and illustrations was left to Erik Hallager, while Tom Brogan undertook the review and editing of the contributions – except his own. In this technical editorial work, he was greatly assisted by Dr. Melissa Eaby whose skill and competence in copy editing has greatly improved the outcome of the publication. We also want to thank Birgitta Hallager for assisting in the editorial work. Because the text editor of the book is American we have, perhaps to the distress of some British authors (and the general editor of the series of the Danish Institute), used American English for the book.

Throughout the book all drawings of pottery are – unless otherwise stated – given at a scale of 1:3. Greek place names are with very few exceptions spelled according to the suggestions given by the INSTAP Academic Press. All measurements are given as provided by the authors, while a few abbreviations have been standardized throughout the book:

d. for diameter; h. for height; th. for thickness; pres. for preserved; and dep. for deposit.

One issue that the workshop did not try to address was terminology. In Denmark there is a proverb “a beloved child has many names” and during the workshop we realized that LM IB pottery labels are like beloved children to the participants. To remedy any confusion this may cause, we have created a shape index, and in the ordinary index given page references in italics when a shape is illustrated.

Both Tom and Erik want to thank all the contributors for their excellent collaboration in all matters and for their patience with our requests concerning both texts and illustrations. In addition, Birgitta and Erik Hallager want to thank Rachel and Sinclair Hood for their warm hospitality at Great Milton, while assisting Sinclair Hood with

the selection and scanning of images for his Royal Road paper.

We want to thank all who contributed financially to the workshop and the publication, particularly our institutions, the Danish Institute at Athens and the INSTAP Study Center for East Crete. As always we want to acknowledge our gratitude to the Institute for Aegean Prehistory for their constant support. Last but not least, our sincere thanks are also due to the Carlsberg Foundation and the Institute for Aegean Prehistory for covering the costs of the publication.

Crete, May 2011
Erik Hallager & Thomas M. Brogan

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Introduction

Thomas M. Brogan

Neopalatial Crete and LM IB pottery

The physical remains of the final phase of the Neopalatial period (Late Minoan IB) have captivated Cretan scholars since the earliest systematic excavations on the island at the beginning of the 20th century.¹ Over the past eleven decades, archaeologists have gathered an unparalleled sample for this single period of Cretan history. The record now includes at least seven palatial buildings and several more elite mansions, the so-called villas found in both Cretan towns and the countryside. In addition, excavation and survey have recovered a much larger number of settlements spread across the island during this same period. The largest towns were usually located near the sea in order to take advantage of maritime traffic around the island and along more distant trade routes in the Aegean and eastern Mediterranean. Networks of smaller settlements and farmsteads filled the landscape surrounding these palaces, villas and towns, providing the necessary foodstuffs and raw materials for urban and palatial craftsmen, merchants, and other inhabitants.² While some of these contexts were abandoned midway through the Neopalatial period at the end of Late Minoan IA, most continued to be used through the end of LM IB.³

Our understanding of Neopalatial society is steadily improving. Conferences have explored the function of the Minoan palaces, villas, and houses, while other research has targeted Minoan craft, religion, and various artifactual categories, including architecture, wall paintings, seals, and storage vessels, to name but a few.⁴ Analysis of Cretan administrative records, including the small and still undeciphered corpus of Linear A and various clay

sealings, has provided a glimpse at elite economic interests in this period, while excavation and survey data, as well as the results of botanical and faunal studies, have offered a more balanced approach to production and consumption at all levels of the Neopalatial economy.⁵

The absolute and relative chronology of the Neopalatial period has received no less attention.⁶ Evans and Mackenzie developed the first division of the Cretan Bronze Age into Early, Middle, and Late Minoan, breaking each period into three parts (e.g., Late Minoan I, II, and III).⁷ For the Neopala-

¹ The first modern excavations at Knossos were by Minos Kalokairinos in 1878, but the first major wave of exploration took place in the decade after 1900 at Knossos, sites in the Mesara and various harbor towns in East Crete.

² Watrous & Hadzi-Vallianou 2004, 277–98 (Mesara Survey) and Watrous pers. comm. (Galatas Survey).

³ For a thorough discussion of the LM IA and LM IB archaeological record, see Driessen & Macdonald 1997 where the authors interpret the LM IB period as one of decline following the Thera eruption. For an alternative view of this LM IB evidence, see Warren 2001, 115–8.

⁴ For the palaces, see Driessen, Schoep & Laffineur 2002; and Pullen 2010a. For the villas, see Hägg 1997. For the settlements, see Driessen 2001; Whitelaw 2001; Driessen & Macdonald 1997, 121–247; and Glowacki & Vogeikoff-Brogan forthcoming. For architecture, see Shaw 2009 and McEnroe 2010; for craft, see Evelyn 2000; for wall paintings, see Evelyn 1999; for seals, see Krzyszkowska 2005; and for storage vessels, see Christakis 1999a and 2008.

⁵ For Linear A, see Schoep 1999 and 2002; for seals and sealings, see Hallager 1996 and Krzyszkowska 2005. For studies of the botanical and faunal record, see Hamilakis 1996 and 1999; Sarpaki 1992; Halstead 1996; and Moody forthcoming. For the role of staple storage in the mobilization of resources to support the Minoan elites, see Christakis 2011.

⁶ Warren & Hankey 1989.

⁷ Evans 1906; 1921; 1928; 1930; and 1934; Momigliano 2007b, 1–6 for an overview of the system.

tial period, this sequence was further broken down into Middle Minoan IIIA and IIIB and Late Minoan IA and IB. Ever since Evans' publication of *The Palace of Minos*, scholars have struggled to adapt this Knossian framework to the pottery deposits found across the island, and the pottery assigned to the LM IB phase (the subject of this workshop) provides as good an example as any of the difficulties they have confronted and the debates to which these have led.

A recent conference at Knossos on the Middle Minoan III period explored the transition from the Old to the New Palace period; however, most scholarship on Neopalatial chronology has been directed at the date of the Thera eruption and the impact of this event on Cretan towns and palaces.⁸ Although the absolute date is still debated, there is a consensus that the eruption took place roughly in the middle of the Neopalatial period, at or towards the end of what Evans called Late Minoan IA. While the event did not provide the knockout blow to Neopalatial Crete that scholars had once hypothesized, recent studies have begun measuring its destructive impact on specific towns, particularly in East Crete, and assessing the subsequent need for rebuilding these settlements in Late Minoan IB.⁹ What brought about the subsequent LM IB destructions seen at sites across the island is still unanswered. Some scholars favor a natural destruction, while others posit human agency in the form of a civil war between Cretan states or an invasion from the mainland of Greece.¹⁰ Several papers and the final discussion in this volume comment on these possibilities.

While it is clear that scholars are making impressive inroads into this Cretan archaeological data, they remain unable to tap its full potential because the published record is so uneven. Nowhere is this problem seen more clearly than with Neopalatial pottery, which forms the most ubiquitous class of artifact from sites across the island, particularly from the LM IB destruction levels. The sheer quantity of this evidence has proven a major hindrance to its study and eventual publication. A rough measure of the extant sample is provided by a recent examination of storage in the Neopalatial period.¹¹ This study identified more than 400 LM I houses across

the island (most dated to the LM IB phase), in addition to the well-known palaces and villas.

Improved recovery techniques in the field, moreover, have intensified the collection and recording of more and more of the archaeological data from each context. For example, the excavation of one complete LM IB house at the Bronze Age settlement on the island of Mochlos, House C.3, produced more than 100 crates of pottery, while the statistical analysis of the pottery from the LM IB Artisans' Quarter at the same site identified 10,981 diagnostic sherds from the floors of Building B. Rutter's statistics for the LM IB floor levels and major fills of the Central and South Hillside and Civic Building at Kommos reveal similar numbers: ca. 1560 diagnostic sherds from LM IB Early deposits and 7,672 sherds from LM IB Late deposits.¹² In addition, Floyd's study of Building BS/BV at Pseira yielded 10,022 diagnostic sherds from its LM IB deposits, excluding what fell into the street when the building collapsed.¹³ In sum, these pottery studies take considerable time, space, and money and usually require the expertise and labor of numerous individuals to clean, sort, count, mend, catalog, illustrate, and photograph.

In this light, it is not surprising that scholars and museum directors have typically published and displayed only a small selection of the pottery, primarily the elaborately decorated LM IB vessels that

⁸ *Intermezzo: intermediacy and regeneration in Middle Minoan III Crete*, C. Knappett, C. Macdonald & E. Banou (eds.), (BSA Studies Series), forthcoming. For the Thera eruption, see Driessen & Macdonald 1997 and the papers in Warburton 2009, which review almost every type of evidence for the absolute and relative date of the event. The paper by Hemingway, MacGillivray & Sackett in this volume mentions the evidence in favor of a late date for the eruption (ca. 1500 B.C.) and short length of time (40 years) for the LM IB period at Palaikastro. The other papers do not cover this specific topic in detail, although some propose a much longer duration for the LM IB period.

⁹ For a review of this debate, see Driessen & Macdonald 1997; Warburton 2009.

¹⁰ Driessen & Macdonald 1997, 104–15.

¹¹ Christakis 2008, 55.

¹² Brogan & Barnard 2003, 132–60, tables 10–24; Rutter 2006a, 474, table 3.61 and 482, table 3.62.

¹³ Floyd 1998, 25–76.

rank among the highest achievements of Bronze Age Cretan potters. These objects, however, usually make up just a tiny fraction of any deposit and certainly do not provide a representative illustration of ceramic production during this phase of the Neopalatial era. If anything, this bias in favor of highly decorated vases has created a potentially misleading impression of homogeneity in LM IB ceramic production, particularly at the elite level, which may obscure an impressive degree of variation in manufacturing techniques and choices of shapes and decoration across the island.¹⁴ Because pottery also plays a central role in our attempts to construct a relative chronology for Bronze Age Crete, the highly selective nature of the samples deemed worthy of publication has also come under criticism by scholars seeking to recognize sub-phases of LM IA and LM IB,¹⁵ as it places considerable limits on their ability to track features observed at one site across broader regions of the island.

The LM IB pottery workshop at the Danish Institute in 2007 took direct aim at this problem: the need to study and publish complete assemblages in order to provide a more accurate record of the range and variety of ceramic production in LM IB Crete. The event offered a forum for a large group of scholars working on this material, and we believe the publication will serve as a catalyst to improve and accelerate the subsequent publication of Late Minoan I assemblages – many of which are in preparation. Moreover, by targeting the best preserved and most extensively excavated period of Cretan prehistory, the workshop was able to explore two topics in particular. The first was the subject of regional trends in ceramic production on the island. Students of Cretan pottery have noted from the beginning of the Bronze Age the presence and persistence of local preferences in shapes and decoration.¹⁶ Had such local traditions been obscured or even expunged in Late Minoan IB under the influence of a dominant palace culture? The second topic concerned the relative chronology for the LM IB period and the possibility of identifying sub-phases of LM IB. A small number of scholars completing detailed pottery studies in East-central and South-central Crete had previously identified local sub-phases of LM IB.¹⁷ These included a tran-

sitional phase of late material that appeared to offer evidence for an overlap with the subsequent LM II phase identified in Central Crete but still missing in East Crete. The initial response to this idea was mixed and included strong opposition.¹⁸

The conference and its participants

The editors of the volume, Thomas Brogan and Erik Hallager, were present on one such occasion in 2006 following a paper delivered by Puglisi on LM IB Hagia Triada at the 10th International Cretological Congress in Khania.¹⁹ At dinner afterwards we started seriously to discuss the idea of a conference focusing on this topic along the lines of the LM III pottery workshop organized by Erik and Birgitta Hallager in 1994 at the Danish Institute.²⁰ We assembled a list of scholars working at sites with LM IB deposits on Crete and a few off-island sites and sent out the following invitation to the workshop:

During the 10th International Cretological Congress in Khania different opinions concerning the nature and duration of the LM IB period in Crete were presented. The debate formed the latest of several challenges and contributions to our understanding of LM IB as a both a style and a phase. On the one hand, recent studies of the style have carefully re-examined both the island-wide palatial products that remain the hallmark of the period and the existence of strong regional traditions. Approaches to such questions have greatly benefited from the excavation of so many significant sites across the island during the past three decades and the emphasis

¹⁴ For a critique of current approaches to the interpretation of Neopalatial ceramics, see Day & Relaki 2002, 228–31.

¹⁵ Brogan & Barnard 2003, 104–11.

¹⁶ Wilson & Day 1994.

¹⁷ Before the conference, this group included Van de Moortel, Rutter, Puglisi, Vokotopoulos, Betancourt, Barnard and Brogan.

¹⁸ M. Popham pers. comm (after seeing the evidence published in Barnard & Brogan 2003); Van de Moortel 2005; and Hatzaki 2007a, 193.

¹⁹ Puglisi forthcoming a.

²⁰ Hallager & Hallager 1997.

on the publication of complete assemblages of both coarse and fine decorated and undecorated pottery.

No less important is the growing evidence for multiple architectural or stratigraphic phases in the LM IB levels at sites like Palaikastro, Kato Zakros, Mochlos, Pseira, Kommos and Khania. To distinguish intra-period developments in both shape and decoration of LM IB pottery, scholars are now considering the possibility of early and later LM IB phases and the relationship of these productions to both LM IA and LM II pottery. In the same vein some teams working in East Crete are beginning to reconsider previous suggestions connecting all destruction deposits with LM IB style pottery to a simultaneous, island-wide event that brought a close to the period and the manufacture of LM IB style pottery.

Given the potential for new excavations to throw light on these vital questions concerning the typology, regionalism, phasing and the relative chronology of LM IB, this would appear to be an opportune time to discuss these matters (more intimately) in a smaller circle of excavators and scholars who have access to stratified LM IB material and who work actively on these problems.

With one or two exceptions, the responses were positive. There would be 30 papers organized in pairs, each of which would include a longer presentation and a shorter response, with concluding remarks by Wolf-Dietrich Niemeier. We were glad to accept two additional papers from sites in East Crete (Karoumes and Papadiokampos) which were not available at the time of the workshop, but certainly add to the final publication. With the notable exceptions of Gournia and Archanes, both of which have produced large, published assemblages of LM IB pottery, the mansions at Nirou Chani, Tylissos, Vathypetro and Sklavokampos, the Chrysokamino Farmstead, the Villa on Gavdos, and the small settlement on Chryssi (which was only excavated in 2008 and 2009), the group of sites and topics reviewed at the 2007 workshop represents an exhaustive list of the extant LM IB deposits from Crete and a small sample of LM IB material from Aegean towns with close connections to the island.²¹ We also felt that Christakis' research on Cretan pithoi and the role of storage in the LM I economy deserved a place at the table, and we were

delighted when Nikolakopoulou kindly offered to give a paper of similar scope from the perspective of LC I Akrotiri. The discussions after each paper and at the conclusion were taped and transcribed for the publication. The language of the conference was English, but we ask readers to remember that half the participants and the majority of the audience were not native speakers. The editors tried to find a balance between voice and clarity when editing these discussions.

The conference participants include a large group of scholars who have published extensively on Bronze Age ceramics. Another group included excavators of sites with important new assemblages of LM IB pottery who kindly agreed to prepare studies of this material on short notice. Because of the workshop's emphasis on the context of the pottery, many presenters took advantage of the venue to offer lengthy preliminary reports on new and old sites that should be of use to a much wider audience of Cretan specialists.

The respondents had much more leeway with their topics. In some cases, they were asked to include a particular assemblage (e.g., Banou, Cadogan, Chatzi-Vallianou, Kanta, Mantzourani, Palio and Van de Moortel). Others were invited to respond to a particular topic (e.g., Mountjoy on the Special Palatial Tradition), while still others raised interesting questions that the organizers had not considered (e.g., Knappett on time-depth and technological practices in defining regional identities and Hatzaki on the death of the Marine Style in the LM IB–II transition). The respondents have, for the most part, used the written versions of the papers that were delivered at the workshop. Because some of the long presentations were extensively rewritten before reaching their published form, the respond-

²¹ For Gournia, see Betancourt & Silverman 1991. For Archanes, see Sakellarakis & Sakellarakis 1997. For Nirou Chani, see Xanthoudides 1922; for Tylissos, see Hatzidakis 1912; 1921; and 1934; for Sklavokampos, see Marinatos 1939–41. For Chrysokamino, see Floyd 2000, 65–9. For Gavdos, K. Kopaka, pers. comm. For Chryssi, see Apostolakou, Betancourt & Brogan 2010 and Apostolakou, Brogan & Betancourt forthcoming. The LM I pottery from Vathypetro is currently being prepared as a doctoral thesis by V. Stamataki.

ents did not always have access to the final version. The one instance where this is particularly important is the pair by Rutter and Chatzi-Vallianou. In this case, Rutter changed some of his chronological labels in the final version, and the editors have tried to update the response accordingly.

Placing the conference in the history of LM IB studies

While outlining the results of the conference, it will be useful to provide some background to the history of LM IB scholarship.²² Sinclair Hood's participation and the publication of the Royal Road: North deposits excavated between 1957 and 1961 is by itself an intriguing part of this story because it brought the workshop half way back through the history of Minoan archaeology. He is one of the last living archaeologists to meet Evans, and his excavation at the Royal Road: North was partly designed to clarify continuing problems in the ceramic record at Knossos, including the elusive LM IB phase. The Royal Road: North deposits, in fact, were the first floor levels identified at Knossos with complete LM IB vases.²³

In their pioneering division of the Cretan Bronze Age, Evans and Mackenzie had struggled to illustrate their LM IB phase with finds from Knossos.²⁴ They characterized LM IB pottery as a style using elaborate marine and geometric motifs, and in the absence of complete vases from Knossos, Evans looked to other Cretan sites like Hagia Triada, Pseira, Gournia, Mochlos, and Palaikastro and to pottery and wall paintings found in Egypt and the eastern Mediterranean to illustrate the LM IB phase.²⁵ Pendlebury's summary in *The archaeology of Crete* (1939) noted that "...LM IB, though it is seldom distinguishable stratigraphically, is easily distinguished stylistically...Marine designs are the hallmark...; plant designs are still common though somewhat more stylized than in LM IA..."²⁶ In his attempt to link destruction levels across the island, Pendlebury also suggested that LM IB style pottery (found in destruction levels at sites like Mochlos, Zakros, Palaikastro) and LM II styles (found only at Knossos) were in fact contemporary.²⁷ Not only

was this last observation confusing, but Evans' reliance on marine motifs presented a longstanding obstacle because the Marine Style is in fact quite rare in what are now recognized as LM IB levels across the island (e.g., less than 15 fragments among hundreds of thousands of sherds excavated over 10 seasons at Mochlos). It's a case of the needle defining the haystack.

Furumark's publication of the stratified deposits at Ialysos on Rhodes argued that Evans had in fact been correct that LM IB and LM II were not contemporary but sequential phases.²⁸ It would, however, take Hood's excavation of the Royal Road: North (LM IB levels) and Popham's excavation of the Unexplored Mansion (LM II levels) to prove this point at Knossos. Furumark's study also made another important observation.²⁹ He distinguished the palatial style of LM IB and LM II pottery produced at Knossos from the LM IB decorated pottery found at sites elsewhere on Crete (e.g., Mochlos, Pseira, Gournia, Palaikastro, Zakros, Phaistos, and Hagia Triada).³⁰ Because the shapes and decorative patterns on the latter pottery (with spirals, foliate bands, and flowers) closely resembled LM IA products, Furumark identified the style as Sub-LM IA. It was thus more advanced stylistically than true LM IA and was being produced later "at a time when Knossian potters had already created the LM IB style, a palatial class of pottery..."³¹ While certainly progress on one level, Furumark had introduced the confusing nomenclature of palatial LM IB and provincial Sub-LM IA for styles that were contemporary.

Subsequent studies of LM IB pottery (including the workshop in Athens) have largely continued to

²² In general see Popham 1967, 337–44 and Betancourt 1985, 135–48. For the most recent review of the topic, see Hatzaki 2007a which traces the story from a Knossian perspective.

²³ Hatzaki 2007a, 184 and Hood in this volume.

²⁴ Evans 1906; 1934, 259–96; and Hatzaki 2007a, 152.

²⁵ For illustrations, see Evans 1934, 259–96.

²⁶ Pendlebury 1939, 205–8.

²⁷ Pendlebury 1939, 228.

²⁸ Furumark 1950, 254–6.

²⁹ Furumark 1950, 150–271; Hood in this volume; and Popham 1984.

³⁰ Furumark 1950, 152–76.

³¹ Furumark 1950, 153.

examine variations of these two issues: LM IB as both a style and a chronological phase. Popham's restudy of Evans' finds at Knossos outlined the LM pottery sequence at the site, including LM IB and LM II, and has proven influential for subsequent Cretan pottery reports.³² Two later studies by Niemeier developed the distinction between Knossian Palace Style and provincial Sub-LM IA ceramic production on Crete, illustrating each in great detail.³³ Mountjoy has continued to use the term Sub-LM IA in her publication of the South House at Knossos and in this volume (Sub-LM IA Standard Tradition).³⁴ While this term has a clear purpose as a stylistic label, it should be avoided as a chronological marker for stratified deposits.

Two alternative systems for classifying LM IB styles have also been offered. The first was Silverman's study, which identified the Plain and Polychrome Styles in East Cretan LM IB pottery production, in addition to the Palace Style; however, it was the second proposal by Betancourt that has gained widespread acceptance.³⁵ He distinguished one group of LM IB vases of the highest quality that were probably produced by Knossian or other elite workshops.³⁶ These products belong to the Special Palatial Tradition (SPT), which included pottery decorated in the Marine Style, Floral Style, Abstract and Geometric Style, and Alternating Style. Mountjoy and Müller have both examined more closely the products of this Special Palatial Tradition, in particular the vases decorated in the Marine Style. Müller's exhaustive study of the material found on Crete identified workshops and possible artists, while Mountjoy provides her latest thoughts on the SPT vases found on Crete, the islands and the mainland in this volume.³⁷

The Special Palatial Tradition is discussed in several papers, some of which consider the possibility of production centers outside of Knossos itself (e.g., vessels by the Olive Spray Painter at Galatas, Kastelli and Kolokythi Skinias in the fine fabric typical of the Pediada area and the large number of vessels with foliate spray and dotted rays that are rarely found outside Hagia Triada). Vases of the Special Palatial Tradition also factor into several discussions of chronology. Some authors do not find complete vases with Marine Style or SPT in their latest LM

IB levels (e.g., Andreadaki-Vlazaki, Puglisi, and Brogan & Barnard), others find debased versions indicating possible late productions (e.g., Kommos and Mochlos), while still other papers consider the transition in the usage of marine motifs from LM IB (e.g., in the Marine Style) to LM II (Hatzaki and Kanta).³⁸ The Alternating Style also appears in several discussions because of earlier suggestions, based on evidence from Kythera, that it might represent a late phase of LM IB (e.g., papers by Vlazaki, Mountjoy, Cadogan, Hallager, and Tournavistou).

Betancourt used the term Standard Tradition to describe the vast, additional LM IB ceramic output that Furumark and Niemeier had called Sub-LM IA.³⁹ While this label has also found wide acceptance, scholars have recently begun re-examining this large sample of pottery in an attempt to identify different sub-groups related to specific geographic regions of Crete. One example is Floyd's publication of House BS/BV at Pseira. She proposed the label "Mirabello Style" for the pattern-painted LM IB pottery found at sites in that region, and her argument was strongly supported by scholars working at Mochlos.⁴⁰ One of the clear results of the LM IB workshop is the alternative of identifying pottery production more specifically at the level of both site and broader region (e.g., Khania, the Mesara and different regions in East Crete). This process will gain more momentum once these studies are undertaken in combination with thin-section ceramic petrography.

Since Evans' publication of the *Palace of Minos*, excavations both on and off Crete have helped shape

³² Popham 1967; Hatzaki 2007a, 152–8.

³³ Niemeier 1980; 1985.

³⁴ Mountjoy 2003; 2007, 307–70. She now combines it with Betancourt's term Standard Tradition (i.e., Sub-LM IA Standard Tradition), which helps link the two different systems.

³⁵ Silverman 1978; Betancourt 1985, 140–8.

³⁶ For earlier arguments about the Knossian provenience of this production, see Popham 1967, 339–43.

³⁷ Mountjoy 1984; Mountjoy & Ponting 2000; Müller 1997.

³⁸ This discussion can actually be traced to Evans (1934, 292–5) who dated some of the debased versions from the mainland to LM IC. The label was mentioned in a few papers at the conference but ultimately rejected.

³⁹ Betancourt 1985, 137–40.

⁴⁰ Floyd 1998, 191–2; Barnard & Brogan 2003.

the other side of the debate: the search for stratified LM IB deposits to provide a firmer foundation for the relative chronology of the period. The excavations of Hood, Popham, and Warren produced significant deposits of LM IB and LM II material at Knossos, some of it published for the first time in this workshop.⁴¹ Two equally important projects in the 1960's were the BSA excavations by Coldstream and Huxley at Kythera and Sackett and Popham at House N at Palaikastro.⁴² Both recovered important deposits of LM IB pottery that were quickly published, and for the first time, these reports emphasized the range of plain and decorated vessels in use during the period. Papers in this volume refine our understanding of both sites.

In the past four decades, the excavation of LM IB contexts has increased greatly, but the number of published deposits remains small. Volumes III and V of the Kommos excavations and the reports of the excavations at Pseira are important exceptions.⁴³ Other studies include Nerokourou in West Crete, the Artisans' Quarter at Mochlos and a pair of wells at Palaikastro.⁴⁴ The LM IB assemblage from each of these sites is considered in more detail in this publication. To this group we should also add the publications of LM IB/LH IIA material from Hagia Eirene on Kea and Phylakopi on Melos, though much of this evidence is now thought to have a mainland rather than Cretan provenience.⁴⁵

Another important source of information has been provided by the restudy of LM IB material from earlier excavations. This list includes Betancourt and Silverman's study of Gournia, Palio's work at Phaistos Chalará, Mountjoy's study of the South House at Knossos, Hatzaki's review of 13 LM IB deposits around Knossos, and Vitale's restudy of the LBA ceramics from the Seraglio on Kos.⁴⁶ Although many of these assemblages were heavily selected by the original excavators in favor of decorated pottery, they remain invaluable resources, as shown by the repeated references to them in the publication of the workshop.⁴⁷ Here we should also include Driessen and Macdonald's *Troubled island*, which includes an exhaustive review of LM I sites across Crete, distinguishing LM IA and LM IB remains at each while tracing the possible impact of the Thera eruption on the island.⁴⁸

Finally, important work breaking down larger questions of ceramic production in the Neopalatial period has been provided by a series of dissertations. These include Van de Moortel's study of Kommos pottery, which considers Neopalatial pottery production and consumption in North and South-central Crete, Stamatakis's on-going study of Vathypetro, Traunmueller's study at Zominthos, Barnard's work at Mochlos, Floyd and Banou's studies of pottery from Pseira, Vokotopoulos' study of Karoumes, and Puglisi's treatment of the Neopalatial pottery at Hagia Triada.⁴⁹ Other dissertations have considered broader issues of Neopalatial ceramics, including Day's use of petrography to trace production and trade of coarse ware pottery in East Crete, Christakis' study of Neopalatial storage containers and Morrison's forthcoming study of Neopalatial cooking wares at Mochlos, Papadiokampos and Kommos.⁵⁰

Given this background, it is certainly fair to ask: where did the LM IB workshop move the debate? The conference had three broad goals: the publication of complete, stratified LM IB assemblages, the identification of local production and consumption patterns and related regional and off-island trade networks, and finally a review of the relative chro-

⁴¹ For the Unexplored Mansion, see Popham 1984; for the Royal Road: North and the Stratigraphic Museum Extension, see papers by Hood and Warren in this volume.

⁴² Coldstream & Huxley 1972; Sackett & Popham 1970.

⁴³ For Kommos, see Watrous 1992; Rutter & Van de Moortel 2006. For Pseira, see Banou 1995a; 1995b; 1995c; Betancourt 1999; Betancourt & Davaras 2009; Betancourt & Banou 1999; and Floyd 1998.

⁴⁴ Kanta & Rocchetti 1989; Barnard & Brogan 2003; Hatzaki 2007c; MacGillivray, Sackett & Driessen 2007.

⁴⁵ For Kea, see Cummer & Schofield 1984, 139–46; for Melos, see Mountjoy 2007, 307–70.

⁴⁶ Betancourt & Silverman 1991; Palio 2001a; Mountjoy 2003; Hatzaki 2007a; 2007b; Vitale 2005.

⁴⁷ Hatzaki's paper in this volume provides a very clear account of the strengths and weaknesses of these deposits for current studies.

⁴⁸ Driessen & Macdonald 1997.

⁴⁹ Van de Moortel 1997; Traunmueller 2009; Barnard 2001; Banou 1992; Floyd 1998; Vokotopoulos 2007; and Puglisi 2006.

⁵⁰ Day 1991; Christakis 1999a; and Morrison (in this volume), who is writing her thesis at the University of Leicester.

nology for the latter half of LM I. Here we highlight some of the new evidence; however, this introduction is intended as a guide to readers rather than a synthesis of the contributions. For a variety of reasons, the deposits from some sites did not allow the speaker to address all of these topics with equal strength, but all the papers provide significant new evidence for one or more of the conference subjects.

Because so much of the previous discussion of LM IB pottery has relied on the stylistic analysis of a very restricted range of material (e.g., the presence of Marine Style pottery, which goes right back to Evans' original arguments), the participants at the workshop drew particular attention to the deposition and variety of the assemblages under discussion. Almost all of the speakers have chosen closed, stratified deposits, and when this was not possible (e.g., some deposits at Kythera, Kommos and Hagia Triada) the papers have carefully outlined the strengths and limitations of the evidence. The effort to illustrate the range of shapes and decoration is equally evident and involved both plain and decorated, open and closed shapes in all fabrics.⁵¹ The indices for images and terms at the end of the book also provide a quick reference to specific shapes, motifs, and sites. For some sites there is such a wealth of material (e.g., Kato Zakros, Mochlos, and Palaikastro) that it was difficult to cover the range of fabrics, shapes, and decoration in the allotted space, while the function or preservation of other sites limited the available pottery sample (e.g., the peak sanctuary at Kythera). In many cases, only the final publication of these sites will suffice to provide the kind of detail that is needed, but the conference proceedings probably now represent the most extensive treatment of any single ceramic phase in Cretan history.

Local production and consumption patterns and regional trade networks⁵²

The identification of local production at the sites presented in this volume draws on a range of data, including both primary evidence like kilns and the

examination of various technological information like forming techniques and surface treatment, as well as the choice of shapes and motifs. The use of archaeometric analysis, particularly petrography, to identify the provenience of coarse wares was included whenever such results were available (e.g., Mochlos), but this technique will clearly have a greater impact on the field after more assemblages have been sampled over the next decade. Instead, most participants at this conference relied on new advances in the macroscopic fabric analysis of both coarse and fine fabrics; these often form the basis for planned microscopic analysis with thin-section petrography. A smaller number of studies also emphasize the investigation of ware groups, combining macroscopic observations of fabric with surface decoration (e.g., Traunmueller), finish and other manufacturing techniques related to how the pot was built or removed from the wheel (see Knappe and Van de Moortel in this volume). The use of statistical analysis also plays an important role in several papers (e.g., Kythera, Galatas, Malia, Pseira, Kommos, and the Knossos Stratigraphic Museum Extension).

The varied evidence presented for pottery production at specific sites is so rich that it is impossible to review in detail. The most direct evidence is provided by the presence of kilns and potting equipment at a small but growing number of sites. From LM IA levels there are kilns at Priniatikos Pyrgos, Kommos, and Zominthos, where there is also

⁵¹ For a summary of the methodology used by many authors in the volume (with variations), see Betancourt in this volume. An overview of the shapes mentioned by the authors is provided as an index to the volume. Because the terminology for these shapes has not been standardized, the index attempts to list all of the different labels used in this volume for similar shapes. For example, a vessel such as the semiglobular cup can have many labels derived from either its profile or use. The index of terms also lists the shapes, motifs, and sites mentioned in the volume. For the motifs, one can also refer to the illustrated tables in several papers (Tournavitiou table 2; Hood figs. 17–20; Puglisi fig. 5, Mantzourani figs. 29–30; Rutter tables 1–5; Hemingway, MacGillivray & Sackett fig. 6; and Platon fig. 1).

⁵² For a review of local pottery production and local and regional patterns of consumption in the Prepalatial period, see Day, Relaki & Todaro 2010.

a potter's wheel.⁵³ LM IB kilns have been reported in the Zakros hinterland, Mochlos, and Hagia Triada, while wheels have been found at many sites, including Palaikastro, Mochlos, Gournia, Phaistos, Pitsidia Plakes, and Vathypetro.⁵⁴ Puglisi's paper in this volume and a forthcoming study of the pottery from the kiln at Hagia Triada demonstrate a clear link between the pottery consumed in the Villa and that produced in the kiln. Puglisi uses the same deposit to raise an important point, which is also illustrated in many papers – the wide range in the quality of the pottery produced in LM IB, which included masterpieces of the SPT, along with products that look like the work of beginners or non-specialists (e.g., Puglisi fig. 17 or Brogan, Sofianou & Morrison fig. 16). At Zominthos, Mochlos and Pitsidia Plakes there are also architectural remains that have been identified as potter's workshops.⁵⁵

The site presentations in the volume all try to identify local ceramic products, some in combination with specific decoration or certain technological features. Most papers also move from site-level production to local and regional consumption and exchange patterns, which is where the conference certainly hit rich new ground. A degree of ceramic homogeneity has long been recognized in North-central Crete, and it has been connected with the circulation of Knossian products to the ports, villas and sanctuaries within the wider region.⁵⁶ The presence of these same palatial products has also allowed excavators at more remote sites in East and West Crete to date local pottery according to the Knossian sequence as defined by Evans and later by Popham. Moreover, pottery is just one class of evidence that also includes monumental architecture, sanctuaries, wall paintings, administrative practice, and other palatial products, all of which often factor into important discussions of possible Knossian economic, religious and political dominance over Crete or parts of Crete in the Neopalatial period (Hood in this volume).⁵⁷ This combined evidence has been the subject of several recent studies, but here discussion focused on the pottery.

Several authors (Hood, Warren, Macdonald, Hatzaki, Banou, Cadogan) outline Knossian production in new detail (e.g., the motifs presented from the Royal Road: North and Stratigraphic

Museum Excavations and the distinctive S-profile cups, horizontal-handled bowls and reed cups). These elements and the SPT vessels provide an important measure of Knossian influence on ceramic production in neighboring regions to the east, south, and west, as well as in the more distant LBA I harbor towns in East Crete (e.g., Pseira, Kato Zakros and Makrygialos) and on Kythera, Kea, Kos, Miletos, and Rhodes. While Knossian exports are recognized in all of these areas, the specific papers on Malia, Galatas, Kolokythi Skinias, the western Mesara, Zominthos, Pseira, Kato Zakros, Makry-

⁵³ For Priniatikos Pyrgos, see Tsipopoulou & Hayden 2005, 2–7, fig. 11; for Kommos, see Shaw *et al.* 2001; for Zominthos, see Traunmueller in this volume. For a longer list of Bronze Age Cretan kilns whose date and function is less secure, see Evely 2000, 300–11. The excavators at Palaikastro also refer to a possible LM I kiln excavated by Davaras southwest of the settlement (Davaras 1980). This last report also mentions the kilns reported at Zou and Achladia, but their date and function are not clear.

⁵⁴ For Kokkino Phroudi (Zakros hinterland), see Chrysoulaki 2000; for Mochlos, see Soles 2003; for Hagia Triada, see Puglisi 2003a, 183–5; this volume; and forthcoming b. For the potters' wheels, see Evely 2000, 269–89 and Soles 2004b, 33–4, figs. 12–3; and the paper in this volume by Chatzi-Vallianou.

⁵⁵ For the workshops, see Soles 2003, 94–5 and papers in this volume by Traunmueller and Chatzi-Vallianou.

⁵⁶ Furumark 1941a, 165; Popham 1967, 337–41, who notes on p. 337: "Should there be a discernable Knossian bias in this article, it may be due partly to the author's work having been largely centred there and partly to his belief that, in several stages of the pottery of the island, it was Knossos which set the standard."

⁵⁷ Wiener 1984, 17–25; 1990; Weingarten 1990, 105–20; Hallager & Hallager 1995, 547–59; Betancourt & Davaras 2002, 207–11; Warren 2002, 201–5; 2004, 159–68; Macdonald 2005, 171–94, Tsakanika-Theochari 2006; and papers by Hood, Rethemiotakis & Christakis, Cunningham and Knappe in this volume. *Contra* this idea of Knossian hegemony, see Cherry 1986, 19–45; Driessen & Macdonald 1997, 35–83; Hamilakis 2002, 179–99; and Schoep 2004. For a review of the Minoan and Mycenaean palaces and their control of the political economy on Crete and the mainland, see Pullen 2010a. He notes the possible existence of a "para-palatial" economy or economies beyond the control of the palaces, which could provide an interesting venue for future discussions of LM IB pottery production and consumption at settlements across the island. The paper by Day, Relaki & Todaro in the same volume (2010, 205–29) considers this topic for the Prepalatial period on Crete.

gialos, and the sanctuary on Kythera reveal a much more complicated story of Knossian influence and export and parallel regional ceramic traditions on the island. The best measure is the large group of vases with the dark-on-light pattern-painted decoration found across the island in LM IA and LM IB; these clearly exhibit a broad *koine* of shared decorative motifs but also different preferences at the level of region, site, and workshop.

The goal of the conference, however, was not to trace possible Knossian influence but instead to define local production at the site level across the island and then consider evidence for wider patterns of consumption and exchange – Knossian products being just one possible source of pottery or ideas. Most of the presentations identified considerable evidence for local pottery production (the contents of Room 12 at Zominthos probably illustrate the output of one workshop – two-thirds of which are kalathoi), but some sites like Pseira and Chryssi probably did not produce any pottery because these islands did not have the necessary resources.

The studies of Papadiokampos, Petras, Palaikastro, Karoumes, Kato Zakros, and Makrygialos reveal evidence for a complex mix of ceramic production and exchange among known as well as some still undiscovered sites in East Crete. The Villa at Makrygialos and the houses and Palace at Kato Zakros reveal the tastes of elite consumers. Both sites contain vases made by potters working in North-central Crete and decorated with SPT decoration, as well as pottery produced at major settlements in East Crete (e.g., the Mirabello and Palaikastro areas). The pottery from Kato Zakros also reveals the considerable output of local potters, some of whom had conservative habits, continuing to produce vases decorated in an LM IA style down into LM IB. One of the other major productions at Zakros is a series of Palace Style jars which were found in large numbers in the Palace, but were also traded and have been found at many settlements in East Crete.

Palaikastro presents one of the most idiosyncratic assemblages from any site on the island. The paper by Hemingway, MacGillivray, and Sackett shows a preference for plain wares at the site, including jugs and ogival cups, together with finer vessels deco-

rated in the Abstract Banded Style (Hemingway, MacGillivray & Sackett fig. 6). The response by Van de Moortel draws further attention to what is missing – decorated cups and pouring vessels. The other East Cretan papers (e.g., Petras, Papadiokampos, and Karoumes) also indicate that products from this site and Kato Zakros circulated widely; moreover, the range of traded vessels, including decorated pouring vessels, cooking pots, basins, vats, and storage containers like amphorae and jars that were acquired for their contents, is impressive. These sites also offer a new window into pottery consumption in this period at the lower levels of society (rural farmsteads and houses at the edge of the settlement). The distribution pattern that we see is not driven simply by proximity to the nearest producer; rather, it is evidence for a much more complex network of trade in East Crete.⁵⁸

A tighter regional pattern has been observed at sites in the eastern Mirabello area (Mochlos, Pseira, Gournia), but one should bear in mind the possibility that LM IB houses at Pseira may have been destroyed (with the exception of House AF) before the majority of houses at Mochlos and Gournia. In general, pattern-decorated closed vessels appear to circulate widely within the Mirabello region (e.g., cylindrical bridge-spouted jars and alabastra), and there were probably multiple producers of these vases (certainly Gournia and Mochlos in LM IB and also Priniatikos Pyrgos in LM IA). Semiglobular or rounded cups show two distinct sizes, with a preference for spirals early in the period. Later in the period, potters at Mochlos only make the larger version along with bowls with horizontal handles, decorating both with stylized motifs, particularly wavy bands and foliate leaves. The clearest evidence of local production and consumption are the coarse lily jars produced at Mochlos; these vessels are only found at Mochlos and sites on the nearby coast. In addition, variation in consumption patterns can be traced not only between and within the broader geographic regions of the island but also within individual settlements. Houses at

⁵⁸ For a definition of region and such networks on Crete, see Relaki 2004.

all three sites are consuming pots from sources in both North-central Crete and at the East end of the island. A closer look at the individual buildings at Mochlos reveals household taste. The occupants of House C.2 clearly preferred imported bell cups from Central Crete, while those dwelling in other houses preferred local and imported rounded cups.

Moving closer to North-central Crete, the papers on Malia, Zominthos, and Galatas illustrate the preferences of potters and consumers in these areas during LM IA and IB. At Malia Van de Moortel distinguishes both an early and late phase in LM IB. In early LM IB, she notes the use of buff clay for conical cups, the presence of tall, convex straight-sided cups and red monochrome teacups, and the use of diagonal bars on handles and wavy bands on the necks of collar-necked jugs. She also examines the LM IB vases found in the Palace and Houses Za, Zb, and E, highlighting the presence of SPT decoration on a large number of jugs, stirrup jars, and alabastra from these contexts. Finally, she notes the absence of any horizontal-handled bowls and the presence of LM IB Late teacups with blob-centered spirals. Although not illustrated in this volume, the references to other publications provide an extremely thorough summary of local production at Malia and ceramic exchange with sites in North-central and East-central Crete.

Only 6% of the pottery in Room 12 at Zominthos was pattern-decorated, but at Galatas the choice of shapes and motifs and the syntax of the decoration show considerable Knossian influence (with the noticeable exception of reed decoration which is not popular in the Pediada). Moreover, there are very few imports (e.g., a reed cup at Galatas and perhaps an East Cretan ewer at Zominthos). Instead, even the vessels decorated in the Special Palatial Tradition at Galatas and Kastelli (and Kolokythi Skinias) are made locally (somewhere in the Pediada).

The LM IB levels at sites in the western Mesara offer perhaps the most important regional sample on the island, in no small part because several specialists working in the area have recently completed lengthy studies of the LM I ceramics. The earliest discussions of LM IB style treated the pottery of the Mesara as slavishly dependent upon trends developed on the North coast, and more

recent reviews of the Neopalatial Mesara have suggested the possibility that Knossos had established political dominion over the region in this period.⁵⁹ The current reviews of Kommos, Pitsidia Plakes, Hagia Triada, and Phaistos, however, offer a much more balanced assessment.⁶⁰ These papers are able to distinguish site-specific choices in the selection of motifs on certain shapes (e.g., counter-clockwise tangent spirals at several sites, foliate band and lily at Hagia Triada, and the Floral Paneled Style on cups at Kommos) and preferences for different types of cups and jugs at various sites (e.g., collar-necked jugs and semiglobular cups with interior rim bands at Kommos and straight-sided cups and beak-spouted jugs at Phaistos and Hagia Triada). Rutter also suggests that the popularity of horizontal reed motifs on LM IB Late cups might be a “West Mesaran response to the extremely common Reed cups of North-central Crete on which the reed is oriented either vertically or diagonally.” The paper on Skinias and its response also consider how this site at the less-studied eastern end of the Mesara fits into the broader regional patterns observed in Central Crete (i.e., connections with both the north and south coasts) and East-central Crete.

Moving further west, the pottery from Khania exhibits another very distinctive style of decoration on a white ground (either pale buff clay or a white slip over orange clay) suggesting that the LM III Khaniote workshop has clear Neopalatial antecedents. The decoration also shows clear local preferences for certain motifs like dotted waves (Andreadaki-Vlazaki figs. 12a and 15b), Kydonian flowers with multiple stamens (Andreadaki-Vlaza-

⁵⁹ Pendlebury 1939, 208. For a recent review of the evidence for Knossian hegemony in the Neopalatial Mesara, see La Rosa 2002.

⁶⁰ In addition to the papers in this volume, the dissertation by Van de Moortel (1997) explores the relationship between potters operating in the Mesara and at Knossos in great detail. From MM III, Van de Moortel sees close parallels in the production of both regions with Knossian potters leading the way. She sees no evidence for any production by the palaces, but instead interprets Neopalatial pottery as the product of independent producers serving both elites and the general populace.

ki fig. 16d), and rows of tangent and hook spirals (Andreadaki-Vlazaki figs. 16 and 21).⁶¹ Another distinctive feature is the use of groups of three thin lines to frame decorative zones on closed shapes and rounded cups. The use of the Alternating Style and bell cups provide links with Knossos and Kythera, and Mountjoy notes that the open ground Alternating Style may be a regional West Cretan type of decoration rather than a later production.

While Khania and Kythera often share strong ceramic ties in other periods, Tournavitou's review of the Hagios Georgios peak sanctuary on Kythera illustrates an impressive local production geared specifically for this site and one whose shapes (e.g., miniature vessels) and motifs (e.g., floral elements) reveal a different local ceramic narrative than that seen at the nearby settlement of Kastri. She also points out that this local pottery shows more influence from sites on the mainland and Cyclades than Crete itself, as was originally proposed by the excavators of Kastri.⁶² Mountjoy considers this same topic, in reference to the vases decorated with SPT found at Kastri, Hagia Eirene, and Phylakopi and other sites on the mainland. She cautions that chemical analysis has revealed that many SPT vases thought to be Minoan imports from Crete are actually copies made by potters on the islands and mainland, suggesting the movement of Cretan potters to these sites in the period following the Theran eruption. In this same vein, Cadogan considers the discovery of LM IB style vases at more remote sites in the eastern Mediterranean.

Broader regional choices for shapes can also be traced across the island in LM IB. Christakis' study shows clear regional differences in the shape and decoration of large pithoi (i.e., with capacities of more than 300 liters) produced in West, Central, East-central and East Crete, which he believes are a reflection of broad, regional potting traditions on the island. This contrasts with the distribution of small and medium-sized storage jars (i.e., with capacities of 30–170 liters) whose various types were produced and used in every part of Crete. Another example is the bridge-spouted jar, which appears in several forms in LM IB. While a piriform shape is favored in the Mesara, the bucket-shaped version is popular in the Mirabello area. Among jugs,

the beak-spouted type is preferred in the Mirabello area, while bridge-spouted and trefoil-mouthed jugs are more common at neighboring Papadi-okampos and sites further east. Finally, the cups show regional preferences. Decorated bell cups and rounded or semiglobular cups are found across the island (though sometimes in very small numbers, as at Palaikastro), but the method of decoration varies considerably in each region. Finally, ogival cups are a defining shape of LM IB levels in East Crete (Knappett in this volume) and are even more common than conical cups at sites like Palaikastro. In general, the ratio of ogival cups to conical cups is high at sites in East Crete (e.g., Karoumes and Mochlos), while the percentage of ogival cups decreases greatly at sites in Central and West Crete.

While the participants of the conference made considerable efforts to define local production and identify imports to these same sites, the topic of regional styles and exchange networks will remain a work in progress. The overview provided in this introduction merely scratches the surface of what is presented in the volume. Moreover, much remains to be learned from the continued study of this topic for both the final publication of these sites and for future dissertation research. One parameter that deserves careful consideration is the definition of regions and regional networks on Crete. Relaki has recently suggested the intriguing label "networks of relevance" as a model for defining regionalism in Prepalatial Crete, and it is certainly relevant for the emerging evidence for the production, consumption and exchange of LM IB ceramics. She notes:

regions *come about* through the establishment of relations between people and places and the ways that such relations are expressed on the landscape.... They are not static geographies, but active *networks of relevance* in which some places are better connected than others. In this way dense and sparse areas can be recognized, not so much on the basis of absolute

⁶¹ Andreadaki-Vlazaki in this volume, 71–2.

⁶² For material connections between Khania and Kythera, see Andreadaki-Vlazaki 2009. For the links between Kythera and Knossos, see Coldstream & Huxley 1972, 291–304 and 309; Broodbank 2004, 77–81.

location, i.e., geographical proximity, as on the basis of relative location, i.e., how closely connected are particular places within a *network of relevance*. It is the *nature* and *intensity* of interactions between places (not their topographical position) that define the extent of a region and also distinguish between different regions.⁶³

With the complete publication of more LM IB assemblages, it should be possible to measure the nature and intensity of ceramic exchange networks in LM IB. The results may point towards specific regional networks or instead to a more complex pattern of exchange between settlements in different regions.

Relative chronology

The most controversial topic of the workshop involved the relative chronology of LM IB and the possibility of sub-phase(s) within the LM IB period itself. Nikolakopoulou's paper on storage jars at Akrotiri was clearly focused on LC I material contemporary with LM IA on Crete. To define the beginning of the LM IB period, several papers began by presenting evidence for LM IA or even LM IA Late or Final (e.g., Khania, Kommos, Hagia Triada, Pitsidia Plakes, Malia, Pseira, Mochlos, Karoumes, Galatas and Zominthos), but only the papers on Kommos, Malia and Mochlos were able to combine this presentation with evidence for an LM IB Early phase.⁶⁴ A possible starting point for future study of this problem is the suggestion that LM IB Early will show considerable continuity of LM IA style. At the site of Zakros there is evidence for the continued production of LM IA style pottery (conservatism?) well into the LM IB period, where vases of the LM IA style are found on the same floors with the most advanced productions of LM IB style. Several discussants also raised the possibility of using the Thera eruption as the point of transition from LM IA to LM IB (e.g., Kommos and Mochlos), but this was not universally accepted.⁶⁵

One of the primary reasons for organizing the workshop was the controversy connected with the identification of sub-phases within the LM IB period.⁶⁶ In the decade prior to the conference, several

theories had emerged; for example, Van de Moortel had attempted to define earlier and later phases of LM IB in North and South-central Crete based on the appearance of the Special Palatial Tradition in the later phase.⁶⁷ At the workshop, the vases with SPT decoration (in particular the Marine Style and Alternating Style) continued to play a role in the definition of LM IB in general as well as of a later sub-phase, but the participants could not reach a definition that worked for all sites (in no small part because SPT vases are not found in many LM IB contexts).

In the volume, several sites also present new evidence for two or more architectural phases in LM IB (e.g., Kato Zakros, Karoumes, Palaikastro, Mochlos, Pseira, Malia, Skinias, Khania, to which we can also add Chryssi), but it was not always possible to distinguish multiple phases of LM IB pottery at the same sites (e.g., Kato Zakros and Palaikastro). Attempts to define an early LM IB ceramic phase were limited to Mochlos, Malia, and Kommos, but only Mochlos provides clear stratification between LM IA Final and LM IB Final. Several sites also identified multiple phases of LM IB pottery on stylistic grounds supplemented by stratigraphic data where possible (e.g., Kythera, Phaistos, Hagia Triada, Kommos), while other sites attempted to assign the ceramic sub-phases to multiple architectural phases (e.g., Mochlos, Pseira, Malia, and Khania).

Several authors also put forward evidence for a late sub-phase of LM IB, in many cases overlapping with early LM II (e.g., Palaikastro, Karoumes, Mochlos, Pseira, Kommos, Hagia Triada, Phaistos, Chalara).⁶⁸ In ceramic terms, this phase is marked

⁶³ Relaki 2004, 172.

⁶⁴ Many of the discussants brought up the need for a more thorough investigation of the LM IA period on Crete along the lines of what has been done recently at Kommos, Hagia Triada, and Malia.

⁶⁵ For the possibility of post-eruption LM IA at Melos, see Davis & Cherry 2007, 296–302.

⁶⁶ For an early attempt, see Furumark 1941b, 80–5.

⁶⁷ Van de Moortel 1997, 268–70.

⁶⁸ One reason for this sub-phase is the continued difficulty identifying a clear phase of LM II at sites in East Crete. LM II Ephyræan goblets have now been recognized at Kato Zakros, Palaikastro and Mochlos, but they always appear in later contexts or the earliest levels of the LM III reoccupation. They

by the appearance of horizontal-handled bowls like those found in LM II levels and the absence of other shapes like the Ephyraean goblet. The form and syntax of decoration are also important, and this list includes blob cups, a tendency towards stylized and isolated motifs, the use of painted slashes on handles and rims and the general position of motifs near or pendent from the rim of cups and bowls.

At Mochlos, the study of the pottery from the Artisans' Quarter identified a mix of LM IB styles together with certain shapes, like the Type A horizontal-handled bowls, and decoration (both syntax and motifs) that resembled features understood to appear only in LM II deposits in Central Crete;⁶⁹ the absence of any Ephyraean goblets in "LM IB" destruction deposits at Mochlos prevented the authors from calling the deposits East Cretan LM II and they instead opted for LM IB Final or LM IB/II. Betancourt had identified a similar level in the reuse of House AF at Pseira, which Vokotopoulos also recognized in his study of Choiromandres and Karoumes.⁷⁰ Palio's publication of blob cups in the LM IB deposits at Chalará caused him to suggest a similar date for this deposit, while Puglisi's restudy of LM IB Hagia Triada identified three phases: classic LM IB of the Villa Destruction Deposits (DFV), LM IB Post Villa Destruction (post DFV), as well as a third phase of LM IB/LM II.⁷¹ A sequence of three phases has also been proposed by Rutter at Kommos but it differs slightly from that of Puglisi.⁷² Rutter accepted and refined Van de Moortel's two phases of LM IB and identified a third which he originally published as LM II Early, but later identified as LM IB Final in this volume. The paper by Banou on Poros also explores the possibility of a late phase of LM IB Final or early LM II pottery.

Three responses in the volume (Hallager, Mountjoy, and Mantzourani) provide a critical review and challenge to the specific arguments for the late phase of LM IB (identified as LM IB Final in the previous paragraph). In particular, these authors review the evidence for the Alternating Style and shapes, like the horizontal-handled bowl, squat alabastron, and goblet, which have been used to support the late sub-phase of LM IB.

At the conference another large group of scholars presented evidence from sites that did not have

evidence for multiple ceramic phases of LM IB or the existence of a transitional phase of LM IB and LM II. They include Zominthos, Knossos Royal Road: North, Knossos Stratigraphical Museum Excavations, Galatas, Pitsidia Plakes, Makrygialos, Papadiokampos, Petras and Kato Zakros. These papers argue in support of the traditional view of a single LM IB phase followed by LM II as defined by Popham's finds from the Unexplored Mansion at Knossos.⁷³

At the workshop the participants presented evidence, arguments, and counter-arguments for one or multiple phases of LM IB. In the end several scholars were willing to accept the possibility of multiple phases of LM IB (particularly at individual sites). There was less agreement on the criteria that would allow for linkages between sites across the island. In addition, several scholars attempted to define a later phase of LM IB by the presence of SPT vases (in particular Marine Style and Alternating Style). The participants were also split evenly on the existence of a late phase called LM IB Final (particularly over the relationship of this phase with LM II). The final discussion includes lengthy summaries of various arguments and evidence.

The future of LM IB studies

Philip Betancourt offered an intriguing comment in the discussion following the conference when

do not appear at these sites in the LM IB Final destruction levels, which has caused some scholars to look for an early phase of LM II before goblets appear.

⁶⁹ Barnard & Brogan 2003; Brogan, Smith & Soles 2002.

⁷⁰ Betancourt pers. comm. and Floyd 2009, 54–6 and 86–90; Vokotopoulos 2006; 2007.

⁷¹ Palio 2001a, 376–85; Puglisi 2006.

⁷² Rutter 2006a. Rutter posits the following relationship for the phasing at Kommos and Hagia Triada: DFV at Hagia Triada = LM IB Late at Kommos, PDFV at Hagia Triada = LM IB Final at Kommos, and Puglisi's 3rd phase at Hagia Triada = LM II at Kommos. So there is nothing at Hagia Triada that is equivalent to LM IB Early at Kommos. Moreover, Rutter suggests the possibility of a 4th sub-phase at Kommos that remains to be inserted between LM IB Early and Late (Rutter in this volume, Table 4: "LM IB Developed").

⁷³ Popham 1984.

he noted that the workshop was probably 25 years ahead of schedule. Many of the questions raised in Athens can only be answered by the detailed analysis of fully published deposits from across the island. Will we have reached that point in 2032? The other potential sources of new information will likely come from archaeological science. These studies include material analysis to identify the techniques of production and the provenience of pottery and organic residue analysis to determine the contents of vessels. The paper by Rethemiotakis and Christakis provides a glimpse of the potential informa-

tion to come (e.g., identifying vessel contents such as olive oil, beeswax, and wine).⁷⁴ The results of these studies offer potentially game-changing evidence for scholars studying Cretan pottery and the possibility of moving the debate from the familiar lines of style and date to those of function and economy. It is in that direction, we suggest, that the debate will be headed by 2032, and probably much sooner.

⁷⁴ Christakis 2005 and Brogan & Koh 2008.

LM IB pottery in Khania

Maria Andreadaki-Vlazaki

Evidence for the Neopalatial period in the Khania region is being continuously enriched by excavations, mostly in the town of Khania,¹ but also in the villages of Nopigia, Vrysses, Nerokourou and Stylos (Fig. 1).² All these sites are concentrated on the northern side of Khania, either at a commercial harbor (Khania, Nopigia) or at an important intersection for the transport of goods (Nerokourou), or even at strategic places near agricultural areas (Vrysses, Stylos). The development and prosperity of settlements at such central and strategic locations in West Crete mirrors the strong and wealthy character of the Neopalatial period across the island.

In the town of Khania, LM IB habitation is restricted to Kastelli Hill and the Splantzia Quarter (Fig. 2). Settlement was more nucleated than in the

Prepalatial period, when habitation was extensive, though Kastelli and Splantzia were always densely populated. The concentrated and more controlled character of the Neopalatial settlement reflects the centralizing role played by palatial centers at that time. In the beginning of the period, in MM III, an enormous building program was initiated at Khania. After levelling most pre-existing structures to the ground, new building complexes with palatial architectural elements were constructed on Kastelli Hill and in Daskaloyannis Street in Splantzia. Recent excavation and stratigraphical work have dis-

¹ Andreadaki-Vlasaki 2002; 2009.

² Andreadaki-Vlazaki 1994–6; Zois 1976; Kanta 1984; Kanta & Rocchetti 1989.

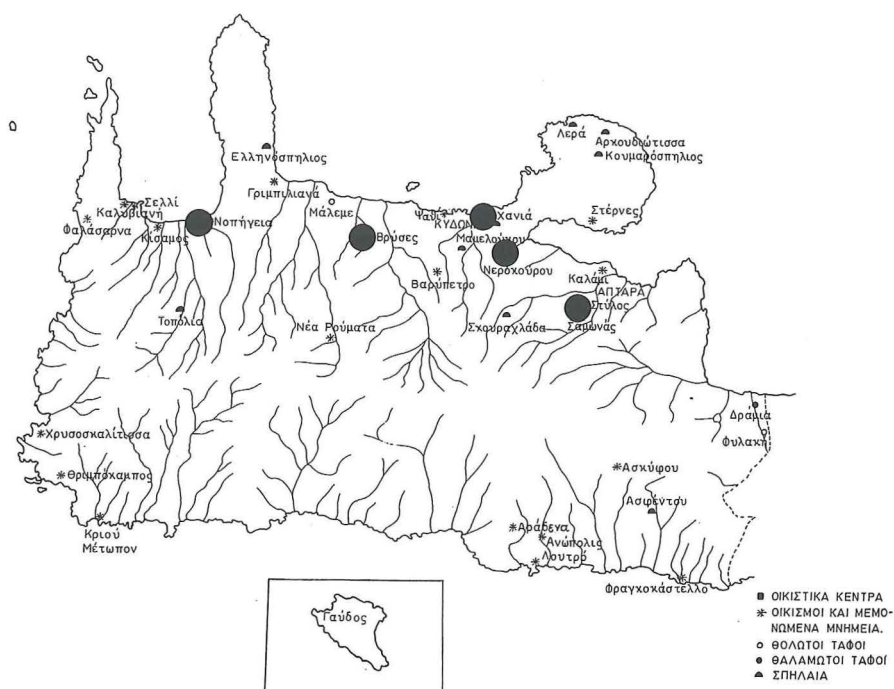


Fig. 1. Map of the Khania region. Neopalatial sites. From west to east: Nopigia, Vrysses, Khania, Nerokourou and Stylos.

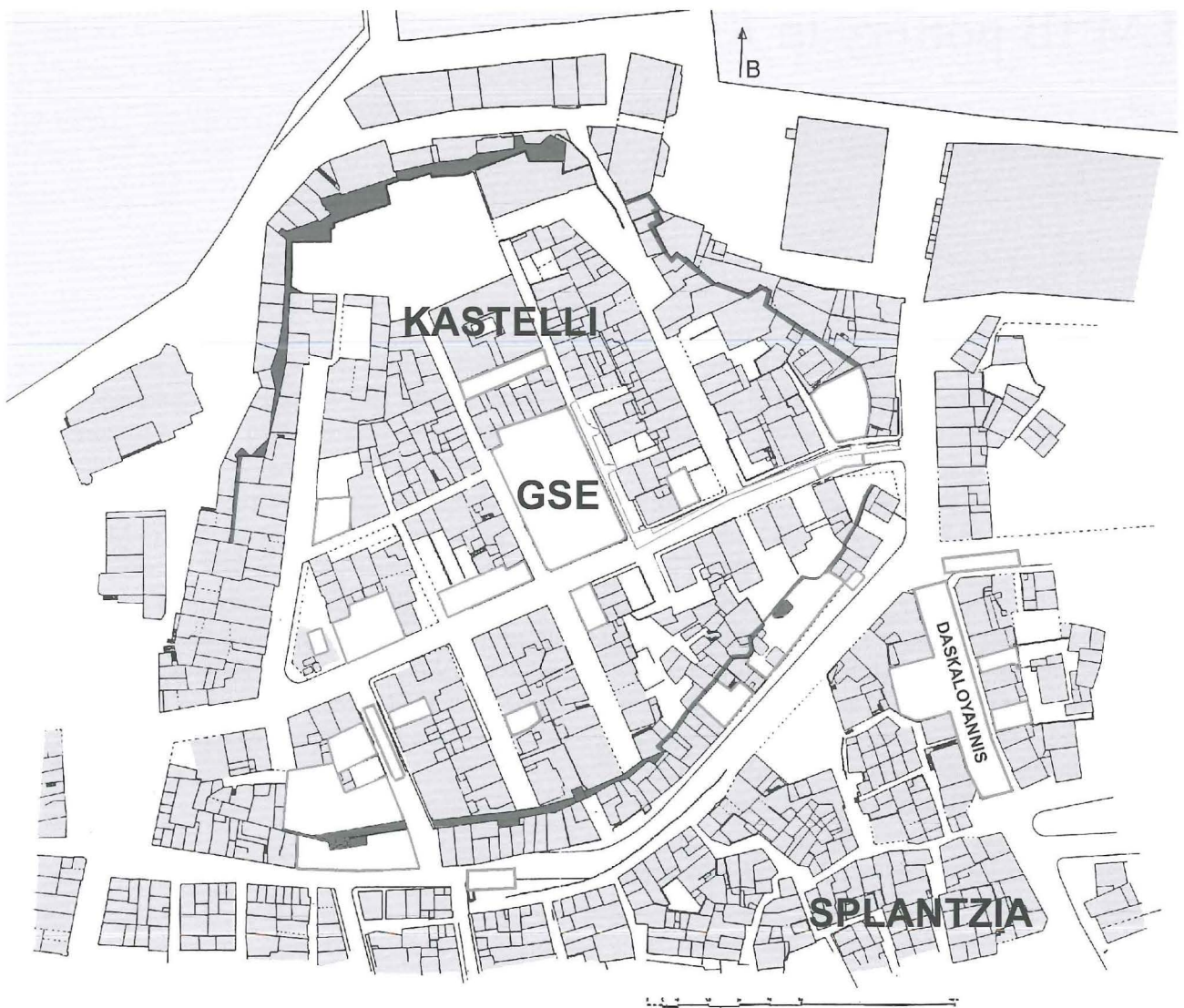


Fig. 2. Plan of Kastelli Hill and the Splantzia Quarter. Plots under excavation.

tinguished several Neopalatial architectural phases, which include repairs, restorations, renovations or reconstructions.³

A characteristic example is a special room in the “Daskaloyannis” Building Complex, which had a significant role in Neopalatial architecture: the Lustral Basin or *Adyton*. It is the only one found thus far in West Crete (Figs. 3 Room 5 and 4).⁴ The various stages of construction, use, destruction, modification, additional destruction and final use of one single room, from the MM III period to LM III, are representative of the building complex and the settlement as a whole. The underground Lustral Basin was originally built with a paved floor and a square ground plan, each side measuring 4 m

on the exterior and 2 m on the interior. In the LM IA phase, the structure collapsed after a large fire, probably caused by a severe earthquake. The room was filled with debris from the superstructure, its surviving walls standing 70 cm high. The abundant carbonized remains found here help reconstruct the original form of the room.

Immediately after its destruction – but still in LM IA – the Lustral Basin was changed into a ground level room with an earthen floor (21) (Fig. 5a). Then, in early LM IB, the northern entrance was blocked, a new western wall (9) enlarged the room

³ See for example Whitley *et al.* 2007, 118–9.

⁴ Andreadaki-Vlazaki 1988.

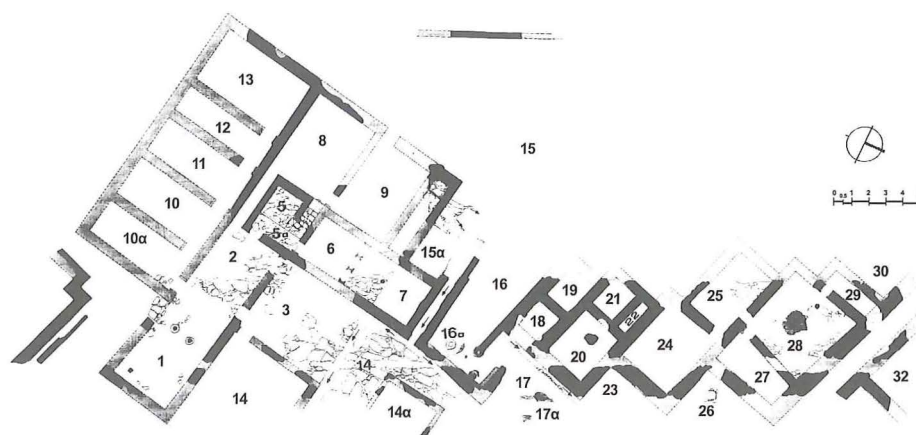


Fig. 3. "Daskaloyannis" Neopalatial Building Complex. Ground plan.

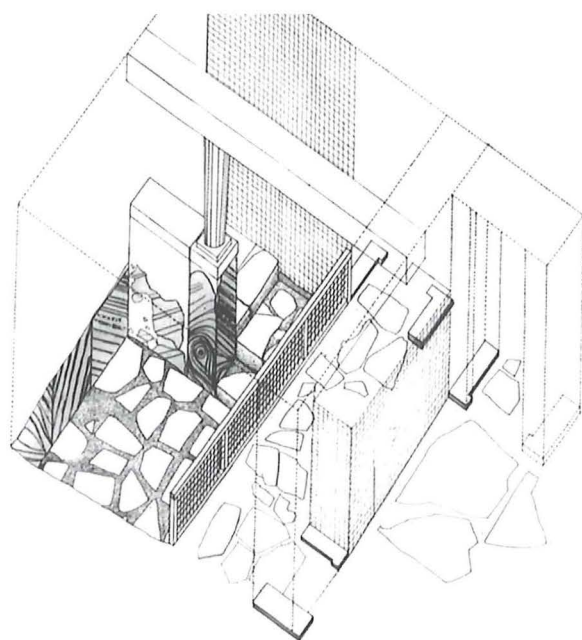


Fig. 4. A reconstruction of the Lustral Basin in the "Daskaloyannis" Building Complex.

(A), and a new earthen floor (19) was constructed on top of the old one (Fig. 5b). Later in LM IB, the northern wall (7) was reconstructed and yet another earthen floor (11) was laid (Fig. 5c). Just before the violent fire that devastated the settlement at the end of LM IB, the entrance from corridor H (Fig. 3 Room 2) to the Minoan Hall Z (Fig. 3 Room 3) was blocked by a pile of mudbricks. Following this destruction, an earthen floor (10a) of LM II/IIIA1 date was constructed, some 5 cm higher than floor 11. The building complex continued to be used in

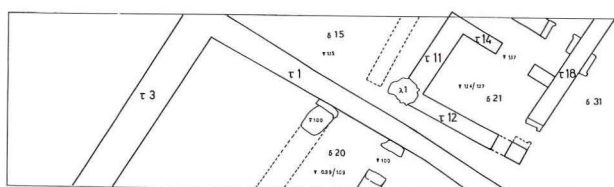


Fig. 5a. Lustral Basin. LM IA Late phase.

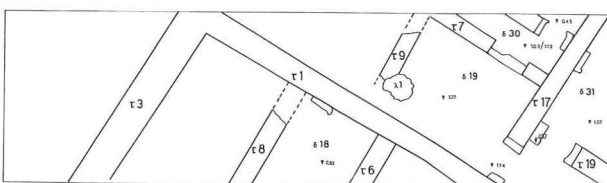


Fig. 5b. Lustral Basin. LM IB Early phase.

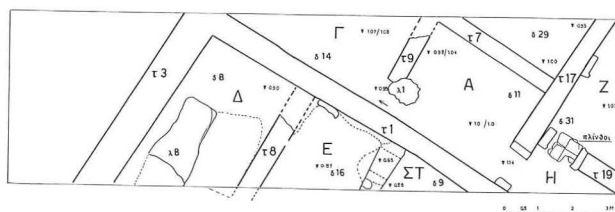


Fig. 5c. Lustral Basin. LM IB Late phase.

LM IIIA and B, and floor 10 seems to belong to the LM IIIA2 phase of Room A. Similar changes (i.e., successive floors and new entrances) were made in adjacent rooms as well.

The development of pottery in Neopalatial Khania followed the same rhythm as the settlement. Local ceramic workshops flourished, as is indicated by the wide range of shapes and decoration. The analysis of both *primary* undisturbed deposits and *secondary* deposits of destruction debris helps define the local LM IB ceramic tradition. The majority of

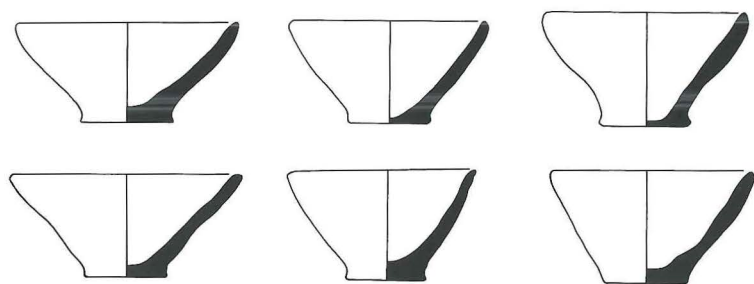


Fig. 6. MM IIIB/LM IA conical cups from the Lustral Basin.

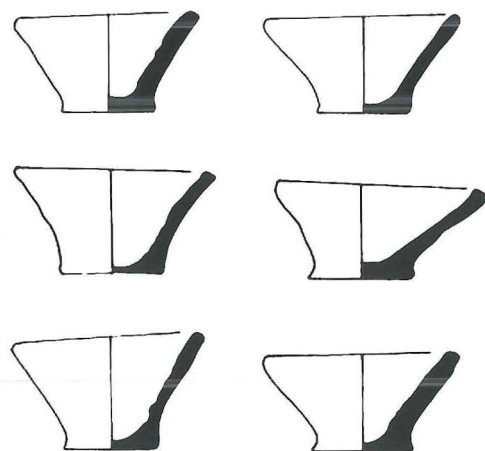


Fig. 7. LM IA conical cups from the "Sevah Building".

primary deposits in LM I Khania are associated with the final catastrophe that befell the town center and destroyed the Linear A archives. These deposits contain pottery of a more advanced stage.

The *primary* deposits have been found *in situ* on the floors of the various LM I buildings on Kastelli Hill, such as Houses I and IV in Plateia Hagia Aikaterini (GSE)⁵ and the recently excavated "Sevah Building" to the west.⁶ In this new Neopalatial building complex, two main architectural phases were distinguished. The original MM III construction was built with deep foundations and strong walls, implying a second story. In LM IA, minor modifications were made, mainly floor repairs. During LM IB, however, extensive changes to the original plan created new and different spaces. Just before the great conflagration at the end of LM IB, the open-air space H was used for food preparation and cooking. Chemical analysis of samples of accidentally fired sandstone and mudbrick has shown that the fire on that part of the hill reached 600 to 800°C. A number of vases, mostly conical and ogival cups were found *in situ* on LM IA and IB floors. Similar *primary* deposits have been found *in situ* on floors of rooms in the "Daskaloyannis" Complex,⁷ such as Rooms 13 (D) and 12 (E), which were also probably used for food preparation (Fig. 3). An important *secondary* deposit is the fill from Pit 10, which had a ceremonial character. It was dug just outside a basin at the NW corner of Room 9. The pit was connected to the basin by a double drain, lined by red stucco, in order to receive the remains of rituals.

Some of the above-mentioned areas contained

earlier floors or pits with LM IA pottery deposits – the "Sevah Building", Pit N of House IV in Plateia Hagia Aikaterini, the undisturbed destruction debris from the Lustral Basin and the surrounding areas of the "Daskaloyannis" Building Complex (Fig. 3 Rooms 14, 15, 16 and 20). Some of the same areas also yielded later floors with LM II/IIIA1 pottery, like floor 10a of the area of the Lustral Basin.

Before we present our preliminary analysis of the LM IB ceramic phases from Khania, we would like to consider a Khaniote peculiarity. During the Final Palatial period, the local Kydonian pottery workshop was noted for products made from white clay with a yellowish white, lustrous slip and orange – occasionally red to black – paint.⁸ The distinctive appearance of these pots makes them easily recognizable in LM III contexts throughout the eastern Mediterranean as imports. The tendency for Khaniotes to favor white surfaces on their pots goes back to the Prepalatial⁹ and Protopalatial periods. These white vases, which were initially not common, increased in number during the Neopalatial period (Fig. 11c and even conical cups as in "Daskaloyannis" Room 13) and became abundant in the Final Palatial period. At the very end of the LM IB period, the local workshop produced elegant vases in the white clay, turned gray by the fire, with decoration connected to the Alternating Style

⁵ Tzedakis 1977; 1980; Hallager & Tzedakis 1988, 32, fig. 16.

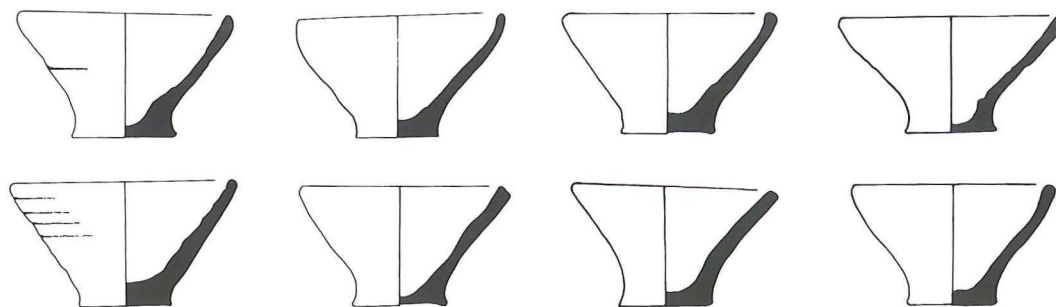
⁶ Whitley *et al.* 2007, 117–9.

⁷ Andreadaki-Vlasaki 2002; 2005; 2009.

⁸ Tzedakis 1969.

⁹ Hallager & Tzedakis 1988, 19, fig. 5.

Fig. 8. LM IB
conical cups.



(see below p. 72) (Figs. 11g, i, 12a, c 13d, 15b). The reason for this gradual shift to the production of local pottery with a white appearance could be the exploitation of a wide and deep deposit of white clay somewhere in the vicinity, which has yet to be found (despite many attempts). Perhaps it was completely used up by the end of the Final Palatial period.

In addition to this distinctive white fabric, the local Neopalatial ware is characterized by a yellowish red (5YR 7/6–6/6) to brownish sandy clay with various inclusions, such as the white lime, small red stones and very small pebbles found in the tripod jars. However, even when using red clay, the potter tried to achieve the “Khaniote look” by means of a white slip. The slip is often chalky, thick and unevenly applied. It has the look and texture of a wash and either covers the surface of plain vases or else constitutes the base on top of which the decoration is painted.¹⁰ The paint is usually orange in color. In LM IB, the vessels in white clay multiply in number and have just a thin, lustrous slip on the exterior. Local workshops also experimented with the white lustrous slip as well as the traditional chalky wash on the vases made of the yellowish red clay (Figs. 11a, 13b). Thus, white-surfaced vases gradually became the hallmark of Khaniote pottery, and by LM I the typical look of the famous LM III Kydonian pottery workshop had already developed (Figs. 11, 13, 14, 16, 18, 21, 22b–c).

This regional preference for plain pots in colors other than the traditional red may also be reflected in the bluish gray, plain MM III vases from Nerokourou.¹¹

In LM IB, plain ware pottery is of better quality than before, anticipating LM II and III fabrics. Fine ware fabrics were hard-fired, well-levigated,

and varied in color from yellowish red to white or grayish white, depending on the color of the raw clay, the firing atmosphere and temperature. Since most of the floor deposits belong to the very last stage of the LM IB settlement at Khania, most of the vessels presented here date to the second phase of LM IB, which is just now becoming understood. Analytical work will follow in the near future.

Shapes

Conical cup

In contrast to the shallow, roughly-made MM III conical cups/saucers, deep, plain and sometimes finely executed conical cups are considered the type fossil of the LM I period. These cups are characteristic of *primary* ceramic deposits at Khania and are often found in massive numbers; examples assigned to the LM IA phase come from:

- a) the destruction debris of the Lustral Basin (Fig. 6).
- b) other ritual locations in the “Daskaloyannis” Building Complex.
- c) the earlier floors in the “Sevah Building” (Fig. 7).

It is also notable that the fill from an elongated pit more than 20 m long, which was dug outside the LM IA settlement at Nopigia to the west of Khania, contained many thousands of conical cups, a minor number of bell cups and cooking vessels and a few fireboxes (i.e., the remains of ceremonial feasting).¹²

¹⁰ Eustratiou 1980.

¹¹ Kanta & Rocchetti 1989, 133, 269–70.

¹² Andreadaki-Vlasaki 1994–6.

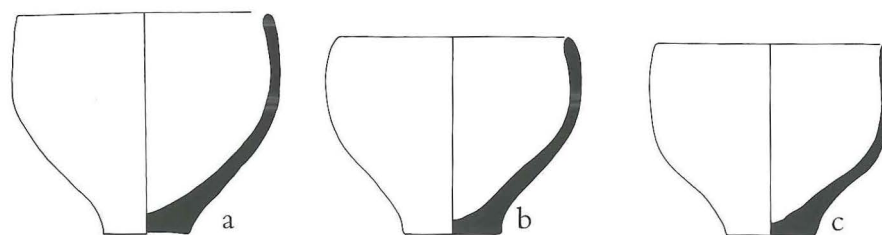


Fig. 9. LM IA ogival cup (a); LM IB ogival cups (b-c).



Fig. 10. LM IB tumbler (a); LM IB conical bowls (b-c); LM IB flower pot (d).

At first sight, LM IB conical cups look almost identical to their LM IA forerunners, but there are some subtle differences, especially near the end of the period. The later cup has a thinner and taller shape, is more carefully made and has a narrower base and an inward turning rim; the walls often have assumed a graceful concave curve. The fabric is also harder and fired at a higher temperature. The shallow conical cup/saucer, so popular in MM III, no longer exists. Characteristic deposits include:

- a) "Daskaloyannis" Pit 10.
- b) "Sevah Building" (Fig. 8: the four to the left).¹³
- c) "Daskaloyannis" Room 13 (Fig. 8: the four to the right).
- d) Plateia Hagia Aikaterini (GSE).

Ogival cup

Compared to their MM III counterparts, the LM I deep handleless cups with a rounded body have a narrower base, a thinner wall and a profile approaching rounded convex (i.e., an ogival profile).

In LM IB these cups were slightly smaller and became one of the leading shapes, rivaling conical cups in numbers.¹⁴

- a) "Sevah Building" (Fig. 9a).
- b) "Daskaloyannis" Room 13 (Fig. 9b-c).
- c) Plateia Hagia Aikaterini (GSE).

Tumbler

Plain tumblers have a tall, narrow form with a concave upper profile (Fig. 10a).

Conical bowl

Plain conical bowls also have a concave profile. The examples with a high foot and flaring rim copy their LM IA predecessors (Fig. 10b-c).

¹³ Whitley *et al.* 2007, fig. 143.

¹⁴ Barnard & Brogan 2003, 106, pl. 6.



Fig. 11a-j. LM IB one-handed cups (b: early LM IB).

Flower pot

The walls of the coarse, tall conical flower pot have assumed a concave profile. Two lugs are added below the flaring rim and the pierced base betrays its function (Fig. 10d).

One-handed cup

a) Rounded cup

The one-handed deep, rounded cups are covered by a white wash on both the interior and exterior. Spattered paint sometimes decorates the interior. In contrast to the LM IA and early LM IB examples (Fig. 11b), paint spatter decoration has been applied directly to the clay surface of some LM IB cups, rather than on top of the wash or slip. In some cases, the white wash has been applied only to the rim and then spattered onto the rest of the

body (Fig. 11a). At the very end of the period, the shape of the handle sometimes changes from strap to rounded convex (Fig. 11c). Handleless examples with two small lugs on the rim are also popular (Fig. 11b, d, e).

Fine versions of the one-handed rounded cup have a more elegant profile with a short, sharply off-set lip and a narrow base with a disc foot (Fig. 11f). Examples of Alternating Style decoration occur on this type, copying in local clay Central Cretan counterparts from the end of the LM IB phase (Fig. 11g).¹⁵

b) Bell cup

Like the contemporary rounded cup, the fine bell cup is popular in the Khania workshop. It has a straight, almost vertical upper profile, a strap handle and a raised base (Fig. 11h, i).¹⁶

¹⁵ Müller 1997, fig. 40.

¹⁶ Müller 1997, fig. 41.

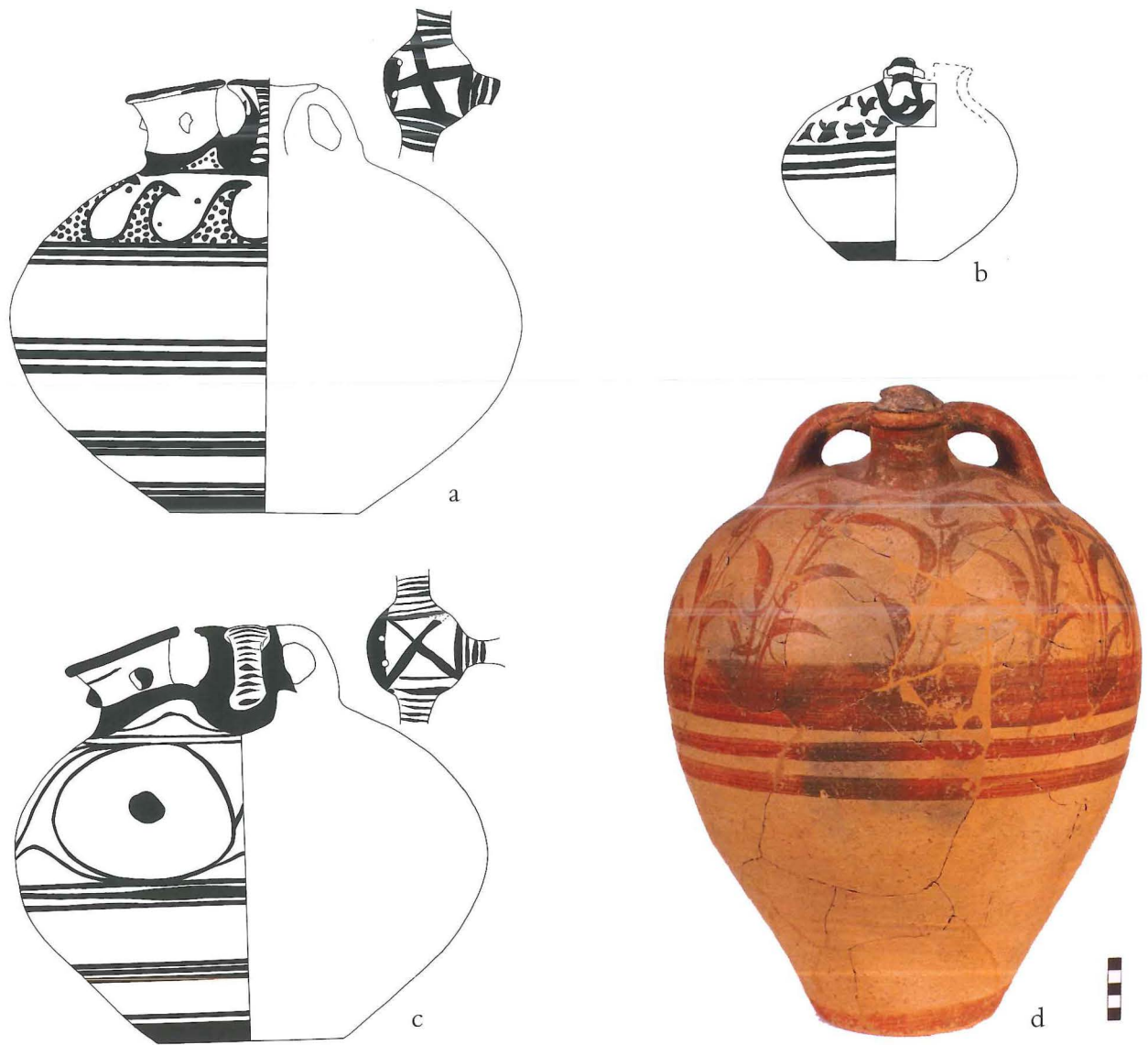


Fig. 12. LM IB stirrup jars.

c) Ogival cup

Like the handleless variety, this shape is coarse, deep, and has a narrow base (Fig. 11j).

Stirrup jar

Finely decorated medium-sized stirrup jars have a depressed globular body like the Marine Style examples. They usually have three handles, two holes in the disc for safe transporting, and spikes on the spout, like their LM IA forerunners (Fig. 12a-c). A decorated stirrup jar with an oval body, two handles and only two spikes perched on the rim of spout (Fig. 12d) has exactly the same motif as a jar from Archanes, which is dated to LM IA.¹⁷

Amphora

Amphorae or oval-mouthed jars have the usual piriform body with a flat base. Small or miniature examples vary in shape from piriform to globular (Fig. 13a-c).

Flask

A large globular flask decorated with black leaves was found in a floor deposit in the GSE (Fig. 13e). The common variety, however, is of medium size, decorated with the popular Khaniote design of tangent-linked running spirals of the fresco type with

¹⁷ Sakellarakis & Sapouna-Sakellarakis 1997, 433, fig. 406.



Fig. 13. LM IB amphorae (a-c) and flasks (d-e).

dotted centers, which suits the body of the flask very well (Fig. 13d).

Hole-mouthed jar

Fine hole-mouthed jars are characterized by an elegant ogival profile, as are most of the LM IB closed forms. Its coarser variation has a deep piri-form body (Fig. 14c).

Bridge-spouted jug

A good example from the Plateia Hagia Aikaterini has a depressed globular body and belongs in the latest stage of LM IB (Fig. 14b). A rhyton sherd

from the peak sanctuary on Kythera has identical decoration.¹⁸

Low-spouted jug

Like hole-mouthed jars, low-spouted jugs have an ogival body, while the coarser versions are deeply oval-shaped (Fig. 14a).

Ewer

Small round-mouthed ewers have an elegant form with a high neck and a biconical or depressed globu-

¹⁸ Tournavitou 2000, 315, fig. 28.

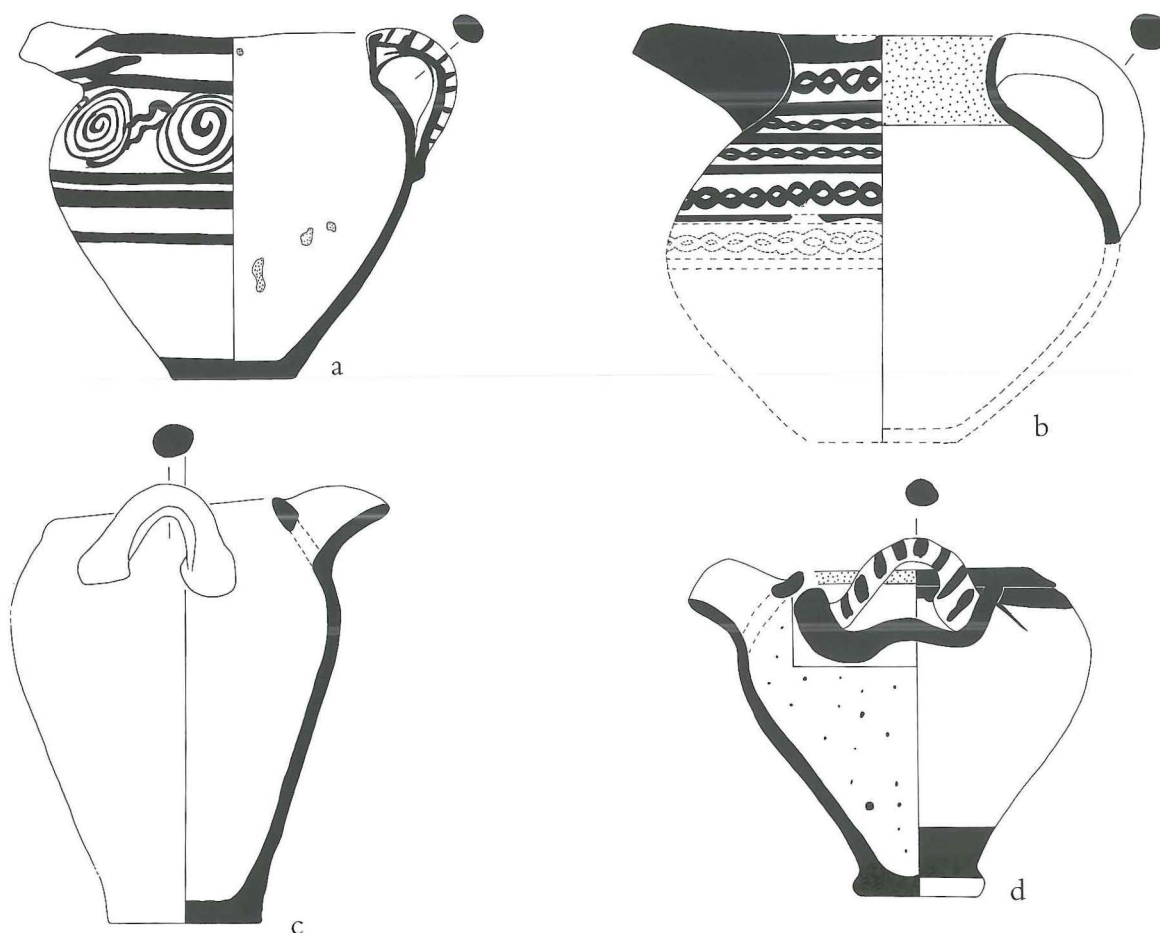


Fig. 14. LM IB low-spouted jug (a); bridge-spouted jug (b); hole-mouthed jars (c-d).

lar body. One example¹⁹ is decorated with the characteristic local motif of the dotted wave (Fig. 15b). Another footed ewer, with a tall handle, imitates metallic prototypes (Fig. 15a). The medium-sized ovoid ewer with broad white running spirals on the upper body seems to be an LM IA heirloom (Fig. 15c); it was roughly finished with a sharp instrument, which left irregular striations on the surface. Similar examples have been found on Kythera.²⁰

Coarse varieties of the round-mouthed jug are a common domestic cooking vessel and have the usual ovoid body.

High-spouted jug

A plain example with an elegant ogival body was found in the LM IB Final destruction floor deposit of the "Sevah Building" (Fig. 15e),²¹ and a high-spouted jug with ovoid body and cut-away neck is

elaborately decorated (Fig. 15d).

Juglet

Plain miniature jugs or juglets are common companions to LM IA and IB conical cups. The LM IB version is slimmer, however (Fig. 15f-h).

Alabastron and pyxis

Alabaster with tall or squat globular forms (Fig. 16a-c) and cylindrical pyxides (Fig. 16d) are among the most popular shapes made by the local potters. Both are usually finely decorated, and different artists can be easily

¹⁹ For the type, see Müller 1997, fig. 6 (TKa).

²⁰ Coldstream & Huxley 1972, pl. 72 (Tomb D44-45) and pl. 83 (Tomb L3).

²¹ Cf. the elaborate example: Müller 1997, pl. 85 (SF 304).



Fig. 15. LM IB ewers (a-b, c: LM IA), high spouted jugs (d-e) and juglets (f: LM IA, g-h: LM IB).

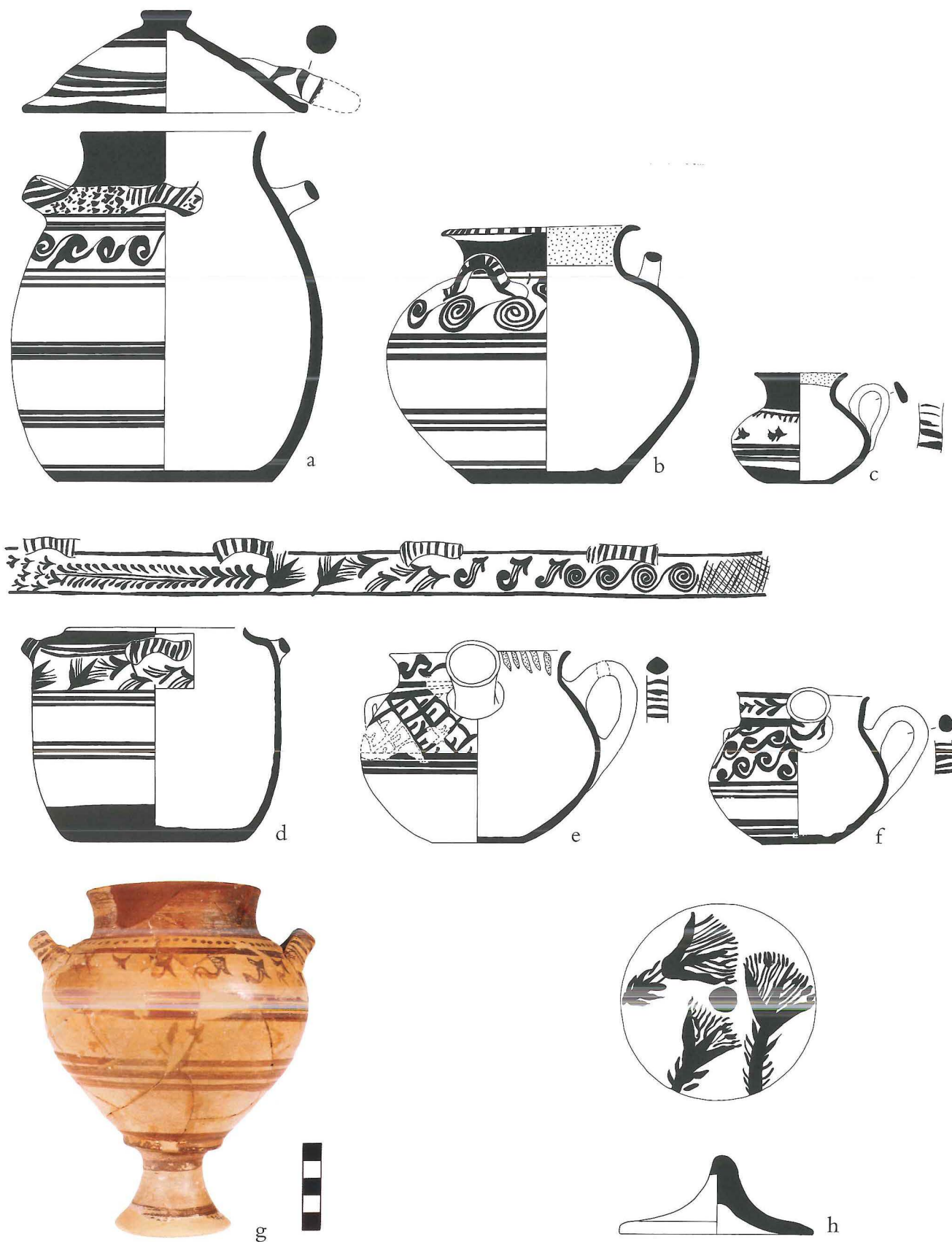


Fig. 16. LM IB alabastra (a-c, e-f), pyxis (d), two-handled jar (g) and lids (above a and h).

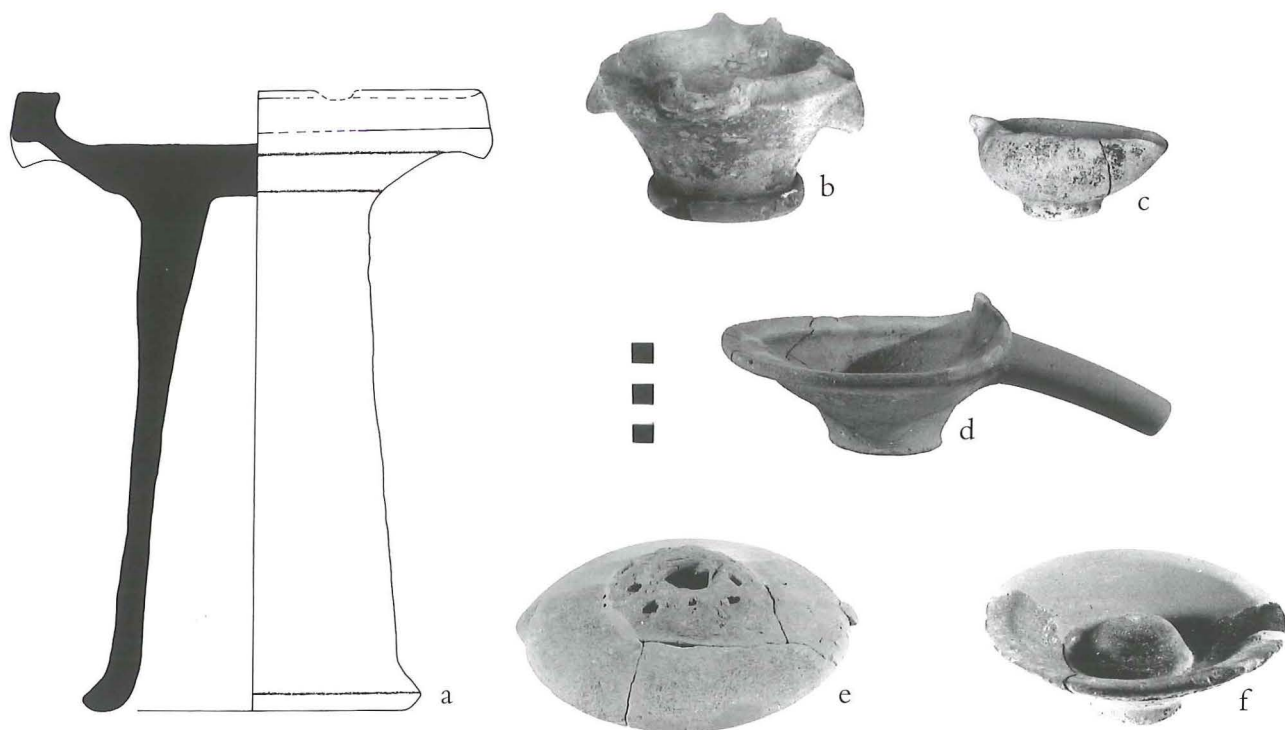


Fig. 17. LM IB lamps (a-c), brazier (d) and fireboxes (e-f).

distinguished. A medium or small-sized side-spouted alabastron is another popular local variation (Fig. 16e-f), and these vessels have various types of lids (Fig. 16a and h). In this same group I would also include a high-footed two-handled jar that was found in the LM IB Final destruction deposit of the “Sevah Building”. It resembles the high-spouted jug in Fig. 15e (Fig. 16g).

Lamp

Low or pedestalled lamps imitating stone prototypes were found in the final destruction deposits. The stemless form with an incurving rim and a low foot is also present (Fig. 17a-c).

Brazier and firebox

Plain braziers and fireboxes are common shapes in the LM IB local pottery repertoire. The bodies of the braziers are generally heart-shaped from the pressure of attaching the handle (Fig. 17d). The fireboxes are of the saucer type with an attached central dome (Fig. 17e-f).

Tripod vessels

The local Khania workshop was very keen on adding three legs to a variety of vessels: large storage jars, cooking pans, pyxides, and even to a triple bowl (Fig. 18a-d).

Cooking pot

The coarse tripod cooking pot was the most common cooking vessel in Minoan times. The LM IB Khaniote examples have the typical deep cylindrical body, flat bottom, and vertical, slightly inset rim with horizontal handles just below. The legs are short in comparison to the body and almost round in section (Fig. 19a). A small type has a cup-like handle, side lugs and a front pouring spout (Fig. 19b). The large cooking dish is also common in Khania.

Pedestalled jar

An interesting and unusual plain and coarse shape is the high-footed or pedestalled jar. The elegant va-

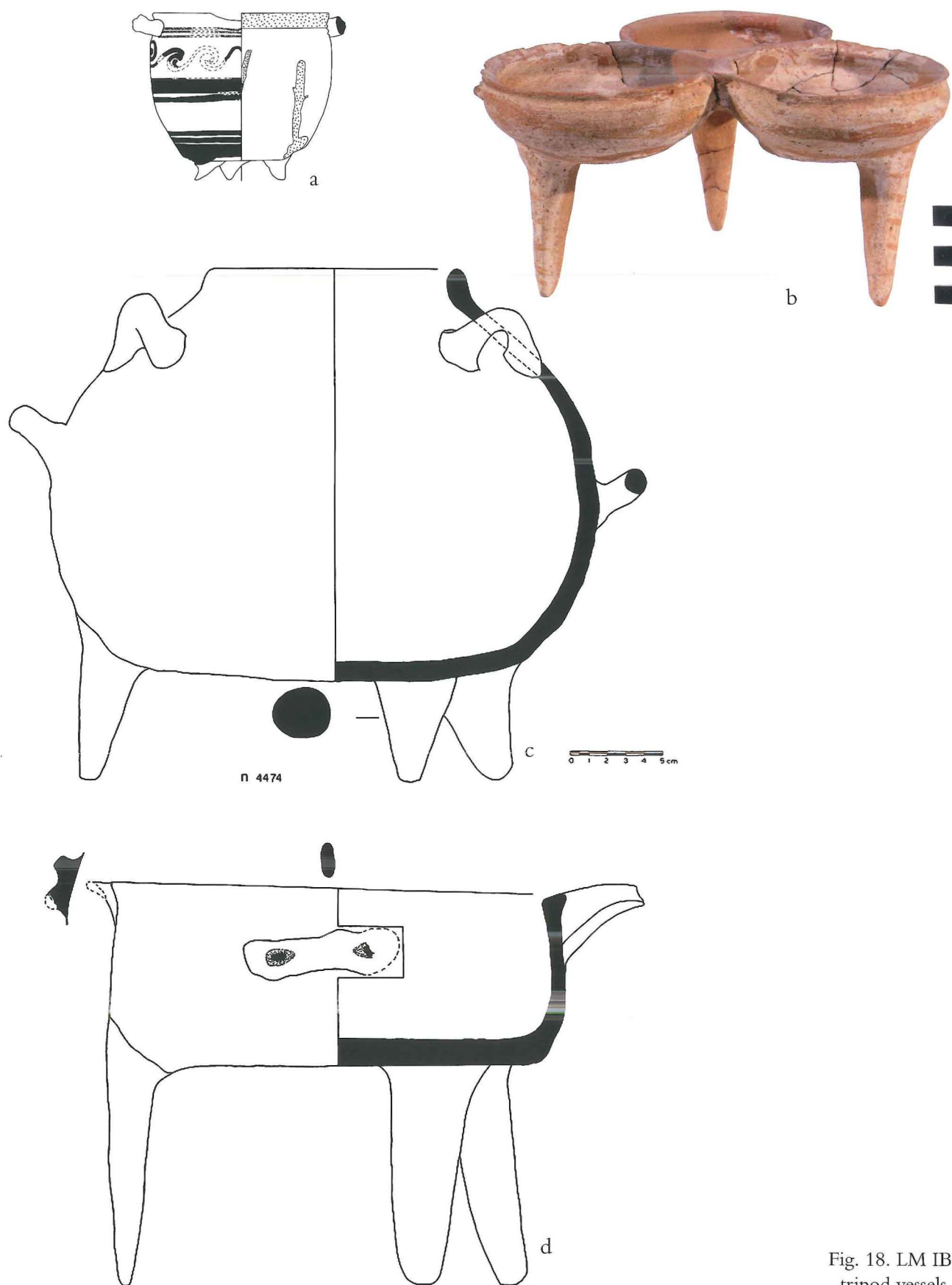


Fig. 18. LM IB tripod vessels.



Fig. 19. LM IB tripod cooking pots.

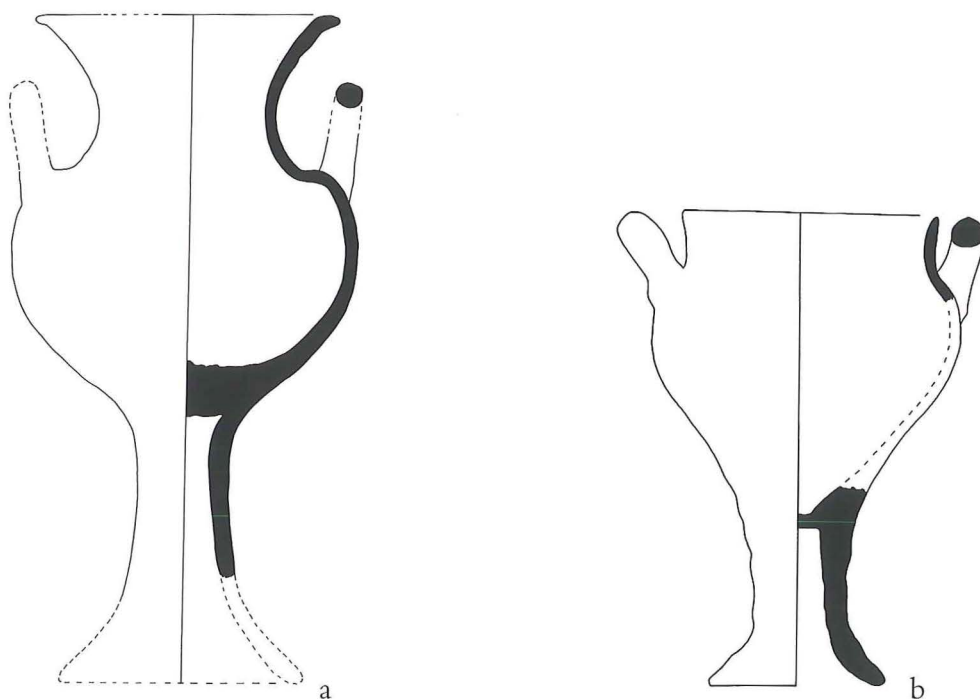


Fig. 20. LM IB pedestalled jars.

riety is reminiscent of an Egyptian prototype (Fig. 20a-b).

Tubs

Medium-sized, fine ware tubs have a horizontal outturned rim and two horizontal handles (Fig. 21a-b). An interesting version is one example with a basket handle (Fig. 21c). Large coarse tubs have a small spout and two horizontal handles just below the rim (Fig. 21d).

Strainer

A plain strainer is shaped like a pyxis (Fig. 21e), and a bridge-spouted jug with a basket handle has a strainer built into the mouth (Fig. 21f).

Askos

A decorated example with an ovoid body was found in a floor deposit of late LM IB date in the Plateia Hagia Aikaterini excavations (Fig. 21g).



Fig. 21. LM IB tubs (a-d), strainers (e-f), askos (g) and pithos (h).

Pithos

Several pithos fragments were collected from the destruction deposits. They belong to storage jars and are either plain or decorated with the typical rope pattern (Fig. 21h).

Decoration

LM IA decorative styles, such as tortoise-shell ripple pattern in a debased linear execution, widely

spaced reeds, matt dark paint, dipped rim bowls and fully coated black pots, have gone out of fashion. In LM IB dark-on-light decoration prevailed. The few white-on-dark examples are probably survivals from LM IA (Fig. 15c).²² Elaborate decoration is largely limited to the shoulder, while the rest of the body has been covered with groups of narrow bands (usually in three's) and a broad band covers the rim and base. On some vases, the entire

²² Tzedakis 1973-4, pl. 685b, d.

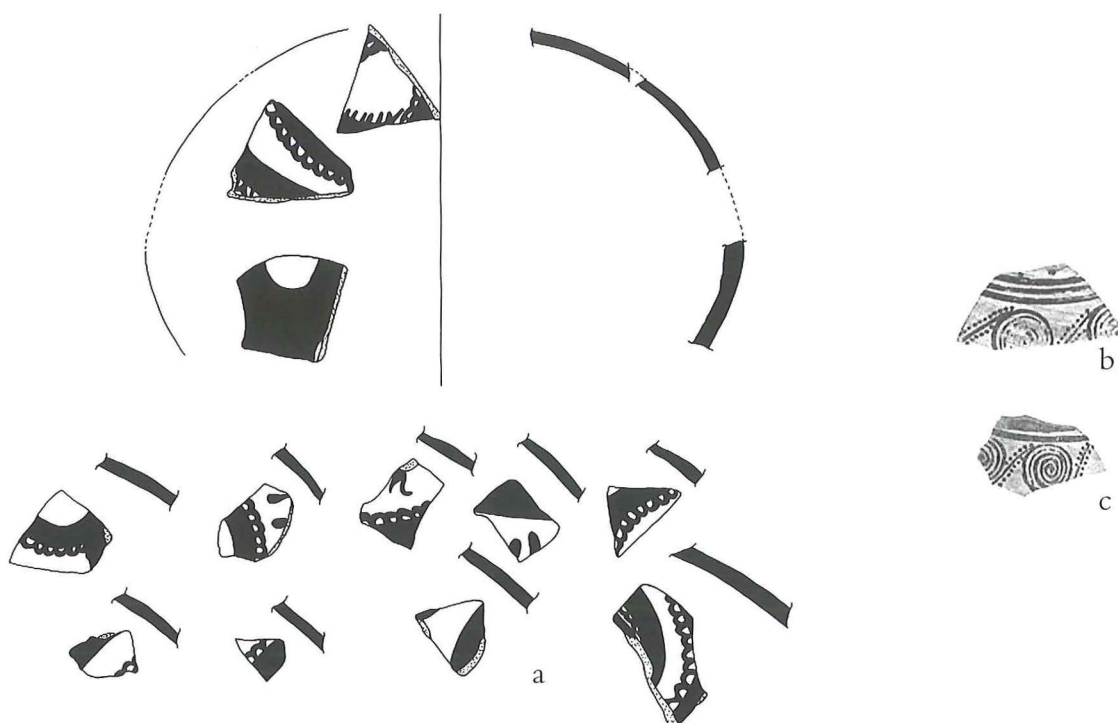


Fig. 22. Marine Style sherds (a) and local sherds (b-c).

body is covered with frieze decoration (Fig. 21a). The interiors of open vessels are often decorated with paint or slip spatter or trickle. Fine bell and rounded cups usually have coated interiors.

The local LM IB workshop followed the so-called “Sub-LM IA” ware or “Standard Tradition”²³ with a tendency to linear designs (i.e., zigzags or spiral motifs in several variations). The LM IA Plant Style continued, and the Marine Style was already well-known (Fig. 22a).²⁴ Decorative motifs in early LM IB were usually executed in more detail than those later in the period, which though more formal and stiff (anticipating the styles of LM II) are the most copiously documented here. An important point is that the Marine Style sherds were found in Khaniote closed deposits mainly of earlier LM IB date. Also noteworthy is a popular local motif: the running spiral with dots around the joining stem and sometimes around the periphery (Fig. 22b-c). A one-handled cup-rhyton with the same decoration from the LM IB destruction level deposits of the Royal Road: North at Knossos could – in my opinion – be a Khaniote import (according to its fabric and decoration).²⁵ According to Sinclair Hood, the Marine Style of LM IB was also attested

in the Royal Road excavations, although rarely.²⁶

In the final Khaniote LM IB phase, the most common motifs are:

1. Grass or reed motif (Figs. 12d, 13c).²⁷
2. Isolated flowers of Kydonian type, with multiple stamens (Fig. 16d, h).
3. Iris or crocus, isolated, in one or successive rows (Figs. 12b, 16d).²⁸
4. Row of wavy-stemmed or curve-stemmed “sacral-ivies” (Figs. 11e, 16d, g).²⁹
5. Row of lilies, without stamens.³⁰
6. Double foliate band (Fig. 16d).³¹

²³ Coldstream & Huxley 1972, 284, 292; Niemeier 1980, esp. 19–41; Betancourt 1985, 137–40.

²⁴ It was found below the final LM IB Floor 16 of “Daskalyannis” Room 12. For a similar stirrup jar from Katre 10 excavation, see Andreadaki-Vlazaki & Godart 1982, figs. 5, 6, 8; Mountjoy 1984, fig. 3; Müller 1997, pl. 28.

²⁵ Hood 1961–2, 1, pl. B:3 and 163, fig. 26 in this volume.

²⁶ Müller 1997, 278, pl. 51.

²⁷ Niemeier 1980, 27, fig. 8.

²⁸ Niemeier 1980, 24, fig. 5:4, 5.

²⁹ Niemeier 1980, 23, fig. 4:13.

³⁰ Niemeier 1980, 21, fig. 3:4, 13.

³¹ Niemeier 1980, 24, fig. 5:5 and 37, fig. 17:2.



Fig. 23. LM IB Alternating Style cup.

7. Schematic foliate branch. This design was painted obliquely on the wall of the vessel (Fig. 11c).³² An even more schematic version depicts it as a double vertical row of curved strokes, a motif very popular in the following LM II phase.
8. Horizontal zigzag line, simple or double and hatched (Fig. 21a, b and f).
9. Net pattern (FM 57) (Figs. 16d, e, 21c).
10. Chain of lozenges (Fig. 14b).³³
11. Scale pattern (Fig. 11i).
12. Double rows of solid circles.
13. Spirals:
 - a) Simple running type (Figs. 15d, 16b, 18a, 21a-b).³⁴
 - b) Running hook-spiral in one or successive rows.³⁵
 - c) Tangent-linked running spiral with double wavy tangents (Fig. 14a).
 - d) Tangent-linked running spiral of the fresco type with dotted center (Figs. 12c, 13d).³⁶
14. Row of triangular dotted waves (Figs. 12a, 15b), a Kydonian motif.

Two motifs, tangent-linked running spirals of the fresco type with dotted centers and dotted waves, are especially typical of Khaniote late LM IB. Representative vessels of this group are two stirrup jars with a depressed globular body, three handles, three spikes on the spout and two small holes on the disk (Fig. 12a, c). In this case, the spikes have become almost decorative. In addition to the above motifs, we must include crocus blooms, usually hatched, and alternated with tri-curved rockwork.³⁷ This is a popular decoration for local cups in the Alternating Style which sees a floruit in the final Khaniote phase (Fig. 11g). Common vases of this style include one-handled bell cups and rounded cups.

The above vessels have been made in the local white clay, turned gray by the fire, and have an elegant shape.³⁸ This special category of fine ware pottery decorated with alternating motifs has been attributed to the “Special Palatial Tradition”.³⁹ According to Nicolas Coldstream, there are, however, two phases of Alternating Style decoration, as he already noted for the Kytheran material.⁴⁰ The first phase was contemporary with the “full” Marine Style and included cups not clearly articulated, with rims often pinched to form a spout and with crowded decoration. The second included examples from Kythera and Khania with a sharply offset lip and more stylized decoration. See for example the cup with lilies alternating with crocus blooms below pendent leaves, which has been found on the final floor of Room 13 in the “Daskaloyannis” Complex together with local pottery dating to the very end of LM IB (Fig. 23), and the cup from the Royal Road excavations.⁴¹ Coldstream interprets the wide distribution of the Alternating Style as “a revival of Cretan commerce with emphasis on West Crete. Kythera may have played a large part in this revival”. Popham suspects that “the Alternating Style pottery may well have been made outside Crete,⁴² or in West Crete, about which we know almost nothing at this time”.⁴³ On the contrary P. Mountjoy distinguishes two simultaneous types of the Alternating Style, the crowded and the open field, and supposes that the second one is just a regional Khania/Kastri variant.⁴⁴

³² Niemeier 1980, 26, fig. 7:4.

³³ For an example from Kythera, see Tournavitou 2000, 315, fig. 26.

³⁴ Niemeier 1980, 31, fig. 11:7.

³⁵ Niemeier 1980, 33, fig. 13:5; FM 46:33.

³⁶ Niemeier 1980, 34–5, fig. 15:5.

³⁷ Coldstream & Huxley 1972, fig. 92:5.

³⁸ Coldstream & Huxley 1972, 293.

³⁹ Coldstream 1978, 389, 398, 400; Mountjoy 1984, figs. 14–5; Betancourt 1985, 140–4.

⁴⁰ Coldstream 1978, 398; Müller 1997, 287–8.

⁴¹ Hood 1961–2, pl. B:4; Müller 1997, pl. 79 (BTa 24) with parallels and figs. 38 and 40, and 159, fig. 15 in this volume.

⁴² Cf. the bell cup from Prosymna: Mountjoy 1984, fig. 14 and the one-handled cup from Trianda with Argive provenance, Marketou *et al.* 2008, fig. 4:106.

⁴³ Popham 1974, 321.

⁴⁴ Mountjoy 2004, 399–404.

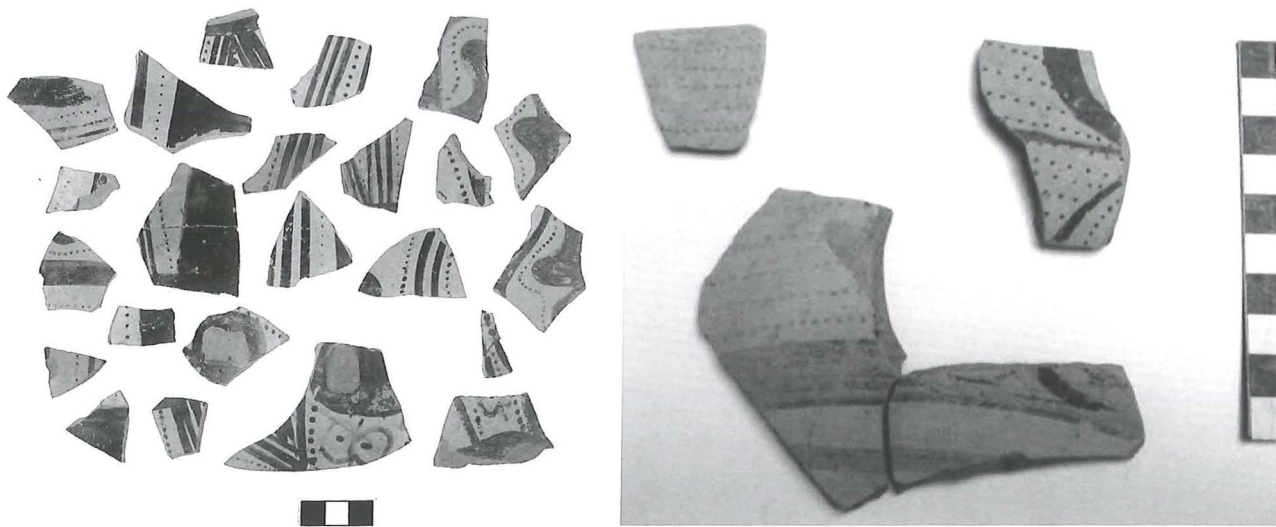


Fig. 24. LH IIA imported pottery.

As at Kythera, Khaniote final LM IB contexts seem to be later than those containing “full” Marine Style. Therefore, the final destructions in Khania and Kythera seem to be contemporary with the final LM IB destructions in Mochlos, Palaikastro, Malia and Kommos.⁴⁵ At any rate, these events happened after short time had passed but enough for a local style to develop, which mirrors the transition to LM II. We might also call this final phase LM IC.

In addition to influence from Central Crete, Khaniote pottery from the final phase of LM IB contained some traits familiar from the mainland, such as the squat-globular alabastron (Fig. 16c)⁴⁶ and the piriform jar (Fig. 16g). At the same time, LH IIA pottery, mostly squat jugs and alabastra from a hard, yellowish clay and decorated with ogival canopy motifs, were imported to the LM IB settlement (Fig. 24).⁴⁷ The abundance of mainland imports indicates once more the intimate relationship between western Crete and the Peloponnese, mainly the Argolid and the east coast. This connection began in the Early Minoan period and continued down to the 1st millennium BC, peaking during the Final Palatial period. The geographic position of Khania favored the movement of people, and the island of Kythera facilitated this communication.⁴⁸ The similarities between the pottery from Kastelli at Khania and Kastri on Kythera are visible, not only in the EM III/MM IA phase, but in Neopalatial pottery as well.⁴⁹

From the preliminary study of both shapes and decoration of the Khaniote LM IB pottery, we conclude that at the very end of the period, the local workshop produced vessels characterized by well-fired, more elegant shapes and by a marked degenerate, Abstract and Geometric Style of decoration,⁵⁰ thus bringing the Khaniote pottery closer to the LM II transition. Prominent among these vessels are fine products experimented mostly with white clay.

The study of the LM IB architecture and pottery from various areas of the settlement at Khania also allows us to draw some preliminary conclusions regarding the final destruction of the site at the end of the phase. Extensive small-scale repairs and modifications, along with make-shift features (i.e., the blocking of the entrance to the Minoan Hall in the “Daskaloyannis” Building Complex, the repairs inside and out of House I in the GSE, the roughly and hastily-made hearths in the open-air Space H outside the “Sevah Building”), suggest a

⁴⁵ Barnard & Brogan 2003, 109.

⁴⁶ Evans 1934, fig. 203.

⁴⁷ FM 13, fig. 37; Evans 1934, 273, fig. 206. A piriform vase from Nerokourou has similar decoration: Kanta & Rocchetti 1989, fig. 59:455.

⁴⁸ Pilafidis & Williams 1998, 157; see also Broodbank & Kiri-atzi 2007.

⁴⁹ Coldstream and Huxley 1972.

⁵⁰ Close to Evans’ “LM IC”: Evans 1934, 294.

level of alarm and anxiety during the last days of the settlement. The tremendous fire, the absence of both the most valuable objects and human remains among the ruins and the thick destruction debris might indicate the timely departure of the inhabitants. Immediately above the destruction horizon,

Mycenaean elements become very pronounced in the new settlement, suggesting that LM II began in Khania with Mainlanders already present in Crete.⁵¹

⁵¹ Cf. Soles 1999.

From LM IB Marine Style to LM II marine motifs. Stratigraphy, chronology and the social context of a ceramic transformation*: a response to Maria Andreadaki-Vlazaki

Eleni Hatzaki

Stylistically the vase appeared earlier than those we have been considering, yet chronologically there seems to be no room for an earlier stage in Crete. Could it, nevertheless, be LM IB in date, making it not only the earliest goblet found on the Island but the sole example in this period? This is not impossible. Stylistically, fragments of a marine class amphora found in the same level, PLATE 24(b), might seem then to support this since they too look LM IB. Stylistically, also, this possibility cannot be excluded even though they occurred in a level with sherds of typical LM II goblets. While this suggests that this stratum, one of a series of superimposed rubbish deposits in the passage immediately south of the Unexplored Mansion, was thrown out in LM II, this particular dump could have included pottery of an earlier date.

Popham 1978, 182.

Introduction

No Late Bronze Age Knossian vessel could be considered more contradictory than the Marine Style short-stemmed kylix from the South Corridor of the Minoan Unexplored Mansion (MUM) (see Fig. 5.1 below).¹ Even its name is a *schema oxymoron*: Marine Style is the decorative style *par excellence* associated with LM IB,² whereas the short-stemmed kylix is one of the key elements that define ceramically (but also culturally) the succeeding LM II period.³ So how should we date a vessel with an LM II form and LM IB decoration? Does form count more than decoration for dating purposes (or vice versa)? Should this vessel be used as a springboard for defining a new ceramic phase (albeit sandwiched between LM IB and LM II)? Are these sound questions, or is there something fundamentally wrong with our current methodology and associated labeling? And finally, should we

even bother about one unconventional pot? The answer should be sought within its context; nev-

* This paper is effectively an indirect response to Maria Andreadaki-Vlasaki's important contribution, dedicated to Hugh Sackett, who in 1972 excavated part of the Marine Style short-stemmed kylix context; it is but a small token for his taking the time in the early 1990s at Palaikastro to teach a newly arrived, inexperienced student of Mervyn's how to draw archaeological sections (among other digging practices). Hugh's laconic, yet accurate, recording has largely allowed me to revisit this part of the MUM and to correlate in detail his (and Popham's) excavation notebooks and archaeological sections with the MUM Stratigraphical Museum Knossos pottery boxes. The British School at Athens is thanked for permission to re-study the relevant material; access to the artifacts and archival data was generously facilitated by D. Evely and A. Kakissis at the SMK and British School at Athens Archive, respectively. Evely's input was critical for accurately reading parts of the excavation notebooks and section drawings. G. Flouda, A. Kanta, and G. Rethemiotakis are warmly thanked for providing immediate access to the Marine Style short-stemmed kylix in the Herakleion Museum; J. Bennet, G. Cadogan, and K. Christakis for valuable feedback on the written version; and J. Rutter for an advance copy of his contribution to this volume. Pottery drawings were made by the author, N. Dolia, and M.-J. Schumacher, Figs. 1–2 digitally reproduced by Schumacher, and Fig. 3 by J. Wallrodt. Study of the relevant material in Knossos and Athens was made possible financially by the Sempole Fund; research and writing took place while Assistant Professor at the Department of Classics, University of Cincinnati.

¹ Popham 1978, 180 fig. 1b, 182, pls. 24a, 25a–b; Popham 1984, 94–7, 158, pl. 124b; Müller 1997, 93.Sf 313, pl. 86.Sf 313. The nomenclature for Cretan ceramic shapes is far from standardized (Hallager 1997, 409); the LM II short-stemmed kylix (Popham 1984, 165) is also referred to as a goblet (especially in relation to the so-called “Ephyraean” type decoration – cf. Mountjoy 1983; Popham 1984, 166) or simply as a kylix (Hatzaki 2007b, 207). For commentary on the lack of standardized terminology, see for example Rutter 1998.

² Betancourt 1985, 144–5; Müller 1997; Mountjoy 1984; Mountjoy 2004; Hatzaki 2007a, 187 fig. 5.21, 154.

³ Popham 1984, 165; Popham 1994; Hatzaki 2007b, 207.

ertheless, the Marine Style short-stemmed kylix is truly unique, with no parallels from either LM IB or LM II Crete.⁴ The purpose of this paper is to evaluate the archaeological context and chronology of the Marine Style short-stemmed kylix, as well as to discuss its cultural biography⁵ by placing the vessel within a social context related to the production, distribution, and consumption of fine tableware in Late Bronze Age Crete. Instead of birth, this paper will discuss the death of the Marine Style. More broadly, this paper aims to understand and explain the rapid cultural change that took place during LM IB-LM II, a period of profound political, economic, and social transition both at Knossos and across Crete.

Methodological parameters (and recording practices revisited)

The gap between us and past societies is vast and by definition unbridgeable.⁶ The past is gone forever, and yet our task is to construct data-supported, methodologically sound, and theoretically informed narratives about past societies. Such narratives are, however, built in the present through the study of past cultural materials, and therefore are subject to contemporary research agendas and objectives, as well as explicitly or implicitly applied methodological and theoretical approaches. While the definition of time in reference to past societies, together with the aim of analyzing societal continuity and change is central to archaeological inquiry, it remains a task performed in the present and targeted towards a contemporary audience. While the Bronze Age Aegean is currently the arena for debating relative vs. absolute chronology,⁷ regional synchronisms based on intra-site ceramic seriations and inter-site stylistic comparanda remain the essential tool used by archaeologists to communicate within the Aegean and beyond. The relative chronology of the Bronze Age Aegean is, however, riddled with methodological problems stemming from the lack of a standardized terminology (whether based on societal or ceramic change), making the field almost incomprehensible to the non-Aegean specialist.⁸ “Mastering the art” of Aegean Bronze

Age relative chronology remains a formidable task even for the ceramic specialist, and a steep learning curve exists for the uninitiated. Perhaps this is why ceramic specialists have become a rare, if not dying, breed — but this is the subject of another paper, and one perhaps in contradiction to a volume dedicated to the pottery associated with a relatively small sliver of time within the 2nd millennium BC! At the opposite end of the spectrum are the people who produced, distributed, used, and discarded the material culture that we employ today in order to re-construct their past. While relative chronology is a modern tool based on continuity, and especially change in ceramic fabrics, wares, and forms, it is also used as a framework for mapping ancient practices. But ceramic production and consumption occurred as a continuum, rather than in the neatly defined, differently labeled, and artificially compartmentalized periods of time which have been constructed and elaborated, but constantly debated and modified, by Aegean scholars since the early 20th century. Yet time (especially relative) cannot be measured independently of space and context. While stylistic analysis bears the stigma of a culture-historical approach, it remains the essential methodological tool for building intra-site synchronisms and relative chronologies at regional, pan-island, and overseas levels. For Knossos, the most up-to-date synthesis of the Neolithic and Bronze Age pottery sequence⁹ has been built upon ceramic synchronisms (based on style) for spatially and contextually dispersed deposits from the palace, town, and cemeteries. But at its core, this ceramic sequence is based on ceramic deposits (rather than individual pots) found in a stratigraphic sequence, which were subsequently clustered into groups that

⁴ The rather different and very fragmentary Marine Style footed goblet comes from LM IB Deposit ξ at Kastri, Kythera (Coldstream & Huxley 1972, 145 no. 109, fig. 109, pl. 39.109). Although it pre-dates the MUM Marine Style short-stemmed kylix, indigenous development (rather than diffusionism) is the most likely scenario for its production.

⁵ Kopytroff 1986.

⁶ Aptly illustrated in Johnson 1999, 14 fig. 2.1.

⁷ Manning 2009; 2010.

⁸ See commentary in Momigliano 2007, 1–8; Dickinson 1994, 13 fig. 1.2; Shelmerdine 2008, 4 fig. 1.1.

⁹ Momigliano 2007.

share common stylistic features.¹⁰ Therefore, for Neolithic and Bronze Age Knossos, space and context are intrinsically linked to the construction of archaeological time.

The aim of this study is to provide a direct concordance for the published MUM text and associated illustrations (Table 1)¹¹ and the relevant MUM boxes (Table 2) of retained pottery stored in the Stratigraphical Museum Knossos (SMK) with the goal of re-examining the stratigraphy, assigned dates, and character of the archaeological contexts relevant to the Marine Style short-stemmed kylix. The hypothesis of dating the ceramic deposit¹² which contained the Marine Style short-stemmed kylix to either LM IB, or else a ceramic phase “sandwiched” between LM IB and LM II, was tested and firmly rejected,¹³ because of the complete lack of supporting stratigraphic and associated ceramic (i.e., stylistic) data. For the purposes of this paper, relevant archival material was consulted, in addition to the (regrettably) pre-selected and retained pottery currently stored in the SMK (Table 2). The stages of fieldwork and post-fieldwork research can be reconstructed on the basis of the following two groups of datasets: 1) excavation notebooks, section drawings, labels for excavation units (which were originally attached to pottery bags, and record levels and zembils)¹⁴ made during excavation, and excavation photos; 2) Popham’s pottery notebooks and associated black and white photos (most of which were published in Popham 1984), the labels mentioned above (kept in their relevant SMK box, containing important information on retained, merged, or discarded archaeological units), and last but not least, the SMK boxes labeled (by Popham) twice, first in pencil (back), later with ink (front), storing the kept sherds from the excavation according to excavation area and/or unit. The usual manner of sherd retention for the bulk of the MUM SMK pottery boxes relevant to this paper can be seen in Popham 1984, pl. 123, which illustrates exclusively dark-on-light patterned decorated sherds deriving from a variety of South Corridor LM II–IIIB levels. Before lamenting the lack of preserved intact archaeological contexts, it should be highlighted that Popham never threw out any ceramic material he considered essential for dating. There-

fore, these much-abbreviated contexts retain their validity for dating purposes, albeit largely based on fine decorated wares (see Fig. 5 below). However, the consequences of this selection process are dire for the study of non-decorated pottery (which usually forms the majority of ceramic material retrieved during excavation), and severely limits a socially oriented contextual analysis.

Archaeological context revisited

To date, the MUM publication¹⁵ remains the only fully published Late Bronze Age large-scale excavation at Knossos in the post-WW II era, an invaluable resource and reference tool. Publishing a very complex multi-period site, which produced material culture in truly vast quantities, less than 10 years after the completion of excavation is commendable.¹⁶ One can understand then why the Marine Style short-stemmed kylix and its associated stratigraphic context were discussed in a rather abbreviated form. The vessel is currently stored in the Herakleion Museum (cat. no. 31150), but no more than 30% of it survives (reconstituted from sherds). Popham argued that it came from a rubbish fill, which contained LM II pottery dumped along a narrow exterior passage (South Corridor) imme-

¹⁰ The labels LM IA, LM IB, and LM II as used in this paper correspond with the ceramic groups as outlined in Momigliano 2007, 7 table 0.2, and elaborated in Hatzaki 2007a; 2007b.

¹¹ Popham 1984, 94–7, 158, pls. 14 section 8 levels 1–4, 7, pls. 123–4.

¹² Labeled No. 11 MUM, dump outside South Corridor.

¹³ Contra Hatzaki 2007b, 202 no. 11, where I hinted that this assemblage might represent an early stage in LM II; in fact, the purpose of this re-study was to reach a firmer conclusion regarding the date and associated stratigraphy.

¹⁴ For a brief explanation of the British School at Athens “level and zembil” system see Hatzaki *et al.* 2008, 224 n. 3.

¹⁵ Popham 1984.

¹⁶ The building was named by Evans, who in 1908 exposed its E facade but deferred from completing excavation due to the deep, superimposed post-Bronze Age levels. It was excavated by Sackett (responsible for the post-Bronze Age “UM” excavation – Sackett 1992) and Popham (responsible for the Bronze Age “MUM” excavation) in 1968, 1972, and 1973, with a supplementary season in 1977 (Popham 1984, preface).

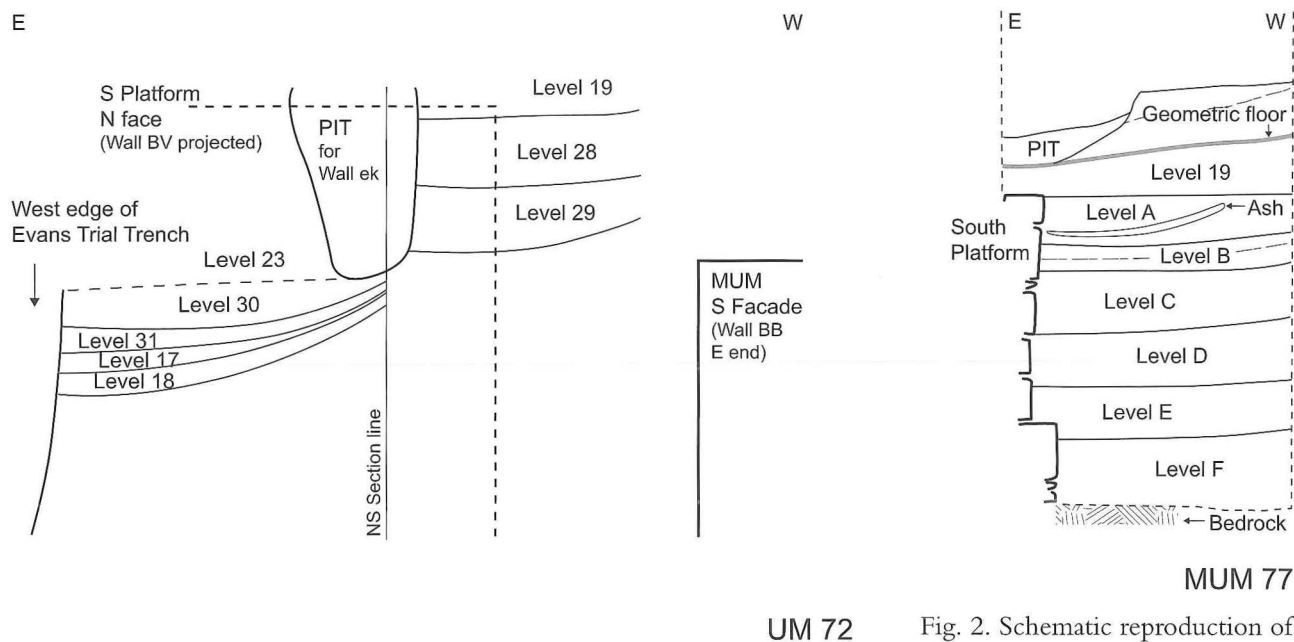


Fig. 1. Schematic reproduction of the stratigraphic sequence along the upper levels of the MUM South Corridor east half (UM72).

Fig. 2. Schematic reproduction of the stratigraphic sequence along the MUM South Corridor south extension (MUM77).

diately south of the MUM,¹⁷ a building located in the heart of the public core elite sector of urban LBA Knossos. The MUM South Corridor was used diachronically (MM IIIB-LM II) as the receptacle for a series of superimposed dumps containing large quantities of both complete and broken pottery. The LM II rubbish fill containing the Marine Style short-stemmed kylix was stratified above LM IA and below LM II levels (see below).

The excavation conditions along the South Corridor were far from ideal: the east end had been partially cleared by Evans with the notorious “wager system,”¹⁸ aiming to remove in the fastest possible way deposits identified as post-Bronze Age. Indeed one of the boxes with pottery from Evans’ excavation at the nearby Little Palace contains Neopalatial material most likely from this area.¹⁹ The Popham/Sackett team excavated the South Corridor in two seasons: 1972 (E half) and 1977 (W half and S extension) with the division between the two seasons marked by a section line running NS throughout the S half of the building.²⁰ In 1972, the upper levels were excavated by Sackett as part of the post-Bronze Age excavation (henceforth the prefix UM), the lower levels by Popham, who in

turn used the MUM prefix; numerical levels were assigned by both excavators. During the 1977 season, Popham assigned alphabetical levels (A-F) instead of the usual numerical sequence. Figures 1–2 reproduce schematically the stratigraphic sequences as recorded in 1972 and 1977. The Marine Style short-stemmed kylix was found in UM72 level 31 along the South Corridor E half, stratified above the LM IA UM72 level 17 (Fig. 1). The large number of cross-joins (Fig. 3) between UM72 level 31 and MUM77 level A confirms that the two formed part of a single archaeological context (as implied by Popham on the SMK box 134 label). UM72 level 31/MUM77 level A was stratified respectively above UM72 level 17 and MUM77 level B (both dating to LM IA). While the bulk of the kept pottery from MUM77 level A is stored separately (SMK box 134), that from UM72 level 31 (with the exception of the more “complete” ves-

¹⁷ Popham 1984, pl. 14 section 8, levels 1–2.

¹⁸ Evans 1921, 93–6 fig. 45; Momigliano 1999, 36 fig. 10, 169; Hatzaki 2005, 4–5.

¹⁹ Hatzaki 2005, 155 fig. 4.20.1–7.

²⁰ Popham 1984, pls. 2, 14 section 8.

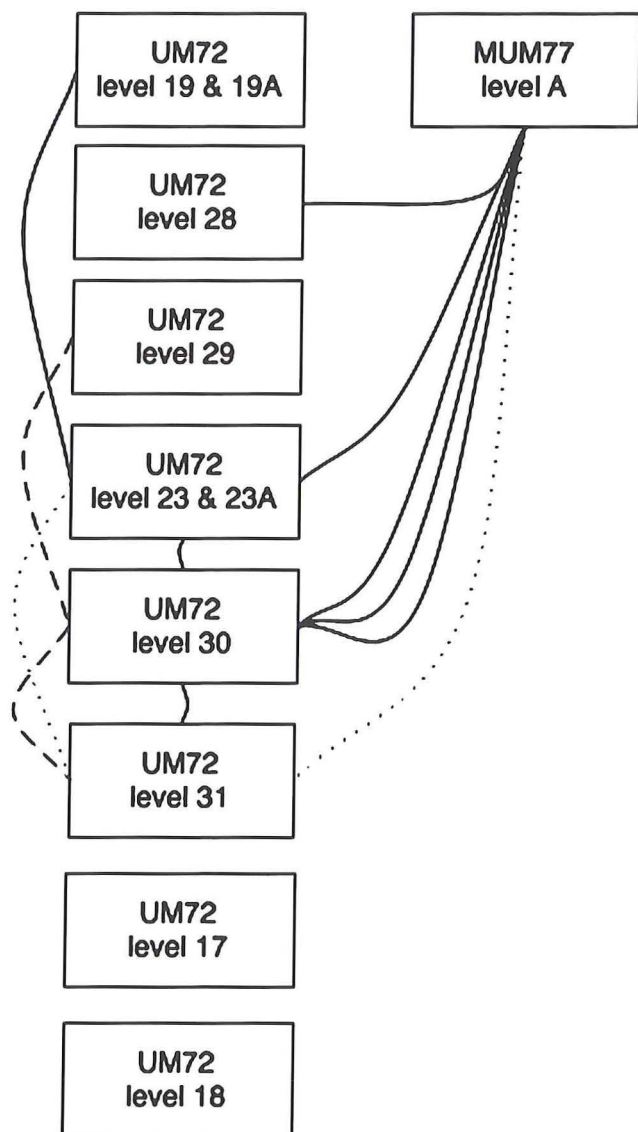


Fig. 3. Pottery cross-joins between UM72 and MUM72 and MUM77 levels.

sels now in SMK box 115) has been merged with sherds from the superimposed UM72 levels 29 and 30 into SMK Box 115. Unfortunately, none of the sherds kept in the relevant box (SMK Box 115) are marked (so it is impossible to re-assign individual sherds to their original level), but sherds belonging to UM72 level 30 (stratified immediately above UM72 level 31) can at least partly be re-assembled, thanks to a published photograph.²¹ While UM72 level 30 included LM IB type sherds (Fig. 4), the co-existence of LM II type sherds from the same level (Popham 1984, pl. 123a) leaves no doubt

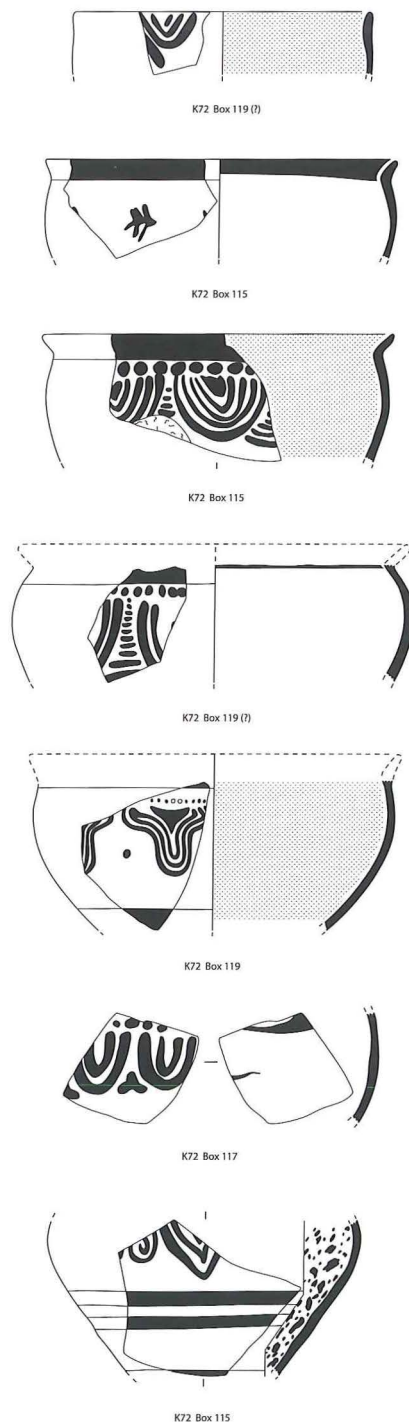


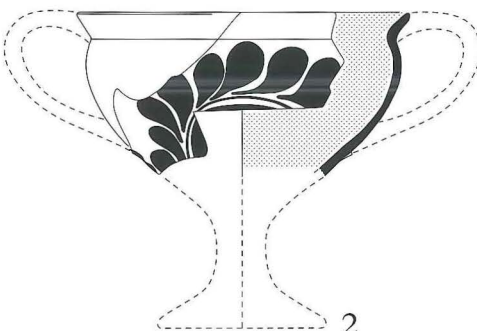
Fig. 4. LM IB pottery from UM72 level 30.

that it dates to LM II. Popham merged UM72 levels 29–30–31 because he considered them part of the same archaeological context, confirmed by the ho-

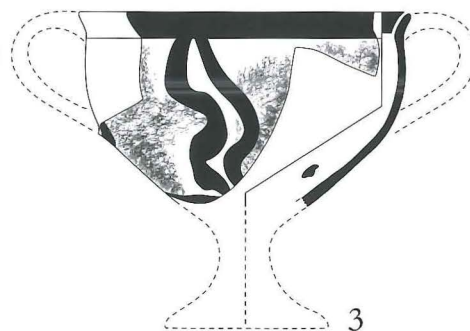
²¹ Popham 1984, pl. 123a.



1



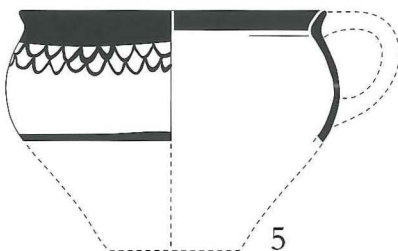
2



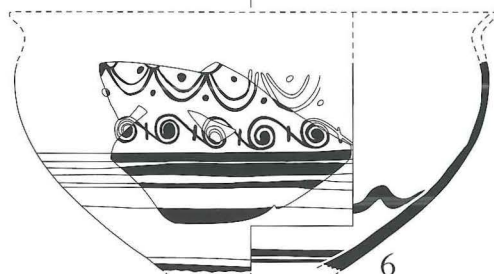
3



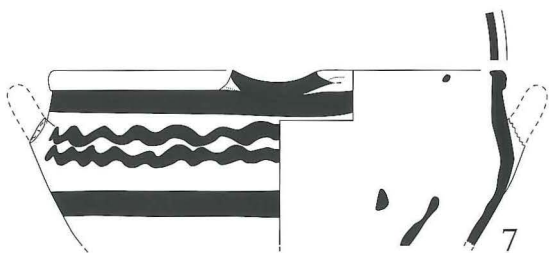
4



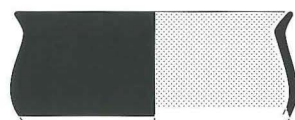
5



6



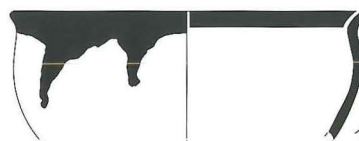
7



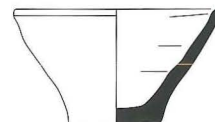
8



9



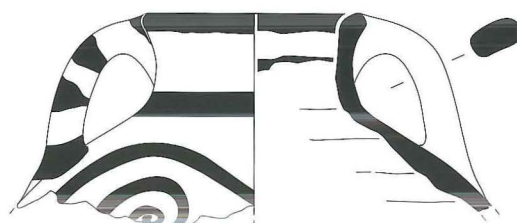
10



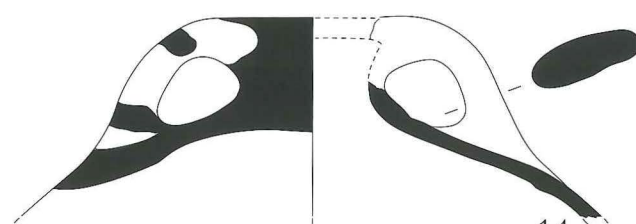
11



12



13



14

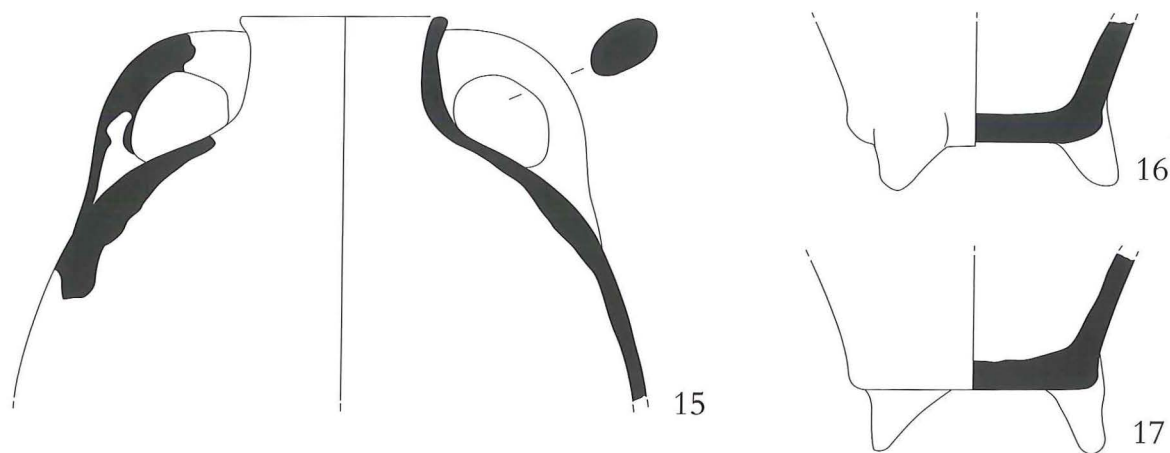


Fig. 5 (opposite and above). Pottery from MUM South Corridor UM72 level 29–30–31/MUM level A.

homogeneous west-east sloping nature of the deposit, and the large number of cross-joins (Fig. 3). Re-examination of the retained ceramic material from UM72 level 29–30–31/MUM77 level A confirms the LM II date as published. In the 1977 excavation notebook, Popham suggests that the sloping surface of MUM77 level A implied that the South Corridor had been partly cleared in advance. Perhaps he was trying to reconcile the absence of an LM IB level below UM72 level 29–30–31/MUM77 level A, but he was in no doubt that it represented a rubbish dump. UM72 levels 23 and 28, were stratified above UM72 levels 30 and 29 respectively. All date to LM II, and include a 50% complete LM II kylix (Popham 1984, pl. 121b) made up of fragments found in UM72 level 23 (#s 140, 141, 142) and UM72 level 19 (#s 152, 156). The latest sherds from the robbing trench, which removed part of the MUM South Facade, date to LM IIIB (SMK box 112). Later the area was sealed by a Geometric floor (located directly above UM72 level 19 and MUM77 level A) (Fig. 2). The stratigraphic sequence is summarized in Figs. 1–2 and confirms Popham's thesis that the Marine Style short-stemmed kylix was part of an LM II context, stratified above LM IA, and below LM II (followed by Geometric).

Any attempt to re-construct the nature and character of the dump which contained the Marine Style short-stemmed kylix (UM72 level 29–30–31/MUM77 level A) is hampered by the selective nature of the retained pottery. While it is safe

to assume that dark-on-light fine patterned wares would have been retained for dating purposes, the same does not necessarily apply to the fine monochrome, plain and coarse wares. Yet among the former, none is more than 30% complete (illustrated in Fig. 5); this suggests that the pottery was already broken prior to its widely scattered deposition along the South Corridor: we should bear in mind that its east end was excavated by Evans and the region west of the South Platform and southwest of the MUM remains unexcavated. It is safe to assume that any coarse pottery would have been equally fragmentary, the largest samples of which were recorded by Popham in the pottery notebook and retained, and are reproduced here (Fig. 5.12–17). Therefore, a tentative reconstruction of a ceramic assemblage from UM72 level 29–30–31/MUM level A can be proposed, so as to provide a reliable dating context for the Marine Style short-stemmed kylix (Fig. 5). This deposit contained a minimum of four decorated kylikes/goblets: while the two mottled, decorated examples (Fig. 5.3–4) have good LM II parallels from the MUM,²² the short-stemmed kylix decorated with a foliate scroll (Fig. 5.2) is comparable to the Marine Style short-stemmed kylix (Fig. 5.1), for its decoration is classic LM IB²³ rather than LM II. In addition, the deposit contained one deco-

²² Popham 1984, pls. 57g, 156.4–6.

²³ Müller 1997, 136–7 figs. 70–1.

rated cup (Fig. 5.5),²⁴ two decorated bowls (Fig. 5.5–7),²⁵ and two monochrome ogival cups/bowls or kylikes/goblets (Fig. 5.8–9),²⁶ but also at least one ogival cup/bowl with trickle decoration (Fig. 5.10) and one complete conical cup (Fig. 5.11). Closed vessels included the published Marine Style amphora (Fig. 5.12),²⁷ at least two oval-mouthed amphorae (Fig. 1.13, 15),²⁸ and a stirrup jar (Fig. 5.14).²⁹ The lower body of two tripod cooking pots (Fig. 5.16–17) have been retained, a type that does not survive beyond LM II. Despite the LM IB features of individual pots, as a group this ceramic assemblage firmly dates to LM II.

The act of production and the practice of consumption

It could be argued that despite its unquestionably LM II context, the Marine Style short-stemmed kylix remains a stylistic and chronological enigma. Unlike the Marine Style amphora (Fig. 5.12) from the same stratigraphic context (which could be an LM IB antique used and discarded in LM II), the Marine Style short-stemmed kylix is an LM II shape with an LM IB decorative motif. Therefore, it is either an LM IB antique that is unique in shape or an archaically decorated LM II vessel: I prefer the latter view.³⁰ The Marine Style short-stemmed kylix forms part of a group of four vessels executed either by Müller's Triton Amphora Painter (*Der Maler der Tritonamphora*) or at least by the same workshop.³¹ All this class of vessels,³² with the exception of the MUM Marine Style short-stemmed kylix, derives from North-central Cretan LM IB contexts, and generally belongs to a group of Marine Style pots more advanced in date, and therefore closer to LM II in absolute time.³³ Could the “bilingual” Marine Style short-stemmed kylix imply that an LM IB pot-painter/workshop remained productive and active at the time LM II pottery was being produced? Ethnographic data from the Aegean suggest that potters can remain active for a period ranging from 10 to 40 years and that family owned (and staffed) workshops continue from generation to generation.³⁴ If the Marine Style short-stemmed kylix proves that the Triton Amphora Painter and/

or his/her workshop continued to decorate pottery during LM II, why did he/she not produce more pots in “LM IB style”? Why then did more of it not survive as it did for LM IB? The negative evidence for LM II comparanda suggests that the Marine Style short-stemmed kylix was perhaps only one of very few “bilingual” pots produced in LM II following an LM IB style. Why is that the case? The answer lies in a broad comparison of LM IB and LM II ceramic outputs framed in social practice.

If LM IB is characterized by the restricted production, circulation, and consumption of vessels in the Special Palatial Tradition, LM II lies at the opposite end of the spectrum, defined by the mass production, and therefore popularization, of decorative motifs.³⁵ But does this observation apply across the spectrum of LM II decorated pottery? Apparently not. While Marine Style is applied on a variety of forms³⁶ (especially closed vessels) in LM IB with a limited production but rather broad circulation, during LM II the production of marine themed decorated pottery continues but is dramatically less. LM II marine motifs (albeit “degenerate” in comparison to LM IB) are now largely confined

²⁴ For the shape, see LM II Popham 1984, pl. 160.1, but for an LM IB rather than LM II decoration of pendent semicircles below rim level, see Hatzaki 2007a, 188 fig. 5.22; and also Hood, Warren, Rutter in this volume.

²⁵ Popham 1984, pls. 52–3 (esp. pl. 53e).

²⁶ Popham 1984, pl. 160.13–4, 8–9.

²⁷ Popham 1984, 124a; Müller 1997, pl. 41 X Pam 88a.

²⁸ Popham 1984, pl. 72a–c.

²⁹ Popham 1984, pl. 73.

³⁰ At Knossos, the absence of a ceramic phase (defined stratigraphically or stylistically) that could be “sandwiched” between LM IB and LM II implies that the transition from LM IB to LM II forms and associated decorative schemes happened in rapid succession over a very short period of time.

³¹ Müller 1997, 181, 212 figs. 102, 121.

³² Knossos Stratigraphical Museum Extension Site North House (pithoid jar), Knossos South House (pithoid jar), Knossos Royal Road: North (pithoid jar), and Nirou Chani (bridge-spouted bucket jar); Müller 1997, 269–72 fig. 153.

³³ See also Rutter in this volume.

³⁴ Giannopoulou & Demesticha 1998, 89–91; Psaropoulou 1990, 42, 74; see also generally Papadopoulos 1999; Psaropoulou 1984.

³⁵ Hatzaki forthcoming a.

³⁶ Exemplified by the corpus of Marine Style vessels published by Müller 1997.

to the short-stemmed kylix³⁷ and Palace Style jar,³⁸ both of which exhibit an extremely small production and restricted circulation.³⁹ Perhaps these marine themed vessels were meant to be used together (as implied by their common decoration). The co-existence of the Marine Style short-stemmed kylix and the Marine Style amphora in the MUM South Corridor deposit (UM72 level 29–30–31/MUM level A) further supports this hypothesis. In such a framework, the MUM Marine Style short-stemmed kylix is important from a production perspective as it “catches” the initial transfer of Marine Style intact onto a new LM II shape before its stylistic transformation was consciously chosen and systematically executed. The shift in investment (associated with time and technical skill) towards the production of marine themed closed vessels such as Palace Style jars (rather than short-stemmed kylikes) was intentional and carefully orchestrated. The spatial distribution of marine themed Palace Style jars exclusively among ultra-elite contexts within the public core elite sector of Knossos implies that this shift was supported, if not actively initiated, by palatial elite(s). To summarize, a comparison of LM IB and LM II decorated pottery suggests a major shift in both the production and consumption of marine themed vessels: from high quality execution (in terms of potting, and application of decoration) applied to a variety of shapes, but with limited circulation during LM IB, to a somewhat lower quality of execution (especially in terms of decorative elaboration, precision, and detail), on a restricted number of shapes associated with a very small production output and equally restricted circulation during LM II. This argument is further supported by the equally restricted and exclusive contemporary consumption of marine themes on other media.⁴⁰

Conclusions

This paper has addressed two intertwined contextual levels of reference. Consideration of the archaeological context (in the strict stratigraphic sense) is essential for dating everything, from thousands of sherds to complete pots. Serious methodological

pitfalls can be avoided if pottery is viewed as part of an assemblage defined by its stratigraphic context rather than each piece viewed in isolation. Re-examination of the upper levels of the MUM South Corridor⁴¹ leaves no doubt that Popham’s assessment of the stratigraphy and dating of the ceramic assemblages in question was (as expected) correct. Besides, even if desired, it would have been methodologically unsound to define a new ceramic phase on the basis of a single, heavily pre-selected group of ceramic material. At Knossos LM II is an amply represented ceramic phase, stylistically homogeneous.⁴² The Marine Style short-stemmed kylix and its archaeological context imply that the switch from LM IB to LM II happened in rapid succession and, therefore, has left very few artifactual traces for the actual transition/switch in ceramic shapes and decorative motifs. This analysis joins a growing number of studies⁴³ which demonstrate that study of decoration, if framed towards social practice, due to the vast quantity of published pattern decorated material, can open untapped research opportunities from the micro- to the macro-scale. Consideration of social context is, however, essential for successfully framing pottery (and material culture in general) within narratives of past societies. Viewed in isolation the Marine Style short-stemmed kylix is just a broken pot reconstituted in plaster and lacking a straightforward date. In context, the Marine Style short-stemmed kylix becomes not only firm-

³⁷ Alexiou 1967, pl. 4b; Popham 1984, pls. 54a–b, 149.1–2, 54c; LM II marine motifs on short-stemmed kylikes is a classic “Ephyraean” type decoration, where each side of the pot was occupied by a single motif (Mountjoy 1983, 268 fig. 2; Popham 1984, 166).

³⁸ Alexiou 1967, pl. 3a–b; Popham 1970b, pl. 4; Popham 1984, pls. 69, 70; Niemeier 1985, pls. 1–3, 10, 23.

³⁹ The Katsambas globular jug (Alexiou 1967, pl. 4c) and bridge-spouted jar (Alexiou 1967, pl. 4d) are exceptional. This hypothesis is also confirmed by the very small number of Knossian LM II marine themed vessels and sherds published by Crouwel & Morris 1995, 159 fig. 1.

⁴⁰ Namely the marine themed plaster floors along the East Wing of the Palace at Knossos, Koehl 1986, pl. 26; and the Hagia Triada shrine, Koehl 1986, 412 ill. 3.

⁴¹ Popham 1984, pl. 14, section 8, levels 1–2.

⁴² Hatzaki 2007b, 202–14.

⁴³ Macdonald & Knappett 2007, 161–5; Haggis 2007; Hatzaki forthcoming a; Hatzaki forthcoming b.

ly dated but is transformed through its stratigraphic context into part of a meaningful assemblage. Study of the associated faunal material, currently underway by Isaakidou, will shed light on the process of deposition, and also help test the hypothesis that UM72 level 29–30–31/MUM level A is a structured deposit,⁴⁴ perhaps marking a new phase in the long-life of the Mansion.

The Final Palatial period witnesses a remarkable change in decorated pottery: on the one hand, the popularization through mass production of certain-decorative motifs, on the other, the contracted/restricted circulation of other motifs (marine), which until the end of the Neopalatial period were associated with labor intensive production, relatively small but varied ceramic outputs, and perhaps not very limited circulation.⁴⁵ Departure from Neopalatial practice, as witnessed in the Final Palatial ceramics of Knossos, is part of the new Knossian package, which included the adoption of a new language and script,⁴⁶ new attitudes and practices towards disposal of the dead⁴⁷ (including an emphasis on preserving the individual intact for posterity⁴⁸), pronounced expressions of masculinity through warfare paraphernalia,⁴⁹ an interest in the built environment expressed through visual representation,⁵⁰ and the conscious adoption of a much varied ceramic vocabulary.⁵¹ This partial departure from Neopalatial practice was selective, intentional, and carefully crafted, with the explicit aim of establishing a new *status quo* (intentionally expressed through a somewhat different material culture

package) aimed at excluding social groups who during the Neopalatial period had privileged access to resources, finished products, and power. Like Linear A,⁵² the Special Palatial Tradition of LM IB (which Marine Style was part of) may have been intentionally killed and replaced at the eve of the Final Palatial period by a small and very focused production, aimed at a highly restricted circulation directly linked to the Palace. The role of formerly LM IB potters/workshops that continued to produce into LM II (and that of their successors) may have been active rather than passive in this carefully crafted change. Two decades ago, Cherry argued that attribution studies in the Bronze Age Aegean could “have the potential to provide fresh insights in areas well beyond the purely artistic,” and he recommended that future work include “some healthy servings of explicit methodology and larger doses of social archaeology”.⁵³ This paper, I hope, moves in the right direction.

⁴⁴ Richards & Thomas 1984.

⁴⁵ Hatzaki forthcoming a.

⁴⁶ Bennet 2008.

⁴⁷ Preston 2004.

⁴⁸ Hatzaki forthcoming c.

⁴⁹ Popham 1994; Molloy 2008; Molloy 2010.

⁵⁰ As exemplified by the Final Palatial fresco program executed at the Knossos Palace, Cameron 1987; Hood 2005.

⁵¹ Hatzaki 2007b.

⁵² Bennet 2008, 22.

⁵³ Cherry 1992, 144.

Table 1 Concordance between plates published in Popham 1984 and SMK MUM boxes.

Pottery	Corresponding published level	MUM SMK box
Popham 1984, pl. 123a	Pl. 14 section 8 level 1	115
Popham 1984, pl. 123b	Pl. 14 section 8 level 1	116
Popham 1984, pl. 123c	Pl. 14 section 8 level 7 ?	114
Popham 1984, pl. 123d	Pl. 14 section 8 level 7 ?	113
Popham 1984, pl. 124a	Pl. 14 section 8 level 2	119
Popham 1984, pl. 124b	Pl. 14 section 8 level 2	in Herakleion Museum (cat. no. 31150)
Popham 1984, pl. 124c	Pl. 14 section 8 level 2	119
Popham 1984, pl. 124d	Pl. 14 section 8 level 2	134
N/A	Sackett 1992, pl. 6.18	113

Table 2 List of boxes with retained pottery from the MUM South Corridor upper levels.

SMK box no [red label]	SMK box labels [front in black & red ink]	SMK box [back in pencil]	Label(s) in box	Popham 1984 plate & caption	Comment
113	K72 MUM SOUTH RAMP (=28) LM IIIA2-B TR. 15 level 19 level 23 + 23A level 27 (heavily selected) 113	MUM 72 SOUTH RAMP (=28) TR 15 level 27 level 23 + 23A level 19 (LM I-IIIa in 1st box) Heavily selected	No label	South Corridor, upper deposits, various levels (Popham 1984, pl. 123 d) [label on photo = RAMP 27, 23, 23A, 19]	<i>Range of dates (stylistic):</i> LM IIIA2-LM IIIB early <i>Context:</i> fill in robbing trench for removal of MUM South Facade <i>Comment:</i> Box contains only fine patterned and plain pottery. All sherds published in Popham 1984, pl. 123d are inside this box.
114	K72 MUM SOUTH RAMP (+28) LM I-IIIa1 TR. 15 level 19 level 23 + 23A level 27 (heavily selected) 114	MUM 72 SOUTH RAMP (=28) TR 15 level 27 level 23 + 23A level 19 (III in 2nd box) (Heavily selected)	No label	South Corridor, upper deposits, various levels (Popham 1984, pl. 123 c) [label on photo = RAMP 27, 23, 23A, 19]	<i>Range of dates (stylistic):</i> LM IA (few), LM II (few), LM IIIA1-2 (predominantly). <i>Context:</i> Presumably from fill of robbing trench for South Facade of MUM, material goes with SMK Box 113. <i>Comment:</i> Box contains fine patterned pottery (few sherds are marked level 23). All sherds published in Popham 1984, pl. 123c are inside this box
114	[Cloth bag with sherds and label inside box 114]		paper label 1, with string attached] [front:] #140, 141, 142 MIN Kept sherds 26/6/72 Knossos UM TR. 15 S. Ext Pit level 23 at S. Baulk (below floor II) [back:] †40 [paper label 2, without string; same text as label 1]		<i>Range of dates (stylistic):</i> LM IA (few), LM II (predominantly), LM IIIA2-B (few). <i>Context:</i> LM II dump UM72 level 23 stratified above UM72 level 29–30–31/ MUM77 level A level. <i>Comment:</i> cloth bag contains ceramic material associated with the level that contained the LM II kylix published in Popham 1984, pl. 121b

No num- ber	MUM S. CORRIDOR Popham 1984, pl. 121 b LM II kylix		[paper label 1] [front:] <u>LHS</u> Pot NB Trench 15 1971 P 24 [...] S ext. outside S wall MUM [back:] Joins Pit 23 Pit 23A Level 19 152 1[5]6 <u>Searched but no joins</u> #159, 168, 170, 173, 174 [writing with pencil on pot] TR 15 PIT 23 + 23A 163	S. Corridor (Popham 1984, pl. 121 b)	<i>Range of dates (stylistic):</i> LM II. <i>Context:</i> part of LM II dump UM72 level 23 stratified above UM72 level 29–30–31/ MUM77 level A. <i>Comment:</i> LM II kylix published in Popham 1984, pl. 121 b, remaining retained pottery from this level in MUM SMK Box 114
116	K72 MUM SOUTH RAMP (=28) TR. 15 level 28 below level 19 LM I and II 116	MUM S Ramp (28) Level 28 below level 19 Photod	[paper label 1, with string attached] [front:] 3/7/72 MIN TR. 15 Level 28 below 19 Crumbly brown con- taining many sherds Kept sherds [back:] 175 [paper label 2, without string; same text as label 1]	South Corridor, upper deposits, various levels (Popham 1984, pl. 123 b) [label on photo = RAMP 28]	<i>Range of dates (stylistic):</i> LM II. <i>Context:</i> LM II dump UM72 level 28 stratified above UM72 level 29–30–31/ MUM77 level A. <i>Comment:</i> Box contains heavily selected ceramic material, predominantly fine decorated pottery (no sherds are marked with level/ zembil number). Most sherds published in Popham 1984, pl. 123 b are inside this box
115	K72 MUM SOUTH RAMP (=28) TR. 15 level 29 below level 28 LM I and II 115	MUM S Ramp (28) Level 29 below level 28 Photod	[paper label 1, with string attached] [front:] M 3/7/72 MIN Tr. 15 Level 29 below level 28 Kept sherds #233; #234; #235 #236; #237 [back:] 234 [paper label 2, without string attached; same text as label 1]	South Corridor, upper deposits, various levels (Popham 1984, pl. 123 a) [label on photo = RAMP 30]	<i>Range of dates (stylistic):</i> LM IA (few), LM IB (some), LM II (predominantly). <i>Context:</i> LM II dump UM72 level 29–30–31/ MUM77 level A. <i>Comment:</i> Box contains heavily selected fine patterned ceramic material from merged levels 29, 30, 31, A (sherds are not marked with level/zembil). All sherds published in Popham 1984, pl. 123 a are inside this box.

119	<p>K72 MUM SOUTH RAMP (=28)</p> <p>TR. 15 level 31 below level 30 LM II (early)</p> <p>Box 119</p>	<p>MUM RAMP 28</p> <p>Level 31 below level 30 (photod)</p>	<p>[paper label 1]</p> <p>[front:] 4/7/72 TR. 15 Level 31 below level 30 In corridor '28'</p> <p>[back:] 237</p>	<p>South Corridor, LM IB/LM II deposits above LM IA levels (Popham 1984, pl. 124 a-c)</p> <p>Popham 1984, pl. 124 a [Marine Style amphora]</p> <p>Popham 1984, pl. 124 b [Marine Style kylix/ goblet]</p> <p>Popham 1984, pl. 124 c [2 fragm kylikes/goblets and 2 fragm bowls]</p>	<p><i>Range of dates (stylistic):</i> LM IB (Marine Style amphora), LM II (all other). <i>Context:</i> sherds from LM II dump UM72 level 31. <i>Comment:</i> Box contains only ceramic material illustrated in Popham 1984, pl. a-c [except for Marine Style short-stemmed kylix, now in Herakleion Museum].</p>
134	<p>K77 MUM (SXT) S. CORRIDOR = 28</p> <p>Level A = level 31</p> <p>Dec. sherds LM I-II</p> <p>Box 134</p>	<p>[Nothing written at back of box]</p>	<p>[metal label] MUM –SEXT 12.8.77 Level A</p>	<p>South Corridor, LM IB/LM II deposits above LM IA levels Popham 1984, pl. 124 d</p> <p>[label on photo = RAMP A [illegible]]</p>	<p><i>Range of dates (stylistic):</i> LM IA (some), LM IB (few), LM II (some), LM IIIA2-B early champagne cup stem. <i>Context:</i> LM II dump MUM77 level A. <i>Comment:</i> Box contains selected ceramic material. Although coarse is sparse, fine buff clays seem to have been kept more or less intact, a large percentage of which look LM IA, from cutting into level B. For cross-joins with other MUM South Corridor LM II levels (see fig. 4).</p>

Discussion

Betancourt First I want to congratulate Maria [Vlazaki] on making such a fine beginning to this conference. Something that I think we should all be looking for (and that we will likely find) is a number of sites where there is a substantial body of material common to much of Crete; and then in addition to this, there will be some local shapes and local preferences for decoration. In the case of Khania for example, we have the flower pots, we have the tubs, and we have the pedestalled jars that seem to be local variations on other shapes, or perhaps were invented anew, or inspired by foreign pottery, or whatever. But before we get into what I think are going to be some very complicated questions on chronology and nomenclature, I think that this is a very good beginning and that we should take note mentally of some of these local traits that help define the nature of the local workshop.

Warren Like Phil, of course, we would all like to thank Maria [Vlazaki] for such a rich range of new and important material from Khania. If I may, at this stage, at the beginning, I would like to draw out two methodological points from Maria's paper: the first is the lesser point, the same point I tried to make when we had the conference at the Italian School on LM IIIC a few years ago. We need to be careful to make a distinction between assemblages, which are primarily sherds and those, which are whole pots in floor deposits. To me there is a different evidential value in these types of materials. For sherds – where was the whole pot that that sherd represents in use originally? Was it in that context, was it in an earlier context, or where was it? It doesn't have the same strength as an actual floor deposit, or indeed a destruction deposit with whole vases. So, we need some care, I think, there. But, more interestingly, one of the main things we're exploring in the conference is that clearly LM IB represents a passage of time in ceramic terms and of course there is a possibility that within that period of time there will be some changes and some developments. Perhaps, though, in terms of forming a new picture, we should distinguish between major changes and what one might call minor changes within a single site, such as the blocking of a wall, or the laying of a new floor, or something like that (which, of course, does represent some sort of change within that period internal to the site). But we need to be very cautious about applying those relatively minor internal changes to make a new island-wide label for a period. And this is perhaps relevant to what Maria was saying because, as Eleni [Hatzaki] was beginning to indicate and to anticipate a little, the material that Maria is calling final LM IB, for which perhaps you have suggested the term LM IC, actually corresponds very closely to what we are calling standard LM IB destruction at Knossos. So, I think, phases and changes within a site are noteworthy, yes, but some caution must be used with regard to applying a whole new label, as if we've got an island-wide phase; it's not a criticism, it's a question of now exploring how we're going to come to define developments within a time period.

Vlazaki I begin from the end. This is not something new. Evans already spoke of LM IC style; I just mentioned it, and I didn't put any label on my powerpoint about LM IC. I just suggested this term as a possible means of facilitating when we say the very end and final destruction of LM IB, and when I say end, it doesn't mean very end, but earlier than the final destruction. For the deposit of sherds to which you refer, all that I showed you were pottery groups found in floor deposits of the final destruction, and in some special cases I showed groups of sherds in order to emphasize the sequence. I didn't support my presentation with the sherds only, but mainly with the vases. And for the different levels of the lustral basin, I just showed you how many levels we had and how easily you can distinguish one from the other.

Rethemiotakis Congratulations, Maria, once more, for the wealth of ceramic material you presented to us, which shows that the Khania workshops were very productive in this period and very inventive in terms of shape and decoration. One small point. You showed us evidence for successive, overlying floors, and you spoke about the major destruction at the end of the period. Do all of these floors, and perhaps the architectural modifications as well, mean that there are destruction events during this period, or a single event at the end? And another question. If I understood well, you said that you did not find valuable items in the destruction debris. Does this mean that there was looting after the destruction, or with the destruction, or do we have another event, which might not be linked with the earthquake?

Vlazaki About the destruction deposits. We have this final destruction, which is obvious everywhere. It was not very clear, maybe, above the lustral basin, but the destruction of this final phase was clear in the adjacent rooms, as I showed you in the room with the tripod vessels and other vases and in another room with cooking pottery that was also used for dining. So we have this final destruction, which for me is later than the material from Mr. Hood's north area of the Royal Road (that in the *Kritika Chronika* (15–16 [1961–2], 96–7, pl. 2)—published from the Cretological). It looks to me later. And as the Kythera material has been studied in great detail, we have exactly the same opinions about how this was. It looks to me as though this final destruction, which we can identify there with certainty, belongs to the very, very end of what we call LM IB, even later than those with nice pieces of Marine Style, the classical pieces and so on. We do not have any Marine Style found *in situ*. We have found some pieces in mixed deposits, but when we have them in closed deposits, they are from below the floors. The earthquake. Yes, I don't know. We don't have the most valuable things, we don't have dead people and we have a big conflagration.

E. Hallager If I may, we don't have the typical archaeological evidence for earthquake, and in my opinion it must be something like human agency that burnt down and caused the final destruction at Khania.

Niemeier I think that Maria Vlazaki (congratulations for this brilliant paper) made two important points for the question Peter Warren put forward. For inter-regional comparison, both chronological and stratigraphical, you said that you have no Marine Style in the final destruction deposits. I think that is a very important point. In Knossos, at least at Sinclair Hood's excavation on the Royal Road, we have it, and for example the

rounded cup-rhyton with the spiral and dot decoration (*CretChron* 15–16 [1961–2] Pl. 23 following p. 96) that you showed us may have a very good parallel from the Royal Road; you think that they may be imports from Khania and come from the earlier LM IB. And then we have this characteristic late Alternating Style, as Nicolas Coldstream has already pointed out in his excellent Kythera publication. I think these are points we have to consider for chronological differences between those destructions. Perhaps you will convince us, Peter, when you show your deposits. At least, what I have seen up to now, I was very convinced by Maria's arguments.

Platon On this matter, about the chronology, we have in Zakros also two phases in LM IB; stratigraphic phases as I will show you on Sunday. And these two phases are very advanced, around the end of LM IB. These two phases have close similarities with destruction levels in Knossos, and I believe that the interval between them is very short, and it's impossible to separate them on stylistic criteria.

Cunningham Also at Palaikastro our two phases of LM IB are indistinguishable ceramically and may well be very close together. But what I was going to say was, I don't see why we don't restrict Evans' terms, when being used for ceramic styles to Knossos itself, and otherwise rely on site phases. I can see Peter's [Warren] point insofar as you don't want to be trying to change the terminology across the whole island because of what might be events that are localized at particular sites, but at the same time to miss out on that level of resolution simply because it might not be a big enough event to merit it. I know that's not what you meant to say at all, and it just seems, for us, anyway, that it has worked very well to work out a site phasing using our own local site periods. And, then you have to, of course, try to fit that in to other sites, and with Knossos and the island at large, but that at least avoids the terminological confusion, and I think, though we always will use those terms chronologically in a broader sense, really when they are being used for the ceramics it should be, I think, Knossos, and they should be defined as they have been in this new Knossos book by the pottery groups (Momigliano 2007b). Just one other quick thing, I was very glad, Eleni, that you showed the Unexplored Mansion things, because that's something that's been puzzling me. There are jugs from Palaikastro, Zakros and Gournia that are very similar to the jugs in the Unexplored Mansion. There is some East Cretan LM IB in those final LM IB destruction imports in the Unexplored Mansion that hasn't been picked out. There is even a cup from Palaikastro in there. How big is the gap between the Unexplored Mansion LM II destruction and the Knossian LM IB destructions? I know that is probably guesswork, but is that really such a big gap? As Popham said, oddly I think, that there was almost no LM IB in the Unexplored Mansion, and he really made it seem very, very different. There really does seem to be quite a lot of overlap, so I would be interested to know more about that.

Hatzaki To reply to Tim's point, the reason why we use groups instead of phases is because Knossos has been excavated for over a hundred years by different people, and therefore ceramic groups was considered the most appropriate way for an alternative terminology, which allows the creation of other sub-phases and groups, without resulting in the problem of, for example having to divide LM IB into an early or late ceramic phase. That was the reason for using the parallel terminology of groups.

So, the sequence of groups can be adjusted accordingly and you can add sub-phases without affecting, from the start at least, Evans's chronology. In relation to how much stylistic overlap there is between LM IB Knossos and LM II Knossos, already from Maria's paper we are seeing far more material than previously and we've still got three days to go. The limited knowledge of what Standard Tradition pottery looks like in LM IB has been creating this huge stylistic gap in our eyes between LM IA and LM II; of course, now that we are filling in the LM IB gap, things are becoming far clearer, and I don't see any problem in having stylistic elements that continue from LM IB into LM II, which is why I chose to show the coarse ware instead of the fine ware so as to show how much they look alike; the LM II coarse wares of the Unexplored Mansion resemble the LM IB coarse wares of Nirou Chani. Also, in relation to all of the LM II material from Knossos that I have seen (settlement and tomb deposits), there is no subdivision in LM II. It is one thing. You can't divide it either stratigraphically or ceramically.

Rutter Thank you for this rich exposition, I mean it was really wonderful to see this material, and it was very helpful for me when you went through every shape in order and showed the decoration that appeared on each shape. And I missed any bowls with horizontal handles.

Vlazaki We don't have them.

Rutter Ah, okay this is very interesting for me.

Vlazaki May I say something, just to add to what Lefteris [Platon] said. Also, these two different layers in LM IB Khania are not, as I said, one early and one late, but one is earlier than the other, as you said. And, it also looks like the time interval was short, but it was enough to have some changes, slight changes, in decoration, in the vases, in the forms.

Platon I will try to show that these two phases in Zakros are very difficult to separate stylistically. These two phases are also very similar and have close parallels with destruction levels at Knossos, Royal Road, Stratigraphical Museum destruction etc., and I believe that the interval was very short, too short time for evolving pottery.

Barnard It is fascinating to see the regionality going on, as well as what is common to all Crete (what we have so far east in Mochlos that you have similarly in the west), but you have local traditions that are fascinating, that I have never even seen out East. Mochlos also has two stratigraphical phases; you can add our site to the pile that is splitting LM IB into two phases. Stylistically we could not distinguish between the two, if one were not layered on top of the other in about 75% of our buildings with stratified floor levels. Looking at them as a group, we can approach somewhat the earlier tendencies and the later tendencies, which are definitely moving towards/foreshadowing LM II styles, including, as Jerry noted, horizontal-handled bowls – that is one of the distinguishing features of our later LM IB phase. We do have those and they are missing from our earlier floor levels. So, there are little things like that happening over a time period. And it seems at Mochlos to be quite a long one. All

of the buildings, almost universally, are remodeled with additions and almost all floor levels replaced with higher ones over time.

Macdonald I think it would be better to avoid the description “ogival” for your hemispherical cups since it is already in use for a rather different, usually unpainted cup with a lip in LM IB East Crete (Palaikastro and Mochlos). Ogive is just the curve of an arch and would actually suit almost any rounded cup.

Vlazaki Do you prefer bell cup?

Macdonald No. I think handleless hemispherical cup. Lipless.

The LM I pottery from the ceramic workshop at Zominthos*

Sebastian Traunmueller

Abstract

The limited number of securely datable deposits on Minoan Crete is a crucial problem for establishing the Neopalatial relative chronology. Zominthos, however, appears to be an exception to this rule. The ceramic assemblage found in the area of the pottery workshop comes from a sealed deposit and is thus of paramount chronological significance. All, or at least most, of the vases probably belong to the final series of pottery produced at Zominthos, which forms a useful tool for determining the exact date of the destruction of the “Central Building.” The material also may offer a chronologically fixed point for the use of LM I style pottery.

This paper first and foremost aims at a preliminary presentation of the material, which forms the basis of my dissertation. This analysis of the assemblage, in addition to its shapes and decoration, has raised questions about the relative chronology of Neopalatial Crete as a whole and the interconnection/distinction of the stylistic phases of MM III to LM IB in particular. The material from Zominthos may contribute to the continuing discussion and refinement of chronological schemes as well as the understanding of regional characteristics and island-wide connections in Late Minoan Crete.

Introductory remarks

The following paper is an extract of the ongoing studies on the pottery assemblage from the ceramic workshop at Zominthos, which forms the basis of my dissertation (from the University of Heidelberg). This enterprise is part of the large scale project “Zominthos 2004–2008. Reconstructing

a Minoan Landscape” under the auspices of the Archaeological Society of Athens in collaboration with the Institute of Archaeology at the University of Heidelberg; it is directed by Yannis Sakellarakis and Diamantis Panagiotopoulos. Their interdisciplinary approach attempts to gather information not only by archaeological excavation but also by palaeobotanical and zoological analyses, as well as geographical and geological surveys, with the aid of a fully digital documentation system.¹ This research in combination with the fact that Zominthos lies in one of the few virtually untouched areas of Crete may ultimately lead to a nearly complete reconstruction of a Minoan landscape.

The site is located on a low hill bordering a small upland plain (Fig. 1) in the Psiloritis mountains ca. 12 km south of the modern village of Anogeia. The discovery of a large Minoan building in such an unlikely place, 1,187 m above sea level and ca. 400 m above the modern border of habitation, attracted wide interest among archaeologists in the early 1980s because research up to that point had focused on the lowlands and coastal plains of the island. The location of Zominthos, however, is not as isolated as one might assume. It is situated along ancient roads connecting the Idaean Cave with important Minoan settlements such as Sklavokampos, Tylissos, and Knossos. Moreover, its natural surroundings offer pastureland and a water supply

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¹ Sakellarakis & Panagiotopoulos 2006. See also www.zominthos.org for additional information on the project.



Fig.1. Plain of Zominthos. From the south.

that make it an ideal resting place on the way to the mountains.²

The ruins of the so-called “Central Building” were discovered west of the modern road leading from Anogeia to the Nida plateau during a survey by Yannis Sakellarakis in 1982³ and were systematically excavated in five small-scale campaigns through 1990.⁴ At that point, excavation had been carried out only in the northern and northwestern part of the “Central Building”, with six of the approximately 40 rooms of the ground floor being fully or partly explored. With dimensions of roughly 54 m length x 37 m width, Zominthos is the largest Minoan “rural villa” yet unearthed (Fig. 2).

The pottery workshop

The most important discovery of the early excavations was a ceramic workshop located in the Northwest Annex of the “Central Building” (Figs. 2; 3).

This Annex represents a second building phase at Zominthos since it was clearly added to the main structure at a later time. The interval between the two phases appears to be rather short, however.⁵ The Annex consists of three rooms (10–12) of which only Room 12 had been completely excavated during the 1980s.

Room 12 appears to be the most important room of the workshop, and the majority of objects were recovered there. The finds include a potter’s wheel,⁶ several bronze tools, and most of the ca.

² Sakellarakis & Panagiotopoulos 2006, 3.

³ Sakellarakis 1983, 443.

⁴ Sakellarakis 1983, 488–98; Sakellarakis 1984; Catling 1989, 101–2; Touchais 1989, 690–2; Sakellarakis 1996, 205; Sakellarakis & Panagiotopoulos 2006, 2.

⁵ Judging from the pottery, it has not yet been possible to recognize a significant difference in time between the two phases.

⁶ The wheel is of a typical Neopalatial type with a heavy projecting rim, a flat, plain top and grooves on the bottom side. See Evelyn 2000, Type 3c “Flywheel”.

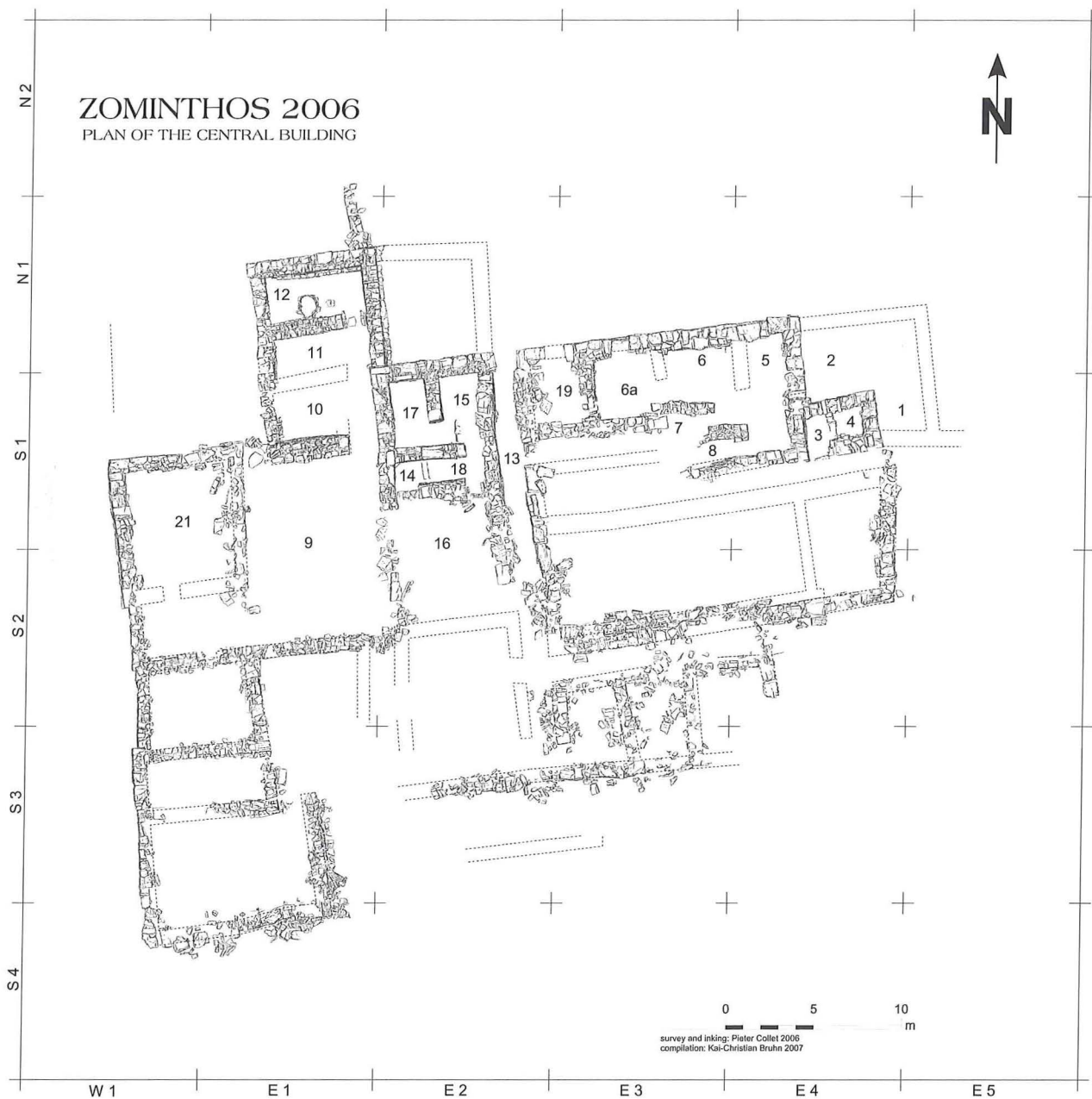


Fig. 2. Zominthos, plan of the “Central Building” in 2006.

250 vases from the house. Twelve of the vessels were noteworthy because they carry painted decoration rather than a solid dark coating. Room 11 probably belonged to the workshop as well, while no specific function has been assigned to Room 10, which was only excavated in 2006 and 2007. These rooms are connected to Room 12 via a small corridor on the east side. The unique state of preservation, the existence of permanent installations and the contents of this pottery workshop

are unique on Crete and offer extraordinary insights into Minoan pottery production. The most conspicuous feature of the workshop is a circular basin for the levigation of the raw clay.⁷ At the bottom of this basin pure, strained clay was recovered during the excavation. Traces of carbonized wood probably indicate the existence of shelves, which in addition to benches running along the

⁷ Sakellarakis & Panagiotopoulos 2006, 6.



Fig. 3. Room 12 after excavation. From the east.

northern and southern walls of Room 12, probably served to store equipment and vases. Some of the vessels found in this room were still *in situ* on these benches. An elliptical structure built against the exterior face of the north wall of Room 12 was identified as the pottery kiln; it was only partly excavated, however, and is no longer visible on the site.

Similar installations have rarely been noted in other Minoan ceramic workshops on Crete. In most cases, it is not possible to determine the secure location of such workshops, and whenever the location is certain the poor state of preservation makes useful comparisons difficult.⁸ The workshop at Zou appears to provide a valid parallel for the built basin encountered at Zominthos.⁹ Another comparison was found in Building B of the Artisans' Quarter at Mochlos where two smaller basins were cut in the bedrock floor of Room 4.¹⁰

Returning to Zominthos, one must stress the chronological importance of this context.¹¹ The pottery workshop was sealed by a massive destruction layer without later disturbances. Thus the finds from this context represent material that was in use at the time of the "Central Building's" destruction. The vessels from the workshop may even more precisely illustrate the final series of pottery production at Zominthos and therefore offer an unusually precise date for the destruction.

The material

At first sight the material from the pottery workshop resembles what we know from many LM I contexts on Crete (Fig. 4). The assemblage contains relatively few shapes, which can occur in several types, mostly in fine fabrics, but also in medium-coarse and coarse pastes.

The most common shape is, of course, the handleless or conical cup. The term "handleless" is preferred here since many examples of this shape are rather unconoidal and often heavily warped. Other cup shapes such as the hemispherical cup, the straight-sided version, rounded and bell-shaped cups, along with ewers, beaked jugs, flaring bowls/kalathoi, "milk jugs", and miniature handleless cups make up the majority of the remaining material. A small number of more specialized shapes are also represented. They include a partially preserved conical rhyton that probably belongs to Koehl's Type III Conical CV variant,¹² a brazier lid, some incense burners, and two interesting coarse vessels that probably served an industrial purpose. The potter's wheel found in Room 12 is completely pre-

⁸ Michaelidis 1993.

⁹ Michaelidis 1993, fig. 5.

¹⁰ Soles 2003, 52–4.

¹¹ Sakellarakis & Panagiotopoulos 2006, 8.

¹² Koehl 2006, 45.

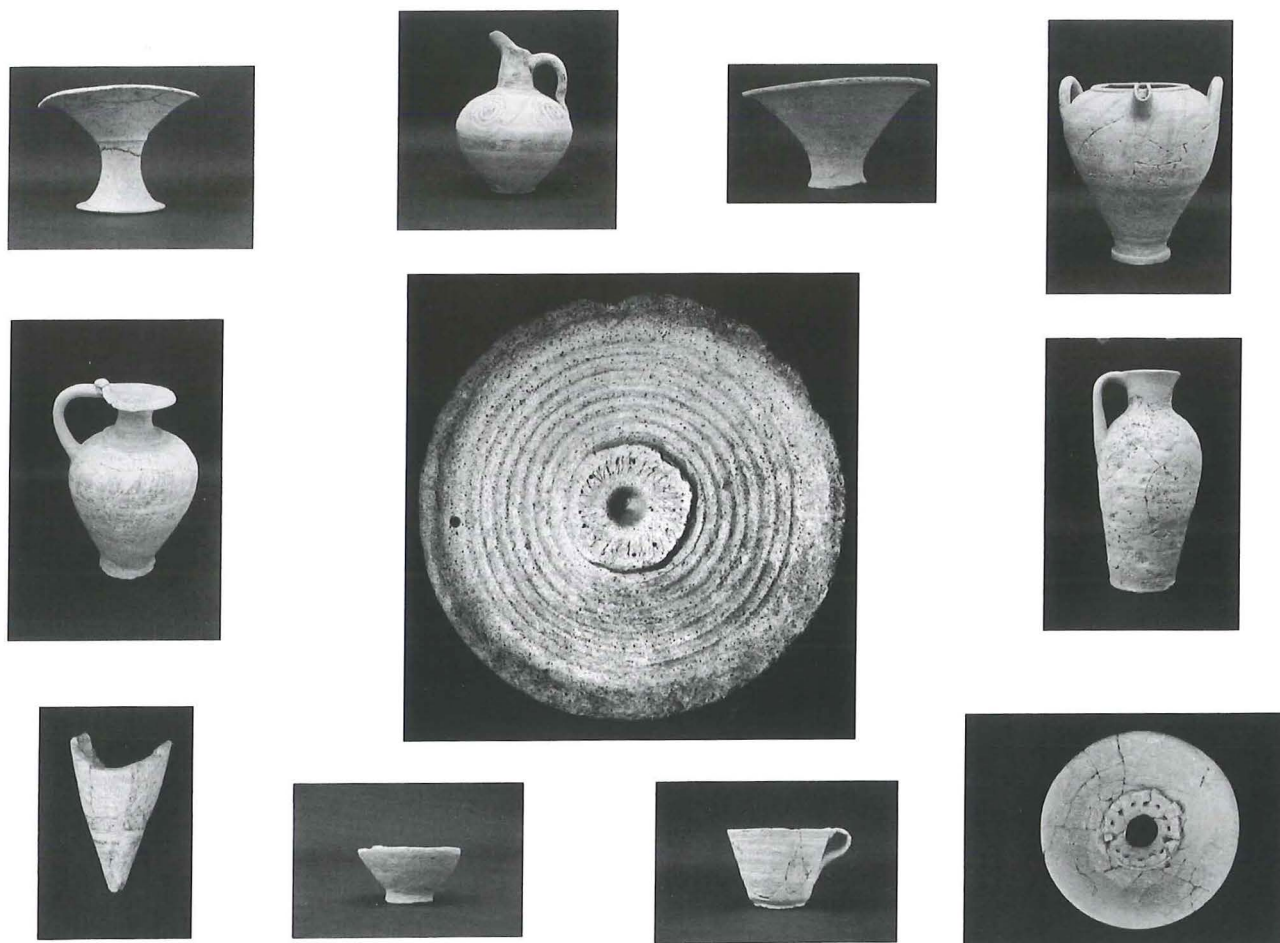


Fig. 4. Vessel shapes from Zominthos.

served and belongs to Evely's Type 3c "Flywheel" with a heavy projecting rim, a socket with a collar around it, and shallow grooves underneath.¹³

The handleless cups are the most common shape at Zominthos (Fig. 5), and they exhibit a wide variety of profiles. The present study distinguished ten subtypes according to the shape of the rims, walls and bases as proposed by Gillis.¹⁴ Although limited to this shape, our goal was to establish different types that might have been recognized by the Minoan consumers. Each type occurs in different sizes which are typically distinguished as either "small" or "large". Type 1 cups have a straight to low raised base, a straight body and a straight to slightly incurving rim, and these form the most common subgroup (Fig. 5: top four rows and the first cup in row five R12-006). Type 2 cups form the second largest group, which is distinguished by the slightly curving

to curving walls and straight to sometimes slightly everted rims of the cups. Some of the vessels, however, can only be broadly ascribed to a specific type because of poor preservation and irregularities in shape; fortunately, in most cases we are able to draw a clear distinction between the types (Fig. 5: row five with the exception of cup R12-006 and row six with the exception of cup R12-028). Type 4, the third most numerous type (excluding the miniature cups) provides a good example of this problem (Fig. 5: row 6 no. R12-028 and bottom row). This shape has often been described as a "ledge-rim cup/bowl" and here it appears in both a shorter and taller size. There are, however, obvious differences between the Type 4 cups from Zominthos and the

¹³ Evely 2000, 283.

¹⁴ Gillis 1990.

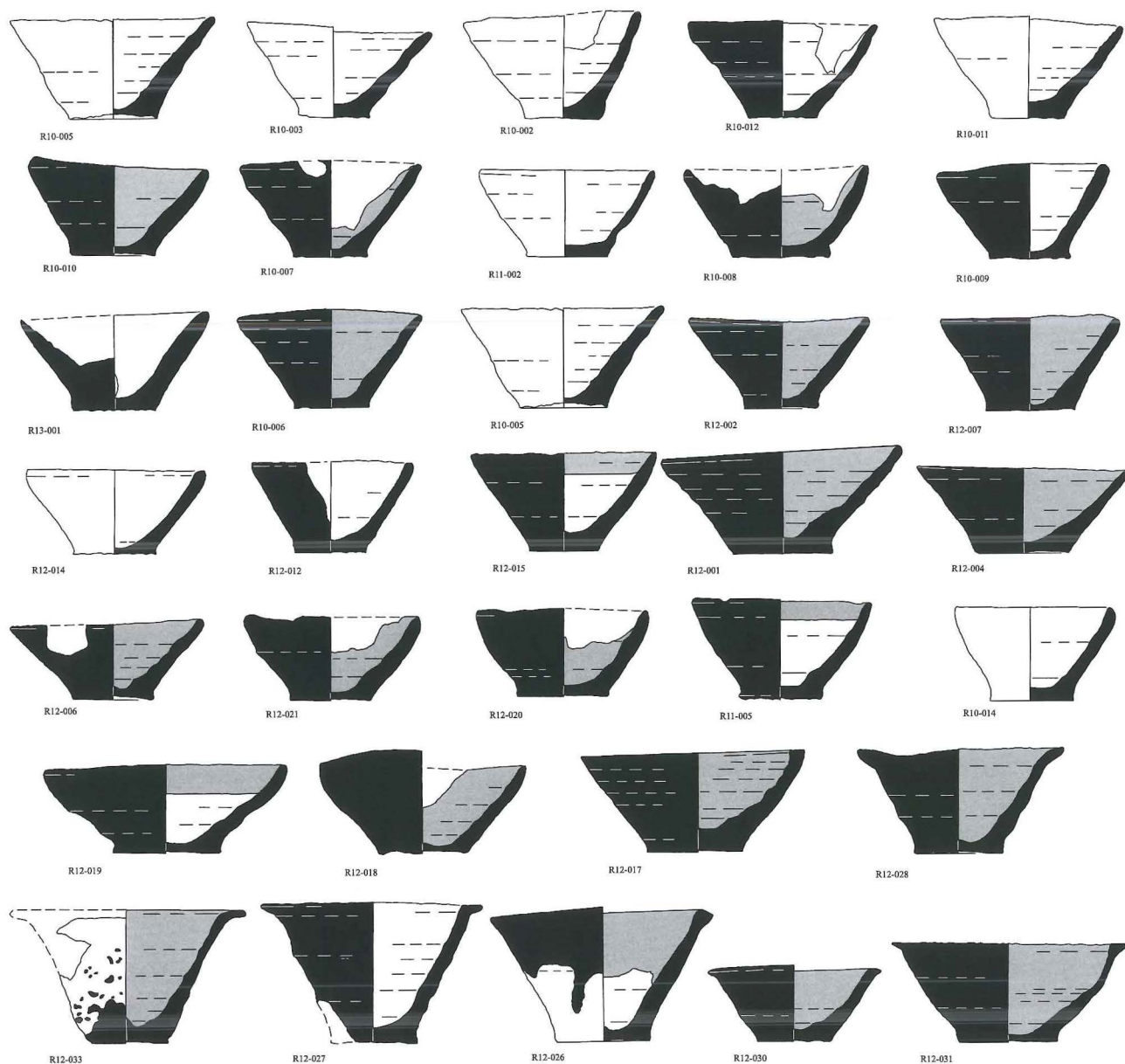


Fig. 5. Handleless cups from Zominthos.

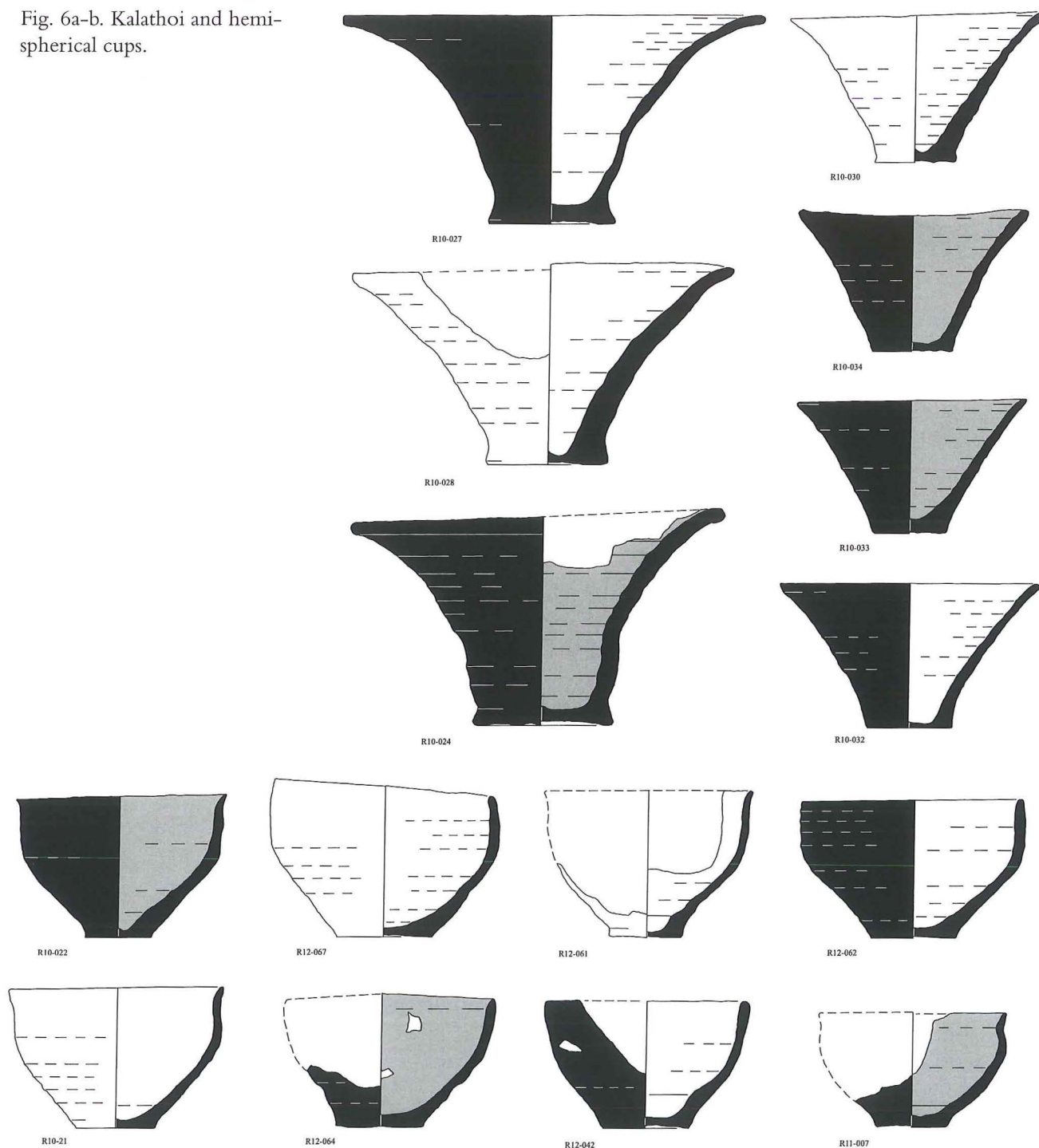
ledge-rim bowls found elsewhere (e.g., the latter have much wider ledges), which make it very clear that such distinctions can be valuable. Much the same is true for the other handleless cup types that can be distinguished at Zominthos. The exception is Type 10 which comprises the miniature cups and is solely based on the size of the vases. However, it should be stressed that attempts to extract functional and chronological information from such a typology can only be of limited value because of the nature of the vessels. The handleless cups were produced in massive quantities and often very care-

lessly formed. The cups from Zominthos are no exception, and there does not appear to be any hint of standardization in the production of these cups at the site,¹⁵ though the handleless cups can play a role in the final discussion of the ceramic chronology from Zominthos.

Two types of kalathoi or flaring bowls (Fig. 6a), a tall and a shorter version, represent another common shape at Zominthos. They are characterized

¹⁵ For exceptions to the increasing standardization, see also Knappett 1999, 415–9.

Fig. 6a-b. Kalathoi and hemi-spherical cups.



by flaring walls and everted rims, though some examples have relatively straight rims. Good comparisons, especially for the taller type, have been published by Bevan from the excavations of Neopalatial deposits at Tholos on Kythera.¹⁶ Together with the various cup shapes they make up ca. two-thirds of the pottery assemblage from Zominthos. The

hemispherical cup (Fig. 6b), one of the hallmarks of LM I ceramics, forms the second most common cup shape at Zominthos. The body usually has a rounded profile with a straight or everted rim and low raised or straight base. The maximum diameter

¹⁶ Bevan *et al.* 2002, fig. 17.146.

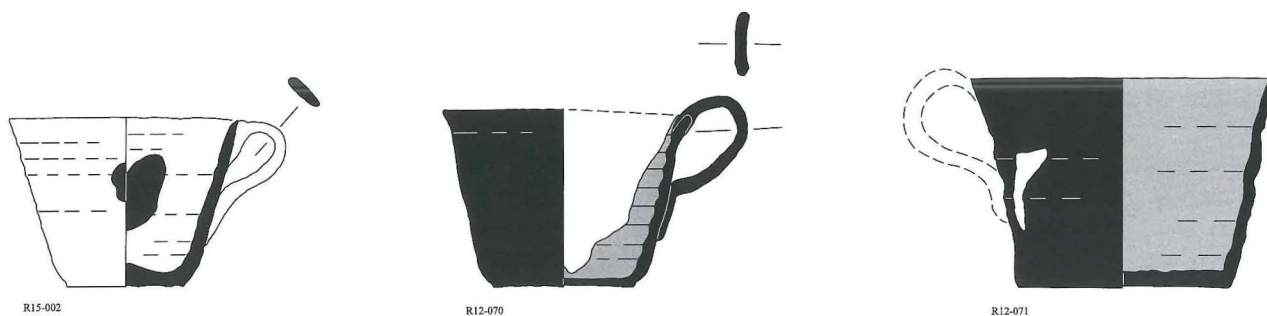


Fig. 7. Straight-sided cups.

normally corresponds to the diameter at the rim; however, few examples reach a maximum diameter at the middle of the vessel. None appear to have had a handle. Their profile sometimes shows close similarities with cups that have been termed ogival (Mochlos¹⁷ – a Late Minoan IB shape) or even conical (Kommos¹⁸) at other Minoan sites. Although several different types of this shape may be distinguished, thus far all variants have been treated as one group.

Rounded cups with curving walls and inverted rims appear to be one of those variants; here they are considered to be a separate shape because of their overall, more globular profile. The deposits also contain both bell-shaped and straight-sided cups, though in small numbers (three examples of each). The bell-shaped cups could be regarded as “conical” or “handleless”, but one example does have a handle and clearly differs from the other types. All of the straight-sided cups (Fig. 7) have strap-like handles and are of relatively large size. One example shows a central rib (R12-071) and might perhaps be called a “Vapheio Cup”, though the rib is not as pronounced as those typically found on this shape. A number of straight-sided cups from Deposit B of the Acropolis Houses at Knossos, which exhibit similar parallels with the cups from Zominthos, appear to be a better comparison.¹⁹ These cups, however, are decorated with light-on-dark rows of dots and were dated to MM III.

The larger vessels also appear in a limited number of shapes (Figs. 8, 12–14, 16). Beaked jugs, bridge-spouted jugs and jars, and ewers all show elongated forms with a high center of gravity. Flat or depressed shapes do not occur. The ewers are all similar and do not exhibit any extraordinary struc-

tural elements; one exception exists with a neck molding, a clay rivet at the attachment of the rim and handle, and tortoise shell ripple decoration. There are solidly painted bands on this vase in both black and reddish-brown color. Beak-spouted and bridge-spouted jugs and jars are usually left plain; some, however, carry painted decoration as well. Two beak-spouted jugs also have a neck molding, while another example has clay applications on each side of its spout, possibly resembling eyes. The vertical handles usually are oval or round in section.

Two miniature shapes exist in the assemblage from Zominthos: handleless cups and the so-called “milk jugs”, the latter being either handleless or having lugs or handles that are round or oval in section (Fig. 9). They are usually wheelmade, though a few examples could also be handmade. Like their taller counterparts, the minute handleless cups are often carelessly made, resulting in a wide range of irregularities in shape and surface treatment. Eleven cups of this type have been recovered, making it the third largest group of the handleless cup subtypes (Type 10).

The remaining vases in the assemblage include a variety of more specialized shapes that appear in small numbers or even single examples. There are deep and shallow bowls, a tray, a pithos (probably intentionally broken shortly above its base), a few lamps or incense burners, a *karpodochos* which might also have served as a lamp,²⁰ a brazier lid, a

¹⁷ Barnard & Brogan 2003.

¹⁸ Watrous 1992.

¹⁹ Catling, Catling & Smyth 1979, fig. 18.

²⁰ Van de Moortel, A., pers. comm.

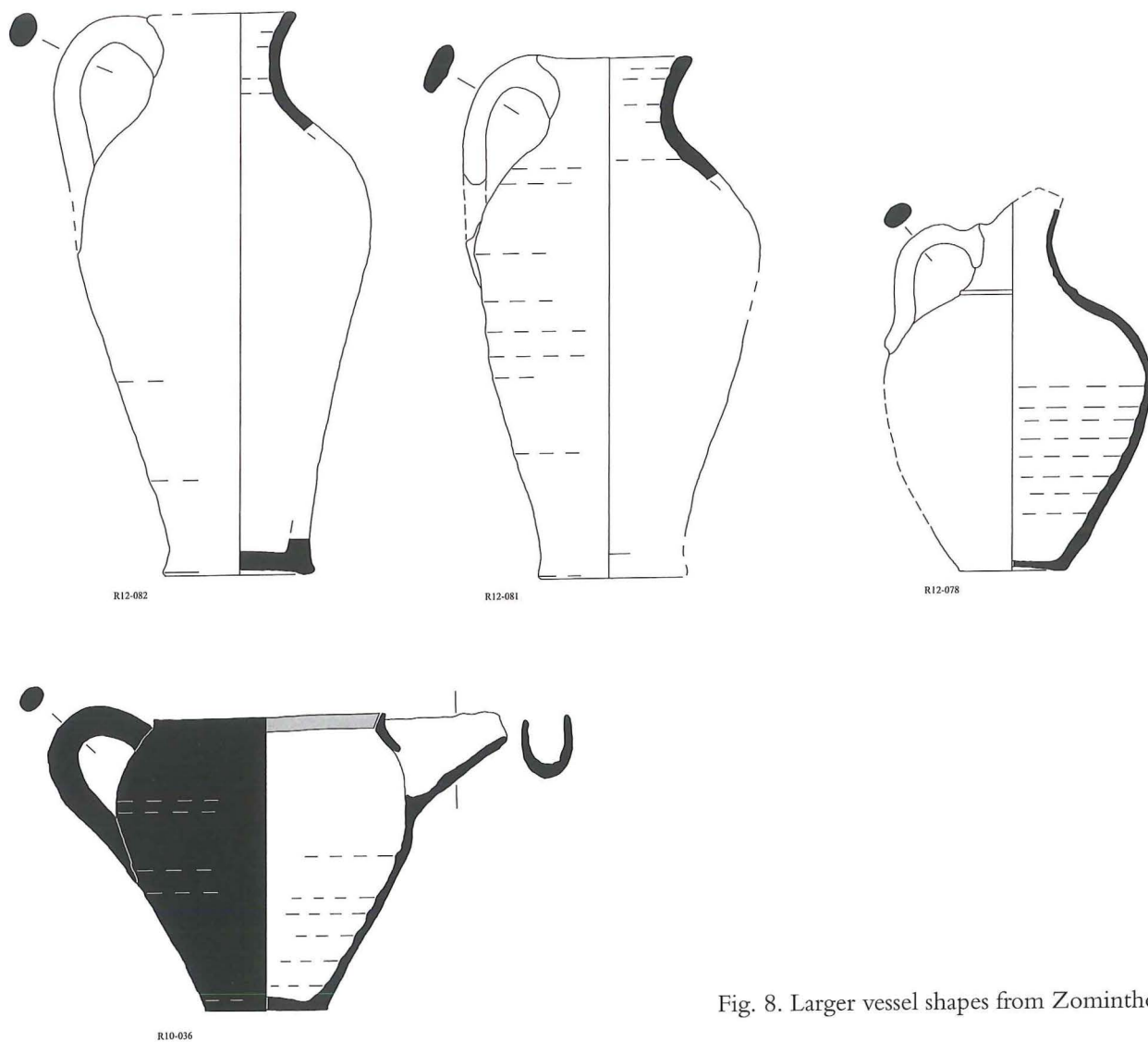


Fig. 8. Larger vessel shapes from Zominthos.

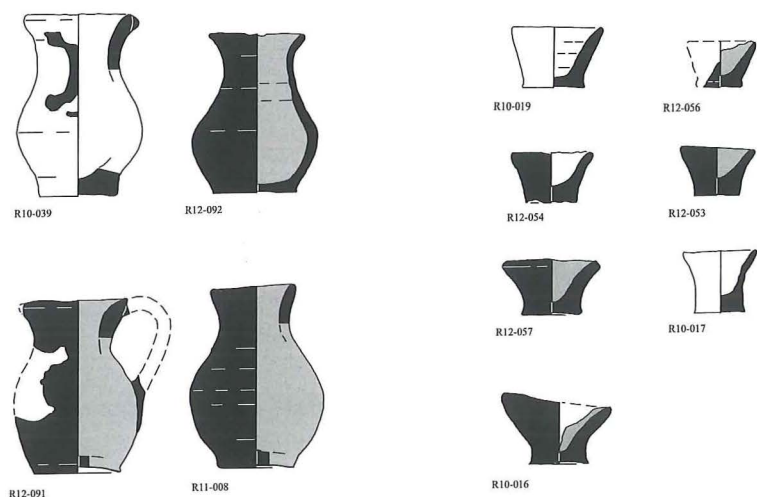
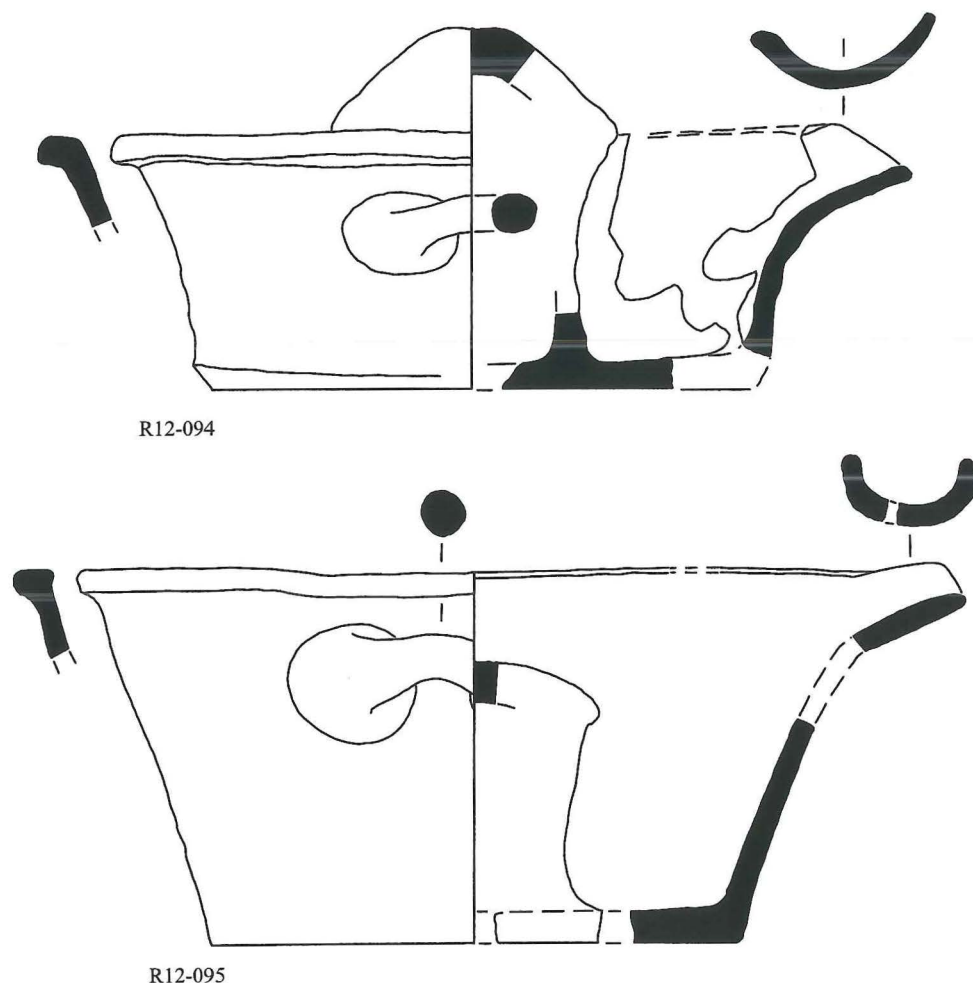


Fig. 9. Miniature jugs and cups.

Fig. 10. Vessels for industrial use(?).



*lekane*²¹ (Fig. 10), the lower part of a conical rhyton, a spouted cup, and fragments of what appears to be a pyxis.

All the vessels appear to have been manufactured from local clay sources. No clear imports have been identified thus far but only the results of the petrographic analysis will provide reliable answers to this question. A detailed study of the fabrics is still needed; however, our preliminary classification offers the following results. Several fine, medium-coarse and coarse fabrics can be distinguished. The term “fabric” as used here is strictly related to the physical characteristics and appearance of the clay material and its composition, meaning both the natural composition as well as the actions undertaken by the potter in order to create the final paste (e.g., combining two or more clays, adding organic materials or removing coarser grits). The

basic criteria used to separate the fabric groups are color, size, quality and quantity of inclusions, and hardness. “Aspects of surface treatment, decorative and undecorative, are not used for the distinction of fabric groups but for the characterization of different wares within each fabric since both attributes are technologically independent and should not be combined into a single organizational level”.²² The definition of “wares” focuses on the aspects of surface treatment as decisive reference points of the applied classification. On the basis of this organizational sub-level, several wares could be ascribed to each fabric group. Four different modes of

²¹ This equipment was probably for industrial use because of the mushroom-shaped attachment on the interior, which may be connected with dairy products.

²² Rice 1976, 539.



Fig. 11. Motifs of painted decoration.

surface treatment have been distinguished for the Zominthos pottery: 1) unslipped;²³ 2) self-slipped;²⁴ 3) real slip;²⁵ 4) painted decoration.²⁶ All four can theoretically be found in each fabric group. Consequently a “ware” is characterized by its fabric group in combination with one of the above modes of surface treatment. Since “fabrics” are not necessarily a decisive chronological indicator, especially when distinguished by macroscopic means only, I will not focus on them in this presentation. The “wares”, however, can certainly contribute to the solution of chronological problems, particularly those with painted decoration.

The scope of decorative elements on the vases from Zominthos, with the exception of the dark monochrome coating, is rather limited. Only a small minority of vessels show painted decoration at all (ca. 6%). No light-on-dark decoration has yet been found at Zominthos. All painted motifs are made with the dark-on-light technique. The typical motifs (Figs. 11, 12 (bottom), 13–14, 16) are tortoise shell ripple pattern, running spirals, hooked spirals, trickle pattern, splashes and reed or grass pattern.²⁷

Most of these motifs appear on more than just one type, such as running spirals with or without solid centers and the reed pattern with or without detached leaves. The large quantity (more than 60%) of solidly monochrome vessels is striking and even exceeds the large percentage of such vessels found in the kiln at Kommos (though some cup shapes were not included in that statistic, especially the conical cups).²⁸ Unfortunately, the preservation of the paint on the pottery at Zominthos is often very poor and not all vases can be assigned to one of the above categories with absolute certainty. Nevertheless, the overall picture does not seem to be affected by this. The applied colors vary from mostly black to dark brown and reddish brown (the exact

shades following Munsell are given in the catalog of the final publication, Traunmueller 2009).

But let us now turn to the most important question: the date of the destruction of the “Central Building” at Zominthos.

Chronology

Archaeology today rightly emphasizes the primary importance of the formulation of hypotheses or models to explain long term processes, stable states, advances in complexity and discontinuities in past societies.²⁹

The achievement of such tasks is closely linked with reliable chronological information in order to synchronize socio-historical, cultural and archaeological data. Natural sciences have been of paramount importance for providing absolute dates, but for relative chronology pottery remains the archaeologist’s most important tool.³⁰ Zominthos certainly lies within the chronological frame of the Neopalatial period on Crete, a term deduced from the most prominent architectural structures of the time, the palaces, but also implying a historical institution and political organization. Although one must be

²³ No self- or real slip has been applied to the surface of a vessel. The clay body is the actual surface of the vase. These surfaces are usually harder than the slipped examples.

²⁴ Self-slip normally occurs as a result of wet-smoothing the surface of a vessel and is not applied to it by the use of a brush or another tool (e.g., a piece of cloth).

²⁵ A coating of real slip, however, is additionally applied to the smoothed surface by using a tool (a brush or a piece of cloth). For the Zominthos material, the term “real slip” is always considered to be buff in color and clearly distinguishable from the clay body itself. The term “slip” describes any liquid, finer particled clay slurry that derives from the mixing of clay and water. At Zominthos, slips are used for overall coatings and usually not for ornamental patterns. See also Evelyn 2000, 263; Myer & Betancourt 1990, 5.

²⁶ This includes both monochrome dark coatings, usually of a reddish brown to black color, as well as painted ornamental motifs. Monochrome coatings are either applied to the whole vessel or the exterior of a vase. No example of a vessel with just a coated interior has been identified so far in the study.

²⁷ Sakellarakis & Panagiotopoulos 2006, 7.

²⁸ Van de Moortel 2001, 97, fig. 46.

²⁹ Warren & Hankey 1989, 1.

³⁰ Driessen & Macdonald 1997, 15.

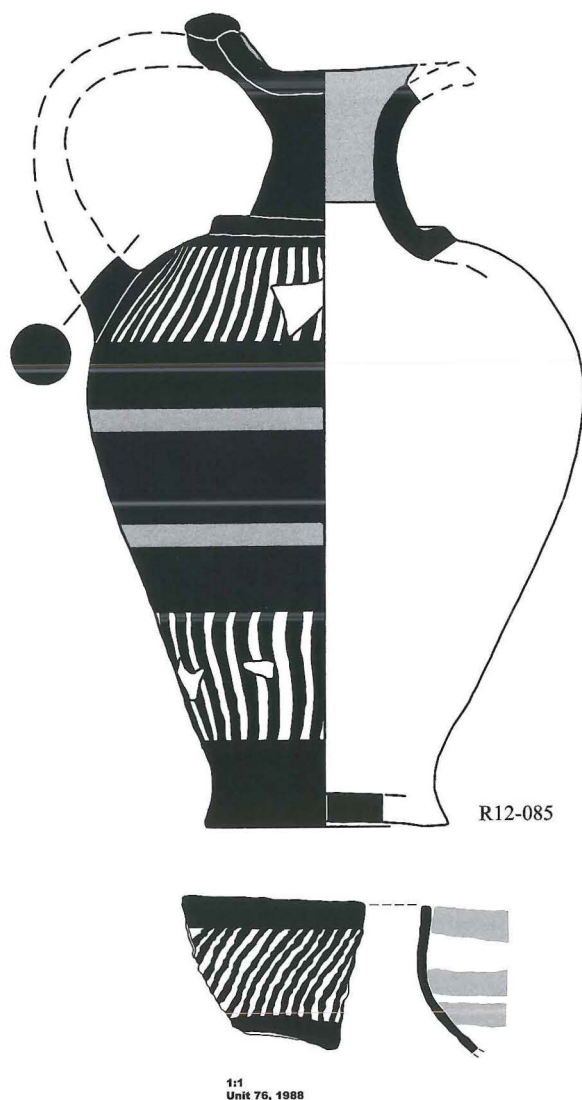


Fig. 12. Tortoise shell ripple pattern on vases from Zominthos.

aware of the continuing discussion on the political landscape of Crete during this period, the paper will not address this particular problem.

Instead, I will try to place the Zominthos assemblage within the Cretan relative chronological sequence using the diagnostic elements of the pottery and comparisons with finds from other Neopalatial sites on the island. I begin with an analysis of the decorative elements of the painted pottery. The fragment of a hemispherical cup from Zominthos with tortoise shell ripple pattern between solid bands (Fig. 12) compares well with cups from the Stratigraphical Museum Extension Site at Knossos dated to the transition between MM III and LM



R12-077

Fig. 13. Beaked jug from Zominthos.

IA.³¹ The same is true for a ewer from Zominthos, which has close parallels from the Psychro Cave and Palaikastro, the latter dated to LM IA.³²

The lower part of the conical rhyton found in Room 12 is also decorated with shell ripple pattern and shows close similarities to examples from Gournia and Akrotiri on Thera. The tortoise shell ripple motif began in MM II and became one of the most common decorative elements in MM III. It continued into the earlier stages of LM IA, though it was used less frequently in this period.³³

The running spirals with solid centers on a beaked jug correspond to those on a jug of the same type from a tomb at Poros, which has been dated to MM III – LM IA.³⁴ However, running spirals with solid or disc centers continue to exist until the latest stages of LM IA or even the earlier phase of LM IB.³⁵ This type of spiral certainly is one of the most popular designs of the LM IA style all over the island. Because it comes from a burial context, the Poros example cannot provide precise chronological evidence; however, the style of its painted decoration certainly suggests an LM IA date (Fig. 13).

³¹ Warren 1991, 326, fig. 7D, I.

³² Knappett & Cunningham 2003, 135 no. 176.

³³ Furumark 1941a, 424; Betancourt 1985, 113; Niemeier 1980, 39; Walberg 1992, 82.

³⁴ Muhly 1992, 85 no. 221.

³⁵ Rutter & Van de Moortel 2006; Mountjoy 2003.



Fig. 14. Beaked jug with hooked spirals from Zominthos.

A lavishly decorated beak-spouted jug from Zominthos shows two varieties of hooked spirals arranged in two registers separated by solid bands (Fig. 14). Each spiral was drawn individually, and they do not connect in the manner of running spirals, even though that probably was the artist's intention (i.e., an attempt to imitate a running spiral may be observed in the lower register). The spirals in the upper register exhibit a solid center unlike the ones on the lower part of the vessel. This type of spiral is common in Sub-LM IA contexts, but may already appear earlier.³⁶ A close parallel can be seen on a bowl from Kamilari that is decorated with the same kind of spiral; it has been dated to LM IA.³⁷ The lower register is decorated with hooked spirals that can be compared to those on another cup from the South House at Knossos. This cup, which comes from an unstratified layer, was dated to LM IB.³⁸

The trickle pattern on a Type 4 handleless cup can be compared to numerous vessels from Minoan sites all over Crete (Fig. 15). A good comparison comes from the Minoan Unexplored Mansion at Knossos which has both a similar shape and decoration. It has been dated to the MM III-LM IA period.³⁹ The trickle pattern appears on several shapes from MM III, though it can also be found on vases from later contexts (e.g., Mochlos or the kiln at Kommos).⁴⁰

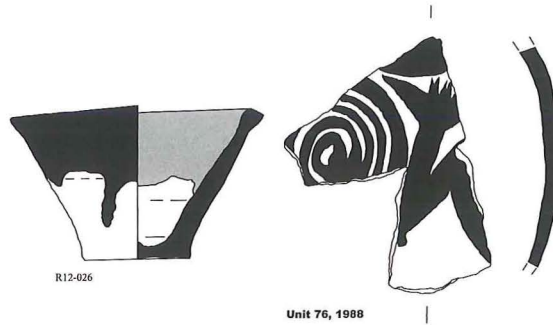


Fig. 15. Trickle pattern and spirals with interlinked crocuses from Zominthos.

The combination of running spirals with interlinked crocuses on a fragment from Zominthos is also found on a piece from Gournia.⁴¹ Both elements, the crocus and the running spiral, are common motifs on the LM I pottery at this site.

One of the most impressive vases from the assemblage at Zominthos is a bridge-spouted jar decorated with reed pattern (Fig. 16). It was not found in the pottery workshop but in Room 18 in the northwestern part of the "Central Building". The relatively large jar is decorated with solid bands on its lower body and a frieze of reed pattern on its shoulder. The reed pattern develops in an advanced stage of LM IA and does not occur in earlier deposits. The plants grow out of a single, thick leaf at the bottom and the uppermost leaf is clearly detached from the rest. These detached leaves are also found on two examples from the South House at Knossos that have been attributed to the Sub-LM IA phase,⁴² but these vases again come from unstratified contexts. The use of fluently drawn plants and detached leaves are both characteristics of this phase.⁴³ The dark stripes on the horizontal handles of the jar, a decorative element that occurs mainly in LM IB and LM II, are also seen on an

³⁶ Niemeier 1980, 31.

³⁷ La Rosa & Cucuzza 2001, fig. 246.

³⁸ Mountjoy 2003, 99, fig. 4.22 no. 353.

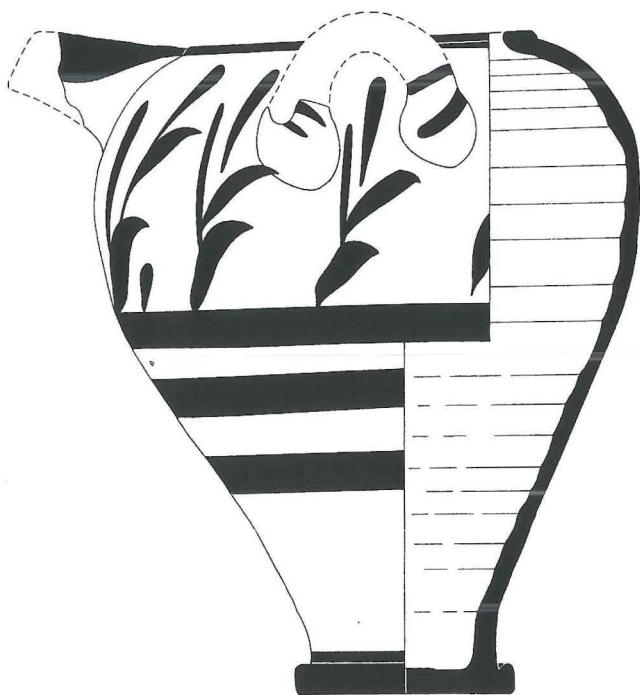
³⁹ Popham 1984, pl. 144 no. 4.

⁴⁰ Van de Moortel 2001, 48, fig. 32, no. 24; Barnard & Brogan 2003, fig. 5 IB.197, fig. 8 IB.214.

⁴¹ Betancourt & Silverman 1991, fig. 36 no. 740.

⁴² Mountjoy 2003, 87, fig. 4.16 nos. 220–1.

⁴³ Niemeier 1980, 27.



R18-001

Fig. 16. Bridge-spouted jar with reed pattern from Zominthos.

oval-mouthed amphora with reed pattern from the South House that has been dated to LM IB.⁴⁴ A fragment of a hemispherical cup from Zominthos also shows a different, presumably earlier, variety of the reed pattern.

If one leaves the aspects of painted decoration aside and concentrates on the shapes of the vessels, a similar picture emerges. The handleless or conical cups are, in the author's opinion, not particularly helpful for dating this context. At Zominthos the cups differ considerably from one another in size, shape and quality, and the carelessness with which most of these cups have been made creates further difficulties in trying to establish a chronologically significant typology. The uniformity and homogeneity of conical cups that has been proposed by several scholars to be the result of increasing standardization during the Late Minoan period does not appear to apply at Zominthos.⁴⁵ A more specialized shape, for example the brazier lid, does not support the dating process either (Fig. 17). Close parallels for the lid from Zominthos have been noted from different parts of Crete, and they appear to repre-

sent a wide chronological range. A similar lid from a tomb in Stavromenos has been dated to LM II,⁴⁶ while examples from Malia and Khania are dated to MM III-LM I and LM I.⁴⁷

Conclusions

This paper is first and foremost an attempt to present a preliminary and selective analysis of the pottery at Zominthos. It also takes aim at a potentially larger problem in Minoan pottery studies. If the vases found at Zominthos had been found by themselves and not as part of a single context (i.e., the destruction layer of the "Central Building"), it is very possible that individual objects would have been dated for stylistic reasons from the MM III to LM IB periods (the entire Neopalatial period on Crete). Instead, they were all found together in the same undisturbed horizon, and thus we should assume that they were all in use at the time of the destruction of the building. This leads us to the well-known and decisive problem of Minoan relative chronology: the confusion of relating decorative styles with chronological periods.

A decorative style is not the same as a chronological period. Decorative styles exist within chronological periods, and they do not end abruptly. Instead, they overlap in time and can co-exist for long periods.⁴⁸ This situation, of course, does not facilitate the exact dating of archaeological deposits, especially on the limited basis of material or single diagnostic vessels. Therefore, it is important that we obtain evidence for relative chronology from large-scale, undisturbed and well-stratified deposits like those found at Zominthos. Naturally, the material from Zominthos is not without problems. Only a small part of the large structure has been excavated so far, and we cannot be sure that we currently have

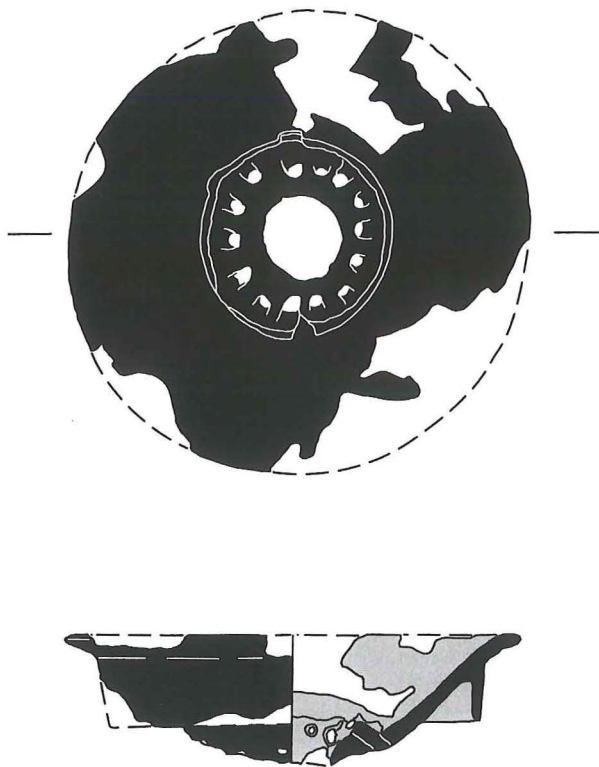
⁴⁴ Mountjoy 2003, 83, fig. 4.13.

⁴⁵ Gillis 1990; Berg 2004; Knappett 1999; Barnard & Brogan in this volume.

⁴⁶ Andreadaki-Vlazaki 1987, fig. 4.

⁴⁷ Evelyn 2000, 542, fig. 225.

⁴⁸ "Late Minoan IA as a style continues with little change until the end of the Late Minoan IB period", Driessen & Macdonald 1997, 15.



R12-098

Fig. 17. Brazier lid from Zominthos.

a representative ceramic assemblage. The fact that most of the vessels were found in the workshop suggests a very precise date of manufacture on the one hand, while on the other hand the composition of this assortment of vases or better still, of this production series, may well be due to specific needs or the skills of the potter. Another possibility would be that some of the seemingly older pieces were

used as models or patterns and not produced at the same time as the other vessels. But it is difficult to determine how long some of these vases were in use.

In addition to these questions, the remote geographical location of the “Villa” at Zominthos might also have significant bearing on the characteristics of the pottery assemblage. There have been suggestions that the ceramic material from such places shows a tendency towards traditional or older styles but this again is difficult to prove in the case of Zominthos.⁴⁹

With all these uncertainties and problems, my attempt to propose a date for the destruction of the “Central Building” at Zominthos has to remain tentative. On a broad level the pottery shows wide similarities with the advanced and final stages of the LM IA style at Kommos (the material from the kiln) and the mature stage of LM IA as defined at Knossos. Thus the destruction may be dated to a time when LM IA style pottery was still in use, possibly contemporary to the Volcanic Destruction of Akrotiri and possibly before or at the same time as LM IB style vessels were being manufactured. In historical terms one could date the destruction to an advanced point of the Neopalatial period.

The problems encountered when dealing with pottery make it very clear that we have to follow a long and winding road to answer the urgent questions of chronology, but contexts such as Zominthos can hopefully help solve some of these problems.

⁴⁹ Walberg 1981, 6; Schoch 1995, 25.

Response to Sebastian Traunmueller

Nicola Cucuzza

I think we owe a debt of gratitude to Sebastian Traunmueller for showing us the interesting assemblage of pottery found in Room 12 of the Central Building at Zominthos. Although necessarily brief, his presentation is exhaustive and clear, giving precise indications of the forms, surface treatment and decoration on the vases. Traunmueller is undoubtedly correct to maintain that this ceramic assemblage is of great importance because of the manner in which it was sealed during the collapse of the building. More than 150 vases are presented in the paper, offering an important overview of the circulation (or “consumption”) of pottery at Zominthos at the time that the Central Building was destroyed.

The possibility that these vessels were also produced in the ceramic workshop located in Room 12 of the same building increases the chronological value of the ceramic assemblage. However, it seems to me that we cannot be certain that all the vessels stored on the shelves in Room 12 were actually manufactured by the local workshop. This issue is important because it affects how we interpret some of the vases. Traunmueller notes the presence of vessels belonging stylistically to MM III and to LM IA. Does this demonstrate that the same workshop produced “antiquated” vases (in terms of both shape and decoration) along with others of a new style? I completely agree with the author’s dating of this pottery assemblage to the final phase of LM IA, in view of the small number of straight-sided cups with monochrome dark coating and the presence of only two decorative motifs: the tortoise shell ripple and spirals in dark-on-light. The absence of decorative motifs in light-on-dark also supports the case. The only problem is the bridge-spouted jar from Room 18, which might suggest a different chronology for the final use of the building.

Interestingly, there is rippled decoration on cups and a ewer, as well as the rhyton discovered in the room (part of a ritual assemblage?). With regard to the shapes, I am struck by the small number of bridge-spouted jars (only three examples including the bridge-spouted jugs), which are usually more common in contemporary Minoan ceramic assemblages. This fact may, however, be explained in terms of the particular function of the room, which appears to form part of a ceramic workshop. Again, the specific function of Room 12 could also explain the large number of miniature vessels. The fine bridge-spouted jar with reed decoration from Room 18 of the same building is surely later than the ceramic assemblage of Room 12 (as rightly stressed by Traunmueller, it should be dated to LM IB). This vase, in particular, demonstrates our need to learn more about the finds from the other rooms of the Central Building. Room 12 contains a large number of cups of different types: according to the diagram, there are 106 examples out of a total of 157 vessels, usually without any decoration, apart from a simple dark coating.

I am particularly interested in the handleless cups and hope that Traunmueller will forgive me if I refer to them as conical cups¹ (I would not dare use the term *skouteli*!). Almost 80% of the vases found in Room 12 are conical cups and more than half belong to only three of the ten different types recognized by the author. There can be no doubt about the utilitarian character of the conical cups and their important role in redistribution in Minoan Crete. The huge number of conical cups found at every Bronze Age settlement on Crete points to local production and, consequently, to

¹ Shaw *et al.* 2001, 47 n. 72.

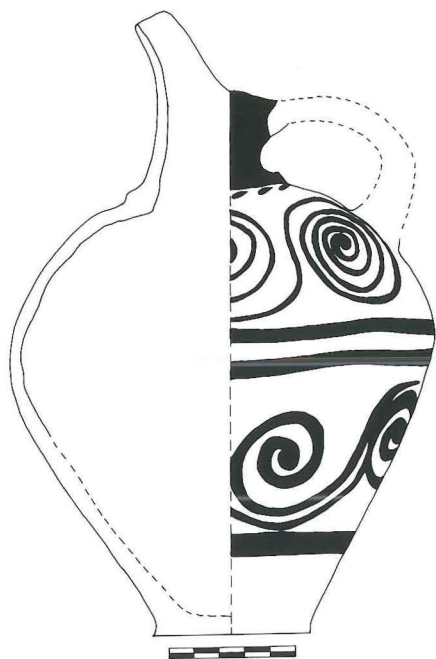


Fig. 1. Jug HTR 2196; *Complesso*, Room *l*.

the possibility of morphological variations from one site to another. For this reason, we should not compare a conical cup from Khania with one from Zakros; however, it is possible to identify some common trends which can be readily distinguished, especially between neighboring settlements. In the western Mesara, the presence of several pottery assemblages, belonging to different periods, from the neighboring sites of Phaistos, Kommos, and Hagia Triada enabled A. Van de Moortel to define a very useful typology. This tool allows us to infer valuable chronological information from a pottery shape which, though almost completely absent from museum exhibitions, is certainly the most common on Minoan sites.² I am convinced that the typology now proposed by Traunmueller for the conical cups found at Zominthos, together with similar studies carried out at neighboring sites, will provide a useful chronological marker for the broader Zominthos area. Perhaps a typological distinction can also be gleaned from the ratio of the rim diameter and the height of the vessels,³ as well as the types of rims and profiles.

Traunmueller's paper also considers the important issue of accurately dating LM I pottery, given

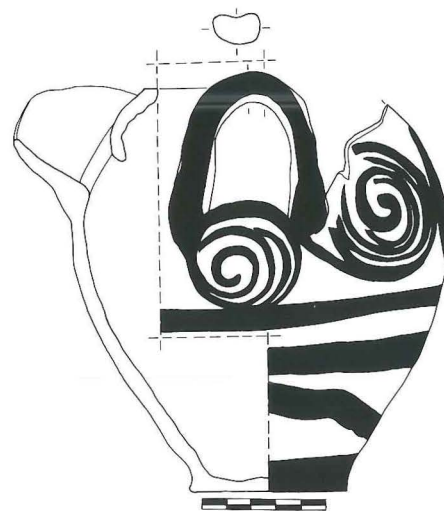


Fig. 2. Bridge-spouted jar HTR 1880; *Complesso*, under the southern wall of Room *b*.

the possibility that vessels stylistically ascribed to LM IA may in fact still have been produced in LM IB. This is one of the main subjects of this conference, and undoubtedly we still need to clarify the chronological relationship between pottery groups which – despite bearing the same name – were probably not contemporary. It is clear that the labels we use, such as final LM IA or early LM IB, can sometimes be misleading. For that reason we need to use deposits from closed contexts with large numbers of intact vessels (such as Room 12 at Zominthos) as reference marks.

The idea that the remote location of Zominthos might explain the presence of “antiquated” vessels in the Central Building is – as Traunmueller rightly points out – theoretical speculation. In the Royal Villa at Hagia Triada, vessels with polychrome dark-on-light decoration were in use together with Marine Style vessels.⁴ Of course, there is a reason for my reference to Hagia Triada. In his *Essai de classification des époques de la civilisation minoenne*, Evans took the well-preserved destruction level at Hagia Triada as a reference mark for LM IB.⁵

² Van de Moortel 1997, 33–81.

³ Gillis 1990, 9.

⁴ Halbherr, Stefani & Banti 1977, 115–6 fig. 79 (ewer C 2972 from the Villa, Room 15), 251 fig. 166 (ewers C 3923–4 from Casa del lebe, Room 3).

⁵ Evans 1906, 9.

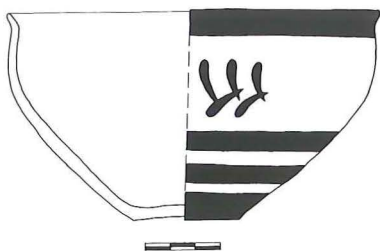


Fig. 3. Cup HTR 1727; *Complezzo*, under the floor of Room *a*.

A cup from Hagia Triada⁶ has spiral decoration that is very similar to the bowl from Seli Kamilari used by Traunmueller as a comparison with the fine jug from Zominthos. Dario Puglisi's paper in this volume reviews the LM IB material from Hagia Triada in general and includes the chronological context of this cup (dated to the final phase of LM IA). Spirals of the same type are also common on cups found at Phaistos and Kommos.⁷ A double frieze of spirals (though of a different type from those on the Zominthos jug) is also seen on jugs from Phaistos and Hagia Triada.⁸ At the latter site, the version is certainly the work of an inexperienced painter (i.e., certainly not a forerunner of Euphronios or other Attic painters!),⁹ but it may also be an indication that this decoration with a double sequence of spirals (in this case without a horizontal dividing band) was quite common on jugs, at least in LM IB. The same date can be assigned to another jug (Fig. 1), found at Hagia Triada in Room *l* of the *Complezzo della Mazza di Breccia* (hereafter *Complezzo*).¹⁰ On this jug the lower frieze, however, is decorated with unsophisticated tendril scroll rather than running spirals.

The construction of the *Complezzo* can be dated by a bridge-spouted jar of LM IA style (Fig. 2) that was placed in a small pit dug into the bedrock below the southern wall of Room *b* as a foundation deposit.¹¹ A cup discovered beneath the floor of Room *a*, together with a group of older vessels, is perhaps from a later period and again probably formed a foundation deposit.¹² The cup with foliate band decoration (Fig. 3) should be dated to LM IB. The two deposits suggest that the *Complezzo* was built in LM IA and probably underwent some architectural rearrangements during LM IB. The most important of these architectural activi-

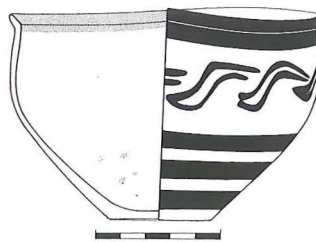


Fig. 4. Bowl HTR 1952; *Complezzo*, Room *h*.

ties was probably the reconstruction in ashlar of the western facade (when Room *a* was built), which flanked the small paved court. The destruction level in the *Complezzo* contains the jug mentioned earlier and several vases that have close parallels to those used in the Villa at the time of its final destruction.¹³ Evidence for storage in the *Complezzo* is provided by the presence of a few pithoi and some oval-mouthed amphorae,¹⁴ but this activity is not particularly well-documented. What is impressive, however, is the large number of painted cups and bowls. The common motifs represented are the lily, the iris framed by double horizontal wavy lines (FM 10A), and quirks (FM 48) (Fig. 4).¹⁵ Unfortunately, very little is known about the cups and bowls discovered in this destruction level of the Villa.¹⁶ The paper by Dario Puglisi in this volume includes a few examples found at the site in levels

⁶ La Rosa 1979–80, 138 fig. 92b (HTR 246).

⁷ Palio 2001a, 301, 305, figs. 46e, 48g (F 3789 and 3762); Watrous 1992, 5, fig. 13 (no. 84).

⁸ Palio 2001a, 301, 370, fig. 46f (F 3787 from Phaistos Chalara).

⁹ La Rosa 1989a, 87, pl. XVIIIb; Puglisi 2006, 113–4 and Puglisi in this volume.

¹⁰ For preliminary reports and studies on the LM I *Complezzo*, see La Rosa 1992–3; La Rosa 2000; and Militello 2000.

¹¹ La Rosa 1992–3, 145, fig. 37.

¹² La Rosa 1992–3, 155–6, figs. 68–71.

¹³ See, for example, the tall basins in Halbherr, Stefani & Banti 1977, 172–3 fig. 111 (Villa, Room 72) and La Rosa 1992–93, figs. 65–6 (*Complezzo*, Room *a*).

¹⁴ La Rosa 1992–93, 142 figs. 30–1, 153 fig. 56.

¹⁵ Less common are vases in the so-called “Floral Paneled Style” identified by Rutter 2004, 73–7 (cf. Rutter & Van de Moortel 2006, 443). One cup and a large jug fragment from Rooms *b* and *g* (La Rosa 1992–3, figs. 35, 93) could originally have belonged to a single set.

¹⁶ Halbherr, Stefani & Banti 1977, 109 mention a cup from Room 46 that is probably decorated with quirks.

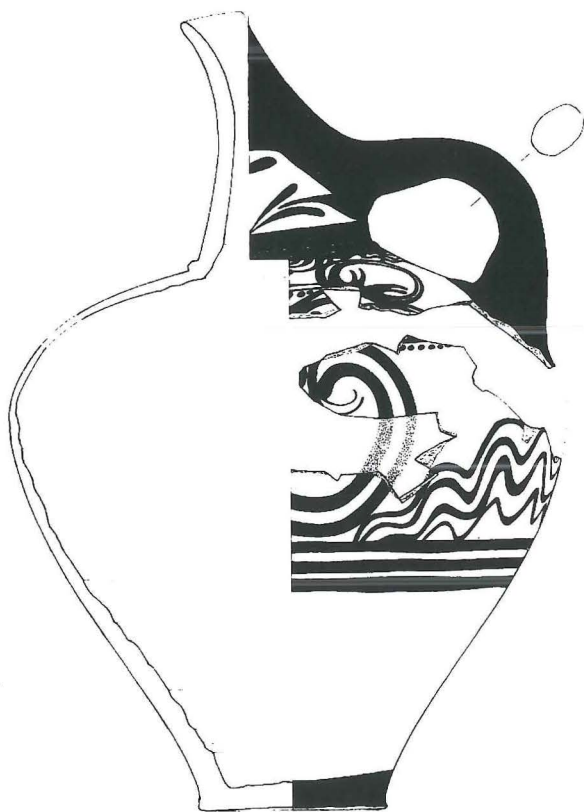


Fig. 5. Jug HTR 1984; *Complesso*, Room i.

contemporary with this dramatic event in the settlement's history (i.e., in LM IB).

Despite the many fine vases with painted decoration, it is worth noting that the *Complesso* does not contain any examples of the Marine Style (or, more generally, of the Special Palatial Tradition¹⁷). Moreover, some vases found in the *Complesso* do not have close parallels in the destruction level of the Villa and thus raise certain chronological problems that we should consider. In particular, I am referring to the small number of cups and bowls with pendent semicircles (or loops) below the rim and an elaborately decorated jug (Fig. 5).¹⁸ A similar complex decorative scheme is also seen on the so-called "movable altars" which were found in the *Complesso* and in use in its final phase (Fig. 6).¹⁹ To my knowledge, this is a pottery shape that is only found in this part of Crete. There is one MM example from Phaistos, seven from Hagia Triada (five of which were found in the *Complesso*) and another from Patrikies.²⁰ The *Complesso* also contained a

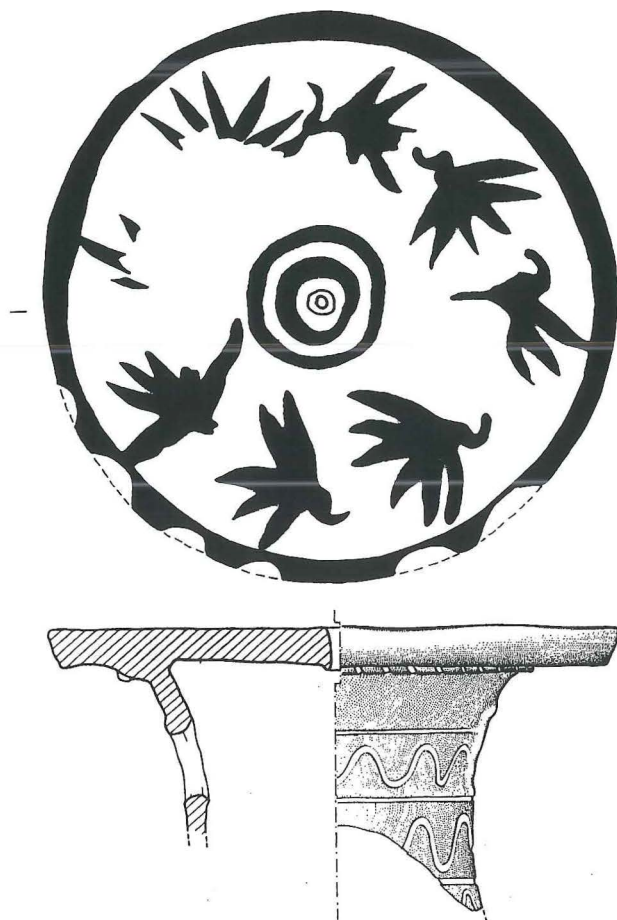


Fig. 6a-b. "Movable altar" HTR 2462; *Complesso*, Room n. Scale 1:4.

¹⁷ Betancourt 1985, 140–8.

¹⁸ La Rosa 1992–3, 160 fig. 80. For a comparison for this beautiful jug, see Pernier & Banti 1951, 116–7 fig. 64 (Phaistos, Palace, Room 11). Both jugs are decorated with a foliate band on the neck and with more elaborate motifs on the body.

¹⁹ For a cult function, see La Rosa 2000. It should be noted that the "movable altars" found in the *Complesso* are very different from the bar stools found in the Villa (Halbherr, Stefani & Banti 1977, 131, 135, 149) as well as in the Palace at Phaistos (Pernier & Banti 1951, 91 fig. 46.) There is painted decoration on the upper side of the object; and two are also decorated on the body. For a different interpretation of the Phaistos and Hagia Triada bar-stools, see Hitchcock 2000.

²⁰ To the five from the *Complesso*, published by La Rosa 2000, one can add an MM example found in Room XXVI of the Palace at Phaistos (Pernier 1935, 307 fig. 182) and two more fragments from Hagia Triada (Puglisi 2006, 384–7); the fragment from Patrikies (personal observation) is not yet published. I thank I. Morabito for permission to mention it.

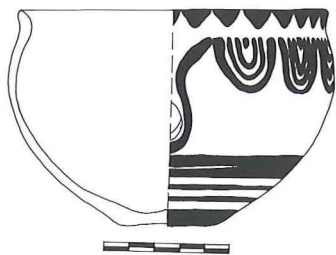


Fig. 7. Cup HTR 2248+2802; various locations, north of *Complesso*.

few sherds that appear to date later than LM IB and earlier than LM III. They include a cup (Fig. 7) that finds comparisons in the Unexplored Mansion at Knossos.²¹ These sherds should be dated to a very late LM IB stage (the post-destruction Villa at Hagia Triada identified by Puglisi²²).

The scarcity of painted pottery in the Zominthos ceramic assemblage perhaps should be compared with the situation in the Rural Villa excavated by D. Levi at Kannia near Mitropolis.²³ Here, as at Zominthos, cult activities took place in LM I; nevertheless, its main function was perhaps storage, as indicated by the presence of more than 50 pithoi. There are very few cups and bowls among the fine pottery with painted decoration, which includes bridge-spouted jars and the cup-rhyta. The analysis of the pottery found at Kannia, which is still at a very early stage, has identified at least one Marine Style sherd (Fig. 8). I should also mention the presence of an LM II goblet fragment that was found in the collapse just west of Room 22. The older Minoan material at the site probably is connected with the first use of the Villa, which was built by cutting deeply into a thick Neolithic level.²⁴ This material contains bridge-spouted jars with light-on-dark decoration and a Vapheio cup.

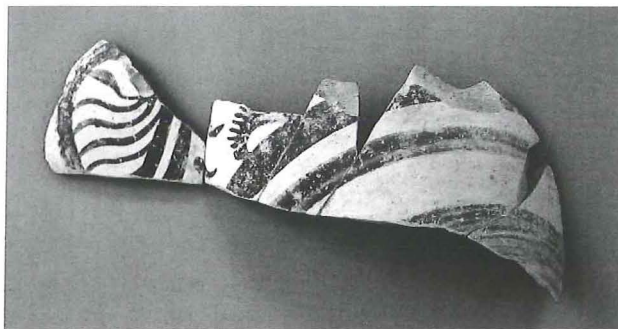


Fig. 8. Marine Style sherd from the excavation of the Minoan Villa at Kannia.

Apart from chronological reasons, the variation in the composition of the ceramic assemblages found in the destruction levels of Room 12 of the Central Building at Zominthos, the *Complesso* at Hagia Triada, and the Rural Villa at Kannia is probably due to the different functions performed by these buildings. Nevertheless, a comparison between them is undoubtedly very useful in helping us to understand better the characteristics of local pottery production during LM I and the span of time between the advanced phase of LM IA and the end of LM IB.

²¹ Popham 1984, pl. 148:4 (no. N 43). Similar cups from the Stratigraphical Museum Excavations at Knossos are presented by Warren in this volume.

²² Puglisi 2006 and Puglisi in this volume; see also Rutter in this volume.

²³ Levi 1959. I thank the director of the Italian Archaeological School at Athens, Prof. E. Greco, for permission to study the material found during the excavations carried out by Levi in 1958.

²⁴ Levi 1959, 242; Vagnetti 1977, 1–5.

Discussion

Warren Briefly, this was certainly a very excellent presentation together with extremely useful comments from Nicola [Cucuzza], but I think Zominthos surely will be a case where we will have the answer from the excavation of more rooms. After all, we are looking at one room out of forty with very, very interesting material and the tantalizing possibility that the jug from Room 18 could indeed be LM IB. That very loose style of red is what happens in LM II and this looks as though we are near the beginning of that. But it's only a single piece and I'm sure that some of the other rooms will give a clear indication of whether Zominthos really is LM IB, as Nicola is perhaps implying.

Kanta A very interesting group from Zominthos. I was struck by the great similarity of this material with that from Nerokourou at Khania. Especially the larger ones (I will not call them conical cups), the rounded type, they are very, very similar indeed. And I think I showed many, many years ago that the Nerokourou material is definitely LM IB in date. I think the Zominthos material is definitely LM IB, I may be wrong, but that is my impression. It is one thing to judge the style, and another the date. I think you were right when you said, and Nicola also, that some trends continue and when you have "more provincial" sites, or for reasons of preservation, or whatever, you don't get the fine, easily datable pieces, Marine or otherwise. It does not mean that the assemblage does not date to LM IB. Look at Nerokourou and you will see why I dated it to IB.

Niemeier I also would like to thank Sebastian Traunmueller for this very clear and systematic paper, and I agree, of course, with Peter that we have to wait for the entire assemblage. Nevertheless, I am convinced that what we have seen up to now of the pottery is developed LM IA. A long time ago (1980), I tried to investigate this problem in an article in the *Jahrbuch* of the German Archaeological Institute, when the discussion about the date of the Thera eruption and whether or not it is connected with the destruction of the Minoan palaces was still a very hot debate. In that discussion, I remember, there was a very simplified terminology used by many people, such as LM IA Plant Style, LM IB Marine Style, even after Sinclair Hood had shown with his Royal Road excavation (but before Furumark) that there is something else between the Marine Style and (as I would prefer with Phil Betancourt) the Special Palatial Tradition, that there is a continuity of LM IA style. There I tried to put together all that we had, all the LM IA deposits and all the LM IB deposits with Sub-LM IA (or, I prefer also Phil's term Standard Tradition); there were not many at that time. One of the most important publications at that time was Nicolas Coldstream's *Kythera*. It was one of the first systematic publications of LM IA and LM IB pottery. And I also found out that there are such tendencies, as Athanasia Kanta mentioned, and also Peter [Warren], including more hastily painted spirals, which are isolated from each

other. We have seen the one vessel with the reed pattern also with isolated loops, but I found out, unfortunately that these tendencies start already by LM IA. And my conclusion at that time was, and still is, that with a single vase or sherd you can't establish a date. You need, as Sebastian said, a whole deposit in a clear stratigraphical sequence. So, with spirals, single sherds with isolated spirals or loose reed decoration, I think you can't argue a date. This can still be LM IA.

Macdonald Just two or three points. First of all, I think it is really important that Zominthos is an example of a site with a destruction which is, without a doubt, caused by earthquake. It's a historical destruction, if you like, within Cretan history; it's not just something that happened and we can put it wherever we want. It has to be at a point where earthquakes happen in the chronology. So, perhaps for some this could be LM IB or for others it would have to be LM IA. Interestingly, and Carl Knappett was pointing out one or two things regarding the rather large number of early elements which exist in this pottery, not only amongst the quite correctly termed handleless cups, but also the great ewer with added red decoration, which could even now, as Carl pointed out, be as early as MM IIIA. With all that together I would be inclined to agree with Wolf [Niemeier] on this one. However, just as a parting shot, the bowl-like firebox, the bowl with the added firebox in the middle, which Maria [Vlazaki] also pointed out at Khania, I was wondering: 1) if it was burnished; 2) are there any examples of these from LM IA contexts? Because I only know of them from LM IB contexts

Traunmueller Concerning the bowl-like firebox, you asked whether it was burnished or not. It is not burnished. And, no, I haven't found any parallels from LM IA contexts, so I am not quite sure what to do with it.

Rethemiotakis It appears to me that Zominthos has a complex architectural history. Some vases that you illustrated (e.g., these straight-sided cups) are certainly MM III, not LM IA. Some of them even have grooves, and this is a feature of the early phase of MM III, MM IIIA perhaps. The following may have happened: we may have some rooms that were in use until the final stage of the building, whatever it may be, LM IA or much later, and others that were no longer functioning. This is something that happens. As an excavator I have experience of this. I will have time in the afternoon to present some arguments about this especially regarding Kastelli, where we have in the same building rooms that were used in LM IA and others that continued down to LM IB. And also the same happens at Galatas where MM III and LM IA are found in the same building, rooms that continued to function and others that went out of use, and some remained in use until the final stage of the building. I think that large buildings like this are easy to understand even if they have a complex history in time. It is not unexpected perhaps to find a vase which seems to be more developed than others which are certainly earlier.

Traunmueller I am aware of that problem, but from what we know so far, the entire complex at Zominthos seems to have been destroyed at one point in time. I was also surprised by the numerous early elements that the pottery showed, as Colin Macdonald just stated.

- Rethemiotakis** I am speaking about MM III, not this vase, whatever it is, LM IA or LM IB. I am speaking about the material you illustrated, that much of it seems to be MM III, not LM IA.
- Traunmueller** I understand and I also initially would have liked to date the whole complex earlier than I did today. But, especially the comparison with the material from the kiln at Kommos and admittedly fewer seemingly later pieces, actually made me change my mind towards a later date. But, I totally agree, there are several pieces that seem to be rather early, even earlier than LM IA.
- B.P. Hallager** Well, I want to return to Peter's question about excavations in the other parts of the Villa, and not only in the pottery workshop. When we were there with the Minoan Seminar, the excavators told us explicitly that the whole Villa was destroyed in IA and there was no sign of any IB. So I thought there were no problems.
- Traunmueller** Yes, but that was probably because none of the students that showed you around in Zominthos knew the pottery well.

LM IB pottery from the colonies.

Hagios Georgios sto Vouno, Kythera^{*}

Iphigenia Tournavitou

Well-defined and closely dated stratigraphical sequences on peak sanctuaries are an elusive phenomenon. Hagios Georgios sto Vouno is no exception to this rule. The topography of the peak sanctuary, and most importantly, the continuous use of the site, even in the post-Byzantine era, has played a critical role in creating the current picture of stratigraphic discontinuity and disturbance. As a result, sealed Neopalatial deposits are extremely rare, and sealed LM IB deposits are simply non-existent. The vast majority of material from the Minoan peak sanctuary was actually found scattered in a very fragmentary condition at various locations on the seven successive terraces of the southern slope of the mountain (Fig. 1).

Although the recorded stratigraphy of the site has not revealed what one would normally describe as closed Minoan deposits, in over 56% of the deposits,¹ the post-Minoan disturbance was relatively minor, ranging between 0.14–19.94%. In fact, in just under 60% of the latter,² the post-Minoan pottery did not exceed 10% of the recorded material.³ Twenty-seven of these 34 deposits have been identified as Primary Depositional Locations (PDLs), taking into consideration the degree of post-Minoan disturbance, the close proximity of the deposit to bedrock, and the number of intact ceramic vessels recorded therein. The remaining deposits (26 of 60) have been divided into two broad categories, those in which the Minoan pottery, though heavily diluted, still comprises the majority of the extant material⁴ and those in which the post-Minoan pottery is predominant.⁵

Due to the lack of well-sorted and sealed stratigraphical sequences, the study and the dating of the extant pottery relied heavily on stylistic criteria and

comparative typology, particularly with the stratified ceramic material from the Minoan colony at Kastri. Beyond the island of Kythera, stylistic and typological parallels were drawn from Minoan centers on Crete and Minoanizing settlements on the mainland and the Cyclades.

For this assessment of the extant LM IB pottery from the sanctuary, the author used the following criteria when selecting examples. Emphasis was given to the least disturbed deposits, the most securely datable shapes/shape categories, the most representative and interesting items in these categories, and in some cases, perversely perhaps, the most intriguing items in the pottery groups.

The vast majority of the extant material from the sanctuary (99.49%) was found in a very fragmentary condition. During the Neopalatial period, from which most of the extant pottery at the site (99.67%) dates, the sanctuary reaches its *first* and *only real peak* within the Bronze Age. This period,

^{*} I would like to thank Y. Sakellarakis for the opportunity he gave me to take part in the excavation of the peak sanctuary at Kythera and for the permission to study and publish the Bronze Age pottery from the site.

¹ In 34 of the 60 extant deposits.

² 58.82%.

³ Post-Minoan disturbance ranging between 1–3% is found in nine deposits (26.47% of the deposits). Disturbance ranging between 4–10% is found in 11 deposits (32.35% of the deposits). The four deposits with really low disturbance levels, close to 0%, were actually located in two different areas, on Terrace 2 at the top of the hill (0.14%) and on Terrace 7, the lowest terrace on the southern slope (0.13%, 0.35%, 0.75%).

⁴ In 18.33% of the deposits, the Minoan pottery makes up 51–80% of the material.

⁵ In 25% of the deposits, the post-Minoan pottery comprises 50–100% of the material.



Fig. 1. Plan of the peak sanctuary at Hagios Georgios sto Vouno.

which also coincides with the peak of Minoan activity overseas, witnesses a dramatic increase, not only in the volume of the ceramic assemblage, but also in the range of shapes and styles present. It is also during this period that the majority of local idiosyncrasies in style are attested, idiosyncrasies which set the site apart, not only from the big metropolitan centers in Crete, but also from the Minoan colony at Kastri.

Although the extant Neopalatial material includes 27 different types of vessels, two specific shapes, the handleless conical cup⁶ and the tripod cooking pot,⁷ are predominant, comprising a staggering 97.97% of the recognizable shapes at the sanctuary (Table 1). Together, the remaining 25 shapes represent a meager 2.02% of the total, with the most popular shapes being the straight-sided cup (0.93%) and the miniature juglet (0.56%) (Ta-

ble 1). In the Neopalatial material, the author also recorded 22 different decorative themes (Table 2). The vast majority of the vessels (98.72%), unfortunately, belong to two non-diagnostic categories, plain and monochrome,⁸ and it is only the remaining 1.27% that can be described as stylistically diagnostic. This small, but nevertheless very important, group of material, is dominated by vases with dark-on-light linear decoration (34.08%), followed by vases decorated with floral motifs (10.90%), ripple decoration (7.84%), which at Kastri is attested during the transitional MM IIIB/LM IA and early LM IA periods, and spiral decoration (7.48%) (Table 2).

⁶ 90.91% of the recognizable shapes.

⁷ 7.05% of the recognizable shapes.

⁸ Plain and monochrome vessels comprise 88.69% and 10.03% of the extant material respectively.

Table 1. Neopalatial pottery corpus–frequency.

SHAPES	NUMBER OF ITEMS	PERCENTAGE
Handleless conical cups	165,114	90.91%
Tripod cooking pots	12,819	7.05%
Straight-sided cups	1,690	0.93%
Juglets	1,021	0.56%
Bridge-spouted jars	202	0.11%
Jugs/amphorae	188	0.10%
Pithoid jars	167	0.09%
Semiglobular cups	113	0.06%
Rhyta	53	0.029%
Dishes/trays	50	0.027%
Braziers	42	0.023%
Pithoi	40	0.022%
Lids	23	0.012%
Cup-rhyta	14	0.0077%
Palace Style jars	13	0.0071%
Kalathoi	13	0.0071%
Basins	11	0.006%
Bowls	9	0.0049%
Stemmed cups	8	0.0044%
Miniature tripod vessels	7	0.0038%
Vessels with perforations	5	0.0027%
Fruitstands	5	0.0027%
Composite vessels	4	0.0022%
Vessels with plastic decoration	3	0.0016%
Miniature bird's nest bowls	2	0.0011%
Stands	1	0.0005%
Stirrup jars	1	0.0005%
TOTAL:	181,618	100%

The pottery that can be safely assigned to the LM IB period represents a truly meager proportion of the Neopalatial material (0.05–2%), and examples were selected primarily from the typologically

Table 2. Neopalatial decorative repertoire.

DECORATION	NUMBER OF ITEMS 195,372	PERCENTAGE
Plain vases	173,282	88.69%
Monochrome decoration	19,605	10.03%
Remaining shapes	2,485	%
Linear decoration	847	34.08%
Striped decoration	667	26.84%
Floral decoration	271	10.90%
Ripple	195	7.84%
Spirals	186	7.48%
Polychrome decoration	97	3.90%
Dotted decoration	58	2.33%
White-on-dark decoration	33	1.32%
Geometric motifs	30	1.20%
Trickle decoration	19	0.76%
S-shaped motifs	17	0.68%
Circles	15	0.60%
Marine Style	9	0.36%
Net pattern	7	0.28%
Diamond-shaped motifs	6	0.24%
Quirks	5	0.20%
Plastic decoration	5	0.20%
Scales	4	0.16%
Stippling	4	0.16%
Figured decoration	2	0.08%

less ambiguous categories of shapes.⁹ All of the typologically and morphologically non-diagnostic or less diagnostic categories, such as tripod cooking pots, miniature juglets, pithoi, basins, kalathoi, braziers, strainers, and various types of miniature vessels, as well as most of the miscellaneous examples

⁹ Apart from the 96 securely dated examples, the sum total of the LM IB material was probably much higher with the addition of items from the more typologically ambiguous categories of shapes.

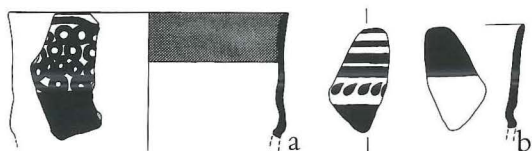


Fig. 2. Vapheio-type cups: a) K182; b) K179.

arranged by decorative theme, have been excluded. The vessel types most intimately associated with the LM IB period at Hagios Georgios sto Vouno are straight-sided cups, semiglobular cups, stemmed cups, bowls, Palace Style jars, rhyta, cup-rhyta, and miscellaneous sherds with Marine Style decoration, as well as a limited range of individual examples from the remaining categories.

Although the *straight-sided cup* is the second most popular type of cup in the sanctuary and is represented by no less than 1,711 fragmentary examples (almost twice the number attested at the settlement of Kastri¹⁰), the vast majority of the material (94.33%) falls outside the scope of this paper, since it belongs to monochrome and polychrome straight-sided cups of the MM tradition without a midrib. At Kastri this type of straight-sided cup is a minority (23.40%), and it is not clear whether or not it continues during the LM IB period.

The LM I material at the sanctuary includes a surprisingly small number of *Vapheio-type cups* – only 25 examples. The overwhelming majority (mostly rims and body fragments, all of which preserve evidence for the existence of a midrib¹¹) carry dark-on-light decoration.¹² At Kastri, Vapheio-type cups with a midrib appear later than on Crete, in LM IA,¹³ and gradually disappear during the LM IB period.¹⁴ Although the fragmentary state of the material from the sanctuary does not always permit the precise identification of vessels according to the typological classification of Coldstream and Huxley, it seems that the vast majority of the extant examples belong to their Types I and II, dated in the early and mature stages of LM IA.¹⁵ The only example that can be safely dated to the LM IB period (K182) (Fig. 2a) features stone pattern in the zone above the midrib,¹⁶ while the single example with floral decoration (K179) (Fig. 2b), and more specifically, a stylized version of the foliate band, belongs to the decorative tradition of LM I, but could be

dated to either half.¹⁷ None of the recorded examples contained a monochrome interior, which was common in the Minoan pottery tradition.¹⁸

To the same broad category of straight-sided cups belong two additional groups of sherds with LM I dark-on-light decoration. The first group includes 36 examples,¹⁹ the form and decora-

¹⁰ At Kastri ca. 94 examples of straight-sided cups were recorded.

¹¹ Rim d. 9–11 cm; base d. 6–7 cm.

¹² The decorative repertoire is on the whole similar to that attested in the Kastri material, but more varied than that attested at Knossos and at Hagia Eirene on Kea (Catling, Catling & Smyth 1979, fig. 27.186; Warren 1991; Popham 1984; Cummer & Schofield 1984, 142). Two examples (K183, K193) probably belong to the MM tradition.

¹³ Coldstream & Huxley 1972, 284–5, ζ8–16 (LM IA), η1–19 (LM IA), θ1–6 (LM IA), ι1–6 (LM IA–B), κ1 (LM IA–B), λ1–2 (LM IA–B), μ26–7 (LM IB), ξ107α (LM IB). The three exceptions, a single example dated to the MM IIIB period (Coldstream & Huxley 1972, 280, ζ6) and two from Tombs D2–3, alleged to be MM IIIA imports, only serve to confirm the rule. A similar phenomenon is attested at Hagia Eirene on Kea, where Vapheio-type cups with a central rib are not recorded before LM IA (Overbeck 1989, 13; Davis 1986, 81, 86; Cummer & Schofield 1984). Vapheio-type cups are the most popular shape category in Messenia, especially during the LH I period (Mountjoy 1999, 315), as well as in Laconia and the rest of Greece, both during the LH I and the LH IIA periods (Mountjoy 1999, 253, 306, 315). At Hagios Stephanos in Laconia, Vapheio-type cups appear earlier than at Kastri (Hagios Stephanos, period III, MM IIIB/LM IA) (Rutter & Rutter 1976, 43, 45, ill. 13.433–5).

¹⁴ Coldstream & Huxley 1972, 284–5, 289, 293.

¹⁵ Coldstream & Huxley 1972, 284–5; Mountjoy 1986, 15.

¹⁶ The closest parallels at Kastri are assigned to the LM IB period (Coldstream & Huxley 1972, ξ150, ω280, D25). During the LM IA period, the same motif is only attested as spiral fill (Coldstream & Huxley 1972, η9, ω76). At Hagia Eirene on Kea and at Knossos it is also attested against a dotted background (Cummer & Schofield 1984, pls. 51c–LM IB; 50.243–LM IB; Popham 1984, pl. 143.9–MM IIIB/LM IA).

¹⁷ Similar, but not identical, examples are attested at Kastri (Coldstream & Huxley 1972, θ2–LM IA, ω189, ω259–LM IB), while stylized versions of the motif are also attested in Crete (Bernini 1995, fig. 13.60–LM IA), on the mainland (Mountjoy 1986, fig. 34.3–LH IIA), and at Hagia Eirene on Kea (Cummer & Schofield 1984, pl. 53.o–LM IB).

¹⁸ Monochrome interiors are also not attested in the Kastri material, where the interior rim band is considered a local characteristic and a sign of mainland influence (Coldstream & Huxley 1972, 289).

¹⁹ Twenty-six rims and ten bases (rim d. 4–16 cm; base d. 5–8 cm).

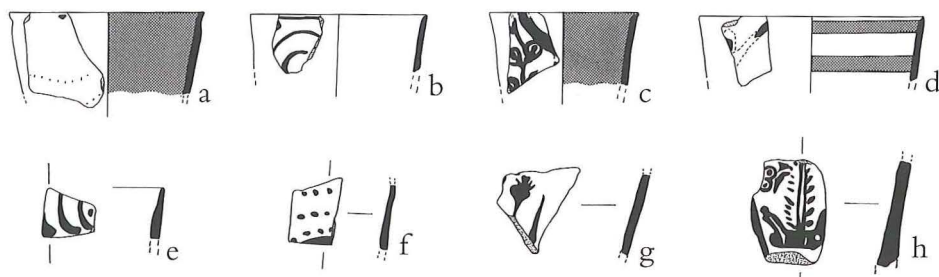


Fig. 3. Straight-sided cups: a) K206; b) K207; c) K204; d) K208; e) K211; f) K237; g) K234; h) K238.

tive syntax of which suggest that despite the apparent absence of any actual traces of a midrib, they probably also belong to Vapheio-type cups. Among cups with an exterior rim band, a feature of LM IA Early Vapheio-type cups at Kastri,²⁰ one example (K206) (Fig. 3a) is decorated with curving dotted lines, typical of LM IB at Kythera and at Hagia Eirene on Kea,²¹ while another (K207) (Fig. 3b) features a thin running spiral, a motif also attested during the LM IB period at Kastri.²² Among cups without an exterior rim band, a characteristic of the mature stages of LM IA at Kastri,²³ one fragment (K204) (Fig. 3c) preserves part of a floral composition which covered the entire surface of the vase (typical of LM IB at Kythera),²⁴ while two others (K208, K211) (Fig. 3d, e) are decorated with foliate bands pendent from the rim, also typical of LM IB at Kythera and at Hagia Eirene on Kea.²⁵ On the whole, judging by both the pottery from the sanctuary and the published material outside Kythera, it seems that the chronological validity of the presence or absence of an exterior rim band for the dating of straight-sided cups, as exemplified by Coldstream and Huxley for the Kastri pottery,²⁶ is seriously challenged by the remaining material from the sanctuary. Monochrome interiors comprise only a small minority of the material.²⁷

The second group of sherds, 11 body fragments, many with handles but without traces of a midrib, is one of the more problematic elements in the category of straight-sided cups. The definite or probable absence of a midrib, combined with the presence of decoration fully consistent with the LM I repertoire, contradicts the stipula-

tions set out for the Kastri material, according to which all extant LM I straight-sided cups at Kythera were provided with a midrib.²⁸ If this entire group of straight-sided cups was indeed not provided with a midrib, as was the custom for the majority of extant examples at Hagia Eirene on Kea, then they represent a heretical element in the Kytherean ceramic repertoire of shapes, attested for the first time on the island. Similar vessels at Knossos and at Hagia Eirene on Kea are

²⁰ Coldstream & Huxley 1972, 289. On the mainland this feature is typical of the earlier Type I Vapheio cup (Mountjoy 1999, 315).

²¹ Coldstream & Huxley 1972, 297, μ 23, ν 23, ν 28 (LM IB), ω 126, ω 128 (LM IB); Cummer & Schofield 1984, pls. 48.180, 74.1153, 75.1164 (LM IB).

²² Coldstream & Huxley 1972, ι 20, ω 60 (LM IA), ω 100 (LM IB). The same motif is also attested on a miniature semiglobular LH I cup from Hagios Stephanos in Laconia (Mountjoy 1999, fig. 82.14).

²³ Coldstream & Huxley 1972, 289. On the mainland this feature is typical of the Type II Vapheio cups (Mountjoy 1999, 315).

²⁴ Coldstream & Huxley 1972, 298–9, ξ 1–4, ξ 8–9, ξ 112 (LM IB). A similar composition, with larger leaf-shaped motifs, is depicted on another example (K219) which is also dated to the same period.

²⁵ Coldstream & Huxley 1972, μ 19–20 (LM IB) – mostly attested on semiglobular cups and never on Vapheio-type cups. At Hagia Eirene on Kea, pendent foliate bands are attested on local straight-sided cups (Cummer & Schofield 1984, pls. 54d, 62.821, 822–LM IB). K215 probably illustrates an LM I version of the foliate band in a horizontal arrangement, but it lacks exact parallels from the settlement.

²⁶ Coldstream & Huxley 1972, 289.

²⁷ Seven of the 26 rims and one of the ten bases.

²⁸ Coldstream & Huxley 1972, 283. The only exception (ω 96) was considered a mainland import.

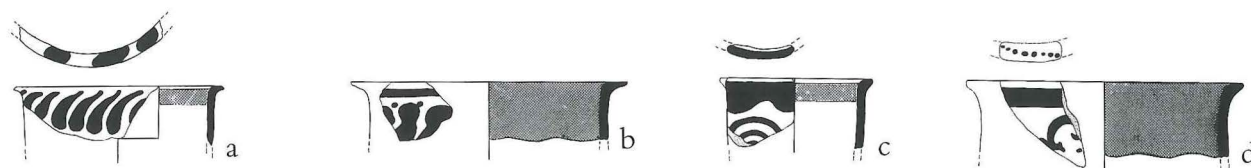


Fig. 4. Straight-sided cups with everted rim and cylindrical walls: a) K243; b) K250; c) K245; d) K246.

dated to the transitional MM IIIB/LM IA period and within LM I.²⁹

Only three examples from this group can be dated within the LM IB period, two with floral decoration (K234, K238) and one decorated with dotted lines (K237). The last (K237) (Fig. 3f) seems to fit with the stylistic tendencies of LM IB at Kythera.³⁰ One of the other examples (K234) (Fig. 3g), bearing a naturalistic composition of crocus flowers, fully exemplifies the spirit of the LM IB period at Kythera,³¹ while the third (K238) (Fig. 3h), depicting a naturalistically rendered foliate band possibly placed between stylized horns of consecration, can be dated within the mature LM IA or LM IB tradition.³² It is worth noting that only three of the extant examples in this group were provided with a monochrome interior in accordance with the Minoan ceramic tradition.³³

Although the total number of Vapheio-type cups with midrib and LM I dark-on-light decoration from the sanctuary is small (25 examples – far fewer than that recorded at both the settlement of Kastri [65 examples] and at Hagios Stephanos), this type of cup, along with the semiglobular cups with mostly light-on-dark decoration, comprises the majority of the Minoanizing pottery on the site during the MM IIIB–LM I periods.³⁴ At Hagia Eirene on Kea, though the majority of the so-called Vapheio-type cups lacked a midrib, the decorative choices in the LM IA–B material were similar to those at the sanctuary.³⁵ Similar examples are also attested at all the major centers on Crete.

Finally, six of the 22 extant examples, belonging to a different version of the straight-sided cup, with an everted rim, almost cylindrical walls³⁶ and LM I dark-on-light decoration, can be assigned to the LM IB period. Two of them (K243, K250) (Fig. 4a, b) bear floral decoration typical of the local LM IB repertoire (a single pendent or reversed foliate

band),³⁷ while another (K245) (Fig. 4c) is decorated with a thin running spiral. A fourth sherd (K246) (Figs. 4d; 21h) with Marine Style composition (trefoil ornament), also of the LM IB period, is perhaps an example of an Alternating Style composition.³⁸ Marine Style motifs were commonly employed at Kythera, along with other isolated motifs, in Alternating Style compositions.³⁹ The only, albeit

²⁹ Warren 1991, fig. 9.H, I (MM III/LM IA); Popham 1984, pl. 143.2 (MM IIIB/LM IA); Catling, Catling & Smyth 1979, fig. 23.149, Dep. C (MM IIIB–MMIIIB/LM IA); Cummer & Schofield 1984, pls. 58.581 (LH I–IIA), 62. a–f, 62.821–823 (LM IA), 63.833 (LM IA), 82.1476 (LM IB).

³⁰ Coldstream & Huxley 1972, 297, μ 23, ν 23, ν 28 (LM IB), ω 126, ω 128 (LM IB). Also at Hagia Eirene on Kea (Cummer & Schofield 1984, pls. 48.180, 74.1153, 75.1164–LM IB).

³¹ Coldstream & Huxley 1972, 299, μ 8–9, ξ 81 (LM IB). Similar naturalistic compositions are attested among the Hagia Eirene material (Cummer & Schofield 1984, pls. 80.s, 86.1564–LM IB) and at the Menelaion in Laconia (Catling 1996, fig. 2.1–LM IB).

³² Coldstream & Huxley 1972, 290, η 59 (LM IB), ω 66 (LM IB), ω 212 (LM IA). Similar examples are attested at Hagia Eirene on Kea (Cummer & Schofield 1984, pl. 84.1546–LM IB). The shape resembles the MM IIIA–B straight-sided cups from Kastri (Coldstream & Huxley 1972, ω 28–9, ζ 1–3).

³³ K237, K239, K240.

³⁴ Rutter & Rutter 1976, 43, 53 (periods III, IV).

³⁵ Cummer & Schofield 1984, 142.

³⁶ Rim d. 6–13 cm.

³⁷ Coldstream & Huxley 1972, pendent foliate band: μ 19–20, ξ 34, ω 178, ω 192 (LM IB); reversed foliate band: μ 42 (LM IB).

³⁸ Coldstream & Huxley 1972, 297, ξ 59, ξ 69, ξ 83, ω 127, ω 146 (LM IB). At Archanes, trefoil ornaments were used both as main and as secondary motifs in Marine Style compositions (Sapouna-Sakellari 1988–9, 43–4, pl. 8, fig. 8.17.1, pl. 10, fig. 12.17.2, pl. 14, fig. 16.17.6–LM IB, with more parallels).

³⁹ Coldstream & Huxley 1972, μ 48, ν 34, ξ 81, ω 227–9 (LM IB). The two remaining examples (K244, K251), decorated with a chain motif and a row of successive S-shaped motifs respectively, in narrow decorative zones just below the rim, should also be dated to the same period. For the chain motif,

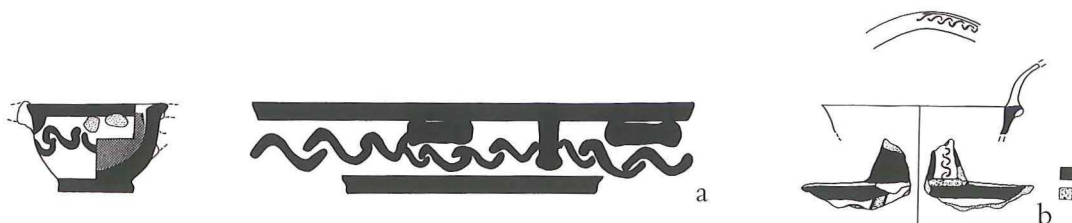


Fig. 5. Semiglobular cups: a) K258; b) K273.

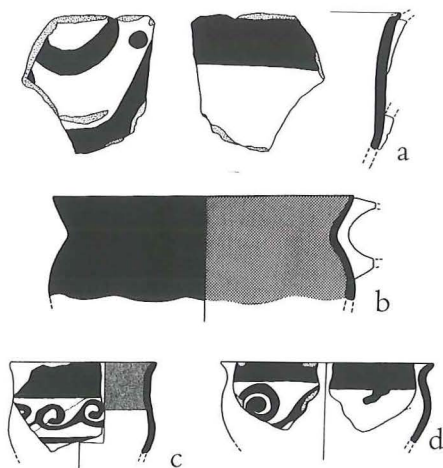


Fig. 6. Semiglobular cups: a) K302; b) K315; c) K271; d) K304.

remote, parallels in the ceramic material from Kastri are the LM IA-IB tumblers, which bear no painted decoration and were mostly found in funerary contexts.⁴⁰

The category of the *semiglobular cup* at the sanctuary is represented almost exclusively by small or miniature examples.⁴¹ Due to the fragmentary nature of the material, the basic criteria for classification are the form of the rim and the semiglobular profile. All the recorded cups were made of fine local clays. The only intact example from the sanctuary is K258 (Fig. 5a), a miniature version of a deep semiglobular cup with a short everted rim.⁴² It is decorated with a row of quirks, which fits perfectly with an LM IB date.⁴³ Similar decoration is attested on the rim and the handle of another cup, in a different variety of the semiglobular shape (K273) (Fig. 5b).

Among the fragments of deep semiglobular cups with an S-shaped profile (29 examples), which at Kythera are attested throughout the Neopalatial period,⁴⁴ we can distinguish two different versions:

the vast majority of the cups (20 examples) feature a slightly S-shaped profile (K302) (Fig. 6a), while nine examples feature a more strongly differentiated S-shaped profile (K315) (Fig. 6b), the latter being the most popular type of cup during the LM I period at Kastri.⁴⁵ The morphological criteria for

see Coldstream & Huxley 1972, 297. This type of decoration is also attested on one of the rhyta from the sanctuary (K816; Fig. 18e), which is not a local product. No parallels can be cited from the material in the settlement. At Hagia Eirene on Kea, a version of a chain motif in an oblique arrangement appears as a secondary decorative element on a piriform rhyton of Mycenaean provenance (Cummer & Schofield 1984, pl. 49.175-LM IB). The same motif is attested on Vapheio-type cups from the mainland (Mountjoy 1986, fig. 8.7-LH I-Hagios Stephanos in Laconia). For the S-shaped motifs, see Coldstream & Huxley 1972, $\omega 244-5$ (LM IB) and Cummer & Schofield 1984, pl. 72.1127 (FM 67-LH IIA).

⁴⁰ Coldstream & Huxley 1972, 285, 294 (only monochrome and plain examples, mostly in tombs). Typological affinities with the pottery from the sanctuary are rather limited.

⁴¹ Miniature cups: 24/114 – 21.05% of the total number of semiglobular cups.

⁴² Similar cups are attested in various sites on Crete. At Knossos it could be stylistically described as a miniature version of the MM IIIB/LM IA handleless conical cups with painted decoration (Popham 1984, pl. 145.4-MM IIIB/LM IA; Catling, Catling & Smyth 1979, fig. 16.2, Dep. A-MM III).

⁴³ At Kythera, the motif, which is attested only during the LM IB period, is relatively rare (Coldstream & Huxley 1972, 297, $\mu 12$, $\omega 99$, $\omega 123$, $\omega 199$ -LM IB). Strangely enough, no examples can be cited from Hagia Eirene on Kea (Cummer & Schofield 1984).

⁴⁴ Coldstream & Huxley 1972, 280, $\zeta 20$ (MM IIIB), $\zeta 24$ (LM IA), $\omega 188$ (LM IB), $\omega 189$ (LM IB), $\omega 173$ (LM IB), $\omega 298$ (LM IB), J1 (MM IIIB), J11 (LM I?).

⁴⁵ Coldstream & Huxley 1972, 185, 293: LM IA ($\zeta 24$, $\eta 21$, $\theta 7-8$, $\omega 74$, $\omega 79$, D4, E8, J2, J5), LM IB ($\chi 9$, $\mu 3$, $\mu 8$, $\omega 100$, $\omega 102$, $\omega 117$, $\omega 122$, $\omega 139$, E2), Bevan *et al.* 2002, figs. 20.245, 13.1 (LM IA). Outside of Kythera similar examples are attested in MM IIIB/LM IA deposits, both on Crete (Popham 1984, pl. 141.3-MM IIIB/LM IA) and at Hagios Stephanos in Laconia (Rutter & Rutter 1976, ill. 12.418).

assigning these cups at Kastri to either LM IA or IB – tall, flaring rim, deep walls and a flat base for LM IA and a shorter rim, more differentiated but shallower walls and a ring base for LM IB,⁴⁶ are entirely supported by the sanctuary pottery.⁴⁷ Although the examples with slightly S-shaped profiles seem to have closer affinities with the Hagios Stephanos material, dated to the MM IIIB/early LM IA period,⁴⁸ the shape itself was also used at Kastri for LM IB cups with in-and-out decoration. Outside of Kythera, similar cups from Knossos, Palaikastro and Hagios Stephanos in Laconia are dated to the transitional MM IIIB/LM IA and LM IA-B periods.⁴⁹

Judging by the extant decoration, only nine examples can be safely dated to the LM IB period. Of these, two sherds (K271, K304) (Fig. 6c, d) are morphologically closer to the LM IA prototypes⁵⁰ and are decorated with thin running spirals in a narrow decorative zone, a simplified version of the single running spiral of late LM IA, which at Kastri is attested during the LM IB period.⁵¹

Floral decoration is attested on three cups (K277, K280, K281)⁵² (Fig. 7a, b, c) in the form of pendent, stylized, horizontal foliate bands, typical of the LM IB period at Kastri and at Hagia Eirene on Kea.⁵³ To the same period belong three more cups (K289, K297, K308)⁵⁴ (Fig. 7d, e, f) with dotted decoration.⁵⁵ Two of these (K297, K308) (Fig. 7e, f) feature a separate decorative zone on the exterior of the rim, which at Kastri is also typical of LM IB.⁵⁶ To the same decorative tradition should also be assigned another example (K307) (Fig. 7g) decorated with vertical S-shaped motifs, which are especially characteristic of LM IB both at Kastri and at Hagia Eirene on Kea.⁵⁷ Only half of this group (14 out of the 29 examples) has monochrome interiors in the Minoan ceramic tradition; the rest are plain or have an interior rim band.

The next category of semiglobular cup⁵⁸ has a short everted rim, a shallow body and a tall strap handle rising above the rim (K290, K318) (Fig. 8a, b); the closest parallels are found, not at LM IB Kastri,⁵⁹ but at the Menelaion in Laconia.⁶⁰ The vast majority of the extant examples (8 out of 10 examples), and especially the two best preserved vessels (K290, K318) (Fig. 8a, b), are in perfect

⁴⁶ Coldstream & Huxley 1972, 285, 293.

⁴⁷ According to these stipulations, only three recorded examples can be safely placed within the LM IA period (K295, K311, K315) and four in the following LM IB period (K288, K289, K304, K308).

⁴⁸ Rutter & Rutter 1976, ill. 12.413, 415, 427 (period III, Kytherean MM IIIB-early LM IA).

⁴⁹ Catling, Catling & Smyth 1979, fig. 37.257 (LM IB); Popham 1984, pls. 141.4 (MM IIIB/LM IA), 141.2, 6 and generally all cups with tall everted rims; Warren 1991, figs. 10.C (MM IIIB/LM IA), 10.E, F (LM I), 10.I, J (MM IIIB/LM IA); Betancourt 1990, figs. 60.1708, 1723 (MM III), 70.2020, 2028 (MM III/LM IA); Bernini 1995, fig. 10.20 (LM IA); Cummer & Schofield 1984, pl. 30.244 (LM IB). Similar examples are attested both in Laconia and in Messenia during the MH/MM IIIB and the LH I/LM I periods (Rutter & Rutter 1976, ill. 12.414, 416, period III-MM IIIB, LM IA Early; Mountjoy 1999, 258, 314–5, figs. 84.29-Epidauros Limera, 105.5-Pylos).

⁵⁰ K271: Coldstream & Huxley 1972, ω189 (LM IB); K304: Coldstream & Huxley 1972, ζ24 (LM IA), η21 (LM IA), θ7–8, ω74 (LM IA), μ8 (LM IB).

⁵¹ Coldstream & Huxley 1972, 126, 187, 193, 297, κ9, ω100 (LM IB); Sackett & Popham 1970, fig. 13.55 (LM IB); Cummer & Schofield 1984, pl. 57.514 (LM IB).

⁵² Judging by the material from Kastri and Hagios Stephanos in Laconia, all of them belong to the less differentiated version, with parallels found in both the MM IIIB and LM IB periods (K277, K280: Coldstream & Huxley 1972, J1-MM IIIB, ω298-LM IB).

⁵³ Coldstream & Huxley 1972, μ19–20, ν20–1, ξ33–5, ω166. Similar foliate bands at Hagia Eirene on Kea are also dated to the LM IB period (Cummer & Schofield 1984, pl. 30.244).

⁵⁴ Coldstream & Huxley 1972, 297, ν23, ν28, ω126 (LM IB). Two of them (K289, K308) belong to the more differentiated version and the third (K297) belongs to the first version. At Kastri, similar examples are attested both in the MM IIIB and LM IA-B periods (K289, K297: Coldstream & Huxley 1972, ζ24-LM IA, ω126-LM IB, ω173-LM IB; K308: ω79-LM IA, D4-LM IA, E8-LM IA, J2, 5-LM IA, μ3-LM IB, ω100-LM IB, ω102-LM IB, ω117-LM IB, E2-LM IB).

⁵⁵ Dotted decoration is very popular at Kastri during the LM IB period (Coldstream & Huxley 1972, 297). A similar phenomenon is attested at Hagia Eirene on Kea (Cummer & Schofield 1984, pls. 48.180, 74.1153, 75.1164, 77κ, 77.1222κ, 80.1340, 86.1560β).

⁵⁶ Coldstream & Huxley 1972, 293. K308: μ2, ξ72, ω131, ω140 (LM IB); Cummer & Schofield 1984, pls. 48.180, 74.1153 (LM IB). K297: κ9, ω130, ω194 (LM IB).

⁵⁷ Coldstream & Huxley 1972, 29, ν24, ξ74 (LM IB); Cummer & Schofield 1984, pl. 55o (LM IB), also note the popularity of S-shaped motifs on rhyta and cup-rhyta.

⁵⁸ Ten examples.

⁵⁹ Coldstream & Huxley 1972, ω175–6 (LM IB), J7 (LM IB). Similar examples with a deeper profile are ι13 (LM IB), ξ1 and ξ16 (LM IB).

⁶⁰ Catling 1996, figs. 2.4 (LM IB, Cretan import), 2.5 (LM II-III A1, import).

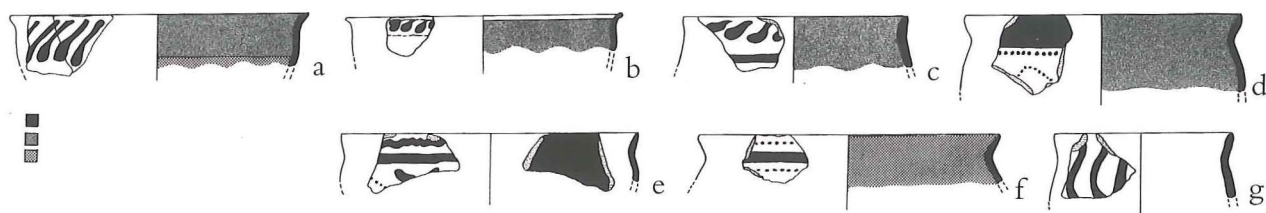


Fig. 7. Semiglobular cups: a) K277; b) K280; c) K281; d) K289; e) K297; f) K308; g) K307.

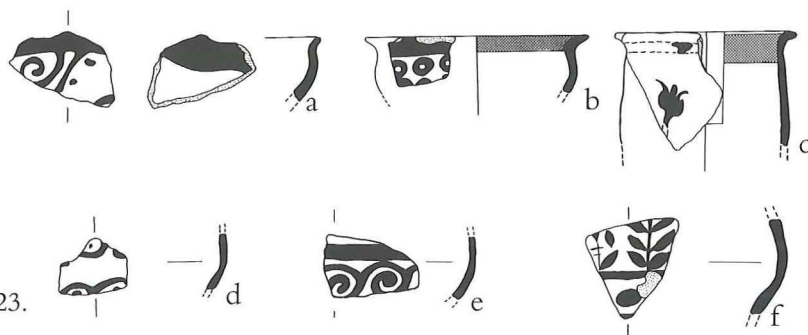


Fig. 8. Semiglobular cups: a) K290; b) K318; c) K274; d) K321; e) K328; f) K323.

agreement with the LM IB idiom.⁶¹ None of these cups has a monochrome interior.

In yet another version of the semiglobular cup,⁶² with deep, almost cylindrical walls, a flat everted rim and with only general affinities to the LM IB morphological idiom, the decorative repertoire is yet again almost exclusively LM I, and especially from the latter part of the period. The most interesting example in this category (K274) (Fig. 8c) features a single crocus flower, perhaps part of an Alternating Style composition.⁶³ Once again, no example in this group preserved a monochrome interior.

Among the selected body sherds,⁶⁴ three examples (K321, K328, K323) (Fig. 8d, e, f), decorated with running spirals and floral motifs, seem to be consistent with the LM IB idiom at Kythera. Of the extant bases,⁶⁵ the majority (12 out of 17 examples) are raised and ring bases, which in Kytherean terms can again be dated in the LM IB period.⁶⁶

Finally, I would like to make special mention of 21 fragmentary examples with in-and-out decoration, typical of Kytherean LM IB.⁶⁷ They all belong to previously discussed versions of the semiglobular shape attested in the sanctuary. The majority, judging by the preserved rims, belong to the category of LM IB shallow S-shaped cups or simple semiglobular cups with short everted or flat everted rims. Most of the extant examples (15 of 21 examples) bear

floral decoration, although two (K331, K343) (Fig. 9a, b; 21e, g) have possible Marine Style compositions. These compositions, including sea anemones and possibly corals or other underwater vegetation within a more general floral background, are in a

⁶¹ K290: pendent hooked motifs and dots (not attested at Kythera); K318: stone motif. The latter is attested at Kythera during the LM IB period (Coldstream & Huxley 1972, §150, ω280, D25). During the LM IA period, the same motif is only attested as spiral fill (Coldstream & Huxley 1972, η9, ω76). At Hagia Eirene on Kea and at Knossos, it is also attested against a dotted background (Cummer & Schofield 1984, pls. 50.243, 51c-LM IB; Popham 1984, pl. 143.9-MM IIIB/LM IA). Four other examples (K259, K260, K296, K310) bear dotted decoration of the LM I/IB period.

⁶² Eight examples.

⁶³ Coldstream & Huxley 1972, 299, 302, μ8-9, §81 (LM IB). Similar examples at Hagia Eirene on Kea are also dated in the LM IB period (Cummer & Schofield 1984, pls. 80.s, 86.1564). Another example (K293) also bears floral decoration of the LM IB period.

⁶⁴ Five examples.

⁶⁵ Seventeen examples.

⁶⁶ Coldstream & Huxley 1972, 293. The rest are simple, flat bases with the oblique walls of the LM IA period.

⁶⁷ In the material from Kastri 26 examples were recorded and all dated to the LM IB period (Coldstream & Huxley 1972, 293, §49-62, ω142-55). The typological variety attested in the material from the sanctuary has no real parallels in the pottery from the settlement, where only one type of semiglobular cup is attested, with flaring rim and a strongly S-shaped profile.

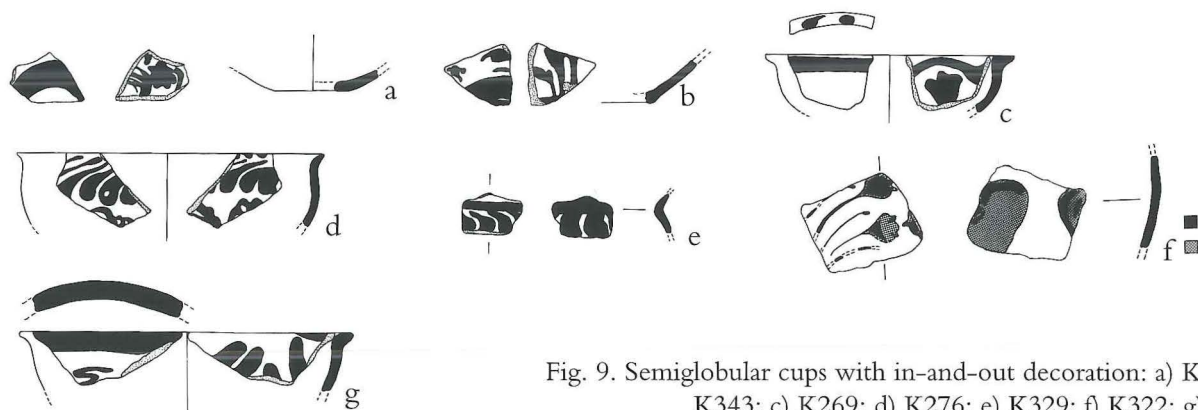


Fig. 9. Semiglobular cups with in-and-out decoration: a) K331; b) K343; c) K269; d) K276; e) K329; f) K322; g) K317.

unified style and in full agreement with the LM IB idiom at Kythera.⁶⁸ Regarding the purely floral compositions, there are three examples with stylized foliate bands directly at or on the rim, which is characteristic of LM IB (K269, K276, K329) (Fig. 9c, d, e).⁶⁹ Finally, a body sherd (K322) (Fig. 9f) bears a naturalistic composition with crocuses on long thin stems, which at Kythera is typical of the LM IB period.⁷⁰ The comparatively large number of examples with in-and-out decoration (18.75% of the semiglobular cups) is interesting, especially given the overall scarcity of this type of decoration in Minoan pottery, both at Kythera and beyond, during the LM IB period.⁷¹ Their appearance in the sanctuary is directly related to their presence in the settlement during the LM IB period.

Stemmed cups, which are not attested at Kythera before the LM IB period,⁷² are represented by very few examples, mostly bases.⁷³ Moreover, all registered examples are small or miniature versions. It is worth noting at this point that the number of

extant stemmed cups at the sanctuary, even if small, exceeds by far the respective number of stemmed cups at Kastri, where all of the examples were found in funerary contexts.⁷⁴ In addition, all cups in the sanctuary were made of fine clays.

In the rather limited repertoire attested in the material from the sanctuary, it is the decorative idiom of the LM IB period which stands out, and more specifically, floral decoration (K352, K355, K358). One rim fragment with a relatively well-preserved floral composition (K352) (Fig. 10a) depicts two lilies, a plain version of the lily with

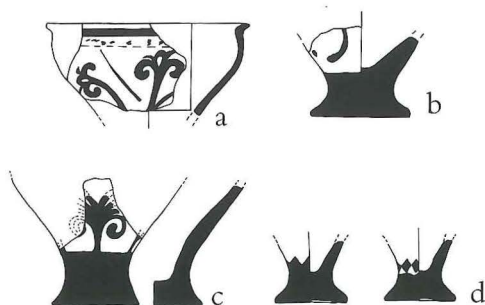


Fig. 10. Stemmed cups: a) K352; b) K355; c) K358; d) K359.

⁶⁸ Coldstream & Huxley 1972, 297, §53, ω147, ω152, J4 (LM IB-sea anemone), where the same version is attested as primary or secondary decoration on semiglobular and shallow in-and-out cups. Coldstream & Huxley 1972, μ57 (LM IB-floral element); Sapouna-Sakellari 1988–9, pl. 5, fig. 3.A1, A4, pl. 6, fig. 5.B5, pl. 12, fig. 14.17.4, pl. 21, fig. 26.21.2, pl. 23, fig. 30.22.7; Dimopoulou 1999, pl. XLIXc; MacGillivray & Driessen 1989, fig. 6.

⁶⁹ Coldstream & Huxley 1972, μ19, μ20, v20–1, §33–5, ω166 (LM IB).

⁷⁰ Coldstream & Huxley 1972, 299, μ8–9, μ50, ω154 (LM IB).

⁷¹ At Kastri only 26 examples were recorded. For Palaikastro, see Sackett & Popham 1970, 217, fig. 9.NP53 (LM IB-Knosian imports).

⁷² Coldstream & Huxley 1972, 294, E3, 4 (LM IB) and possibly J6. It has been argued that as a shape it does not appear before the LM IB period (Macdonald 1990, 87; 1996, fig. 1). The closest typological parallels for the preserved bases from the sanctuary are found in the material from Kastri (Coldstream & Huxley 1972, E4-LM IB; Bevan *et al.* 2002, figs. 17.144-LM IB, 20.244-LM IA) and at Hagia Eirene on Kea (Cummer & Schofield 1984, pl. 30.410-LM IB).

⁷³ Seven of the eight extant examples (base d. 2–7 cm).

⁷⁴ At Kastri two or three examples were recorded (Coldstream & Huxley 1972, E3, 4-LM IB and possibly J6-LM IB).

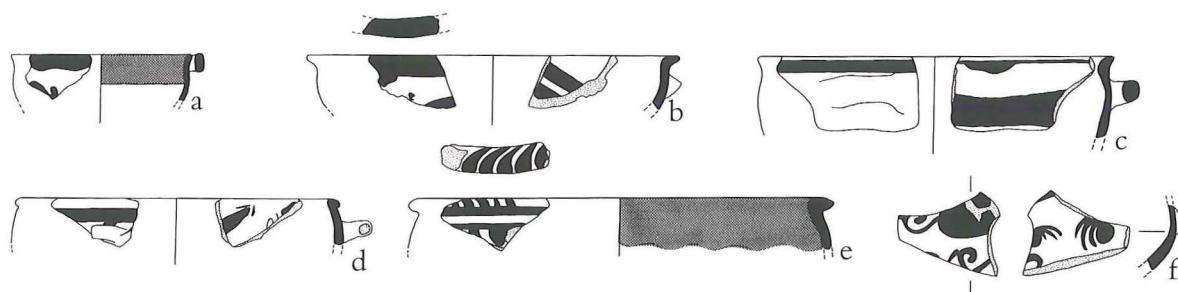


Fig. 11. Bowls: a) K390; b) K392; c) K388; d) K389; e) K394; f) K395.

two volutes and two stamens, and possibly part of a third, in a splaying arrangement. It should be noted that this particular type of composition, though rare at Kythera, is also attested on the single intact rhyton from the sanctuary (K803) (see below Fig. 14) which can be safely dated within the LM IB period.⁷⁵ This specific version of the lily, though not attested at Kastri,⁷⁶ is probably a product of the local stylistic idiom.

The hybrid lily-papyrus on the other example (K358) (Fig. 10c), though without parallels at Kastri, is closer to the Helladic prototypes⁷⁷ and should perhaps be considered another product of the local stylistic idiom.⁷⁸ In addition, another fragment (K359) (Fig. 10d) with traces of geometric abstract decoration (a row of diamonds) is also probably LM IB in date.⁷⁹ Finally, none of the examples has a monochrome interior.

The total number of *bowls* in the sanctuary is, unfortunately, limited.⁸⁰ All of the recorded examples belong to the basic category of semiglobular bowls, which appear in two versions: the truly semiglobular and the S-shaped semiglobular. The clays used are mostly fine, especially the local buff and whitish varieties.

The majority of bowls from the sanctuary are morphologically related, not only to a significant number of examples from Kastri and other Minoan sites, but also in some cases, to certain categories of LM IB semiglobular cups from the sanctuary itself. For example, K390 (Fig. 11a) has typological affinities with the slightly S-shaped semiglobular cups, and more specifically, with K277 and K280 (Fig. 7a, b), all of which are dated on morphological grounds to the LM IB period. Another example (K392) (Fig. 11b) is typologically similar to

two shallow semiglobular in-and-out cups with flat everted rims (K269, K317) (Fig. 9c, g).⁸¹ A body fragment (K395) can probably also be assigned to

⁷⁵ Flowers in a splaying arrangement are rarely attested in the LM IB decorative idiom at Kythera (Coldstream & Huxley 1972, ω 147, ω 154, ω 221-LM IB; Bevan *et al.* 2002, fig. 17.144-LM IB), where all the extant lilies appear on semiglobular cups. The same is observed in the material from Hagia Eirene on Kea (Cummer & Schofield 1984, pl. 86. 1570-LM IB). Flowers, mostly lilies or crocuses in bunches are attested more commonly during the LM IB period at Kythera (Coldstream & Huxley 1972, μ 15, μ 50, ω 208). At Hagia Eirene on Kea, the only published example is Mycenaean in provenance (Cummer & Schofield 1984, pl. 59.676). At the Menelaion in Laconia, the single preserved example is also dated to the LM IB period (Catling 1996, fig. 2.1-LM IB).

⁷⁶ Lilies with stamens are rare at the settlement of Kastri (Coldstream & Huxley 1972, 299, ξ 61, ω 112, ω 167–8, ω 221-LM IB).

⁷⁷ It is interesting that with the exception of two similar hybrid floral motifs found on two LM IB closed vessels from Archanes (Sakellarakis & Sakellarakis 1997, 440–1, figs. 417–9), the closest parallels are mostly of Helladic origin, i.e., a pithoid jar from Mycenae (Mountjoy 1976a, fig. 14, FS 24-LH IIA), a jar from Kakovatos (Lolos 1985, fig. 485-LH IIA), as well as an alabastron from Phylakopi on Melos (Mountjoy 1976a, fig. 19.3-LH IIA). Strangely enough, despite the Helladic bias in the Hagia Eirene material, this type is completely absent from the repertoire of House A on Kea (Cummer & Schofield 1984, 46).

⁷⁸ The type of clay and the quality of the firing are in full agreement with the local idiom.

⁷⁹ Despite the absence of close parallels, geometric motifs with a similar arrangement express the local Kytherean LM IB idiom (Coldstream & Huxley 1972, 297–8). The four remaining examples (K353, K354, K356, K357) do not preserve diagnostic decoration.

⁸⁰ Eleven examples.

⁸¹ Semiglobular cups with similar dimensions. The specific version of the semiglobular cup with in-and-out decoration has no parallels in the material from the settlement.

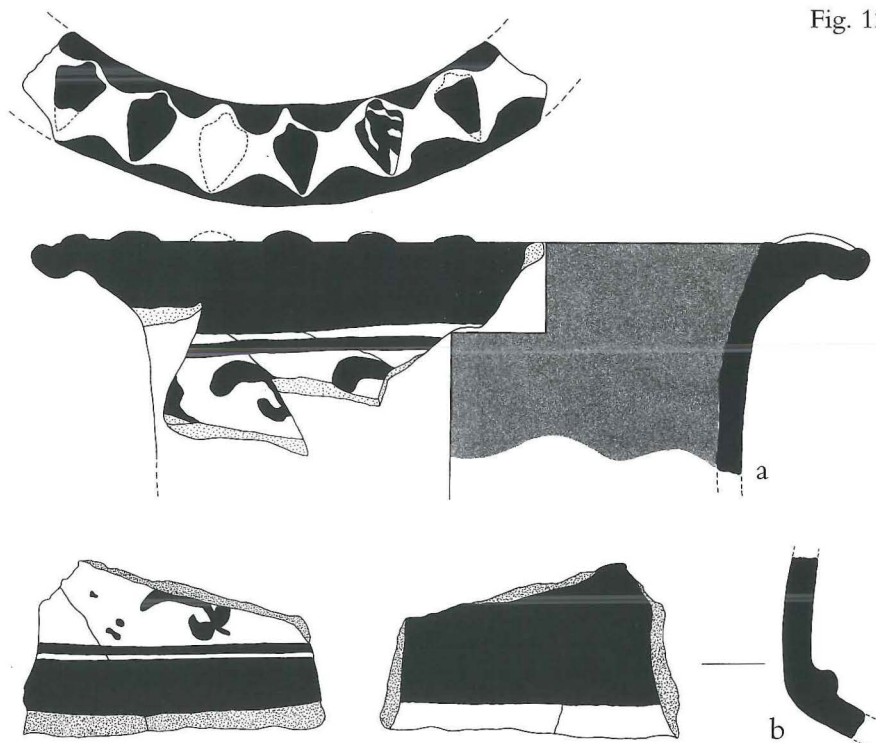


Fig. 12. Palace Style jars: a) K549; b) K555.

this same typological group (Fig. 11f). Although general typological affinities exist between the material from Kastri and other Minoan sites that can safely be placed within the LM IB period, parallels are not particularly close and are hard to come by. The closest parallels of LM IB date are to be found at Hagia Eirene on Kea⁸² and the Menelaion in Laconia.⁸³

The pottery from the sanctuary includes four fragmentary bowls bearing in-and-out decoration, the two discussed above (K392, K395) (Fig. 11b, f) and two other examples (K388, K389) (Fig. 11c, d). Although their morphology does not facilitate precise dating (MM III–LM I), K392 and K395 (Fig. 11b, f) are typologically similar to the well-known LM IB in-and-out cups from the sanctuary, thus making them the only certain examples of bowls from Kythera with this type of decoration in this advanced chronological phase.⁸⁴ The in-and-out bowls from Kastri, which are only attested during the MM IIIB period, share general morphological affinities with the LM IB bowls from the sanctuary but have almost no affinities with the contemporary LM IB in-and-out cups from Kastri.⁸⁵ Unfortunately, the preserved decoration on

the majority of examples is non-diagnostic.⁸⁶ At least one of the two bowls bearing diagnostic decoration (K395) (Fig. 11f)⁸⁷ can be safely dated to the LM IB period, however. Of the remaining vessels, two examples (K394, K390) (Fig. 11e, a) featuring Floral Style compositions, the first decorated with a foliate band and Adder motif and the second probably depicting a crocus flower, are consistent with the LM IB decorative idiom at Kastri.⁸⁸

The category of *Palace Style jars* is represented at the sanctuary by a small number of interesting

⁸² Cummer & Schofield 1984, pls. 75.1159, 1160 (LH IIA).

⁸³ Catling 1996, fig. 2.3 (LM IB, Minoanizing).

⁸⁴ The MM IIIB bowls at Kastri with in-and-out decoration, a type which is said to disappear at the end of that period (Coldstream & Huxley 1972, 285, ζ41–7–MM IIIB, except for one example, ζ42–perhaps LM IA), bear no relation to examples from the sanctuary. On the other hand, the preserved decoration on this example is similar to that on a MM IIIB bowl from Kastri (Coldstream & Huxley 1972, ζ45).

⁸⁵ Coldstream & Huxley 1972, 281, 293.

⁸⁶ K388, K392, K398: linear decoration; K391: unclear decoration.

⁸⁷ The other being K389.

⁸⁸ Coldstream & Huxley 1972, λ3, μ19–20, ν3–4, ν15–6, ξ97, ω282 (LM IB), μ50, ω54, ω208 (LM IB).



Fig. 13. Palace Style jar: K556.

examples,⁸⁹ mostly with flat everted rims, relatively tall, straight cylindrical necks and rounded, convex shoulders. Most of the vessels were provided with a raised plastic ridge at the junction of the neck and shoulder. The extant bases are mostly molded and have a flat underside.⁹⁰

The closest parallels are the so-called Palace Style jars from Knossos,⁹¹ piriform pithoid jars with a cylindrical neck that are also attested at Nerokourou⁹² and other Minoan sites. The complete absence of this type of vase from the settlement and tombs at Kastri is worth noting.⁹³

The majority of recorded examples are made of coarse clays, mostly buff, with the same or a whitish slip, and most (10 of 15 examples) carry painted decoration. The most impressive example is a fragmentary jar (K549, K555) (Fig. 12a, b) with plastic decoration on the rim (leaf-shaped motifs) which has no known parallels.⁹⁴ The shoulder is decorated with a floral motif in the Alternating Style and can be safely placed in the late LM IB period.⁹⁵ Finally, an additional body sherd with floral decoration (K556) (Fig. 13) could represent another case of an Alternating Style composition. The floral motif, an impressionistic version of a tree or branch with flowers, should also be placed towards the end of LM IB and appears to be unique.⁹⁶

The complete absence of Palace Style jars from the settlement at Kastri could perhaps be attributed to the close association of this particular shape with the ritual practices at the sanctuary. Although the majority of recorded examples can be dated to the end of the LM IB period, this does not sufficiently explain their absence from the settlement. It should also be noted that a considerable number of these vases bore high quality decoration, mostly in the Floral Style, which may also be indicative of their important (albeit discreet) role in ritual activities.

The next major shape category with a strong LM IB presence consists of *rhyta* and *cup-rhyta*. The ceramic assemblage from the sanctuary included a considerable number of *rhyta* (55 examples), though almost all were in extremely fragmentary condition.⁹⁷

The only intact example (K803) (Fig. 14) is a miniature Type III, conical, convex-sided rhyton with a ridge below the rim.⁹⁸ This rhyton is decorated with a floral motif of lilies in a splayed compo-

⁸⁹ Fifteen examples.

⁹⁰ The same form of base is attested on a different type of pithoid jar from Nerokourou (Kanta & Rocchetti 1989, 314, fig: 79.582 – LM I).

⁹¹ Betancourt 1985, 215–9, pls. 23H, 24A–Γ; Popham 1984, pls. 68–9 (Palace Style jars).

⁹² Kanta & Rocchetti 1989, 314 (piriform jars with cylindrical necks), fig. 57.439. Also, Cummer & Schofield 1984, pls. 81.1412–3, 84.1541–3, mostly of Mycenaean provenance.

⁹³ The only exception is a miniature version of the shape (Coldstream & Huxley 1972, ω249 – LM IB). On the mainland, pithoid jars of similar shape are attested at various sites, including Messenia (Lolos 1985, figs. 483–5 – LH IIA, Kakovatos, Tomb B).

⁹⁴ In the publication of a Marine Style ewer from Poros with plastic decoration on the rim, the author points out that this type of decoration is very rare during the LM IB and LM II periods (Dimopoulou 1999, 219, 222, pls. XLIV–XLVIII).

⁹⁵ Coldstream & Huxley 1972, 296, 302–3.

⁹⁶ Of the remaining examples, one (K554) is decorated with a row of S-shaped motifs, which can be safely dated to the LM IB period. Another (K560) preserves traces of leaf-shaped ornaments, while K558 contains non-diagnostic linear decoration (light-on-dark, MM IIIB–LM I). Additionally, there are one plain (K557) and four monochrome examples (K548, K551, K552, K561).

⁹⁷ One intact example. The fragmentary examples include 5 rims, 30 body sherds, and 19 bases. One additional fragment (K1071) with plastic decoration on the rim could also be part of a rhyton.

⁹⁸ Koehl 2006, 49, fig. 21.556 (MM III–LM IIIB, rare during LM IIIC).



Fig. 14. Rhyton: K803.

sition. Although this version of the conical rhyton covers a wide chronological period (MM III–LM III),⁹⁹ the specific type of ledge rim and thickened cylindrical base are not attested before the LM I period.¹⁰⁰ The existence of the ridge might also be an LM IB idiom.¹⁰¹ Although the strict syntax of the main composition is consistent with LM IA, the motif of swaying lilies and the dotted line on the ridge below the rim suggest a date in the second half of LM I.¹⁰² It is worth pointing out that the majority of examples at Kythera featuring this type of lily belong to the version with one central stamen, which is typical of the end of LM IB.¹⁰³

The fragmentary rhyta (55 in total) from the

sanctuary feature a wider range of shapes than those attested at Kastri.¹⁰⁴ The majority of extant rhyta (29/55 – 52.72%) are conical with straight or convex

⁹⁹ Koehl 2000, 94–5; 2006, 47–50.

¹⁰⁰ Koehl 2006, 49, tables 1 (rim Type 4), 3 (base Type 9).

¹⁰¹ Koehl (2006, 49), in his discussion of the conical convex-sided LM IB rhyta with Marine Style decoration, claims that the ridge below the rim, which also creates a separate decorative zone, is typical of this type of rhyton. On the basis of similar LH IIA examples from the mainland (Asine, Aigina), as well as items inspired by the mainland ceramic tradition (Hagia Eirene), he also suggests that this specific rhyton type may represent the Minoan, or even the colonial Minoan, prototype for this morphological element (ridge) which eventually became more popular on the mainland.

¹⁰² Coldstream & Huxley 1972, 297. At Kastri, examples of vases with dotted decorative zones below the rim are dated in the LM IB period (Coldstream & Huxley 1972, μ 12, μ 35).

¹⁰³ Coldstream & Huxley 1972, 300, 39, ω 113, ω 179–80, ω 206, ω 221 (LM IB). The simplified version of the lily with one stamen at Kythera is considered typical of the end of LM IB. Similar examples at Hagia Eirene on Kea are also dated in the LM IB period (Cummer & Schofield 1984, pls.50.a, 78.1227–LM IB).

¹⁰⁴ Coldstream & Huxley 1972, 282, 287, 295, mostly conical (20), with a few examples of piriform peg-top rhyta and ostrich-egg rhyta (3).

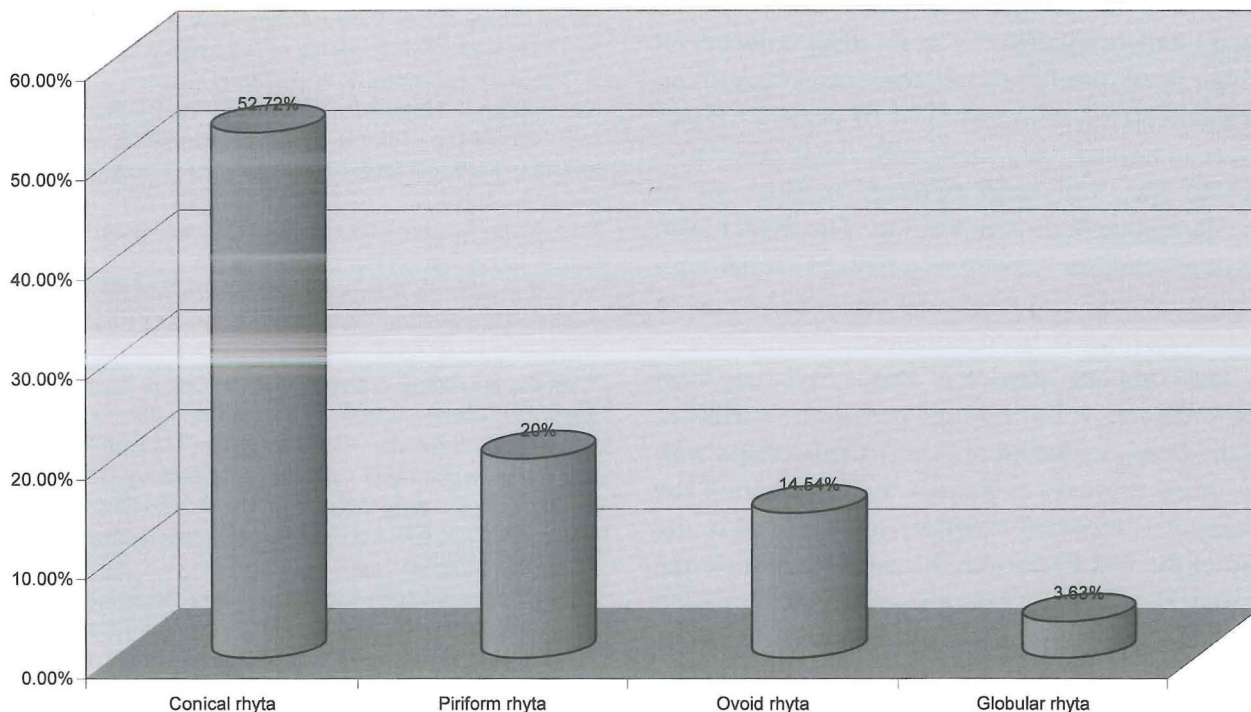


Fig. 15. Rhyta: shapes.

sides (Fig. 15), as is typical of Minoan sites.¹⁰⁵ At Kastri it is almost the only attested type of rhyton during both the MM IIIB and LM IA periods.¹⁰⁶ The other types of rhyta recovered from the sanctuary include 11 Type II piriform rhyta (11/55 – 20%),¹⁰⁷ eight Type II ovoid rhyta (8/55 – 14.54%),¹⁰⁸ and two Type II globular rhyta (2/55 – 3.63%)¹⁰⁹ (Fig. 15). The vast majority of examples (93.87%) were made of fine clays, mostly buff (62.22%), while only four were made of coarse clay or clay with inclusions. Three sherds, a fragmentary base (K849) and two body fragments (K815, K816), all parts of conical rhyta, do not appear to be local products.¹¹⁰ Although the vast majority of rhyta (39/55 – 70.90%) were decorated (Fig. 16), the number of plain (7/55 – 12.72%) and monochrome examples (8/55 – 14.54%) is unusually high (Fig. 16).

The overwhelming majority of decorated examples (35/39 – 89.74%) bear dark-on-light decoration of the MM III, and primarily LM I, ceramic tradition. The largest group carry floral motifs (16/35 – 45.71%), followed by spiral decoration (5/35 – 14.28%), and linear motifs (4/35 – 8.57%). All of the remaining decorative themes are represented by one

or two examples each (2.85 – 5.71% of the total).

Most of the 16 rhyta with floral decoration¹¹¹ depict naturalistically rendered vegetation, branches with leaves and flowers, in a horizontal or vertical arrangement,¹¹² and the composition typically cov-

¹⁰⁵ Five additional fragments (K813, K820, K823, K835, K850) could be assigned to either category (conical or ovoid) and could therefore, theoretically at least, raise the number of conical rhyta to 34 examples (i.e., 61.81% of the total).

¹⁰⁶ Coldstream & Huxley 1972, 282, 287, 295, dep. ε-MM IIIB: 6–9 examples, dep. ζ-MM IIIB/LM IA: 6 examples, dep. η-LM IA: 7 examples.

¹⁰⁷ Koehl 2006, 22–6, Type II.

¹⁰⁸ Koehl 2006, 29–38, Type II.

¹⁰⁹ Koehl 2006, 26–8, Type II. According to Koehl (2006, 26–7), this specific type of rhyton appears during the MM IIB period, becomes very popular during the MM III period, and then declines during the LM IB period.

¹¹⁰ See below.

¹¹¹ K803, K807, K809, K814, K820, K825, K826, K829, K831, K832, K840, K842, K845, K846, K849, K852.

¹¹² It is worth noting that vegetation rendered in this manner is absent from the pottery at Kastri and is extremely rare in the rest of the Minoan world. It may thus be an idiosyncrasy of the local Kytherean LM IB tradition and have a special association with the sanctuary of Hagios Georgios sto Vouno.

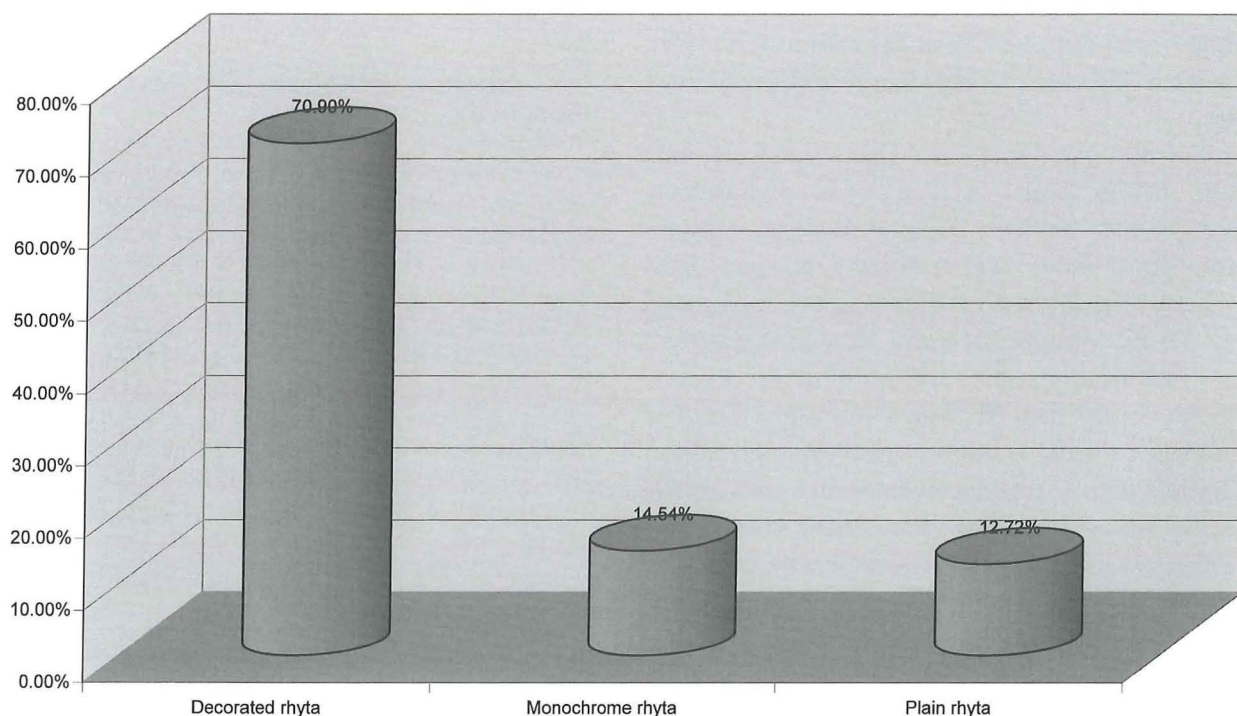


Fig. 16. Rhyta: types of decoration.

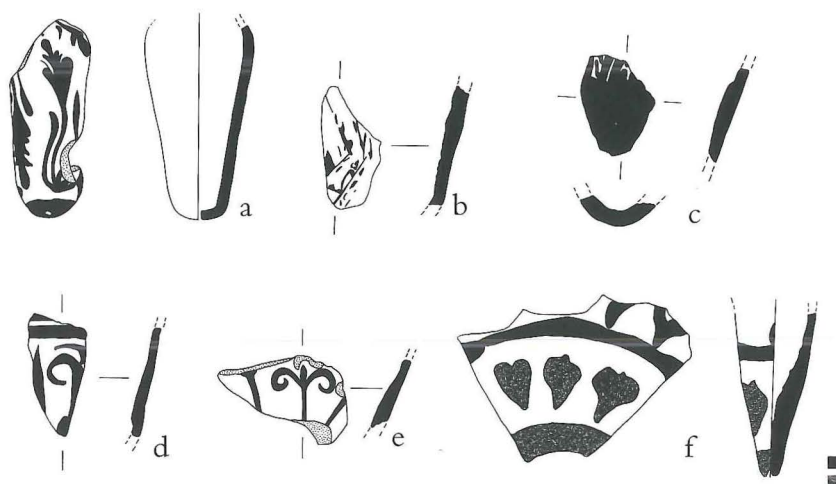


Fig. 17. Rhyta: a) K840; b) K826; c) K809; d) K829; e) K832; f) K849.

ers the entire surface of the vase.¹¹³ The best preserved floral decoration is attested on a small ovoid rhyton (K840) (Fig. 17a), which features vertically displayed and naturalistically rendered crocuses on stems that are typical of the LM IB period at Kythera.¹¹⁴ Parallels from Kastri,¹¹⁵ the Menelaion in Laconia,¹¹⁶ Hagia Eirene on Kea,¹¹⁷ and from Palaikastro¹¹⁸ all belong to the LM IB period. Something similar in concept but slightly more stylized (and without crocuses) is depicted on another fragmentary rhyton (K826) (Fig. 17b), while a third example (K809) (Fig. 17c), with a rather more dense, oblique composition of branches with leaves, is also consistent with the LM IB ceramic tradition at Kythera.

Lilies are represented on three sherds (K803, K829, K832) (Figs. 14, 17d, e), two of which (K803, K832) depict an almost identical composition. K832 (Fig. 17e) features a relatively rare version of the lily with a central leaf-shaped motif between the volutes that is not attested at Kastri.¹¹⁹ The third example (K829) (Fig. 17d) also bears a lily, but in the LM IB form commonly found at Kythera.¹²⁰ Finally, a conical, convex-sided rhyton (K849)¹²¹ (Fig. 17f) is decorated with a row of stylized ivy leaves alternating with equally stylized crocus flowers and a row of sacral ivy leaves in narrow decorative zones, which are on the whole typical LM IB compositions at Kythera.¹²²

The five examples featuring spiral decoration are conical rhyta, and parallels are attested at Hagia Eirene on Kea, Gournia and Zakros.¹²³ Three frag-

¹¹³ K809, K826, K831, K840, K846, and perhaps K820, K845, and K852, K825, K814 and K842.

¹¹⁴ Coldstream & Huxley 1972, 298.

¹¹⁵ Coldstream & Huxley 1972, μ 9, μ 50, ω 154, ω 208 (LM IB).

¹¹⁶ Catling 1996, 70, fig. 2.1 (LM IB).

¹¹⁷ Cummer & Schofield 1984, pls. 80.1363s, 85.1559, 1564 (LM IB).

¹¹⁸ Sackett & Popham 1970, fig. 9, pl. 57 (LM IB). An example from Gournia belongs to the LM IA period (Hawes *et al.* 1908, 41, fig. 21).

¹¹⁹ A similar example from Hagia Eirene on Kea is considered Mycenaean in provenance (Cummer & Schofield 1984, pl. 59.676).

¹²⁰ Coldstream & Huxley 1972, 300, ξ 61, ω 113, ω 221 (LM IB).

¹²¹ It is probably not local because of the firing and the hardness of the clay.

¹²² Similar versions of solid stylized ivy leaves and crocus flowers are common in the material from the settlement (Coldstream & Huxley 1972, μ 3, μ 4-LM IB, μ 11-LM IB, μ 17-LM IB, ν 25-LM IB, ξ 18, ξ 20-LM IB, ξ 52, ξ 60-LM IB, ξ 68-LM IB, ω 155-LM IB, ω 159-LM IB, ω 221-LM IB, H5-LM IB), from Hagia Eirene on Kea (Cummer & Schofield 1984, pls. 55.b, 75.1157-LM IB), and from Palaikastro (Sackett & Popham 1970, fig. 9.53-LM IB). Regarding the sacral ivy motif, similar examples are attested at Kastri (Coldstream & Huxley 1972, λ 10-LM IB Cretan import, μ 44-LH IIA, ξ 144-LM IB, ω 287-LH IIA) and at Hagia Eirene on Kea (Cummer & Schofield 1984, pls. 49.175-LM IB, 51.274-LH II, 73.1138-LH II).

¹²³ Coldstream & Huxley 1972, η 44, η 47, η 49-50 (LM IA). A large number of conical rhyta at Hagia Eirene (Cummer & Schofield 1984, pls. 76.1197, 85.1558, 86.1560-LM IB), at Gournia (Hawes *et al.* 1908, pl. VII.1, 25-7, 29-32) and at Zakros (Platon 1951, 107) bear spiral decoration arranged in horizontal zones. At Akrotiri, the number of preserved examples is smaller (Koehl 1990, 351, fig. 4). On the whole, the more complex versions attested at Gournia (Hawes *et al.* 1908, pl. VII. 26-7) have no parallels at the sanctuary.

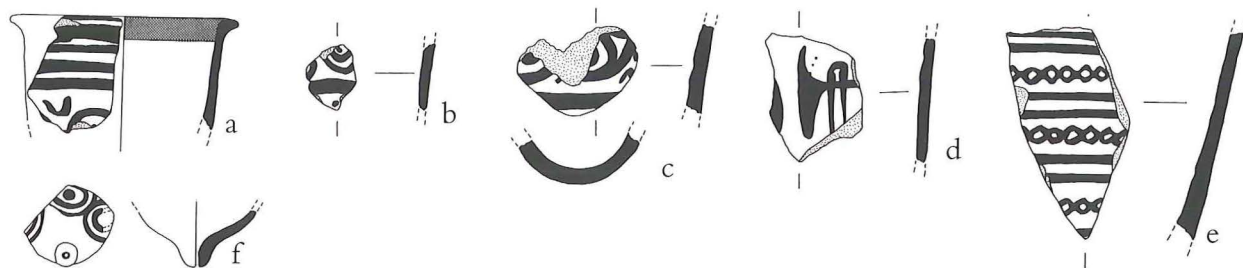


Fig. 18. Rhyta: a) K806; b) K812; c) K834; d) K815; e) K816; f) K853.

ments (K806, K812, K834) (Fig. 18a, b, c) with simple running spirals, the last two with U-shaped filling motifs between the spirals, and the first with a horizontal dotted line on a lower zone, are typical compositions of the LM IB or mature LM IA style at Kythera.¹²⁴ This specific version of the U-shaped filling motif first appears at Kythera during the LM IB period.¹²⁵

Finally, the three remaining examples are special cases. The double axe motif decorating one of the three rhyta (K815)¹²⁶ (Fig. 18d) first appears at Kythera during the LM IB period on imports from the mainland or local imitations,¹²⁷ and occasionally in the Alternating Style.¹²⁸ The axe is depicted with the sacral knot and can be safely placed within the LM IB decorative tradition.¹²⁹ Similar examples are attested at Hagia Eirene on Kea,¹³⁰ Archanes,¹³¹ and Juktas.¹³² It is worth noting, however, that neither the Helladic version of the double axe nor local imitations¹³³ are attested in the material from the sanctuary.

Another fragmentary conical rhyton carries decoration divided into horizontal zones filled with rows of diamonds/chain motif (K816) (Fig. 18e). The vessel is probably not a local product¹³⁴ and can be dated to the LM IB period.¹³⁵ To the same period I would also date the base of a miniature piriform rhyton (K853) (Fig. 18f) decorated with a row of concentric circles or spirals. It is worth noting that the closest parallels for this decorative motif, with or without dots, are to be found on the mainland.¹³⁶

By comparison to the Kastri material, the sanctuary deposit includes a much larger number of rhyta, as well as a much wider range of types and decorative themes. The sanctuary also contains

small/miniature examples not attested at the settlement. It is also worth noting that floral decoration, which is the most popular decorative theme at the sanctuary, is not attested at Kastri. Also, while the majority of examples at the sanctuary can be dated within LM I and especially to the second half of the period, most of the Kastri vessels are dated in the MM IIIB, transitional MM IIIB/LM IA, and LM IA periods. Finally, it is worth noting that the sanctuary material has on the whole closer affini-

¹²⁴ Coldstream & Huxley 1972, 290, 297, $\omega 60$, $\omega 194$ (LM IB) (K806, K834), $\kappa 9$, $\mu 4$ (LM IB).

¹²⁵ Coldstream & Huxley 1972, $\mu 26$ (LM IB). At Hagia Eirene on Kea it is introduced earlier (Cummer & Schofield 1984, pls. 30.1558-LM IB, 57.514-LM IA/B, 78.1227-LM IB (K806, K834). Two examples with dotted decoration (K822, K823), though too fragmentary to be safely dated, should also probably be placed within the LM IB decorative tradition (Coldstream & Huxley 1972, 297). To the same period I would likely also place three more examples with linear decoration (K811, K838, K848).

¹²⁶ It is probably not local because of the firing and the hardness of the clay.

¹²⁷ Coldstream & Huxley 1972, 301–2.

¹²⁸ Coldstream & Huxley 1972, $\mu 48$, $\nu 34$ (LM IB).

¹²⁹ Coldstream & Huxley 1972, $\nu 9$ –10–alternating axes and wreaths-LM IB, $\nu 34$ -LM IB, $\xi 25$ –6-LM IB, $\omega 124$, $\omega 129$ -LM IB, J4-LM IB.

¹³⁰ Cummer & Schofield 1984, pls. 49.175, 49.178 (LM IB), 74.1155 (LH IIA), 84.1542, 85.1553 (LM IB).

¹³¹ Sakellarakis & Sakellarakis 1997, fig. 423 (LM IB).

¹³² Karetsou 1975, pl. 266 β .

¹³³ Coldstream & Huxley 1972, 302, $\nu 11$, $\nu 13$, $\omega 139$, $\omega 213$.

¹³⁴ Firing and type of clay (gray clay with whitish slip).

¹³⁵ See Hagia Eirene on Kea (Cummer & Schofield 1984, pl. 49.175-LM IB). Rows of successive circles are also attested on Vapheio-type cups on the mainland (Mountjoy 1986, fig. 8.7-LH I-Hagios Stephanos in Laconia).

¹³⁶ Mountjoy 1986, 11, 15, FM 41, in combination with foliate bands, fig. 8.7-LH I from Mycenae; Mountjoy 1999, fig. 82.10-LH I, from Hagios Stephanos in Laconia.

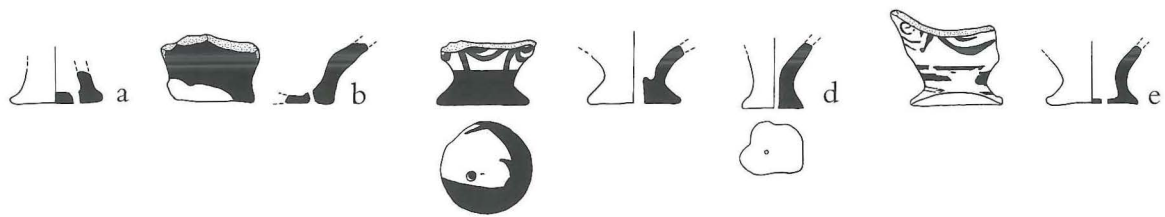


Fig. 19. Cup-rhyta: a) K860; b) K865; c) K863; d) K867; e) K869.

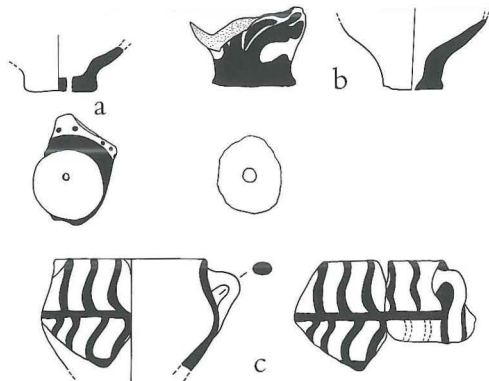


Fig. 20. Cup-rhyta: a) K870; b) K871; c) K858.

ties with the Hagia Eirene House A pottery, both typologically and thematically.¹³⁷

The ceramic material from Hagios Georgios includes a relatively limited number of cup-rhyta (14 examples),¹³⁸ only one of which belongs to a closed vessel (K871) (Fig. 20b). All of the preserved examples, though in a fragmentary condition, are represented exclusively by small and miniature versions of various types of open vessels, like semiglobular cups, stemmed cups, straight-sided cups, or “flower pots.”

The majority of examples (8/14 – 57.14%) were provided with painted decoration, while the interior was almost always plain.¹³⁹ From the remaining vessels, four were monochrome¹⁴⁰ and two were plain.¹⁴¹ The presence or absence of decoration was apparently not related to the type of base or vessel shape.

There are five stemmed cup-rhyta (the most characteristic LM I type of cup-rhyton¹⁴²), including two fragmentary (K860, K865) (Fig. 19a, b) and three intact bases (K863, K867, K869)¹⁴³ (Fig. 19c, d, e). All can be safely dated to the LM IB period,¹⁴⁴ and all were provided with off-center holes.¹⁴⁵ One of the bases with spiral decoration

depicts a row of thin stemmed spirals with even volutes (K863) (Fig. 19c), a version which is not attested in the Kastri material but is perfectly in tune with the LM IB tradition.¹⁴⁶ In the same decorative tradition, I would place another base (K869) (Fig. 19e) with traces of a thin running spiral.

A semiglobular cup with an S-shaped profile (K870)¹⁴⁷ (Fig. 20a) and dotted decoration is perfectly at home in the Kytherean LM IB style,¹⁴⁸ and the closest morphological parallels are to be found

¹³⁷ Cummer & Schofield, 1984. The majority of the 20 extant rhyta and the five cup-rhyta are conical (14) and piriform (5), decorated with spirals (6) and S-shaped motifs (5).

¹³⁸ One rim fragment (K858) and 13 bases.

¹³⁹ Only in one case (K859) was the interior monochrome. According to Coldstream & Huxley (1972, 289, 294), some of the so-called “flower pots” were Cretan imports, while others were local imitations.

¹⁴⁰ K860, K861, K862, K868. In two cases (K860, K861), the preserved traces of paint could be the remnants of a base band.

¹⁴¹ K864, K866.

¹⁴² Koehl 2000, 95, fig. 1g; 2006, 61 (Type IV); Macdonald 1990, 87; Coldstream & Huxley 1972, 294.

¹⁴³ Base d. 2.6–4 cm. K866, though too fragmentary to be safely assigned to a specific category, should probably also be placed here.

¹⁴⁴ Koehl 2006, 61–2, Type IV, wide-stemmed (K869), conical-stemmed (K865), narrow-stemmed (K860, K863, K867); Coldstream & Huxley 1972, E3, 4 (LM IB); Cummer & Schofield 1984, pls. 30.410, 999 (LM IB), 71.1112 (LM IB); Macdonald 1990, fig. 8 (LM IB); Warren 1991, figs. 33–4, 37 (LM IB); Betancourt 2001, pl. XXXIV.b, middle of middle row (LM IB).

¹⁴⁵ D. of holes 1.5–4.5 mm.

¹⁴⁶ Similar spirals are attested on a footed cup of the Mycenaean tradition from Hagios Stephanos in Laconia (Rutter & Rutter 1976, 56, ill. 17.887–period IV-LM IB).

¹⁴⁷ Base d. 2.8 cm, d. of hole 2.5–3 mm.

¹⁴⁸ Coldstream & Huxley 1972, 297; Hawes *et al.* 1908, pls. VII.18 (closed vessel, row of dots above base), VIII.39 (closed vessel, row of dots between bands); Cummer & Schofield 1984, pls. 77h, k (LM IB), 86. 1560b (rhyton-LM IB).

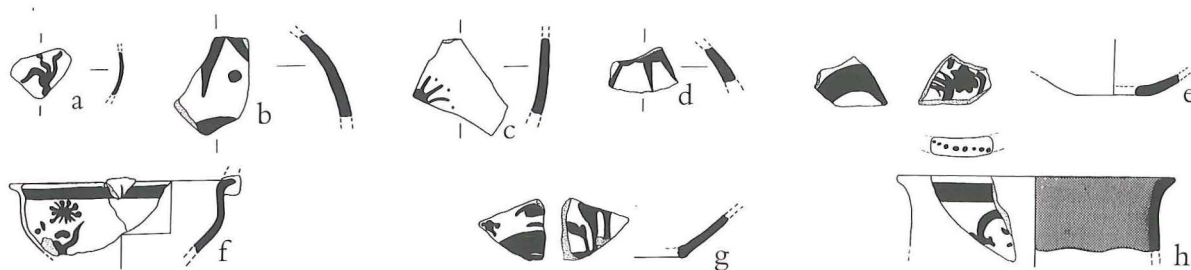


Fig. 21. Marine Style sherds: a) K1234; b) K1235; c) K1236; d) K1237; e) K331; f) K279; g) K343; h) K246.

locally.¹⁴⁹ The only example of a closed shape (K871) (Fig. 20b) is a type of juglet with convex sides. This juglet has a very narrow base¹⁵⁰ with a hole of large diameter near its center,¹⁵¹ and it can also be safely dated within the LM IB floral tradition.¹⁵² Finally, the only extant rim fragment is decorated with S-shaped motifs (K858) (Fig. 20c). It is included in this shape category because of its similarity to an intact “cup-rhyton with cylindrical base” from House A at Hagia Eirene,¹⁵³ and it is also consistent with the LM IB idiom at Kythera.¹⁵⁴ On the whole, the majority of the cup-rhyta fit well in the LM IB period and with the general assessments regarding the appearance of this type of vessel at that time.¹⁵⁵

There were nine examples of *Marine Style* in the sanctuary,¹⁵⁶ a picture consistent with that seen at Kastri.¹⁵⁷ The majority (7 of 9 examples) belong to small or miniature fine open vessels or cups. The repertoire includes a variety of small marine motifs (Fig. 21) (sea urchins, anemones, corals, rockwork, trefoil ornaments and sponges), but none of the more popular sea creatures like octopi, argonauts and shells, a phenomenon for which the fragmentary nature of the material is perhaps only partly responsible. At Kastri almost all the motifs, except the sea urchin, mark the late LM IB period and the appearance of the Alternating Style.¹⁵⁸

The sea urchins (K1235, K1237) (Fig. 21b, d) are depicted in the usual monochrome version, with or without dots between the rays.¹⁵⁹ The fragmentary nature of the examples does not permit further differentiation between the Alternating Style and real Marine Style scenes. The sea anemones were probably part of larger marine compositions (K331) (Fig. 21e), or even floral compositions (K279, K1236)¹⁶⁰ (Fig. 21f, c), which do not include octopi

or corals, or other major marine motifs.¹⁶¹ They are attested in three different versions, only one of which has a parallel in the extant material from

¹⁴⁹ Coldstream & Huxley 1972, μ 1 (LM IB), ν 1, 2 (LM IB), ω 213 (LM IB); Cummer & Schofield 1984, pl. 30.244 (the shape is LM IB); Sakellarakis & Sakellarakis 1997, 437, fig. 413 (LM IB); Betancourt 2001, pl. XXXIV.b, upper row, second from left (LM IB).

¹⁵⁰ Base d. 3 cm.

¹⁵¹ D. of hole 5 mm.

¹⁵² Coldstream & Huxley 1972, 298–9, as regards composition: μ 8–9, μ 50 (LM IB), ξ 3–4, ξ 8, ξ 9 (LM IB), ω 104–5, ω 160, ω 163 (LM IB).

¹⁵³ Cummer & Schofield 1984, pl. 86.1561 (LM IB).

¹⁵⁴ Coldstream & Huxley 1972, 297, ν 24, ξ 73, ξ 74 (double S-shaped motifs-LM IB). The S-shaped motif was also one of the most popular LM IB motifs at Hagia Eirene on Kea (Cummer & Schofield 1984, pls. 69.1049-LM IB, 74.1149-LM IB, 85.1556, 1557-LM IB, 86.1561-LM IB). According to Koehl, the Hagia Eirene vessel is assigned to Type III piri-form rhyta and more specifically, to a special Cycladic version of this typological group (2000, 95, fig. 1g; 2006, 44, fig. 15.383). K858 could equally have belonged to a version of the semiglobular cup.

¹⁵⁵ Koehl 2000, 95; 2006, 53–63; Macdonald 1990, 87.

¹⁵⁶ K246 (straight-sided cup), K331 (semiglobular cup with in-and-out decoration), K279 (semiglobular cup with leaf-shaped ornaments), K343 (semiglobular cup with in-and-out decoration), K347 (semiglobular cup), K1234 (open vessel), K1235 (closed vessel), K1236 (open vessel), K1237 (closed vessel).

¹⁵⁷ Coldstream & Huxley 1972, 296.

¹⁵⁸ Coldstream & Huxley 1972, 296–7.

¹⁵⁹ K1235 (closed vessel), K1237 (closed vessel). At Kastri, almost all examples are considered Cretan imports (Coldstream & Huxley 1972, 296, λ 15-LH IIA, μ 48, ν 3–5, ω 133–4, ω 266).

¹⁶⁰ K1236 (open vessel) features a combination of the sea anemone and the sea urchin with dots between the rays. It is the only example with marine decoration that, on account of the hardness of the firing and the degree of polish on the exterior surface, should perhaps be considered an import, possibly from Crete.

¹⁶¹ Sapouna-Sakellarakis 1988–9, 44.

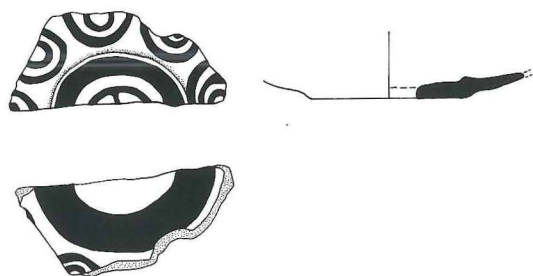


Fig. 22. Dish: K446.

Kastri (K1236)¹⁶² (Fig. 21c). The other two versions have no exact parallels. The two examples of corals (K343, K1234)¹⁶³ (Fig. 21g, a) were rendered in the usual monochrome, and in at least one case (K343) (Fig. 21g) were definitely part of a larger marine composition. There are no examples where they were combined with the usual motifs (octopi, rockwork, trefoil ornaments, sea anemones).¹⁶⁴ Finally, the trefoil ornament with a single outline and stem-like projections is attested only once at the sanctuary (K246-Fig. 21h) and was probably part of an Alternating Style composition.¹⁶⁵

Among the other categories of shapes that can be securely dated to LM IB, one fragment (K446) (Fig. 22) comes from a new type of *dish* introduced at Kastri during that same period. It is a very shallow vessel with a disc base and in-and-out decoration.¹⁶⁶ The syntax of the composition and the simple running spiral depicted on the interior are both consistent with the LM IB idiom.¹⁶⁷

Among the *jugs* and *amphorae* is a group of small/miniature vessels of various types with ovoid, spherical or heavy piriform bodies, which cover a wide chronological range from MM II to LM I. Very few examples are attested at Kastri,¹⁶⁸ but a small number of them have diagnostic LM IB dec-

oration. Over half of the extant examples in this group (26/42 or 61.90%) are plain, while the monochrome and decorated examples represent only 16.16% and 21.42% of the material respectively (7/42, 9/42). The vast majority of the decorated examples bear non-diagnostic linear decoration (7 of 9 examples), while the two remaining vessels (K588, K589) (Fig. 23a, b) have floral decoration – naturalistically rendered crocuses with stems that are typical of LM IB at Kythera.¹⁶⁹ The most diagnostic body sherds in this category, K673 (Fig. 23c) with floral decoration covering the entire surface of the vase and K665 (Fig. 23d) with suspended spiral motifs, again conform to the LM IB idiom.¹⁷⁰

Only one of the *hole-mouthed jars* (K706) (Fig.

¹⁶² Coldstream & Huxley 1972, v34, §53, §103.

¹⁶³ K343, K1234. Similar examples are attested at Kastri (Coldstream & Huxley 1972, ω217, N9), at Hagia Eirene on Kea (Cummer & Schofield 1984, pl. 81.1439-LM IB, rhyton) and at Archanes (Sapouna-Sakellarakis 1988–9, 44, pl. 5, fig. 3.A1, pl. 12, fig. 14.17.4, pl. 16, fig. 18.17.8, pl. 21, fig. 26.21.2, pl. 23, fig. 27.21.6).

¹⁶⁴ Sapouna-Sakellarakis 1988–9, 44.

¹⁶⁵ Coldstream & Huxley 1972, 296–7, §69, §83, ω120, N9. Similar examples are attested at Archanes (Sapouna-Sakellarakis 1988–9, 43, pl. 8, fig. 8.17.1, pl. 14, fig. 16.17.6), but they are part of larger marine compositions. On the mainland, it is attested in Messenia (Mountjoy 1999, fig. 108.23-LH IIA, Nichoria) and in the Argolid (Demakopoulou 1993, pl. 7.25-LM IB/LH IIA, Kokla).

¹⁶⁶ Coldstream & Huxley 1972, 294–5, μ50, dishes of LM IB-date with in-and-out decoration.

¹⁶⁷ Coldstream & Huxley 1972, κ9, μ1, μ41 (LM IB).

¹⁶⁸ Coldstream & Huxley 1972, C31-MM IIIB, μ46 (LM IB).

¹⁶⁹ Coldstream & Huxley 1972, 298–9, μ8–9, μ50, ω154, ω207–8 (LM IB).

¹⁷⁰ Coldstream & Huxley 1972, 298–9, ω104–5 (generally as regards composition), ω160, ω163, ω170 (LM IB). K638 bears a spiral decoration, and though poorly preserved it also belongs to the LM I tradition.

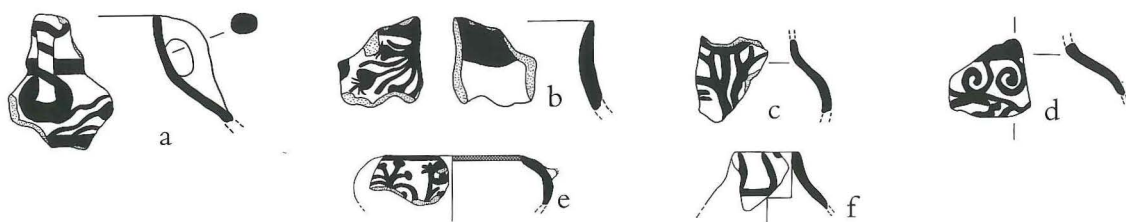


Fig. 23. Jugs/amphorae: a) K588; b) K589; c) K673; d) K665; hole-mouthed jar: e) K706; pithoid jar: f) K484.

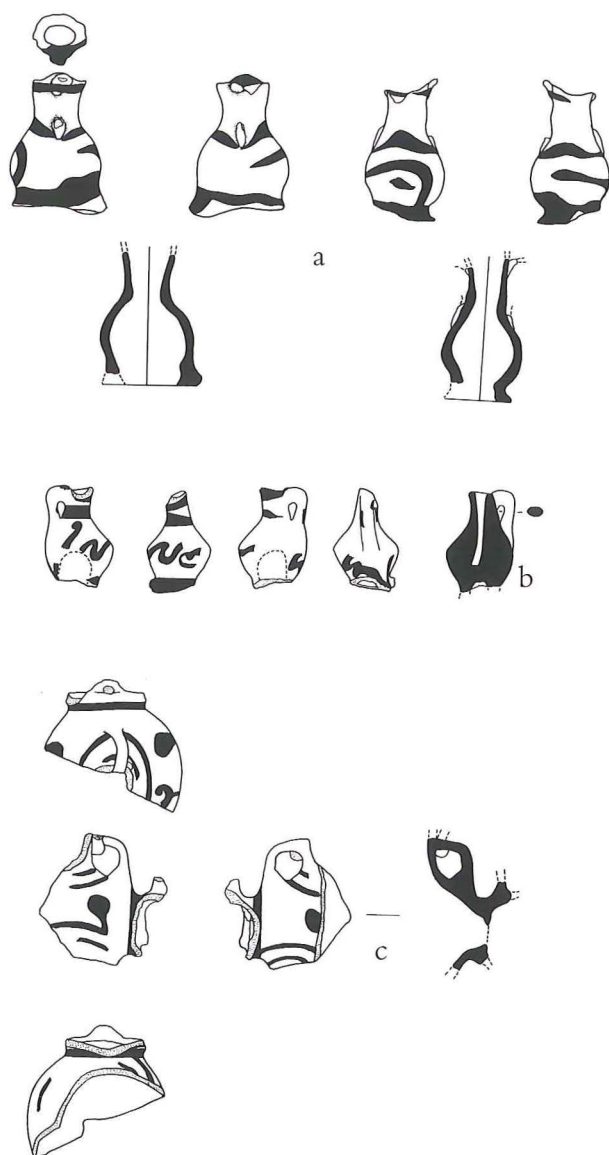


Fig. 24. Composite vessels: a) K943; b) K946; c) K944.

23e), a miniature version, preserves traces of diagnostic floral decoration (vertical lilies), which can date it to the LM IB period.¹⁷¹

Among the *pithoid jars*, which are represented by a large number of fragmentary vessels (170 examples), one miniature version (K484) (Fig. 23f) with a short collared neck and a sloping shoulder preserves a zone of vertical S-shaped ornaments below the rim, which is typical of the LM IB period.¹⁷² Although the specific shape is not attested at Kastri, similar examples were recorded at Kommos.¹⁷³

The material from the sanctuary includes only four examples of *composite vessels*. Three are miniature and all are made with fine clay¹⁷⁴ and have

traces of painted dark-on-light decoration of the MM III-LM I period. Two of the three miniature vases (K943, K946) (Fig. 24a, b) belong to closed piriform vessels similar to the well-known miniature juglets at the sanctuary. One (K946) (Fig. 24b) of these was not properly hollowed out on the interior, a fact which probably reflects the non-functional, symbolic character of the vessel. On the lower wall of the juglet, two areas on either side of the handle indicate where similar vessels were probably attached. The preserved decoration of curving horizontal band and quirks is dated to the second half of the LM I period.¹⁷⁵

Another miniature vessel (K944) (Fig. 24c) provides a special case. Typologically it belongs to a closed vessel with a differentiated neck, and it preserves part of a second smaller vessel attached to it at the level of the shoulder/belly. The two vessels communicate internally.¹⁷⁶ Although morphologically similar to two MM III examples from Phaistos,¹⁷⁷ the preserved decoration, floral motifs (however faint) suggest a date in LM I, while the syntax is more compatible with the second half of the period.

The single most prolific shape at the sanctuary is the *handleless conical cup*,¹⁷⁸ which I have left for last. Although the vast majority of intact examples,

¹⁷¹ Coldstream & Huxley 1972, 299, v39, ω142 (LM IB).

¹⁷² Coldstream & Huxley 1972, 298. Similar examples are attested at Kastri (Coldstream & Huxley 1972, v24-LM IB, ξ73-LM IB, ω203-LM IB) and at Hagia Eirene on Kea where such decoration is quite popular as a decorative theme during the LM IB period, especially for rhyta (Cummer & Schofield 1984, pls. 69.1049-LM IB, 73.1134-LM IB, 74.1149-LM IB, 81.1440-LM IB, 82.c-LM IB, 85.1556, 1557-LM IB, 86.1561-LM IB). On the mainland it is attested in Messenia (Mountjoy 1999, fig.105.10-LH IIA, Malthi).

¹⁷³ Betancourt 1990, fig. 30.646 (MM III); Shaw *et al.* 2001, fig. 35.45 (LM IA), both monochrome.

¹⁷⁴ Buff clay and slip.

¹⁷⁵ Coldstream & Huxley 1972, μ12, ω99, ω102, ω199 (LM IB); Cummer & Schofield 1984, pl. 75.1160 (LH IIA).

¹⁷⁶ The hole was presumably opened during the manufacture of the first vessel, before the attachment of the second vessel. For a similar case from Mazas, see Platon 1951, 112-3.

¹⁷⁷ Levi 1988, pl. 48c-d, e-f (phase III: MM III).

¹⁷⁸ 903 intact cups, 878 complete bases and of course a huge number of sherds (163,436) from both plain and monochrome examples.

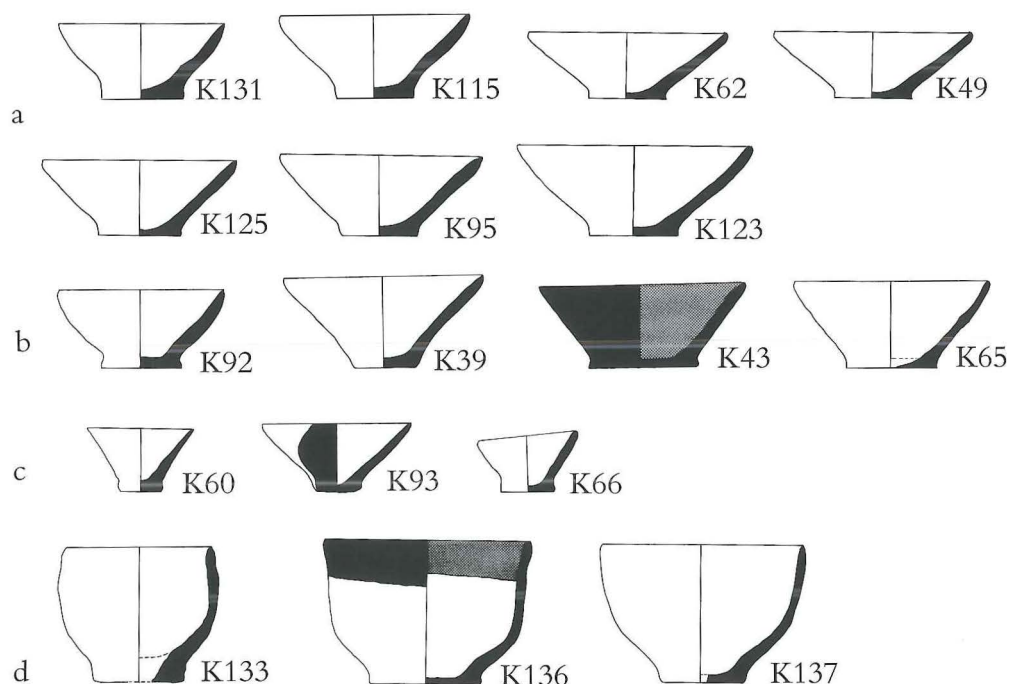


Fig. 25. Handleless conical cups: a) Type 4A: K131, K115, K62, K49, K125, K95, K123; b) Type 4b: K92, K39, K43, K65; c) miniature cups-Type 3: K60, K93, K66; d) bell-shaped cups: K133, K136, K137.

including the miniatures, can be placed within LM I (82.25%), only one typological group can be partly dated to LM IB. These are the Type 4 cups, and there are 298 complete examples, comprising 33% of the total number of intact conical cups at the sanctuary. They appear in two varieties. Type 4A (Fig. 25a) is the more popular of the two (267/298 – 89.59%) and is characterized by conical or slightly convex walls and a slightly raised base.¹⁷⁹ The other, Type 4B (Fig. 25b), has thin conical walls, a relatively smooth transition to the base on the interior and a thin raised base.¹⁸⁰ These cups cover a relatively wide chronological range, from the transitional MM IIIB/LM IA period down to LM IB. The vast majority are plain.¹⁸¹ Among the miniature versions, only Type 3,¹⁸² the most popular type of miniature conical cup in the sanctuary (47/66 – 71.21%), has thin conical walls that correspond to the Type 4 normal-sized cups and thus could be partly dated within the LM IB period (Fig. 25c).¹⁸³ The bell-shaped cups, which first appear at Kythera in LM I, are represented by a very small number of intact vessels (22 examples), nearly all of which are plain (21 of 22 examples), and a small number of

sherds (9) (Fig 25d). Bell-shaped cups are attested at Kastri in much larger numbers,¹⁸⁴ and the finer LM IB decorated version from the settlement is

¹⁷⁹ H. 2.4–4 cm (avg. 3–3.6 cm), rim d. 6.7–9.2 cm (avg. 7.5–8.5 cm), base d. 3–4.5 cm. Parallels: Coldstream & Huxley 1972, 06 (LM IA), A5 (LM IB); Bevan *et al.* 2002, figs. 18–19 (LM IB). At Knossos, see Catling, Catling & Smyth 1979, fig. 36.241–6– Dep. F (LM IA); at Kommos, see Watrous 1992, fig. 17.255 (LM IB); and at Amnisos, see Schäfer 1992, pl. 95.12 (LM IA).

¹⁸⁰ H. 3.1–4 cm (avg. 3.4–6 cm), rim d. 6.7–8 cm (avg. 7.5–8 cm), base d. 2.8–4.2 cm (avg. 3.2–3.5 cm). Parallels: Coldstream & Huxley 1972, ζ35 (MM IIIB/LM IA), μ28 (LM IB), ξ90 (LM IB), C22 (LM IA); Bevan *et al.* 2002, figs. 18–19 (LM IB). At Kommos, see Betancourt 1990, fig. 40.838 (MM III/LM IA).

¹⁸¹ The plain examples, which comprise the great majority in this group, reach a staggering 96.97% of the total (289 of 298). Only 3.02% of the material is monochrome (9 of 298).

¹⁸² H. 2–2.7 cm, rim d. 4–6 cm, base d. 1.7–2.5 cm.

¹⁸³ Coldstream & Huxley 1972, fig. 42, μ28 (LM IB); Levi 1988, pl. 105d, e, f (Phase 1a-MM II).

¹⁸⁴ 74 examples of mostly LM IB date (LM IA: ζ33, ζ38, η32; LM IB: μ22–5, μ29–31, ν30, ξ76–89, ξ92, ω156–74, D6, E6, J9–10, N8).

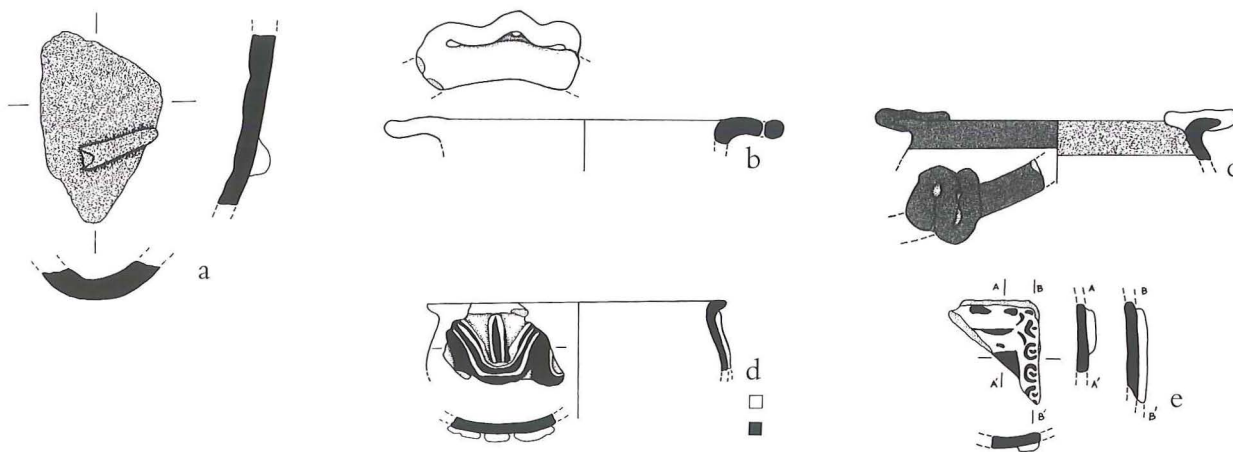


Fig. 26. Sherds with plastic decoration: a) K839; b) K1071; c) K1072; d) K270; e) K1080.

not attested at the sanctuary.¹⁸⁵ The vast majority of the material from the sanctuary belongs to the less fine, mostly plain version of this cup and is of local manufacture.¹⁸⁶ This same type is also attested at various centers in Crete, including Knossos,¹⁸⁷ Nerokourou¹⁸⁸ and Palaikastro.¹⁸⁹

Finally, a small number of fragmentary examples with *plastic decoration* can be assigned to the LM I period. Approximately half of the recorded material at Hagios Georgios sto Vouno (19 out of 37 examples) belongs to vases of which 12 are open shapes or cups. Of the remaining fragments, 15 belong to a category of objects with flat or nearly flat surfaces, possibly plaques, with plastic decoration on one side. Only five of the extant examples can be tentatively dated to the Neopalatial period: a single example decorated with horns of consecration (K270), three decorated with snakes/snake-like ornaments (K839, K1071, K1072), and one with abstract motifs (K1080). Snakes or snake-like ornaments are attested in only three instances (K839, K1071, K1072) (Fig. 26a, b, c), with two of these coming from open vessels (K1071, K1072)¹⁹⁰ of similar size.¹⁹¹ In both cases, the plastic decoration was placed on the rim, while only one of the two preserves traces of paint (K1072).¹⁹² Plastic decoration of snakes on vases does not appear in the Minoan tradition before LM I,¹⁹³ and it is never found on the rim of the vases.¹⁹⁴

A fragmentary semiglobular cup decorated with horns of consecration (K270) (Fig. 26d) preserves traces of white paint added over a reddish-brown

background, typical of the early stages of LM IA on Kythera.¹⁹⁵ Another example (K1080) (Fig. 26e), which is decorated with abstract geometric motifs along a rectangular attached border, is also consistent with an LM I date, possibly the second half. No parallels are known.

¹⁸⁵ Kastri: 41 of 74 (55.40%) are decorated and all date to the LM IB period.

¹⁸⁶ At the sanctuary, only one example of the LM IB period was decorated. The majority of the vessels from the settlement carry various floral motifs.

¹⁸⁷ Catling, Catling & Smyth 1979, fig. 16.4 – Dep.A (MM III); Popham 1984, 155, pls. 141.14–16, 143.12, 144.17–21 (MM III/LM IA); Warren 1991, 330, fig. 9m-o (MM IIIB/LM IA).

¹⁸⁸ Kanta & Rocchetti 1989, 303, 29 examples (LM IB), fig. 36, including 21 plain and eight monochrome examples, all of which are Type 6A (figs. 36.37, 36.43, 36.50). The material from the sanctuary includes a greater number of less differentiated bases and cups with less strongly S-shaped profiles.

¹⁸⁹ Sackett & Popham 1970, 221, fig. 13.13 (Type 6B-LM I), typologically similar to K136.

¹⁹⁰ The third example (K839) is part of a rhyton.

¹⁹¹ Rim d. 11–16 cm. The morphology of the specific vessels points to LM I, especially the second half.

¹⁹² Interior and exterior rim band.

¹⁹³ Three examples from Knossos. All of the remaining examples belong to the LM III period (Foster 1982, 95, 113, table 13; Gesell 1976). Plastic snake decoration on the interior of vessels is attested on ritual kalathoi of the LM IIIC period at the Kavousi shrine (Gesell 1999, 283–7).

¹⁹⁴ In all cases, the snakes are placed along the walls of the vessels, never on the rim (Foster 1982, 95).

¹⁹⁵ Coldstream & Huxley 1972, 282, 289. Morphologically it belongs to the LM I period.

It should be noted at this point that vessels decorated with geometric or ritual themes were very rare in Minoan plastic tradition and that all of the extant examples, which date from MM III onwards, come from major centers like Knossos, Malia, and Phaistos.¹⁹⁶ Although none of the recorded ritual symbols from Minoan plastic iconography are attested at Kythera, horns of consecration are likewise not attested on any of the Minoan vases outside Kythera.¹⁹⁷

Contrary to the conclusions drawn from the mature LM IB decorated material from the settlement of Kastri, the vast majority of the decorated pottery from the sanctuary was locally produced.¹⁹⁸ Otherwise, the pottery from the peak sanctuary appears broadly to follow the typological and stylistic developments of Minoan Crete. Where the pottery diverges from the classic LM IA–B Minoan tradition, it reflects the influence of both the local stylistic idiom and contacts with the mainland ceramic tradition of LH I–IIA. On the whole, the sanctuary material betrays closer typological and stylistic bonds with Laconia and the ceramic developments

in the Minoan world than the Minoan colony at Kastri, and this may hint at the more international role of the site in the general scheme of things.

¹⁹⁶ Foster 1982, 118.

¹⁹⁷ Foster 1982, 105–6.

¹⁹⁸ 29 examples have been tentatively identified as possible imports. The criteria for non-local provenance include the type of clay, the quality of firing (hardness of the clay), the quality of the paint and of the finish, as well as the decoration. To this category are assigned ten intact handleless conical cups, mostly Types 2A and 4A, including K12, K28, K30, K32, K85, K88, K89 and K108, three fragmentary rhyta (K815, K816, K849) and a number of miscellaneous sherds (K1250–closed vessel, K1247–closed vessel, K1236–open vessel, K1238–closed vessel, K1239–open vessel, K1240–open vessel and K1243–closed vessel). In the same category we also tentatively place nine additional examples, on account of their decoration. These include K321–semiglobular cup, K182–straight-sided cup, K836–rhyton, K318–semiglobular cup and K1254–closed vessel. Similar conclusions about the true number of imports in the Kastri material have been drawn by Mountjoy (1999, 243, 249).

Kythera, the Levant, Myrtos-Pyrgos and Knossos: a response to Iphigenia Tournavitou*

Gerald Cadogan

Late Minoan IB

As I am speaking near the start of this Workshop, a few general questions and comments may be helpful for the discussion. I look forward to enlightenment from the many expert colleagues present.

1. One big concern is how socially restricted was the consumption of Late Minoan IB pottery. Was it produced just for use by the elite?

2. A related issue is to what degree was it an actual style or, to put it another way, how often do we use and/or should use the label of LM IB only for (very) fine vessels? Is it to be confined to what Philip Betancourt calls the “Special Palatial Tradition”? Or can we identify LM IB styles in coarse and cooking pot wares that can be seen to be distinct from LM IA styles in these same wares? Alternatively, is there no option but to talk only of a general LM I style, once we move beyond some (or all) of the fine wares? This style would be one that includes both LM IA and what Arne Furumark called “Sub-LM IA”, an unhappy term in so far as it combines (confuses?) temporal sequence with negatively-inclined qualitative evaluation. It has recently been resuscitated for the South House at Knossos,¹ but I do not see this as a help. Perhaps its only benefit is the indirect one, of highlighting the fact that real problems do exist in semantics and social stratification, both being expressed in ceramics.

These issues are even more apparent when we think about coarse and cooking pot ware vessels found in LM IB contexts. It begs the question to say that they are therefore LM IB products, let alone their being counted as “Sub-LM IA” products. More to the point is that we need additional study of the presence – or absence – of differences between the coarse and cooking pot ware vessels found in LM IA contexts and those in LM IB contexts, before we

can start to say anything significant.² For plain conical cups we can say already that it is not easy.³

3. As for the probable provincial centers of production, how much can we say about them, and the competition they imply between local elites in both consumption and production? This is clearly an important matter for Kythera, where Iphigenia Tournavitou confirms local production of (fine) LM IB pottery.⁴

It also important for how we view the production in mainland Greece of fine pottery that is clearly locally made and accordingly called LH IIA, and yet shows much Cretan LM IB influence.⁵ Following the example of Hector Catling at the Menelaion, who contrasts Minoan pottery made on Crete and brought to Sparta with “Minoan”, made outside Crete by Minoan potters working abroad, or by others directly taught by such Minoan potters”,⁶ I shall use LM IB and “LM IB”.

* I thank Tom Brogan and Erik Hallager for inviting me to the Workshop, Eleni Hatzaki and Vance Watrous for advice on this response, and the British School at Athens for permission to present pottery from Myrtos-Pyrgos and Knossos. Watrous is preparing the LM I pottery from the Country House at Myrtos-Pyrgos for publication, and Hatzaki that from the Tomb and the rest of the settlement. I was not able to see the final version of Iphigenia Tournavitou's excellent paper in preparing my final version of this response.

¹ Mountjoy 2003.

² Cf. Hatzaki 2007.

³ Hatzaki 2007a, 191; Van de Moortel 1997; 2001.

⁴ Pace Coldstream & Huxley (1972). Tournavitou reminds us that Mountjoy (1999, 243, 249) has already pointed this out: for an early indication of this view, see Mountjoy, Jones & Cherry 1978, 169–70.

⁵ For Marine Style as a major part of this issue, see Mountjoy, Jones & Cherry 1978.

⁶ Catling 1996, 70.

Like Catling, I see here an opportunity emerging to leave behind at last the narrow-minded nationalism verging on chauvinism – think of Wace and Blegen versus Evans between the wars – that has bedevilled study of the LM IB/LH IIA period, with its undue emphasis on a putative ethnic-cum-political basis for one or other pottery “brand”, and its totalling up the numbers of possibly exported pots found abroad so as to produce political scenarios.⁷

If we think instead in terms of a number of provincial (meaning extra-Knossos) centers, whether elsewhere in Crete, in the islands, or in continental Greece, that produced and consumed locally made – or brought from outside – fine pottery which reflected varying degrees of, probably, Knossian cultural influence, then we observe a large and rich cultural landscape of which the externally (Knossian/Cretan) influenced elements in LH IIA pottery are just one part of a much larger, diversified whole, matching with similar phenomena on Kythera, at Khania and other places, as I hope we shall hear at this Workshop. In such an interactive elite cultural milieu, “trade” in these vessels, when their origins are narrowly defined just in terms of where the clay came from without reference to the producing cultures (in the wide *and* narrow senses), is not sufficient to write or underwrite political history – especially as the “history” that has been created is predicated on the assumption that the consumers could make a distinction that they thought mattered between LM IB as made at Knossos and “LM IB” as made, say, in Kythera or the Argolid. Perhaps the patrons did make these distinctions, perhaps not. Did they care whether their octopi had dots in their suckers? We have no idea. One thing they probably did care about was the arrival – periodic visits, perhaps – of master potters and other craft-people bringing the iconography and ideologies they practiced at home (wherever that was) and had adapted in their travels. The background for such a broad interpretation of the LB I culture of the Aegean has to have been, and can only have been, aristocratic. By now, a century and a quarter after Heinrich Schliemann tackled the Shaft Graves, it must be clear that we are looking at interactive aristocratic societies across the Aegean, with *broadly* similar tastes and demands. And in aristocratic

societies I include the would-be aristocrats: the *nouveaux*, the emulators, the would-be toffs, who always matter in cultural history since they often define the content and forms of elite culture better than the toffs do themselves. Why is that? It is easy. Toffs often don’t give a damn; *nouveaux* most certainly do.

Taking a broad view along these lines will also affect how we interpret the LM IB and “LM IB” (LH IIA) pots found in the Levant: as in the Aegean, we are now past using them to support narrow, point-to-point schemes of directional trade.

Another consequence of thinking in terms of a widespread LM IB style, of which LH IIA when in its “LM IB” mode forms a part, is that we can be more detached also about the argument (that used to be so passionate, for the narrow nationalist grounds already discussed) over the origins of the LM II/LH IIB Ephyræan style. The question has been: is it of Cretan or mainland origin? Where did it arise? Now we can see that, in light of a wide LM IB-type ceramic horizon, as well as the definition of the open-field Alternating Style (which has to have some part in the birth of Ephyræan), the answer is neither one region exclusively nor the other, but both – that is to say, wherever LM IB and/or LH IIA impacted on local production. From this perspective, “local production” will, of course, include Knossos.⁸

4. My final question is: how much development and phasing can we see in the LM IB style(s)?⁹ Can we pinpoint the appearance of the Alternating Style? Does it really mark a later stage?

I hope that the interplay of contexts and style, which will be the meat of this Workshop, may help to resolve some of these issues.

⁷ As in Furumark 1950, but following Wace & Blegen 1939.

⁸ Cf. Popham 1984, 165–7; Hatzaki 2007a, 207.

⁹ E.g., as proposed for Kommos with LM IB Early and Late: Van de Moortel 1997; Rutter 2006; see also Rutter in this volume.

Kythera

Kythera is an ideal starting place for trying to answer some of these questions, thanks to Iphigenia Tournavitou's excellent analysis of the LM IB pottery from the Hagios Georgios peak sanctuary, combined with her use of comparanda from nearby Kastri, whose pottery Nicolas Coldstream presented 35 years ago.¹⁰ Coldstream's publication has an important place in the history of the study of LM IB ceramics, as it was here that he identified, and in effect brought back to life, the then overlooked Alternating Style.¹¹ From Kastri, Tournavitou then casts her net admirably wide to catch parallels – a pleasure to all thinking in global terms when trying to understand the pottery and culture of the LB I southern Aegean.

The Hagios Georgios material is indisputably a special assemblage and all the more valuable for not being from a settlement: conical cups and tripod cooking vessels make up around 98 percent of a large amount of sherds, while what is recognizable as LM IB forms only around 0.5 percent of the whole body of material. Style is the basis of her assigning pieces to LM IB, after which she looks for comparisons first among what was found in the settlement at Kastri. Much of the Hagios Georgios LM IB, Tournavitou is certain, was locally made, as applies also to Kastri.¹² She does find, however, numerous parallels with Hagia Eirene on Kea as well as the Menelaion in Laconia.¹³

Since the LM IB traits appear at all these sites *en masse*, as against what seems to have happened in LM IA when Minoan-derived traits in a local “late MM” ceramic tradition are found together with imported LM IA at several sites around the Aegean, it seems that the spread of the new ideas, and their reception, consumption and reproduction, happened rather more quickly than in LM IA, or MM III. However, cultural “lag” does not seem to have disappeared altogether: examples that Tournavitou presents of ideas hanging on, away from the presumed center(s) where changes would/should have come faster, include *S-rimmed hemispherical cups* which, as a shape, are generally rather earlier at Knossos than at Hagios Georgios or Hagia Eirene.

She demonstrates also that on Kythera, and in

other regions, not all *hemispherical cups* of LM IB style have a monochrome (solid wash) interior, which is normally taken as an essential element of production in Crete. Instead, eclecticism prevails. This is apparent too in hemispherical cups with in-and-out decoration: on Crete this approach to decoration was fairly frequent in LM IA,¹⁴ but does occur occasionally in LM IB as, for example, on a very fine (Special Palatial Tradition) cup from Palaikastro.¹⁵

Palace Style jars such as those of Hagios Georgios did not occur at Kastri – an interesting point since they do occur at middle-ranking settlement sites on Crete, though the date of their manufacture is not always easy to determine, as they are durable items. Tournavitou suggests that the plant decoration that is found on many of the Hagios Georgios pieces, as well as on the *rhyta*, had ritual significance.

The many *rhyta* and *cup-rhyta* also do not find parallels at Kastri, nor does the floral decoration found on some of them. It is noteworthy, and surprising, how many of these vessels are plain or monochrome – another local eclecticism?

Tournavitou assigns the pieces of *Marine Style* to “late LM IB”: I am not quite sure why. Do we know enough of LM IB stylistic/contextual sequences to assign these pieces to a late(r) phase in the period?

Plastic decoration occurs on three vessels that have applied snakes (or something similar) – allowing, if one wishes, the fair use of a term such as “snake vessel”, as against the indiscriminate, sloppy and, alas, frequent archaizing extension from LM III contexts of the term “snake tube” to tubular stands without applied snakes in LM I contexts.¹⁶

¹⁰ Coldstream & Huxley 1972.

¹¹ See also Coldstream & Huxley 1984.

¹² See n. 4.

¹³ The at present rather peripatetic production at the beginning of MH of fine, Minoan-influenced Lustrous Decorated wares, which seems to involve Kythera, Laconia and the Argolid, and possibly Aigina, may make a useful parallel and/or cultural precedent for the phenomena of greater LM IB. For a recent discussion, see Cadogan & Kopaka 2010, and other papers in the *Mesohelladika Conference* (2006).

¹⁴ Hatzaki forthcoming d.

¹⁵ Sackett & Popham 1970, 217–8 fig. 9, 238, pl. 57b–c NP53.

¹⁶ Cadogan 2009.

In conclusion, the Hagios Georgios LM IB pottery complements the pottery from Kastri and provides a fuller picture of life and interactions on the island at the time. In a broader sense, it is especially valuable for its glimpses of local eclecticism in production and consumption, although similar variations are found in “LM IB” (if often labelled LH IIA) pottery from many other major sites in the Aegean. We can see here the dissemination of LM IB culture in ceramic form outside Crete to meet the demands of a rich bourgeois and/or aristocratic society in the southern Aegean that could afford these products. As for the questions of who the potters and painters actually were (where they came from; where they apprenticed; how much they travelled) and how they were commissioned – and commissioned they must have been in different places, since the clays are different – we still have a long way to go.

Tournavitou’s study is also valuable in explaining current approaches to cultural, economic, social and, ultimately, political history in the Late Bronze Age Aegean, and for illuminating their psychological background. The emergence of such a more detached and simultaneously more comprehensive view of the period both mirrors major modern realities and intellectual backgrounds, such as the European Union and the phenomenon of globalization (which is essential to keep in mind in assessing the Minoan impact in LB I), and takes us away from nation-state mentalities, which all too clearly impeded the LM/LH debate between the wars and for quite some time after the Second World War.

The Levant

It is important not to forget that a few pieces of LM IB-style pottery have been found in the Levant, though it is not always clear where in the Aegean they were made and whether they are LM IB or “LM IB.” This makes an interesting long-distance reflection of the problems of attribution and style that are more apparent in Aegean home waters. Marine Style vessels, for instance, that reached the East Mediterranean appear as both LM IB and “LM

IB”: the Marseilles Ewer, if it was really found in the Levant or Egypt and not Crete (for which the case is growing);¹⁷ an alabastron from Armant in Egypt that is almost certainly a mainland product;¹⁸ a bridge-spouted jug from Egypt;¹⁹ and a stray sherd from both Byblos and Lachish.²⁰ Also in the Special Palatial Tradition is the Spirals and Arcading bridge-spouted jar from Tell Ta’anek. Betancourt believes that it is “not a Cretan vessel, but a closely related LH IIA piece” – i.e., “LM IB” – but Warren and Hankey call it LM IB,²¹ and Hatzaki accepts it as looking “very central Cretan if not Knossian in style”. She also accepts as LM IB²² a shallow cup from Tel Michal and an alabastron from Alalakh and another from Tell Ajjul.²³

Pieces from Egypt also include a jar from Abydos, which may come from Central Crete,²⁴ but the motif (in yet another sign of the pan-southern Aegean impact of the LM IB style) has good parallels at Hagios Georgios and the Menelaion (and elsewhere in the Peloponnese),²⁵ a baggy alabastron from Sedment,²⁶ a neck or collar sherd of a conical rhyton, baggy alabastron or (I believe less likely)

¹⁷ For Crete as a possibility, see Merrillees & Evans 1980; also Merrillees & Winter 1972, 108–9; Mountjoy 1984, 218 no provenance 3. Dimopoulou 2000 takes Merrillees’s proposal further, suggesting that the Marseilles Ewer seems to be from the same (Knossian) workshop as the magnificent ewer found at Poros in 1986 and may well come from the Poros cemetery. See also Dimopoulou 1999, esp. 225 n. 52; Dimopoulou-Rethemiotaki 2005, 281.

¹⁸ Best illustrated in Fitton 2000. Also Mountjoy 1984, 218: no provenance 1. For other LH IIA – but likewise LM IB-impacted – pieces from Egypt, see Warren & Hankey 1989, 144 pls. 15 *B-D* (squat alabastron), 16 (shallow cup with in-and-out decoration).

¹⁹ The Abbott jug: Merrillees & Winter 1972. Also Mountjoy 1984, 218 no provenance 2.

²⁰ Mountjoy 1984, 217.

²¹ Betancourt 2004, 297 fig. 24.1c; Warren & Hankey 1989, 142–3, figs. 6–7.

²² Hatzaki 2007a, 196.

²³ Leonard 1994, 97.1452 (= 194.6 [Tel Michal]), 197.21 (Alalakh), 21a (Tell Ajjul).

²⁴ Hatzaki 2007a, 196, with references, including Kemp & Merrillees 1980, 232–3 fig. 72, pl. 31 (best illustration).

²⁵ Tournavitou this volume, fig. 40; Catling 1996, 70, 73 fig. 2.3.

²⁶ Kemp & Merrillees 1980, 228–32, fig. 70; Warren & Hankey 1989, 142.

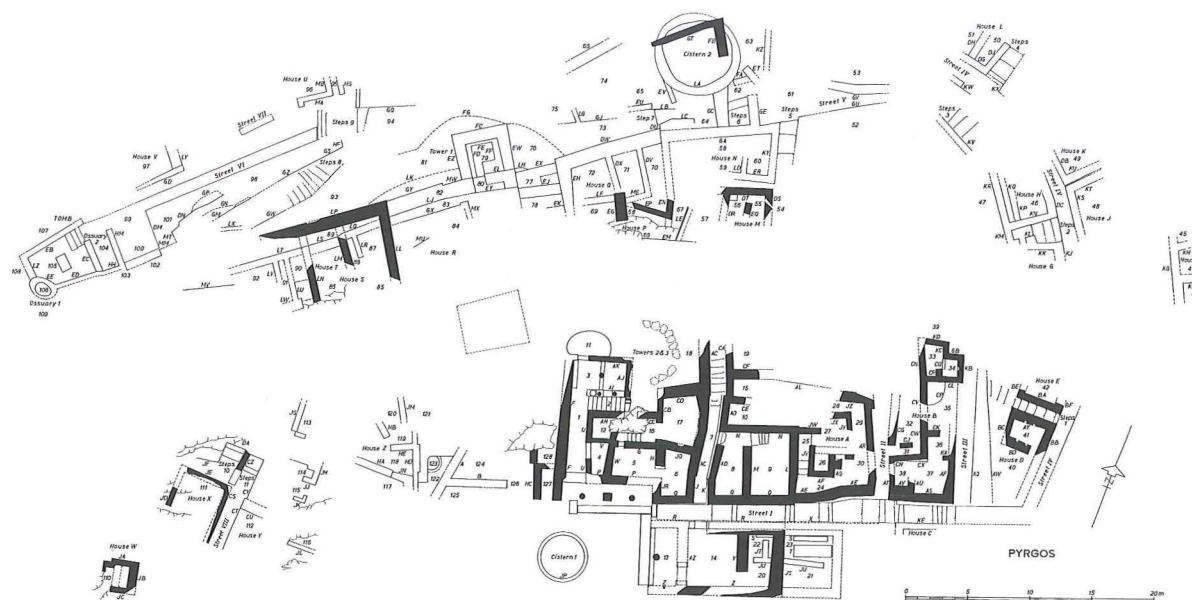


Fig. 1. Myrtos-Pyrgos. The principal surviving Pyrgos IV habitation remains are shown with a solid line.

bridge-spouted jar from Memphis-Kom Rabia,²⁷ and four bell cups in the Alternating Style of uncertain provenance.²⁸ We may also note that Minoan plain conical cups seem to have spurred Egyptian potters to produce their own versions.²⁹

In Cyprus more LM IA has been found than LM IB or “LM IB”, but the totals of LM I and LH I-IIA imports are very small; new finds could easily change the picture.³⁰ I shall just mention four hemispherical cups from Hagia Eirene-Paleokastro,³¹ and another in a private collection on the island,³² that have monochrome interiors, in order to argue for possible LM IB manufacture on Crete, but three at least look far more at home as coming from the “LM IB” Peloponnese: all these cups, however, deserve a fresh view from an Aegean pottery specialist. Enkomi has produced a few scraps that hover between Minoan and Helladic.³³

In discussing these extra-Aegean exports it is critical to keep in mind that their possible places of manufacture say absolutely nothing about the nationality (registration?) of the ships that brought them, nor do we have any indications that the locals could identify the various products as being from one region in the Aegean or another or, even if they could distinguish Khaniot from Knossian, Kytheraeon or Peloponnesian LM IB, that it mattered

to them. It is equally axiomatic that the pottery says virtually nothing about where our anonymous potters were born or learned their craft.

Myrtos-Pyrgos

LM IB pottery has been found at Myrtos-Pyrgos (Fig. 1) from the Pyrgos IV period in the destruction level of the Country House, as well as at various spots in the rest of the settlement, including the area of Houses Y and Z on the top of the hill (where it could have spread from the

²⁷ Bourriau & Eriksson 1997. See also Warren & Hankey 1989, 139–40.

²⁸ Johnston 2000, with references. No. 121 shows Marine Style allusions. Also: Merrillees & Evans 1980, 109; Furumark 1950, 211 fig. 19 D.213.

²⁹ Whitelaw 2000.

³⁰ A recent list: Eriksson 2003, 414 table 1.

³¹ Pecorella 1973; 1977, 21–2 figs. 30–1.16 (also Karageorghis 2002, 15–7 fig. 19 [best illustration]) and 29, 112–3 fig. 269.38+39, 247–8; Quilici 1990, 126–7, 133 figs. 328, 348a. 427.

³² *CIA* Cyprus 2, 19–20 pl. 29.

³³ Dikaios 1969, I. 230, frontispiece, pls. 58.26–8, 86.1–3; II. 480; also Cadogan 1979, 63 n. 1.



Fig. 2. Pyrgos: bell cup (MP/94/P3).



Fig. 3. Pyrgos: baggy amphoroid jar (MP/70/P217).



Fig. 4. Pyrgos: tub (large *lekane*) (MP/71/P691): h. 39, d. 55 cm.

Country House over the centuries after the LM IB destruction), B and D on the east slope, P on the north slope just below the top of the hill, and further down the north slope where the MM (Pyrgos III) Cistern 2 had become a rubbish dump. LM IB sherds in or around this dump are very few, but do include two scraps of Marine Style.³⁴ This may suggest that the destruction and abandonment of Pyrgos happened (fairly) late in LM IB, since Marine Style vessels had already been discarded.³⁵ The presence of a few Alternating Style sherds in the Country House³⁶ and a whole bell cup (Fig. 2) in House A (next to the Country House) would support this view. The Country House has produced important evidence from C-14 dating for the LM IB destruction at Pyrgos and, consequently, of the LM IB pottery found in it.³⁷

Eleni Hatzaki and Vance Watrous will fully present the LM I pottery from Pyrgos in the *Myrtos-Pyrgos* reports that are in preparation. A few points, however, may be made now:

1. LM IB is found in both the Country House and the rest of the settlement.
2. The pottery includes Marine Style and Alternating Style, but not in large quantities.
3. There is an impressive range of household vessels in coarse ware(s), especially from the Country House (such as Figs. 3–4). If these were in fact manufactured in LM IB (which we can neither confirm nor deny), they present potentially valuable comparisons and contrasts with the plain pottery that had fallen over the upper burial layer in the Tomb and is, presumably, of LM IA date along with the fallen fine decorated vessels.
4. An interesting phenomenon is the presence of antiques (I prefer this word to “heirlooms”, as it is less loaded) together with LM IB vessels.
 - a.) A likely shrine or shrine treasury deposit

³⁴ Mountjoy 1984, 196.9–10 (in a useful provisional list of Marine Style pieces at Pyrgos).

³⁵ But it is just possible that they spread there later, as may have happened – or may not – at Houses Y and Z. We shall address this in preparing the report.

³⁶ Cadogan 1978, 80–1 fig. 34.

³⁷ Manning *et al.* 2002; Manning *et al.* 2006.

Fig. 5. Pyrgos: a) stirrup jar (MP/70/P71); b) small stirrup jar (MP/70/P149).



Fig. 6. Pyrgos: top view of stirrup jar (MP/70/P71).

in a room above Storerooms 8 and 9 in the Country House included three LC I nipped jugs³⁸ together with a three-handled LM IB stirrup jar (Figs. 5a, 6). Possibly also antique, by a generation or two, are two elaborate amphora-rhyta, which were also in the deposit, but must be Cretan products.³⁹ In their shape, with large S handles and white-on-dark decoration, they replicate similarly shaped stone vessels, such as one from Zakros that was made by cutting across the natural layers of the stone.⁴⁰ b.) A late MC bird jug⁴¹ was found in a con-

text in House B that appears to include a coarse ware “Marine Style” bowl with interior (if not fully in-and-out) decoration of an octopus (Fig. 7). The presence in these LM IB deposits of such older pieces, even if they are exotic imports, exemplifies the old adage that contemporary deposition does not have to mean contemporary manufacture. This is hardly worth repeating, except that it is useful to have in mind when assessing deposits at other sites where style-defined LM IA vessels occur with LM IB vessels: the context does not make them automatically LM IB, let alone “Sub-LM IA”.

5. Among LM IB vessels with conglomerate motifs, there is a strong contrast between a very fine, probably imported globular alabastron-rhyton (Fig. 8)⁴² and two thoroughly provincial-looking three-handled stirrup jars (Figs. 5–6), that could well have been made at Myrtos. The smaller one (Fig. 5b) is atypical, for both

³⁸ Cadogan 1978, 80–1 fig. 32; 1984.

³⁹ Cadogan 1978, 80–1 fig. 33.

⁴⁰ Well illustrated by Dimopoulou-Rethemiotaki (2005, 157).

⁴¹ Barber 1974, 35; Cadogan 1978, 76 fig. 19.

⁴² Cadogan 1978, 76 fig. 18. On a visit to the Stratigraphical Museum in 1975, Arne Furumark agreed that this remarkable vessel, found in over 1200 pieces, belonged to LM IB. Knossian manufacture is more than likely.



Fig. 7. Pyrgos: bowl with interior octopus (MP/71/P724).



Fig. 8. Pyrgos: globular alabastron-rhyton (MP/71/P715).

its small size and its depressed shape – which would make more sense for a stirrup jar with two handles of LM IIIB. As regional products, even if not actually Myrtiot, they help to show that there was production of LM IB-style pottery in Crete elsewhere than at Knossos and other centers, as well as outside of the island, as we have been seeing. These two stirrup jars remain, however, very much LM IB “of sorts”. They would also reveal, if they are Myrtos-made, that the quality of (some of) the locally made pottery had declined considerably since the fine products of LM IA, of which there are many examples in the Tomb.

Knossos, Stratigraphical Museum site

In the summer of 1962, at the request of Sinclair Hood, I observed the excavations for the foundations of the Stratigraphical Museum, which was extended in 1969 to its present form. As Hood

has observed, the principal find was a stratified sequence beneath what is now the southwest corner of the courtyard: a narrow passage with a sequence of floors dating to MM III, LM IA, LM IB and, finally, LM II.⁴³ At the time, when the Royal Road: North LM IB deposit that Hood discusses in this volume was vivid in his and others’ minds (most of it was excavated in 1961), there seemed no reason to doubt the validity of this sequence; and there seems no reason to doubt it now either. This small space, however, lacked LM IB whole vessels, though the other three floor levels did produce them. The LM IB level was identified partly on the basis of its intermediate position between the LM IA and LM II levels, and partly from the sherds. Later, plenty of LM IB whole vessels were found by Peter Warren (this volume) in the nearby North Building.

One important chance find from the 1962 trials

⁴³ Hood & Smyth 1981, 48.188. However, they call the LM II cup from the site, which was discussed by Popham (1967, 343 pl. 82d), LM IB. The published information about the site is now collected in Cadogan & Chaniotis 2010.

may well be assignable to LM IB, on the basis of a parallel from Khania; and it certainly belongs to LM I, either IA or IB. It is a body sherd (measuring ca. 9.1 x 9.9 cm) from a large jar (Fig. 9) of a coarse clay mixture with a burnished slipped exterior and decoration in black. In fabric and finish, this piece is so close to Palace Style jars that it is reasonable to class it as one, though the decoration (at least on this fragment) is not generic but part of an extremely rare pictorial scene. The scene shows part of a group of buildings, and must be the earliest – and perhaps a unique – Minoan representation of (probably) urban architecture on a large clay vessel.

The architecture depicted is closely similar to that on the LM IB Master Impression from Khania and the miniature fresco from Hagia Eirene on Kea. In particular, this Knossos fragment has two dome-like objects on a roof, which match what Erik Hallager described, in his masterly publication of the Impression, as “sugar loaves”.⁴⁴ But in both cases, the artist’s/viewer’s perspective is not sufficiently clear to say whether the objects were meant to be round like a dome or were orthostat like, say, horns of consecration. If the latter, it is then possible that they were not on the roof proper but were set along the eaves of a roof. Similar “domes”, however, occur in comparable positions on the Hagia Eirene fresco fragments,⁴⁵ on the Miniature Fresco at Akrotiri on Thera⁴⁶ and, it seems, on the Siege Rhyton from Mycenae.⁴⁷ This makes a total of five sites that have produced LB I depictions of urban architecture with these objects; and we can perhaps add a sealing or two from Zakros. The non-fresco representations may well (in part) derive from, or allude to, a now-lost fresco with an urban scene that could have been (and if it existed, probably was) at Knossos. If there was such a fresco at Knossos, the Kea, and Thera frescoes may also allude to it.

What are these domed objects or “sugar loaves”? In publishing the Hagia Eirene pieces, Abramovitz suggested that they were crenellations, a view that Hallager discusses and does not totally reject, but he prefers them as representations of horns of consecration (or double horns) that would have stood – or the crenellations would have – on all the roofs of a large structure.⁴⁸ He adduces depictions

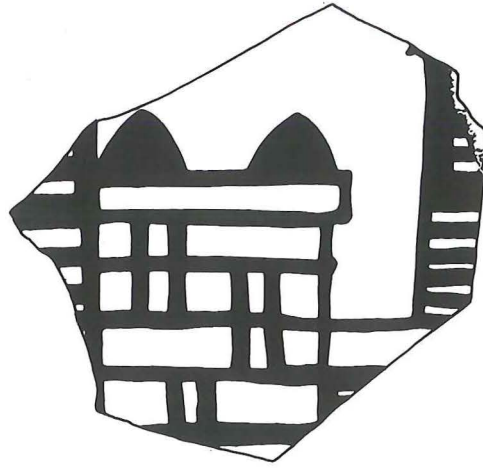


Fig. 9. Knossos: jar sherd with “domes” (SM/62/N313).

of urban architecture with horns of consecration from Thera and on the Zakros sealings. “They (the double horns on the Master Impression) are not, however, rendered in a canonical way”, he writes.⁴⁹ And that is the center of the debate: are they just a different way of depicting standard horns of consecration, or are they something quite different? We must emphasize that they do not match the usual U shape of standard horns of consecration, as depicted or *in corpore*, and that therefore it begs the question to call them simply horns of consecration albeit presented in a different way. It has still to be proven that they were intended as horns of consecration – which may not be the case at all.

Sakellariou had already in 1978 mentioned the “cone-shaped projections”, as she called them, on the roof of the Kean fresco as a parallel for the Theran representations, noting that the latter projections are smaller and closer together than at Hagia Eirene. She did not define the projections any further, or interpret them except to suggest that they may depict a characteristic of Cycladic

⁴⁴ Hallager 1985, esp. 19–20 and figs. 9–17; Pini 1992, no. 142, 143–45 (CMS V Suppl. 1A.142)

⁴⁵ Abramovitz 1980, 60, 63, pls. 3a–d. 36–8, 40, 43–4, 48.

⁴⁶ Morgan 1988, 81 pl. 106.35.

⁴⁷ Hallager 1985, 20 fig. 25c 2.

⁴⁸ Cf. Krzyszkowska 2005, 144: “a large building complex be-decked with horns of consecration”.

⁴⁹ Hallager 1985, 19.

architecture.⁵⁰ A few years later, Morgan discussed the “two small domes”, as she called them, on the roof of Building 35 in the West House fresco at Akrotiri together with the Kea domes, but again had no specific interpretation: if they “had a function, it is not ascertainable”. We cannot tell if the domes were “entirely enclosed or had an opening at the top to allow light in or smoke out.” She then discussed horns of consecration, by implication separating them from the domes.⁵¹ Both she and Hallager mention two sealings from Zakros: CMS II.7.218 has similar small domes on the roofs (and probably not on the eaves) of a complex of towers, but her remark that the Kea and Thera domes could have been for letting smoke out is echoed in the CMS text, which suggests they could be *Rauchabzüge* (smoke outlets)⁵² – and certainly they are not so rounded as the Knossos, Khania, Kea and Thera domed objects but look more like chimney pots; CMS II.7.219 is less relevant, except for its urban architecture in general, since it seems to have standard horns of consecration on the roofs.⁵³

Next, Boulotis accepted the objects on the Master Impression as probably intended as horns of consecration, but preferred the others, including those at Hagia Eirene, as crenellations.⁵⁴ Finally, Palyvou suggests that they may be ovens, declaring trenchantly and convincingly that the notion that they are “abbreviated” forms of horns of consecration is “quite untenable on account of their size, number, color” (some are white, some black) “and even form”.⁵⁵ Even so, she is willing, like Hallager and Boulotis, to allow that the objects on the Master Impression may be horns of consecration. Finally, Louise Hitchcock accepts them as granaries, while suggesting that there may be an ideological dualism in these depictions in that, while they are showing grain stores, they are alluding to both horns of consecration and mountains (the focus of so much ritual practice).⁵⁶ Certainly, looking at this fragment, one is easily reminded of how Iouktas looks when seen from Knossos.

In conclusion, whatever these domes were meant to represent, it avoids confusion if we do not call them horns of consecration. I prefer “domes”, which allows scope for interpreting their function(s) by separating that issue from their appearance. If they were some sort of heraldic device, we can then allow for the possibility that two types of heraldic objects could be placed on Minoan roofs or their eaves. But ovens remain an attractive idea.

While this putative LM IB sherd from the Stratigraphical Museum site has no context, we should note that in the 1969 trials very close by Mervyn Popham found a shrine of, probably, LM IIIA2 date.⁵⁷ It is not inconceivable that the jar of which our sherd is part once stood in a shrine, to which Popham’s shrine would/could have been a successor. If so, it would present a little evidence for a revival – or continuity – of cult at this spot on the hill northwest of the Palace.⁵⁸

⁵⁰ Sakellariou 1980, 148.

⁵¹ Morgan 1988, 81 pl. 106.35; and for horns of consecration, 83–5.

⁵² CMS II.7.218 = Hallager 1985, 20 fig. 25f; Morgan 1988, 81 fig. 56.

⁵³ CMS II.7.219 = Hallager 1985, 20 fig. 25g; Morgan 1988, 78 fig. 55 (not in connection with the domes).

⁵⁴ Boulotis 1990, esp. 428–9 and n. 27, n. 29 and n. 33 fig. 4a, 436 n. 57.

⁵⁵ Palyvou 2005, 192.

⁵⁶ Hitchcock 2007, 96.

⁵⁷ Popham 1970a.

⁵⁸ We should also mention the ritual that took place at the LM II-III A2 dancing platforms a few meters away, to the west of the Stratigraphical Museum: Warren 1984a; 1988.

Discussion

Vlazaki I wanted to ask about the cup-rhyton (Tournavitou, fig 18f) with decoration that is exactly the same as a bridge-spouted jug from Khania (Andreadaki-Vlazaki, Fig. 14b).

Tournavitou From Khania? Which one? The diamonds? That was a conical rhyton, not a cup-rhyton.

Vlazaki The decoration is exactly the same. How is the clay, the fabric?

Tournavitou I believe it is whitish.

Vlazaki I think it comes from Khania.

Tournavitou However hard I tried to find links with Khania (and I thought that it was more logical to have greater links with Khania), I'm afraid that I didn't. And the pottery that you showed here, at least most of it, also was not anything that I could relate to immediately. Fortunately, or unfortunately, there were close links with Knossos and Central Crete. I don't know if you agree, but that's how things appear.

Vlazaki I think you are right regarding the pottery that we saw, the fine ware; the coarse ware is like that found in the Kythera publication of 1972. For me, the two sites appear to have parallel lives; the same fate at the same time period; it's just a general impression, an idea that I have. In Khania, we have the same imports during LM IB from the same place.

Tournavitou Yes, because they are features that are common everywhere. There are very few vessels, of course, that I can link to Knossos, but generally what characterizes the material from the sanctuary is mostly the idiosyncracies of Kythera, so you cannot really compare directly, just generally. What really intrigues me, though, is the Menelaion connection that Gerald [Cadogan] made. I find the Menelaion, and the Peloponnesian connection in general, extremely intriguing and I think this can be explored more in the future.

Vlazaki Khania is also a place where there is a Peloponnesian connection. There are a few pieces that may be from Khania and may include some of your Alternating Style of the last stage.

Cadogan Also, it occurred to me with this and the potential links with the Menelaion that one is reminded of the problem at the beginning of the Middle Bronze Age of lustrous ware with its peripatetic centers of production, which tend to include Kythera and Laconia, with Hagios Stephanos as the favorite candidate.

- Tournavitou** Why would you have, for example, a version of a particular shape, a Minoan version, appearing first in Hagios Stephanos and later on Kythera? That's what intrigues me in this case, though we haven't excavated the whole site, and Kastri certainly is not excavated completely, so we can't make any sweeping statements at this point.
- Macdonald** Just referring to the late stage to which the Alternating Style is assumed to belong. Iphigenia, would you say that the earlier LM IB deposits at Kastri (ι, κ, λ, I think) are too small compared with the later deposits of μ, ν, and ο, so that the absence of Alternating Style in these earlier LM IB deposits may not be absolutely relevant here; and perhaps, does anyone else at this conference have two LM IB levels and Alternating Style only in the latest level?
- Tournavitou** The question perhaps is, do we have deposits with Alternating Style without the Marine Style, before the Marine Style appears, because what we find in general is the Marine Style together with the Alternating Style from the outset.
- Vlazaki** There is Alternating Style together with Marine Style, of course, and we call Alternating Style some pieces that have marine decoration, but, when we speak about the classical Marine Style, we mean those that don't have alternating decoration. This classical Marine Style goes with the first stage of alternating motifs, which are a little different from the second stage.
- Tournavitou** So, it precedes the idea of an alternating composition.
- Vlazaki** Two phases of Alternating Style.
- Tournavitou** And that's stratigraphically proven?
- Vlazaki** Yes. It means that the first phase goes together with the classical Marine Style. In the second phase there is no Marine Style.
- Tournavitou** That's what I thought, that was in my mind.
- Vlazaki** That's what Coldstream says for Kythera too.
- Knappett** I have a small point about differentiating LM IA and LM IB using conical cups. There's a publication in the *BSA* from 2002, I think, a nice tomb that was unearthed, a tholos near Kastri, and there's some very nice differentiation of IA and IB. And the difference really is that IB conical cups have thinner walls than IA conical cups, which is something that Maria [Vlazaki] mentioned earlier this morning with regard to the IB conical cups at Khania, which seem to have thinner walls than the IA versions. So I am wondering if this is maybe something regional because I am not sure this is quite so obvious elsewhere. At Palaikastro, I am not sure we can quite see that. So, I am just wondering if that's one sort of connection in the sequence from IA to IB at Kythera and Khania.

Knossos Royal Road: North, LM IB deposits*

Sinclair Hood

The main objective of the excavations which I directed for the British School at Athens from 1957 to 1961 at Knossos was to discover stratified deposits of pottery from all Bronze Age periods in order to check and supplement the system of Minoan periods as defined by Sir Arthur Evans. In this I think we achieved our objective. At the time we began this work at Knossos, nearly 20 years after the death of Evans in 1940, there was a feeling among those studying the Cretan Bronze Age that the system of periods as defined by him was misleading, and that a new system of classification was desirable. That was not, and is not, my own view, and I feel that the results of these excavations, and of others since then at Knossos and elsewhere in Crete, have confirmed the basic validity of the system of Minoan periods as Evans defined them, with, naturally, some adjustments, modifications and corrections; Evans was not infallible.

In the years after the last war, the LM IB period in particular was suspect. Evans had only defined this at a relatively late date, in print at any rate perhaps as late as the second volume of *The Palace of Minos*, published in 1928; and he noted that material assignable to LM IB was rare in the Palace at Knossos.¹ A number of serious scholars felt that distinguishing LM IB as a period separate from LM IA was a mistake. I do not think I ever doubted the existence of a separate LM IB period as defined by Evans, but I was aware of doubts about it; and it was gratifying when in 1959 we began to realize that we had a large deposit of LM IB pottery in a level of destruction by fire on the north side of the Royal Road west of the Palace of Knossos.²

I had chosen as the site for our main stratigraphic excavations a place by the Royal Road at its lowest point, where it slopes down into a slight dip before

rising westwards towards the present village of Knossos. The Royal Road can be clearly seen on the balloon photo running from right to left westwards from the northwest corner of the Palace (Fig. 1); north is at the top on Fig. 1, south at the bottom. We excavated on both sides of the Royal Road: on the south side, at a place where Evans had already done some work, showing as a whitish patch below the middle of the Road on Fig. 1 (beyond it down to the right is a white area cleared by Evans with the House of the Frescoes at the far end on the right, well away from the Road). On the north side of the Road, we selected an area to excavate next to where we conjectured that the Armoury or Arsenal, as Evans had called it, was situated. Evans had excavated the Armoury in 1904, but had filled it with earth from his later excavations in the early 1920s of the House of the Frescoes and the surrounding area south of the Royal Road. Our excavations are just visible on Fig. 1 as the dark patch above (that is, north of) the

* I am most grateful to Erik Hallager for inviting me to this workshop, which gave me the chance of doing a preliminary survey of this important LM IB deposit from the excavations of the British School at Athens on Knossos Royal Road: North. I am also deeply grateful to Birgitta Hallager for the useful observations she has made, to many of which I have drawn attention in my text. Lastly I owe much to Hugh Sackett, who was in charge of the excavation, to the late Spiros Vasilakis doyen of the workmen, and to all others who worked on the excavations or helped with them. The Council of the British School at Athens has kindly allowed me to illustrate material from the school's excavations at Knossos ahead of the official publication.

¹ Evans 1934, 231. Bosanquet & Dawkins 1923, however, assigned some of the pottery from Palaikastro to LM IB (between LM IA and LM II), although some LM IB was still classified by them as LM II.

² AR for 1959–60, 23–4; 1960–1, 26–7; 1961–2, 25–7; *ILN*, 17th February 1962, 259–61.

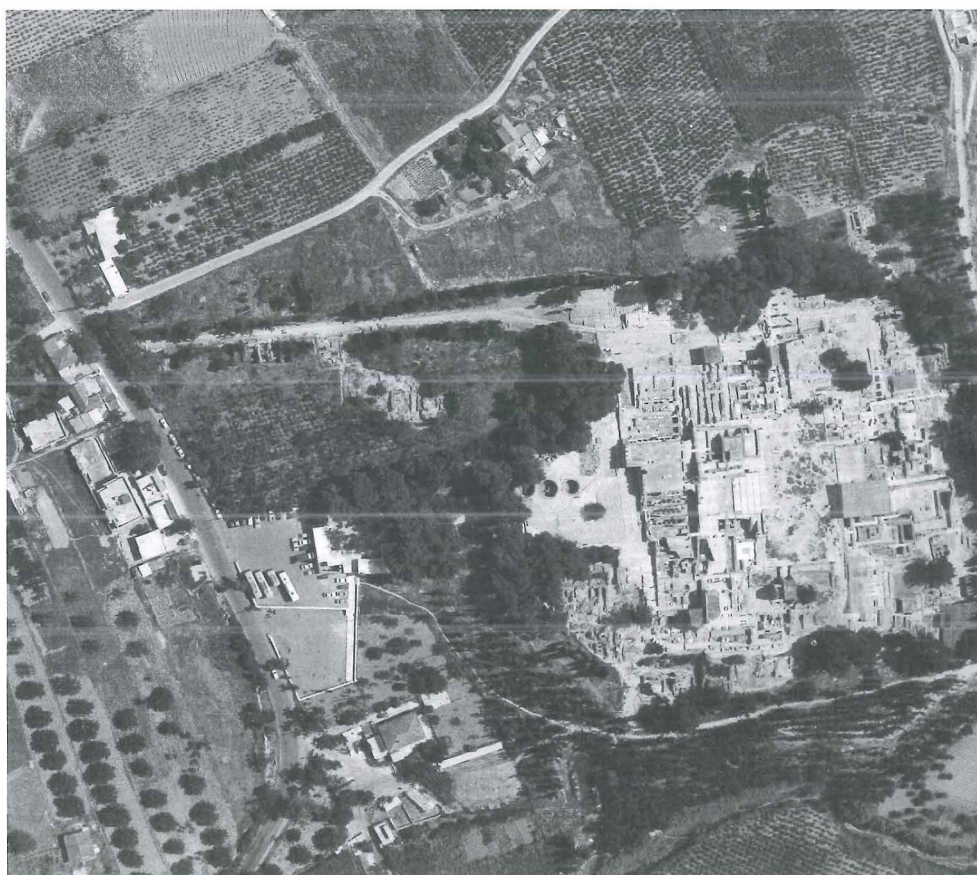


Fig. 1. Aerial view of the Palace and Royal Road with the excavations to the north and south of it.

Road a bit to the left of the whitish area where we worked on the south side of it.

Here on the north side of the Royal Road we uncovered part of a large, long building, which resembled in that respect the Armoury next to it on the east (to the right of it on Fig. 1). Evans never published a plan of the Armoury, but Vasso Fotou has found one made for him in the Evans Archive in the Ashmolean Museum in Oxford, and William Taylor, the architect who helped me for so many years at Knossos, on his last visit there before he died, was able to link this with our building.

These two large buildings side by side, ours and the Armoury of Evans, extending northwards from the Royal Road, do not appear to have been ordinary houses. Rather, they seem to have been dependencies of the Palace and connected with it. Evans implies as much in the name which he gave to the building he excavated: the Armoury or Arsenal. In it he found caches of bronze-tipped arrows, together with Linear B clay tablets recording parts of chariots;³ these evidently came from contexts of LM

II or LM III date. Our excavations also recovered some fragments of Linear B tablets and LM II–III pottery; but these were in a deposit of rubbish above the LM IB levels, mixed with pottery from the very end of the Bronze Age, LM IIIC, when the building which had existed here in LM IB was evidently used as a quarry for stone, taken perhaps to build defensive walls in that period of warfare and movements of people. All that was left of the earlier building in the area of our excavations were some massive stone foundations (Fig. 2), not easily removed or broken into blocks of smaller size for reuse.

Apart from these foundations, all that we had of the great building that was here in LM IB was an expanse of floor enclosed by them and suggesting the former existence of a large space, perhaps a hall of some kind. The LM IB deposit extended over this floor and into one of a group of basement rooms to the west of it (Fig. 2 bottom left and Fig. 3).

³ Evans 1903–4, 54–62; 1934, 173, 616–8, 668–9, 793–5, 832–4.



Fig. 2. Royal Road: North excavations looking northeast over the foundations of the LM IB building.

The other rooms of this basement area had already been filled with debris before LM IB. The walls of these basement rooms had escaped destruction by the quarrying operations of LM IIIC. The LM IB deposit in the room here was above one of LM IA date, with one of MM IIIB beneath it. There were many joins between the pottery recovered from this basement room and that from above the main floor at a higher level to the east.

The dotted areas on Fig. 4 indicate the extent of our LM IB deposits. The six-rayed stars show the location of bold mason's marks of this type on the exposed upper surfaces of some of the foundation blocks. These mason's marks suggest that the original building here may have dated from early in MM III or late in MM II. The circles with W in them on Fig. 4 indicate the position of post-Bronze Age wells.

Much of the LM IB pottery which we recovered was from vases which may have fallen from an upper floor when the building was destroyed by fire. Together with the LM IB pottery above the main floor (at the top on Fig. 4) was the debris from an ivory worker's shop, which Don Evelyn has studied. This workshop may have been on the ground floor where the debris from it was found, rather than on a floor above. In any case, I feel that most of the LM IB pottery we recovered may have come from



Fig. 3. Royal Road: North basement rooms looking northwest.

a shrine on the floor above, but connected with this ivory workshop, like the later shrines attached to workshops identified by Vassos Karageorghis in Cyprus.

With the ivory worker's debris were some finished objects, like the bird on Fig. 5a, and a pair of feet from a statuette (Fig. 5b). A remarkable bent arm, found in the basement deposit, must also come from a statuette (Fig. 5c); the hand grasps what may

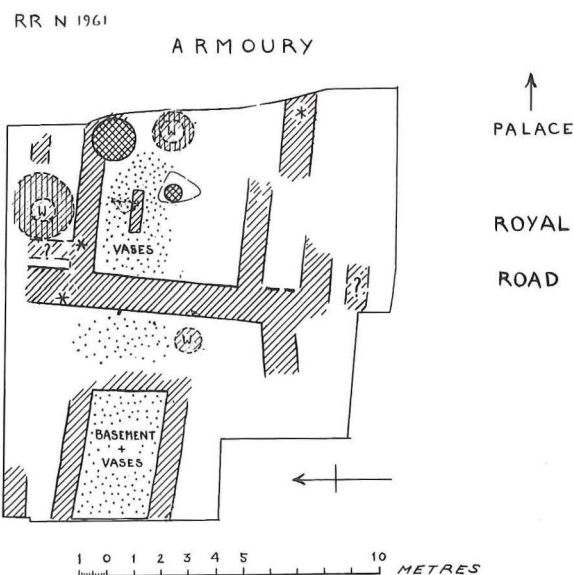


Fig. 4. Sketch plan of the LM IB walls and deposits in the Royal Road: North.

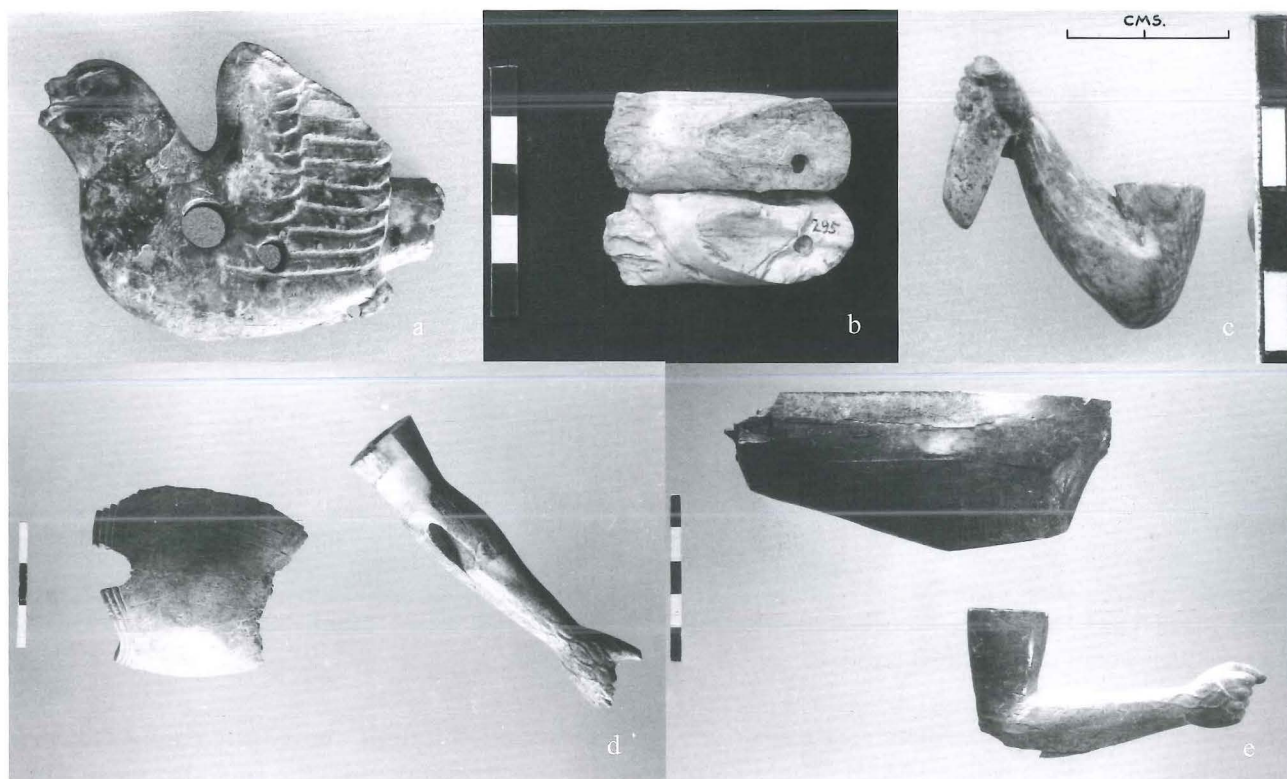


Fig. 5. Ivories from the Royal Road: North.

be meant for a dagger. In our excavations on the opposite, south side of the Royal Road, we also came upon some ivory objects, including parts of at least two statuettes (Figs. 5d and 5e). The larger of these (Fig. 5e) was a male figure comparable with, although somewhat smaller than, the remarkable ivory figure from an LM IB destruction context at Palaikastro published by Alexander MacGillivray.⁴ Our ivories from the south side of the Royal Road, however, appear to have been in rubbish deposits of later, LM II or LM IIIA, date. But I would like to think that the statuettes from which they came were associated with a shrine connected to the ivory carver's workshop on the north side of the Royal Road. The way in which objects were smashed, and the pieces of them thrown about, in the Cretan LM IB destructions, was vividly described by Seager in regard to pottery on Pseira,⁵ and more relevantly by MacGillivray in regard to the ivory statuette from the shrine at Palaikastro.⁶

A sounding below the main floor with the ivory worker's debris on the north side of the Royal Road (middle right on Fig. 2) revealed a sequence of

deposits and house floors of MM IA, back through EM III, to EM IIB and EM IIA. There was also a small circular pit, sealed by the LM IB floor; part of it is preserved at the back of the sounding on Fig. 2. This pit contained a mass of broken pottery assignable to LM IA. It might have been dug and filled with votive pottery after the earthquake which appears to have struck Knossos about the time of the Theran eruption in LM IA. The two pits cleared by Hogarth in 1901 at Zakros in eastern Crete may have been similar.⁷ There is also the LM IA deposit discovered by Nikolaos Platon in connection with the shrine in the Mansion at Nirou Chani, which was finally destroyed in LM IB.⁸

We come now to the LM IB pottery from the

⁴ MacGillivray, Driessen & Sackett 2000, with drawings of our Knossos figurine. Our largest figure was ca. 0.46 m high, as opposed to the 0.60 m of the Palaikastro kouros.

⁵ Seager 1910, 23–4.

⁶ Moak 2000, 83.

⁷ Hogarth 1900–1, 121–9.

⁸ Hood 1978, 681–90, esp. 688.

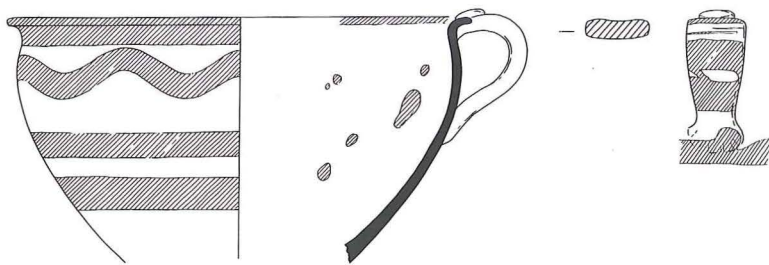


Fig. 6. 61 P200.

Royal Road: North. There was a great deal of this, and much of it was decorated. Some 97 different types, or shapes, were identified. But nearly half of these – 47 in all – were only represented by a single example, and it may be possible to treat most of these as variations of other, better represented types.

The fabrics included: 1) fine ware, with the surfaces of the vases burnished and usually decorated in dark paint on a light ground; 2) wares with the entire surface both inside and out, or the outside alone, covered with a red or black wash, continuing the Middle Minoan tradition; 3) plain wares, which were unburnished, but might have a slip and sometimes simple decoration in dark paint; 4) coarse wares, tempered with grit, sometimes with a slip and decorated, but usually unburnished; 5) specialist plain wares, such as Cooking Pot Ware, and the very distinctive “Soft Sandy Ware” found at Knossos from MM IB onwards; and finally 6) rare fabrics, which may indicate vases imported from elsewhere in Crete or abroad, including an attractive soft “Black Burnished Ware”,⁹ a hard thin “Red Ware”, and “Wiped Ware”.

Decoration was almost invariably in dark paint on a light ground. But the use of added white on the dark painted decoration, which was common in LM IA, continued at Knossos in LM IB on a limited scale. The use of the fast potter’s wheel was fairly universal. Even very large vases might be wheelmade. As was typical of Cretan pottery from MM IB onwards, many of the shapes of our LM IB vases were distinctly metallic, suggesting that they were inspired by metal examples. This can be seen especially in their rims, handles and bases. On the larger vases, the handles often have clay imitations of metal rivets where they join the rims (e.g., Fig. 6, P200).



Fig. 7. 61 P135 (left) and 61 P518 (right).

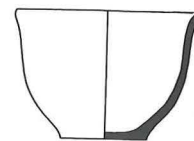


Fig. 8. 61 P322.

The commonest type of vase, as might be expected, was the small, handleless conical cup (Fig. 7, P135), always wheelmade – sometimes elegant in shape with thin walls, though other times small, badly made, irregular in shape and thick-walled. There were also some true miniature versions. Some of our conical cups had been given an overall red or black wash, but the surfaces of most of them were left plain and untreated. In several cases (e.g., Fig. 7, P518), holes had been made in the bases of conical cups after they were fired, suggesting that they might have been prepared for use like rhyta for pouring libations. Many cups – about one in ten or 10 percent – had been used at some point as lamps, to judge from the blackening around the rim (e.g., Fig. 7, P518). A fragment of one of these lamp cups had a linear inscription on the side: two signs in ligature in the manner of Linear A.¹⁰ I compared 100 complete examples of our LM IB conical cups with 100 from LM IA contexts at Knossos, and could detect no significant difference between them in shape or size.

Other, less common types of small handleless cups included ones with a variety of incurving or S-shaped rims (Fig. 8, P322). Handleless cups might be decorated with variations of the reed pattern,

⁹ See Birgitta Hallager, 175–6 for Grey Ware, which may be the same as our Black Burnished Ware. The latter is already attested at Knossos in deposits of MM IB–IIA. Its rarity suggests that it was imported; but the shapes look Cretan, and it may have come from somewhere in Crete rather than from abroad. The fabric is always soft, with the clay grayish in the break, but the exposed surfaces are jet black with a high burnish.

¹⁰ Hood 1964, 111–3.

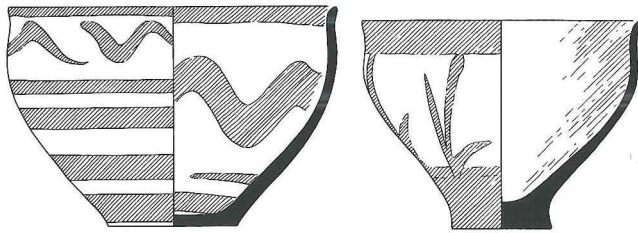


Fig. 9. 61 P603 (left) and 61 P613 (right).

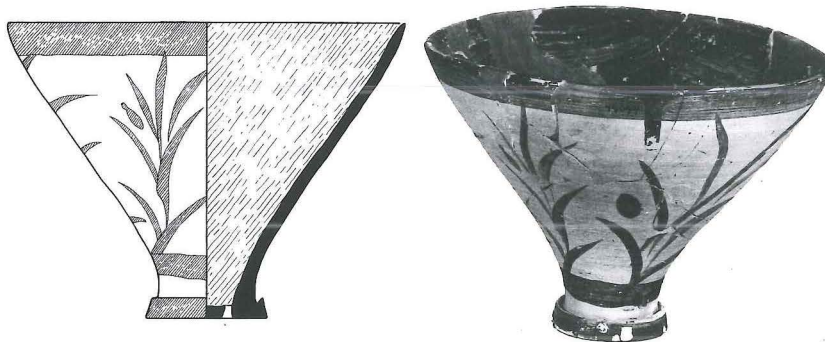


Fig. 10. 61 P27.

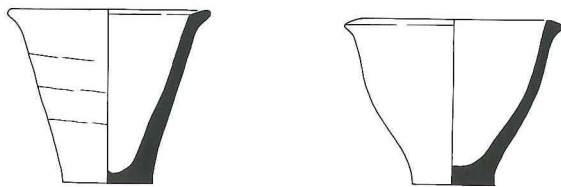


Fig. 11. 61 P409 (left) and 61 P414 (right).

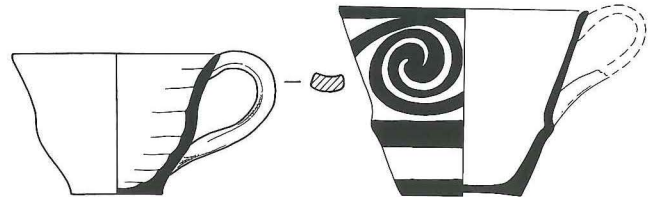


Fig. 12. 61 P319 (left) and 61 P168 (right).

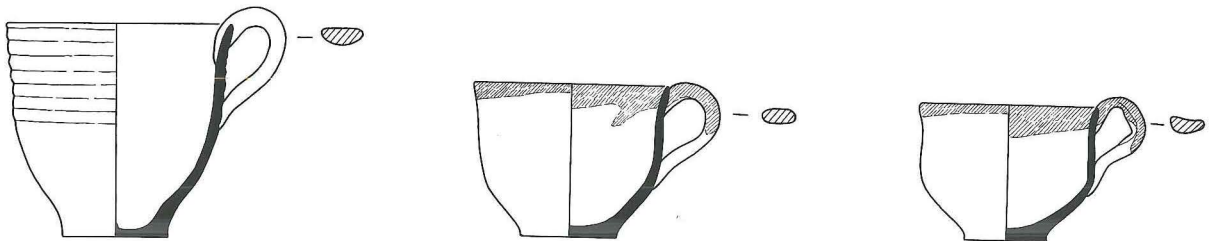


Fig. 13. 61 P299 (left), 61 P312 (center) and 61 P317 (right).



Fig. 14. 61 P1 (left) and 61 P26 (right).

Fig. 15. 61 P607 (left) and 61 P31 (right).



Fig. 16. 61 P57 (left) and 61 P53 (right).

which was a standard motif throughout LM I (Fig. 9, P613; Fig. 10, P27). A striking type of handleless cup, with an everted or thickened rim, common in LM IA, was still well represented. Some of these cups were distinctly tall and goblet-like (Fig. 11, P409 and P414), while others were more akin to saucers. Some of these cups were of plain ware, but many had an overall red or black wash.

Cups with handles included varieties of the Vapheio cup shape. One or two of these had a metallic rib around the middle – Keftiu cups as Nicolas Coldstream has called them – a variety common in LM IA (Fig. 12, P168). But Vapheio cups of any type appear to have been obsolescent at Knossos by LM IB. A number of handled cups with S-shaped rims decorated with red bands, already common at Knossos in LM IA, were found in our deposit (Fig. 13, P312 and P317).

The commonest type of handled cup in the deposit, however, had a rounded profile and an everted rim (Figs. 14–16). In one place the rim was moulded into an open spout to make it easier to drink from the cup. Set at right angles to this rim spout was a vertical handle. With your right hand on the handle you would bring the spout to your lips; these cups were made for right-handed people. These were the standard type of cup in our LM IB deposit, and large numbers of them were recovered. Many had a simple overall red to black wash; some of them had a wash only on the outside, the inside being left plain. But many were decorated, with more or less elaborate designs in red or black paint

on a light surface (Figs. 17–19). The decoration varied greatly; it included “Waz Lilies”, as Evans called them (Fig. 14), papyrus (Fig. 19, top left, below the “Waz Lilies”), foliate bands, stars or suns, ivy leaves of various kinds, and flowers. The flowers were often set in rows running around the cups (Fig. 15, P607). There were also rosettes, lilies, lily chains, and once at least a spray of olives (Fig. 19, left, third from top left).

Various kinds of running spirals and spiraliform designs were much in evidence on these cups (Fig. 18, lower left). On one cup, a double axe appears alongside stars, with the “Adder pattern”, as Evans called it, typical of LM IB, below the rim (Fig. 15, P31). One or two cups were decorated with figure-of-eight shields (Fig. 19, lower left). Loops in various forms hanging from the rims of cups abounded, as did varieties of wavy bands and scale patterns, as seen on Figs. 17 and 18. The Alternating Style of decoration, with alternate motifs repeated, as noted especially on Kythera, was not much in evidence,¹¹ but some of the decoration on cups and bowls approximated it (e.g., Fig. 15, P31; Fig. 22, P69; Fig. 23, P202).¹²

There were also examples of handled cups of

¹¹ Coldstream & Huxley 1972, 302–3, fig. 96. In his abstract for the conference, D. Puglisi notes that “The ‘Alternating Style’ is not documented” at Hagia Triada.

¹² See Birgitta Hallager, 176–7. I wonder if the Alternating Style of Kythera is not a simplified version of a more complex style, although one inspired by the same basic principle, found at the main centers like Knossos.

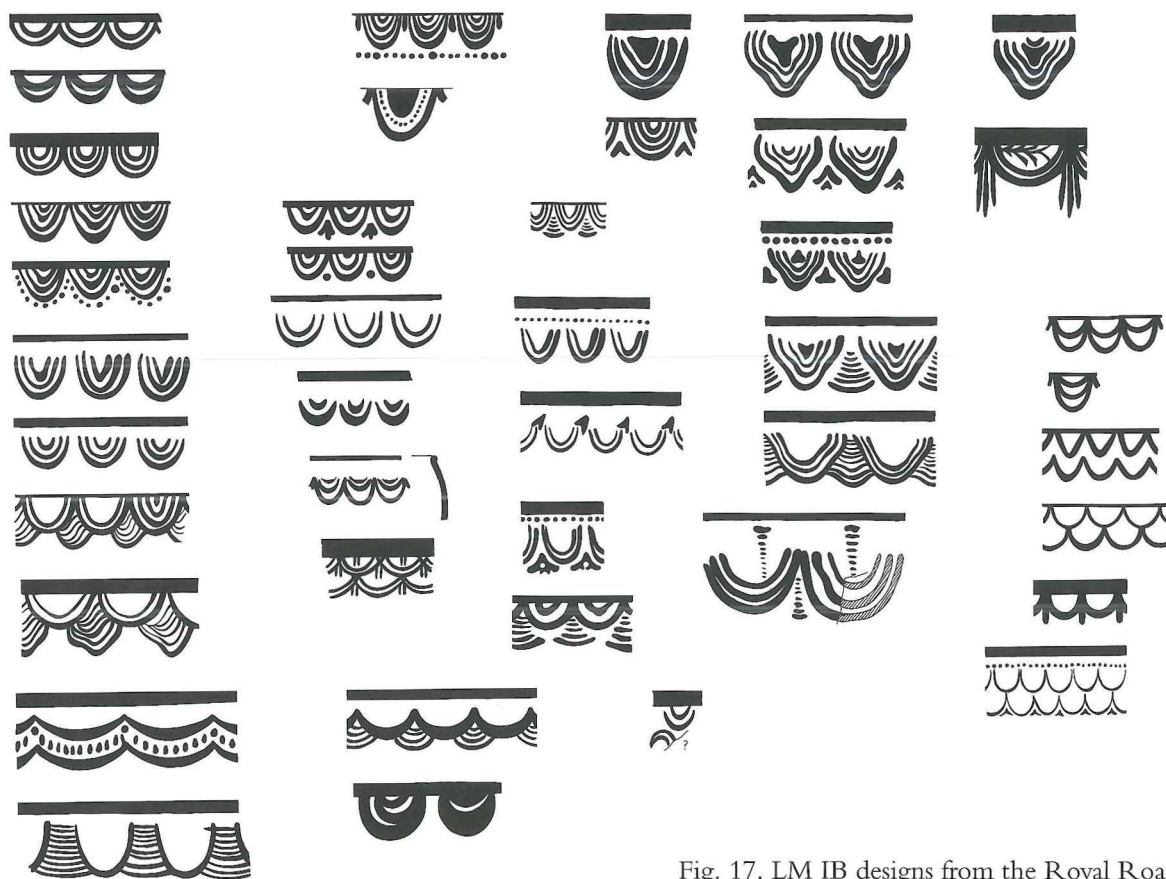


Fig. 17. LM IB designs from the Royal Road: North.

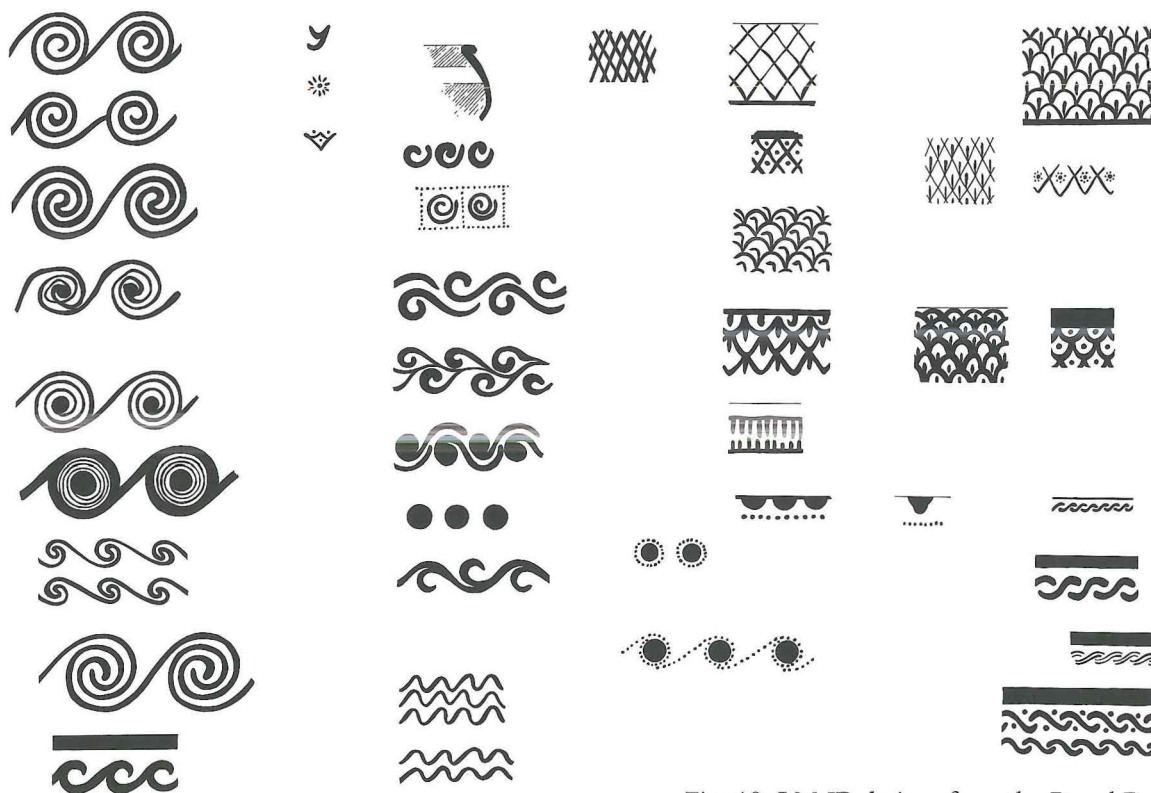


Fig. 18. LM IB designs from the Royal Road: North.

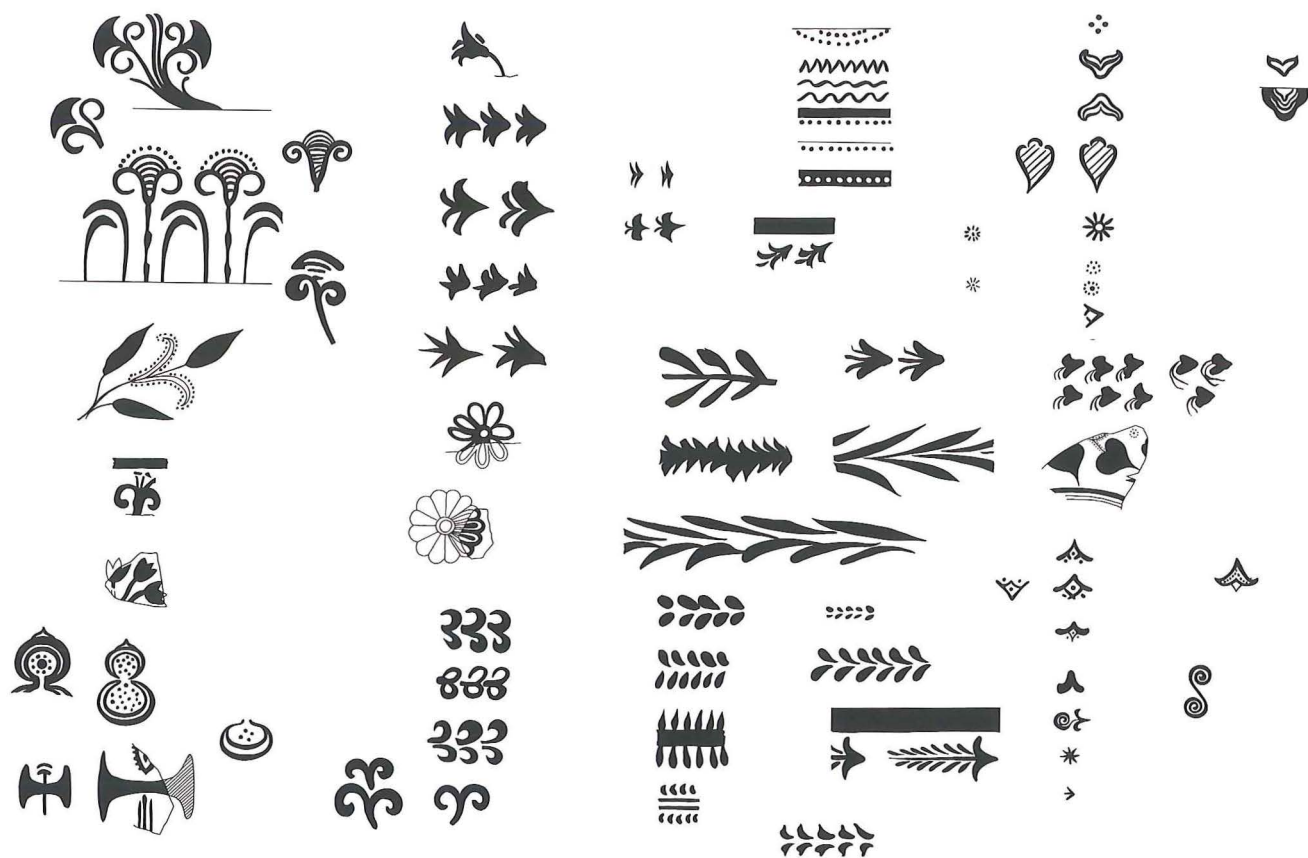


Fig. 19. LM IB designs from the Royal Road: North.

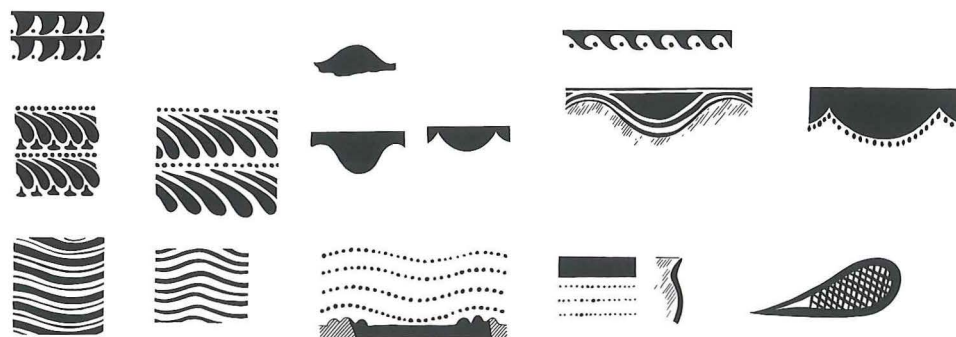


Fig. 20. LM IB designs from the Royal Road: North.

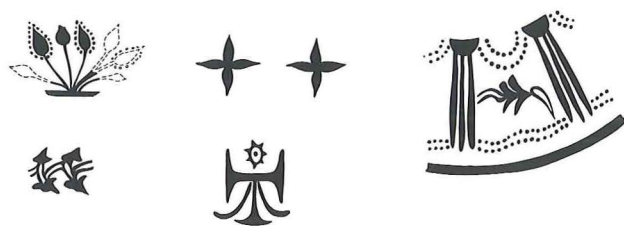


Fig. 21. LM IB designs from the Royal Road: North.



Fig. 22. 61 P69.

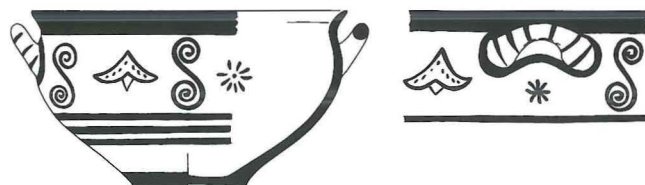


Fig. 23. 61 P202.

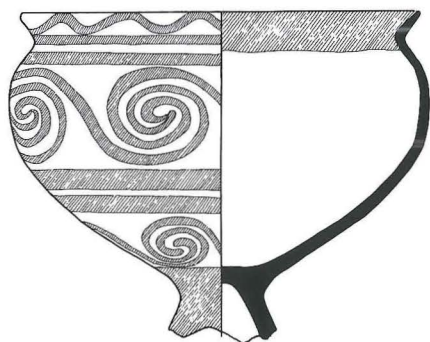


Fig. 24. 61 P34.

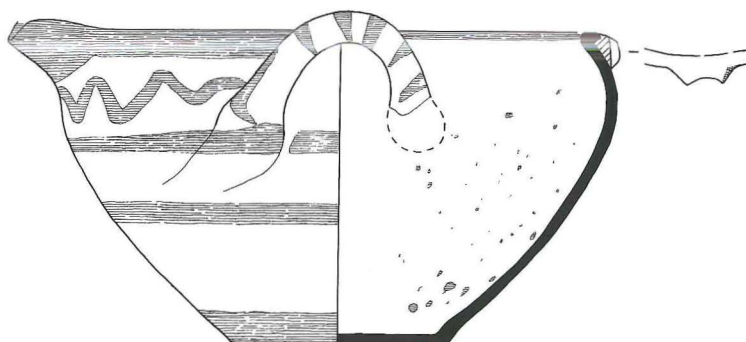
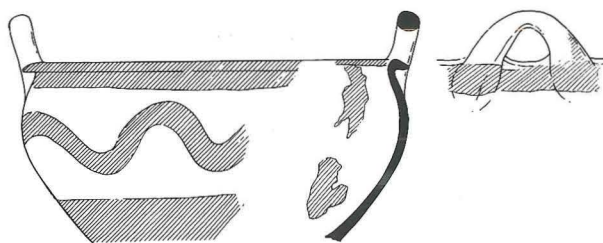
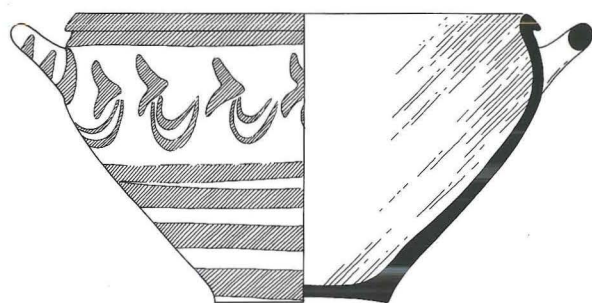


Fig. 25. 61 P128 (top, left), 61 P201 (top right) and 61 P127 (bottom).

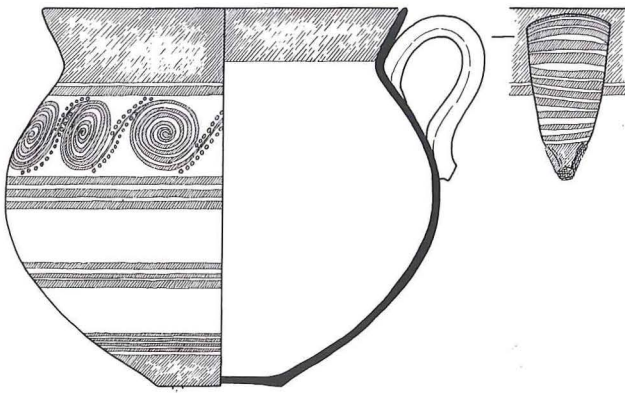


Fig. 26. 61 P6.

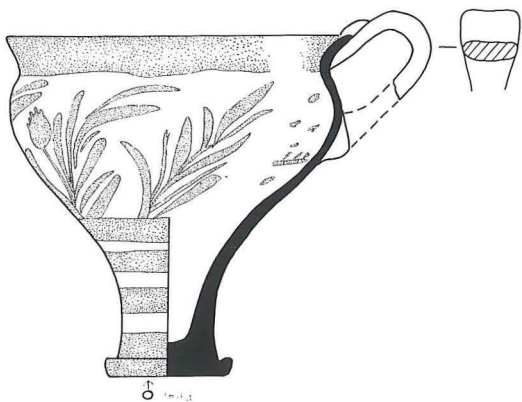


Fig. 27. 61 P54.

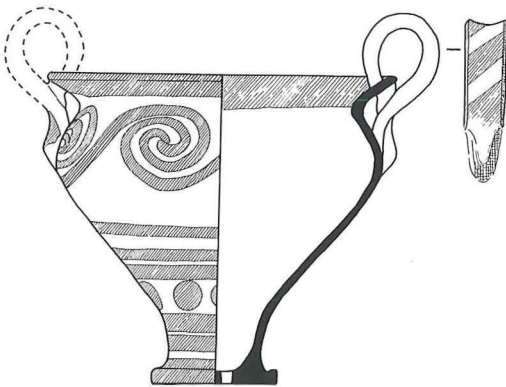


Fig. 28. 61 P138.



other types in the deposit besides those already mentioned (e.g., Fig. 12, P319; Fig. 13, P299; Fig. 6, P200). One cup or bowl had a low pedestal foot, like a goblet of the succeeding LM II period (Fig. 24, P34), but it is unlikely to have been an ancestor to the goblets of LM II, which resemble those of earlier date on the Greek mainland. Our vase was

larger, and evidently copied from a metal type; the strap handle had a clay imitation of a metal rivet at the point where it joined the rim. There were also bowls of various kinds (Figs. 23 and 25; Fig. 50, P94). The rather roughly painted motifs on Fig. 25, P128 appear to be meant for ivy leaves.

Peter Warren and I have been in touch about

our respective deposits of LM IB pottery, and they appear to have many shapes and decorative motifs in common; as indeed they should, being of the same date and both from Knossos. It will be interesting to see what regional variations there are in LM IB pottery from different parts of Crete.

One large cup, or bowl, of unique type, had a hole through the base like a rhyton (Fig. 26, P6). This vase was of exceptionally fine fabric, with careful finish and decoration on a white slip. In my notes, I described it as “probably the finest vase in the deposit.” The running spirals which decorate it are as thin as wire, and flanked by neat dots. Below is a group of horizontal bands drawn with exceptional



Fig. 29. 61 P48.

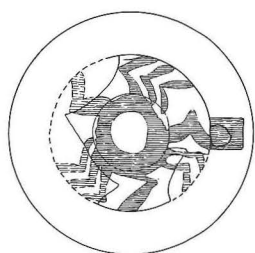


Fig. 30. 61 P5 (left) and 61 P66 (right).



precision. Birgitta Hallager has convinced me that this is likely to have been an import from Khania in western Crete – an early example of such an import at Knossos, where a good deal of West

Cretan pottery has been recovered from LM III contexts. The fine quality of this vase calls to mind the scatter of richly decorated LM IB vases from Cretan sites apart from Knossos, which the early

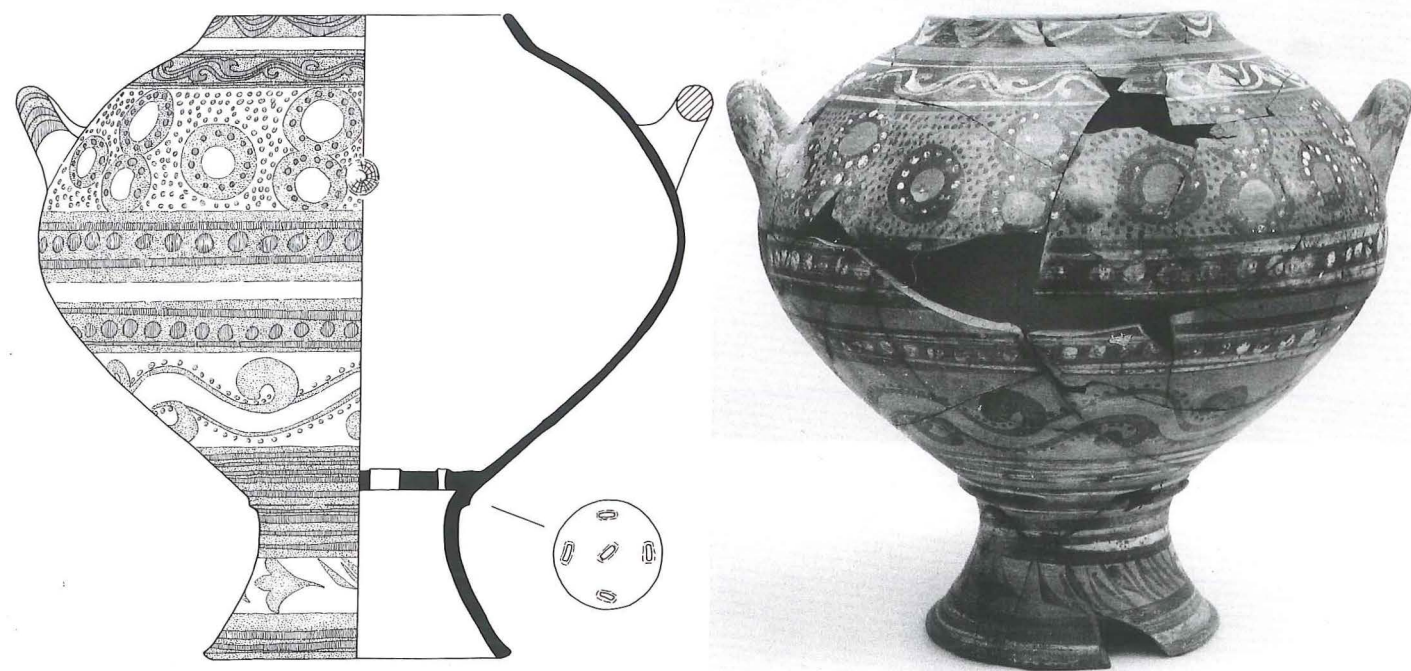


Fig. 31. 61 P21.

excavators took to be Knossian imports. It was these vases which enabled Evans to define LM IB as a period between LM IA and LM II, despite the absence of significant deposits at Knossos at that time.

Tall goblet-like vessels with one handle (Fig. 27, P54), or in at least one case with two (Fig. 28, P138), were clearly metallic in shape and details, such as having imitation rivets on the handles where they joined the rims. All of them were decorated with motifs, including reeds, as on Fig. 27, running spirals (Fig. 28), and wavy bands. All of these vases also had a hole through the base, making them like rhyta; but the hole was invariably set to one side of the base, never in the center, an eccentricity which appears to have been deliberate. Other vases with rhyton-like holes in the base included a small jar with reed decoration (Fig. 29, P48), a miniature version perhaps of a large storage jar or pithos.

Only a few specialized rhyta were recovered. One of these, with an ogival profile, corresponded to the “Hybrid “Peg-Top”” class of Evans (Fig. 30, P66). Another (Fig. 30, P5) was of his “Elongated and Pear-shaped” class, which he thought had evolved from the “Hybrid “Peg-Top”” class, and he regarded as typical of LM IB.¹³ We also found

the pointed base of a rhyton which may have been of the standard conical shape.

There were three strainer vases like Fig. 31, P21 and Fig. 32, P7, a type which I suspect was made for ritual rather than any practical use, such as holding sponges, which has been suggested.¹⁴ Fig. 32, P7 is interesting, because it is clearly of earlier, LM IA, date. It is of fine fabric, with a high burnish, and “polychrome” decoration in red as well as black; there is also a lavish use of added white paint on the dark-on-light decoration in the LM IA manner. The vase had evidently lost its foot at some point, but the broken foot was removed, and the stump of it worked to create a new flat base. The vase had evidently been treasured, and was still in use in LM IB. It may have been a survivor from a predecessor of our hypothetical LM IB shrine – a shrine damaged perhaps by the earthquake which hit Knossos in LM IA.

Large numbers of jugs were recovered. Many of these were decorated with designs in dark paint on a light ground (e.g., Fig. 33, P9; Fig. 35, P132). They were of two main types: one wide-mouthed

¹³ Evans 1928, 224–5, fig. 129.

¹⁴ See Birgitta Hallager, 175 for strainer vases.

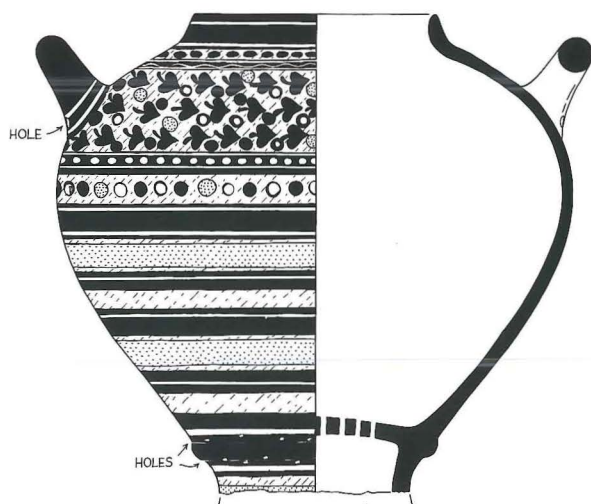


Fig. 32. 61 P7.

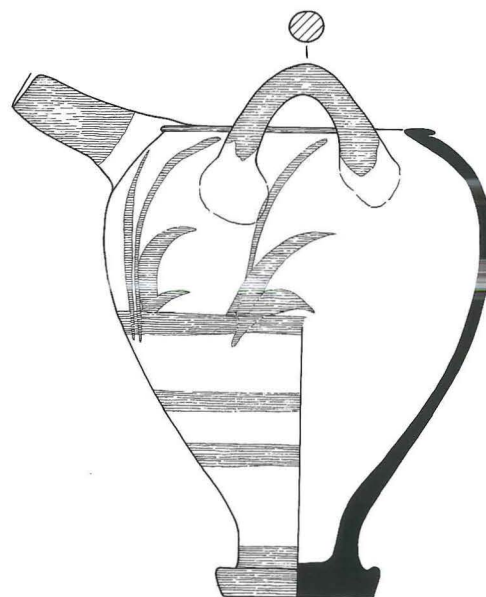
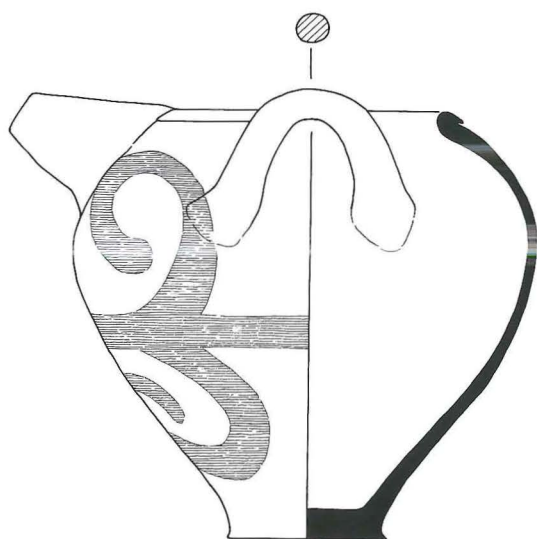
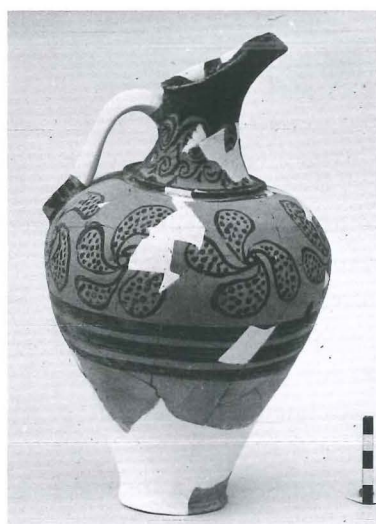


Fig. 33. 61 P9 (upper row, left), 61 P16 (upper row, center), 61 P12 (upper row right and lower row, right) 61 P88 (lower row, left).



Fig. 34. 61 P8.



Fig. 36. 61 P87.

(Figs. 34, P8; Fig. 35, P125; Fig. 36, P87) (some 14 examples cataloged), the other of the standard type, with high shoulder, narrow neck, and cut-away spout, as Fig. 33, P9 and P16 (some 18 of which were cataloged). The jug shown in Fig. 35, P132 was unusually large, standing 0.50 m high. There were also a number of mostly plain and roughly

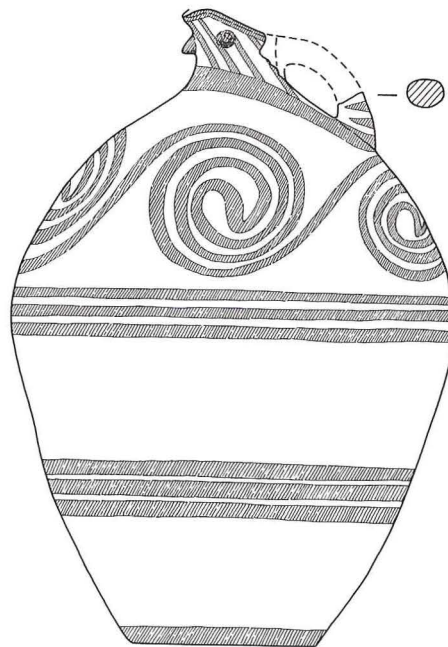
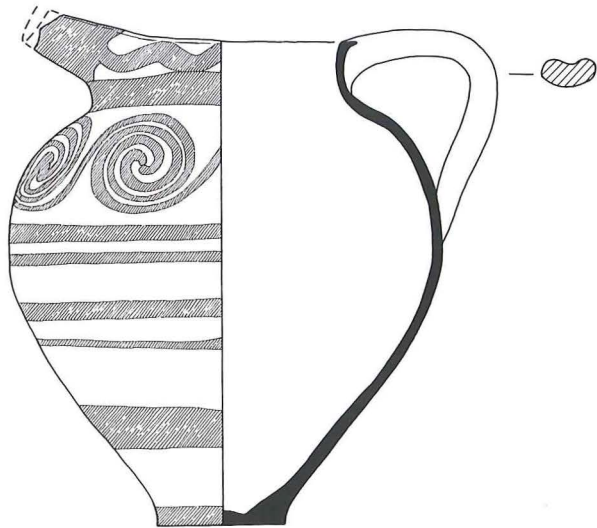


Fig. 35. 61 P125 (top), 61 P132 (bottom).

made juglets, with handles or solid lugs instead of handles (Fig. 37).

One fine jug with a wide mouth was exceptional in its clear-cut metallic shape and rich decoration, combining many classic LM IB motifs (Fig. 34, P8). Mervyn Popham was much impressed by this vase, which was unique in our deposit. The basic motif of running spirals above arcades is repeated on a gold cup from a "Warrior Grave" at Hagios Ioannis north of Knossos.¹⁵ The burial here was datable to

¹⁵ Hood 1956, 87–92, 94, fig. 5, pl. 13.

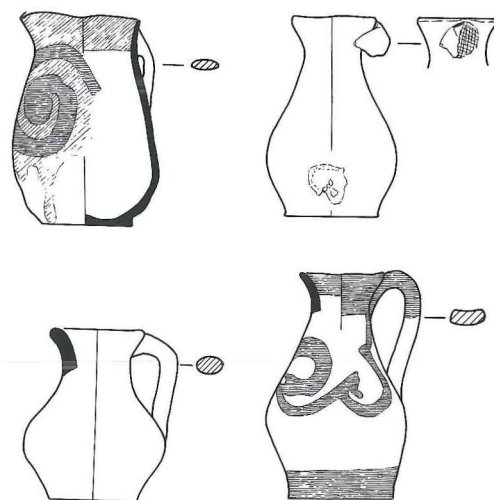
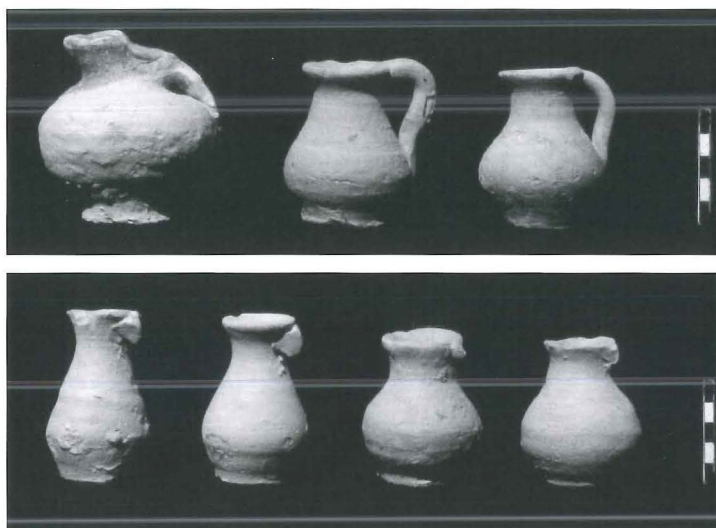


Fig. 37. Juglets with and without handles (left). Drawings 61 P473 (upper row, left), 61 P476 (upper row, right), 61 P471 (lower row, left) and 61 P472 (lower row, right).

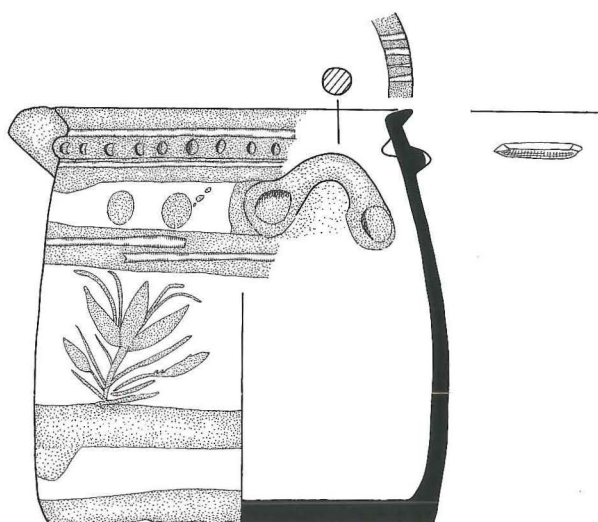


Fig. 38. 61 P11.

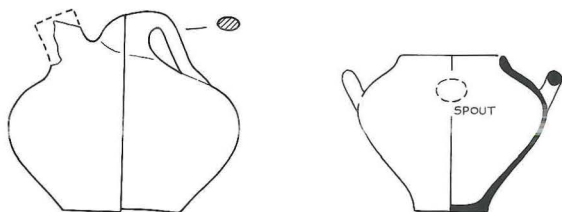


Fig. 39. 61 P537 (left) and spouted jar of fine black burnished ware (right).

LM II–IIIA, but the cup was surely made in LM IB, perhaps looted in a sack of Knossos by Mycenaean invaders from the Greek mainland.¹⁶

There were also a few bridge-spouted jars (Fig.

33, P12 and P88), but vases of this type appear to have been obsolescent by LM IB. Some of these jars were decorated, several with bold lily chains (Fig. 33, P88), a simple but effective form of design found on several plain ware vases of various types from the deposit, like the wide-mouthed jug (Fig. 36, P87). An unconventional bridge-spouted jar of tub-like shape (Fig. 38, P11) was unique. The small side-spouted jar (Fig. 39 right) is of the distinctive

¹⁶ Cf. Betancourt 1985, pl. 22A, B and E for LM IB vases with spirals above arcades.



Fig. 40. 61 P83.

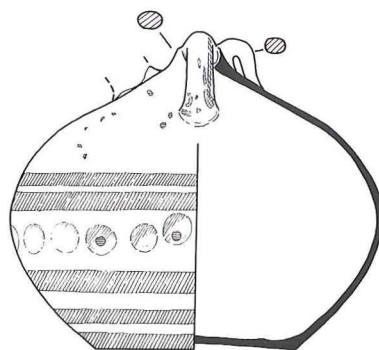


Fig. 41. 61 P40.

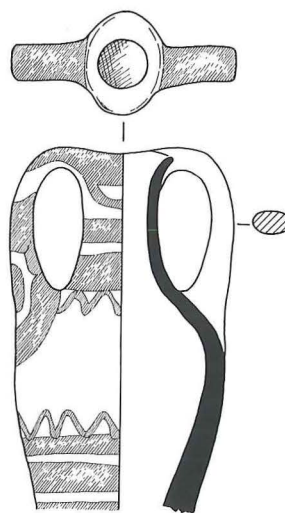


Fig. 42. 61 P233 (left) and 61 P217 (right).

fine Black Burnished Ware, the rare examples of which in our LM IB deposit appear to be imported. This type of jar with a side-spout is an early one in Crete, perhaps no longer made in any fabric at Knossos in LM IB.

Stirrup jars were reasonably well represented in our LM IB deposit (Figs. 40, P83; Fig. 41, P40), but

so were oval-mouthed amphorae (Fig. 42, P217, P233). Large stirrup jars ultimately replaced oval-mouthed amphorae as the standard type of small storage vessel in Crete. Some of our oval-mouthed amphorae were decorated with bold lily chains (Fig. 42, P233).

Other vessel types, of which only one or two

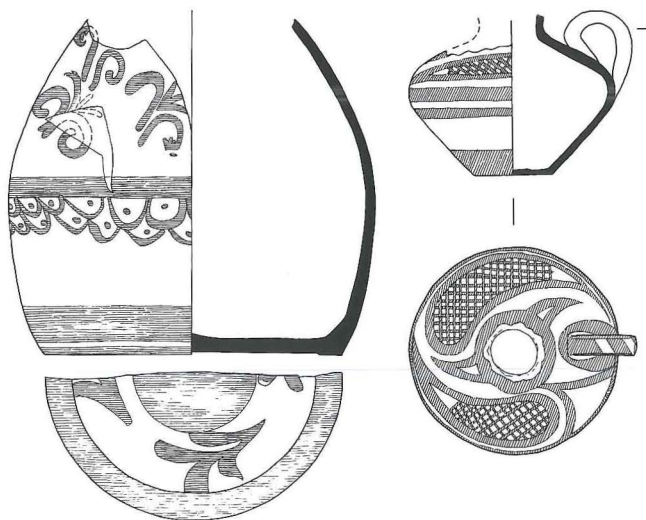


Fig. 43. 61 P119 (left) and 61 P46 (right).

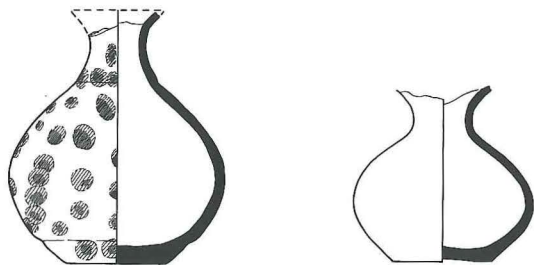


Fig. 44. 61 P477 (left) and 61 P541 (right).

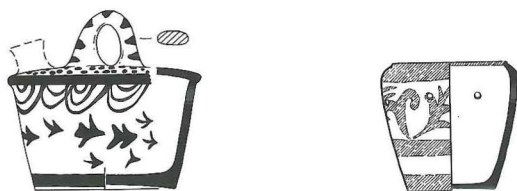


Fig. 45. 61 P592 (left) and 61 P134 (right).

examples were found, included a tall alabastron of very fine fabric with classic LM IB decoration (Fig. 43, P119).¹⁷ There were also two squat alabastra, with single handles, and decorated with hatched loops or racket patterns (Fig. 43, P46).¹⁸ A couple of handleless bottles were recovered (Fig. 44, P477 and P541). One of them, P541, of very soft fabric and with a highly burnished black surface, was presumably an import. There were also two askoi, of two different types (Figs. 45, P592; 39,

P537), one of them (P592) cylindrical in shape; and two double vases (Fig. 46, P19), both of fine decorated ware, similar to examples from Gournia and Palaikastro.¹⁹ A small pyxis (Fig. 45, P134) had a pair of holes on each side, apparently for string handles. Lids were not common, but some seven were noted, assignable to half a dozen different types (Fig. 47, P29 and P482). There were also the remains of two or three low clay stools, of which the most complete, only 0.13 m high, had a sunken top with a circular hole in it, and four similar holes in the curving sides (Fig. 48).²⁰

The only pithos was recovered in the basement on the west side of our Royal Road: North excavations (Fig. 49, P422). It is so complete that it seems likely that it was standing on the floor there. It may have been a survivor from an earlier period, like some of the pithoi in the West Magazines of the Palace at Knossos. The main motif of decoration is reminiscent of one that appears on a number of Middle Minoan pithoi at Phaistos.²¹

Cooking pots were not much in evidence; but even the most skilled craftsmen have to eat, and the debris of ivory working reflects their presence. Six cooking pots were complete enough to catalog (Figs. 51 and 52). Most of them had three legs and a pair of solid lugs instead of handles (Fig. 51, P103).

The decoration on the fine ware was rich and varied (Figs. 17–21). But really fine decorated ware, like the best LM IB vases published from many other sites in Crete, was not much in evidence. If, as I suspect, the LM IB pottery of our deposit was mostly from a shrine, this shrine, by its very nature, was probably not a very important or public one. The Marine Style, a hallmark of LM IB, was

¹⁷ For the shape cf. Hawes 1908, pl. VII: 15; Betancourt 1985, pl. 21D, with olive spray decoration, from Palaikastro.

¹⁸ See Birgitta Hallager, 175.

¹⁹ Cf. Hawes 1908, pl. IX: 9, 60, pl. J; Bosanquet & Dawkins 1923, 40, fig. 28.

²⁰ Pernier 1935, 307, fig. 182, with h. 0.29 m, looks similar to our examples from Knossos, but is described as a “grande cilindro”. But a taller version, h. 0.42 m, with a similar curving profile, but no holes in the top or sides, is called a stool (Pernier & Banti 1951, 91, 93, fig. 46).

²¹ Levi 1976, pls. 48b, c; 166; 183a, b, of Phases Ib and II (MM IB–II), and Phase III, which is MM III.

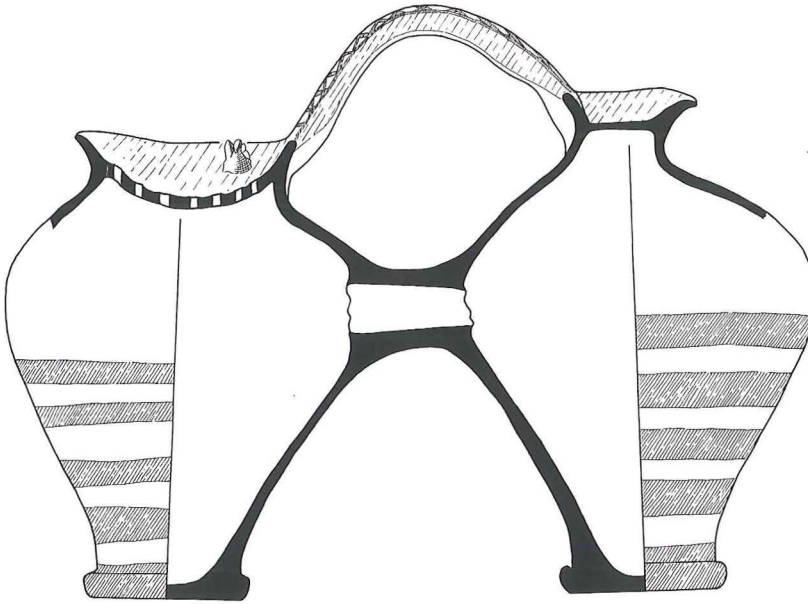
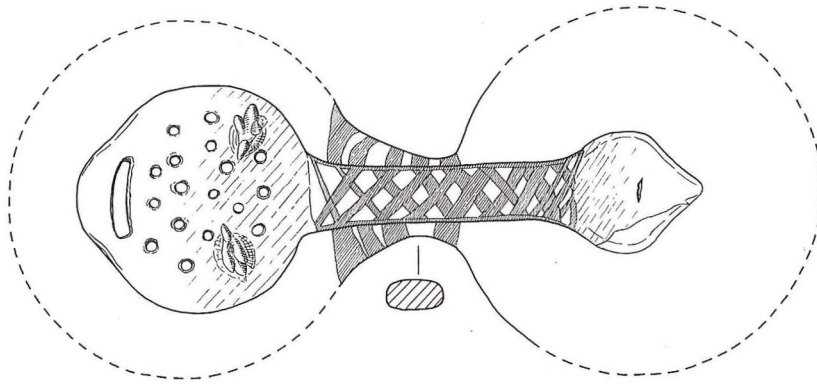


Fig. 46. 61 P19.

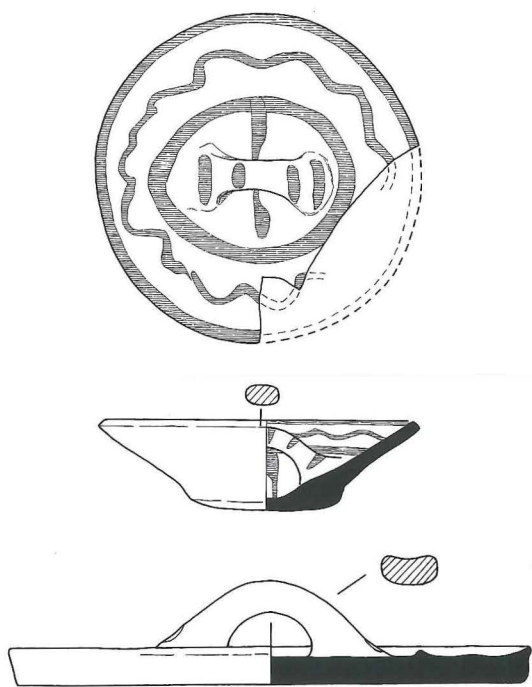


Fig. 47. 61 P29 (top) and 61 P 482 (bottom).

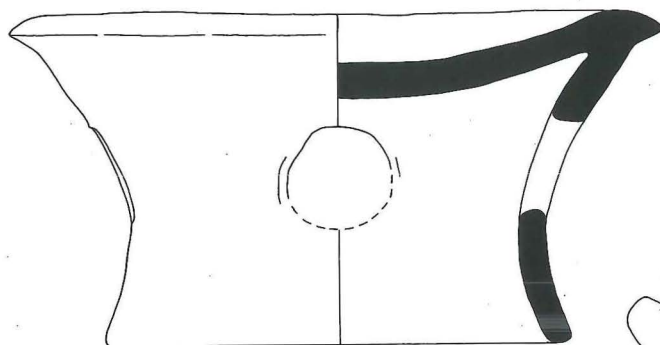


Fig. 48. 61 P51.

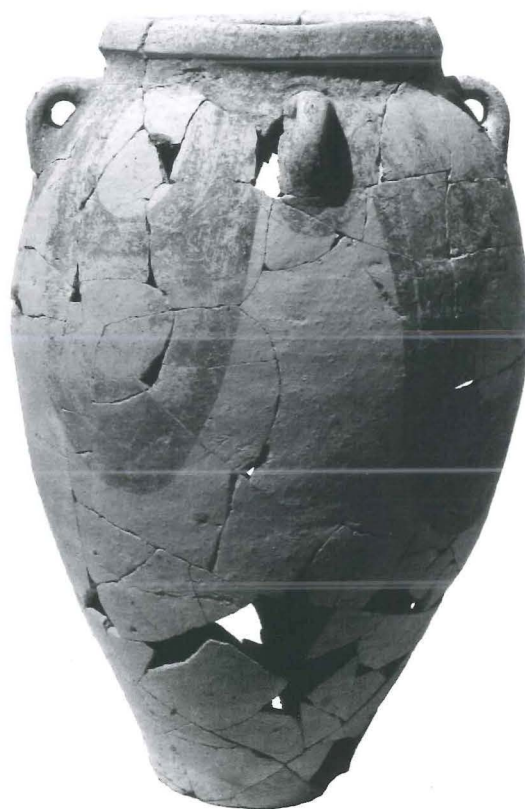


Fig. 49. Pithos 61 P422.

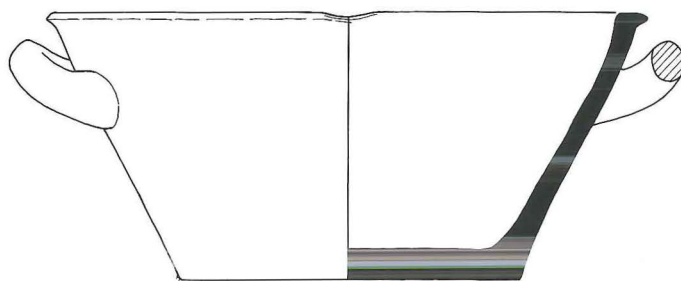


Fig. 50. 61 P94.

hardly represented. There were a few fragments from Marine Style vases, but only one Marine Style vase was complete enough to see the shape. This, however, was a magnificent great jar, a forerunner of the Palace Style jars of the succeeding LM II and LM IIIA periods at Knossos (Fig. 53, P2).²²

There seems to be a wide measure of agreement

that the Marine Style of decoration was developed in the Knossos area.²³ I think myself that it must have been developed at Knossos in the first instance,

²² Cf. The Marine Style "amphora" from the southwest corner of the Palace at Knossos, Evans 1934, 280-1, fig. 215.

²³ See Birgitta Hallager, 176.

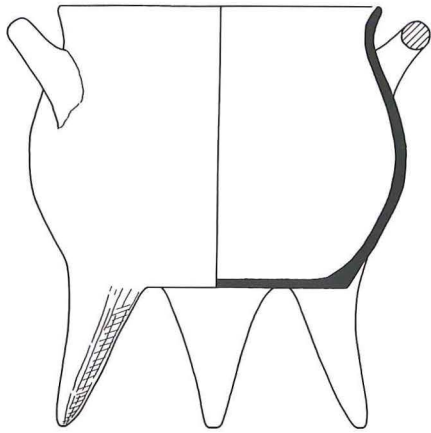


Fig. 51. 61 P417 (left) and 61 P103 (right).

and many of the fine decorated LM IB vases, including examples with the Marine Style, which have been found scattered throughout Crete, may

prove to a large extent to be imports from Knossos. Their distribution may reflect the fact that, by this time, Knossos was a center with control over the whole of Crete. It is arguable that the unification of Crete under the rule of Knossos took place a good deal earlier, at the end of Middle Minoan IIB, a period marked by destructions, perhaps due to warfare, in many parts of the island.²⁴ Perhaps these fine decorated LM IB vases were gifts from the rulers of Knossos to local officials, governors or deputies. Such gifts, however, were probably part of some system of exchanges. The exceptionally fine libation bowl, Fig. 26, P6, from the Khania region could have been sent by some officials there to Knossos.

Much of the fine decorated pottery of LM IB in Crete is very attractive. In the index volume to *The Palace of Minos*, Dr. Joan Evans, sister to Sir Arthur, was quite lyrical about LM IB as an "epoch of unrivalled decorative harmony and beauty of design on painted vases."²⁵ But I wonder if the

²⁴ The inspiration for this idea came to me from Malcolm Wiener. The MM IIB destructions throughout Crete accompanied by fire were on a savage scale, and followed at Knossos by major changes and massive rebuilding in MM IIIA, which is conventionally taken as the beginning of the Later (Second) Palace period, for what that is worth.

²⁵ Evans 1936, 132.

Fig. 52. 61 P423. Scale 1:4.



Fig. 53. 61 P2.

more severe and restrained styles of decoration of LM IA, and of MM IIIB previously, may not reflect a healthier and more stable state of society in Crete. The excavator of Gournia, Harriet Boyd, was critical of the Palace built there in LM I and destroyed in LM IB. It showed a state of things, she wrote, where "The kings are more, the people less."²⁶ She was looking with disapproval through the eyes of an intelligent American liberal before the First World War; and I would not see things in quite the same way myself. But I wonder if her sense of unease about the state of society in LM I Crete may not have been on the right track. The way in which the Country House at Myrtos

excavated by Gerald Cadogan was destroyed by fire in LM IB, while the houses of the settlement round it appear to have escaped destruction, is suggestive.²⁷ Does this reflect a war of conquest by Mycenaean invaders from the Greek mainland who found many of the inhabitants of Crete not altogether unwilling to accept their rule, even if they were not exactly longing for liberation?

²⁶ Alas, I have been unable to track down this stirring quotation, which made a great impression on me.

²⁷ Cadogan 1978, 80–1.

Response to Sinclair Hood

Birgitta P. Hallager

No doubt we are in the lion's den. I am impressed that you have recorded 97 different LM IB shapes; and even if 47 of these are possible variations of other better represented shapes, we are still left with some 50, and the most common type of LM IB vessel in your deposits, the conical cup, I presume only counts as one shape.

Beginning with your unusual footed cup (Fig. 24, P34), I agree with you that it is unlikely to have been an ancestor of the later LM II goblet, as it does not have a real stem like the LM II goblet, but instead a low pedestal foot. Although this cup may have some connection with the contemporary mainland LH IIA goblet, FS 254, which appears with both one and two handles,¹ on Crete it may, in fact, represent an ancestor of the LM IIIA footed cup.²

Another shape which may have a Mycenaean origin is represented by your two squat alabastra with single, vertical handles (Fig. 43, P46). On the mainland this shape appears in LH I and is referred to as a squat jug (FS 87); those examples decorated with hatched loops are characteristic of LH IIA.³ On Crete these vessels seem to be confined to LM IB deposits as they have not been found, to my knowledge, in contexts before or after this period. Examples of this shape decorated with LM IB Minoan motifs, and probably locally made, do exist elsewhere in Crete. We saw one in the paper about Khania and another example comes from Pseira.⁴ A close parallel to your two squat alabastra was found at Zakros.⁵ In addition, a fragment of a similar vessel, decorated with a hatched loop, was found in the South House at Knossos and is considered to be a local product.⁶ Could the two alabastra from the Royal Road: North decorated with hatched loops also be locally made?

The strainer jar appears to be a pan-Cretan

LM IB shape. These vessels are normally adorned with floral designs like lilies, crocuses, caper plants and ivy leaves, motifs which were also present on the strainer jars from the Royal Road: North (Figs. 31–32). One suspects that these vases were made for ritual rather than for any practical use. As always within our field of work, there are different opinions. Bosanquet, commenting upon the numerous examples from Palaikastro which he dated to LM II, suggested, as you mentioned, that they may have been used as sponge-holders;⁷ and Maria Andreadaki-Vlazaki, who has published an LM II strainer jar from a tomb at Stavromenos, suggests that these vessels were connected to the production and use of aromatics.⁸ The latter use sounds attractive considering their floral designs. In this connection, I wonder if you have found any fireboxes – a shape which has also been connected with the production of aromatics.

I was excited to see the vessels made in one of

¹ Mountjoy 1986, 35, fig. 35. The LH IIA goblet has a similar pedestal foot, while the LH IIB goblet has a low stem like the contemporary Cretan goblet.

² Hallager 1997a, 27, fig. 20. Actually it is a matter of terminology. A goblet in Crete has a low stem, while the same shape with a pedestal foot is called a footed cup; on the mainland both are called goblets (FS 254). There is perhaps another example of an LM IB footed cup from the houses by the Acropolis at Knossos (Catling, Catling & Smyth 1979, 51: V 257 and fig. 37).

³ Mountjoy 1986, 25, fig. 21.

⁴ Andreadaki-Vlazaki in this volume, 66, fig. 16c; Pseira: Betancourt 1985, fig. 104L.

⁵ Zakros: Platon 1966, 147, pl. 130. Platon dates it to LH IIA.

⁶ Mountjoy 2003, 83 and fig. 4.14.

⁷ Bosanquet & Dawkins 1923, 77–8 and fig. 61.

⁸ Andreadaki-Vlazaki 1987, 55–68; Tzedakis & Martlew 1999, 54, no. 27, RM 2337.

your rare fabrics, the attractive soft Black Burnished Ware. Could they belong to the so-called Grey Ware vessels which often have a very dark gray to black burnished surface? The three illustrated vessels – a handleless bottle, an askos and a side-spouted jar – are miniatures (Figs. 39 and 44, P541). Most of the published miniature vessels in Grey Ware (including shapes like the piriform jar, stirrup jar, askos, alabastron, and juglet) are found in LM III contexts, but a miniature alabastron, dated to LM IB and similar to your handleless bottle, is reported from Kommos, and a cup, juglets, side-spouted jars and a Type D lid have been found at Mochlos.⁹ It has been assumed that “the fabric continues a MBA Minyan technological tradition of the Mainland” and that the examples found on Crete “are to be attributed to Mycenaean influence.”¹⁰ On the contrary, given the fact that most vessels on the mainland are found in LH IIIA and IIIB early tombs and, as we now have seen, the production of Grey Ware miniature vessels has older traditions in Crete with the shapes themselves being Cretan, they are probably a Minoan invention rather than one coming from abroad.

The Special Palatial Tradition vessels, although they seem to appear only in small amounts, are crucial to all LM IB deposits in which they occur. You mentioned that you found a few fragments of Marine Style vases and showed us the upper half of a Palace Style jar decorated in this style (Fig. 53). Although the Marine Style was hardly represented in your excavation, you believe that this style must have developed at Knossos. Several years ago, Penelope Mountjoy found approximately 150 unpublished fragments of the Marine Style from areas inside the Palace as well as from the surrounding houses.¹¹ She concluded that the center of production for this style was indeed Knossos and that analyzed sherds from Knossos and Palaikastro suggest Central Crete as the source – a result that no one, to my knowledge, has challenged. Another group of vessels within the Special Palatial Tradition, however, has caused much more concern. According to Coldstream, cups decorated with the Alternating Style were found in the latest LM IB deposits at Kythera,¹² and this has created some confusion concerning the chronology of the examples found in Crete. You mention that

the Alternating Style was “not much in evidence.” Your cup with double axes tied with sacral knots and alternating with stars (Fig. 15, P31) has a close parallel in the motifs found on a stemmed cup at Phaistos and on a jug from Hagia Triada.¹³ Among your examples, there is also a cup decorated with shells alternating with tricurved arcs (Fig. 22). Another simple, Alternating Style motif is the trefoil alternating with tricurved arcs, which can be seen on an LM IB cup from Mochlos, on a fragmentary cup from the North West Treasure House at Knossos and on a cup from the South House, where Marine Style sherds were also present.¹⁴ These simple, Alternating Style motifs are the same as Coldstream found on his cups from Kythera.¹⁵ Although only a few sherds exist, you do have both Marine Style and Alternating Style in your LM IB stratum. Cups decorated with alternating shells and tricurved arcs have also been recorded at Palaikastro¹⁶ – a settlement with several Marine Style vases. Both “styles” have also been found together at the Stratigraphical Museum Extension Excavation, and Warren argued as early as 1973 that the Alternating Style does occur in LM IB destruction deposits.¹⁷ This is also corroborated by the finds from Area 17 in Tourkogeitonía at Archanes where Alternating cups were found together with Marine and Floral Style cups.¹⁸ Thus

⁹ Kommos: Watrous 1992, 15, no. 270, fig. 18 and pl. 6; Mochlos: Barnard & Brogan 2003, 48–9, IB.228 (cup), 66–7, IB.348–9 (side-spouted jars), 79, IB.471, 93, n. 68.

¹⁰ Tsipopoulou & Vagnetti 1994, 48–9.

¹¹ Mountjoy 1974, 173–5.

¹² Coldstream & Huxley 1972, 302–3. Alternating Style cups are mainly found in deposits μ , ξ and category ω (pls. 33, 38 and 53). Category ω is unstratified material; deposit μ is an LM IB deposit overlaying an LM IA layer (128); deposit ξ in the South House seems to be the only LM IB deposit overlaying a lower floor with few LM IB sherds (61–2).

¹³ Marinatos & Hirmer 1960, pl. 82 left and pl. 83 bottom right.

¹⁴ Mochlos: Betancourt 1985, pl. 22G; Knossos: Mountjoy 1974, fig. 1:3; Mountjoy 2003, 78–107.

¹⁵ Coldstream & Huxley 1972, fig. 96.

¹⁶ Sackett & Popham 1970, 217, NP 53, fig. 9, pl. 57 and fig. 10. Alternating Style cups are also recorded at Poros (Muhly 1992, 44, no. 20) and Zakros (see Platon this volume, 605, fig. 26).

¹⁷ Warren 1981, 156–9 and n. 7; Warren 1973b, 322.

¹⁸ Sakellarakis & Sapouna-Sakellarakis 1991, 54 and fig. 32.

the very fact that Alternating Style vases are found together with Marine Style vases in several LM IB destruction deposits seems to speak against the idea that the Alternating Style should be regarded as a hallmark of a second and later development in LM IB Crete. This is furthermore corroborated by the fact that many vases of the Special Palatial Tradition are decorated with motifs and elements of different “styles”. This is, for example, evident on the famous ewer from Poros where Marine Style motifs on the body are combined with Alternating Style motifs on the neck.¹⁹

Among the new shapes introduced in LM IB, the stirrup jar, tall (baggy) alabastron, pear-shaped (or ovoid) rhyton,²⁰ straight-sided jar, low rounded (medium-sized) stirrup jar, and the ewer have been mentioned.²¹ Large and small stirrup jars, however, have subsequently been found in MM III deposits at Kommos,²² and Mountjoy has pointed out that an LM IA tall (baggy) alabastron was found at Zou.²³ The presence in LM IB of two additional shapes, the S-shaped bowl (also called a horizontal-handled bowl) and the Minoan squat alabastron, has been much debated. Both shapes are associated with the following LM II period and are often considered to have been introduced for the first time in this period.²⁴ This has created some confusion among scholars when these shapes have turned up in LM IB deposits. Niemeier dated the S-shaped bowl at Nirou Chani²⁵ to LM II, as Watrous considered it to be a canonical LM II shape.²⁶ On the other hand, the excavators at Mochlos have considered the possibility that their latest LM IB might represent an East Cretan version of the LM II style, because, among other shapes, they also had S-shaped bowls and squat alabastra.²⁷

Besides Nirou Chani and Mochlos, LM IB S-shaped bowls are also present at Tylissos,²⁸ Malia,²⁹ Poros, and Kommos.³⁰ Popham, when referring to the Tylissos and Nirou Chani bowls, seems to have had no doubt that the shape evolved in LM IB, but he thought that “its frequency in LM II may be a new feature.”³¹ Now, since we have also seen them in the Royal Road: North LM IB deposits (Fig. 25),³² I think we have enough vessels to agree with Popham that the S-shaped bowl evolved in LM IB; consequently, we cannot claim that this shape

was introduced in LM II or that LM IB deposits containing these vessels should be dated to a period later than the LM IB destructions.

Some squat alabastra in LM IB contexts are LH IIA imports. However, one Minoan squat alabastron was found in a pit in Room 4, Building A in the LM IB Artisans’ Quarter at Mochlos,³³ another in an LM IB context in a house at Malia which was published in the 1950s,³⁴ and a carinated alabastron comes from the Neopalatial Villa at Nerokourou.³⁵ Niemeier mentions two more LM IB alabastra from Zakros,³⁶ and one LM IB alabastron, with the same motifs as found on one of the Zakros sherds, was discovered in a tomb at Sakkara in Egypt dated to the time of Thotmes III.³⁷ If the squat alabastron recovered from an MM IIIB context at Hagia Triada³⁸ can be accepted as a predecessor, then the shape may have been “invented” in Crete.

¹⁹ Dimopoulou 1999, 221.

²⁰ Popham 1967, 341.

²¹ Betancourt 1985, 140.

²² Betancourt 1985, 105 and pl. 14D and E.

²³ Mountjoy 2003, 78. The upper part of the vessel is, however, not preserved (Platon 1956, pl. 114, second from right in third row). Tom Brogan has called my attention to jugs from Mochlos with a similar low center of gravity as the Zou vessel, and as there is another parallel in an LM I jug from Gournia (Betancourt 1985, pl. 150) the identification of the Zou vessel as an alabastron becomes somewhat uncertain.

²⁴ Popham 1967, 344; Watrous 1981, 76; Betancourt 1985, 150–1.

²⁵ Xanthoudides 1922, 22, fig. 19.

²⁶ Niemeier 1984, 209; Watrous 1981, 76.

²⁷ Brogan, Smith & Soles 2002, 101.

²⁸ Hazzidakis 1912, 207, fig. 12.

²⁹ Deshayes & Dessenne 1959, 44, pl. X:1 to the left.

³⁰ Poros: Muhly 1992, 75, fig. 14, no. 186, pl. 13; Kommos: Watrous 1992, nos. 113, 127, fig. 14.

³¹ Popham 1984, 165, n. 54.

³² At the conference, we also saw S-shaped LM IB bowls from the Stratigraphical Museum Extension Excavations (p. 190) and from Kolokythi Skinias (384, fig. 20).

³³ Barnard & Brogan 2003, 60, fig. 18, pl. 11.

³⁴ Deshayes & Dessenne 1959, 57, pl. XV, 4 and 5.

³⁵ Kanta & Rocchetti 1989, 262, no. 543, fig. 74.

³⁶ Niemeier 1983, 223, n. 66. At this conference, two more vases were shown from Kolokythi Skinias and Zakros, see, 382, fig. 11 and 608, fig. 37.

³⁷ Evans 1928, 498, fig. 304.

³⁸ The alabastron, mentioned by Niemeier 1983, 223, has subsequently been published in DiVita 1984b, 188, fig. 289.

Regardless, the shape *was* produced in LM IB Crete and thus the squat alabastron can no longer be regarded as a new shape in LM II. As the shape appears simultaneously on the mainland (there

called the rounded alabastron) and on Crete, there is no longer any reason to attribute its appearance in Crete as a sign of mainland influence.

Discussion

B.P. Hallager Your two squat alabastra with single handles and with racket patterns, are they locally produced, or are they coming from the mainland?

Hood There must have been some imports, I think, and from fabric alone I think we had one or two pieces of undefinable shape, but in a fabric that was totally foreign to Knossos. So, there were imports, and what could be more satisfactory? There must have been many contacts with the mainland previously, and if you believe in an invasion from the mainland, it must have been preceded by a period with many contacts both ways.

B.P. Hallager I had another question. It was about these strainer jars. Your excellent example with the strange decoration that I couldn't figure out from LM IA. Were those flowers, or something?

Hood No. Dots I think.

B.P. Hallager Dots!

Hood Yes. But it's very elaborate decoration. It was my favorite vase and certainly made before LM IB. It was a very fine vase, clearly treasured and in use at the time of the LM IB destruction, or at least kept safely in a shrine, if there was one.

B.P. Hallager These are sometimes said, by Maria Vlazaki for example, to have been used in the production of aromatics.

Hood That makes much better sense than sponge holders.

B.P. Hallager Have you also found fireboxes, which are usually thought to be associated with the production of aromatics?

Hood I don't think we had them. I can't recollect any of them from the deposit.

B.P. Hallager Could your handleless bottle belong to the so-called Grey Ware, which is also black burnished and very thin-walled?

Hood It is very black and has a very soft fabric, gray inside but black outside, highly burnished. At a guess, something like that, not small or big, not minute certainly. It looked foreign, it looked quite out of context at Knossos at that period.

Macdonald Just a very quick comment about Grey Ware. I have published one strainer bridge-spouted jar in Evelyn Lemos & Sherratt 1996, 23 fig. 3, which is black burnished

on the exterior, very fine fabric, very well-fired and comes from an LM I context, probably LM IA but I won't swear to it.

Doumas Just about the strainer pots. We have quite a number from Akrotiri, most of which are decorated with flowers, and according to the ethnographic evidence, we have interpreted them as containers to dry aromatic plants because usually the locals dry the crocus flowers in a similar way. But as an outsider here, not an LM IA or B or III or whatever specialist, I have the impression that a couple of decades ago I had seen a cartoon, I think it was in the *Archaeologia* magazine, the French one. A Palaeolithic lady was caught by her husband sweeping the courtyard of their hut. He said, "What are you doing here?" And she said, "I am creating a problem, a chronological problem for the archaeologists." And I think I have the impression that Minoan housewives persistently did the same thing, creating lots of deposits.

Rutter I just wanted to draw attention, because I want to make a big deal about this later on, to some of the types that Sinclair illustrated from these Royal Road deposits. I think that we will be seeing more vessels like the two horizontal-handled bowls that he illustrated, as well as the semiglobular cups with the hanging festoons or groups of semicircles on the shoulder. And the comment that Birgitta made about the resemblances that she notes between the two types that I just mentioned and the deposits from Nirou Chani and Tylissos. I think that Dario Puglisi and I will have something to say about those. And, finally, the smaller stirrup jar that you illustrated, which had a sort of sunken false neck to it? It's a very peculiar looking stirrup jar, like it's got a navel instead of a flat false neck to it. We have one of these vases from exactly the same kind of context as the other things that I have been talking about. I would put all of these features at the very end of LM IB, or maybe at the beginning of LM II; we'll talk more about this later on.

Brogan Yes, Birgitta, I guess you had a few questions for us at Mochlos. Three things. We have subsequent to our publication of the Artisans' Quarter found several more horizontal-handled bowls and they are in very interesting, very late deposits in the destructions of the houses. And so you will see at least four or five examples; we found one just last week, and so we would put them very late. The problem is the decoration on our horizontal-handled bowls – it's very stylized, just foliate petals almost – and so they become a local feature. Our squat alabastron is a Helladic import, so it's not local Cretan. I am thinking of the one with the rosettes, which are you?

B.P. Hallager You have two. And the one, yes for sure, you dated to LH IIIA2, but about the other one you say nothing, so I presumed that was accepted as locally produced.

Brogan There is a simpler squat one, you're right, and there's also one from Pseira, they're almost parallel. But they are very local and unusual and I wouldn't make too much out of them.

B.P. Hallager No, but it's interesting to note that they were produced in LM IB.

Brogan We are going to talk about many of these things in our paper tomorrow night. We also find a substantial amount of this Grey Ware with black burnish. I am sure Kellee [Barnard] is back there nodding, and we wonder where it is being made. We begin to pick it up in fragments even at the end of LM IA. It is characteristic of almost all the destruction deposits. Every house has it, but it's always badly broken. We find cups, semiglobular cups, and little jugs. We probably have twenty or thirty pieces of it. Never a whole profile, well, we have one cup now. We think of it as an import and would love to know where it's from.

B.P. Hallager Why couldn't the origin of Grey Ware be Crete? The mainland production of these vases first started in LM IIIA1.

Betancourt I can comment on the squat alabastron from Pseira. It was found by Seager. We have no context for it, so we cannot really say what stratigraphy it goes with. It is probably local. It has a very debased, very crude octopus on each side, but it comes from an unknown context so we cannot use it for chronology.

Late Minoan IB pottery from Knossos: Stratigraphical Museum Excavations, the North Building*

Peter M. Warren

On the site of a proposed western extension to the Stratigraphical Museum at Knossos (Fig. 1), excavations (1978–82, 1997) showed that an extension could not be built; rather, the northeastern area was occupied in LM I by a building with some ten rooms or areas as excavated – its eastern limits were beyond the area of excavation (Fig. 2). The name North Building replaces our earlier designation North House, since a purely domestic function for the building is not obvious and finds

like the children's bones and their treatment do not suggest such a function. The building was destroyed

* The author is grateful to the British School at Athens for permission to use photographs and line drawings from the Stratigraphical Museum Extension excavations directed by him. The pencil originals of the drawings were made by members of the excavation staff, particularly Elizabeth Warren, and were inked by Susan Grice, University of Bristol. The photographs are by the writer, except Fig. 1 (British School at Athens).

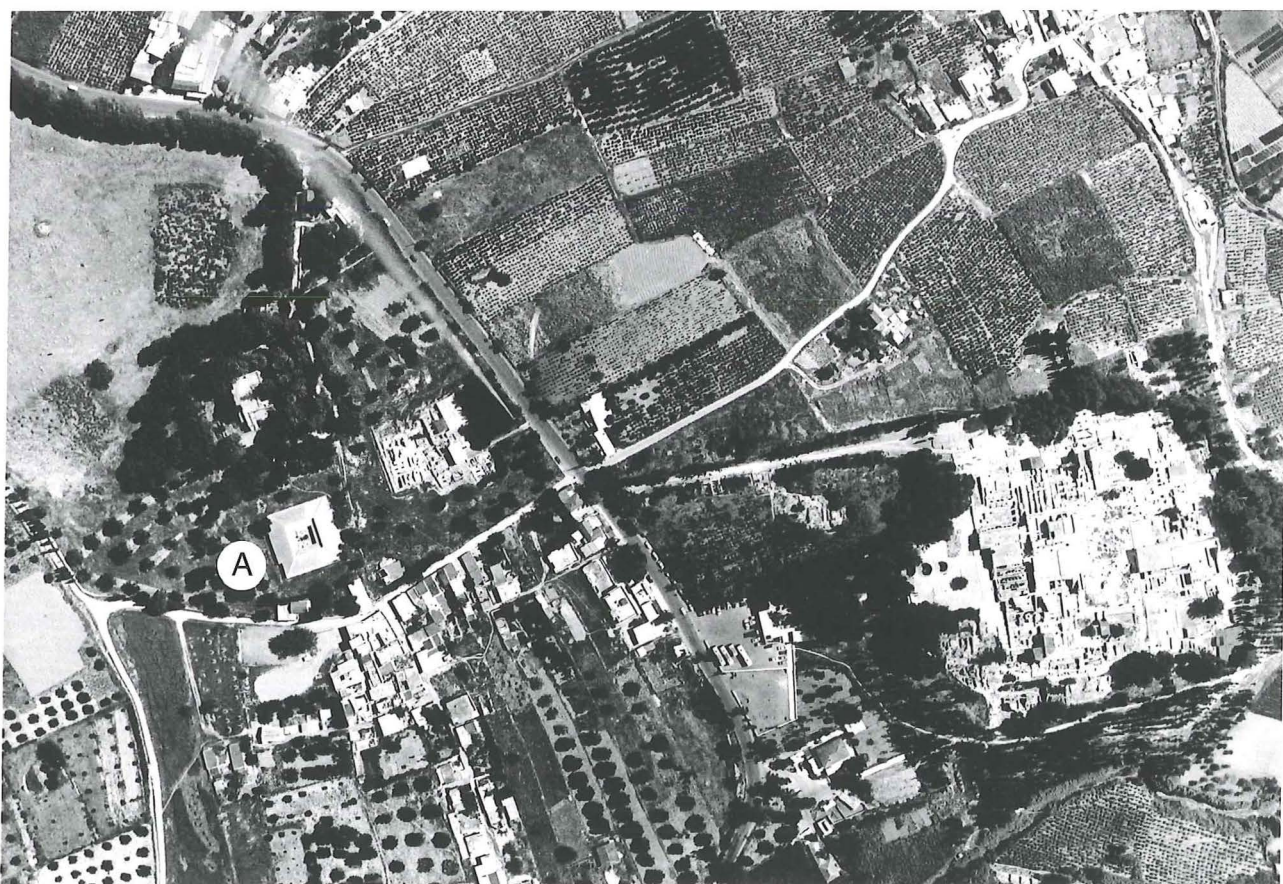


Fig. 1. Knossos central area. Stratigraphical Museum Extension site indicated at A. Photo British School at Athens.

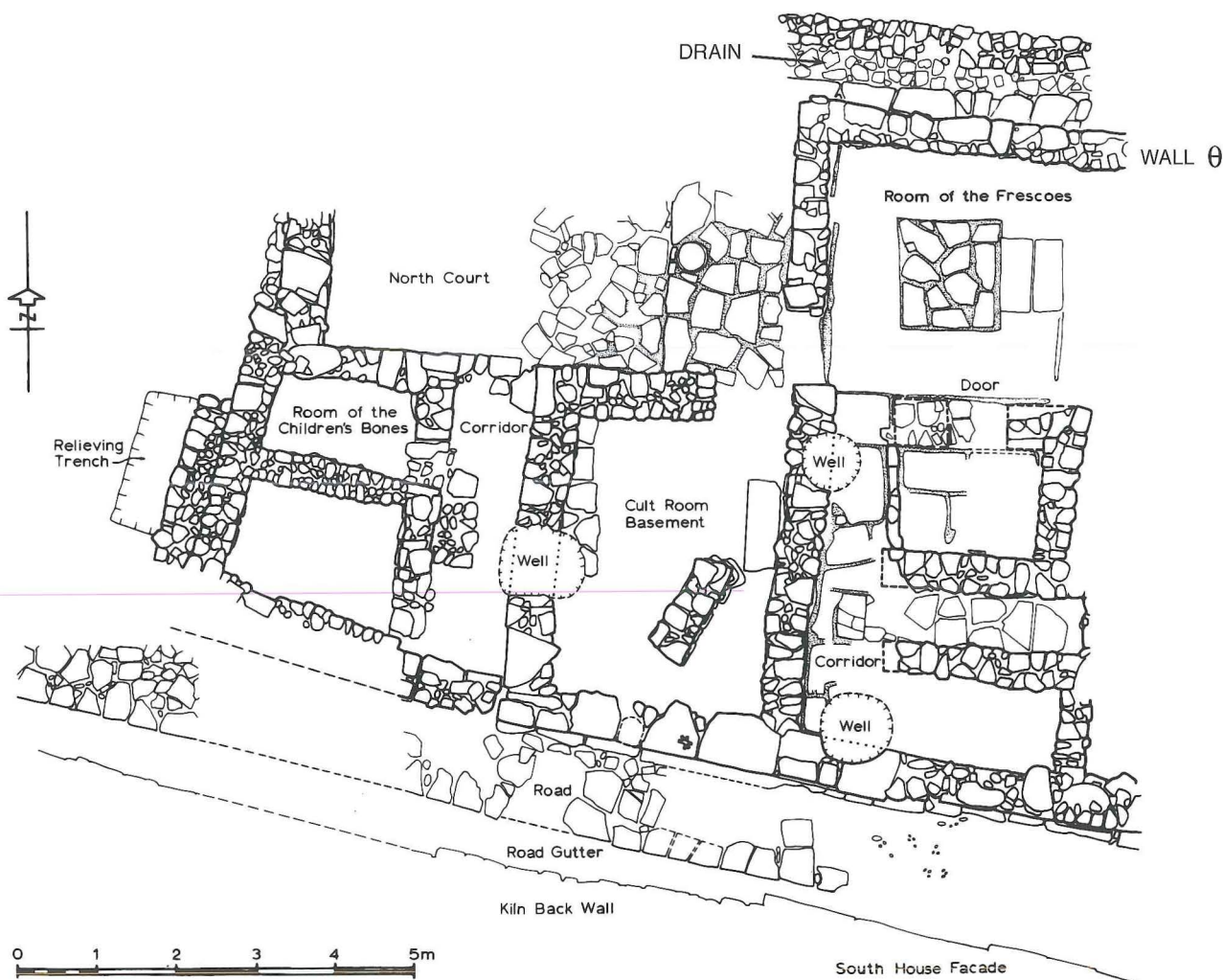


Fig. 2. North Building with drain at northeast corner.

at the end of LM IB. Much of the abundant contents, fragments of wall paintings, pottery, loomweights, sealstones, and children's bones chief among them, has been illustrated or published in nine previous papers and reports. The previously cited, illustrated or published pottery, approximately 125 vases, may be summarized by room/area (Fig. 2) as follows.¹

Room of the Children's Bones

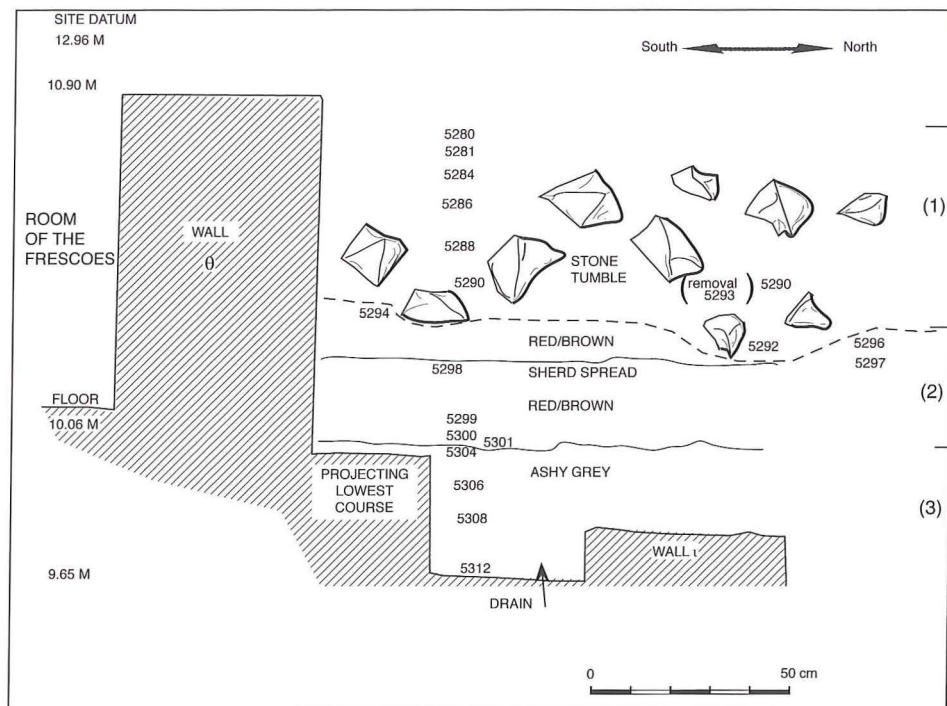
(cataloged items, e.g., P323, are illustrated in previous publications by catalog number)

Alabastron P323; small **amphora** P324 (there was also a fragment of the large Marine Style **amphora** P339 whose other surviving fragments came from

the North Court [see below] and the Corridor); incurving **bowl**; **bowl** with rim pinched up at four points; 3 **bowls** with S-profile, reed pattern, P322, P541 and one other; 2 **bridge-spouted jugs**, P319 and P970; 30+ **conical cups** plus 2 with handles, P325, P349, and P354; 4 **cups**, S-profile, P395 (Marine Style), P396, P640 (orange-red ground with dark speckling all over inside and out) and one other; **cup-rhyton** fragment; **juglet** P326; 2 **jugs**, one with horizontal rim.

¹ For the pottery from the Room of the Children's Bones, see Wall, Musgrave & Warren 1986, 335–45, pls. 22, 23b, 25a–b, d–e, 26a–b; for the rest of the North Building, see Warren 1980–1, 77–89 and figs. 20–41, 45–6, 48–9, 52–3; Warren 1984b, figs. on 48, 52, 54–5.

Fig. 3. Trench D drain deposit. Schematic section with excavation unit sequence (unit numbers at the top point of their excavation).



Cult Room Basement

Basement floor deposit: at least 37 vases, mostly **conical cups**, also **bowls/cups** with S-profile, **conical bowls**, **jugs** and **tripod cooking pots**.

Room above Basement (material collapsed to form fill of Basement over its floor deposit): at least 37 vases, including large vessels – 3 **amphorae** (P350, P559 and one other); large cylindrical **cooking pot**; 4 **pithoi** (P398 and P457, each containers for rhyta (see below), P441, and P367 oval with handles of horizontal section above round base, perhaps a drum); **pithoid jar** P369; **stirrup jar** P280; small vessels – Marine Style baggy **alabastron**; **bowl** with S-profile; 3 **conical cups**; 2 **cooking pots**; **flaring bowl** or **lamp**; **flaring bowl** or **plate**; 2 **jugs**; 15 **rhyta** – **amphoriskoS-rhyton** with internal cone, (2 **basket-rhyta**, 9 **cup-rhyta**, **kantharoS-rhyton**, **pitharaki-rhyton** and large Marine Style **conical rhyton**); **spouted jar**.

North Court

Two **amphorae**, P339 Marine Style (see above, Room of the Children's Bones) and P357 with

horizontal bands of vertical wavy marbled pattern; **bridge-spouted jug** Marine Style, P358; **cup-rhyton** Marine Style, P359.

One main ceramic deposit from the building has, however, remained undescribed, and the cataloged pottery is presented here. It comprises the material, from Trench D levels 17 and 19, over and in a paved drain which ran outside along the north wall of the Room of the Frescoes at the northeastern corner of the building (Fig. 2). Given the specific purposes of this conference, attention must first be given to the stratigraphy. The relevant material was excavated as twenty-one separate units (numbered zembilis) and was as follows, proceeding downwards in three stratigraphic stages (called levels 1–3 in this publication) from the preserved top of the north wall (wall 0) of the Room of the Frescoes (Fig. 3):

1. Open ground coming down onto stone tumble from wall 0: Trench D level 17 units 5280, 5281, 5284, 5286, 5288, 5290, 5292, 5305 (eastern part of tumble, at depth equivalent to unit 5298 in sherd scatter of 2), 5293 and 5329 (removal of stone tumble, 5329 being disturbed east end of wall 0).

2. Red/brown earth below tumble coming down to sherd (smashed pottery) scatter in the same

Level	Unit	Sherd weight kg	Kylix fragments	Partial paint (blob) cup fragments	Conical cup fragments
1	5280	2.25	4	0	12
1	5281	11.50	10	1	64
1	5284	14.25	17+	0	49
1	5286	16.50	15	7	40
1	5287	10.00	5	2	51
1	5288	11.50	4	0	47
1	5290	16.75	5	4	103
1	5292	2.50	0	0	36
1	5293	0.50	2 possible	0	4
1	5329	1.00	0	0	4
2	5294	3.00	1 probable	0	17
2	5296	6.75	0	0	55
2	5297	7.00	0	0	39
2	5298	3.50	0	0	5
2	5299	9.50	0	0	82
2	5300	11.50	0	0	26
2	5301	16.25	0	0	69
2	5305	7.50	0	0	40
3	5304	18.50	0	0	161 + 2 CAT
3	5306	11.25	0	0	125 + 1 CAT
3	5308	11.25	0	0	87 + 1 CAT
3	5312	17.00	0	0	215 + 4 CAT
TOTAL		209.75			1331 + 8 CAT = 1339

Table 1. Trench D excavation level 17 (levels 1 and 2 in this paper) and excavation level 19 (level 3 in this paper), units, sherd weights (level 1 total 86.75 kg, level 2 total 65.00 kg, level 3 total 58.00 kg), kylikes, partial paint (blob) cups and conical cups.

soil: Trench D level 17 units 5294, 5296 (earth north of the stone tumble at a depth equivalent to its base), above 5297 (earth north of tumble at a depth equivalent to 5298), 5298, 5299, 5300, 5301 in sequence for the sherd scatter itself.

3. Ashy gray burnt soil with, in sequence, Trench D level 19 units 5304 (below 5301), 5306, 5308, 5312 (the latter two within the drain itself, 5312 on its paving).

It is likely that the red/brown soil of level 2 represents dissolved mudbrick; the ashy gray burnt soil of level 3 could represent dissolved burnt timbers. It is also possible that the burning of both levels was the product of fires from food preparation,

which would imply that the pottery and animal bones within it were *in situ* at the moment of destruction and subsequently smashed by the stone tumble. A difficulty for this interpretation is that food preparation operations are unlikely to have left two superposed soils of such different color and composition. In any case, even if the material was *in situ* at the moment of destruction, it is more likely to have been contemporary with the building's destruction material than to have been previous, that is earlier accumulation, since such accumulation would have negated the purpose of the drain. We return to this chronological or sequential point after the presentation of the pottery.

As a result of having twenty-one discrete ceramic units available for study (in total 209.75 kg of sherds (Table 1) plus a little more from unweighed pots numbered during excavation), two major facts emerge:

(A) The uppermost level, 1, while having much LM IB, also included a significant number of LM II sherds, as demonstrated by fragments of kylikes and partial paint (blob) cups (Table 1). (On the latter the solid decoration is achieved by immersing one side or, in turn, opposite sides of the inverted vase at an angle into the paint). That these cups, like the kylikes, are a clear marker for LM II at Knossos is confirmed by the evidence of the present material.² As Fig. 3 and Table 1 show, not only are fragments of 14 of the cups found in the stone tumble of level 1 but not one fragment was found below unit 5290, a situation closely parallel to that of the kylikes. This type is not found in the LM IB deposits elsewhere on the Stratigraphical Museum site, nor in the Royal Road deposit. The material of levels 2 and 3 is, by contrast, pure LM IB. The stratigraphy thus neatly confirms LM II as succeeding LM IB. Level 1 was not a period of transition but comprised LM IB wall tumble over and into which material of the next period of occupation, LM II, penetrated. The relationship of this position to other sites is considered below.

(B) The cataloged LM IB pottery from levels 2 and 3, notwithstanding the soil differences (see above), was a single deposit, with no fewer than 15 vases out of the 48 from levels 2 and 3 coming from three or more ceramic units, 8 of them with fragments in both 2 and 3 (within level 2, P1288, P1575, P1378, P1294 [Fig. 4]; from levels 2 and 3, P1053, P1060, P1284, P1286, P1054, P1049, P1293, P1370 [Figs. 5–7]; within level 3, P1058, P1058A, P1063 [Figs. 5–6]).

In addition P1021 (Fig. 4), from the open ground of level 1 (unit 5281) immediately above the stone tumble, is a cup of the same type and decoration as several in level 3, e.g., P1056 (Fig. 5), thus linking the LM IB material of level 1 to the main deposit below. Also from level 1 unit 5286 was a joining sherd of a fragmentary Marine Style amphora (P353) whose other fragments came from the north end of the Room of the Frescoes immediately south

of the drain deposit. Further demonstration that the stone tumble of level 1 was LM IB destruction debris from the Room of the Frescoes is made by a fresco fragment (82/1715, unit 5286) with part of a woman's skirt; this composition had decorated the north wall of the Room of the Frescoes.³

While it is clear that the material of level 1 is part of the LM IB destruction and has at least one link (P1021) to levels 2 and 3, the question raised earlier remains. Was the material of 2 and 3 *in situ* at the moment of destruction or was it deposited from within the building in the course of destruction? If the former, it could represent LM IB material earlier than the destruction, i.e., would provide evidence for phasing within LM IB. We have observed, however, that even if it was *in situ* it is unlikely to have preceded the destruction by any significant time. As it happens, three further pieces of evidence appear to settle the matter:

(1) The incredibly finely painted bowl or cup P1288 (Fig. 4) from level 2 units 5298, 5300 and 5301 had two further pieces, one from the North Court (Trench G level 36 unit 972) and one from the top of the fill in the northeastern part of the Cult Room Basement (Baulk GH level 8 unit 3225). Both of these were destruction contexts of the building. Although this does not exclude the possibility that the pieces in level 2 were precipitated into an *in situ* level during the destruction, it is much more likely that the level was itself part of the destruction debris.

(2) A fragment P480 (Fig. 4) of a very distinctively decorated vessel, probably a basket vase, with an overall lozenge cord pattern, came from the lowest unit of the drain itself, 5312. The vase also has pieces from no fewer than five other contexts: (i) just above the preserved top of wall θ , with other LM IB plus LM II material (Trench D level 17 unit 5274), (ii) just north of the stone tumble of level 1, at the same depth (Trench D level 17 unit 5287, which also included a smashed human cranium), (iii) in LM I–IIIA fill over an LM II building to the west (Trench F/FG level 32 unit 2980), (iv)

² For examples from the Unexplored Mansion, see Popham 1984, pls. 79b–d, 80 top row.

³ Warren 2005, 135 no. 1.3, fig. 8.6 and pl. 45.2.

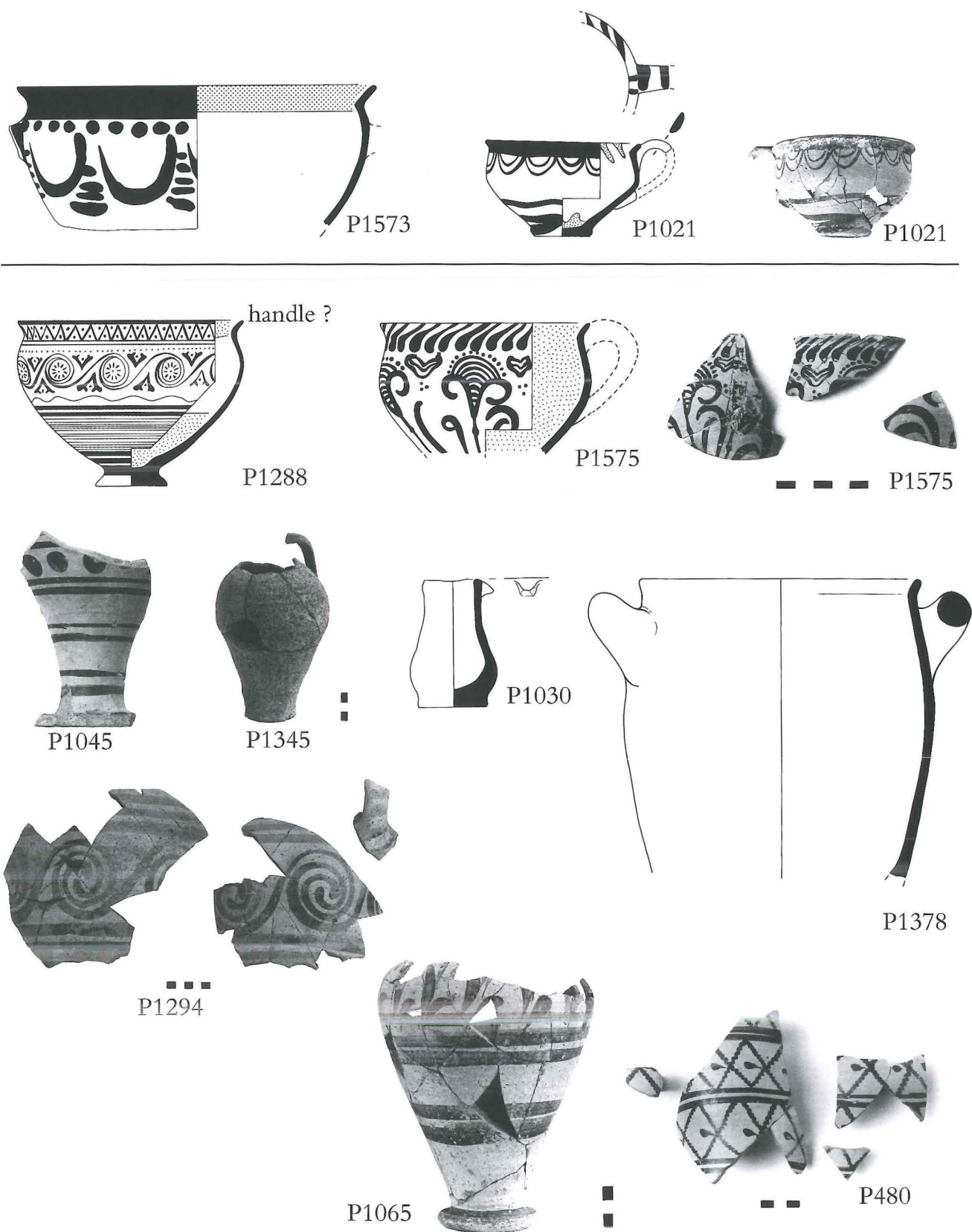


Fig. 4. Drain deposit level 1 (P1573, P1021), level 2 (P1288, P1575, P1045, P1345, P1030, P1378, P1294, P1065), level 3 (P480).

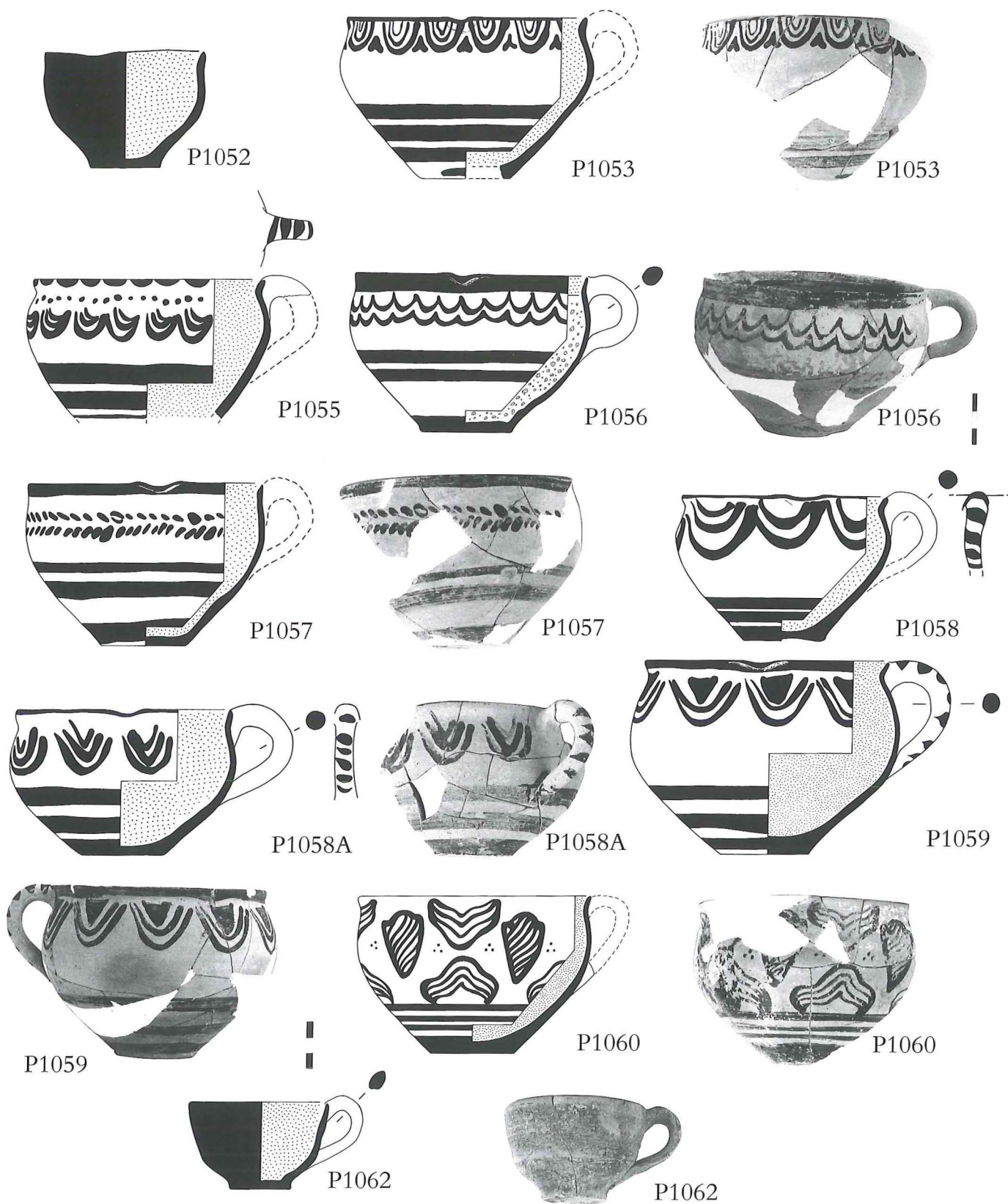


Fig. 5. Drain deposit level 3.

in a mixed LM I–IIIA level on the west of the site (Trench J/JN level 22 unit 4870), (v) an LM IB level directly overlying Kiln 3 to the south of the North Building (Baulk LP level 7 unit 69). This vase must have been in use at the time of the LM IB destruction, quite probably, given the Trench D drain deposit fragment, in the North Building itself. Its fragments became widely scattered in the destruction and in post-destruction disturbance of the site.

(3) P1575 (Fig. 4) from level 2 is a cup by the well known LM IB Papyrus Painter/Workshop, with close parallels from the site's LM IB destruction, P752 from the North Court, P112 and P1959 from the kilns to the south, and from other sites (see catalog).

These three pieces of evidence make it clear that the drain deposit was part of the building's and the site's LM IB destruction, i.e., the drain was open at the time of the destruction, which deposited the material into it. There is thus no evidence here for separate phasing within LM IB, simply a single moment of destruction.

The cataloged pottery is now summarized. Sherd (i.e., recorded but non-cataloged pottery) summaries for each of the 21 units are beyond the scope of this paper, but it can be summarily stated that the units contain further LM IB decorated pieces of cups and other shapes, many fragments of conical cups (see below p. 189 and Table 1), a very few fragments of thin, coarse ware baking plates, very few fragments of stick-handle hand lamps, many pieces of larger closed shapes (chiefly oval-mouthed amphorae) and much cooking pot ware (including from level 1, 49 oval section tripod feet and 1 flat oval section, from levels 2 and 3, 46 oval section, 8 flat oval and 2 circular section feet).

Unit numbers are given for each vase. See Fig. 3 for the stratigraphical position of the units. See Figs. 4–7 for illustrations of the vases. All drawings are at scale 1:3. Motifs and other details on the drawings and photographs are not repeated in the text. Measurements are in centimeters, e.g., 7.4 = 7.4 cms. D. = diameter, H. = height, pres. = preserved.

Level 1

Smaller vases

Bowl S-profile

P1573. 5290+5329 (disturbed top of wall θ , east end). H. pres. 7.4. (Fig. 4).

P1583. 5284. H. 5.6. Dark paint in-and-out.

Cup S-profile

P1021. 5281. H. 5.0. (Fig. 4).

Conical cup miniature

P1028. 5290. Hole in base. H. 2.0. D. rim 4.0.

Closed shapes (stirrup jar or jug) Marine Style

P1586. 5287. Body fragment. Triton shells and seaweed. 6.0 x 5.5.

P1587 + P2053. 5281 + Baulk LM level 12 unit 1319. Two body fragments. Argonauts. (i) 3.8 x 2.5, (ii) 3.8 x 2.6.

P2052. 5286 + Baulk GH level 4 unit 3211. Two body fragments. Parts of octopus tentacles without inner dots, seaweed between. (i) 6.5 x 4.0, (ii) 2.7 x 1.9.

Level 2

Smaller vases

Bowl S-profile

P1288. 5298 + 5300 + 5301 + Trench G level 36 unit 972 (North Court) + Baulk GH level 8 unit 3225 (Cult Room Basement, northeast area, top of LM IB destruction fill). H. approx. 8.8. (Fig. 4).

Cups S-profile

P1290. 5301. Exterior: black paint all over; interior: rim band, splashes over rest of interior. H. pres. 7.3. Cf. P1281 (Fig. 6).

P1575. 5296 + 5297 + 5300 + 5301. Papyrus Cup Painter/Workshop. H. pres. 6.7. Cf. P752 (North Court), P112,⁴ and P1959 (kilns), all from the LM IB destruction. Knossos: Royal Road,⁵ Nirou Chani,⁶ Archanes Tourkogeitonia.⁷ (Fig. 4).

⁴ Warren 1980–1, fig. 12.

⁵ Warren 1973a, 575 and pl. 544a.

⁶ Xanthoudides 1922, 21 and fig. 20 middle row right.

⁷ Sapouna-Sakellarakis 1988–9, pl. 24 fig. 32. For the type see also Popham 1967, figs. 2, 9 and pl. 81e top right and middle right.

Cup-rhyton

P1045. 5300 Pot 10. Lower body-base piece, hole in base. Horizontal bands with band of solid circles between top preserved bands. H. pres. 10.0. (Fig. 4).

Jug

P1345. 5298. Strap handle. H. pres. 18.8. (Fig. 4).

Juglet

P1030. 5298 Pot 7. Usual small knob at rim. H. 6.9. (Fig. 4).

Larger vases

Amphora oval-mouthed

P1590. 5300 with P1294. Both handles pres., and fragments of mouth, shoulder, lower body. Diagonal bars on handles, loop round base of handles, probable trickle decoration on body, bands above base. H. pres. (handle fragment) 11.1.

Cooking pot tripod

P1378. 5294 + 5295 + 5299 + 5300. Shoulder, handles, parts of body, base, feet not pres. Burnt all over. H. pres. 16.0. (Fig. 4).

Jar (or **amphora** or large **jug**)

P1170. 5298 + 5300 sherd 3. Lower body-base. Horizontal bands. H. pres. 13.0.

Jar (or **amphora** or **stirrup jar**)

P1294. 5296 + 5298 + 5300 + 5301 Pot 8. H. pres. 22.0. (Fig. 4).

Jugs

P1065. 5300 Pot 9 + 5301. H. pres. 19.4. (Fig. 4).

P1574. 5296. Neck, upper body piece and non-joining handle fragment. Fine neck ring. Fine plant style. H. pres. 9.6.

Level 3 (some with fragments in level 2).

Smaller vases

Basket vase?

P480. 5274 + 5287 + 5312 + Trench F/FG level 32 unit 2980 + Trench J/JN level 22 unit 4870 + Baulk LP level 7 unit 69. Four body fragments. Largest fragment ca. 12.5 x 10.0. (Fig. 4).

Bowls S-profile

P1052. 5304 Pot 15. Red paint in-and-out. H. 6.4. (Fig. 5).

P1291. 5312. Lower body-base pres. and one non-joining fragment. Standard diagonal plant/reed style, band at base. H. pres. 3.8.

Cups S-profile, usually pulled lip spout at 60° – 80° to handle, placed for right-handed drinkers.

P1053. 5301 + 5304 + 5306 + 5308. H. pres. 8.6. (Fig. 5).

P1055. 5304 (handle scrap) + 5306. H. pres. 7.6. (Fig. 5).

P1056. 5308 + 5312. H. 8.2. (Fig. 5).

P1057. 5312. H. 8.6. (Fig. 5). There are three joining sherds of a similar vase, but unpainted inside, from 5299 + 5304.

P1058. 5305 + 5306 + 5308 + 5312. One-third pres. H. pres. 7.55. (Fig. 5).

P1058A. 5306 + 5308 + 5312. Half pres. H. 8.4. (Fig. 5).

P1059. 5306 or 5308 + 5312. H. 10.4. (Fig. 5).

P1060. 5299 + 5304 + 5305 + 5306 + 5309 + 5312. Nearly half pres. H. 8.6. Cf. P823 from the western part of the site (Trench J/JN level 25).⁸ (Fig. 5).

P1062. 5312 Pot 22. Orange brown – black paint. H. 4.7. (Fig. 5).

P1063. 5306 + 5308 + 5312 Pot 20. Orange brown paint. H. 9.4. (Fig. 6).

P1106. 5304 + 5306 with P1060. Rim-body fragment including handle, and three non-joining fragments. Band at rim, main decoration two bands of horizontal iris, horizontal band below and four thin horizontal bands preserved just below that. Interior: monochrome red-brown paint. H. pres. 5.8.

P1107. 5312 Pot 19. No handle on preserved parts. H. 7.2. (Fig. 6).

P1281. 5304 + 5305. H. 8.8. (Fig. 6).

P1282. 5308 + 5312. H. 8.9. Cf. P1281. (Fig. 6).

P1283. 5301 + 5304. Over half pres. Exterior: dark paint; interior: dark paint rim band only. H. 8.9. Shape as P1281.

P1284. 5300 + 5304 + 5305. H. 8.5. (Fig. 6).

P1286. 5301 + 5304 + 5306. Over half pres. in three non-joining pieces. Interior: dark paint. H. 7.1. (Fig. 6).

P1287. 5304 + 5305. H. 8.9. (Fig. 6).

⁸ Popham 1967, figs. 2, 3 and pl. 81e bottom right.

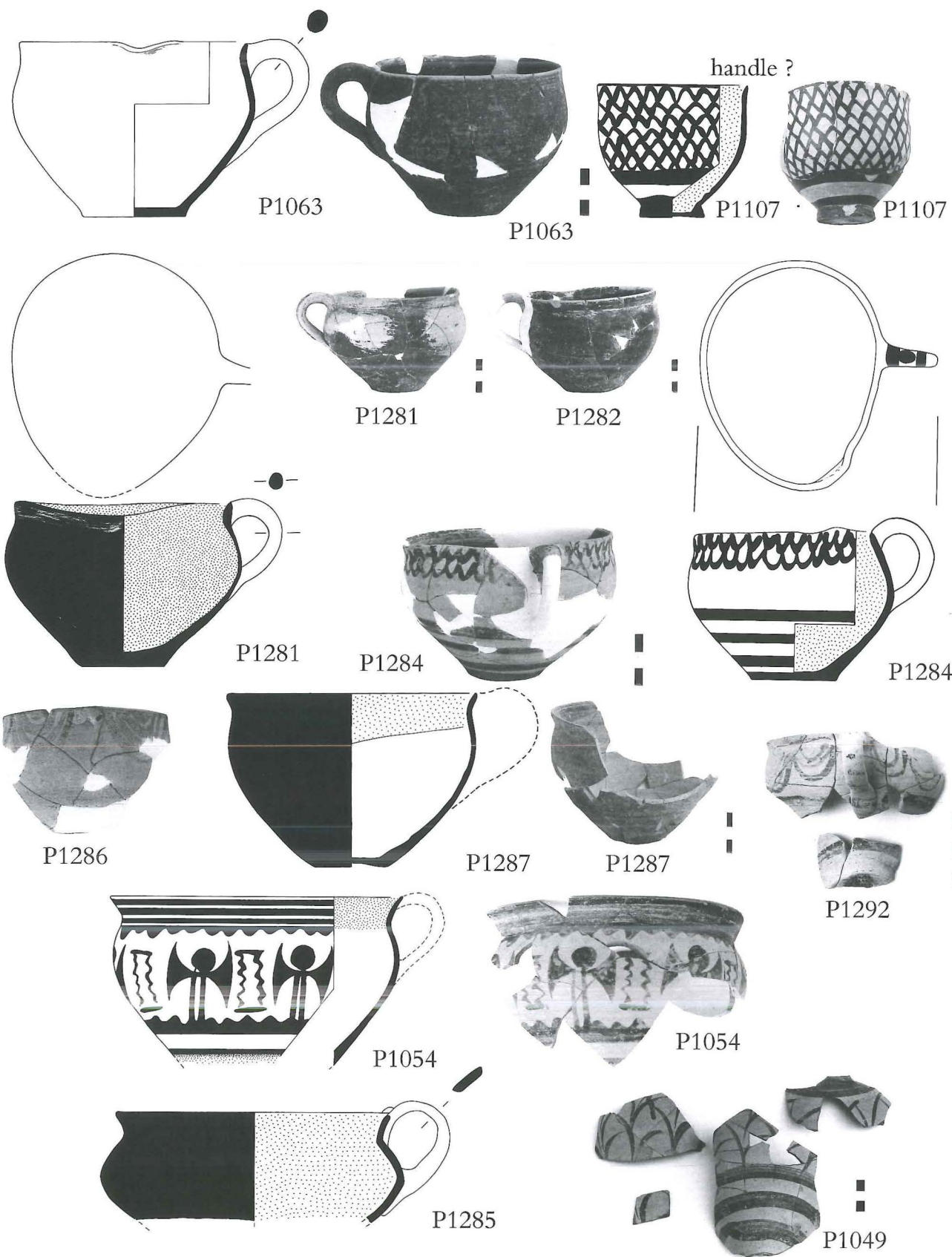


Fig. 6. Drain deposit level 3.

P1289. 5306 + 5308. Three quarters pres. Red-brown paint in and out. H. 7.4. Cf. P1281.

P1292. 5300 (possible sherd) + 5304 + 5308. About one-third pres. Interior: band at rim, speckled paint below. H. 8.0. Shape cf. P1281. (Fig. 6).

Conical cups

Eight complete examples were cataloged from Level 3 (P1040 – P1042, P1046 – P1048, P1061, P1064). From levels 1, 2 and 3 there were also 1331 fragments (it is possible that some could be from the same vases) (see Table 1).

Cup-rhyta

P1054. 5301 + 5304 + 5306 + 5308. Decoration includes three narrow bands of added white paint, two on the rim, the other at the rim-shoulder junction. H. pres. 8.5. D. 15.6. There is a similarly decorated cup-rhyton from Zakros⁹ (Fig. 6).

P1285. 5304 + 5305. The profile, diameter and the handle with applied “rivet” at the junction with the rim strongly suggest a cup-rhyton. H. pres. 6.5. D. rim 14.5, body 15.8. (Fig. 6).

Larger vases

Jar or jug

P1049. 5300 + 5301 + 5308 (possible fragment) + 5312 Pot 24 + 5313. H. pres. (largest piece) 13.3. D. ca. 17.5. (Fig. 6).

P1293. 5300 + 5304 + 5305 + 5306. Because only fragments survive, the fine decoration cannot be identified with certainty; above the spirals, probably around the top of the shoulder, was a thin wavy line outlining a solid wave pattern above it; below this, at the main shoulder zone, large spirals with a thicker outer line, thin lines within and a solid center; the spirals were joined by tangents above and below which were wavy lines or loops; probably below the spirals were beautiful curved, horizontal and downward bending leaf sprays, as the main body zone, with three horizontal bands immediately below. Six body fragments, non-joining. The three main fragments: 13.5 x 10.2, 12.5 x 15.1, 7.2 x 9.7. The vase could well be LM IA, given the form of the spirals and the waving, floral aspect of the leaf sprays; for the latter cf. an MM IIIB–LM IA Transition vase from an earlier deposit in this trench, D Pit VI¹⁰ (Fig. 7).

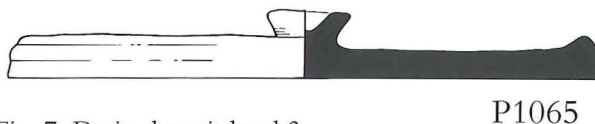
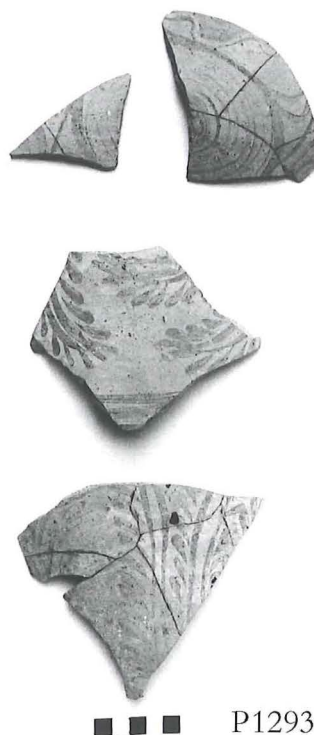


Fig. 7. Drain deposit level 3.

Lid

P1370. 5300 sherd 4 + 5308. One-quarter pres. D. 23.0. (Fig. 7).

While the shapes of the above material are unremarkable for LM IB, the decoration of the bowls, cups and cup-rhyta is of some interest. In addition to plant/reed style, spirals and horizontal foliate bands, all continuing from LM IA, several other decorative arrangements in the deposit are known elsewhere: P1575 (Fig. 4), from the Papyrus Cup Painter/Workshop; P1060 (Fig. 5), Alternating Style, tricurved arches and bud; P1107 (Fig. 6), scale pattern; P1054, Alternating Style, double axes and vertical double wavy line (the LM I and LH I–IA double axe motif on pottery is a complex story).

⁹ Siebenmorgen 2000, 265 no. 116, Zakros Building C, Siteia Museum 3049.

¹⁰ Warren 1991, fig. 6A (P1537).

For some comparanda see the catalog above. The delicately painted bowl P1288 (Fig. 4), with its running spirals with dotted centers and iris-V above and below the tangent link line, appears to be a unique addition to the LM IB corpus.

The S-profile, two-handled bowl P1573 (Fig. 4) from level 1 requires particular discussion. The type is LM II¹¹ and the decoration other than the band of solid circles is closely paralleled on one of the Unexplored Mansion bowls.¹² Moreover the occurrence of P1573 in unit 5290 allows an LM II date, since this unit included fragments of five kylikes and four partial paint (blob) cups (Table 1). On the other hand, the decoration is not dissimilar to that of several cups in level 3 (Fig. 5, P1055, P1058, P1059) and the context, the stone tumble of level 1, allows an LM IB as well as an LM II date. Moreover, such bowls are present in the LM IB destruction deposits on the Royal Road,¹³ at Nirou Chani and Tylissos,¹⁴ at Hagia Triada in the Villa Final Destruction,¹⁵ Kommos,¹⁶ Kolokythi Skinias,¹⁷ and Mochlos.¹⁸ In discussion Mervyn Popham accepted P1573 as LM IB, noting that the band of solid circles was not an LM II feature on bowls and cups. We therefore conclude by taking P1573 on balance as part of the LM IB destruction debris and, as such, as contributing to the evidence that this type began in LM IB and then continued in LM II with decoration of that period.

The main new contribution of the drain deposit is the incidence of cups decorated with a band of concentric pendent loops or careless semicircles in several variations. There are no fewer than ten such cups, all from level 3 except P1021 (Fig. 4) from above the stone tumble in level 1. The painting varies from neat to careless. The loops/semicircles may be pendent from a solid rim band, P1021, P1056 (Fig. 5); pendent directly from the rim or from a very thin band on the rim, P1053 (Fig. 6, which also has a small filling motif between each set of loops), P1058, P1058A, P1284, P1286, P1292 (Figs. 5–6); placed on the upper body below a band of dots, above which, at the rim, is a single band of solid pendent semicircles, P1055 (Fig. 5); on the upper body, detached from a rim band, P1059 (Fig. 5).

While the cups with well known motifs (Figs.

4–6, P1060, P1575 and P1107) provide evidence for an LM IB destruction wider than that of the North Building, what of the cups with concentric pendent loops/semicircles? There are several in the Royal Road deposit;¹⁹ there is a close parallel from Tylissos, published in an excellent color photograph by Vasilakis,²⁰ and there are four more from Nirou Chani.²¹ These parallels, together with those of the known motifs cited above and, much stronger evidence, Marine Style pottery plentiful in the North Building (see above p. 180–181) and at Archanes Tourkogeitonia,²² together with fine individual examples of it from Knossos Royal Road: North,²³ and Nirou Chani,²⁴ all strongly suggest that the LM IB destructions of Knossos, Archanes, Nirou Chani and Tylissos were contemporary.

What is the relationship of the destruction in North-central Crete to LM IB elsewhere? Since that is one main focus of the conference only a summary comment is offered here.²⁵

Partial paint (blob) cups focus the issue sharply. We saw above that they are a clear LM II type at Knossos, with no known LM IB examples. At the same time we must note that there are several examples in the LM IB destruction deposits at Phaistos

¹¹ Popham 1984, pls. 52–3, 148 nos. 5–8.

¹² Popham 1984, pl. 52c.

¹³ Hood this volume.

¹⁴ Xanthoudides 1922, 20 and fig. 19 lower right. Hazzidakis 1921, 27–8 (“cratères”) and fig. 12c, e, m.

¹⁵ Puglisi this volume.

¹⁶ In Rutter’s LM IB Late, House X11:1/10, X7:1/3, this volume.

¹⁷ Mandalaki this volume.

¹⁸ Barnard & Brogan 2003, fig. 8; Barnard & Brogan this volume, fig. 14; and Mountjoy this volume, fig. 7.3.

¹⁹ Hood this volume.

²⁰ Vasilakis 1997, pl. on page 52 right; cf. Hazzidakis 1921, fig. 13h.

²¹ Xanthoudides 1922, 21 and figs. 19 lower row left, an open-spouted bowl, and 20 top row 3rd left and 2nd right, middle row 2nd right, these last three all cups.

²² Sapouna-Sakellari 1988–9.

²³ Hood 1962a, figs. 10–11.

²⁴ Xanthoudides 1922, 20 and fig. 17.

²⁵ In any extensive discussion, other LM IB non-cemetery sites, e.g., Nerokourou, Sklavokampos, Malia, Gournia and Petras, would of course be included.

Chalara²⁶ (with which Palio associates the destruction of Phaistos Hagia Photeini) and Kolokythi Skinias.²⁷ They also occur in Puglisi's proposed LM IB/II phase at Hagia Triada,²⁸ which he dates after the Final Destruction of the Villa, and at Kommos in Watrous' Deposit 16, nos. 350 and 373, LM II Early.²⁹ One might also add here the examples from the Artisans' Quarter at Mochlos. The context dates of the examples at the last two sites pose no problem for the context date at Knossos, although the richly documented phase proposals of D. Puglisi for Hagia Triada clearly merit further discussion. If these proposals are sustained, one immediately useful consequence, also noted by O. Palio in his Response to the present paper, is that the Final Destruction of the Villa, preceding the "LM IB/II" phase, can go with the Knossian LM IB destruction, which a whole host of ceramic links in fine wares strongly suggests was in fact the case. This happy state of affairs does not, however, extend to the Phaistian houses and Skinias, whose "classic" LM IB destructions (e.g., Olive Spray Painter at Skinias), but including partial paint (blob) cups (and S-profile two-handled bowls), should also go with those of Knossos and North-central Crete.

How can this be explained? Did the Phaistian house destructions³⁰ and that of Skinias occur later than that of Knossos, that is in the time of (early) LM II, after partial paint (blob) cups had come in at Knossos? Given the overwhelmingly classic LM IB character of these southern destructions this is hard to believe (though it might be music to the ears of the excavator of Pseira and, perhaps, those of Mochlos). Were partial paint (blob) cups a late LM IB Mesaran creation, their potters and painters reaching Knossos only in LM II, after the LM IB destruction of their sites (though Hagia Triada and Kommos continued) and of Knossos? This is possible, though if the type existed in South-central Crete in LM IB one might well expect to find examples reaching North Crete at that time.

Though much is still to be resolved, the writer is of the view that the multiplicity of detailed ceramic correspondences in shapes and decoration between, on the one hand, the Knossian material presented here, that from the North Building itself and that presented by Sinclair Hood from the Royal

Road, with that from the destructions at Archanes Tourkogeitonia, Nirou Chani, and Tylissos, and, on the other, the following sites (not a full list) indicates a massive event occurring at more or less the same time: Khania final LM IB, Zominthos (tentatively, Room 18 bridge-spouted jug with loose, "detached" reed pattern), Galatas Town houses, Hagia Triada Villa and *Complesso della Mazza di Breccia* (cup H.T. 2248 + 2802 close to drain deposit cups³¹), Phaistos Palace (see n. 30) and probably Chalara and Hagia Photeini houses, Pitsidia Plakes Villa (note cups near to those of Knossos with a band of pendent semicircles), Kommos LM IB Late,³² and LM II Early,³³ probably Kolokythi Skinias (see above), Myrtos Pyrgos, Makrygialos, Pseira main destruction, Mochlos Island and Artisans' Quarter main destruction, Palaikastro Period XI and some deposits of Period XII³⁴ and Zakros Palace (the two LM IB phases are very close in time and seemingly indistinguishable stylistically).

This great LM IB destruction is also now seen, from the work of the conference, to have been preceded by earlier LM IB phases at Khania, Kommos and Mochlos at least, and followed by final LM IB or LM IB/II manifestations at Hagia Triada and Pseira and by LM II Knossos and Kommos.³⁵

²⁶ Palio 2001a, 312 no. 414 and figs. 39 no. 414 and 51e; also Palio this volume.

²⁷ Mandalaki this volume.

²⁸ Puglisi this volume.

²⁹ Watrous 1992, 20–5 nos. 339–428, figs. 18–21 and pls. 9–11 (partial paint (blob) cups no. 350, fig. 19; no. 373, pl. 9), Deposit 16. Rutter this volume.

³⁰ The Phaistos Palace, though greatly lacking in destruction deposits, had in Sottoscala 51 and Room 63d two small deposits with Marine Style rhyta, cup-rhyta and the famous Reed Painter jug, well able to be correlated with the Knossos LM I B destruction. See Pernier & Banti 1951, 173–6 and figs. 103–6; 271–6 and figs. 171–4. Also Palio this volume, Response to the present paper, with which I fully agree.

³¹ Cucuzza, Response to Traunmueller this volume.

³² Watrous 1992, 16, fig. 18 nos. 279, 281 and pl. 7 nos. 279–95, Deposit 8. Rutter this volume, including House X Room 2 Groups 4–5 and Group 6.

³³ Rutter this volume, House X Room 2 Group X2:7.

³⁴ Hemmingway, MacGillivray & Sackett this volume.

³⁵ See n. 29.

The final LM IB destructions at Knossos and at Phaistos: a response to Peter Warren

Orazio Palio

The excavation of the North Building at Knossos¹ has brought to light a rich assemblage of material recording the life of the settlement during the LM IB period. For this conference, the excavator, P. Warren, has selected and presented an important new deposit to illustrate the latest phases of the building, which was destroyed at the end of LM IB.² The drain deposit was recovered during excavation of an open passageway that ran along the north side of the Room of the Frescoes. The deposit consisted of three levels, all of which are argued to belong to the final LM IB destruction (the LM II kylix fragments found in the upper level of the deposit are thought to be intrusions into the LM IB wall collapse that formed this stratum). The absence of clear LM II features in the lower levels constitutes a significant illustration of the LM IB–LM II sequence at the site.

Once it has been accepted that the three levels belong to a single destruction event, which occurred at the end of LM IB, examination of the pottery allows some interesting remarks to be made in connection with the topic of this workshop. First, the deposit under discussion has provided a large assemblage of fine painted pottery. Warren has drawn attention not only to the presence of features that are reminiscent of LM IA style and continue in LM IB, but also to those elements that are new to the period like the Alternating Style and the papyrus motifs on cup P1575 (Warren fig. 4), one of four products of the *Papyrus Cup Painter/Workshop* found during the Stratigraphic Museum Excavations. To this group one would also add the numerous cups decorated with semicircles beneath the rim in several variations.

First, I would like to draw attention to the typology of the S-profile cups because they offer,

in my opinion, particularly useful criteria for understanding the chronology of the period. Some of the cups have a profile that is not overly articulated, with a short, slightly off-set rim (Warren fig. 5, P1056, P1057, P1060). Others, instead, have a tall everted rim that is more clearly distinguished from the rest of body (Warren fig. 4, P1021, P1575). I would interpret the first group as typical LM IB products, although the shape may even go back to LM IA.³ The second form should, however, be interpreted as a later development of the shape, which appears to anticipate features more typical of the LM II period at Knossos and Kommos.⁴ The decorative motifs, on the contrary, appear to me to be absolutely typical of the other LM IB Knossian products, although a few elements seem to anticipate, even when combined in a different syntax, motifs on vases from LM II contexts. Here I am referring to the foliate leaves placed beneath the rim (Warren fig. 4, P1575), the semicircles pendent from the rim (Warren fig. 5, P1053), the filling motifs between the loops, the band of dots beneath the rim band, and the V-shaped iris motif (Warren fig. 4, P1288).

Warren's study of the pottery from the North Building, particularly the decorative motifs, and his careful observation of parallels from Knossos, Archanes, Nirou Chani, and Tylissos, allows him to posit that all these sites were destroyed at the same time as the North Building. My understanding of the assemblage from the Knossos North Building

¹ Warren 1980–1; 1984b.

² Warren 1980–1.

³ Shaw & Shaw 2006, pl. 3.47, 44b/6, 44b/9.

⁴ Popham 1984, pl. 156.1; Watrous 1992, fig. 23, nos. 499, 503.

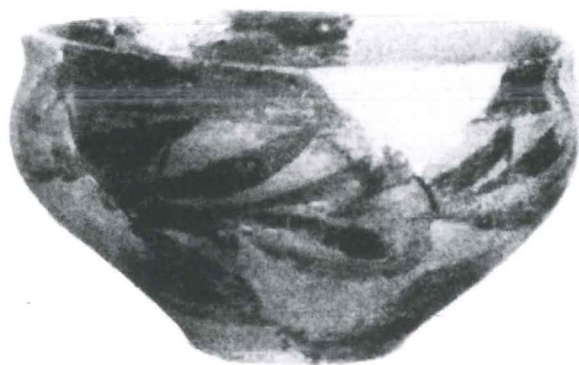


Fig. 1. House at Chalará, Room *Alfa*, destruction level. Cup F3998 (Palio 2001a, no. 230).



Fig. 2. House at Chalará, Room *Alfa*, destruction level. a) Jug F3952 (Palio 2001a, no. 361); b) jug F3841 (Palio 2001a, no. 360).

permits me to offer some new comments on the chronology of several important LM IB assemblages from the Mesara. I would first begin with the paper presented by D. Puglisi at this same workshop. In it Puglisi offered an interesting proposal for the chronological sequence of several LM IB deposits from Hagia Triada, arguing that the destruction of the Villa did not represent the last moment of the LM IB settlement. I believe that a comparison of the Hagia Triada stratigraphy and the Knossos North Building assemblage confirms the validity of Puglisi's theory.

The situation at Phaistos in this period can only be described as peculiar for Central Crete.⁵ After what would appear to have been a brief LM IA period, the beginning of the LM IB period sees the construction of the Palace, as recently suggested by La Rosa,⁶ and two other important buildings on the southern slopes of Palace Hill: the houses at Chalará and at Hagia Photeini.⁷ Given the focus of the conference, I will not be able to consider the likely functions of the two buildings within the wider settlement context of Phaistos, but will instead limit my presentation to a brief description of the two ceramic assemblages.

The building at Chalará can be defined as a monumental building; unfortunately, only a small part has survived the subsequent Hellenistic occupation at the site. The building preserved a rich ceramic assemblage with a large number of complete vessels on the floor and a conspicuous level of stones from the collapsing walls on the northern side.

A preliminary report of the finds by Levi appeared in 1967–8, and the final report was published by the author of this paper in 2001.⁸ On that occasion I observed that the most common shapes of fine pottery from the destruction levels were the S-profile cups, mugs, jugs and jars, and several pithoid jars decorated with vegetal motifs and, in two cases, with the ogival canopy.⁹ Among

⁵ Palio 2001a; 2001b.

⁶ La Rosa 2002.

⁷ Palio 2001a; 2001b.

⁸ Levi 1967–8; Palio 2001a.

⁹ Palio 2001a, fig. 50f–g.



Fig. 3. House at Chalara, Corridor *Gamma*, destruction level. Cup-rhyton F3848 (Palio 2001a, no. 236).



Fig. 4. House at Chalara, a) Corridor *Gamma*, destruction level. Cup F4087 (Palio 2001a, no. 242); b) courtyard *Beta*, cup (Palio 2001a, no. 414).

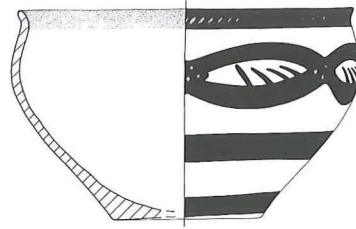


Fig. 5. Building at H. Photeini, Room *Iota*, destruction level. Cup.

the motifs, spirals, particularly the tangent variety, were present in large numbers, together with triple horizontal wavy bands and horizontal reeds. The leaves of the reeds were also of two types, either wide or narrow and pointed (Fig. 1). Cups decorated with Rutter's Paneled Style¹⁰ (Fig. 2a-b) and semicircles pendent from the rim as on a cup-rhyton¹¹ (Fig. 3) were far less common. There were also a few jars decorated in light-on-dark style which is less common in this period. Finally, the presence of at least three blob cups (Fig. 4a-b) is considered to be particularly important for determining the date of this deposit.¹² One was found on the floor of the building, another in one of the levels from the collapse of the structure, and a third was found in a mixed context.

The building at Hagia Photeini may have been destroyed at the same time.¹³ In spite of its small size and modest architecture, the house contained a substantial quantity of pottery. Among the large numbers of fine wares were many cups, especially S-cups and conical cups, but also jugs and jars. Among the coarse vessels were tripod cooking pots and storage vessels, including pithoid jars and two stirrup jars.

The decorative motifs of the fine pottery consist primarily of spirals, especially the tangent type, horizontal wavy bands (like those from Chalara), horizontal reed (with long, thin and highly pointed leaves), chains of slashed loops (Fig. 5), both variants of the panel style, including examples of vegetal motifs, especially the stems of diagonal leaves which

¹⁰ Cf. Palio 2001a, cat. 360, 361, fig. 49c-d.

¹¹ Cf. Palio 2001a, cat. 236, fig. 45n.

¹² Cf. Palio 2001a, cat. 242, 414.

¹³ Palio 2001b; Palio forthcoming.

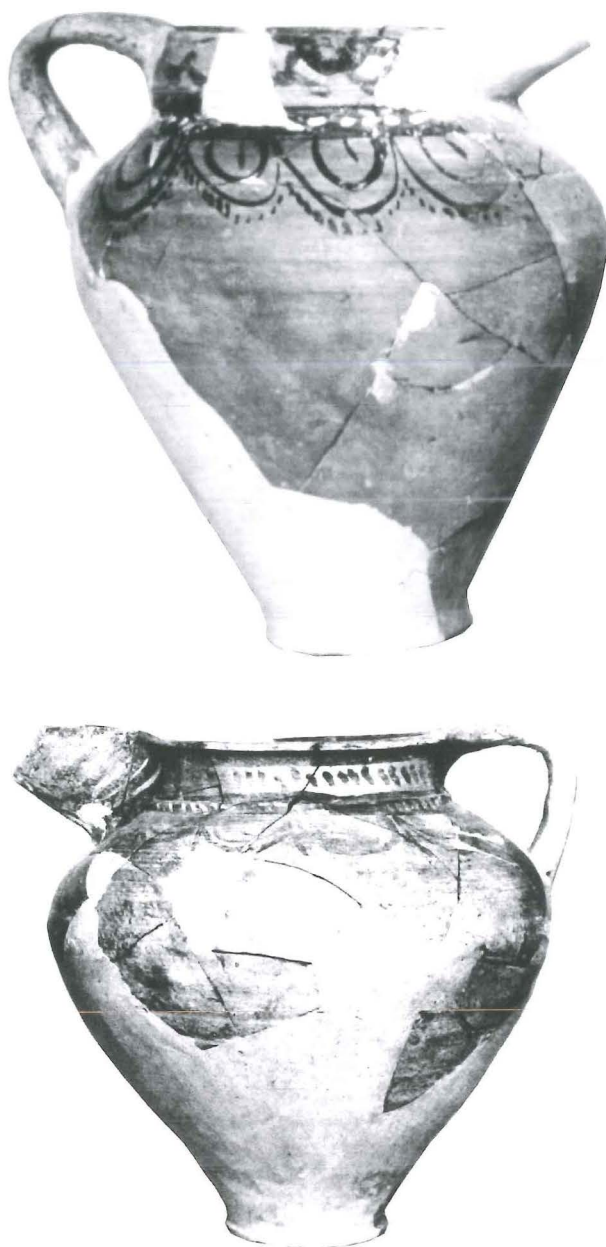


Fig. 6. Building of Hagia Photeini, Room *Iota*, destruction level. a) Jug F2421; b) Jug F2420.

begin to appear in assemblages from Kommos at the end of the LM IA period,¹⁴ and others with new elements such as double concentric semicircles, the foliate band,¹⁵ and the sun. Another diagnostic feature is the appearance of festoons suspended from a band (Fig. 6a-b) on both the shoulders of jugs and beneath the rims of cups, which have good parallels at Knossos. The presence of this element, as well as its relatively high position on the shoulder of the cups also connects the destruction



Fig. 7. LM IB fragments from the so-called "Micenaean House" at Chalara.

of the buildings at Phaistos with two deposits from Kommos: the lower deposit of the dump excavated to the north of the House of the Snake Tube¹⁶ and that of the upper floor of Room 2 in House X. Rutter has recently suggested that both may belong to a final stage of the LM IB period, which follows a group of Kommos deposits dated to the LM IB Late period at the site.¹⁷

Although there are a number of parallels between the deposits at Phaistos and those found in the North Building of Knossos, I believe that the absence of other motifs at Phaistos (e.g., the variants of the semicircles suspended from the rim and the Alternating Style) prohibits us from establishing with certainty that the destructions at the two sites were contemporaneous.

One might have explained these differences as the result of variations in regional preferences between North and South-central Crete; however, this observation is nullified by the excavation of a deposit near the House of the Snake Tube, which was published by Watrous.¹⁸ The deposit near the House of the Snake Tube contained two superimposed levels, dated by Watrous to LM II; however, both layers share a large number of features with the Knossos deposit presented by Warren, including the absence of goblets and the presence of similar motifs. It could, instead, represent a final

¹⁴ Rutter 2004.

¹⁵ Shaw & Shaw 2006, 484.

¹⁶ Watrous 1992, 16 (dep. 8).

¹⁷ Shaw & Shaw 2006, 485 and Rutter this volume.

¹⁸ Watrous 1992, 16 (dep. 8) and 20–2 (dep. 16).

moment of LM IB (LM IB–II according to Puglisi) or LM IB Final by J. Rutter.¹⁹ We can, in fact, find these motifs at Chalara, in a structure that seems to be later than the final destruction of the Neopalatial Mansion, the so called “micenean house,” where they appear on a group of fragments associated with LM II–IIIA pottery (Fig. 7).

To sum up, I feel it is important to underline two observations. On the one hand, there is the strong possibility that we can now identify three phases in the LM IB sequence of the Mesara (or two LM IB and one early LM II phase). The close parallels observed between the pottery found in the dump near the House of the Snake Tube at Kommos and the Knossos North Building constitute a significant bridge across the final phase of this relative chronology for North and South-central Crete (i.e., LM IB/LM II or early LM II?). At the same time, I believe that the destructions recorded at Phaistos probably preceded this phase, and should instead be posited at the end of the second LM IB phase (which belongs, perhaps, to the end of LM IB Late or immediately afterwards). D. Puglisi could tell us what relationship exists between the destruction of the Royal Villa at Hagia Triada and the other assemblages from Phaistos.

To conclude, I feel it would be a mistake not to comment briefly on the destruction of the Phaistos Palace. As is well known, the deposits from this phase are not well understood. The Palace was found almost empty, and very little attention has been paid to the destruction levels that filled up the rooms of the building; however, two assemblages remain particularly important in my opinion. One is the assemblage from Room 61,²⁰ whose small floor contained several stone and bronze objects,

two rhyta decorated in Marine Style and a jug by the Reed Painter.

The second group is smaller and includes two cup-rhyta found in Room 51 of the Palace.²¹ One cup, decorated with plant decoration, appears to be a local product. The decoration of the second includes a “Sacral Knot.”²² This cup is probably an import from Knossos to judge from the similarity of its papyrus motif at the base of the stem to those from the Papyrus Cup Workshop found at Knossos. I feel that these elements are clearly not sufficient evidence to establish the precise date for the destruction of the Palace, despite the fact that vases painted in the Special Palatial Tradition have been identified at Kommos as typical elements of the middle phase of LM IB (LM IB Late). This may be a clue for attributing the destruction of the Phaistos Palace late in LM IB, even if we do not know that this event occurred at the same time as the destructions of the nearby buildings at Chalara and Hagia Photeini. My own feeling is that the destruction of these houses is later in the sequence of LM IB phases identified at Kommos, but perhaps not as late as the destruction of the North Building at Knossos and the creation of the fill to the north of the House of the Snake Tube at Kommos.

¹⁹ Rutter 2006a, 514 (where he calls it LM II Early), and in this workshop.

²⁰ Pernier & Banti 1951, 173–5.

²¹ Pernier & Banti 1951, 271.

²² Pernier & Banti 1951, fig. 171.

Discussion

Cucuzza Just two words again on the Hagia Triada cup that you quoted in your very excellent paper. The sherds belonging to this cup were found in levels postdating the destruction of the *Complesso della Mazza di Brecci*. This cup was assigned to a LM IB or LM II phase, later than the destruction of the building. To my knowledge, no other cups with concentric loops have been found at Hagia Triada, either in the destruction level of the Royal Villa, or in the destruction levels at the site contemporary to this event.

Warren Well, obviously I take note of what you say regarding the context of this piece. Equally, in Dario's [Puglisi] paper, I was interested to see that one of the vessels from Hagia Photeini, not a cup but it had the same type of loop decoration on the shoulder, is very similar to ours, but thank you for your point. But, Nicola, are you saying that on the basis of those cup fragments (from a higher level) you are postulating a separate phase, a whole later period in Hagia Triada?

Cucuzza Stratigraphically, we postulated that these levels were later than the destruction of the building complex.

Rutter I just wanted to ask Peter [Warren] a couple of questions about blob cups. You didn't say anything about blob cups, I was just curious to see if you have anything to say about those. Also, it is very interesting that a lot of your cups had barred handles. That seemed to be a repetitive feature of those cups, and, I would have to say, is more characteristic of an advanced phase down where we are; we would tend to associate that kind of thing with LM II, and that's the situation also in the Unexplored Mansion, so I just wondered if you had a comment about that. And I would like to echo this very important point about these loops, that they occur down in the Mesara in a later phase post-dating the destruction of the Villa at Hagia Triada. There are two separate events, and it is with the later event that your material seems to go.

Warren Just on the blob cups very briefly, no we don't have them in LM IB but we do have them in LM II. It's a definite feature of LM II. As to the barred handles, I hear what you say, Jerry, but I'm not sure quite how much weight one would put on that. They do indeed occur on some of these cups, while others have a monochrome handle in the usual way. I'm not sure how much we should rest on that.

Brogan Are the cups that you showed with the pendent semicircles found throughout the Stratigraphical Museum Excavations or just in this deposit. I think you are absolutely right that this destruction goes with Tylissos and Nirou Chani, you made that point perfectly clear.

Warren Yes. That particular type of cup seems only to occur in the deposit I have shown, not elsewhere in the building. But I'm not sure how much we can put on that. In this meeting we're concentrating primarily on ceramic shapes, features and styles, we're not focusing much on interpretation. That's obviously a huge area. The nature of the deposit is likely to be influenced by its function and these are just cups filling this drain, while the pottery in the rest of the building, though it represents the same moment, is of a different form. The deposits with all the rhyta, storage jars and so forth represent the functions of those particular parts of the building, though again it's all a single moment in time.

Brogan I was taking notes and I was carefully noting level 2, but there is no difference between 2 and 3. Those cups are also found in 3.

Warren I merely used the words levels 1, 2 and 3 in order to examine the possibility of whether we were talking about really separate, chronological phases or not, because we could examine that question. And the answer to the question as I tried to show clearly was that there are not 1, 2 and 3 separate time phases, it is all one single moment.

Betancourt Could you say some more about the kylix sherds, because, did I understand you correctly that there are more than sixty kylix sherds in the upper level and that these are intrusive? And that you don't think anything else was intrusive except for the more than sixty kylix sherds?

Warren Well, the total is whatever those numbers add up to on the column, which I have given you. You see the critical word here is intrusive. What I am saying is that the next phase of occupation at the site is LM II, and that because we are not talking in this upper level about stone tumble or a building with floors, we're just talking about an occupation level, the material from which, not surprisingly, has got mixed up with the top of the deposit, which goes below it into 1 and then 2 and then into 3. I suppose you could use the word intrusive, but it's a real LM II presence, we're not talking about one or two sherds; the kylix fragments are the best way of designating it, but it is the next occupation phase.

Betancourt Does that mean that there may be several other things in that portion of the deposit that are also late?

Warren There could be. I selected the kylix sherds as the most characteristic elements and I'm afraid I can't this afternoon state categorically other things that I would call LM II; there certainly is some other LM II material in that upper level, and then of course the LM II goes on above that.

Brogan Were there any horizontal-handled bowls?

Warren I know the significance of the question, but I'll have to wait on answering that. If there were, it would only be a matter of a few fragments, but I'll have to check the records.

LM I pottery groups from the Palace and the town of Galatas, Pediada*

Giorgos Rethemiotakis & Kostis S. Christakis

Introduction

The Late Minoan I period (hereafter LM I) has provided one of the richest ceramic phases from Bronze Age Crete. In this period, potting groups active in the major centers produced ceramics which are distinctive both in terms of their originality and elaborate style. Despite the increase in published material and the numerous, albeit still mostly unpublished, excavations of LM I sites, there is now a growing awareness that many problems with LM I pottery remain unsolved. Because LM IA and LM IB ceramic styles have not been clearly defined, there is room for misunderstanding. The most extreme cases are those where different scholars have arrived at different dates for the same ceramic deposit.¹ No less confusing, scholars have also struggled to link together several of the “established” ceramic sequences from sites across the island. Our inability to produce an effective relative chronology for these LM I contexts becomes a serious drawback when we attempt to move the discussion from detailed pottery typologies to the roots of island-wide social, political, and economic processes. This complex situation is largely due to the absence of a widely accepted methodology and terminology in Late Bronze Age pottery studies. It also springs from an essentially narrow understanding of the term regionalism, which has come to characterize the ceramic production of local LM I communities, with serious implications for our understanding of Bronze Age Crete.

The subject of this paper, therefore, is the presentation and discussion of selected LM IA and LM IB ceramic assemblages from the Palace and town of Galatas in the Pediada. The goal is to understand the ceramic production of local potting groups operating at Galatas during the LM IA and

LM IB periods and to underline the changes in pottery production from LM IA to LM IB within the wider region of the Pediada. The historical implications of the changes in ceramic production and consumption are also considered.

The settlement of Galatas: a historical framework

The Bronze Age settlement of Galatas is located on a low hill, *Galatiani Kephala*, in the southwestern part of the Pediada plain, just south of the medieval village of Galatas and 30 km from the modern city of Heraklion (Fig. 1).² The hill is surrounded by a fertile region and dominates the natural pass along the Karteros river, which leads from the northern to the south-eastern part of Central Crete. Visual communication from the top of the hill with the area of Knossos and the peak sanctuary of Juktas to the north, the Lasithi uplands to the east, and the Mesara and the peak sanctuary of Kophinas to the south, gives *Galatiani Kephala* one of the most strategic positions in the region.

This setting appears to have been a determining factor in the selection of the site for settlement in

* We would like to thank Erik Hallager and Tom Brogan for giving us the opportunity to present the data from Galatas, Pediada. The excavation at Galatas, a project that began in 1992, would like to thank the Institute for Aegean Prehistory for their continued support. The pottery was restored by P. Sinadinakis and T. Karouzos, the architectural plan was produced by P. Stefanaki, and the pottery drawings were made by N. Ntolia and P. Stefanaki.

¹ See Hatzaki 2007a.

² For the Bronze Age settlement of Galatas, see Rethemiotakis 2002.

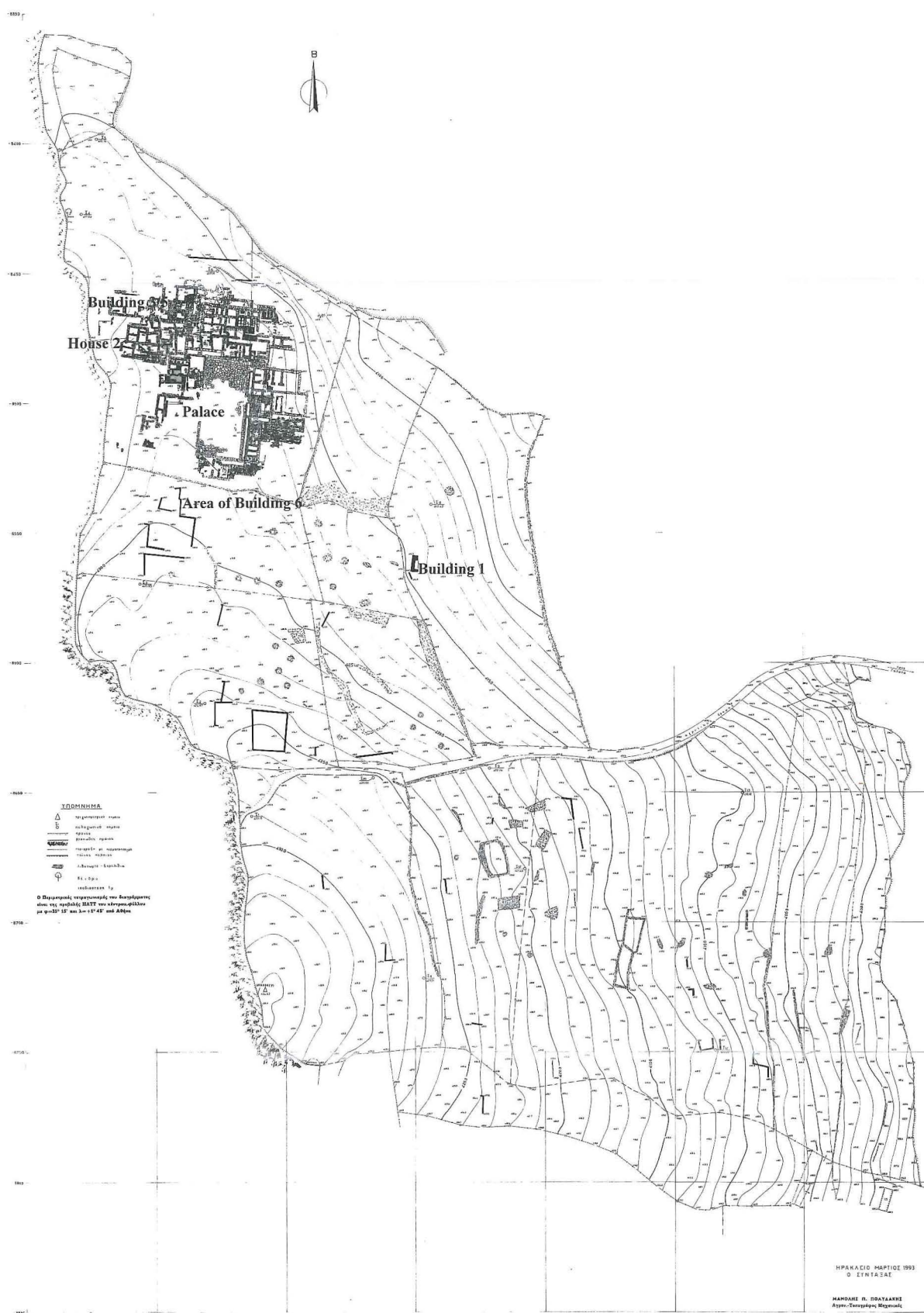


Fig.1. Galatiani Kephala. The Palace and the settlement.



Fig. 2. State plan of the Palace and of various buildings.

the EM I–EM IIA period. Pottery, mostly sherd material collected from cracks in the natural bedrock at various locations on the site, attests to scattered habitation during this period. No architectural remains dated to EM I–EM IIA have yet come to light, presumably because they were destroyed by the extensive reoccupation of the site

in later periods. Nor have any remains from the EM IIB and EM III periods been uncovered; however, this silence may be due to the limited amount of archaeological investigation at the site, where only a small part of the hill has thus far been excavated.

The presence of EM III–MM IA pottery within the MM IB deposits of the Protopalatial building

excavated in the West Wing of the Palace provides indirect evidence of human activity during those periods, although no architectural remains can be associated exclusively with this phase. Building remains from the early Protopalatial period (MM IB) have been identified on many parts of the hill, suggesting that the entire northern part of the *Kephala* was inhabited in that period.³ This Protopalatial settlement appears to have been destroyed by an intense fire at the end of the MM IB period. The notable absence of any MM II pottery from the extant excavated area would appear to suggest that Galatas played no role in the major developments at the great Protopalatial centers of Crete. While this silence, noted also for the EM II period, may simply be the result of a bias in the small excavated sample, one cannot rule out the possibility that it reflects a drastic change in the local settlement pattern (i.e., the hill being abandoned) during the late Protopalatial period.

An extensive urban center, organized around a monumental Palace, was built in MM IIIA over the ruins of the MM IB settlement (Fig. 2). The construction of this Palace offers clear and direct evidence for the existence of a ruling group which controlled the political, social, and economic affairs of the region.⁴

Architectural styles previously unknown to the region, as well as the production and consumption of material culture with close ties to Knossos, suggest a strong relationship at this time between Knossos and groups operating in the *Pediada*, a connection that can be traced already from the MM IB period. At Galatas both the Palace and town suffered destruction at the end of MM IIIA, perhaps caused by an earthquake, and consistent traces of burning in the debris suggest that the destruction was followed by a fire.

Rebuilding activities started late in MM IIIA or early in MM IIIB, and the architects broadly followed the architectural plan of the earlier MM IIIA construction, as is clear from the fact that so many pre-existing walls were reused as foundations. The material record recovered from both the Palace and the town show that MM IIIB was a period of particular prosperity for the Galatas region.

The gradual abandonment of the Palace, which began before the end of the MM IIIB period, may reflect competition and confrontation between the ambitious local Galatas elite and the group in control of Knossos, which obviously had strategic interests in the area.⁵ The outcome of this tension was a completely different pattern of habitation at Galatas in LM IA. The Palace ceased to operate as the seat of the local ruling group, and most ground floor spaces were carefully cleared of their artifact deposits. Only a small number of ground floor rooms in the East and South Wings of the Palace, the Minoan Hall in the North Wing, and most upper floor spaces of the North Wing, remained in use during LM IA. The complex was finally destroyed by a strong earthquake in the LM IA period. Impressive destruction deposits of large ashlar blocks indicate that the earthquake was a natural event of considerable magnitude (Fig. 3). The ruined Palace was never reused afterwards.

The history of the settlement, however, differs from that of the Palace. Deposits dated to the LM IA period from House 2 and Buildings 1 and 3/5 provide a picture of a flourishing settlement during that time.⁶ Unlike the Palace, the settlement also continued in existence after LM IA. Two large buildings, House 2 and Building 3/5 at the northwest side of the Palace, provide invaluable information for the activities of the wealthy sector of the local community during LM IB. Another large and significant building, Building 6, near the southwest corner and still under excavation, has yielded both habitation and destruction deposits from this period. The town was destroyed at the end of LM IB.

An early LM IIIA2-B building (Building 4), only partially preserved, was built in the northern part of the West Court over the ruins of House 2. This complex is poorly preserved as a result of later erosion and cultivation. A small number of

³ Rethemiotakis & Christakis 2004; in preparation.

⁴ Christakis & Rethemiotakis forthcoming.

⁵ Rethemiotakis 1999.

⁶ See Christakis & Rethemiotakis forthcoming.

Fig. 3. Destruction debris in the Minoan Hall of the North Wing of the Palace.



Roman sherds also attest to human activity in this area in historical times; however, the data is far too scanty to draw substantial conclusions. After this, the only traces of later human activity are a few Venetian coins found in various parts of the site. In the 19th and 20th centuries, the area was used for cereal, legume, and olive cultivation, activities which caused considerable disturbance to the archaeological site. This problem has been compounded by the systematic looting of the settlement for stones.

The ceramic assemblages: some introductory remarks

Deposits with pottery dated to LM IA were found in the Palace and in Building 1, a complex that was destroyed in LM IA and remains largely unexplored. Additional LM IA assemblages, consisting mostly of cups, were found in deposits below the LM IB floors of House 2 and Building 3/5. LM IA vessels, again mostly cups, were also found in two pits in the area of the North Wing of the Palace, as well as in the area between the “processional way” and the exedra, which was built between the northwestern corner of the North Wing and Building 3/5. Here the pottery, organic remains, and architecture all

suggest that this area was connected with religious activities.

Pottery dated to LM IB has been excavated in House 2, Building 3/5, and Building 6. The pottery from Building 3/5 is still being conserved and thus only a few significant examples are included in this discussion, while the material from Building 6, which is still being excavated, is not included in the paper. What is significant about the LM IB assemblages under discussion is that all of them are *primary deposits*. By that we mean they represent assemblages of artifacts that were found undisturbed and in contexts that were destroyed and closed in a single event or episode.

The discussion of the pottery focuses on the most distinctive shapes and painted decorative patterns which illustrate the locally manufactured wares at Galatas. Moreover, our overview of these wares places particular emphasis on those features which help distinguish LM IA and LM IB pottery in the Galatas region. This choice is, however, somewhat dependant upon the preservation of the ceramic material; many pots, in particular the utilitarian coarse wares, have not yet been restored. Finally, the presentation of the morphological and technological attributes of each shape has been kept to a minimum and will be provided in full in the final publication.

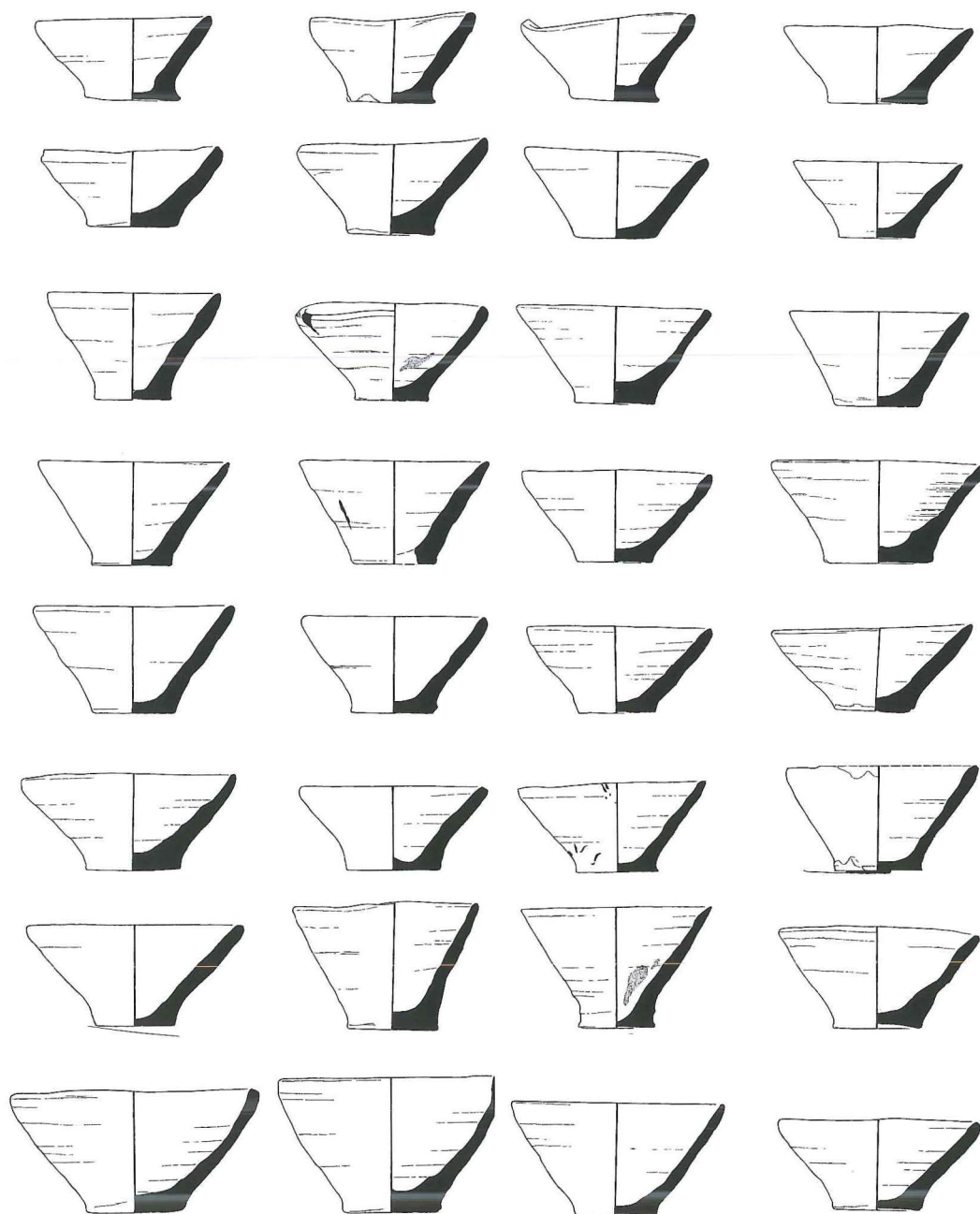


Fig. 4. Conical cups from the LM IA deposits of the Palace.

LM IA pottery from the Palace and town

This discussion of LM IA ceramic production is primarily drawn from assemblages found in the Palace. Additional information collected from the LM IA deposits found in Buildings 1 and 3/5 and House 2 is also included here.

The LM IA assemblages from the Palace include destruction deposits from spaces which originally

formed the first floor of the East and North Wings of the complex, but were found collapsed over ground floor rooms which had already been abandoned in MM IIIB. Careful examination of the stratigraphy demonstrates that only a limited number of ground floor spaces from the East Wing and the North Wing of the complex were still in use during LM IA (the rest had been abandoned in MM IIIB). The ground floor rooms of the South



Fig. 5. Tall ledge-rim cups from the LM IA deposits of the Palace.

Wing were also used in LM IA; however, no LM IA pottery has been recovered from the West Wing of the Palace. One should keep in mind that the western part of the complex was heavily disturbed by cultivation, which may have obscured the record of habitation in this area.

The LM IA deposits at Galatas consist primarily of vessels connected with food preparation and consumption, such as cups, amphorae, jugs, plates, bowls, bridge-spouted jars, and cooking pots. Pithoi were also placed in some of the upper story rooms. Our macroscopic study of fabrics indicates that all pottery is locally made.

Cups of various types by far outnumber any

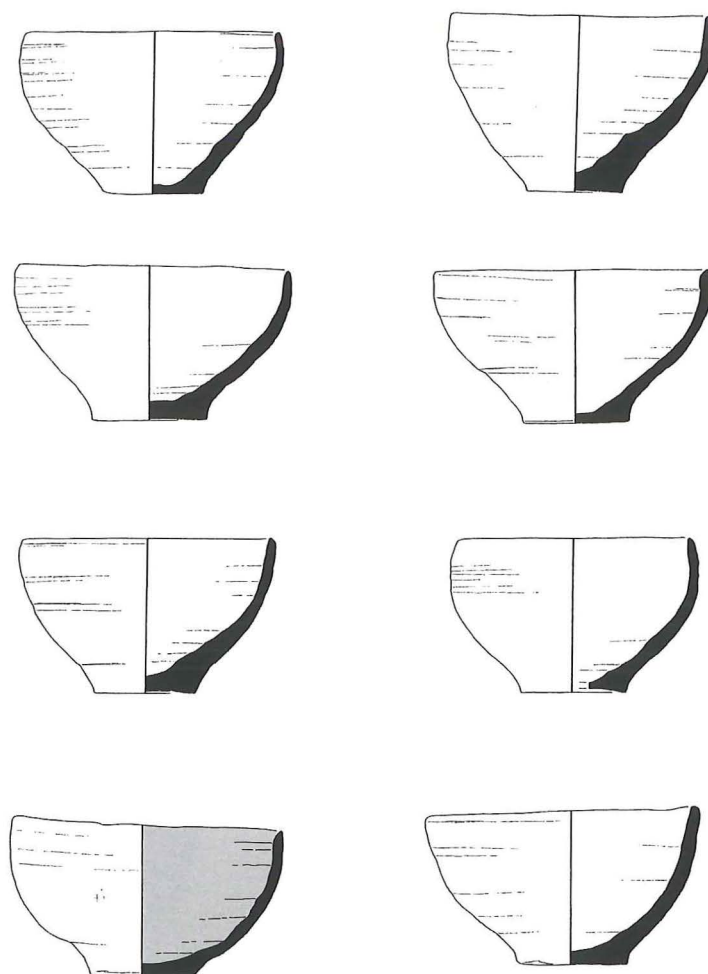


Fig. 6. Plain ogival cups from the LM IA deposits of the Palace.

other vessel shape. Conical cups are numerically the most common cup type, followed by tall ledge-rim cups and plain ogival cups (Figs. 4–6). Bell cups are found in much smaller numbers than the more common conical, ledge-rim, and ogival shapes (Fig. 7). Straight-sided cups are very rare. The percentage of the various cup types changes from MM IIIB to LM IA. For example, bell and straight-sided cups are more common in MM IIIB than in LM IA, and Vapheio cups are rare in LM IA levels. Among the small number of fragmentary and complete examples of Vapheio cups, three are decorated with ripple pattern (Fig. 8).

The various cup shapes show a relative degree of uniformity with respect to their profile, size, fabric, and decorative treatment. Most are

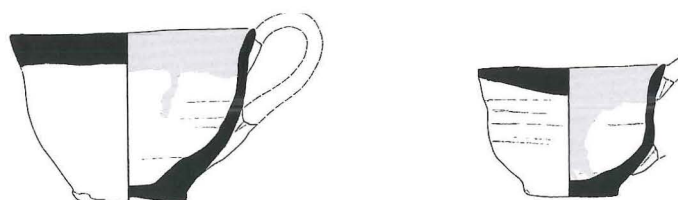


Fig. 7. Bell cups from the LM IA deposits of the Palace.

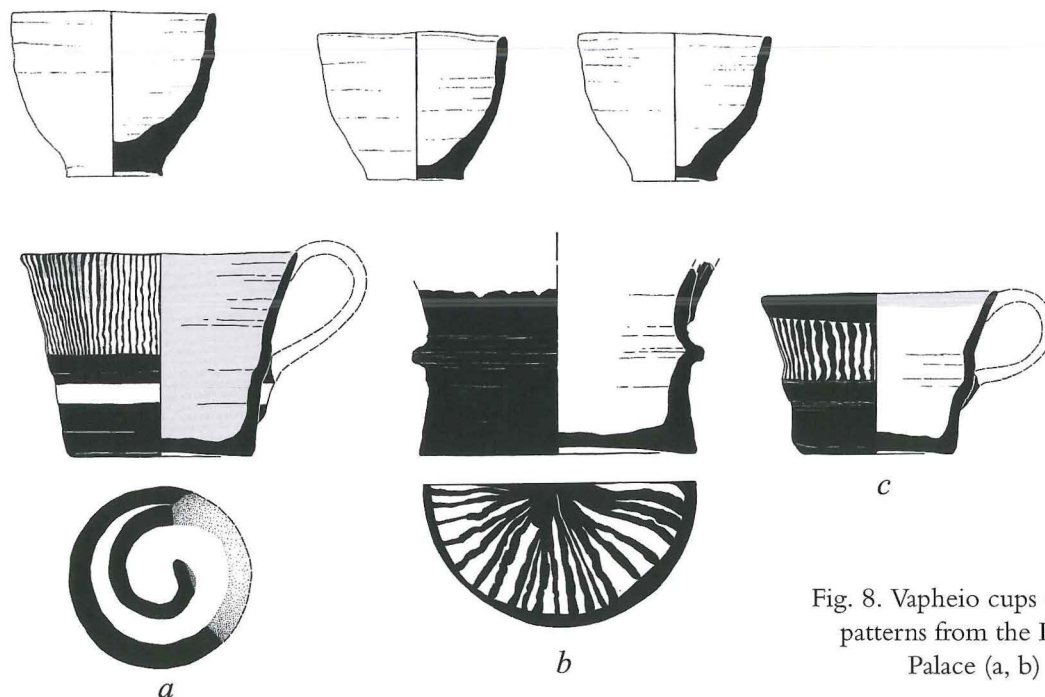


Fig. 8. Vapheio cups decorated with ripple patterns from the LM IA deposits of the Palace (a, b) and Building 3/5 (c).

carefully manufactured, and the vast majority are undecorated and lightly water wiped. Examples with a monochrome slip on the interior and exterior are rare (only one example is decorated with monochrome slip on the interior).

The use of painted pattern decoration is restricted to the ogival shape, which is consistently made of fine buff fabric (Figs. 9–10). These painted cups are consistently better finished than the plain versions. Decorative motifs include ripple, net patterns, stylized versions of vegetal motifs, retorted spirals, and wavy lines. We would also note that the ogival cups decorated with reed patterns, so popular at Knossos, have not yet been found in the LM IA deposits from Galatas.

The bowls are mostly plain. A few examples are decorated with ripple pattern, and one is

painted with wavy lines (Fig. 11). An askos and a tripod rhyton are unique in the LM IA ceramic assemblages (Fig. 12a, c). One of the rhyton legs is vertically perforated for the pouring of liquids. Both vessels are decorated: the askos with retorted spirals and the rhyton with ripple patterns. Another rhyton from the LM IA levels of Building 3/5 is decorated with running spirals (Fig. 12b).

The jugs exhibit a distinct collar and overlapping neck (Fig. 13b–e). Most examples are plain, although some are decorated with retorted spirals. One jug from the LM IA deposits of Building 3/5 is decorated with ripples (Fig. 13a). Bridge-spouted jugs are not common in the extant LM IA deposits. Most are plain except for an example decorated with running spirals above horizontal bands and a band of dots (Fig. 14). The only stirrup jar found

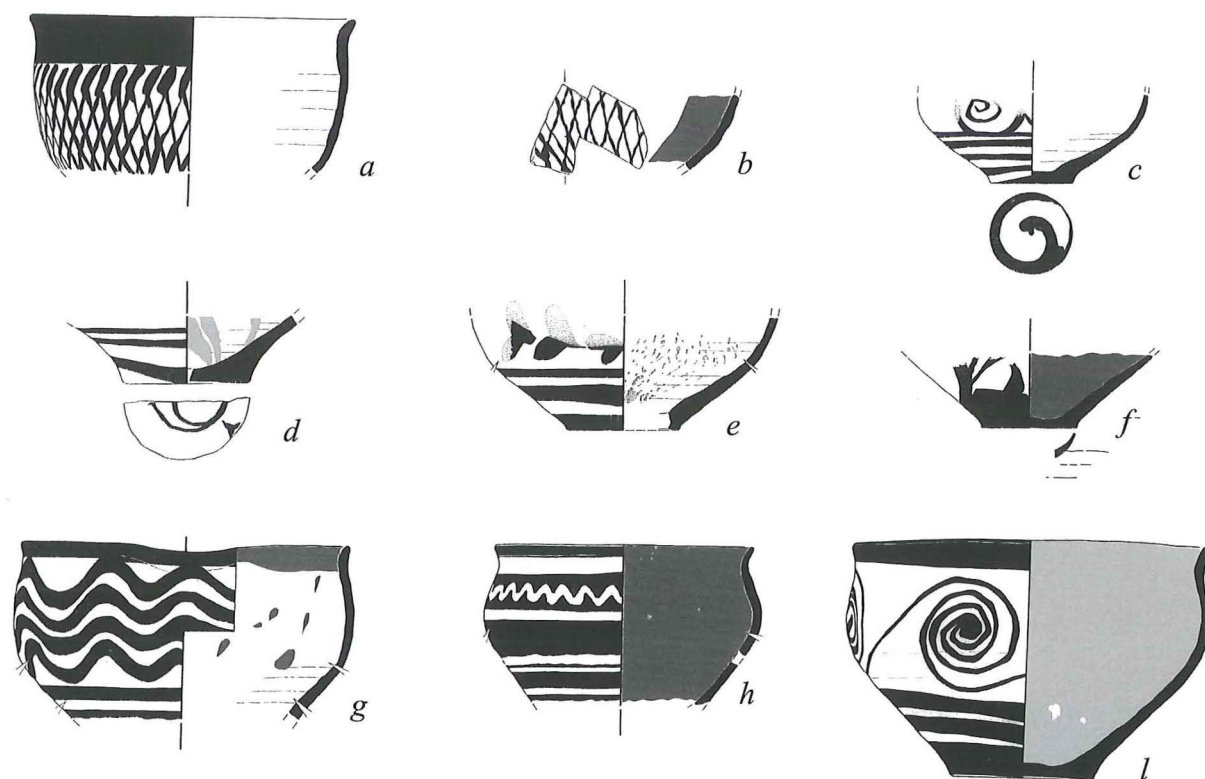


Fig. 9. Decorated ogival cups from the LM IA deposits of the Palace.

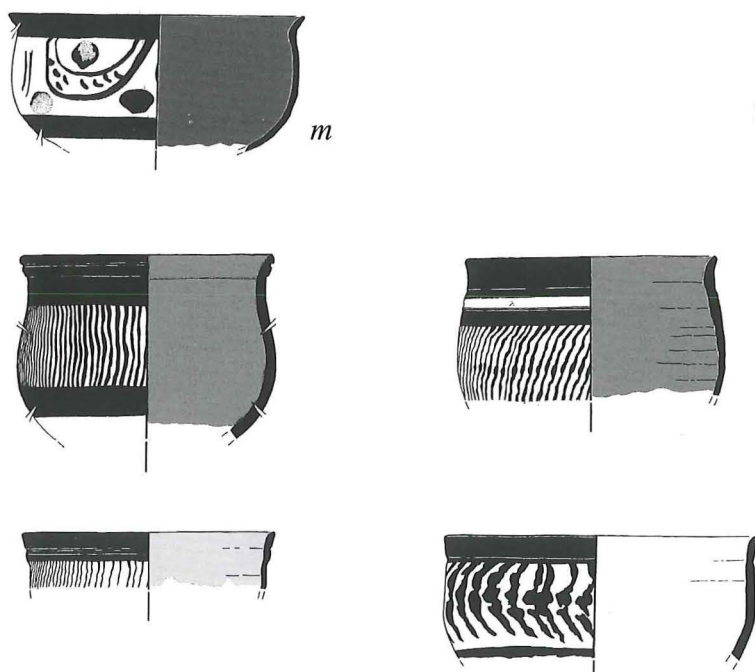


Fig. 10. Decorated ogival cups from the LM IA deposits of the Palace.

in the LM IA levels at Galatas comes from the Palace, and it is decorated with three wavy lines and horizontal bands (Fig. 15).

Cooking pots were frequently found in the LM IA deposits, and most are made in the local Kastelli fabric (Fig. 16). The pithoi from these levels are very fragmentary; the most common shape has a

large ovoid profile with a wide mouth and low collar decorated with horizontal and wavy raised bands.⁷ Conical examples were also produced.⁸

These same LM IA deposits also contained many

⁷ Cf. forms 13–7 in Christakis 2005, 9, figs. 5–6.

⁸ Cf. forms 106, 112, 114 in Christakis 2005, 19–20, 23–4.

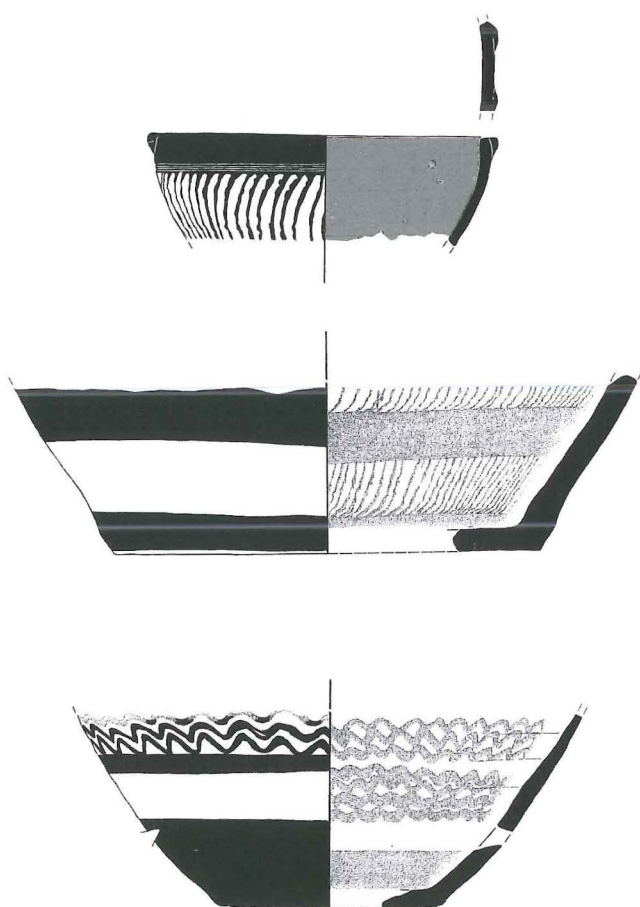


Fig. 11. Bowls from the LM IA deposits of the Palace.

decorated fragments whose shapes could not be restored. They appear to come from amphorae, jugs, rhyta, ogival cups, and bowls, and they are important because their fine decoration helps us to better define the pottery from this period. Most are made in fine buff ware, with coarser fabrics employed for amphorae and large bowls. The painted motifs consist of stylized floral elements, spirals, wavy lines, and conglomerate pattern (Figs. 17–18).⁹

Pottery from the LM IB deposits of House 2 and Building 3/5

Ceramic assemblages dated to LM IB were excavated in House 2 and Building 3/5. LM IB assemblages have also been found in Building 6, but the excavation of this complex is ongoing and thus its finds are not included in the presentation. The discussion that follows is primarily based on the pottery excavated in House 2, but additional information from Building 3/5 is also included.

⁹ For pottery decorated with conglomerate patterns from well-stratified LM IA deposits, see Dimopoulou-Rethemiotaki 1993, pl. 141.

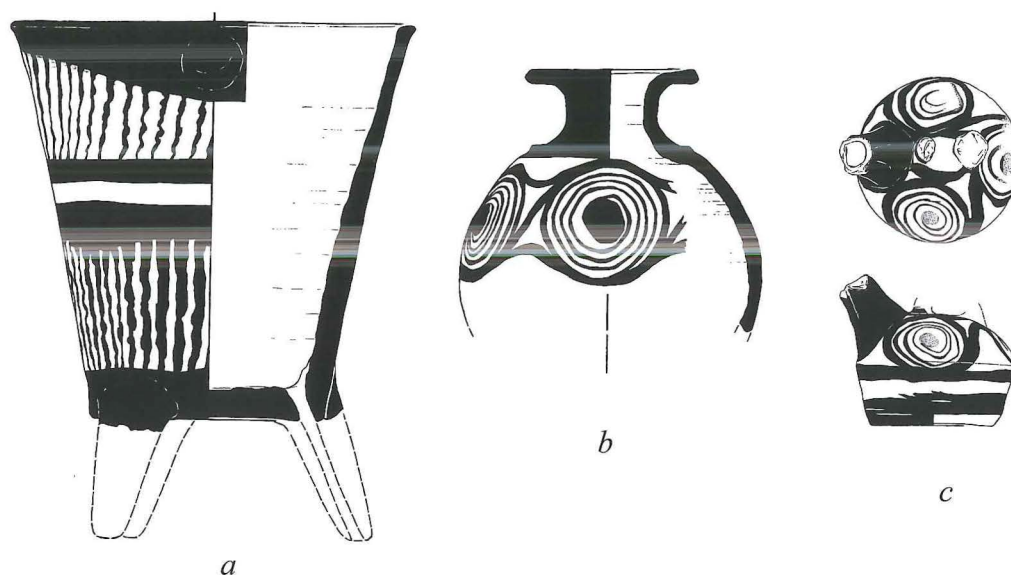


Fig. 12. Tripod rhyton, ovoid rhyton, and askos from the Palace (a, c) and Building 3/5 (b).

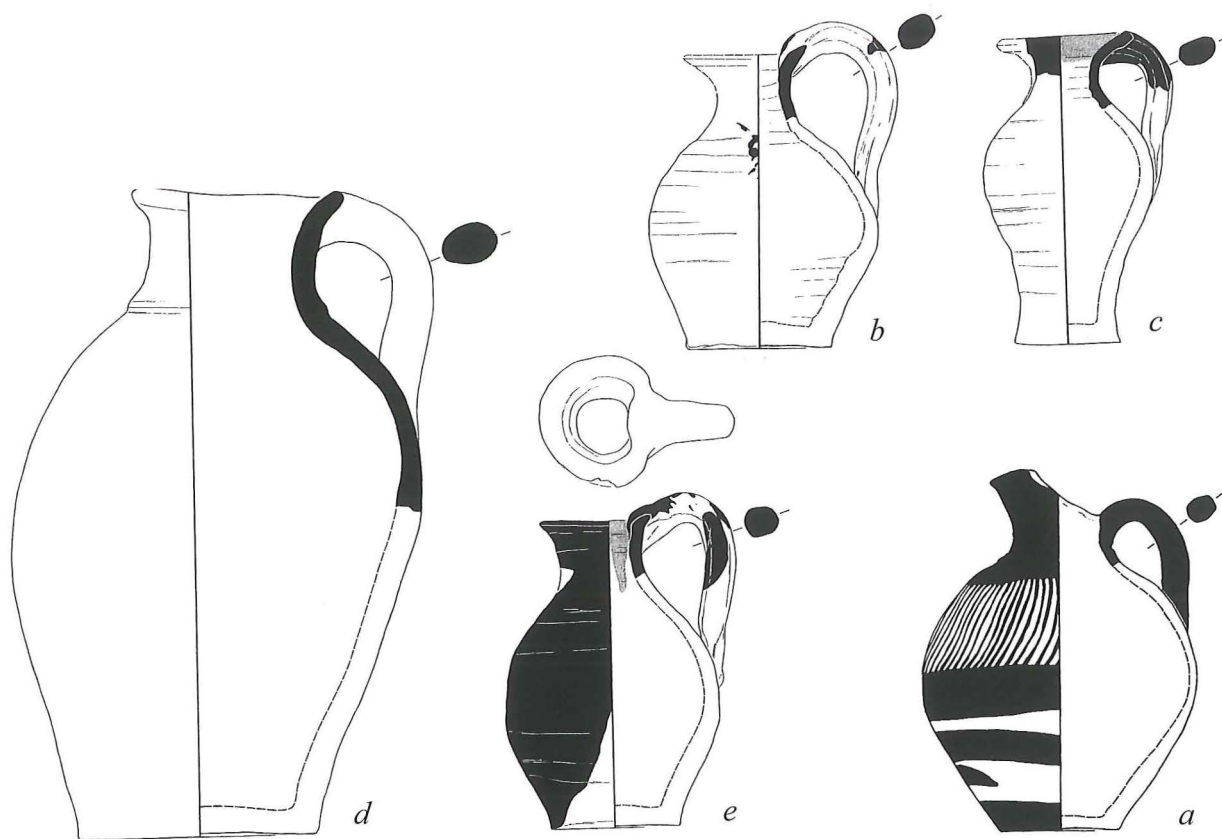


Fig. 13. Jugs from the LM IA deposits of the Palace (b-e) and Building 3/5 (a).



Fig. 14. Decorated bridge-spouted jug from the LM IA deposits of the Palace.

House 2 is located on the northern side of the *Galatiani Kephala* (Fig. 19).¹⁰ The entrance to the house is located at the southeastern corner and gives access to a staircase, which leads to the ground floor rooms and the upper story. The ground floor contains eleven rooms and covers an area of 170 m². The house was built at the end of MM IIIB or early in LM IA and partly destroyed, perhaps by the earthquake which ruined the Palace at the end of LM IA. Architectural modifications after the LM IA destruction are visible in some parts of the house, which was finally destroyed by fire in LM IB.

The remains of House 2 were disturbed by the construction of Building 4, a complex dated to LM IIIA2-B. Many walls of House 2 were reused as foundations for the walls of Building 4, and some of the doors of House 2 were blocked in order to

¹⁰ See Rethemiotakis 2002; Christakis & Rethemiotakis forthcoming.

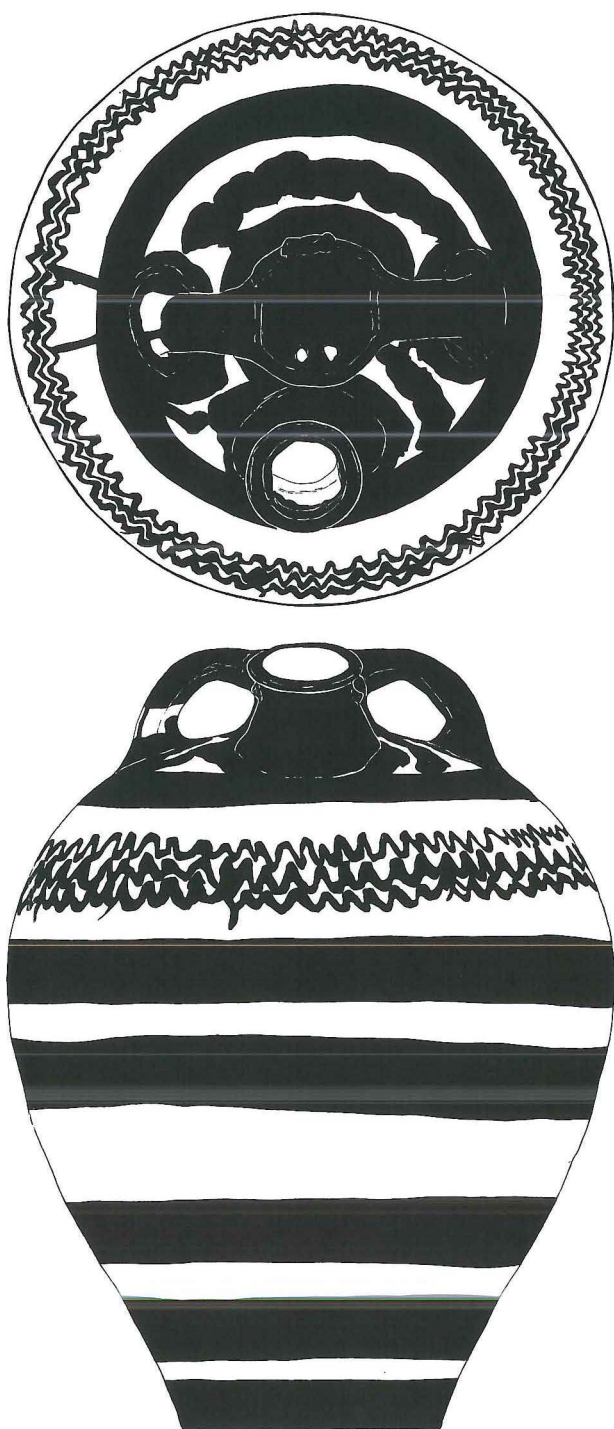


Fig. 15. Stirrup jar from the LM IA deposits of the Palace.

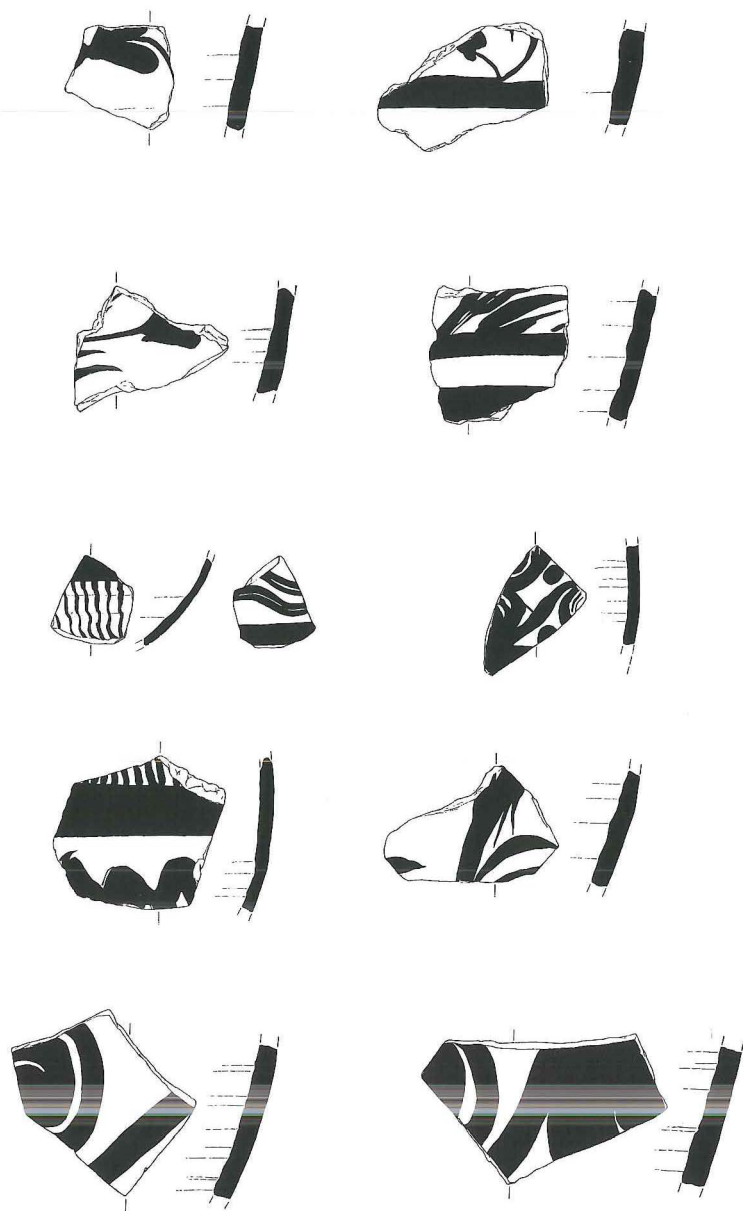


Fig. 17. Sherds of various vessels with painted patterns from the LM IA deposits of the Palace.

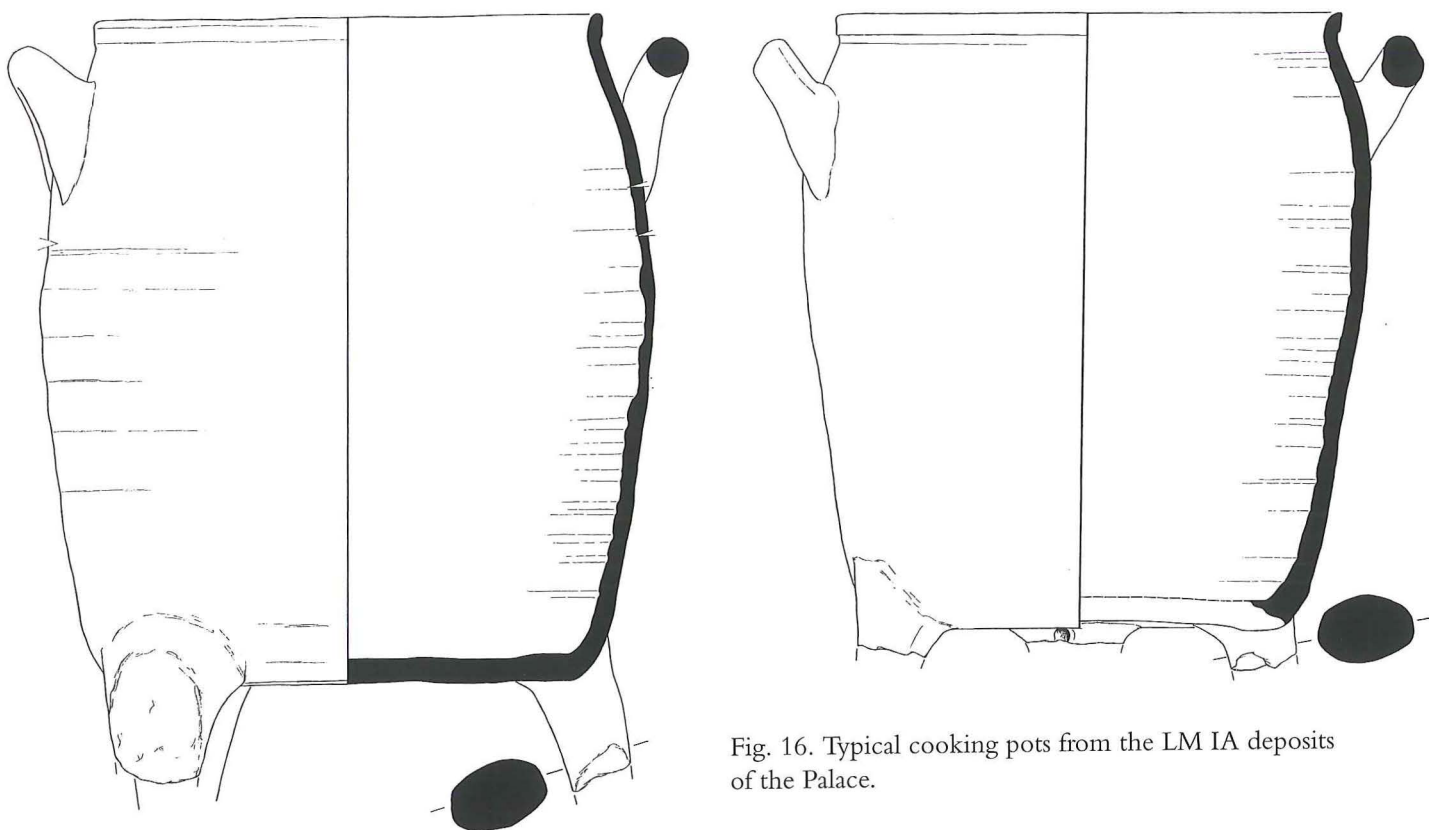


Fig. 16. Typical cooking pots from the LM IA deposits of the Palace.

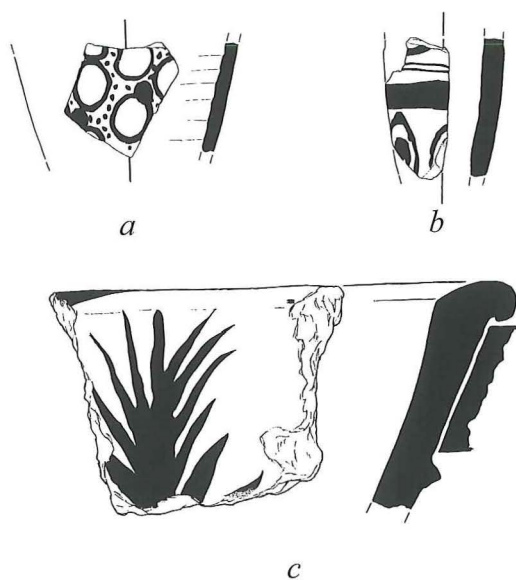
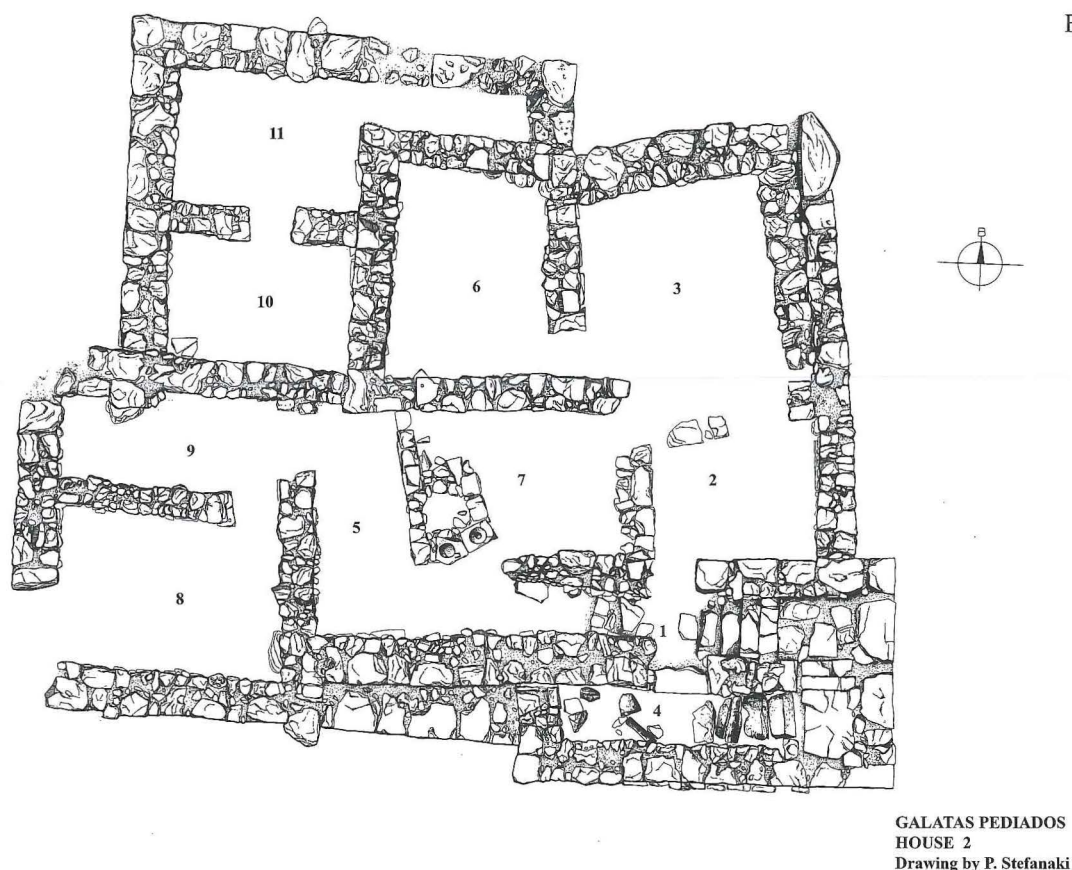


Fig. 18. Sherds of various vessels with painted patterns from the LM IA deposits of the Palace (a, b) and Building 1.

Fig. 19. State plan of House 2.



strengthen the foundations of the later walls. This LM IIIA2–B construction also disturbed the upper floor deposits of the LM IB house and the ground floor deposits of Rooms 3 and 6.

Our statistical analysis of pottery used in the upper story rooms of House 2 shows that a very high percentage of the vessels were suitable for cooking and the transfer and consumption of food and drink. A small number of storage vessels were also present. Organic residue analyses of a few small-sized storage containers from the upper floor show traces of degraded beeswax and vegetable oil.¹¹

This picture contrasts with the types and distribution of vessels found on the ground floor of the house. Here, there were considerable numbers of jars and pithoi for the storage of large quantities of goods and a much smaller number of vessels connected with food consumption and drinking.

Conical cups are the most common type of cup (Fig. 20). Many of these cups retain the earlier LM IA profile; however, a new, well-finished version

with a straight or slightly incurving rim and narrow base occurs for the first time in the LM IB deposits. Some of these cups are also made with the local Kastelli fabric, which had not usually been used for this shape. Only a few tall ledge-rim cups have been found in these LM IB deposits, and it is possible that the three extant specimens are LM IA heirlooms (Fig. 21). Ogival cups remain popular and their shape is similar to that of the LM IA period (Fig. 22). There are, however, a few examples with a narrow base. In this same category, we would also mention the existence of three distinctive handleless rounded cups with globular body and everted rim (Fig. 23).¹²

Most cups are plain, with the exception of a few examples with monochrome decoration on the interior and exterior and a small number of ogival

¹¹ Christakis & Rethemiotakis forthcoming.

¹² Similar cups were found in the LM IB deposits of the Artisans' Quarter at Mochlos, cf. Barnard & Brogan 2003, 244–5.

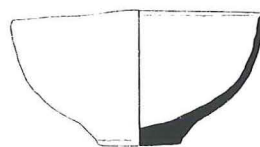
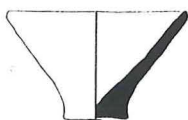
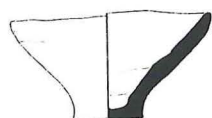
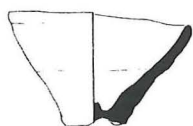
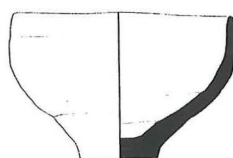
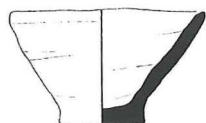
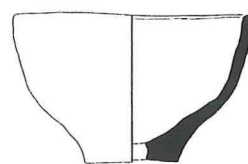
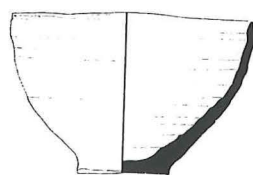
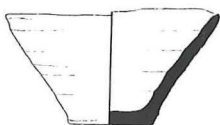
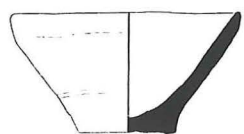
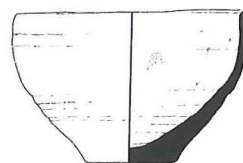
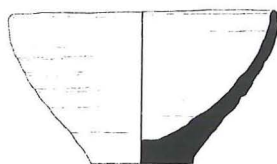
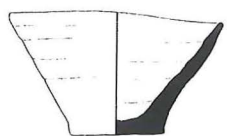
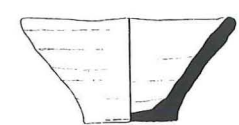


Fig. 20. Conical cups from the LM IB deposits of House 2.

Fig. 22. Plain ogival cups from the LM IB deposits of House 2.

Fig. 21. Tall ledge-rim cups from the LM IB deposits of House 2.

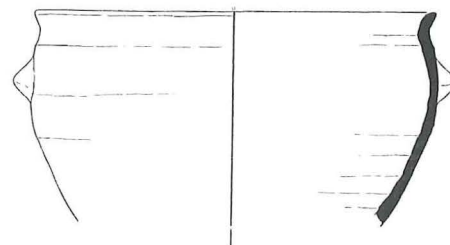
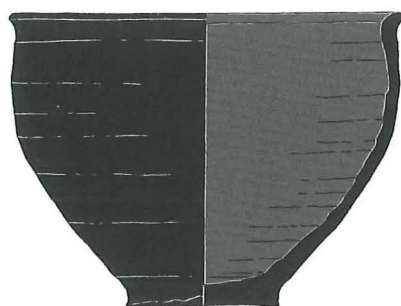
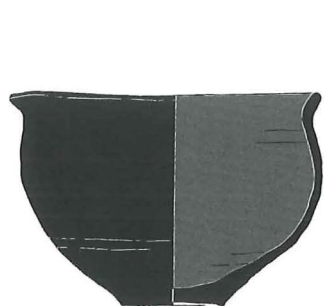
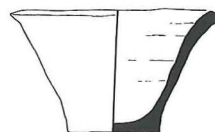
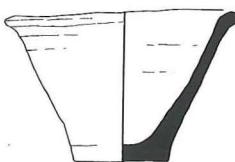
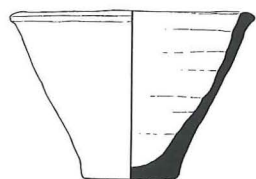


Fig. 23. Handleless rounded cups from the LM IB deposits of House 2.

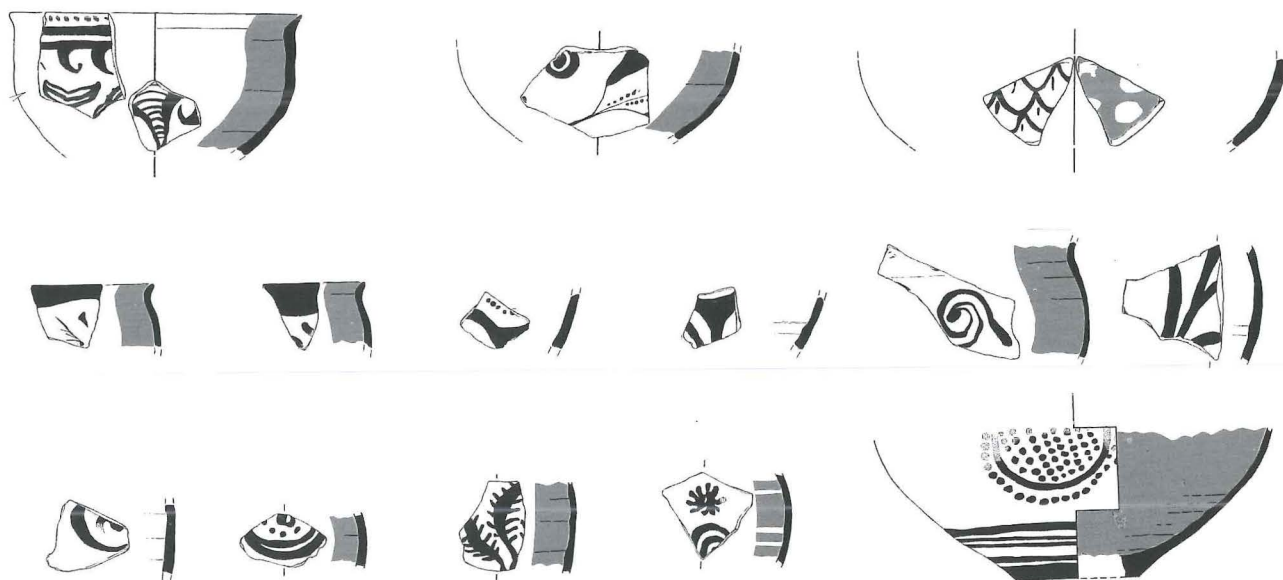


Fig. 24. Decorated ogival cups from the LM IB deposits of House 2.

and rounded cups, often poorly preserved, which are decorated with elaborate painted patterns. These motifs are typical of the best LM IB styles and include papyrus-lily flowers, pendent scale pattern, olive sprays, running spirals, and seaweed (Fig. 24). One small fragment comes from an ogival cup decorated with reeds, the only example of this cup type which occurs frequently in the Knossian area (Fig. 24).¹³ Macroscopic examination of the fabric suggests that the Galatas cup is an import from North-central Crete.

Amphorae occur in small numbers. The LM IB examples are all oval-mouthed with short, slightly concave necks, convex bodies, and conical lower body profiles (Fig. 25). The most common decoration, when present, is the trickle pattern. An incomplete example is decorated with S-spirals and a stylized foliate band (Fig. 26). A horizontal-handled bowl from the site has a similar foliate band (Fig. 26).

Three amphoroid jars with wide mouths, distinct collars, and most likely piriform bodies are decorated with stylized foliate bands, spiral or foliate scroll, and floral patterns, the last using a white-on-dark technique that is unusual for LM IB (Fig. 27). Another amphoroid jar is decorated with a complicated scale pattern filled with hanging spirals (Fig. 28).

Running spirals are now more popular than before, and three partially preserved closed vessels, including a bridge-spouted jar, a stirrup jar, and a bridge-spouted jug, display the best examples of this motif (Fig. 29). The only vessel decorated with reed motifs is a large stirrup jar (Fig. 30). Organic residue analysis indicates that it contained vegetable oil, probably olive oil.¹⁴ Papyrus flowers were displayed on both the exterior and interior of a finely painted bowl, the latter rendered with a bird's eye perspective that is very unusual for pottery decoration and may indicate the influence of wall paintings or textile patterns (Fig. 31). A pyxis with a perforation on its shoulder for affixing the lid is decorated with an elaborate design of a foliate band above a row of large pendent ivy leaves that are filled and separated by alternating floral elements including rosettes and "ladle motifs" (Fig. 32).

Three rhyta were found in the house. One is piriform and is decorated with running spirals above alternating pairs of horizontal bands and a single row of stippled discs (Fig. 33a). Only the lower part of the second rhyton is preserved. It has a grooved profile and is decorated with white dots

¹³ For Knossian cups decorated with reeds, see Hatzaki 2007a, 178 fig. 5.15.

¹⁴ Christakis & Rethemiotakis forthcoming.

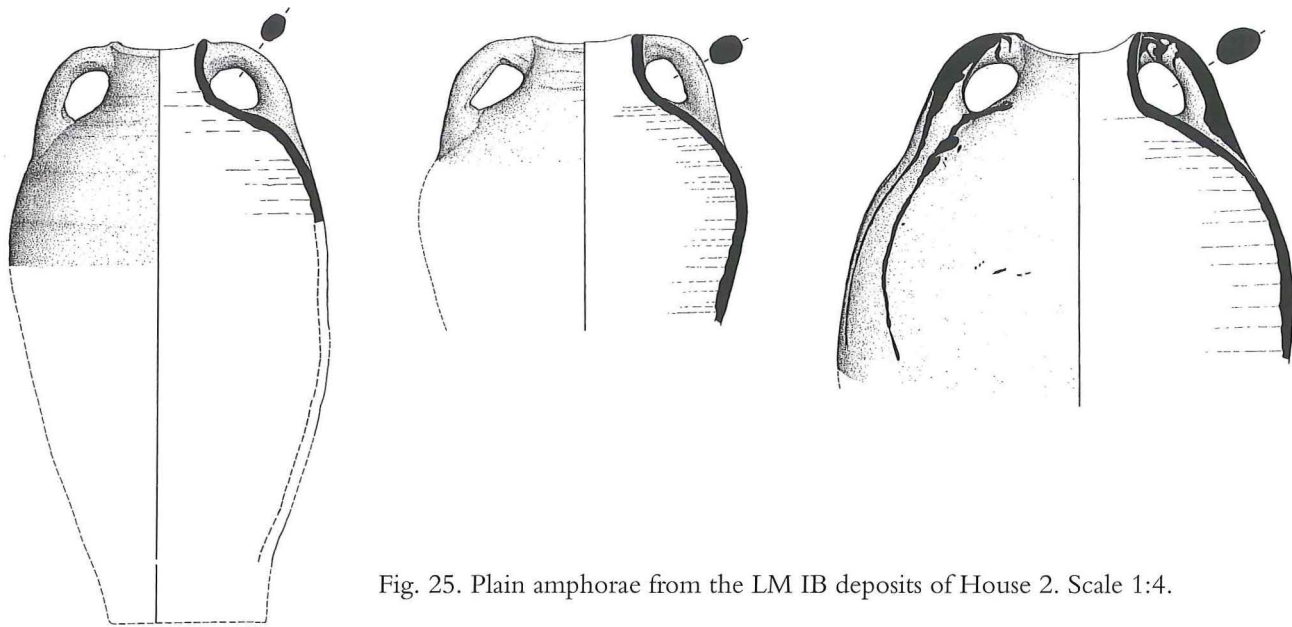


Fig. 25. Plain amphorae from the LM IB deposits of House 2. Scale 1:4.

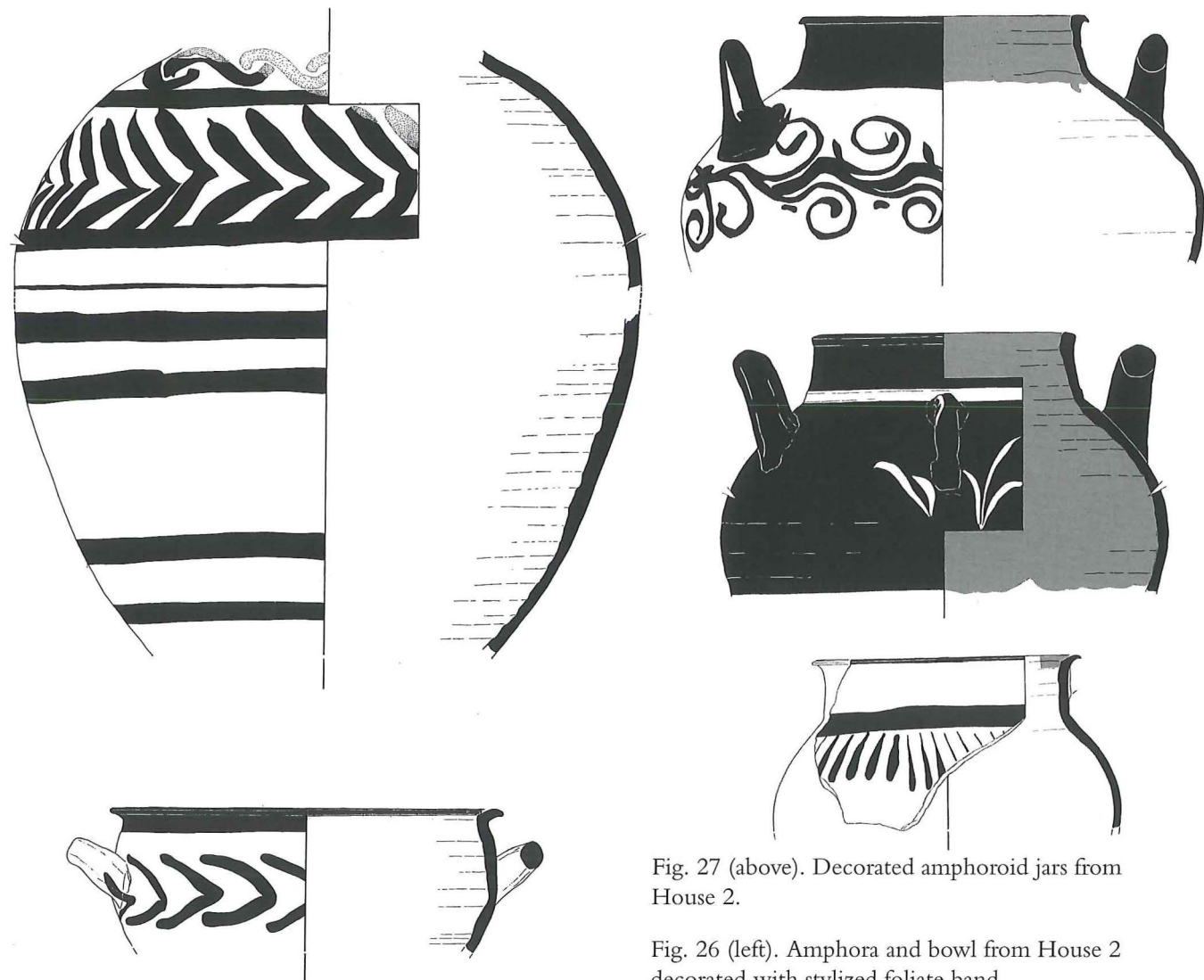


Fig. 27 (above). Decorated amphoroid jars from House 2.

Fig. 26 (left). Amphora and bowl from House 2 decorated with stylized foliate band.

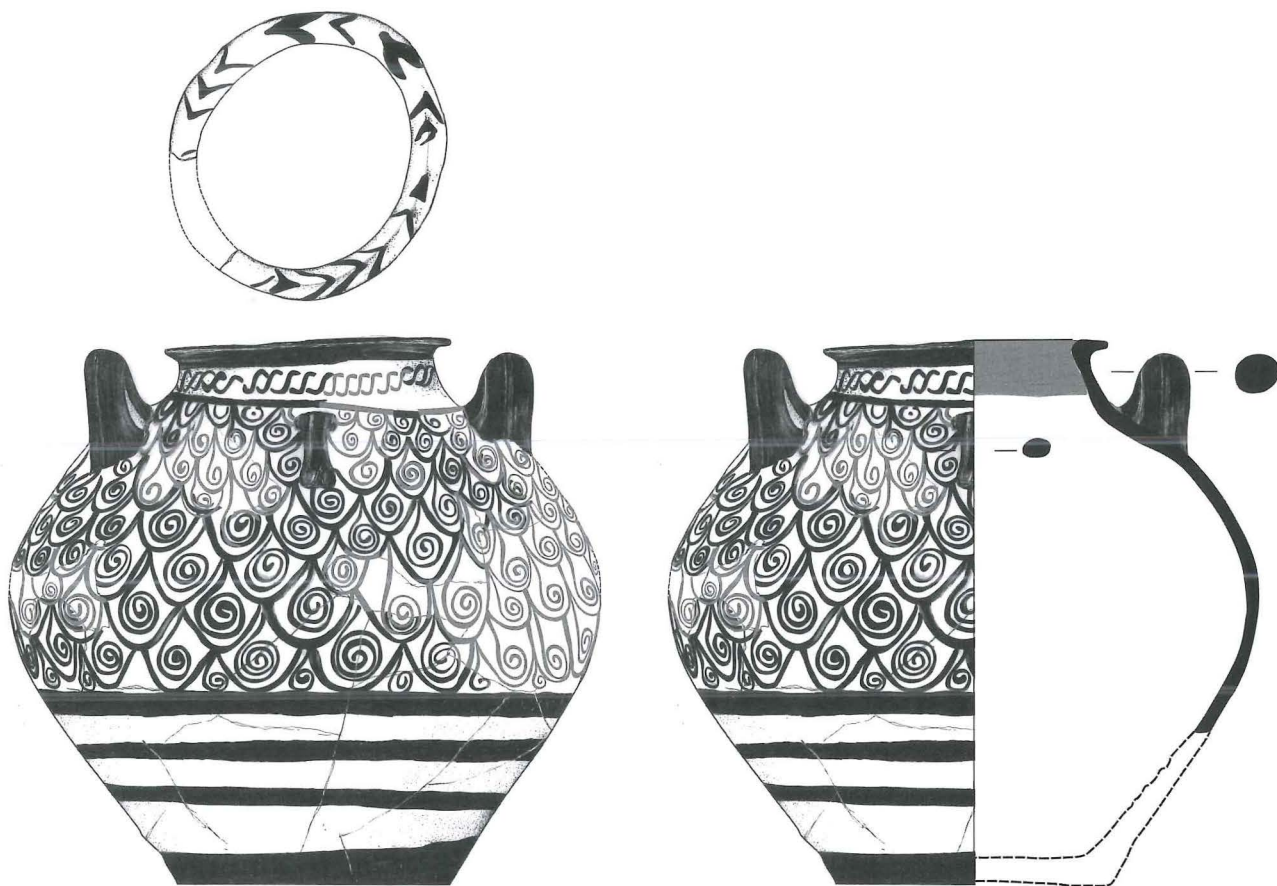


Fig. 28. Amphoroid jar from House 2 decorated with scale pattern.

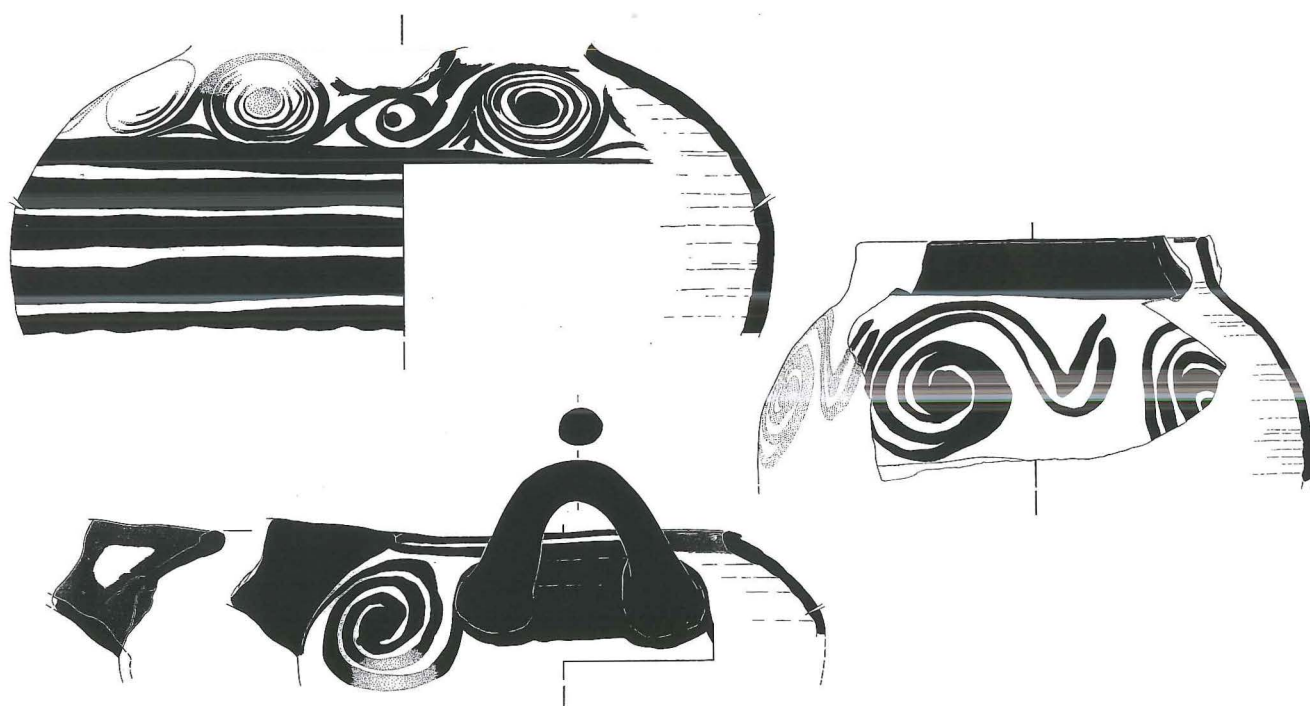


Fig. 29. Stirrup jar, bridge-spouted jar, and bridge-spouted jug from House 2 decorated with spirals.

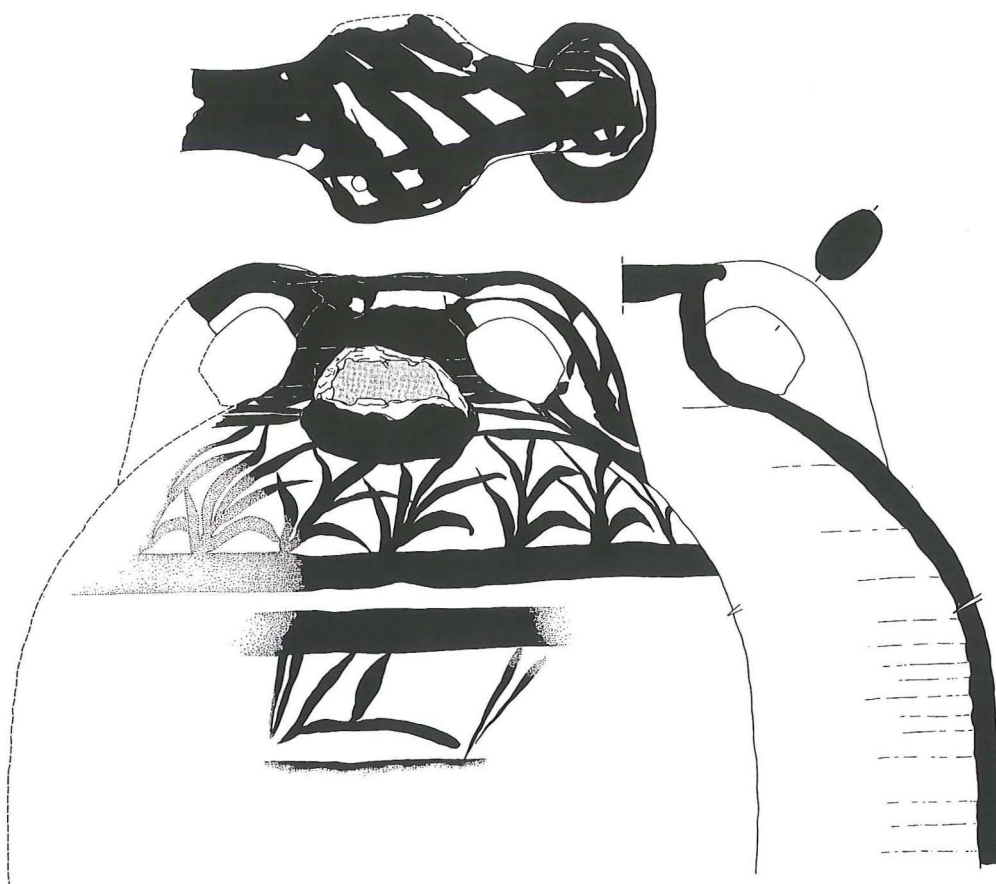


Fig. 30. Stirrup jar decorated with reed motifs from House 2.

on a lustrous brown background that resembles vessels made of Giali obsidian (Fig. 33b). The third rhyton is an exceptional work of the best LM IB style (Fig. 34). It has the profile of a stemmed cup and is decorated with delicately drawn olive sprays and flowers.¹⁵ The same elaborate decoration is also displayed on a conical rhyton from Building 3/5 (Fig. 34).¹⁶ A similar pattern was also found on a fragment of an ogival cup (Fig. 24). These vessels all belong to the so-called “Olive Spray Group”, and it should be stressed that all are made of local fabric.¹⁷ Examples of this Mannerist style were also found at Kastelli Pediada¹⁸ and Kolokythia-Skinias Monophatsi,¹⁹ as well as a few other sites in Central and East Crete. Finally, excavations at Galatas recovered a fine stirrup jar with a magnificent composition of marine and floral motifs that are characteristic of the most impressive LM IB vase painting (Fig. 35).²⁰

It is important to note that the fine pottery used in both House 2 and Building 3/5 is locally made. The high quality of the painted decoration is reminiscent of Knossian prototypes; however, the discovery of these vessels at Galatas is direct evidence for the activity of a workshop, somewhere in the Pediada, which supplied a wealthy clientele with pieces of exceptional quality.

Tripod cooking pots, similar to those of the LM IA period, continued to be manufactured without significant changes in form. Another type with a narrow base also appeared. Ovoid and conical

¹⁵ See Rethemiotakis 2002, 66, pl. XXII.

¹⁶ See Rethemiotakis 2002, 66, pl. XXIII.

¹⁷ See Popham 1967, 341; Betancourt 1976; Müller 1997, 142–3, pls. 71, 78, 85, 87, 94.

¹⁸ See Rethemiotakis 1992–3, 43, fig. 118.

¹⁹ See the article by S. Mandalaki in this volume.

²⁰ The stirrup jar will be discussed and published elsewhere.



Fig. 31. Bowl decorated with papyrus flowers and papyrus-lilies from House 2.

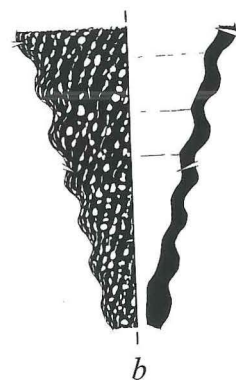
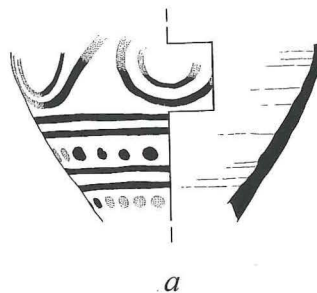


Fig. 33. Two fragmentary rhyta from House 2.



Fig. 32. Fragments of a pyxis from House 2.



Fig. 35. Stirrup jar with Marine-Floral Style decoration from House 2.

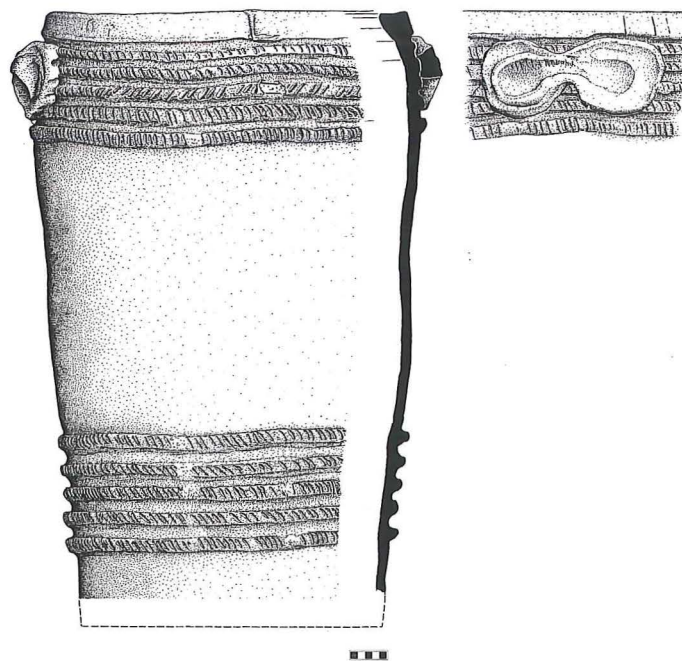


Fig. 36. Partially preserved tripod pithos from House 2. Not to scale.



Fig. 34. Conical and stemmed rhyton with decoration of the "Olive Spray Group" from Building 3/5 and House 2 respectively. Not to scale.

pithoi were used in House 2, and large ovoid pithoi decorated with horizontal and wavy raised bands were also found in Building 3/5.²¹ The use of such large examples in the latter complex points to the storage of considerable quantities of goods.

Two tripod conical pithoi found in House 2 are

unique examples (Fig. 36).²² The production of such pithoi started as early as the MM IIIB period, as proven by the recovery of fragmentary examples from MM IIIB contexts in the area of the Palace. This production may have continued into LM IB or else some of the earlier examples were reused as containers in assemblages sealed by the final destruction. Organic residue analysis showed that most pithoi were coated with a layer of beeswax. The beeswax was applied as a sealant on the inside to reduce the porosity of the pithoi.²³ Another pithos contained vegetable oil, possibly olive oil, while wine was stored in one of the two tripod conical pithoi.

Pottery and politics in the region of Galatas

The pottery from the Palace and town of Galatas provides an ideal context for tracing possible

²¹ Cf. forms 13–7, in Christakis 2005, 9, figs 5–6.

²² See Christakis 2005, 26, pl. 21b.

²³ See Christakis 2005, 52.

divisions between the potting styles of the two phases of the mature Neopalatial period (LM IA and LM IB). The basic differences and similarities between the pottery productions of these periods may be summarized as follows.

Cups, the most common type of vessel, generally share very similar morphological and technological characteristics in both periods. During the LM IB period, however, a version of the conical cup with a narrow base, a type not found in LM IA levels, appears for the first time. A similar pattern is also seen with the ogival cups, which largely follow the LM IA design, with the exception of a small number that employ a narrow base. The other types of utilitarian pottery, such as amphorae, cooking pots and pithoi, show no major differences between LM IA and LM IB, with the exception of the cooking pot with a narrow base that is found only in LM IB strata.

At Galatas significant changes were, however, observed in the painted decoration of vessels produced during these periods, and these differences allow us to draw clear distinctions between the two phases. Ripple, spiral motifs, and wavy lines are the most popular painted motifs during the LM IA period. Net patterns, conglomerate, and stylized floral motifs appear less frequently, and reed pattern is almost absent in LM IA. During LM IB, the choice of motifs is clearly different: spirals occur more frequently than before and they are better executed. Typical motifs of the period, such as lilies, olive sprays, papyrus-lily flowers, pendent scale patterns, and seaweed motifs, are displayed on many vessels while ripple motifs, frequent during LM IA, are absent. The use of reed pattern is not widespread.

The contextual analysis of these deposits has important implications for any reconstruction of the history of the urban center of Galatas. The LM IA ceramic assemblages come from the destruction layers of the Palace and from layers under the floors of certain rooms in Buildings 2 and 3/5. In contrast, LM IB pottery has only been discovered in the destruction layers of House 2, and of Buildings 3/5 and 6. The exclusive presence of LM IA ceramic assemblages in the Palace and the absence of any LM IB pottery there allow us to date the final

abandonment of the monumental complex within the LM IA period. In our opinion, the destructive earthquake which hit the Palace actually put an end to a degraded level of existence in LM IA, from which there would likely have been little potential for recovery in the subsequent LM IB period. On the present evidence, these events that affected the top of the palatial social hierarchy – the palatial elite – appear to have caused no major disruption for the rest of the settlement where life went on until the final destruction in LM IB.

A similar picture is seen at Kastelli, an important center of the Pediada, located about 10 kilometers east of Galatas.²⁴ The central building of this settlement has a “biography” similar to that of the Galatas Palace. The complex, which was built in MM IIIB and rebuilt early in the LM IA period, was largely abandoned following the LM IA destruction, after which only a few spaces remained in use during LM IB. The abandonment of the Minoan Hall of the Kastelli complex in LM IA is particularly telling. The artifacts found in this finely constructed space suggest that it had been used for feasting and ritual on a massive scale both in the MM IIIB and LM IA periods. The abandonment of this space, imbued with so many symbolic connotations, might point to changes in the political organization of the local community.

This picture of decline observed at the central building of the settlement stands in contrast to that which is emerging for another unit of the site, albeit one that is only partially explored. Here, remains of a significant building have come to light in a plot owned by the local parish.²⁵ The ceramic assemblages collected there suggest that the entire structure was in use during LM IB. It appears that the information from this site proves that life in the settlement continued without interruption until the end of LM IB, and as at Galatas, that life in the wider town was unaffected by the events that brought an end to the elite activities in Kastelli’s central building.

This peculiar pattern observed at Galatas and possibly at Kastelli (i.e., the abandonment or

²⁴ See Rethemiotakis 1992–3.

²⁵ See Rethemiotakis 1992–3; Galanaki & Rethemiotakis 1999.

limited reuse of the Palace/central building at the end of the LM IA period while the wider local settlement continued in existence) can also be seen at Malia. The Palace at Malia was destroyed by fire at the end of LM IA, and it now appears that only a small number of spaces in the North Wing were reoccupied in LM IB.²⁶ Many houses of the urban center were also destroyed or abandoned in this same LM IB period.²⁷ Together, this evidence appears to indicate a radical change in the political scene across North-central Crete whereby settlements continued to operate without the presence of the previous local authority or elite.

Because of the conference's focus on possible subphases of the LM IB period, we would like to comment on how the pottery from Galatas and Kastelli fits into the broader discussion of a possible late or final phase of LM IB. Briefly stated, we do not believe that the LM IB pottery assemblages from Galatas and Kastelli can be dated to a final phase of LM IB, as this phase has been defined on ceramic grounds by evidence from various sites on the island, including Kastelli Khania, Kommos, Hagia Triada, Knossos, Nirou Chani, Kolokythi-Skinias, Pseira, and Mochlos, and fully discussed in many contributions in the present volume.²⁸

The evidence from Galatas and Kastelli, instead, provides additional support for the scenario in which the widespread destructions of urban centers during LM IB appear not to have been simultaneous; some centers, or even clusters of buildings within the same urban area (as at Hagia Triada²⁹), were destroyed in earlier phases of the

LM IB period, while others were ruined at a later point in the same period. All of the above evidence would appear to confirm the suggestion that human agency, rather than a natural catastrophic event, was the main cause of the LM IB destructions on Crete.

Combining the evidence for both destabilization and a pattern of different destruction dates (i.e., the "local" one attested in the regions of the Pediada and Malia at the end of LM IA, and the general one affecting the entire island in LM IB), we would suggest that the final collapse of LM I society was the outcome of a long process. We envision it beginning at certain peripheral Central Cretan centers already at the end of LM IA, before the crisis deepened and affected the entire political and economic system across the island during LM IB.³⁰

²⁶ See Pelon 2005; *contra* Van de Moortel & Darcque 2006, who argued for a destruction in LM IB. For the suggestion that these arguments for an LM IB date are not entirely convincing, see Christakis 2008, 48.

²⁷ See Driessen & Macdonald 1997, 186–93.

²⁸ See the articles by Vlazaki, Puglisi, Rutter, Mandalaki, Betancourt, Barnard & Brogan in this volume.

²⁹ Puglisi 2003a and in the present volume.

³⁰ Christakis 2008, 144–6 and in this volume.

Response to Giorgos Rethemiotakis and Kostis Christakis

Tim Cunningham

I would like to thank the authors for providing us with such a useful and timely reminder of the significance of regional variations in ceramic studies; in this case, they have focused primarily on the chronological sequence rather than style. In recent years, it seems that we have reached a point where attempts to dissect the detailed sequence of human activity on the margins of Crete have outstripped other efforts at the Cretan palatial centers. For that reason, I would also like to thank the organizers of this workshop for bringing together ceramic studies from sites across the island. Now, with Eleni Hatzaki's chapters in the *Knossos Pottery Handbook*¹ and the excellent contributions to this conference, particularly those of Sinclair Hood and Peter Warren, we can work towards establishing a more chronologically precise and culturally nuanced picture of the relationship between the core site(s) and the periphery at the end of the Neopalatial period.

There was a time when it seemed as though excavations outside the main centers would simply use Knossos like a chronological version of a Munsell color chart – i.e., pick the best fit from Evans' sequence and assess an object's quality, and hence importance, by the degree to which it seemed more or less Knossian. If something appeared to be of high quality, then it must have been either made in Knossos or by the visiting Knossian artisans who were apparently kind enough to travel the eastern Mediterranean ensuring that everyone had some quality tableware, wall paintings, and *objets d'art*. Of course, this situation largely developed before the major excavation projects in the south, east and west of the island and at a time when Knossos in particular was the best, and sometimes only, source of stratified material for comparanda.

But chronological phases based on destruction horizons do not always, or even often, line up across large distances. Perhaps only the eruption of Thera was capable of providing such a horizon for Bronze Age Crete. And in this instance, the actual sequence of destructive events has much to say about their meaning or significance. We need to approach directly the possibilities of what actually happened and then see what the implications are for the various chronological options. From the period just before the eruption of Thera up to LM II, Crete undergoes profound changes, and the culture, if not the population itself, dramatically reorients towards the mainland. Does this shift happen quickly, in spurts at the beginning and end of the period, or does it happen more gradually?

It is not without reason that archaeologists have tended to look for important historical horizons by lumping destructions together. Putting aside the difficulty of detecting minute changes in a chronology based on pottery typology alone, there are quite often strikingly similar patterns that can be observed at different sites. This conference set a new standard in attempts to fine tune the chronology of the LM IA–II periods. In spite of its design, which encouraged an interpretive bias in favor of single site histories and local peculiarities as opposed to lumping horizons together, the conference nonetheless turned up a remarkably similar pattern at a number of sites. Numerous papers mentioned two destruction horizons, occurring fairly close together and both towards the end of LM IB; the date of the second destruction was often considered to cross over into LM II as defined by the Minoan Unexplored Mansion. Attempts to distinguish

¹ Hatzaki 2007a; 2007b.

these phases stylistically in relation to Hood's Royal Road: North deposits and Warren's Trench D, both presented at the conference, were unsuccessful; but then neither of these Knossian deposits, which were understood to exemplify Knossian terminal LM IB, was able to be effectively distinguished from Knossian LM II as seen in the Unexplored Mansion aside from the presence of the Ephyraean goblets.

Two problems remain. The first concerns the sequence at Knossos which, though admittedly always *prima inter pares*, was perhaps at no other chronological juncture so important for understanding events and conditions throughout the island. Was the MUM destruction a site-wide event or something that only happened in that building? Does its destruction postdate the Royal Road and Stratigraphic Museum Extension material, and if so, by roughly how long (5–10 years or 20–30)? And secondly, are there any other dating criteria for LM II besides Ephyraean goblets, and if not, were these goblets widely distributed? Are they just another example of elite pottery, or do they carry more cultural or even ethnic meaning? Consensus answers to these questions are needed if we are to link events across Crete at this time.

Rethemiotakis and Christakis' emphasis on understanding the ceramic sequence at Galatas as the result of a local production system that reflects local choices is currently the norm in Minoan studies, though that does not make their paper any less exemplary and *a propos*. They begin with a quick outline of the habitation sequence at Galatas (both in the Palace and its immediate environs) which is striking in that its fortunes seem to fluctuate in counterpoint to Knossos – at Galatas there is no sign of any activity in the Palace area in MM II; the Palace is then built in MM IIIA and rebuilt/expanded in MM IIIB, only to fall into disuse and limited “squatter” occupation in LM IA. As the authors mention, it will be interesting to see what the patterns are in the rest of the town. It is noteworthy that they believe that their site horizons were created essentially by political conditions or actions rather than the natural catastrophes which are so often invoked; given the location of Galatas, its fortunes must always have been heavily influenced

by Knossos, though the nature and mechanisms of that influence may have varied greatly.

How are we to assess the evidence that the Galatas Palace was only operating at a limited capacity in LM IA? Was this pattern an indication of retraction or extension of Knossian administrative interests in the area? I would think the latter, especially considering what happens, or appears to happen, at other nearby sites – notably Malia and Phaistos – in LM IA.² Taking this wider view, one might suspect a rather draconian Knossian intervention across the board – a deliberate action to control potential rivals and tighten the reins of power in Central Crete.

Regarding the pottery from Galatas, the conical cups are comparable to Knossian examples, as are the tall ledge-rim cups. But the decorated pottery seems rustic to say the least. Vapheio cups and bridge-spouted jars are rare; the decoration on the semiglobular cups (preferable to the term “ogival” cups in this instance) is simple, with some motifs (crescents and festoons, white-on-dark wavy lines) reminiscent of MM IIIB and others (crosshatching, wavy lines, and a spidery hand) more typical of “Sub-LM IA” (i.e., LM IB).³ The emphasis on ripple, likewise, seems to be a hangover from MM IIIB. Finally, the artistic spirit of LM IA, the joy of movement, shadow, and light, the exuberance of the floral motifs and the elegance of the reed designs are apparently rare.

In contrast, the material shown for LM IB is much less provincial. Although the local utilitarian wares continue unchanged, we now see Galatas' participation in the elite ceramic *koine* of LM IB Crete; in particular, there are examples of the Olive Spray (four pieces illustrated) and the Alternating Style (three pieces illustrated). In addition, this material comes not from the Palace, which is abandoned at this point, but rather from houses. Finally, despite the fact that the wares and decoration appear to be “Knossian”, the fabric of each indicates local production.

² Driessen 2001, 51, table 4.1; La Rosa 2002, 94; Warren 2004.

³ Compare for example Fig. 9 a, b, g and l with Watrous 1992, 14, 257, pl. 6, fig. 17; 21, 345, pl. 9, fig. 18.

With only one destruction horizon and limited amounts of pottery, the Galatas material in this presentation does not appear to influence the debates on the precise chronology of LM IB and possible sub-phasing of the period. The knob-handled bowl, ogival cup, and horizontal-handled bowl, as well as examples decorated in the Alternating Style, all place the deposit in mature LM IB; however, the deposit does not contain any features that would make it later in date. Of course, without additional complete cups and generally more material, it is impossible to place Galatas for certain relative to the other sites in Central and West Crete.

Again, we should avoid drawing too much significance from a limited sample of material. While Galatas does clearly participate in the elite ceramic *koine* in LM IB, its pottery does not appear to form a distinct local or even regional style. My only exception would perhaps be the olive spray decoration, because so many examples have been found at both Galatas and Kolokythia Skinias – perhaps these pieces are Pediada products? The assumptions behind the assignation of Olive Spray or Marine Style to a hypothetical Knossian workshop is particularly flimsy. Was all of the best pottery consumed at Knossos necessarily made within the Palace, or even the city limits? Why should it be? Might there not have been a potting village somewhere in the Pediada that supplied not only Knossos but also sites closer by? Rather than continue this absurd habit of identifying every fine object as Knossian, we must form explicit hypotheses, grounded in ethnographic parallels, if not hard evidence, for the production of such goods. How and where was pottery produced? Obviously, pottery production is traditionally a village craft, with skills and techniques passed down through generations. Even if palatial workshops were established (and pottery would be one of the crafts least suited to an urban, let alone palatial, location), the potters would have come from elsewhere – a potting village, where the skills and techniques would continue to be practiced/developed (and from where new/replacement potters would come – unless the Palaces imported breeding populations). Marine Style pottery is often awarded special status as a prestige good or even as special purpose cult

equipment. The easily recognizable symbolism of the Alternating Style, in particular, would also have lent itself to elite signification if it were not found in virtually every LM IB house in Palaikastro⁴ and in large quantities at Kythera and Phylakopi; in fact, there seems to be no real limit on its distribution, nor was its manufacture controlled (products from production centers on the mainland and North-central Crete were virtually indistinguishable).⁵ In the material shown from Galatas, the papyrus and tricurved scale motif seem popular, as also at Kythera, Knossos, and Palaikastro to name but three examples. Despite its quality, it is very difficult to consider this material as anything other than an elite consumable, a luxury good widely distributed whose motifs owed more to the artistic predilections of its makers than any cultic or cultural symbolism. Given the strong evidence for a major mainland production center, one wonders if this style might not actually have been developed by mainland potters or perhaps even on the mainland.

Considering the contrapuntal site history of Galatas, at least as far as the Palace is concerned, we might expect the lack of functionality in LM IB to reflect a strong controlling influence from Knossos. But if Knossos is responsible for limiting palatial aspirations at Galatas, what are we to make of Archanes? Either Archanes in this period is essentially in the same domain as Knossos (perhaps the actual home of the administration as opposed to a ceremonial center) or being used while repairs were made at Knossos, or else Knossos is much weaker than anyone has imagined.

In East Crete at least, we see an upswing in local agency, and the profits of this activity likewise seem to have stayed local – fine new ashlar buildings go up, sites contain considerable amounts of bronze

⁴ From the current excavations, Buildings 1, 3, 4, 5, 6 (wells 576 and 605) and 7 (Building 2 contained nothing later than LM IA). From the earlier excavations, Houses A, B, D, N, and X.

⁵ Even after intense study of broken fragments (allowing the fabric to be seen) by specialists, only with modern technology can the origin of much of this material be identified – imagine the original consumers trying to determine if a piece was even of Cretan manufacture, let alone Knossian. See Mountjoy, Jones & Cherry 1978; Mountjoy & Ponting 2000.

artifacts, Marine Style pottery, and ivory carving – all seemingly in domestic contexts, elite but not palatial (with perhaps the exception of Zakros).

Researchers at Khania, Hagia Triada, Kommos, Mochlos, and Palaikastro all posited a second destructive event either very late in LM IB or into LM II (or LM IC?). These LM IB Final/LM II destructive events in eastern Crete, at the very least at Palaikastro, were without a doubt the result of human agency. Considering the extensive evidence for systematically executed arson (particularly at Palaikastro, but also Zakros, and possibly failed arson at Mochlos supplemented by simple demolition), the lack of efficient looting, and the possibility of population relocation (again at Mochlos), as well as the targeting of ashlar buildings, I think that these destructions were punitive in nature and carried out by a force of sufficient magnitude to have easily accomplished their goals.⁶ This was not war or even conflict *per se*; there was no sign of resistance, and indeed it seems that the inhabitants had fled or had perhaps been removed. Considering in particular the ivory and metal from the otherwise unremarkable town of Zakros, the metal hoards from Mochlos, and the general richness of these East Cretan towns, it may well be that the central authority of the time considered their activities as piracy; as these destructions seem to postdate the LM IB destruction at Knossos, that central authority may already have been of mainland orientation, if not derivation.

In any case, the sequence and relative dating of these destructions continue to play a particularly large role in our understanding of their causes and effects. I have argued that the best way to deal with this problem is to use site phasing or site periods, as introduced by Sandy MacGillivray at Palaikastro.⁷ This is not a perfect solution and, as mentioned at the conference, has its own weaknesses. However, in an environment that has been so affected by the use of a common chronological scheme based on pottery seriation, I think it would be a big step forward. Evans' terminology should be defined by the pottery groups from Knossos, as has been done in the *Knossos Pottery Handbook*.⁸ Obviously, these terms will continue to be used for the island for general chronological purposes, but for precise

site phasing or correlations, we must move on to individual site-based systems. Figure 1 presents the site phases for Palaikastro.

You will see that there are two periods at Palaikastro which correspond broadly to LM IB – Periods XI and XII. Period XI begins after the Theran eruption. There are some indications that the site was totally or partially abandoned for a period of time immediately after this event; however, they are only indications, so nothing can be said with certainty. There are also signs of a major flood associated with the deposition of Theran ash, and we have suggested that this may have been caused in part by a major tsunami. Perhaps it is for this reason that we do not have anything which could be called post-Theran LM IA, nor do we have any internal floor deposits that could truly be early LM IB. We do, however, have deposits that must belong to the beginning of that period. They come from the south wall of the street between Buildings 5 and 7 and Block M and are either associated with this building activity or with the deposition of rubbish after the completion of these buildings.

The Palaikastro deposits include pottery with both LM IA and LM IB styles, including “Spray Painted Style” – a local version of the “Jackson Pollock Style” at Knossos (this may even have started as early as LM IA, although no examples have yet been found in our primary destruction deposits of that period). We also have ogival cups, specifically the type with a higher, less everted rim. Aside from that, much of the pottery appears to be and probably is LM IA debris from our flooding event. Some of these LM IA-style sherds seem to be worn and eroded, while others are perfectly preserved. This surface preservation is probably the result of both post-depositional factors and manufacturing details. Some of this material may represent a kind of Sub-LM IA, but trying to make those distinctions on the basis of the use of crackly paint or the quality of burnish is impossible. There is no Marine Style in these deposits, nor are there any examples decorated with the other styles of the

⁶ Cunningham 2007, 30–43.

⁷ MacGillivray 1997a.

⁸ Momigliano 2007b.

Palaikastro Site Period	Deposits	Events	Correspondence
↑ X	Building 2, Room 2 Street B/M Building 3, Drain Block M, various Blocks E & X	Begins after earthquake; ends with Thera eruption deposits of ash/flooding	LM IA Gypsades Well (upper) Group
XI	Well 576 Deposit 1 Well 605 Deposit 1 Building 5 House N Block B Room 10 Block M Northwest	Begins after the eruption - abandonment? ends with destruction - but limited in scope?	LM IA Post Thera LM IB SEX North House Group
XII	Well 576 Deposit 2 Well 605 Deposit 2 Building 5, main deposit Building 4, main deposit House N etc.	Ends with big destruc- tion; perhaps not a long time after the Period XI destruction; latest im- ports seem to be LM II	LM II MUM South Sector Group
XIII	Few deposits in Building 1 Well 576, Deposit 3 (and 4a+b?) Well 605, Deposit 3	Starts in LM II and ends early in LM IIIA1	LM IIIA1
XIV	Major horizon in Building 1 Well 576 deposits 4a and b(?), 5, 6a and b and perhaps 7, 8 and 9 as well; this is the Bath- room deposit in Block Gamma from the 1902-6 excavations	Some widespread destruction; ends in early LM IIIA2	LM IIIA2 Long Corridor Cist Group
XV	Deposits in Blocks Gamma, Delta, Pi, M Buildings 3, 4, 5, 7 Upper levels in Wells	'Palaikastro Workshop'; larnax burials, settle- ment at largest extent ends in destruction (earthquake?) and abandonment either late in LM IIIA2 or early in LM IIIB	LM IIIA2 MUM Pits 8, 10-11 Group Malritikos 'Kitchen' Group
↓ XVI	Building 1, Kouramenos, above Block Xsi, Kastri	Some reoccupation after abandonment	

Fig. 1. Palaikastro site periods.

Special Palatial Tradition. In this area, parts of the street wall that do not seem to have been rebuilt preserve clean deposits of washed-in LM IA pots and volcanic ash.

Palaikastro Period XI starts with ogival cups already in existence – perhaps further evidence suggesting a hiatus in habitation; this potential hiatus is also indicated by the lack of cleanup of so many of the LM IA deposits (despite the intense building activity in LM IB), a profound change in ceramic styles that seems to happen rather quickly, fairly drastic architectural changes, and indications of apparently rapid cultural changes as well. Evidence of Period XI is found in the wells and in destruction deposits from Buildings 5 and 3, Block B, and House N. No ceramic distinction is yet possible between Periods XI and XII, except for the latest local and imported material which marks Period XII (but of course this cannot be used to identify Period XI simply from its absence). It is difficult to tell how much time might have passed between the two destructions; rebuilding was thorough and mostly completed by the time of the second destruction (but beyond the point that Period XI was probably longer than Period XII we cannot say – it could have been just a couple of years apart?). Together they form one of the longest phases at Palaikastro, at least as far as we can judge, based on

the amount of building and rebuilding, sequential deposits, and the amount of material produced. After the Period XII destruction, however, reoccupation is immediate and complete – most buildings and streets are cleared, rebuilt and reused, and local ceramic production continues unabated. Imports, which began to drop significantly in Periods XI and XII, almost disappear, and the local potting industry is consolidated with the “fine light slipped and burnished” ware group expanding its range of shapes even when, as with cooking pots, they are unsuited to the fabrics used. Period XIII is very short and so far has only been observed in construction deposits in Building 1, although it may also be present in the wells. By the end of this very short period, the site is in LM IIIA1, in general or Central Cretan terms, as shown by diagnostic imports.

In any case, considering the lack of contact with the center of the island, the prevalence of local and regional ceramics, and the lack of correspondence of our site phases with those from Knossos, I do not think it is surprising that LM II seemed elusive for a while, but we have found where it was hiding; in fact, once we move to using site periods, the confusion will disappear and we will no longer be stuck going from LM IB to LM IIIA1; we can now move happily from Period XII to XIII.

Discussion

Brogan I want to ask the excavators of Galatas and Peter Warren about their cups. Peter has cups with pendent decoration, but Galatas didn't have any? I think there was a lot of overlap between the cups at the sites – 80 to 90%, but it seemed to me that there were some things in Peter's deposit that were not present at Galatas. What does that mean?

Warren This is the whole question of the function of particular deposits. We have masses of LM IB but only in this specific area do we have these particular cups together with types that occur at other parts of the site. This is the natural variation that you would expect with different deposits. There is enough to suggest a contemporaneity, clearly, with the painters, but you won't expect everything to be the same everywhere. There are lots of reasons, I don't think it's anything to worry about, the absence of these cups in your site. There is enough evidence to suggest that they must be approximately contemporary.

Rethemiotakis Yes, of course, there is so much evidence of contemporary evolution. Galatas is influenced by Knossos, but it is not Knossos; and, of course, as Knossos is the center, one would expect to find all vases and decoration being first introduced in Knossos and then following in the other parts of the island.

Kanta I agree with Peter Warren that the character of the pottery depends very much on the character of the building and its function. Obviously, the building which produced the wonderful LM IB pottery that you showed us was, let's say, inhabited "by an elite" and used accordingly. I would say, and I am sure you disagree, that the material you showed us from the Palace, which you dated to LM IA, to me has a LM IB flavor. I may be wrong, but there are various things there that seem to me to be advanced. We will see as more papers follow.

Rethemiotakis I don't understand. Which specific features may indicate an LM IB origin in the Palace?

Kanta Conglomerate.

Rethemiotakis Conglomerate is found in LM IA in a closed deposit at Poros, for example, and the one that Gerald [Cadogan] illustrated is identical to a specimen from Poros and was found in pure LM IA destruction debris. Well, this kind of vase, so far as I know, and from Poros (Psychogioudakis Plot) I can confirm it, comes from a closed LM IA context. The Poros vase is large and pithoid, with conglomerate decoration illustrated in the *Archaiologikon Deltion* (Dimopoulou 1993, 451–2, pl. 141; cf. Christakis 2005, 43).

- E. Hallager** Well, this was provoked by Athanasia's [Kanta] question because she also suggested that Sebastian's [Traunmueller] deposit might be LM IB. On this occasion I want to ask both of you because you are both speaking about a certain LM IA destruction by earthquake, should it be the same earthquake we are talking about at Galatas and Zominthos? And how would you comment on the two ceramic deposits now that both of them have been presented?
- Rethemiotakis** I don't know very well the character of the Zominthos material. Zominthos, so far as I understand from the illustrations of Mr. Traunmueller, has plentiful ripple material, which is definitely LM IA; nothing decorated with ripple was found in LM IB destruction debris, and this must be a significant change because we have plentiful material from the Palace and nothing, not a single sherd, from a house. So, this may be an indication of an LM IA destruction for Zominthos. Well, this vase with the reeds is a little problematic, I understand. But it may be dated to later in the LM IA period; I think Thera has many specimens of this kind with reed decoration and one should not be surprised by the occurrence of a single piece from Zominthos. By any means it is rare, very rare. Outside of Knossos such reed vases do not occur very frequently.
- Kanta** What about the spider ripple, which is early IB at Kommos?
- Vlazaki** I should think that in Khania we have destruction by a severe earthquake (the time that the lustral basin was destroyed) in LM IA.
- Platon** I will agree with Athanasia Kanta for a possible LM IB date for the context of the Palace at Galatas. As regards conglomerate, I disagree that it's LM IA. We have many specimens and one of them is from Pyrgos, which is definitely LM IB; we have others from Pseira and Mochlos in IB, from the Royal Road, which is in a LM IB context, and in Zakros many parallels are also LM IB. I disagree that it is a motif that characterizes LM IA. This is one thing. The other thing is about Malia, to which you refer. We also have a similar case, I agree. But as far as I know, the Palace of Malia, as has been supported by Aleydis Van de Moortel and others, was destroyed in LM IB and definitely is not abandoned in LM IA.
- Rethemiotakis** Well, I am speaking about Pelon's paper, which supports a LM IA date. Perhaps we should have here members and specialists of Malia to answer this question. About the conglomerate at Galatas, first, it's just a small sherd which was found in the area of the East Wing of the Palace in a disturbed deposit. I don't know the range of this decoration, when it starts exactly and when it finishes. I don't know if Gerald [Cadogan] agrees that this is LM IB, but, nevertheless, I spoke about Poros where we definitely have an example, an intact vase decorated with conglomerate, which starts in LM IA, this is for sure. It may continue, I don't know. A motif does not stop suddenly; it may have a long chronological range.
- Platon** Does this conglomerate from Poros come from the tombs?
- Rethemiotakis** No. Psychogioudakis plot.

- Platon** We don't know much about it because the context is practically unpublished. As regards the Malia Palace, the argument that it's destroyed in Late Minoan IB comes from the destruction layer above the Northeast Quarter, the area to the northeast of the Palace in which the famous rhyton was found together with other LM IB pottery; this pottery was covered by the ruins of the Palace, as argued by Aleydis Van de Moortel in the last Cretological Congress.
- Brogan** Shall we continue with the conglomerate conversation? Let's examine these things one at a time; I think conglomerate has taken a lot of hits. Eirene is first.
- Nikolakopoulou** It exists at Thera, on a rhyton, as far as I can remember. It's Minoan, not a local imitation. It is also found on some of the bell cups.
- Cadogan** Carrying on with the conglomerate conversation. Thank you, Eirene. That does help because when I looked at your piece, I wondered, goodness it is a rhyton?
- Rethemiotakis** It's just one sherd.
- Cadogan** It's a bit difficult to hang too much on that, if it's just one sherd. But yours [Eirene] does help, it doesn't totally surprise one. Is the quality rather similar to the alabastron rhyton you saw this morning from Pyrgos? About which maybe I am allowed a short story. At one time I met Arne Furumark in the Stratigraphical Museum. We presented to him that globular alabastron rhyton, which I showed this morning and had always assumed was a Knossian product. I was very young at the time and he said to me, "Where do you put it?" And I said, "LM IB", and I passed.
- Niemeier** Just about conglomerate. At Miletus we also have an earthquake destruction connected to the Thera eruption. That's clear because above it we have found layers of Thera tephra, and stratified below it we have an exact parallel for that sherd you showed us, a conical rhyton with conglomerate. So for me what you showed is clearly LM IA and I think you also made very clear the distinction between the LM IA deposit from the Palace and the LM IB deposit from the settlement. So for me there is no doubt that there is a chronological difference.
- Platon** Only a small comment. I propose to leave Thera out of the discussion at present.
- Brogan** That's a little foreshadowing on the part of Lefteris. Because Malia has come up so frequently, I want to add that Aleydis is coming on Sunday, and she is going to stand in for the Malia discussion. We had a tough time finding someone to speak about Malia. There were many people invited but few takers.
- Macdonald** Sorry, it's Kastelli. I have always been impressed by the number of MM III looking handleless cups from Kastelli, and I could never understand how all this combined with the LM IB destruction. And now you show the decorated pottery from the so-called LM IA destruction and I would say that it is MM IIIB, and not LM IA.

Rethemiotakis Well, it's okay, there is no problem about that. I believe that the area of the Minoan Hall did not last until the end of the building's life. It was abandoned and was out of use when the building was destroyed in LM IB. This is definite because the sherds I illustrated from the destruction, the later examples, are certainly LM IB, so this is the final destruction layer. There is no earlier destruction; there is evidence of abandonment in certain places, a situation similar to that of Galatas where some areas were abandoned in MM III and others continued. I think it's a model for large buildings, and I mentioned this morning the possibility of Zominthos being a similar case.

Cadogan Again, on Tim's [Cunningham] reply, just a note of support for the individual site by site sequences, which I think is a practice that quite a number of people are already adopting, as at Palaikastro. However, and of course it's been standard practice for a long time in Syria and Palestine, it's worth remembering that this has not proved the universal solution, that in those countries the archaeologists have been rent by division. We all appear to be very calm, peaceful, quiet people when compared to their arguing about Syro-Palestinian EB III, MB IIB, MB IIC, MB III, oh, there's EB IV, I forgot that too! So, I totally agree with you, but we mustn't think that it will give us all the answers.

Cunningham Yes, I know what you mean. I have also worked there and it's a whole other, whatever you call it, kettle of fish!

Hood I would just like to say that I thought what you were calling LM IA was LM IA, and what you called LM IB was, to my mind, LM IB. But, I wonder if your very fine conical rhyton with the olive sprays might not be one of these imports of very fine vases from Knossos. It does seem to be a feature of Crete, and in any case Crete at that time does seem to have been exchanging pottery between the big sites throughout the island.

Christakis The macroscopic analysis of the fabric shows that all the fine ware used at Galatas was made locally. There is no evidence for Knossian imports to Galatas. The only exception is a small fragment from a rounded cup decorated with reeds, which seems to be Knossian.

Rethemiotakis As I mentioned in my paper, I raised the possibility that this exceptional piece, as well as the conical rhyton from Building 3, could be the products of local potters who may have been trained in Knossian workshops.

Warren What Kostis has just said, of course, is a very interesting matter of much broader application, because it immediately promotes a fundamental question. Everyone recognizes that the olive spray painted rhyton which we saw is extremely close, as close as anything could be, in style to olive spray painted pieces found elsewhere, such as the famous alabastron from Palaikastro; I am sure that tomorrow Stella [Mandalaki] will show another one from her site. So, if it is the case that the Galatas piece is locally made in Galatas, and if we accept that the many sherds of this decoration found at Knossos are of Knossian manufacture, the next question is: what is the mechanism?

How can it be? What is the means by which such things, almost a photographic copy, can appear in Galatas in locally made clay by local potters? Is it embroidery, a different material which is being copied? The closeness is very exceptional; we have to think very hard for an explanation of the mechanism for this. The easy explanation is to say that the potters in Galatas, the painters, must have seen a Knossian specimen, for example, which doesn't survive. But that may not be the explanation. This issue promotes a really interesting question. We have this whole debate about the Mycenaean pottery in southern Italy which everyone said was Mycenaean exports. Now we know it is locally made there and yet it's almost indistinguishable from the Argolid material and this is a much more interesting matter, really, than the question of exports and imports.

Pithoi and economy in LM IB state societies*

Kostis S. Christakis

Introduction

Writing about storage containers (pithoi) in a volume that aims, among other things, to define chronological frameworks on the basis of pottery, is unusual. Pithoi, and coarse ware in general, are not appropriate for secure dating. Their morphological and decorative attributes may persist for long periods of time, making it difficult to identify fine chronological distinctions. The contextual examination of pithoi also may not provide conclusive evidence for dating the vessels, which may have been used in several locations long removed from the time and place of manufacture.

Nevertheless, pithoi can shed light on important facets of past behavior. Their study can reveal patterns of pottery production and distribution, and underline regional differences in the production and use of storage containers. Above all, however, pithoi, because of their use for the storage of staples, are the vessel *par excellence* for the reconstruction of past economies.

These two aspects of pithoi are discussed in the present paper. The study of the morphological, decorative, and technological characteristics of pithoi forms the starting point for a discussion of patterns of production in storage containers during the LM I period. I then consider the economic role of pithoi, focusing on their functional attributes and the contexts in which they were used. Pioneering contributions in both areas have been made by Dewolf, Postel, and Van Effenterre for the Malia economy¹ and by Warren on the economy of Myrtos Phournou Koriphi.² These were the first attempts to exploit the role of pithoi in the reconstruction of economic realities. Day's work, on the other hand, contained the first systematic introduction of petrography and opened new avenues for the

study of the production and distribution of storage containers.³

In this paper we shall not discuss the production and use of LM I pithoi overall, which has been done elsewhere, but instead focus on select assemblages of pithoi from simple houses, wealthy mansions, central complexes of non-palatial settlements, and palaces. The particular concern here is the fact that the pithoi used in these contexts might shed light on patterns of economic and political development.

Some methodological remarks

The discussion relies mostly on the qualitative and quantitative limitations of the data at our disposal. Approximately 4,235 entirely and partly preserved pithoi have been excavated thus far from Bronze Age Crete, and most remain unpublished. This number is, of course, constantly increasing. At present, about 42% were found in LM I contexts. Of the LM I contexts, most are dated to LM IB and a few to LM IA. The spatial distribution of the data is also varied: most units with pithoi have been excavated in Central and East Crete, fewer in East-central, and far fewer in West Crete. In terms of their contextual distribution, 45% of the pithoi

* I would like to thank Erik Hallager and Tom Brogan for their invitation to participate in this conference. Many thanks are also due to Nikoleta Ntolia for the drawings. This article summarizes the results of a study on pithoi and economy in Bronze Age Crete. A more thorough discussion appears in Christakis 2005; 2008.

¹ Dewolf, Postel & Van Effenterre 1963.

² Warren 1972.

³ Day 1988; 1991; 1997.

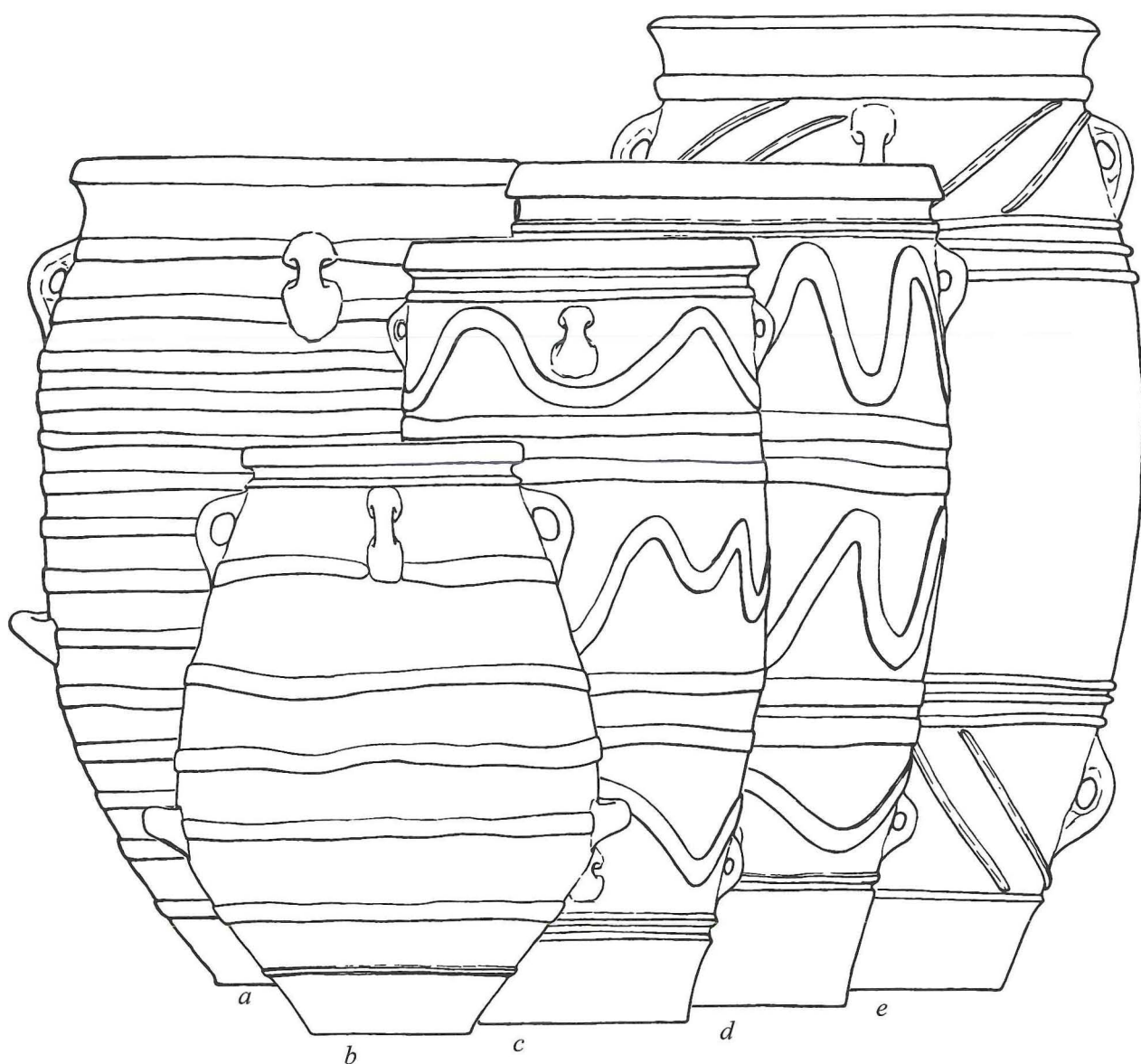


Fig. 1. Large and medium-sized pithoi used in West (a, b) and Central (c-e) Crete. Scale 1:10.

come from palaces, 36% from central buildings of non-palatial settlements and wealthy mansions, and just 19% from simple domestic units.

This brief overview of the data demonstrates two basic limitations. The first is related to the spatial distribution of the pithoi and the second, a more serious one, to the picture we have of local LM I societies. Most of the data comes from elite contexts, palatial or not, while ordinary contexts are almost unknown. The top-orientated character of Bronze Age Cretan research has thus left an important social sector unexplored.

Bearing these limitations in mind, I will highlight the principal traditions in the production and use of pithoi during LM I and also infer sociopolitical levels of interaction among the different social sectors operating within LM I societies.

The distribution of similar morphological, decorative, and technological attributes within the same spatial and temporal framework is here taken to reflect local potting traditions. In addition to morphology and decoration, particular attention is paid to basic functional attributes of pithoi, such as capacity, transportability, stability and the accessibility

of their contents, practical features which can demonstrate differences in the storage behaviors adopted by the different social groups operating within LM I societies.⁴ The discussion, therefore, presents LM I pithoi not according to typology but according to basic functional attributes.

The discussion of the economic dimension of pithoi is based on the study of the functional characteristics of these vessels in a given context as compared to the rest of the contextual framework.⁵ Capacity estimates are mostly derived from the capacity of the “reference vessel” of each type of pithos, as used in the respective contexts.⁶ In only a few cases are estimates based on the volumetric study of the actual pithos. Although the results are approximate, they can still give us an idea of possible storage potentials.

Traditions in the production and use of large pithoi

Large pithoi are considered to include those examples characterized by limited accessibility to the contents, high stability, low transportability, moderate graspability, and a mouth that was difficult to cover. Their capacity is over 200 liters. They are ideal for the storage of large quantities of goods, and it is no accident that they were indeed used in contexts where large storage potentials were observed (palaces, central buildings of non-palatial settlements, wealthy mansions, and buildings with specialized functions). They also have been reported from simple domestic units, but in lower numbers. Finally, the production and use of large pithoi follows strong regional patterns.

The typical example of a large pithos from West Crete has an ovoid, slightly depressed body, a row of horizontal handles at the point of maximum diameter, and decoration comprised of closely spaced horizontal bands/ropes (Fig. 1a).⁷ The capacity is usually more than 300 liters. The capacity of medium-sized examples of this type is between 100 to 120 liters (Fig. 1b). The exclusive occurrence of these pithoi in West Crete indicates that they were the product of potting groups following a local potting tradition.

The potting groups active near the major centers in Central Crete produced large pithoi with an ovoid-elongated to ovoid, slightly depressed body profile (Fig. 1c, d).⁸ These pithoi are also distinguished by a thick rim that is joined directly to the body, two rows of four vertical handles, and decoration of raised bands with incised and impressed patterns displayed in horizontal and wavy rows. Their capacity varies from 200 to 580 liters.

The majority of examples were found in the Palace of Knossos, the palatial buildings at Archanes and Hagia Triada, and the complexes at Sklavokampos, Vathypetro, Kannia-Mitropolis, and Mansion A at Tylissos. Knossian pithoi, in particular, are distinguished by the high quality of manufacture and the originality of the decorative patterns. Thus far, pithoi of the Central Cretan type have not yet been found in West Crete; however, isolated examples are known from a few sites in East Crete. Some of these pithoi were imports produced in Central Crete, while others were local imitations.

Another type of large pithos produced by local workshops also appears in certain LM I storerooms (Fig. 1e).⁹ These pithoi were made in MM III and remained in use through LM IB, while one example, from Magazine VI of the West Magazine Complex of the Knossian Palace, remained in use until LM IIIA.¹⁰ Survivals from the MM IIIA and MM IIIB periods, which were used in LM IB contexts, also include medium-sized pithoi with a narrow mouth and distinct collar.¹¹

The patterns of production and distribution of large pithoi in the area of East-central Crete are relatively unknown because so few large examples have been excavated in this area. Most of the pithoi found at Malia, the only large urban

⁴ For the functional attributes of the various types of pithoi, see Christakis 2005, 46–50.

⁵ For a full discussion, see Christakis 2008.

⁶ For the capacities of the different types of pithoi, see Christakis 2005, table 1.

⁷ For forms 18, 47, see Christakis 2005, 9, 11, figs. 6, 11.

⁸ For forms 10–17, see Christakis 2005, 9, figs. 4–6.

⁹ For forms 4, 6, see Christakis 2005, 6–7, fig. 2.

¹⁰ Christakis 2004, 306.

¹¹ For forms 23–5, 28, 35, see Christakis 2005, 10, figs. 7–9.

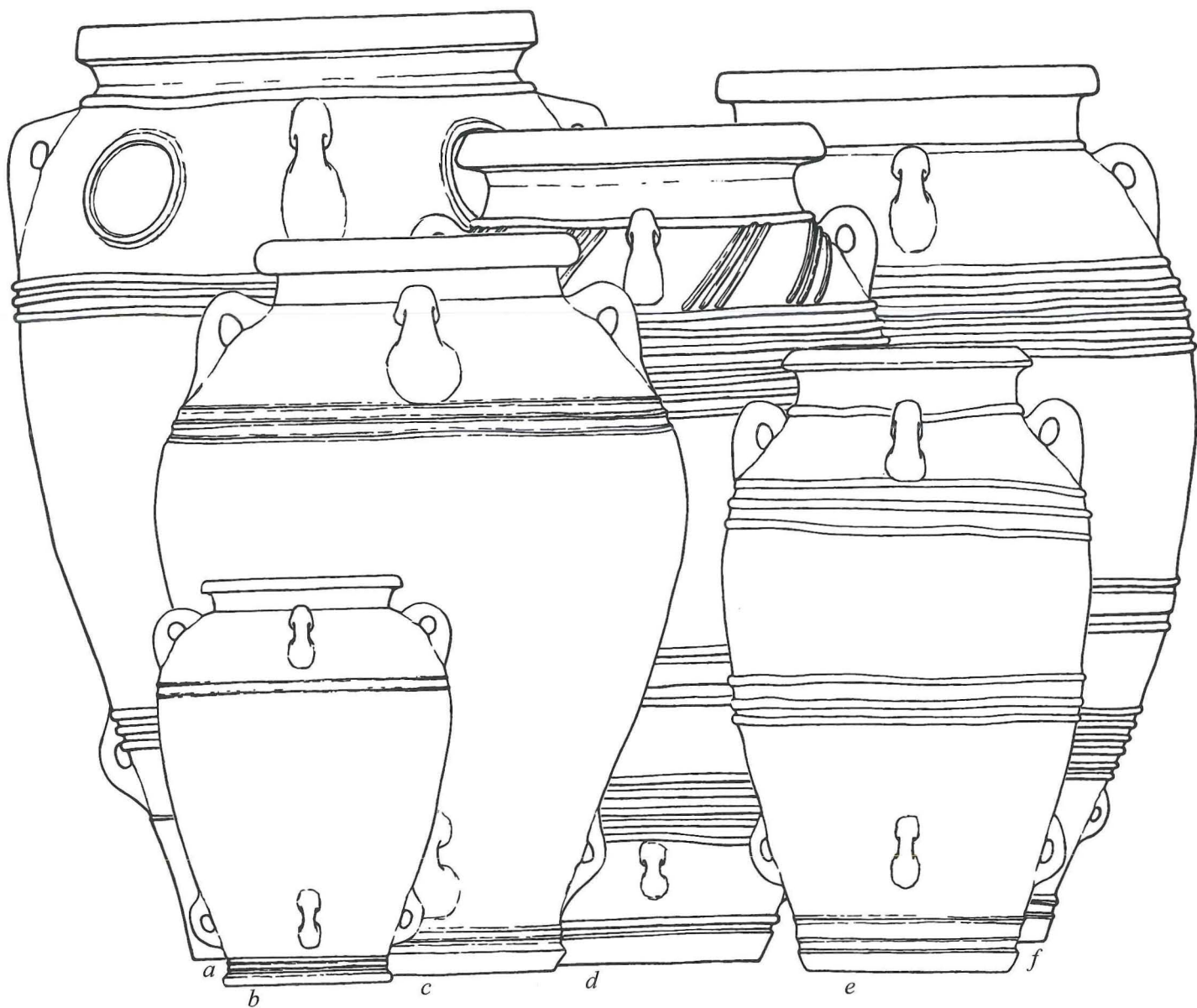


Fig. 2. Large, small and medium-sized pithoi used in East-central (a-c) and East Crete (d-f). Scale 1:10.

center of the region, are small and medium-sized jars. One large pithos typical for this area has an elongated, piriform profile and a high and slightly concave collar (Fig. 2a).¹² The decoration consists of rope patterns. Another type of large pithos has a piriform body profile, high collar, thickened and out-curving rim, and projecting angular profile of the base (Fig. 2c).¹³ Its decoration consists of horizontal ridges below the handles and above the base, while some examples carry arcade patterns formed by ridges between the handles. Both the

morphological and decorative features are derived from the Protopalatial potting traditions of East-central and East Crete. The capacity of these pithoi varies from 300 to 400 liters. Finally, small and medium-sized examples of the same type are also produced in large quantities (Fig. 2b).¹⁴

Large piriform pithoi with a high collar and

¹² For form 89, see Christakis 2005, 17, fig. 20.

¹³ For form 54, see Christakis 2005, 13–4, fig. 14.

¹⁴ For form 55, see Christakis 2005, 13–4, fig. 14.

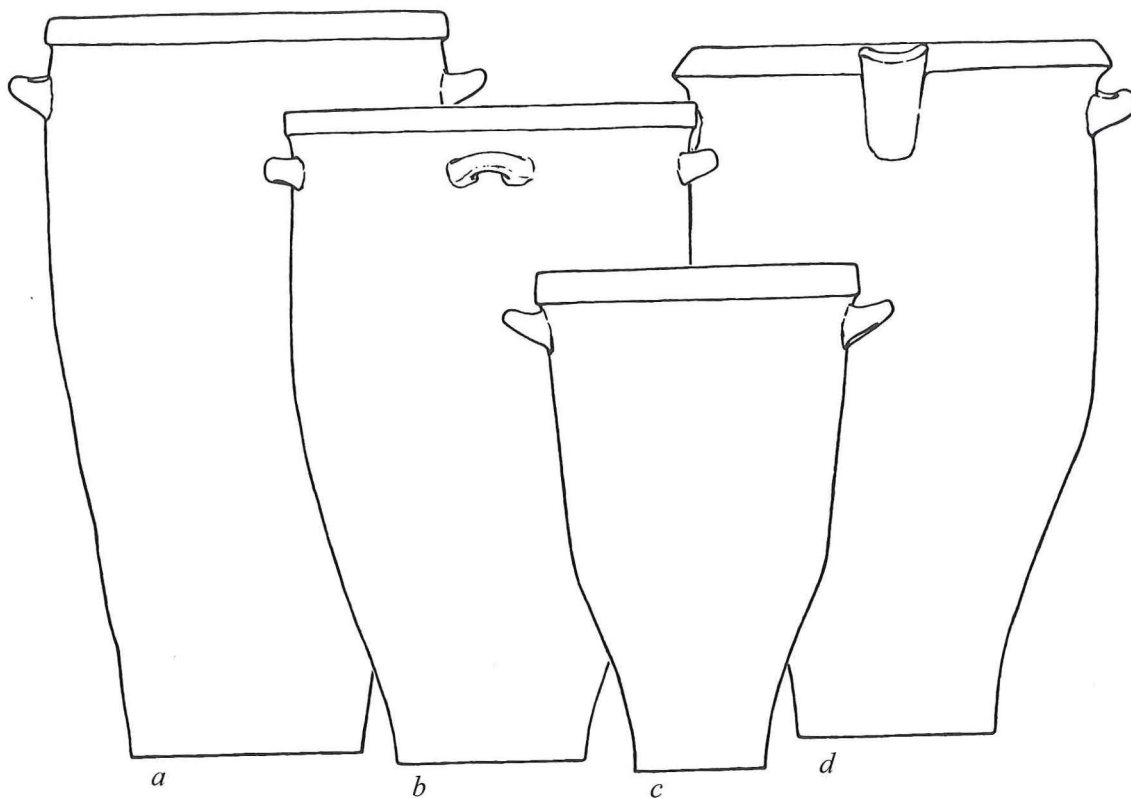


Fig. 3. Conical pithoi. Scale 1:10.

thick out-curving rim are the most frequently used large containers in East Crete (Fig. 2d, f).¹⁵ They are decorated with rope patterns in horizontal rows near the handles and in oblique groups between the upper handles, as well as with wavy ropes and medallions. Occasionally the ropes are associated with raised bands with incised patterns. The capacity of these pithoi varies from 400 to 580 liters.

The majority of these jars were found in the Palaces of Petras and Zakros and the settlements of Mochlos and Palaikastro. Differences in secondary, morphological and decorative details, formative features and fabric suggest that different potting groups were supplying these centers. The pithoi from Zakros were manufactured with great care, in contrast to examples from other centers in the region. The Zakros jars are also distinguished by the originality of the decorative compositions. Medium-sized examples with morphological and decorative features similar to those of these large pithoi were common at Palaikastro and Mochlos (Fig. 2e).¹⁶

Traditions in the production and use of small and medium-sized pithoi

Small and medium-sized pithoi are those that allow easy accessibility to their contents and have low/moderate stability, high transportability, high graspability, and a mouth that is easy to cover. Their capacities vary from 30 to 100 liters, while a few examples can reach up to 170 liters. These pithoi are mostly found in central complexes of non-palatial settlements, simple houses, and buildings with specialized functions. They occur in low percentages in palatial storerooms. The exception to this rule is the case of the Palace at Malia. Of the 45 pithoi found in this complex, 40 jars are small and medium-sized specimens while the rest are large examples.

Small and medium-sized pithoi do not present

¹⁵ For forms 85, 88, see Christakis 2005, 16, fig. 19.

¹⁶ For forms 86–7, see Christakis 2005, 16, fig. 19.

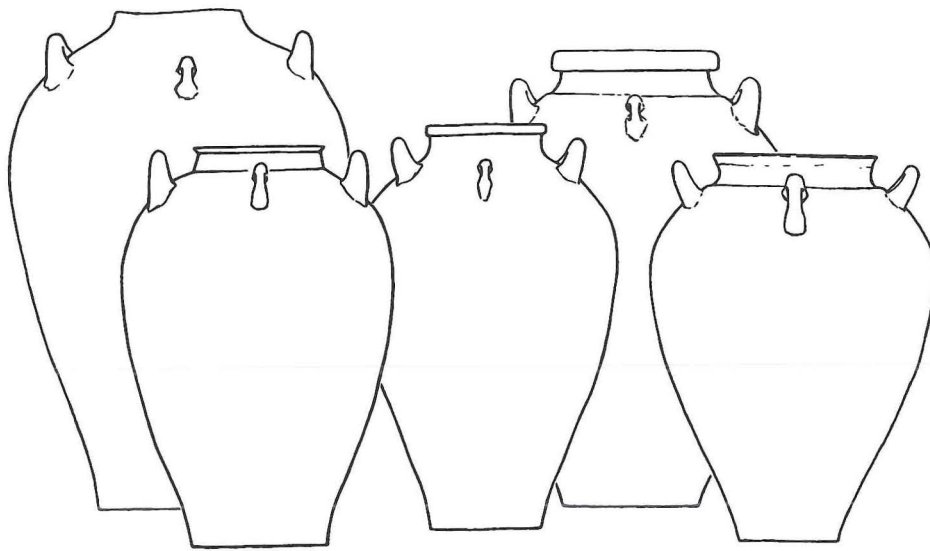


Fig. 4. Piriform pithoi.
Scale 1:10.

the same regional differences as large pithoi. With a few exceptions, most types were produced and used all over the island. Differences in fabric, forming traits, and secondary morphological and decorative attributes point to production by

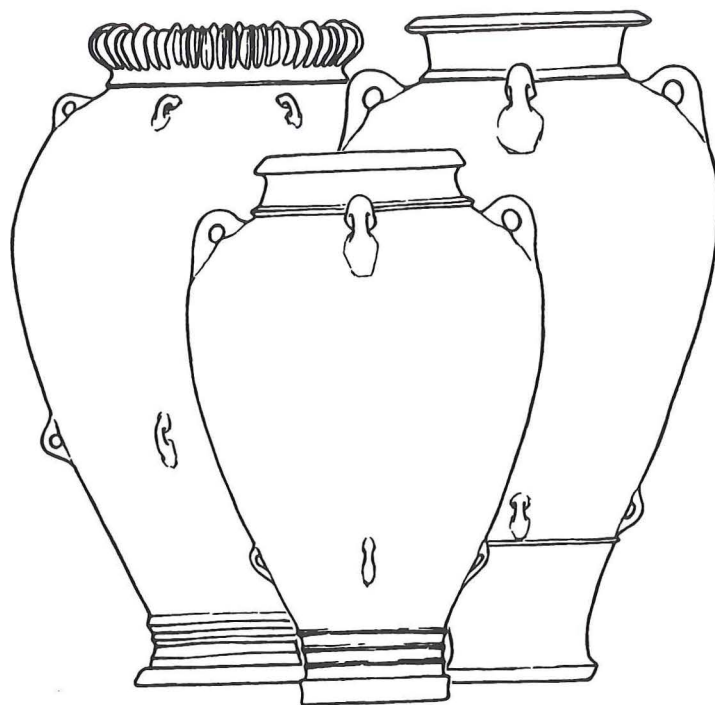
potting groups active close to the major centers of demand. There is also considerable evidence for the movement of pithoi within regional and inter-regional frameworks.

The most widespread type of pithos, with



Fig. 5. Piriform pithoi. Scale 1:10.

Fig. 6. Piriform pithoi. Scale 1:10.



relatively similar morphology and decoration, is the conical pithos (Fig. 3).¹⁷ The capacity of this type varies from 40 to 170 liters. In addition to storage, conical pithoi were also suitable for activities involving processing liquids and soaking materials.¹⁸ The most frequent form has a body profile that is squared in its upper part and provided with a single row of two handles below the rim (Fig. 3c, d). Occasionally, a spout is placed on the rim, while other examples have a convex body profile and no spout. The conical pithos with four horizontal handles below the rim is typical in East-central and East Crete (Fig. 3b).

Pithoi with a piriform body profile, high collar, small rounded rim, and one row of handles (two horizontal juxtaposed with two vertical) are also frequent in Central, East-central and East Crete (Fig. 4).¹⁹ Their capacity varies from 30 to 50 liters. These pithoi are most often found in domestic contexts and were ideal for trade and transportation of goods. They were particularly popular in domestic units in the area of Knossos and the Mesara.

Piriform pithoi with a high collar and one or two rows of vertical handles were typical in most LM I contexts on the island, except those of West Crete.²⁰ Their capacity varies from 50 to 160 liters.

One group of piriform pithoi is distinguished for its regional production pattern. Examples of this type have an extremely narrow lower section, expanded upper part, and narrow collar, and are decorated with complex painted patterns (Fig. 6).²¹ The main center(s) of production must have been in North-central Crete. A few pithoi with similar morphological attributes were also found in South-central Crete, and two fragmentary pithoi were found at the Mansion of Nerokourou.²² Their production in a workshop located in North-central Crete seems possible, though this suggestion should be tested with thin-section petrography. Three almost identical examples of the aforementioned type were produced by a potting group active at Knossos: two of them were shipped to Pseira and and a third was found in the Northeast House at

¹⁷ For forms 106–7, 112, 114, see Christakis 2005, 19–20, figs. 23–4.

¹⁸ Christakis 2005, 67–8, table 1.

¹⁹ For forms 66–70, see Christakis 2005, 14–5, figs. 16–7.

²⁰ For forms 59–65, 82–3, 97, see Christakis 2005, 14–7, fig. 15–6, 18, 21.

²¹ For forms 73–4, 76, see Christakis 2005, 15, fig. 17.

²² Kanta & Rocchetti 1989, 115.

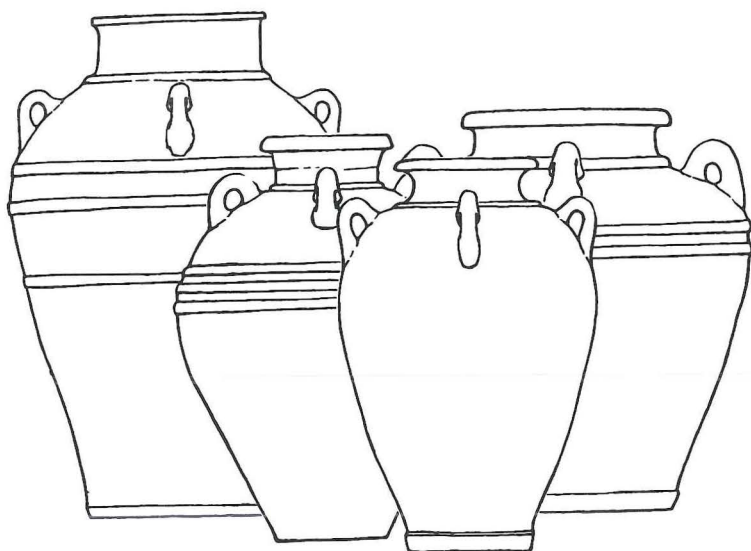


Fig. 7. Small piriform pithoi from the area of East Crete. Scale 1:10.

Knossos.²³ The rim sherd of another example was recovered in the deposit filling the lustral basin of the South House at Knossos.²⁴

The small pithoi with a narrow mouth, high collar with vertical or concave profile, a single row of vertical handles (occasionally a second row of very small vertical handles is placed above the base), and rope pattern decoration are typical of East Crete (Fig. 7).²⁵ Their capacity varies between 20 to 40 liters. Important potting groups for these pithoi were active in the areas of Zakros, Palaikastro, and Mochlos, and the pithoi from Zakros were shipped as far as Malia. A unique group of such pithoi was produced in the area of Mochlos and decorated with incised or relief lilies.²⁶

Pithoi and storage practices in LM IB contexts

Any discussion of storage strategies adopted by groups operating within LM IB societies must take into account the array of cultural and natural parameters that have created, shaped and affected the floor assemblages.²⁷ Diverse research agendas and recovery protocols have also played a significant role in the quality and quantity of the datasets that we are using to define past activities. A critical approach, therefore, that takes into consideration the contextual frameworks and their problems is

necessary for an evaluation of the data related to these past activities. The discussion that follows correlates the functional properties of pithos assemblages from various LM IB sites with their associated contexts. It is argued here that the study of these datasets can reveal patterns that may reflect different models of storage behavior.

The excavation of most LM IB domestic units revealed no pithoi in the floor deposits, with the exception of a few cases where sherds of low-capacity containers were reported.²⁸ This pattern is primarily associated with small domestic units of simple architectural design and construction, but it raises an important question. How close is this picture to actual patterns of past behavior? Or is it instead the result of formation processes that have altered the archaeological record, or research pitfalls such as poor recovery methods?

In this case, there are several strands of evidence that can be brought to bear on the question. First, the sample includes houses, both with and without

²³ Evans 1928, 422–4, fig. 245; Betancourt & Davaras 1995, 95, figs. 27, 45, pl. 23 c, d.

²⁴ Christakis 2003, 158, fig. 5.2.

²⁵ For forms 77–80, see Christakis 2005, 15–6, fig. 18.

²⁶ Brogan 2004.

²⁷ Schiffer 1987; Christakis forthcoming.

²⁸ This is the case of most houses at Gournia and Palaikastro, many at Malia, Mochlos, and Pseira, and some at Hagia Triada and Kato Zakros.

storage containers, which were found in settlements excavated using the same research protocols. Next, there is no evidence for extensive or intensive reoccupation after the destruction or abandonment of these LM I settlements, with the exception of certain houses at Palaikastro. Moreover, the causes of the abandonment/destruction of houses at each location were probably the same for both types of houses. Finally, unlike other portable household property, storage containers are difficult to move following the abandonment/destruction of a context. Combined the evidence appears to support the argument that the absence of durable storage containers in a given house probably reflects actual patterns of economic behavior. The overall picture points to a very limited level of subsistence autarky at most LM IB settlements.

Storage containers and installations have been found in approximately 30% of excavated LM IB structures. The number of pithoi in most cases varies from two to fourteen examples, each with a capacity of 250 to 500 liters (in a few cases reaching 1,000 liters).²⁹ Most of the pithoi used in these units, almost 80% of the total, are small and medium-sized, while the remaining 20% are large pithoi. The contextual analysis shows that this pattern is mostly associated with small domestic units and only occasionally with a few luxury mansions.

The storage potentials of this group of houses are too low to support the dietary needs of a family of five for an entire year. Households with storage potentials under 1,000 liters would have had only a few months' reserve. In cases where storage potentials were approximately 1,000 liters, the period of nutritional autarky would have been longer – perhaps seven months – but this would still have been insufficient to cover the full nutritional requirements of a household of five.

Of course, one could argue that this picture may not fully reflect actual subsistence autarkies. Besides the effect of depositional circumstances on floor deposits, some amounts of foodstuffs might have been stored in perishable containers. However, even if we assume the use of perishable storage vessels and also the consumption of fresh goods, we should not imagine storage potentials substantially altering the picture described above.

It is likely that these households enjoyed a limited degree of subsistence autarky, barely enough to meet their nutritional needs for the whole year. This situation may have created dependency relations with the central administration or wealthy groups, or else involvement in commercial exchanges and/or the manufacturing of goods in order to ensure a proportion of subsistence necessities. There is no evidence for the accumulation of surpluses, which would have enabled householders to face food shortages in periods of stress.

This image of a low subsistence reserve, based on the low number of storage containers, is also visible in some units that, on the basis of their overall architectural layout, were probably built and used by wealthy households.³⁰ These buildings had large storerooms capable of holding many storage vessels. The use of only a few pithoi of low storage potential, however, contrasts with the considerable floor space allocated to storage activities. Taking into consideration the absence of complex post-depositional histories which might have radically altered the excavated picture, it is argued here that the households/groups residing in these complexes had low quantities of goods in their stores. The overall data, therefore, might highlight possible changes in the economic status of the households

²⁹ This storage potential (250–1,000 liters) has been observed at Mansions B and C at Tylissos, the house in the Sifakis plot at Seli, the house at Hagia Photeini at Phaistos, the house at Kouses, the North House, the Acropolis Houses and Hood's House at Knossos, and perhaps Houses A, B, and C at Prasa, Houses Δα, Δγ, Εα, Ζα, Ζγ, the houses at Quartier Λ, and the house at Hagia Varvara at Malia, Houses Αα, Αβ, Αc, Αd, Αc, Βα, Βb, Cc, Cd, Ce, Cf, Ck, De, Dg, Ea, Ec, Ee, Eg, Fb, Fd, Fe, and Fi at Gournia, most houses at Pseira, House C.3, and Buildings A and B at Mochlos, and perhaps Houses C.2, C.4, C.6, C.7 in the same settlement, though these units have not been fully excavated. Additional examples include the farmhouse at Chalinomouri, perhaps the farmhouse at Chrysokamino, Houses I.1 and II.1 at Petras, many houses at Palaikastro (old excavations), and most houses at Kato Zakros including Hogarth's House G, House Δα, the Strong Building, the House of the Niches, Houses Γ and Δ of the Northwest Hill, and the Building of the Pot Deposit.

³⁰ This is the case of Mansions B and C at Tylissos, the House of the Chancel Screen at Knossos, Houses Δα and Ζα at Malia, House D.3 at Mochlos, and the Strong Building and the House of the Niches at Kato Zakros.

and/or a relationship of dependence on the central administration.

Another type of context contains pithoi with an overall capacity that varies between 1,200 and 2,000 liters.³¹ The study of their functional characteristics indicates an increased use of large, high-capacity pithoi (in comparison to the previous type of house). The number of jars varies from a minimum of two to a maximum of nine examples. The large pithoi were often combined with small/medium-sized pithoi and vessels suitable for transfer and pouring purposes. House C.3 at Mochlos, however, was equipped with 31 small/medium-sized pithoi and none of the very large jars.

The households which used these vessels also appear to have enjoyed a relative degree of prosperity, especially when compared to those of the previous group. This picture of prosperity is also suggested by other contextual elements, including carefully planned architectural layouts and the discovery of considerable assemblages of finely-crafted artifacts.

Many of these households also appear to have been engaged in specialized activities. The group residing in House A and Hogarth's Houses A and I (J) at Kato Zakros specialized in the production of wine. The discovery of clay sealings and a Linear A tablet in Hogarth's House A points to the likely participation of the same group in the transport of goods and possibly a close relationship with the palatial group controlling Kato Zakros. It also appears that wine was being produced in Building Z at Zakros; however, it is not clear that this unit was actually used as a house.

The family using House I at Khania Kastelli also must have played an important role in the movement of agricultural goods, as did certain other families in the settlement, since tablets and other administrative documents were found in their houses. The discovery of tablets at this settlement may allude to a level of private administration so far unattested elsewhere on the island.³² It is equally possible that these households were closely connected to the ruling group controlling Khania Kastelli.

The case of House C.3 at Mochlos, which specialized in commercial activities including metallurgy, was probably similar to many others

in that settlement. The large quantity of stored subsistence goods would have served to cover not only the family's nutritional requirements but also provide the necessary capital for the household's commercial enterprises.

This same subsistence potential is also observed at complexes which appear to have been the seats of ruling groups. This is the case with the complex at Myrtos Pyrgos, the Mansion at Lagouta Kolokythi, and Building B.2 at Mochlos. The storage potential of these contexts, however, is relatively low, particularly when we consider the prominent importance of these groups within each intra-settlement framework and their presumed needs as consumers. Some of the goods administered by these groups may have been stored in peripheral storage complexes, which would have supplied the groups in question at regular intervals.

In a small number of contexts, the capacity of the pithoi and other storage containers varies from 2,100 to 4,000 liters.³³ In these cases, large pithoi are the predominant containers and their number varies from six to ten examples. In some instances, small/medium-sized pithoi (five to nine examples) occurred together with the large pithoi and other containers. The households and groups that used these complexes thus enjoyed a considerable level of subsistence autarky. These storage potentials also hint at the collection of surplus quantities, varying from case to case depending on the overall potential of the pithoi and the needs of the household.

³¹ This is the case of House I at Khania Kastelli, the house in the Volakakis plot at Seli, the house of Chalaras at Phaistos, perhaps the Mansion at Vathypetro (LM IB phase), House 2 and Building 3/5 at Galatas, House Zβ at Malia, the complex at Myrtos Pyrgos, House C.3 and perhaps Building B.2 at Mochlos, perhaps House AF N at Pseira, House A at Achladia, Building 5 and House N at Palaikastro, and House A, Hogarth's Houses A and I (J), House N, and Building Z at Kato Zakros.

³² Schoep 2002, 198.

³³ These storage potentials have been observed at the *Casa del Lebe*, the Mansion at Makrygialos, perhaps at the building of Klimataria-Manares, the Mansion at Tourtoulou-Prophetes Elias, House B at Palaikastro, the Mansion at Epáno Zakros, and the Oblique Building and House B at Kato Zakros. The mansions at Nerokourou and Kastelli Padiada must also belong to this category, as well as the Mansion at Pitsidia and those at Krousonas and Avli.

This picture of subsistence prosperity is observed in complexes whose groups must have played an important political or social role within their local communities, such as the Little Palace at Knossos, Mansion E at Malia, the complex at Makrygialos and perhaps the mansions at Nerokourou and Kastelli Pediada.³⁴ Other buildings must have been used by individuals engaged in specialized activities. The large quantities of goods found in the *Casa del Lebete*, together with a number of Linear A tablets, demonstrate that the group using the house participated in the distribution of agricultural goods and must have been directly linked to the central administration controlling the settlement of Hagia Triada.³⁵

The Mansion of Epano Zakros was used for the production and storage of wine, as well as the delivery of the finished product to a major consumption center.³⁶ There is also evidence for wine production at the complex of Tourtoulou-Prophetes Elias, which explains the high storage potential of the pithoi found there. The potentially high storage capacity of the complex at Klimataria Manares is probably also related to the role of this building as a shipment station for goods moving to and from the harbor of Siteia inland along the Stomion river.³⁷

The final storage pattern is very rare. The overall potential of storage containers and built installations varies from 5,000 to 33,000 liters.³⁸ Large pithoi of high capacity and low transportability and accessibility are predominant in this pattern of storage behavior. The number of large pithoi varies from 14 to 71 examples. They represent about 90% of the storage containers used in these contexts, while the rest are medium and small-sized pithoi. Mudbrick enclosures in the Mansion of Nirou Chani considerably increased the capacity of the pithoi.

These amounts of stored goods could provide large subsistence reserves and could cover, according to the particular circumstances, the subsistence needs of large households/groups over a long period of time. They might also have provided famine relief for a low number of individuals in times of food shortage. The large quantities of stored goods would surely not have been used exclusively to meet nutritional requirements, as they are present

in complexes under the control of political groups ruling extensive areas.

Some of these complexes, such as the *Villa Reale* at Hagia Triada, the palatial building at Archanes Tourkogeitonia, and the Mansion at Nirou Chani, were the seats of regional political groups, which would have controlled the production and distribution of large quantities of agricultural goods from areas that in some cases extended much further than their immediate hinterland.³⁹ Other complexes like Mansion A at Tylissos and those at Sklavokampos and Kannia Mitropolis must, among other things, have functioned as transport centers for products being mobilized from the hinterland for transfer to larger centers of consumption.

Different storage practices from those described above were adopted by the political groups based in the palaces. The palaces were provided with extensive stores, proving that they were originally designed as storage centers *par excellence*. Palatial storage practices differed from those employed in the central buildings of non-palatial settlements and wealthy mansions – not only in scale but also in their technology. The developments undertaken by palatial institutions were more systematic and complex and reveal a clear intensification and systematization of staple storage at this level of society. We also should not forget that the number of pithoi found in palatial stores do not always correspond to the number of pithoi that the stores were originally designed to house.

Palatial stores at Zakros and Petras were extensive

³⁴ Floor deposits dated LM I were not preserved at the Little Palace and Mansion E because of the continuous use of these complexes in later periods. Nevertheless, both complexes had extensive stores that could have held a large number of storage containers.

³⁵ Militello 1992.

³⁶ Platon 2002b.

³⁷ Tsipopoulou & Papacostopoulou 1997; Mantzourani, Vavouranakis & Kanellopoulos 2005.

³⁸ These storage potentials have been observed at Sklavokampos, Mansion A at Tylissos, the *Villa Reale* and *Casa Est* at Hagia Triada, the Mansion at Mitropolis Kannia, the complex at Vathypetro (LM IA phase), and the mansion at Nirou Chani. The Mansion at Vrises and the central building at Archanes Tourkogeitonia must also belong to this category.

³⁹ Christakis 2008, 121–38.

and found packed with pithoi and other smaller storage containers. A very different picture was observed in the Palaces at Phaistos and Gournia. The extensive stores of these palaces contained 11 and 15 pithoi respectively, far fewer than the number they were originally designed to house. The low number of pithoi recovered in these contexts cannot be explained simply as the result of excavation bias or of extensive re-occupation after the destruction of these complexes. Moreover, the extensive use of perishable storage containers is unlikely, because these were unsuitable for long-term storage of large quantities of goods (especially liquids). Human activities before the fire destruction of the Palace at Gournia may have altered floor deposits considerably. At Phaistos the extensive West Magazines of the Palace were found to contain only five pithoi, and it has recently been argued that these storage areas were in the process of being refurnished.⁴⁰ Movable storage implements used by political groups residing in the Knossian Palace during LM IB were removed in LM IIIA or even earlier, when these stores were also fully remodelled. The Palace, however, was provided with extensive stores early on, since its basic layout dates from LM I.

The differences observed in the storage capabilities of ordinary houses, non-palatial elite complexes, and palaces highlight the existence of marked contrasts in the subsistence autarkies and access to sources of wealth among the groups operating within LM IB societies. In this context, complex social structures had unequal access to sources of wealth, the access to which was probably determined by political, economic and ideological factors that have not been stressed in research. Although well known, these topics may have been overlooked because they raise difficult questions concerning welfare and abundance that are not easily measured in the archaeological record.

Storage and politics in LM IB Crete

A single basic constant emerges from the analysis of storage containers/installations, and it prevails

throughout LM IB: the existence of intensive storage at the level of the central power in both the palaces and at the periphery. The storage facilities of the palaces in LM IB were extensive, demonstrating the needs of certain political groups to store large quantities of goods. The stores of the complexes used by peripheral ruling groups were also extensive. Of course, the need to store large quantities of goods probably varied with the particular political and economic circumstances in each area, as well as other local idiosyncrasies.

The interest of LM IB palatial and peripheral institutions in accumulating and storing goods conforms to the picture of renewal and prosperity observed – at least in early LM IB – in many palatial and non-palatial elite contexts. Complex settlement patterns, the construction of monumental palatial complexes and the renovation of others, active overseas exchange, building activities and the expansion of many settlements, production and consumption of luxury high craftsmanship artifacts, and evidence of large-scale ritual and feasting ceremonies all point to a society experiencing a surge of dynamism in most parts of the island.⁴¹

The image of storage intensification observed in the governing sector contrasts with storage activities in most domestic units, where storage potentials point to low levels of subsistence autarky. Life for a considerable part of the population was frugal. The basic aim of most households was to satisfy their current day-to-day needs. The surplus that each householder was able to store would have been low in most cases, leading to insecurity in times of crisis. The adoption of this frugal way of life by households residing in some sumptuary mansions indicates dramatic changes in their life and economic background. Only a few households/groups formed the exception to the rule.

The leading sector of the LM IB states, therefore, pursued “maximizing” strategies of production, which aimed at producing, extracting, storing, and mobilizing consistent agricultural surpluses and quantities of raw materials to feed groups of non-food producers, to procure raw materials for

⁴⁰ La Rosa 2002.

⁴¹ Warren 2001.

craft industries, and to support large-scale and labor-intensive ritual/feasting events and building programs. In the long run, the need for constant and increased mobilization of resources in favor of the social pyramid inevitably leads to social tensions and conflicts.

Palatial institutions might have followed different strategies for access to material and social resources, and therefore to political leadership. Political decisions would have been determined by local interests and idiosyncrasies, emergency situations disturbing the social order, and the rationale and ambitions of the rulers themselves. The abandonment and destruction of the Palaces at Galatas and Malia⁴² and the changes in settlement patterns in certain parts of the island suggest complex pictures of regional dynamics and significant changes in the sociopolitical organization of most LM I societies. The horizon may have become increasingly complex, as competition arose among the different political groups controlling second-order centers and even among rural groups operating around these centers. Political territories, therefore, may have been arenas of interaction for different groups aspiring to establish, cement and change status and power. The idea that LM I Cretans were only happy, peaceful builders of sanctuaries and palaces run by elites is obviously unrealistic. In fact, the LM I period witnessed a largely urbanized population of farmers, craftsmen and traders ruled by an elite class, who could manage this labor force and compete for resources, the availability of which probably varied considerably across the island.

Economic interaction between palatial institutions, peripheral leaders, and commoners, therefore, intensified during this period with the increased demand in the central sector. Increased conspicuous consumption by the elites probably exerted pressure on the lower classes, the actual producers of material capital and providers of labor. This pressure may have increased even further in certain parts of the island after environmental stress, which scholars believe may have occurred during LM IB.

Many households and even peripheral political groups may have faced serious problems before the final destruction and abandonment of their houses/complexes: the decrease in pithos numbers seen in some units may indicate changes in access to and administration of goods.

The means for achieving this constant and increased flow of goods to the elites may also explain the social unrest that occurred at the end of LM IB. Several papers in this volume suggest that the destructions of the LM IB settlements across the island are not contemporary. Certain centers and even clusters of buildings within the same center were destroyed in earlier phases of LM IB, while others were abandoned very late in the period. Human agency rather than a natural catastrophic event would thus appear to be the better explanation for these LM IB destructions in Crete.

The causes of the extensive destructions seen within LM IB and the collapse of the political system should be sought in the economic relationships between the various groups, relationships which seem to have intensified during the LM IB period with increased wealth apparently moving to the top of the social pyramid. In my view, which adopts Tainter's perspective on the collapse of complex societies,⁴³ the crisis and consequent collapse of LM IB political systems was due to a top-heavy hierarchy feeding on a weakened population. The demands of the elite in terms of food supply, goods and labor brought no corresponding subsistence security or economic benefits to the rest of society. The ensuing social cost was high: internal or external conflict, agricultural crisis, and environmental disaster may have triggered the final collapse of LM IB societies, but only because those societies were following a course that made them vulnerable to collapse.

⁴² See the article by Rethemiotakis & Christakis in this volume; Pelon 2005 for the destruction of the Palace at Malia.

⁴³ Tainter 1988, 193–216.

Remarks on storage and chronology in Late Cycladic I Akrotiri, Thera: a response to Kostis Christakis*

Irene Nikolakopoulou

Storage on Crete and Thera: a comparative approach

Kostis Christakis' paper deals in a clear and systematic way with a class of material, which until recently has been neglected or excluded from study. Coarse ware, even when it survives various selection procedures, is usually deemed insufficiently eloquent to contribute to fine-grained chronological charts. Nevertheless, this work exemplifies how the study of storage vessels can shed light on other significant topics, especially those related to past economic behavior, such as the production and consumption of pithoi and household subsistence strategies.¹ Christakis' extensive research on Cretan storage vessels spans the entire Bronze Age for most geographic regions of the island and therefore enables the distinction of typological groups and potting traditions, as well as an examination of regional differences and the context of exchange and use.

As part of his detailed typological presentation, Christakis emphasizes the significant variations attested among groups of pithoi produced in different regions of Crete during the LM I period. His decision to discuss "pithoi in LM IB Crete", as opposed to "LM IB pithoi in Crete", underlines the important fact that not all pithoi used in LM IB were made in LM IB; this approach thus emphasizes the socioeconomic aspect of their consumption during this particular period. The typological and functional variation attested regionally may be taken as a comment *per se* on the politics of the period, as it stimulates discussion on the relationship between ceramic products and potting traditions, storage needs and polity directives, as well as the mobility of pottery and bulk commodities among

Neopalatial, as opposed to Protopalatial, polities. A contextual framework is provided by his critical approach to the study of household assemblages as found in the archaeological record. Accordingly, evidence for storage potential is combined with the architectural features of domestic units and the socioeconomic outlook of resident households in order to construct working models on categories of subsistence autarkies in Neopalatial Crete. This synthetic work successfully establishes a classification of domestic economic status and explores important aspects of political and economic dependencies in Neopalatial Crete. For LM IB in particular, Christakis suggests that intensive storage at the level of the palatial and peripheral centers reflects the general picture of prosperity and the extensive activity of the elites, which necessitated constant mobilization of resources. Taking these remarks a step further, he argues that the intensification of economic interaction and the concomitant pressure on the labor force may account for the social unrest observed at the end of the LM IB period.

This contribution juxtaposes the main points of Christakis' paper with the evidence for storage practices found in the LC I settlement at Akrotiri, Thera. Due to the specific taphonomic circumstances, the recovered evidence for storage facilities provides eloquent testimony on storage patterns

* I would like to thank Erik Hallager and Tom Brogan for inviting me to attend this conference. The photographs are kindly provided by the Akrotiri Excavations' archive. The brief discussion of storage patterns at Akrotiri derives from material extensively discussed in my Ph.D. dissertation (2002), for which I have benefited greatly from K. Christakis' relevant work in Crete and his valuable comments.

¹ Christakis 1996; 1999a; 1999b; 2005; 2008. cf. Day 1988.



Fig. 1. Theran pithoid jar (West House, Room 5).

and subsistence strategies, crucial for our understanding of such practices elsewhere within the wider Cycladic and Minoan worlds, where direct evidence may be missing. The following presentation of storage vessels in LC I Akrotiri aims to examine briefly two topics: first, a contextual comparison of storage practices and subsistence potential between Akrotiri and Cretan Neopalatial domestic units; and second, the chronological questions arising from this rich, synchronous and closed assemblage from the last days of the “Pompeii” of the prehistoric Aegean.

Storage patterns in LC I Akrotiri, Thera

Around 300 nearly complete storage vessels, both large and small, local and imported, have been found in the LC I settlement.² Some of the local storage vessel types are – thus far – unique to Akrotiri. The most representative types are briefly



Fig. 2. Theran pithoid jar (Xeste 3, Room 12).

presented below, in order to examine issues of cultural variability and dating.

The *cylindrical type*, with more than thirty examples at Akrotiri and very few parallels reported elsewhere, originates in the late Middle Cycladic period. Some of these vessels carry elaborate pictorial bichrome and polychrome decoration.

The *conical type*, with its distinct reed decoration, demonstrates how a Minoan vessel type was transformed into a local creation. One bridge-spouted example appears to be a close imitation of the Minoan shape.

The *pithoi of ovoid and piriform type with spigot above the base* were apparently unique at Akrotiri, where they were produced in different sizes. It has been suggested that their distinctive and standardized decoration may have served as a label for the contents or the capacity of the vessels.³

The large local pithoi are primarily of *ovoid types*. One group retains features of a purely Cycladic tradition, such as ribbing and crescent lugs, while

² Nikolakopoulou 2002; 2006; Marthari 1993a.

³ Doumas 1978a; Doumas & Constantinides 1990.



Fig. 3. Cretan pithos with rope decoration and trickle (House of the Ladies, Room 5).



Fig. 4. Cretan pithoid jar (West House, Room 7).



Fig. 5. Cretan pithoid jar (Sector A, Room 3).

a second group is clearly influenced by contemporary Cretan examples, with trickle and rope or raised band decoration.

The *pithoid jars* clearly copy Cretan prototypes in form, but usually bear distinctive decoration (Figs. 1–2) that differs from the more elaborate imported examples. Bridge-spouted pithoid jars appear with either typically Minoan or Thera decorative motifs.

Imports include storage vessels from mainland Greece and Aigina,⁴ pithoi possibly originating in the northern Cyclades or the Dodecanese,⁵ and a significant group of Cretan examples.⁶ The Cretan pottery found in the LC I levels at Akrotiri probably constitutes one of the most comprehensive assemblages for dating and comparative purposes. Storage vessels were imported in limited numbers to Akrotiri from various parts of Crete, probably as a result of the external economic and cultural contacts of the Akrotiri community, rather than from the “directional trade” of bulk commodities. A closer examination of the sources of these Cretan imports would provide significant information for regional contemporary styles and could resolve some concomitant chronological issues. Storage vessels imported to Akrotiri from Crete already appear in Middle Cycladic levels. MM II/III pithoi

are found at Akrotiri either in MC strata or as heirlooms in Late Cycladic I contexts. With the exception of two large examples, both possibly from the area of Malia, the majority of imported Cretan coarse pithoi range in height from 0.60 m to 0.80 m (Fig. 3). The most prominent among the Cretan storage vessels in Akrotiri are the *pithoid jars*, with a high quality of manufacture and the application of decoration, to which we will return in the discussion on chronology (Figs. 4–5).

From this brief presentation, several observations emerge concerning the production and use of pithoi. First, locally-produced storage vessels outnumber the imports by a wide margin. This implies that a specialized pottery industry developed at Akrotiri in order to meet the increased and diverse demands of this affluent community at the beginning of LC I. From the existing comparative material from other islands, including Crete, it appears that the exceptional variety of storage vessel forms is not attested at any other site within a single chronological period. In numerical terms, the ca.

⁴ Marthari 1980; 1993b.

⁵ Nikolakopoulou 2002.

⁶ For imported Cretan pithoi in LC I Akrotiri, see Nikolakopoulou 2006.

300 storage vessels recovered from only a fraction of the original settlement represent an exceptional assemblage, given that, using Christakis' data for all sites on Crete, only ca. 2000 pithoi have been found in LM I contexts, most of which are dated to LM IB.⁷ At the same time, socioeconomic factors prevalent in Crete and the southern Aegean in the Neopalatial period may have imposed a degree of standardization in ceramic production at Akrotiri. This is evident in the homogeneity of morphological features and the mechanical properties of most local storage vessel types.⁸ Nevertheless, the requirements of standardization apparently materialized within a distinctly local potting tradition, adapted to LC I wares and decorative styles.

This attempt to reconstruct storage practices at Akrotiri is based on material which is considered to be more or less in use at the settlement during normal circumstances, and not during the rearrangements or repairs that have been noted in the ultimate phase prior to the volcanic eruption.⁹ Even with these precautions, we are still left with one of the most valuable sets of material from a closed and closely datable context in the Aegean. Based on the available data, storage practice at Akrotiri appears to have been dispersed within domestic units, organized on a household basis, rather than at the community level. Moreover, no large structure has yet been identified as a community/centralized subsistence storage center. Storage areas in these domestic units are well-integrated into the building design; however, a consistent architectural form of storage area with standard features in planning and layout is generally missing. One of the few exceptions is the ground floor area of Building Beta with its embedded pithoi. It seems that the allocation of storage areas was more related to individual needs and requirements and that storage functions were part of related activity systems, such as subsistence storage and food preparation.

Following Christakis' models for comparative purposes, it is estimated that the residential units in the LC I settlement at Akrotiri enjoyed a reasonable level of self-sufficiency in terms of subsistence. A comparative examination of the available data from domestic units at Akrotiri suggests that the estimated subsistence potential is not directly

related to the size of the buildings. This observation emphasizes the significance of the contextual evidence for the function and use of space within each building unit. Although a considerable subsistence potential is attested in most houses, there is no evidence for bulk storage of surplus at a scale which would provide long-term relief in case of harvest failure. It is interesting to note that according to Christakis' research, a similar level of considerable subsistence autarky is encountered in very few contexts in Neopalatial Crete and usually in complexes whose residents may have played an important political or social role within their communities. Since it has long been argued that only the elite core of the Akrotiri settlement has thus far been brought to light, the comparison with Crete is significant, though further inferences of political dependencies are not warranted.

The extant evidence indicates that storage at LC I Akrotiri was largely limited to the internal subsistence operation of the community and was probably not aimed at the mobilization of surpluses like those seen at large Neopalatial Cretan centers. This appears to reinforce the view that it was the involvement of the community in long-distance trade activities and the strategic position of the island in the southern Aegean that accounted for the prosperity of the settlement at the beginning of the Late Bronze Age. The destruction of Akrotiri in LM IA must have caused a serious disruption in maritime routes and trade networks in the southern Aegean and probably resulted in some level of economic turmoil for certain Cretan communities. The intensified subsistence storage identified by Christakis in palatial and peripheral institutions, at the expense of most domestic units, may constitute one aspect of this potential disturbance, which was also connected to changes in regional political dynamics in the early LM IB period.

⁷ Christakis this volume.

⁸ For the labelling system on pithoi with a spigot above the base, see Doulas & Constantinides 1990. For the standardized capacity units attested in particular LC I vessel types at Akrotiri, see Katsa-Tomara 1990.

⁹ Nikolakopoulou 2003.



Fig. 6. Theran pithos with relief band decoration (Sector A, Room 1).

Some remarks on chronology

Two remarks by Christakis on the dating of storage vessels shift the discussion into the field of chronology: first, that “pithoi are not appropriate for fine dating, since their morphological and decorative attributes may persist for long periods”; and second, that “pithoi have an extended period of life and may be used in later contexts than the time of their manufacture.”¹⁰ These observations are clearly illustrated by the LC I contexts of Akrotiri and have recently been corroborated by the ongoing study of the author on relevant MBA material. Nevertheless, there are sufficient elements in LC I storage vessel types and decorative styles to allow a brief discussion on chronology.

Theran pithoi with relief ropes or horizontal raised bands with parallel incisions are interesting in chronological terms (Fig. 6). They represent typi-

cal adaptations of Minoan forms and styles, which were copied in LC I at Akrotiri; only limited numbers of precedents can be found in MC pithos assemblages. These local pithoi do not exhibit any elaboration in the plastic decoration (neither wavy nor elaborate shaped bands have been attested, nor herringbone or criss-cross incisions). The production of these pithoi probably illustrates the latest stage, in chronological terms, that the Theran potters reached in the manufacture of large, coarse pithoi under Minoan influence, a remark further supported by stylistic comparisons with slightly later Cretan material.¹¹

The local, and especially the imported, Cretan pithoid jars also have important chronological ramifications (Figs. 4–5). There are at least seven imported specimens at Akrotiri, and fragments from many others have been noted.¹² For the imported examples, there are good parallels from the Northeast House at Knossos and at several East Cretan sites (e.g., Pseira, Zakros, Palaikastro and Gournia, primarily for decorative motifs and syntax).¹³ Production workshops have been tentatively identified at Zakros, Knossos, and in the Mesara,¹⁴ but further confirmation by macroscopic and microscopic fabric analyses is still needed. It is also possible that some of the vessels found at Akrotiri, as well as some examples found in East Cretan sites, are products of a Knossian workshop.¹⁵

Pithoid jars, some with cylindrical/funnel collars,

¹⁰ Christakis this volume.

¹¹ E.g., pithoi with incised or relief lilies (Barnard & Brogan 2003; Brogan 2004).

¹² Nikolakopoulou 2006.

¹³ For examples, see Seager 1910, 26–9, 33, figs. 9, 14, pl. VII; Betancourt 1983, no. 54, fig. 9 and pl. 5; 1985, pl. 18H, 19D; Marinatos & Hirmer 1973, pls. 80–1; Evans 1928, fig. 245; Platon 1961, 222–3, pl. 177b; 1962, 160, pl. 156c; Bosanquet & Dawkins 1923, 41, fig. 29; Platon 1971b, 117, upper; Hawes *et al.* 1908, 44, pl. IX, 28a, and pl. K. On the typology of pithoid jars, see Niemeier 1985, 7–13, pls. 1–2, ns. 51–2, 54, with references on their distribution in Crete (Archanes, Knossos, Tylissos, Sklavokampos, Zakros, Pseira, Malia, Palaikastro, Gournia, Phaistos) and mainland Greece.

¹⁴ Platon 1962, 160; Niemeier 1985, 8, n. 54; Christakis 2005, 76–7.

¹⁵ Christakis 2005, 15.

¹⁶ Niemeier 1980, 57 (where earlier dating of Cretan specimens is suggested); 1985.



Fig. 7. Theran cylindrical pithos with marine motifs (building west of the Triangular Square, possibly the House of the Anchor).



Fig. 8. Theran bathtub, narrow side with painted figure-of-eight shield (Pillar Pit 25N).

were found in Crete, mainly in destruction deposits of the LM IB period. A manufacture date in LM IA, however, was previously suggested on the basis of shape,¹⁶ and this point has been corroborated by parallels found in LC I contexts at Akrotiri. N. Platon found a group of similar vessels (at least ten – in fragments mixed with clay bricks) within and near Rooms XI and XV of the Zakros Palace, where he noted that they had fallen from the upper floor.¹⁷ It is worth quoting the excavator, who assumed that “while the style of these jars creates the impression that they belong to the intermediate phase between MM IIIB and LM IA, however, their finding together with other vases in the destruction layer validates that they are dated to the LM IB period.”¹⁸ For the two vessels from Pseira, Betancourt remarked that “among the LM IB destructions are a few vases, principally large jars, which were probably survivals from LM IA,”¹⁹ and this could be the case for Zakros and other sites as well.

Elaborate decoration, including pictorial motifs, was commonly found on pithoi and local fine wares at Akrotiri from the MC period onwards.²⁰ Specific motifs, such as marine life, the double axe and the figure-of-eight shield, have triggered considerable discussion about the chronology of the Akrotiri ceramic material. Representations of marine life on local pottery and iconography are not unusual in the LC I levels at Akrotiri,²¹ for example,

¹⁷ Platon 1971b, 116.

¹⁸ Platon 1962, 160.

¹⁹ Betancourt 1985, 139; cf. Niemeier 1980, 57.

²⁰ Papagiannopoulou 1991; 2008; Nikolakopoulou 2010; Marthari 2000; Nikolakopoulou *et al.* 2008.

²¹ For pottery, see Marthari 1987, figs. 27–8; 1993a, 237–45; Doulas, Marthari & Televantou 2000, figs. 63, 65; Marinatos 1969, pl. C: 7–8, pl. 11:2; 1972, pls. 49, 54:2; 1974, pls. 80–2. For wall-paintings, see Doulas 1992, 49, figs. 36–7, 41–3.

²² Marthari 1987, fig. 28; Doulas, Marthari & Televantou 2000, fig. 65.

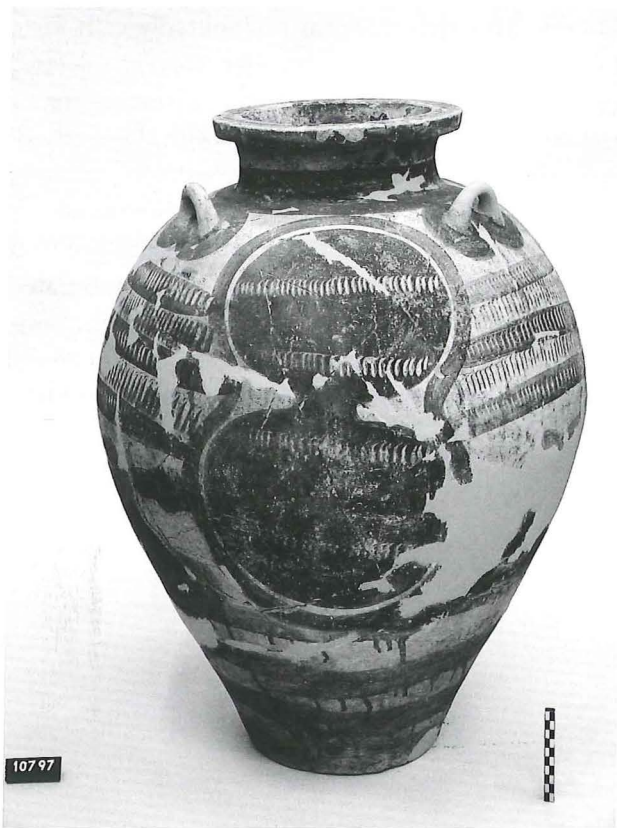


Fig. 9. Theran pithoid jar with painted figure-of-eight shield (trench between Pillar Pits 77–78A).

there is a large cylindrical pithos with depictions of dolphins in a marine setting (Fig. 7), which finds parallels on LC I ceramic fine ware²² and a plaster tripod table.²³ The striking naturalism of the scenes, both in the depiction of the motifs and the syntax, appears unrelated to the more stylized marine iconography of LM IB. Thus far, no imported Cretan pottery with Marine Style decoration has been identified at Akrotiri. Moreover, the marine scene on a bichrome MC pithos found in an LC I context proves that the marine iconography at Akrotiri is more or less an internal affair, linked to the artistic expressions of local vase-painters during the MC period.²⁴

The double axe motif found on one of the Cretan pithoid jars at Akrotiri (Fig. 4) also appears on imported Cretan fine ware²⁵ and in wall paintings at the site,²⁶ but not to my knowledge on local LC I pottery. The figure-of-eight shield is rendered both on imported Cretan fine ware and on large

local vessels, including a late MC bathtub (Fig. 8) and an LC I ovoid pithos (Fig. 9). Although rare and possibly invested with symbolic value, both the double axe and the figure-of-eight shield appear to be well integrated into the Theran iconographical repertoire. The difficulty probably lies more in their assessment as indicators of Minoan (or even more specifically, Knossian) influence on cult/ritual practices in the Theran community or some elite segments therein, rather than in their treatment as chronological markers when found as stylized motifs on ceramics. Following a parallel line of argument for what is considered to be a chronological indicator in imported pottery at Akrotiri, social parameters must also be part of the discussion. Specific affiliations with one production center and the exclusion of other contemporary sources, as well as the permeation of new ideas into every class group, are all factors which could have affected the makeup of broadly comparable ceramic deposits at different sites. A useful example is provided by the extremely limited presence of Kamares ware in the MBA levels at Akrotiri,²⁷ which thus is of limited use in establishing chronological correlations for this particular period.

Two arguments support those scholars who endorse the final destruction of the site as one of the very few uncontested landmarks in Aegean chronology: the dating of stratified deposits in relation to Theran ash layers identified at other Aegean sites²⁸ and the absence of type fossils for LM IB²⁹ at Akrotiri. Both features have led scholars to assign the Akrotiri Volcanic Destruction Level (VDL) to LM IA. Naturally, a contextual treatment of all

²³ Marinatos 1972, pls. C, 25, 102; Niemeier 1980, fig. 38; Doulas, Marthari & Televantou 2000, figs. 41–2.

²⁴ Doulas 1980, pl. 178; 1999.

²⁵ Marinatos 1972, pl. 65b; Marthari 1990, figs. 7–8; Nikolakopoulou 2006.

²⁶ Doulas 1992.

²⁷ Papagiannopoulou 1991; Nikolakopoulou *et al.* 2008.

²⁸ See Doulas & Papazoglou 1980; Marketou 1990; Betancourt *et al.* 1990; Soles & Davaras 1990; Momigliano 2001; 2007a, 267–8; Knappett & Cunningham forthcoming.

²⁹ For recent publications of LM IB ceramic deposits and their features in Cretan sites, see Momigliano 2007b; Barnard & Brogan 2003; Rutter 2006a.

classes of ceramic material is needed to ascertain the relative chronology of the destruction of the site. This task is feasible only through the publication of assemblages within each domestic unit and the examination of specific pottery groups as sensitive chronological indicators.³⁰ Because recent approaches to ceramic material have increasingly emphasized a more holistic approach that considers internal site sequence, regional variations and analytical techniques, it seems methodologically more sound to integrate such parameters into crucial chronological debates and correlations rather than strictly adhere to typological and stylistic criteria. For the precise dating of the VDL pottery at Akrotiri, more work is needed to establish the internal sequence at the settlement during the Cretan Neopalatial period and the nature of the ceramic groups in each domestic unit, including functional qualities, heirlooms, the provenance of imports and the social status of the residents/con-

sumers. This rich material undoubtedly calls for a treatment more refined than the merely selective or broad comparison to the generic Minoan material culture, similar to the advances in the study of regional features and further chronological phasing at certain Cretan sites presented in this volume.

To conclude and return to the starting point, it is hoped that this brief discussion has corroborated Christakis' comprehensive analysis of how the contextual study of a once-overlooked class of material may open new avenues in research and constitute an essential ingredient of a synthetic approach to human responses and behavior in the Bronze Age Aegean.

³⁰ Niemeier 1980; Marthari 1987; 1990; 1993a; Lolos 1990.

Discussion

- Doumas** I will start with Akrotiri because it may perhaps be out of the discussion later on. One has to bear in mind when considering numbers that from about fifty buildings identified in the roofed area only four were fully excavated. This means that, even if there was a communal storage place at Akrotiri, it is possible that we don't know about it. Regarding Christakis's paper, I would like to emphasize that baskets and similar perishable natural materials are mainly for transport and collecting in the fields rather than for storage. They don't keep very long. I also noticed that there is a complete absence in Crete of cylindrical jars. Cylindrical pithoi. I haven't seen any in the examples that you showed.
- Christakis** As far as I know large cylindrical pithoi decorated with complex painted patterns, like those excavated at Akrotiri, were not found in Crete. There is only a type of small pithos, typical of the LM III period, e.g., which is completely cylindrical, and another type, the so-called beehive pithos, which is cylindrical-conical in shape (Christakis 2005, 19, 21, forms 109, 122).
- Doumas** The other thing is that in examining the storage jars from Akrotiri I realized that these cylindrical pithoi with very broad bases, equal in size to the mouth, are mainly for dry commodities. All the narrow bottomed jars are for liquids, because it is easier to clean when they are empty, and therefore I wonder whether the pithos, piriform or ovoid may be for liquids?
- Christakis** There is plenty of ethnographic evidence for the storage of cereals and pulses in conical pithoi, in other words, in pithoi with an wide mouth. Now, traditionally in Crete, wine and olive oil was usually stored in pithoi decorated with trickles and there is also the custom that when a new pithos was made, the potter poured wine or olive oil on it, blessing it to be always full. So, trickles are good evidence for the storage of liquids; but this is not always the case: cereals were stored in piriform pithoi in Room 11 at the Palace of Phaistos.
- Doumas** And another personal remark from my childhood. My six-member family, I remember, needed 100 liters of olive oil a year, 500 kilograms of wheat and 150 liters of wine. This was the guarantee that we would survive all the year round.
- Cadogan** Just a little addendum to the symbolic interpretation of the cylindrical pithoi. I was reminded of that passage in *Psalms* "my cup overfloweth" as a sign of abundance, but also as a means of making a competitive statement against other people, just to show off wealth. I could look up the psalm, but I don't have the precise words to hand, but it's good to be reminded of the Old Testament.
- Warren** I would like to say that I thought the arguments were extremely well presented in these two papers. It is particularly valuable to have examined Akrotiri using the

same models that Kostis [Christakis] has used for Crete, because if you are actually using those same models you can make some observations about the interpretation of those models. And, not to be too controversial, I personally feel that the very last stage of Kostis' argument/interpretation shows that the Hamilakis view of faction and instability and intense competition is not necessarily the only reading. I, personally, prefer the view that in Crete what we have is undoubtedly, as Kostis has demonstrated in great detail, a period of exceptional prosperity in LM IB, but with evidence of hierarchy, as is also clearly shown; but the further step, that this suggests a society of instability and possible conflict and stasis, is a speculation. It does not have to follow from the levels of prosperity demonstrated by the LM IB situation. And it is Akrotiri which helps us to see that there is an alternative reading. Thank you.

Cunningham At Palaikastro we have [storage jars] in earlier periods, but it's hard without destruction deposits. The LM IB data is very good, but for MM III, for example, I don't think we have any storage jars in Building 6, not a single one. So just looking a little more diachronically in LM IB we're seeing a real increase in domestic storage, which to me does not necessarily imply a greater degree of reliance on some kind of centralized food distribution, but rather the opposite, and I wonder if that might not be the case elsewhere as well. Again it is very difficult because LM IB gives us these good destruction deposits, so we see it. I mean, in Palaikastro we also have at the end of LM IIIA:2 or the beginning of IIIB great storage jars in every house, and that just might have to do with the deposition. But for MM III we have good deposits but essentially no (basically very, very few) storage jars in the houses.

Platon Just a short response about the chronology of the decorated jars from Zakros. We have almost twenty examples from Zakros, most of them from the Palace and they all come from LM IB contexts. We have no indication in Crete that this type of jar is dated to LM IA. Probably there is a hypothesis that they are heirlooms, but in Zakros the same style that occurs on these jars is also found on hundreds of smaller jars in the same style; for this reason I believe that this style is a LM IB style. I tried yesterday to persuade you to leave aside Akrotiri as comparative material for chronology.

Betancourt One small comment to follow up on this group of jars. At Pseira we have a number of fragments which have a fabric and style that looks identical. These were examined by Peter Day with ceramic petrography and he confirmed that they are from Zakros and that they are always found in LM IB contexts.

Nikolakopoulou Yes, that's what I wanted to ask you. Are these jars all produced at one site? What does this mean according to your view? Either that what is found in Akrotiri is not from Crete or that they are also dated to LM IB in Akrotiri and, therefore we should drag the chronology down? I do not question your dating of the material to LM IB in Zakros, but this fact doesn't exclude the possibility that similar pithoi were produced in LM IA and exported.

Platon I think this is a circular argument.

Nikolakopoulou Not at all, production starts in LM IA and the material continues into LM IB.

Platon I think this is not the time to discuss again the Akrotiri dating, but I have considered these past two years that the time difference between the two destructions is very short and I am not sure that we could distinguish very clearly the two phases. I think this is a huge matter and we could take up all of the discussion time here.

Rutter I don't want to cut off the debate on this, but I agree that if we get into Thera we'll never get back to LM IB. To get back to the pithoi, actually, I wanted to ask Kostis. I am very interested in this phenomenon of spaces that are built for storage but are not fully used by the pithoi. I am not sure that I understood fully what your feelings are about this, but are pithoi simply not being produced in sufficient quantities to fill the buildings that were designed to accommodate them in the LM IB period? Or were the pithoi stripped and re-used somewhere else, or, how do you account for this disjunction between the architectural spaces and the storage vessel?

Christakis There are some storerooms, not only in domestic contexts but also in palaces, which were found empty of storage containers. This is the case of the Palace at Gournia and the case of the Palace at Phaistos. I think that each case must be seen within its particular contextual framework. For the Palace of Gournia where a minimum of fifteen pithoi were found (the magazines could easily accommodate a total of 80 large pithoi), I think that human activities were taking place before the final destruction of the complex. I don't know what type of human activities, but this is the only possible explanation, taking into consideration the absence of important post-depositional circumstances. And now for the Palace of Phaistos, perhaps the only explanation is that proposed by La Rosa, that the Palace was built in LM IB, but was never fully used. In any case, I find the scenario of the use of pithoi in later contexts not a possible explanation for such differences because pithoi were not very easily removed from a ruined/destroyed context after its destruction. Moreover, from all the pithoi excavated in Crete and dated from Early Minoan I to LM IIIC, only 8% of the total was found in re-used contexts.

Rutter No evidence for mending a broken pithos?

Christakis The only evidence for mending a Minoan pithos is from the Unexplored Mansion where a partly preserved pithos is joined with bronze. I think it is only one fragment.

Niemeier Just a brief comment on the pithoid jars. We have found fragments in Miletus with foliate scroll, spiral I don't remember, the double axe we don't have. But it's exactly the same type of pithoid jar and it's from the LM IA level; you said I shouldn't mention Thera tephra but I have to because the Thera tephra was found above it. This is clearly from an LM IA level, so I would agree with Irene [Nikolakopoulou] that this type of pithoid jar and decoration starts in LM IA. This is imported. And Carl Knappett can confirm this, do you remember if you had some idea where they came from?

Knappett Mesara, I think, but we have to check this.

Niemeier But it is exactly the same kind of decoration and shape, so it starts undoubtedly in LM IA, which doesn't exclude the possibility that it was still produced in Zakros in LM IB.

From the end of LM IA to the end of LM IB: the pottery evidence from Hagia Triada*

Dario Puglisi

Recent excavations by Italian teams at Hagia Triada have substantially increased the original sample of LM I pottery recovered by the excavations of Halbherr, Stefani, and Paribeni in the “Villa” and “Villaggio” between 1902 and 1914 (Fig. 1).¹ In 1976, a pottery kiln was excavated in the area to the east of the *phylakeion* by D. Levi and C. Laviosa.² From 1977 until 1989, and again from 2006, test trenches were opened by La Rosa in the area of the old excavations to re-examine the stratigraphy and chronology of the monumental buildings exposed

* Acknowledgements: I would like to thank the Italian School of Archaeology at Athens for permission to study the LM I pottery from Hagia Triada and for their continuous support during my work. A special debt of gratitude is owed to Prof. V. La Rosa, who invited me to participate in the study of LM I pottery from Hagia Triada in 1997 and who read a preliminary version of this paper. I also would like to thank N. Cucuzza, O. Palio and J. Rutter for useful remarks and preliminary information about unpublished pottery. The drawings are by G. Merlatti and the author. My warm thanks, finally, to C. Licitra and M. Metcalfe for their help correcting the English text.

¹ Halbherr, Stefani & Banti 1977.

² Levi & Laviosa 1979–80.

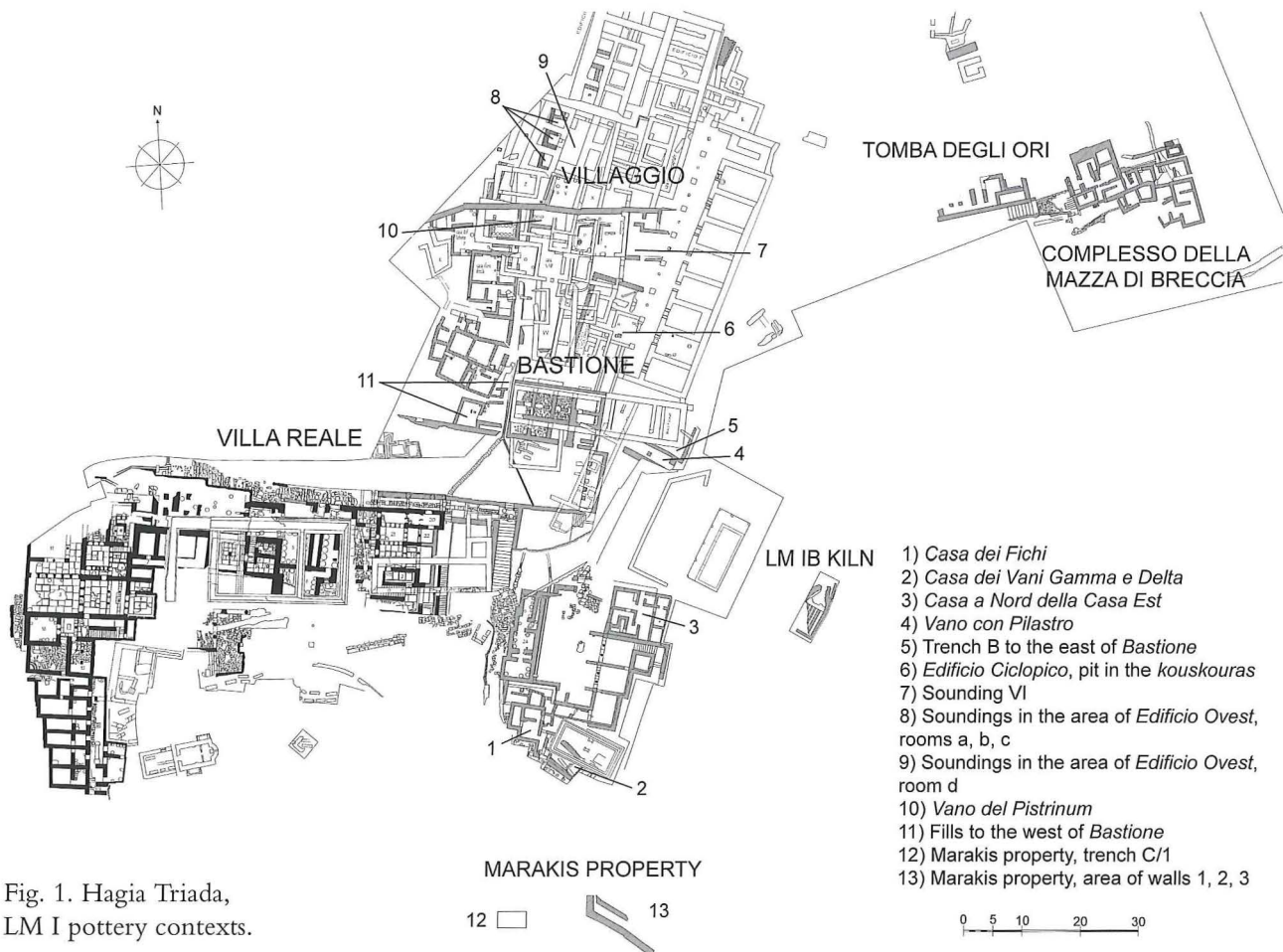


Fig. 1. Hagia Triada,
LM I pottery contexts.

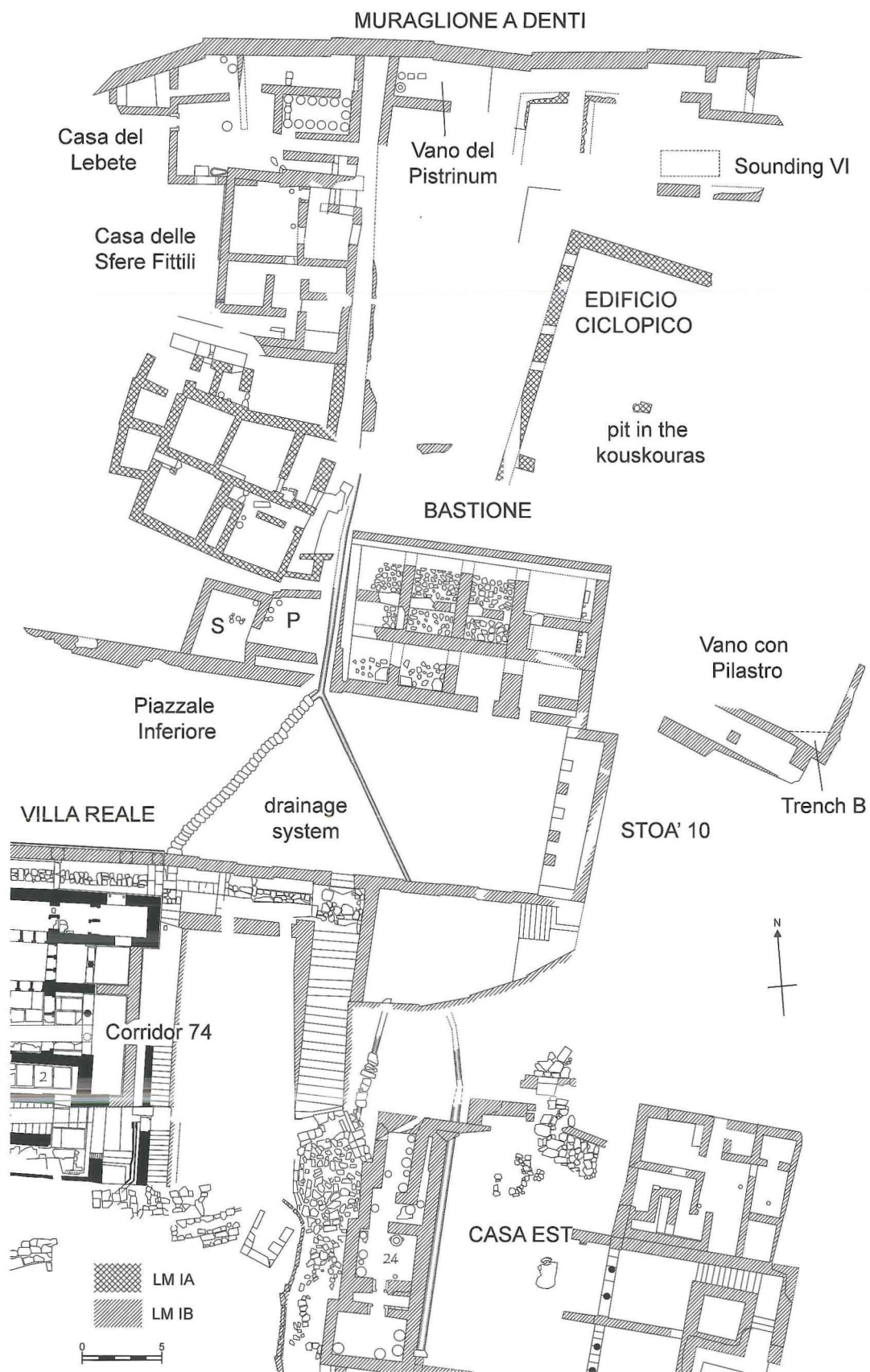


Fig. 2. The LM IB arrangement of the *Villaggio*.

at the beginning of the last century.³ Finally, from 1989 until 1995 a new sector of the LM I settlement, the *Complesso della Mazza di Breccia*, was excavated by La Rosa to the east of the so-called *Tomba degli Ori*.⁴ The pottery from this sector is currently being studied by N. Cucuzza.⁵

The LM I stratified contexts from soundings in the area of the first Italian excavations are currently under study by the author.⁶ They have provided extremely useful evidence for understanding the stylistic and chronological developments of LM I pottery production at the site. These deposits are generally uniform in date, substantial in size, and can be assigned to different sub-phases of LM I. At the same time, analysis of this material has also highlighted several potential problems. On the one hand, there are ancient and modern disturbances, which have compromised the reliability of the stratigraphy. Moreover, the small size and scattered distribution of the test areas, which are sometimes long distances from each other, have complicated our ability to make connections between sequences. Finally, the compilation of a definitive chronology for these contexts has been hampered by the absence of a complete sequence in the stratigraphy of any one particular test trench.

As a result, the chronological seriation of the contexts has been defined by linking (sometimes on stylistic grounds alone) partial stratigraphic sequences from different excavation sectors. In this manner, we have distinguished five ceramic context groups, which may be placed from the end of MM III to the end of LM I. These include an LM IA Initial group, an LM IA Final group, an LM IB group corresponding to the final destruction of the Villa, an LM IB group which post-dates the final destruction of the Villa, and finally an LM IB/II group. Obviously, the chronological labels assigned to the groups are intended to be valid only for the evidence from Hagia Triada; we do not wish to suggest that all these ceramic or chronological phases will be recognized at other sites in Crete.

To contribute to the understanding of both the stylistic and chronological developments of LM IB pottery production in Crete, I present an overview of the pottery in use at Hagia Triada from the end of LM IA to the end of LM IB. I would also like

to note that the results can be considered to have a higher degree of reliability for the LM IA Final and the LM IB phases corresponding to the final destruction of the Villa than for the later stages of LM IB.

The end of LM IA at Hagia Triada

At the end of LM IA, Hagia Triada witnessed an extensive program of architectural rebuilding and a reorganization of various parts of the urban plan (Fig. 2). At this time, Corridor 74 in the northeastern quarter of the Villa was linked to a new water drainage system, which passed through the lower square (*Piazzale Inferiore*) before reaching the northern sector of the settlement (*Villaggio*). At the same time, the *Casa Est*, a monumental building to the east of the Villa, was also linked to this same drainage system.⁷

A substantial trench was cut into the hillside to create space for the *Piazzale Inferiore* and the monumental buildings that bordered it to the east (*Stoa 10*) and to the north (*Bastione*). This rectangular building replaced an earlier one of similar size and plan but with a different orientation, the *Edificio Ciclopico*, which was razed during this period of rebuilding. Both buildings had probably served, in turn, as annexes of the nearby Villa.⁸

In the *Villaggio*, north of the *Bastione*, a system of wide terraces was built. The north side of this system was retained by a long and massive wall running east-west, the *Muraglione a Denti*.⁹ Several houses were constructed on these terraces, including the *Casa del Lebete*, *Casa delle Sfere Fittili*, and *Casa del Pistrinum*.

³ La Rosa 1989a; Puglisi 2003a with bibliographical references.

⁴ La Rosa 1992–3.

⁵ Cucuzza in this volume.

⁶ Puglisi 2001; 2003a; 2006; forthcoming a.

⁷ Puglisi 2003a.

⁸ Puglisi 2003b. For the “Villa-annex complex”, see Poblome & Dumon 1987–8.

⁹ Puglisi 2007.

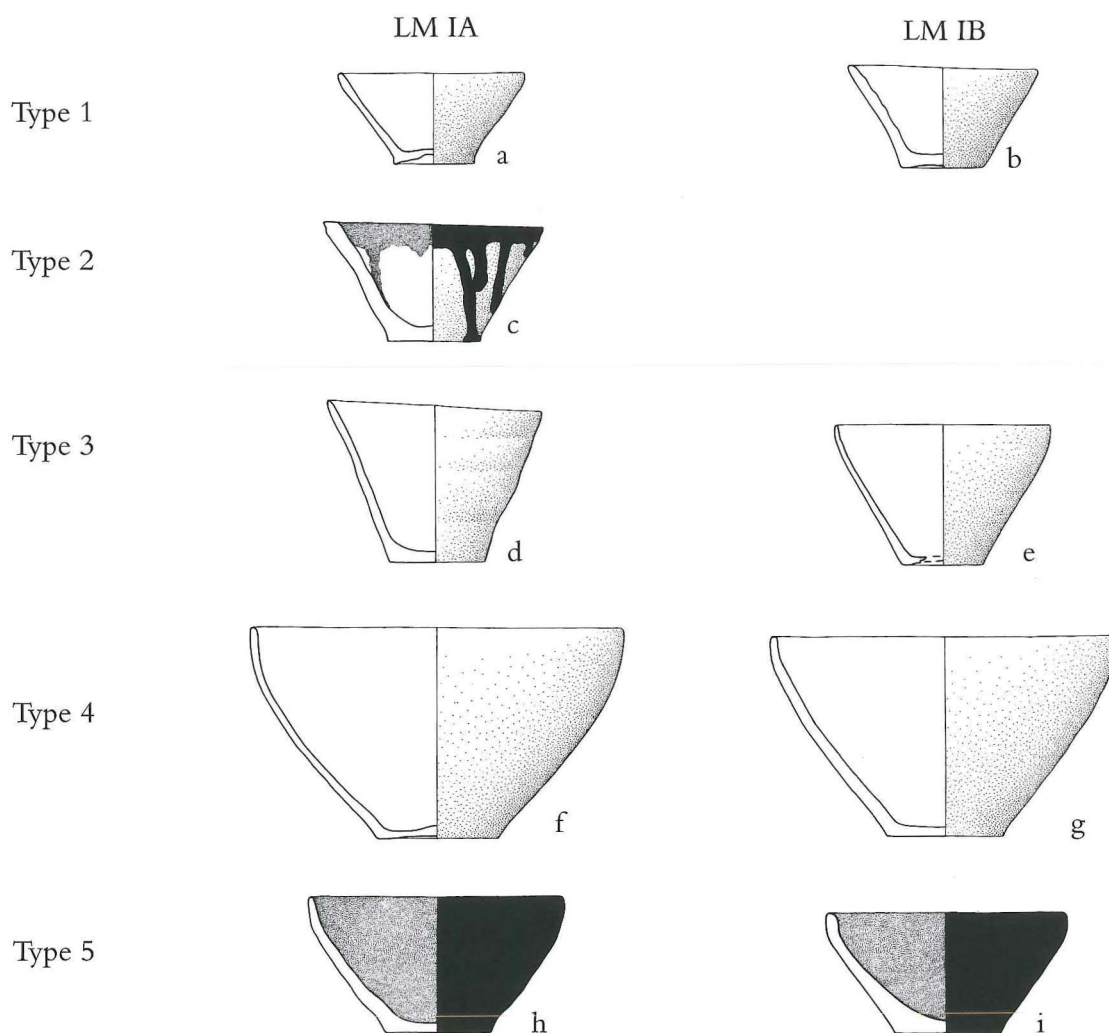


Fig. 3. LM IA and LM IB conical cups at Hagia Triada: a) HTR 1030; b) HTR 1152; c) HTR 1076; d) HTR 231; e) I est pav. 13; f) HTR 2920; g) HTR 150; h) HTR 252; i) HTR 146).

The LM IA Final stratified contexts

Several pottery contexts are connected with this LM IA rebuilding project. A group of 18 vases, mostly complete and with clear traces of burning, was recovered in 1979 inside a pit cut into the *kouskouras* in the area originally occupied by the *Edificio Ciclopico*.¹⁰ This context appears to represent the only surviving portion of the destruction layer of this building.

A burnt layer with at least 85 vessels was recovered in 1986 in a narrow sounding carried out to the east of the *Bastione* (Trench B).¹¹ This burnt layer probably belonged to an LM IA house that was

originally located at a higher level along the hillside and was involved in the same fire that destroyed the *Edificio Ciclopico*.

During the great rebuilding, massive fills were dumped in order to level out the new terraced areas. Some of these fills were excavated in 2006 in the road along the west side of the *Bastione* and in the area of Rooms S and P.¹² The lower LM I layer uncovered in 1979 in Sounding VI to the north of

¹⁰ La Rosa 1979–80, 137–9, figs. 91–2; Puglisi 2003a, 171; 2006.

¹¹ Puglisi 2003a, 170, figs. 15–7; 2006.

¹² La Rosa 2006.

the *Edificio Ciclopico* should probably be identified as another fill from this same period/event.¹³ We are dealing here with mixed contexts – a great amount of Middle Minoan pottery that probably originated from the portion of the hillside removed at the time of the great rebuilding, together with some LM IA sherds which represent the latest material in the deposit.

The destruction and immediate rebuilding seen in the *Ciclopico* area probably affected other sectors of the settlement as well. In the *Casa dei Vani Gamma e Delta*, south of *Casa Est*, two superimposed destruction levels were identified in 1978 in Room Delta.¹⁴ Stylistically, the pottery in the lower level is LM IA Initial (Level IV, with about 100 vases), while the pottery from the higher level (Level III, with about 140 vases) is LM IA Final.

Further south of *Casa dei Fichi*, a sounding in the Marakis property (1988) brought to light remains of substantial walls (indicated as Walls 1–3; Fig. 1, no. 13) of uncertain function (retaining walls?).¹⁵ A fill dumped at the time of the construction of these walls contained ca. 200 vases, which stylistically appear to date to this period of rebuilding.

The LM IA Final pottery

Approximately 540 vases from LM IA Final contexts allow us to define in great detail the pottery in use at Hagia Triada at the end of LM IA. This pottery is closely linked to LM IA Initial ceramics, both in manufacturing characteristics and vessel forms, while differences are more evident in the decoration.

The most common shape is the conical cup, which accounts for 35% of the total number of vases. On the basis of morphological features and dimensions, we have been able to distinguish five types of conical cup in use at Hagia Triada during LM IA; however, we are unable to discern any differences between the LM IA Initial and LM IA Final assemblages (Fig. 3):

- **Type 1** (Fig. 3a) has an unpainted conical body with a rounded rim. The base and height have the same dimensions of ca. 4.0 cm, while the rim diameter is double that of the base and

height. It is by far the most common form of conical cup.

- **Type 2** (Fig. 3c) differs from Type 1 only by its flattened and painted rim. It is also rarer than Type 1, appearing in roughly the same numbers as Types 3 and 4.
- **Type 3** (Fig. 3d) differs from Type 1 by its greater height, which gives it the appearance of a tumbler.
- **Type 4** (Fig. 3f) is morphologically similar to Type 1, but the dimensions of both its height and base are doubled (h. about 8.0 cm).
- **Type 5** (Fig. 3h) has a body profile that varies from hemispherical to semi-ovoid; its dimensions are larger than Type 1 (h. ca. 5.0 cm; rim diam. ca. 9.0 cm), and as a rule, it is monochrome. Type 5 cups are common but not quite as popular as Type 1.¹⁶

Turning to the fine decorated pottery, the open shapes consist mostly of cups and bowls. Among the cups, the most frequent is the rounded variety (Fig. 4a–c), while the straight-sided (Fig. 4g) and bell shapes are even less common than in LM IA Initial contexts. The bell type continues the MM III tradition of decoration, which is limited to dipping the rims.¹⁷ Among bowls, we may distinguish a type without handles with the same dimensions as the rounded cup (Fig. 4f) and a second which is bigger and furnished with a pair of horizontal handles.

The typical decoration of LM IA Final fine open vessels consists of a principal frieze on the body above horizontal bands (Fig. 4b, f) or, more rarely than in LM IA Initial, of a second register

¹³ La Rosa 1979–80, 115–9, figs. 66–7; Puglisi 2003a, 175; 2006.

¹⁴ La Rosa 1979–80, 74–84, figs. 28, 36; Puglisi 2001; 2003a, 163–5, figs. 5, 7; 2006.

¹⁵ La Rosa 1995, 535–7; Puglisi 2003a, 183–5; 2006.

¹⁶ For the typology proposed by Van de Moortel for the Neopalatial conical cups from Kommos, see Van de Moortel 1997, 32–81, figs. 5–10; Shaw *et al.* 2001, 66–8, fig. 32. Correspondences between Hagia Triada and Kommos: Type 1 = Type C; Type 2 = Types J, K, M; Type 3 = Type D; Type 5 = Types P, Q.

¹⁷ For Hagia Triada, see D'Agata 1989, 95, pl. XXII, i (MM IIIB/LM IA context); for Kommos, see Shaw *et al.* 2001, 70 (LM IA Advanced context).

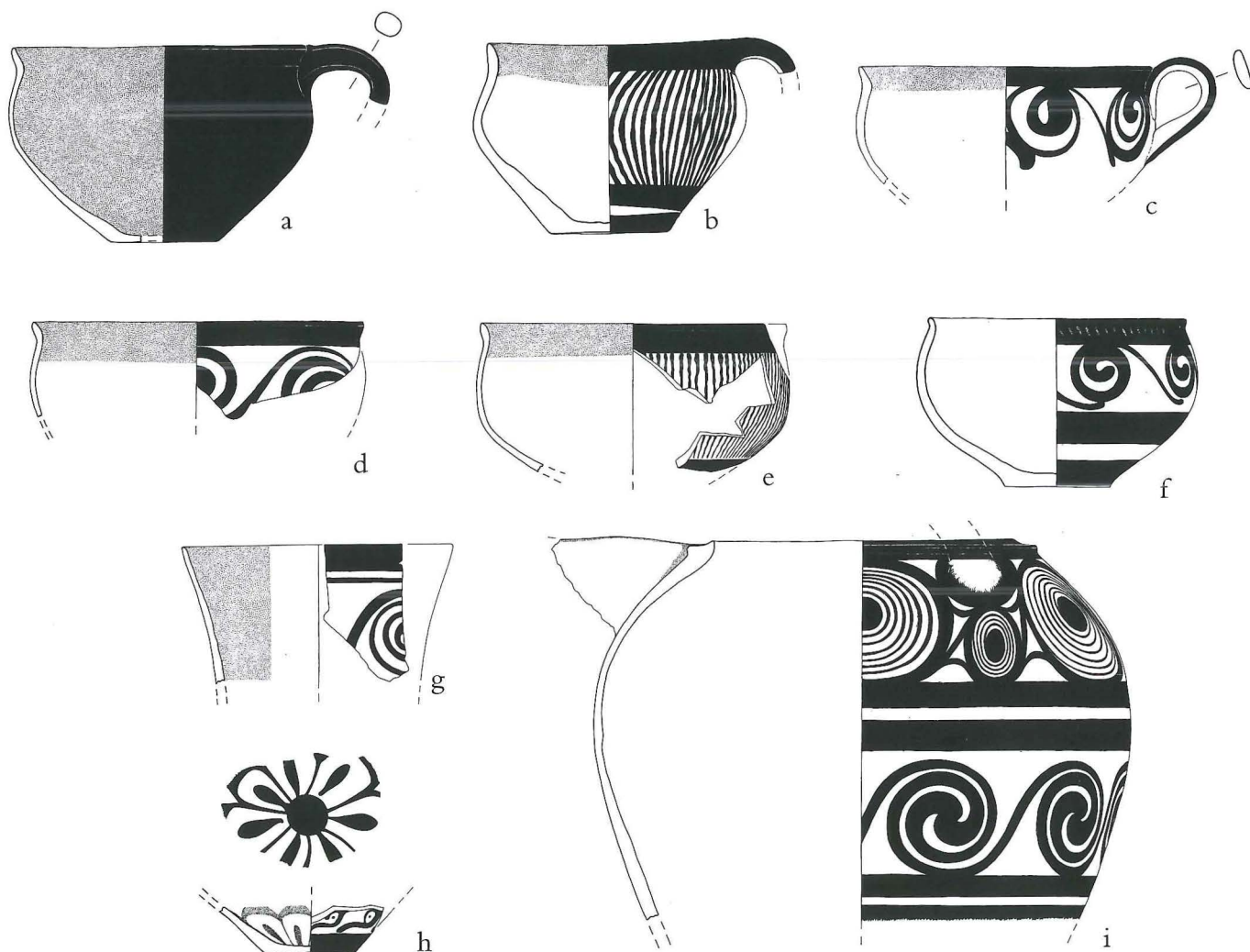


Fig. 4. LM IA Final pottery from Trench B: a) HTR 827; b) Mar 3 c III 1, *Edificio Ciclopico*; c) HTR 829; d) Bas B I 11; e) Bas B I 19; f) HTR 246, and Sounding VI; g) Bas B III 2; h) HTR 79, fr. 38); i) Bas B II 4, Marakis property.

with a single wavy band.¹⁸ There are usually two horizontal bands on the rounded cups and three bands on bowls without handles.¹⁹ The bowls alone may be decorated on the inside using the in-and-out technique (Fig. 4h). In addition to the pattern decorated rounded cup, we also find examples with monochrome exteriors and occasionally, monochrome interiors (Fig. 4a). This type is not attested in LM IA Initial contexts.

Among the decorative motifs, spirals (Fig. 4c, f, g) and tortoise-shell ripple (Fig. 4b, e) are still in use, but they are no longer as common as in LM IA Initial contexts. Instead, vegetal motifs begin to occur in nearly the same proportion. Among spirals, the retorted (Fig. 5a) and tangent types (Fig. 5b-c)

are used frequently. A version of the tangent type, which we call "clockwise" (Fig. 5b), also becomes very common. This is identified by following the direction of the spiral clockwise from the center to the exterior; the link to the next spiral on the right then takes place at a point below the center of the spiral. In LM IA Initial contexts, most of the spirals are traced following a counter-clockwise direction and are linked to the next one on the

¹⁸ For LM IA Initial examples from Hagia Triada with a single wavy band on the second register, see Puglisi 2001, 95, figs. 2-3; 2003a, 164 figs. 5, 7 and 184 fig. 27.

¹⁹ Bowl HTR 246, with two horizontal bands, is an exceptional piece.

Fig. 5. LM I spirals from Hagia Triada: a) retorted type; b) clockwise tangent type; c) counterclockwise tangent type; d) fresco type; e) unlinked retorted type; f) tendril.

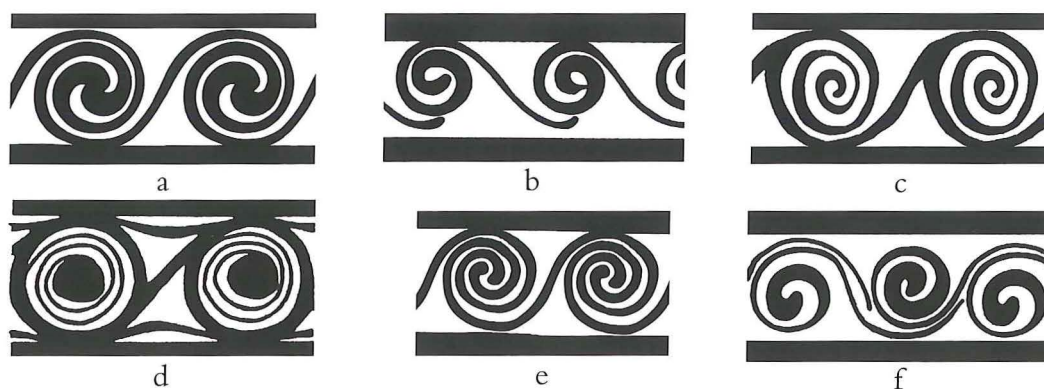


Fig. 6. Sherds from the fills to the west of the *Bastione*.

right at a point higher than the center of the spiral (Fig. 5c). The “clockwise” tangent spiral becomes the most prevalent type at Hagia Triada during LM IA Final, and this trend continues in LM IB. This version, which is also very common at Kommos and Phaistos,²⁰ is rare or absent at other Cretan sites,²¹ and thus forms a clear marker of workshops in the Mesara.

An unusual feature of the frieze on a bowl from the *Ciclopico* pit (Fig. 4f) is the manner in which the spirals were traced. This example employs a smaller number of coils than the typical LM IB specimens. This stylistic feature, which we find on decorated bowls from the Volakakis House at Seli near Kamilarí²² and on bowls from LM IA Final contexts at Kommos,²³ confirms the late LM IA chronology of our contexts.

Among the vegetal motifs, the most frequent are: tendril scroll (Figs. 4d and 5f), already attested sporadically in LM IA Initial contexts; reed, in the version with thin and pointed leaves, which is frequent in LM IA Mature contexts at Knossos (Fig.

6, right);²⁴ and foliate band with a single stem or without a stem (Fig. 6, left). The stemless version of foliate band, which will become typical of LM IB pottery from the Mesara, already appears rarely in LM IA Final contexts (two sherds from the fills beneath the *Bastione*).

A significant but fragmentary piece (the base of a bowl) of the in-and-out technique comes from Sounding VI (Fig. 4h). Its interior is decorated with a rosette, while the lower register of the exterior is filled by a row of what appear to be stylized flowers. So far I have not been able to find exact parallels for this frieze, but the rosette is attested on a similar LM IB bowl in the Special Palatial Tradition (hereafter SPT) from Palaikastro.²⁵ The example from Hagia Triada exhibits a somewhat freer, more naturalistic composition. It is possible that the stratigraphy of Sounding VI was partially disturbed by a pit of the first excavators, and this situation prevents us from determining whether the bowl is indeed an LM IA precursor to the iconography of the SPT, or simply an LM IB intrusion.

Another exceptional piece from the LM IA Final contexts is a *kalathos* of fine fabric (Fig. 7)

²⁰ Phaistos: Palio 2001a, figs. 46e, 48g, 50e, 50n, 52r; 2001b, 253, fig. 11. Kommos: Watrous 1992, fig. 13, nos. 79, 84, fig. 17, no. 259; Van de Moortel 1997, figs. 13–4; Rutter 2006a, pl. 3.44 (40/11), pl. 3.47 (44b/6–11); Rutter in this volume.

²¹ For a new example from Zominthos, see Traunmueller in this volume.

²² See La Rosa & Cucuzza 2001, XXI–3, XII–1.

²³ See Van de Moortel 1997, C 9481, House X, Room 1.

²⁴ Popham 1984, 156–8; Warren 1999.

²⁵ See Sackett & Popham 1970, NP 53, 218, fig. 9; for an analogous example from Keos, see Cummer & Schofield 1984, n. 1077, pl. 70.



Fig. 7. Kalathos HTR 314 from Layer III in Room Delta (Arch. SAIA 63729).

from Layer III of Room Delta. It carries a frieze of careful retorted spirals that find good parallels in Knossian LM IA Mature contexts.²⁶

Less evidence is available for the closed shapes. Jugs and bridge-spouted jars are the most common shapes with pattern decoration; collar-necked jugs and pitharakia are usually monochrome. Pitharakia become very popular in the Mesara from MM III and continue throughout LM I (Fig. 10j) – a shape that is peculiar to this part of Crete in that period.

The decoration on the fine closed vessels is generally subdivided into multiple registers, most commonly two or three, as seen in LM IA Initial. Examples with two registers put fresco-type spirals (Fig. 5d) above and the retorted type below (Fig. 4i), while those with three registers employ either the fresco or retorted spirals in the upper band, tortoise-shell ripple in the center and multiple wavy lines in the lower frame.²⁷ In addition to these conservative arrangements, there is one more type, which appears only once, on a medium-coarse bridge-spouted jar from the fill in the Marakis property (Fig. 8a). Here two retorted spirals occupy most of the front and back sides of the vase, an arrangement that will become very common in LM IB.

On another fragmentary medium-coarse vessel

from the LM IA Final fill in the Marakis property, we find yet another stylistic element that anticipates LM IB (Fig. 8c). It is a peculiar version of retorted spiral, which we characterize as “using an unlinked center” (Fig. 5e). This derives from the fact that the two spirals do not touch at the center.²⁸ It will become particularly common in the Mesara and in Crete in LM IB, while it is very rare in the LM IA Final pottery from Hagia Triada.

The same vase (Fig. 8c) is again worthy of mention because of the frieze on its shoulder, which displays a rich group of crocuses. In addition, a bud, which is probably from a similar composition, is visible on a small sherd from the same context (Fig. 8b). These vases, despite their poor preservation, testify to the existence in LM IA Final contexts of complex vegetal representations which go far beyond the expressive capacities of workshops operating in LM IA Initial, and may reveal links with the contemporary wall paintings.

A further proof of the richness and originality in vessel friezes in use at Hagia Triada at the end of LM IA comes from the various fragments of a closed, globular vase (Fig. 9) recently recovered in the fills of the *Bastione*. The decoration is arranged in two registers: the top frieze with hooked elements bordered by small dots and the bottom with a spray of spiralling branches bordered by small dots. This complex pattern, which is perhaps derived from the vegetal world, is found on numerous vases from Hagia Triada at the end of LM IA but finds no close parallels elsewhere in Crete.

The final destruction of the Villa

As was already observed by the first excavators, the violent fire which marked the final destruction of the Villa also spread to the houses south of the *Muraglione a Denti*. This is unquestionably confirmed

²⁶ Evans 1928, 549, fig. 349 (Gypsades Well); Popham 1984, pl. 143:14 (Unexplored Mansion).

²⁷ For a parallel from Seli near Kamilari, see La Rosa & Cucuzza 2001, XXVI–13, fig. 120.

²⁸ For the LM IB chronology of the spiral with unlinked center, see Niemeier 1980, 29–31, fig. 31:8–9.

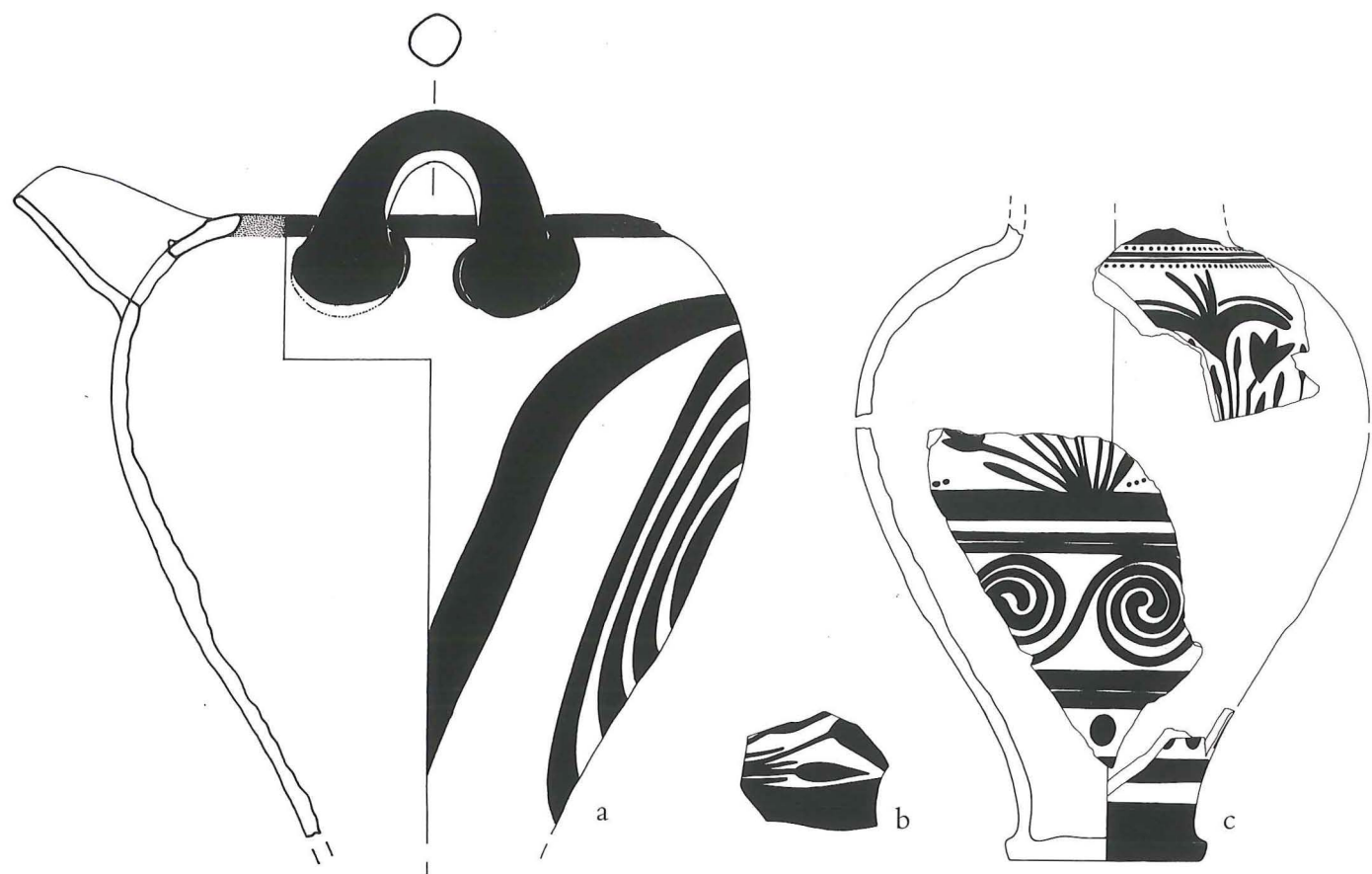
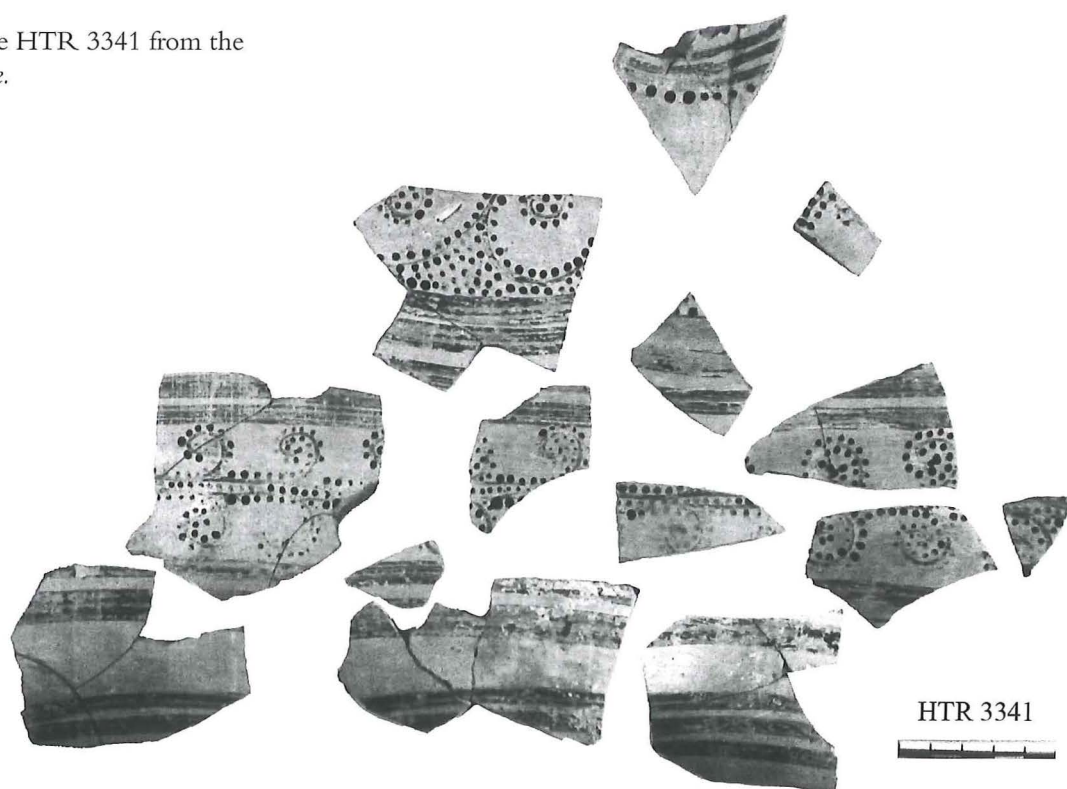


Fig. 8. LM IA Final pottery from the Marakis property: a) HTR 3333; b) Mar 3 a I 20; c) Mar 3 a I 22.

Fig. 9. Closed vase HTR 3341 from the fills of the *Bastione*.



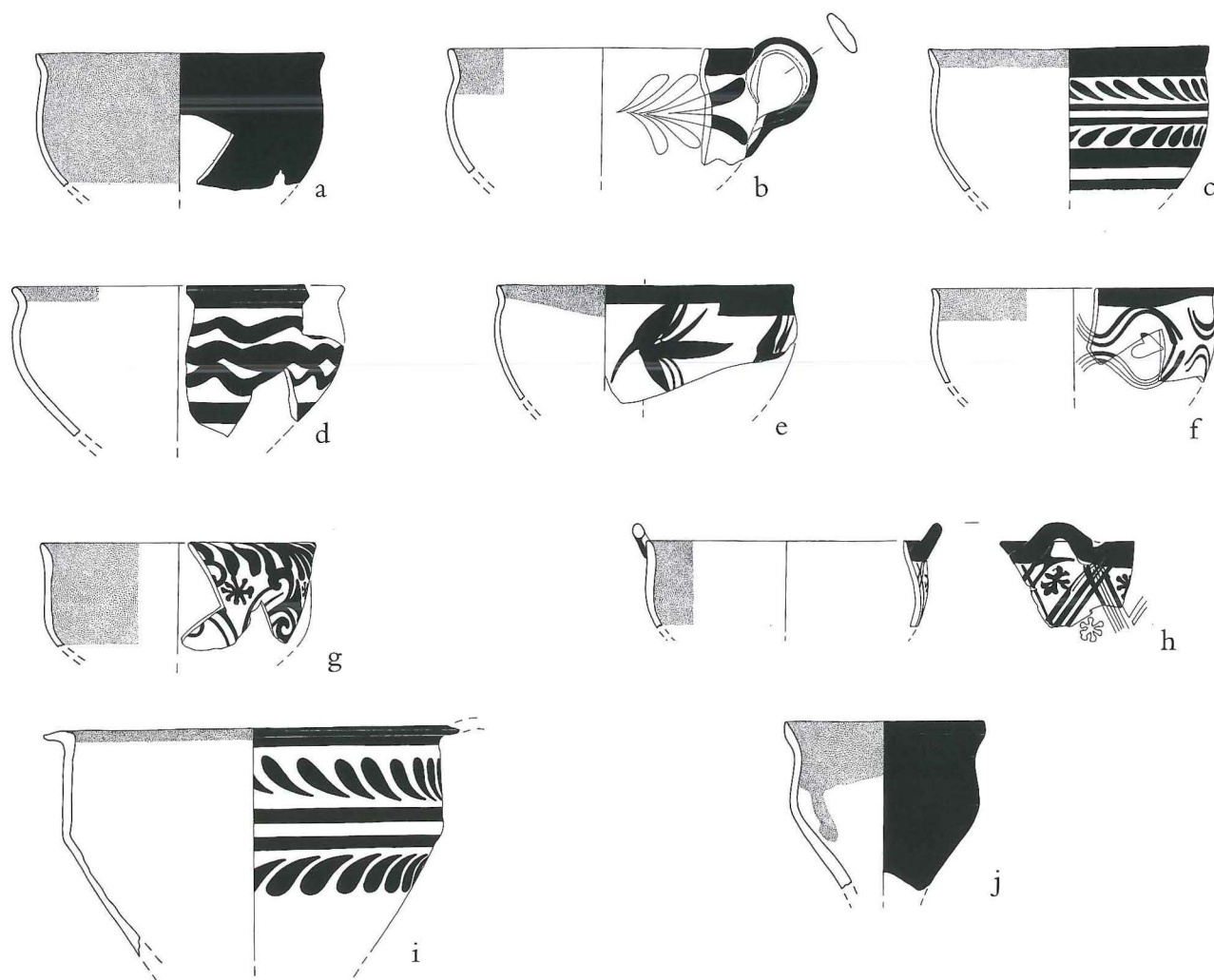


Fig. 10. LM IB DFV pottery from the *Vano con Pilastro*: a) Bas C IV 12; b) Bas C V 20; c) Bas C V 21; d) Bas C V 24; e) HTR 1296; f) Bas C V 25; g) HTR 1218; h) HTR 1334; i) Bas C V 19; j) Bas C V 40).

by the stylistic uniformity of the pottery from these final destruction levels and by the discovery in the *Casa del Lebate* of Linear A tablets written by the same hands as the scribes operating in the palatial building.²⁹

Already in 1904, with his first sketch of Cretan Bronze Age chronology, Evans included the few published vases from the Villa and *Casa del Lebate* in the same group of pottery as from other Neopalatial buildings, which he believed had been consumed by a single massive and final destruction.³⁰ In subsequent studies, the burnt layer of the Villa, with its ceramics, bronze ingots, written tablets and other signs of the sudden disaster, was considered to be a typical example of the destructions which put an end to the Second Palace Period in LM

IB. Because of circular arguments, however, studies have made a linear identification linking the final destruction of the Second Palaces and the end of LM IB, considering it one ceramic and chronological phase. This logic has been supported by the consistent use of SPT vases as LM IB type fossils, despite clues suggesting that this exceptional class of ceramics enjoyed a long life.³¹ The result has been the collapse of the LM IB period into a single chronological horizon, excluding *a priori* the possibility of more varied and complex internal developments recognizable in the pottery.

²⁹ Militello 1989.

³⁰ Evans 1906.

³¹ Coldstream & Huxley 1972; Mountjoy 1974a.

Any interpretative approach which intends to avoid this potentially misleading argument must start with the assumption that the final destruction of the Villa happened in an LM IB moment but not necessarily one corresponding, in ceramic and chronological terms, to the end of the period. For this reason,³² I have recently argued that it is no longer adequate to use the simple label of “LM IB” for the pottery assigned to the final destruction of the Villa, preferring instead a more specific label, “LM IB Villa Final Destruction” (hereafter “LM IB DFV”), which explicitly makes a connection between the pottery and this destructive event.

From this perspective, the date of the three groups of LM IB pottery contexts which have been distinguished by stratigraphy in the *Complesso della Mazza di Breccia* must also be defined with caution. It is difficult to suppose that this sector of the settlement continued to function after the disappearance of the Villa; however, we should again use the pottery to establish the date of the final destruction and not *vice versa*.

The LM IB stratified contexts that correspond to the Villa Final Destruction (or DFV)

The most substantial group of new LM IB DFV contexts was recovered during the recent excavation of buildings that were only partially explored at the beginning of the 1900s: Rooms I and D of the *Casa dei Fichi* (1979–80);³³ the *Vano del Pistrinum* (1984);³⁴ the *Vano con Pilastro* (1986);³⁵ and the eastern rooms of the *Casa a Nord della Casa Est* (1991) (Figs. 1–2).³⁶ The close proximity of these buildings, the uniformity of the pottery, and the traces of burning in their destruction layers, confirm that these structures were consumed by the same fire that destroyed the Villa.

More than 430 vases come from these contexts. This new sample permits us to fill in gaps in the evidence recovered during the first excavations, particularly with respect to the variety of open shapes in use at the time of the final destruction of the Villa. Only about 50 vases from the final destruction of the Villa were published by L. Banti, F. Halbherr and E. Stefani;³⁷ 50 more unpublished examples are currently under study by the author.³⁸

These are generally less interesting typologically and often do not have specific findspots. The upper LM I layer in Sounding VI should also be assigned to LM IB DFV on the basis of its position above a layer of LM IA Final and because of the stylistic characteristics of the pottery. On stylistic grounds alone, we can also assign at least 100 examples from the kiln east of the *phylakeion* to LM IB DFV.³⁹

Two additional LM IB contexts were recovered in the Marakis property: the first one in the area of Walls 1–3 and the second in Trench C/1 on a lower level of the hillside.⁴⁰ Both contexts provided considerable quantities of LM IB pottery that is stylistically similar to the material from the final destruction of the Villa; however, some later disturbances in these deposits require that we treat them carefully.

The LM IB DFV pottery

In total we can assign about 800 vases to LM IB DFV, which thus becomes the best documented ceramic phase at the site. The technical characteristics and the repertoire of shapes and motifs from LM IB DFV pottery show marked differences from LM IA Final. This suggests that there was a larger passage of time between LM IA Final and LM IB DFV than between LM IA Initial and LM IA Final. Significant changes in technological terms can be observed in all classes of pottery and vase shapes. On average the vessel walls are thinner than before; the paint is more resistant; the surfaces are more lustrous, exhibiting a higher degree of vitrification; and the sherds emit a more metallic sound under percussion.

Conical cups are still the most frequent shape (Fig.

³² Puglisi 2003a.

³³ La Rosa 1979–80, 85–107; Puglisi 2003a, 164–5, figs. 3–4, 6, 8; 2006.

³⁴ Di Vita 1984a, 216, figs. 23–4; La Rosa 1989a; Puglisi 2006.

³⁵ Di Vita 1986–7, 457–8, figs. 28–31; La Rosa 1989a; Puglisi 2003a, 167–8, figs. 9–14; 2003b; 2006.

³⁶ Puglisi 2006.

³⁷ Halbherr, Stefani & Banti 1977.

³⁸ Puglisi 2006.

³⁹ Levi & Laviosa 1979–80; Puglisi forthcoming (b).

⁴⁰ La Rosa 1995, 535–7; Puglisi 2003a, 183–5, fig. 28; 2006.

3). The most obvious change is the disappearance of Type 2 cups with flattened and dipped rims. Clear morphological changes may also be observed with the Type 5 cups, which decrease in size and replace the earlier hemispherical profile with a more conical one (Fig. 3i).

Among the decorated fine vessels, the straight-sided and bell cups, which are anchored in the Middle Minoan tradition, disappear completely. The most common shapes are the rounded cups and bowls with or without handles. In addition, the rims receive more attention in this phase. Those on the rounded cups are more distinctly everted (Fig. 10a–c), while the bowls with small flared rims (Fig. 10e–f) finally replace those with straighter rims, which were still present in LM IA Final contexts.⁴¹

As to the decorative syntax, the register on the lower body disappears, while the monochrome variety of rounded cups (Fig. 10a) increases in number, reaching 30 % of the total. The decorative repertoire also appears to be wider and more standardized than in LM IA Final. Tortoise-shell ripple disappears completely, while vegetal motifs now outnumber retorted and tangent spirals. Many motifs are introduced for the first time.

While reed and tendrils are largely abandoned, the foliate band undergoes a complete renewal. The type with a single stem is abandoned in favor of a version with a double stem (Fig. 10c, i). This motif, which is frequent at Hagia Triada,⁴² is not found at contemporary sites in the Mesara and thus stands as a unique marker of LM IB pottery production at the site. The stemless version of the foliate band with elongated leaves pointing to the right (Fig. 10b) is found sporadically from LM IA Final and is also attested in the DFV phase.

The lily motif is as common as the foliate band and appears most often in the version which we have called “lily of France” following the Italian tradition.⁴³ The lily and multiple wavy bands occur most frequently on bowls, revealing a close link with this shape. As with the double stem foliate band, the lily motif is common at LM IB Hagia Triada but extremely rare at other centers of the Mesara⁴⁴ and Central Crete.⁴⁵

Other, more sophisticated vegetal friezes occur rarely. They include buds (Fig. 10e), Floral Paneled

style with foliate band,⁴⁶ and iris between festoons (Fig. 10f). The iris between festoons was also used on closed shapes at Hagia Triada,⁴⁷ but not elsewhere in the Mesara, appearing with a primitive version of a pattern which will become common in the LM II assemblages.⁴⁸ In addition to spirals, the other popular geometric pattern is multiple wavy bands (Fig. 10d). This pattern, the stemless foliate band with elongated leaves pointing to the right, and clockwise tangent spirals represent the most common group of motifs from the LM IB pottery production in the Mesara,⁴⁹ while the frieze with double quirks occurs more rarely. It is also worth mentioning an exceptional cup shape (Fig. 10i) which combines a cylindrical upper body with a conical lower body (resembling a carinated profile), with a strap handle and a wide, flat ledged rim. It is decorated with a foliate band using a double stem, and the only close parallel is an unpublished piece from the *Complesso della Mazza di Breccia*.⁵⁰

With respect to LM IA Final, the changes to the morphology of the fine closed vessels are insignificant, while differences in decoration between the periods are more pronounced. A general trend is the simplification of the syntactical structure of decoration; this includes abandoning the arrangements with three registers in favor of just one or two, or placing the frieze freely on the vessel surface without any subdivisions. The design with

⁴¹ For bowls with rims that are almost indistinct from the vessel wall, see Puglisi 2003a, 164 fig. 7, and 184 fig. 27 (LM IA Initial).

⁴² Halbherr, Stefani & Banti 1977, 46, fig. 14 (Villa); La Rosa 1992–3, 148, fig. 42 (*Complesso della Mazza di Breccia*); Puglisi 2003a, 164, fig. 6 (*Casa dei Fichi*); 2006.

⁴³ See La Rosa 1979–80, 117, fig. 66a (Sounding VI, LM IB DFV layer).

⁴⁴ For Kommos, see Watrous 1992, nos. 104, 1828; for Hagia Photeini, O. Palio, pers. comm.

⁴⁵ Catling, Catling & Smyth 1979, fig. 37, no. 255; Popham 1984, pl. 123–4.

⁴⁶ For “Floral Paneled style”, see Rutter 2006a, 471–2; Rutter in this volume.

⁴⁷ Halbherr, Stefani & Banti 1977, 67, fig. 37.

⁴⁸ Niemeier 1985, 63–4, n. 8.

⁴⁹ Watrous 1992; Van de Moortel 1997; La Rosa & Cucuzza 2001; Palio 2001a; 2001b; Rutter 2006a; Rutter and Chatzi-Vallianou in this volume.

⁵⁰ Cucuzza, pers. comm.



Fig. 11. Fragmentary closed vessel from the *Vano con Pilastro* (Arch. SAIA C/24100).

two large spirals, one on the front and the other on the back of the vase, becomes very common, with several examples from the Villa⁵¹ and another in the Palace of Phaistos.⁵² The same arrangement is visible on a group of fine jugs and bridge-spouted jars with the new LM IB version of reed (with large leaves that are rounded on top) which occupies the entire surface of the vessel.

The repertoire of motifs on these closed vessels generally repeats the trends observed on open shapes. Particular attention should be paid to a fragmentary closed vessel from the *Vano con Pilastro*, which has in the lower register the only occurrence of a scale pattern documented in LM IB DFV contexts (Fig. 11). It is a sloppy version of the motif with double scales filled with small dots.

The analytical study of the unpublished LM IB pottery from both La Rosa's soundings and from the early Italian excavations has permitted the



Fig. 13. Bridge-spouted jug HTR 0236 from the Villa (Arch. SAIA C/25889).



Fig. 12. Tall alabastron HTR 0238 from the Villa (Arch. SAIA C/25637).

identification of 40 more examples of SPT. This material is fragmentary and comes primarily from unstratified contexts; however, it confirms the relatively small numbers of this ceramic class at Hagia Triada.

On the basis of references in Halbherr's and Paribeni's notebooks, we can also assign a tall alabastron (Fig. 12) and what appears to be a bridge-spouted jar (Fig. 13) to the final destruction layer of the Villa. Both fragmentary vessels are decorated with the same version of foliate spray. The motif is characterized by a double stem, sometimes filled by a row of dots, outlined by two rows of elongated and curved leaves. The space between these vertical sprays is filled by peculiar motifs of which the star with dotted rays is the most frequent. Both the shape and decoration of these vases find exact parallels among the small number of SPT vases recovered in the final destruction deposits of the Villa.⁵³ Moreover, on the basis of a large group of unstratified sherds recovered in both the early and recent excavations (Fig. 14), it is now possible to identify this spray as the most frequent SPT motif in use at the site. The popularity of this particular version of SPT spray at Hagia Triada stands out even more, when one considers that the spray motif is otherwise rare on Cretan SPT vases⁵⁴ and that none of the other instances correspond closely with those from Hagia Triada.

Another SPT vase that can be assigned to LM

⁵¹ Halbherr, Stefani & Banti 1977, 113, figs. 73–8.

⁵² Pernier & Banti 1951, 178, fig. 107b.

⁵³ Halbherr, Stefani & Banti 1977, 79, fig. 49; 94–5, figs. 60–2.

⁵⁴ Müller 1997, 135–8; Niemeier 1985, 94, fig. 38.

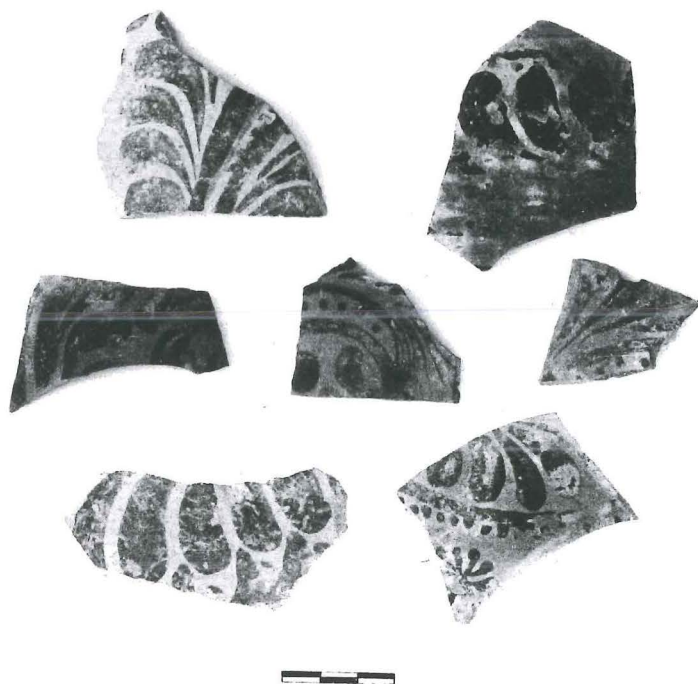


Fig. 14. Sherds from early excavations without provenance (Arch. SAIA C/25998).

IB DFV comes from the *Vano con Pilastro* (Fig. 10g). It is probably a two-handled bowl decorated with a clump of papyrus-waz on the body. Leaves decorate the rim, while stars with dotted rays again fill the space between motifs on the main frieze. This vase has two very close parallels from Archanes⁵⁵ and Knossos.⁵⁶ On both, however, we can observe differences with the Hagia Triada example, particularly in the absence of leaves on the rim and the stars which do not have dots at the ends of the rays. This filling motif occurs once again on a small two-handled bowl from *Vano con Pilastro* (Fig. 10h) where it fills lozenges bordered by groups of three parallel lines. The recurrence of this filling motif and the exceptional technical characteristics of the vase suggest that it too should be placed in the SPT group, although its decoration is otherwise unparalleled.

Peculiar stylistic and iconographic features can also be observed among the SPT vases published by the first excavators. The tall alabastron C 3000 from Room 14 of the Villa,⁵⁷ decorated with sacral ivy, has been compared with an example from

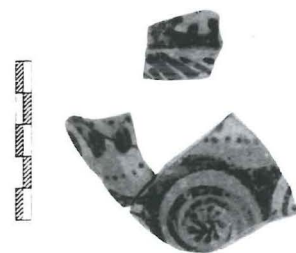


Fig. 15. Closed vessel from the Marakis property (Arch. SAIA C/72464).



Fig. 16. Closed vessel HTR 1535 from the Marakis property (Arch. SAIA C/38609).

Hagia Eirene with similar shape and decoration.⁵⁸ Some of the subsidiary elements, however, are only present on the vase from Hagia Triada. First, there is the usual motif of stars with dotted rays and secondly, the frieze combining the "Adder pattern", a dot band and curved leaves on the neck. This composition, although attested sporadically in Central Crete and Kythera,⁵⁹ is never rendered elsewhere with the same style as on the vase from Hagia Triada. The one exact parallel comes again from Hagia Triada – a beak-spouted jug from the *Casa del Lebe*⁶⁰ with an identical frieze on its neck and a larger composition of double axes with sacral knot on the body and stars with dotted rays.

We may also assign the SPT vases from the Marakis property (both from Walls 1–3 and Trench

⁵⁵ Sakellarakis & Sakellaraki 1997, 436, fig. 411.

⁵⁶ Hood 1961–2, pls. 2, 4; Hood in this volume.

⁵⁷ Halbherr, Stefani & Banti 1977, 94, fig. 60.

⁵⁸ Popham 1987.

⁵⁹ Müller 1997, no. 166 (Knossos); Mountjoy 2003, no. 189; Coldstream & Huxley 1972, dep. Nu, no. 34, fig. 43.

⁶⁰ Halbherr, Stefani & Banti 1977, 262, fig. 175.

C/1 sectors) to LM IB DFV because it appears unlikely that this ceramic class, so closely associated with the palaces, would have remained widely in use at the site after the final destruction of the Villa.

With the addition of this evidence from the Marakis property (Walls 1–3; Trench C/1), the decorative repertoire of SPT at Hagia Triada thus includes rosette, reed, starfish and double axe, octopus⁶¹ and arcade. We again observe the presence of stars with dotted rays, which appear to be a significant feature. They are placed at the center of the spirals on a very fragmentary closed vessel decorated with the arcade group (Fig. 15), an association that is extremely rare in Crete.⁶² On another closed vessel, the stars accompany a rosette (Fig. 16), which is more rigid than the example from Sounding VI.

In conclusion, the analysis of the evidence from the earlier and more recent excavations at Hagia Triada appears to highlight several peculiarities in the SPT vases circulating at the site. These features include both the choice of motifs (spray with double sinuous stem and occasional fill of dots and long, curved leaves; stars with dotted rays used as a secondary motif in floral or lozenge friezes or arcade group spirals; and the “Adder pattern”) and the style. These peculiarities are particularly significant, because they provide possible evidence of individual artisans or workshops. The emerging picture is not easily reconciled with the traditional view that one or more Knossian workshops produced the SPT class of pottery for all of Crete, including the Mesara.⁶³ The alternative hypothesis, suggested by the Hagia Triada evidence, is that there were regional centers of production, whose peculiarities are still difficult to recognize because of the fragmentary nature of the available evidence and the homogeneity of the iconographic repertoire used on the SPT products.

The pottery kiln recovered to the east of the *phylakeion* is the largest yet found in Crete and a clear indication that Hagia Triada was a center of pottery production, at least in LM IB. Pottery of this date was recovered inside and around the kiln, where it was likely fired. Among these sherds are several vessel types which appear frequently at Hagia Triada during LM IB DFV, including fine

open vessels decorated with foliate band with double stem and fine closed vessels, like bridge-spouted jars and collar-necked jugs, with large pairs of retorted spirals. These vases were thus produced at the site.

We also find rare shapes, like a fragmentary pilgrim flask and large pithoi with incised wavy bands (this latter shape is also attested by a waster). Exact parallels of both shapes were recovered in the Villa,⁶⁴ suggesting that there was a close link between the production of the kiln and the nearby building, which must have had a decisive role in the consumption and distribution of its products.

A further contribution to our understanding of the system of LM IB pottery production at the site is offered by a group of nearly 40 vessels coming from the *Váno con Pilaistro*. These consist of conical cups of Types 1, 3 and 5, rounded cups, bowls, bridge-spouted jars and beak-spouted jugs, all of which show the same, exceptionally low quality of technological, morphological and decorative features. The decoration in particular, has been made by two distinct painters, neither of whom is capable of drawing with a consistent line. As a result, the compositions and the motifs typical of LM IB DFV pottery, such as spirals, reeds, buds, crocuses, appear so distorted as to be almost unrecognizable (Fig. 17). This is not the place to discuss the matter in detail; however, I would like to highlight the existence of a workshop, probably including beginners or non-specialists. This group produced and distributed vases of a distinctly lower standard than the pottery usually circulating at the site and documented by the sherds from the kiln.

The end of LM IB at Hagia Triada: *status quaestionis*

There is a wide gap in the extant archaeological evidence from Hagia Triada for the period between

⁶¹ Puglisi 2003a, 184, fig. 28.

⁶² Müller 1997, n. 41 (Zakros); Mountjoy 2003, n. 243.

⁶³ Müller 1997 with bibliographical references.

⁶⁴ Halbherr, Stefani & Banti 1977, 46, fig. 15 (pilgrim flask); 144, fig. 92 (pithos).

Fig. 17. Beaked-spouted jugs HTR 1169 and HTR 1179 from the *Vano con Pilastro* (Arch. SAIA C/23569).



the final destruction of the Villa and LM IIIA1. It remains an open question whether this gap corresponds to a real period of abandonment at the site⁶⁵ or is simply the result of poor visibility in the archaeological record. Two arguments offer support for the latter interpretation. The first rests on the fact that most of the stratigraphic levels belonging to these intermediate phases (primarily in the *Villaggio* area) were removed during the early excavations without any notation in the notebooks. No less important, the continuous reoccupation of the site produced deep alterations to earlier levels, particularly in the area of the *Villaggio*.

The LM IB DFV–LM IIIA1 gap may be filled, at least in part, if we accept the existence of LM IB material produced after the final destruction of the Villa. There are, in fact, two different groups of ceramic contexts recovered during the new excavations, which reveal stylistic features that are not consistent with the LM IB DFV pottery.⁶⁶ In the first group, the differences with the LM IB DFV pottery are limited to stylistic characteristics that are still properly LM IB, while the second assemblage contains features with links to LM II. Therefore, I have distinguished the first group as

“LM IB post DFV” and the second as “LM IB/II”, thus making explicit reference to the subsequent ceramic phase.

Some caution should be observed from the beginning because the amount of pottery from these contexts is small, and in some cases the stratigraphy was disturbed by later activities at the site. As a result, the identification of these ceramic groups as possible LM IB phases which post-date the final destruction of the Villa must be considered, particularly for LM IB post DFV, a working hypothesis in need of future tests.

LM IB stratified contexts which post-date the Villa Final Destruction

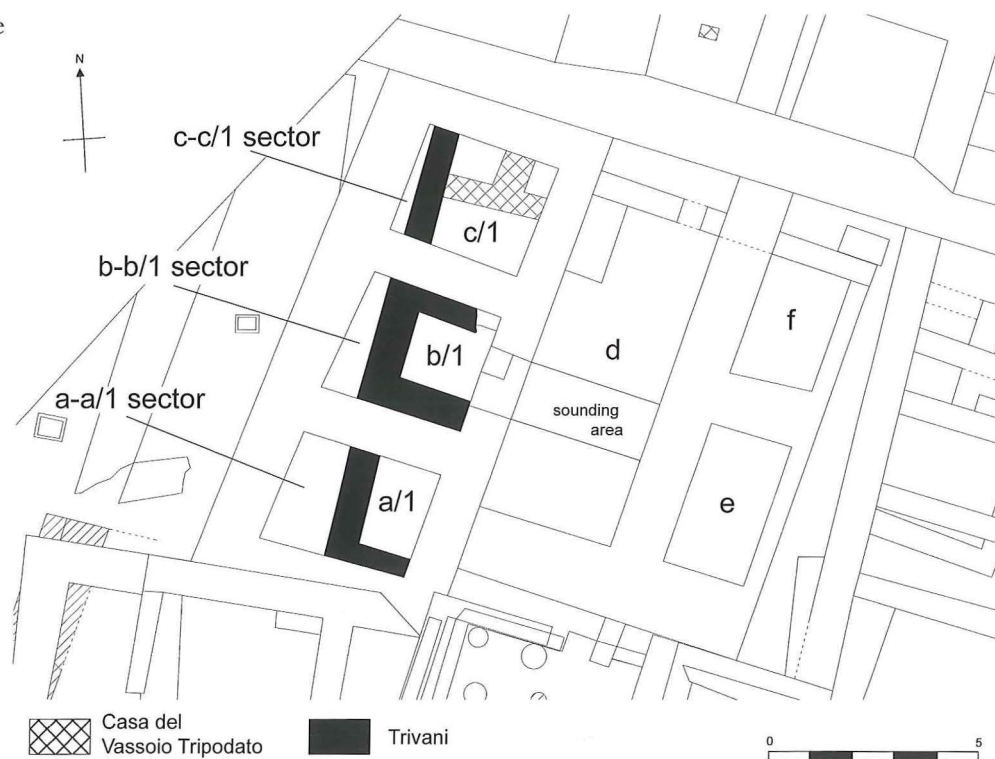
All the contexts which I have proposed to assign to an LM IB stage later than the final destruction of the Villa were recovered in 1985 during soundings made in the area of the *Edificio Ovest*.⁶⁷ This building, brought to light in 1911 and located in

⁶⁵ La Rosa 1997; D’Agata 1999.

⁶⁶ Puglisi 2003a.

⁶⁷ La Rosa 1989b; 1997; Puglisi 2003a; 2006.

Fig. 18. Soundings in the area of the *Edificio Ovest*.



the sector north of the *Muraglione a Denti*, appears to have been inserted between the *Edificio Nord-Ovest* to the north and Rooms x, y, and z to the south. It was built together with the *Edificio Nord-Ovest* and *Megaron P* as part of the monumental architectural complex which in the second LM IIIA2 phase of the settlement formed the north side of the *Piazzale dell'Agorà*.⁶⁸

The plan of the *Edificio Ovest* includes a rectangular central room (Fig. 18) that is elongated on its north-south axis and flanked by two rectangular rooms on the east side and three square rooms on the west side. The first excavators discovered an older building beneath Rooms a, b, and c of the *Edificio Ovest*. This building, known as the *Trivani*, comprises a sequence of three square rooms with paved stone floors (a/1, b/1 and c/1) and has a north-south orientation that is slightly offset from the later *Edificio Ovest*.

The new soundings which were opened here beneath the *Edificio Ovest* focused on Rooms a, b and c and a narrow trench in Room d. In the narrow sectors between Room a and Room a/1 and again between Room b and Room b/1, the first excavators stopped at a level corresponding to

the base of the west wall of the *Trivani*. Renewal of the excavations permitted the identification of a lower layer immediately below and ca. 0.20 m thick with a uniform deposit of LM IB pottery with many joins. This layer rested on a stone level sloping up to the north, under which lay a secure deposit of LM IA Initial, which probably corresponds to the destruction layer of the nearby *Casa del Vassoio Tripodato*. Because of its position above the stone level and the large number of joins, the new LM IB layer probably represents a fill from the levelling of an adjacent area. It is the small deposit of pottery from this layer that we are proposing to assign to LM IB post DFV.

The 1985 excavations also extended into the sector between the western border of Rooms c and c/1, where the small size of the space (about 0.20/0.30 m) did not allow work to reach the deepest levels. The upper levels again provided a small deposit of pottery, which included nearly 180 LM IB sherds and 15 tiny LM IIIA intrusions. The

⁶⁸ For the architecture of the *Piazzale dell'Agorà* in the two LM IIIA2 phases, see Cucuzza 2003, with bibliographical references.

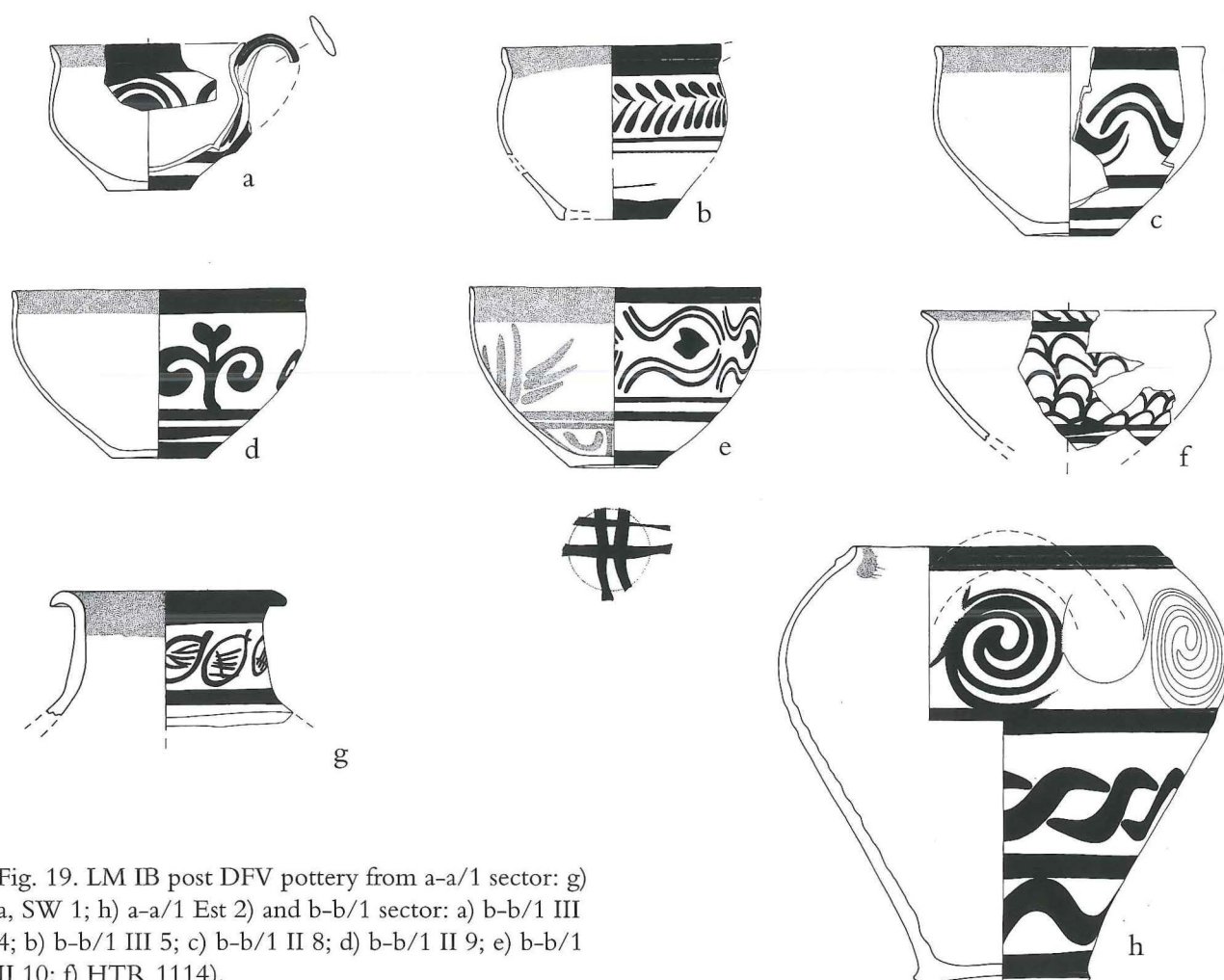


Fig. 19. LM IB post DFV pottery from a-a/1 sector: g) a, SW 1; h) a-a/1 Est 2) and b-b/1 sector: a) b-b/1 III 4; b) b-b/1 III 5; c) b-b/1 II 8; d) b-b/1 II 9; e) b-b/1 II 10; f) HTR 1114).

LM IB pottery from this context exhibited more advanced stylistic features than the pottery found in Sectors a-a/1 and b-b/1 and therefore could be assigned to LM IB/II. The stylistic difference between the two groups was also confirmed stratigraphically because the layer from Sector c-c/1 was not placed under the *Trivani*, as in sectors a-a/1 and b-b/1, but covered the building. In fact, the west wall of the *Trivani* in this sector went down further than in Rooms a and b, probably following the slope of the bedrock.

The most substantial context which I propose to assign to the LM IB/II group comes from a sounding carried out under the LM IIIA2 floor level of Room d. This space, which corresponds to the passage between Rooms b and d, measured roughly 1.00–1.20 m by 3.00 m. The context provided about 350 LM IB fragments, which were found with nearly 30 LM IIIA sherds (probably intrusions) and nearly

50 sherds that are LM II in style. Because of the small size of the area, it was again difficult to clarify the exact relationship between the layers; however, the stylistic consistency of the LM IB ceramics, the frequency of the joins, and the discovery of two well-preserved vases, including a monochrome collar-necked jug (Fig. 22m), all suggest that this sounding reached part of a wider destruction layer, the upper level of which was partially removed when the area was levelled for the construction of the *Edificio Ovest*.

Disturbances made by the foundation trenches for the eastern and western walls of Room d were probably limited, as observed in Sector b-b/1; this is likely the reason for the small number of LM IIIA intrusions, which come only from the upper levels of the layer. The presence of LM II sherds, some of which were recovered in the lower levels, remains more difficult to explain.

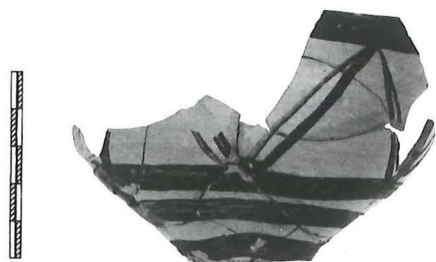


Fig. 20. Bowl HTR 1132 from b-b/1 sector (Arch. SAIA C/71378).



Fig. 21. Tall alabastron HTR 1023 from b-b/1 sector (Arch. SAIA C/22983).

The LM IB post DFV pottery

With only 200 fragments, the pottery group which I propose to assign to LM IB post DFV remains the most tenuous part of the site sequence. Due to the limited quantity of evidence, it is difficult to distinguish whether the stylistic differences from LM IB DFV are random phenomena or correspond to real, significant trends of pottery production. The risks of *argumenta ex silentio* are, in any case, limited by the detailed evidence available for the former phase.

From the standpoint of technical characteristics, the changes already observed between LM IA and LM IB ceramics appear to increase, particularly for the fine open vessels. The walls of these shapes become even thinner (with a thickness up to 0.15/0.20 cm), while the vessel surfaces exhibit a higher degree of vitrification and the paint becomes more resistant.

From the standpoint of shape and decoration there are close comparisons with the LM IB DFV pottery. Examples include the rounded cups and bowls with retorted spirals (Fig. 19a), foliate bands with double stem, multiple wavy lines, lilies (Fig. 19d), irises between festoons (Fig. 19e), or simple monochrome decoration. The greater frequency of friezes with double quirks (Fig. 19c), unlinked center spirals, and stemless foliate bands with small leaves inclined to the left (Fig. 19b) could correspond to a random event. The same may also be true for the disappearance of stemless foliate bands with leaves inclined to the right.

A new trend, however, can be observed with the thinning of lower body bands on fine open vessels and the placement of these bands. They are no longer evenly spaced as before in LM IB DFV, but appear in different groups as on an in-and-out bowl where two bands are placed just below the main frieze and a third at the base (Fig. 19e). This new arrangement anticipates the syntax which is typical for LM II. Another fine open vessel, probably a cup (Fig. 19f), shows several innovative features that distinguish it from LM IB DFV cups. It has a shallow, globular body, a shorter and more sharply everted rim that is decorated with a frieze of oblique slashes and combing scale pattern above a pair of thin bands. Another composition not attested in LM IB DFV is visible on a bowl which has pairs of diagonal lines outlining triangles (Fig. 20). This pattern may be loosely derived from the zig-zag frieze typical of the Geometric Style of the SPT group.⁶⁹

The tall alabastron appears to have increased in popularity as two fragmentary examples are attested among the otherwise small number of fine closed vessels recovered in the deposit. The shape also occurs for the first time in versions that are not comparable with the SPT group and in contexts that are not closely tied to the palatial sphere. The possible expansion of groups consuming this shape in LM IB post DFV contexts is also observed at

⁶⁹ Betancourt 1985, 147.

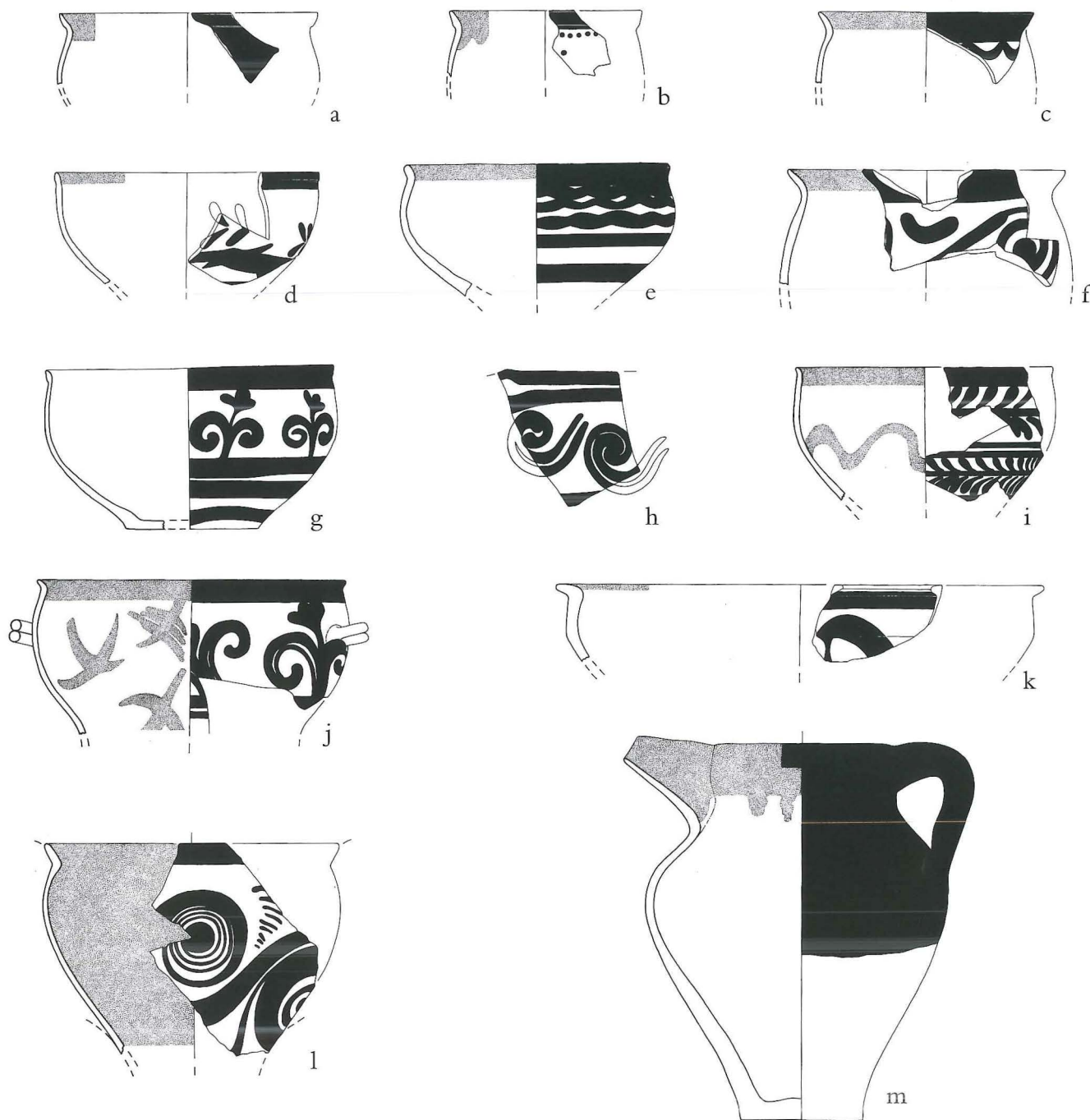


Fig. 22. LM IB/II pottery from c-c/1 sector: a) c-c/1 II 1; b) c-c/1 II 2; d) c-c/1 I 6) and the sounding in Room D: c) d I 2; e) d I 8; f) d I 15; g) HTR 1083; h) d I 17; i) HTR 1085; j) HTR 1086; k) d I 11; l) HTR 1080; m) HTR 1087).

the Artisans' Quarter at Mochlos,⁷⁰ which again represents an advanced stage of LM IB.

The decoration on these tall alabastra is also interesting. On the first we find the upper register with pairs of diagonal lines forming triangles,

though now outlined by rows of small dots. In the lower register there is a frieze of horizontal lilies with multiple stamens similar to those from the LM

⁷⁰ Barnard & Brogan 2003, 58–60.

IB DFV tradition (Fig. 21). On the other alabastron (Fig. 19g), the sloppy frieze preserved on the neck could correspond to a simplified and poor version of the hatched loop pattern frequently found on Aegean squat jugs, one of which was also recovered at Hagia Triada.⁷¹

We may also observe the frequency of spirals with unlinked centers and quirks on the small sample of bridge-spouted jars and jugs. These occur twice in the central register, with a wavy band in the lower zone (Fig. 19h). This composition is not attested in LM IB DFV.

In conclusion, a general feature which appears to distinguish the LM IB post DFV pottery from that of the previous phase is the greater variety of motifs. The analysis of the scanty available evidence highlights, in particular, the frequent use of scale pattern, pairs of diagonal lines forming triangles, and pseudo-hatched loop pattern, and all of these motifs appear to derive from the simplification or distortion of the SPT tradition. This trend, which is not attested in LM IB DFV, seems to appear for the first time in LM IB post DFV contexts, where we no longer find the SPT class.

The LM IB/II pottery

The evidence for this group is once again scanty – about 540 sherds which probably belong to at least 150 vases. In these contexts, however, the stylistic changes from LM IB DFV pottery are more evident than in the group discussed above.

From the standpoint of technical characteristics, I have not detected significant differences between this group and the LM IB post DFV pottery, with the exception of the appearance of a whitish or greenish fine fabric with a powdery surface that does not retain paint. Because examples of this particular fabric are only attested as intrusions, we cannot exclude the possibility that this fabric is later.

Rims on the rounded cups and bowls now appear wider and more distinctly everted than before. The vessels also have a lower center of gravity, giving them a shallower shape and a more open appearance. It is also worth drawing attention to the two-handled bowls which now occur in numbers

not seen earlier. A single sherd with a wide ledge rim and a shallow body probably represents another unique bowl type in this assemblage (Fig. 22k).

The decoration on the fine open vessels includes a group which is still tied to the LM IB DFV stylistic tradition. Examples include monochrome rounded cups (Fig. 22a) and cups and bowls with multiple wavy lines (Fig. 22e), lilies (Fig. 22g, j), and a variety of foliate bands with single (Fig. 22i), double, or no stems. These stemless examples employ small leaves inclined to the left (Fig. 22d). Some examples from this same group exhibit stylistic peculiarities. On a two-handled bowl (Fig. 22j), we find a thin, double roll handle and a frieze of large lilies on the body, both unattested elsewhere at the site, while the interior is decorated with a pattern of wide crosses that were typical of the in-and-out style of LM IA.

In addition to this group, which is closer in style to the LM IB DFV tradition, a second group reveals features that appear to form an intermediate transition between LM IB and LM II. On three fragmentary open vessels, we find a frieze with simple or double festoons that are pendent from the rim (Fig. 22c), while a fourth is decorated with a band of small dots in the same position beneath the rim (Fig. 22b). These patterns are absent in the LM IB DFV contexts, but are attested in the pottery from the dump south of the House of the Snake Tube at Kommos.⁷² This deposit, which J. Rutter now assigns to a very late stage of LM IB that is earlier than the LM II contexts in the Unexplored Mansion at Knossos, also offers the most significant parallels for the LM IB/II pottery at Hagia Triada.⁷³ We may also assign a fragmentary rounded cup or cup-rhyton (Figs. 22f and 25a) to this innovative group. It exhibits an exceptionally wide and everted rim and is decorated with a frieze in which the spaces between the retorted spirals are filled with single festoons, perhaps a forerunner of the pattern with spirals and multiple arcs that is typical of LM II pottery.⁷⁴ A new spiral, without parallels and

⁷¹ Halbherr, Stefani & Banti 1977, 261, fig. 172.

⁷² Watrous 1992, nos. 349, 353, 354, 356, 390; Rutter in this volume.

⁷³ Rutter in this volume.

⁷⁴ Popham 1984, pl. 168, nos. 107–9, 112.

probably derived from a modified retorted type, appears on a bowl fragment (Fig. 22h). On both these examples, the soapy vessel surface and the flaky paint remind us of technical features that are peculiar to LM II pottery. Another bowl fragment carries a rigid and stylized version of ivy (Fig. 23) that has close parallels in the unstratified pottery from the Unexplored Mansion.⁷⁵ Finally, there is a bowl fragment on which the typical rim band has been replaced by a sequence of slashes on top of the rim. This subsidiary decoration is not found in either the LM IB DFV or the post DFV vases, but is seen on material from the dump at Kommos⁷⁶ and in the Artisans' Quarter at Mochlos.⁷⁷ Another noteworthy subsidiary element is represented by the slashes on the handles of fine decorated pottery. These slashes are not found on the LM IB/II pottery from Hagia Triada, which establishes another link with the Kommos dump where they again are rare.⁷⁸ In contrast, such slashes are common on the pottery from the LM II levels in the Unexplored Mansion at Knossos.⁷⁹

The small number of fine closed vases also exhibits a mix of features, some of which follow the previous LM IB tradition, while others again appear to be innovations looking ahead to the next phase. In the conservative group, there are numerous examples with unlinked center spirals and double quirk friezes. Another is decorated with an impressive double foliate band on the upper shoulder and a lower frieze of iris between festoons (Fig. 24). The vases in the innovative group are decorated with scale pattern, which occurs in both simple and double versions, while an exceptional fragment, probably from a jug, carries a frieze with double festoons and pendent flowers (Fig. 25b). This motif is clearly derived from the crocus and festoon patterns of the SPT repertoire.⁸⁰ Finally, a fine painted sherd, which probably comes from a stirrup jar, may indicate the greater frequency of this shape (which was represented by coarse examples in the LM IB DFV contexts).

The chronological relationship between the LM IB/II evidence described above and the LM II sherds from these same contexts will probably remain unclear. The LM II pottery from these contexts, which is currently under study by A. L. D'Agata,

includes both goblets and blob-cups. So far the only published specimen is a goblet (HTR 1080; Fig. 22l),⁸¹ which is decorated with a frieze of spirals and festoons, peculiar to this shape. The possibility that the LM II sherds are contaminations introduced during LM IIIA2 cannot be excluded; however, it should be noted that LM IIIA contaminations are attested only in the upper levels, while the LM II fragments are only found in the lower levels. It thus appears possible that these LM II sherds were in use at the same time as the remaining LM IB/II pottery. This second possibility also finds support from the recent discovery of blob-cups at other Cretan LM IB contexts (Mochlos⁸² and Chalara⁸³). One should also not forget that LM II style goblets have been found with pottery that is otherwise LM IB in style at Knossos,⁸⁴ Kea,⁸⁵ and Kythera.⁸⁶

Final remarks

Our understanding of the stylistic and chronological developments of LM IB pottery at Hagia Triada remains complex and incomplete. There are, however, indications both from the site and from comparisons with pottery from other Cretan sites that progress is being made. For now I would summarize these results with the following points:

The last great LM I building phase of the Villa and *Villaggio* at Hagia Triada took place at a time corresponding roughly to the Thera volcanic eruption at the end of LM IA/beginning of LM

⁷⁵ Popham 1984, pl. 123 a.

⁷⁶ Watrous 1992, nos. 352, 383.

⁷⁷ Barnard & Brogan 2003, fig. 10, IB.241.

⁷⁸ Watrous 1992; Rutter in this volume.

⁷⁹ Popham 1984. The same feature is attested also in LM IB contexts from Knossos: see Warren and Hood in this volume.

⁸⁰ Betancourt 1985, 136, fig. 108.

⁸¹ La Rosa 1997, 252, fig. 1.

⁸² Barnard & Brogan 2003, 46, IB.206, fig. 6; IB.214 e, IB.218, fig. 8.

⁸³ Palio 2001a, 301, n. 414, figs. 39e, 51e.

⁸⁴ Unexplored Mansion, South Corridor deposit: Popham 1984, 158, pl. 124; Hatzaki in this volume.

⁸⁵ Cummer & Schofield 1984.

⁸⁶ Coldstream & Huxley 1972; Broodbank, Kiriati & Rutter 2005.

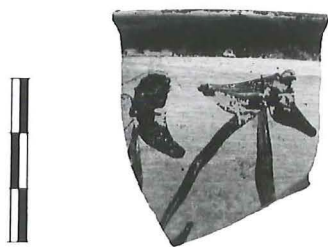


Fig. 23. Bowl (?) fragment from the sounding in Room d (Arch. SAIA C/22978).

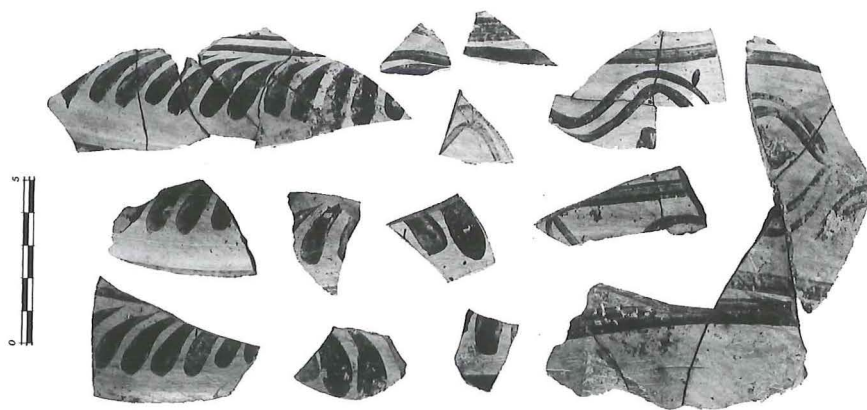


Fig. 24. Closed vessel HTR 1077 from the sounding in Room d (Arch. SAIA C/22974).

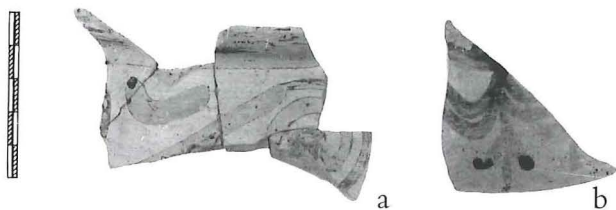


Fig. 25. Fragments from the sounding in Room d (Arch. SAIA C/71432).

IB. The pottery from Hagia Triada shows strong links to the earlier LM IA tradition, with a few exceptions that anticipate LM IB styles.

The final destruction of the Villa appears to take place during a stage of LM IB that is earlier than the destruction attested at the Chalara Quarter in Phaistos and the Artisans' Quarter at Mochlos. At both of these sites, we find ceramic elements, like friezes with stylized versions of SPT motifs and blob-cups, which are not attested in the LM IB DFV contexts at Hagia Triada, and this absence is unlikely to be accidental.

The probable existence of LM IB contexts later than the final destruction of the Villa at other locations, such as the destruction of the Chalara Quarter and of the Artisans' Quarter at Mochlos, provides support for the existence of a similar LM IB post DFV stage at Hagia Triada.

Finally, some pottery contexts from Hagia Triada and other Cretan sites (LM IB Final destruction layers in the Villas at Tylissos and Nirou Chani and the dump south of the House of the Snake Tube at Kommos)⁸⁷ contain vases that are LM IB in style side-by-side with others that clearly anticipate LM II. The ceramic evidence from these contexts

appears to be even later than LM IB post DFV and thus forms a transitional stage just before the LM II contexts from the Unexplored Mansion at Knossos.

The new evidence presented in this workshop will surely provide both confirmation and challenges to the hypotheses that have previously been proposed for the period. Already there is clear evidence for the need to employ more rigorous interpretive approaches that study homogeneous contexts and place emphasis not only on single vessel types but consider the total range of stylistic elements that characterize the context. In such a way, chronological shades which have easily eluded the traditional chronological categories proposed by Evans become more evident and may contribute more effectively to our understanding of the entire LM IB period, as opposed to just one point at the end of the Second Palace Period.

⁸⁷ For Tylissos, Hazzidakis 1912; for Nirou Chani, Xanthoudides 1922; for Kommos, Watrous 1992 and Rutter in this volume; for LM IB pottery from Knossos with very late stylistic features, see Hood and Warren in this volume.

Makrygialos reloaded: the LM IB pottery: a response to Dario Puglisi*

Eleni Mantzourani

This paper begins with a brief response to Dr. Puglisi's paper on the LM IA and LM IB pottery from Hagia Triada before discussing the ceramic material from the Makrygialos "Villa" in East Crete. The study of this assemblage had just begun when the LM IB pottery conference was announced, and this paper is our first presentation of the pottery uncovered in the Makrygialos Neopalatial building. It serves as a small contribution to the important developments in LM IB pottery discussed at this workshop.

Response to D. Puglisi's paper

I read Dr. Puglisi's paper regarding the LM I deposits from Hagia Triada with great interest and attention. He has approached his subject methodically and with deep knowledge of the material. His observations on the LM IA–LM IB/LM II pottery assemblages of this well-known Central Cretan site are presented in a detailed and at the same time didactic manner. My questions and remarks are both of minor and major importance. I shall begin with a general observation on the nature of the contexts from which the ceramic assemblages (LM IA and the sub-phases of LM IB) under examination come. In the description of these deposits, it is not always clearly stated whether or not they represent floor deposits. If they do not and the entire sub-phasing system of Dr. Puglisi is not based on closed and safe deposits, then I believe his observations should be *a priori* considered preliminary.

In his typology of the LM I conical cups from the Villa, Puglisi has explicitly demonstrated that five types of conical cups can be attributed to LM IA and four to LM IB. Without underestimating

the usefulness of typology as a method for analyzing categories of material culture, this medium should be applied cautiously. The LM IA conical cup Types 1, 4, and 5 and LM IB Types 1, 4, and 5, illustrated in the paper, look nearly identical to me. This close resemblance makes me skeptical of how useful such a typology, based on the subtle differences of wall and base thickness, can be for chronology. One should not forget that conical cups were produced on a massive scale, giving them the appearance of a recyclable ceramic material.

Another question concerns the foliate band motif. Puglisi argues that during the LM IB Final Destruction sub-phase a version of this motif with a single stem is replaced by the type with a double stem. If this is the case at Hagia Triada, then how can one explain the fact that at other sites, such as Zakros and Makrygialos, both versions of this motif are found side by side in the same deposit? Should these different renderings of the motif be perceived as chronological markers?

* I wish to express my deepest thanks to Dr. T. Brogan and Dr. E. Hallager for inviting me to participate in this workshop. I would also like to thank Prof. C. Davaras for permission to study and publish the "Villa," the University of Athens and INSTAP for their financial support of the Makrygialos Study and Final Publication project, which was carried out in February and September 2007. Special thanks are addressed to Dr. G. Vavouranakis, my main research assistant, and my postgraduate students, Mr. M. Zoitopoulos, Mrs. A. Chrisanthi and Mrs. A. Synodinou, for their hard work and devotion to this project. Mr. M. Zoitopoulos has taken and processed all the photographs presented in this paper, apart from Figs. 1–2, which were kindly supplied to me by Prof. C. Davaras. Many thanks are due to both of them. The drawing of the vase illustrated in Fig. 9 was executed by D. Faulmann to whom I owe many thanks.



Fig. 1. Aerial photograph of Makrygialos.

Additionally, it is not clear if the term “LM IA Initial phase” actually signifies a transitional phase, otherwise known as MM IIIB/LM IA at other sites on the island. From the examples cited (various types of cups and ripple pattern decoration), it appears that this is in fact the case for Hagia Triada as well.¹

I still find the distinction between the LM IA Final and the LM IB Villa Destruction pottery problematic because it depends mainly on stylistic criteria. It appears that some of the LM IA Final motifs (e.g., rosettes, reeds, foliate bands) also occur in the so-called Special Palatial Tradition at other sites, especially in East Crete. Why should

we not simply call this phase LM IB? Dr. Puglisi links this LM IA Final phase primarily to its LM IA Final counterpart contexts at Kommos; however, is there enough evidence to demonstrate that such a distinct sub-phase really did exist, particularly when there are still no counterparts at other sites on the island?

Another remark concerns the two phases after the LM IB destruction of the Villa. As Dr. Puglisi himself notes, the first post-destruction phase has no parallels on Crete. Furthermore, does his last

¹ For the respective deposits at Knossos, see Macdonald 2004, 241–8.

LM IB/LM II phase include blob-cups and goblets? If yes, why does he not simply call this phase LM II? Finally, what is the historical significance of these sub-phases for the rest of the island, if there are no real parallels and the stratigraphy of Hagia Triada is problematic (i.e., different sub-phases have been recognized only in different assemblages from separate sectors of the Villa)? The picture formed in my mind is a series of sub-divisions for LM IA and LM IB that show developments in pottery production only at the local level, but whose wider historical importance is still unclear. In summary, although Dr. Puglisi's paper undoubtedly contributes to our study of the duration, character and significance of the LM IA and LM IB periods, especially in Central Crete, his final remarks still leave a number of issues open.

The presentation of the Makrygialos pottery assemblage that follows may be viewed as a useful contrast between Central and East Crete.

Makrygialos reloaded: the LM IB pottery

In two seasons, 1972 and 1977, Professor Costis Davaras, who was then in charge of the 24th Ephorate of Prehistoric and Classical Antiquities, exposed the substantial remains of an important Neopalatial building at the site of Plakakia in the coastal village of Makrygialos. Professor Davaras later entrusted me with the study and final publication of this important structure. The first short period of study (essentially reconnaissance) took place in February 2007 and lasted about ten days. In September of the same year, two months after the LM IB pottery workshop, a second study season was undertaken. This second season was devoted to the study of the pottery and indeed enriched our knowledge of the ceramic material from the "Villa", although there is still much more work to be done.

The Makrygialos building (Figs. 1–2) lies on a low hill immediately above an anchorage already known from Roman times as "Kala Nera." According to the excavator's preliminary reports² the ancient remains uncovered there were greatly disturbed by contemporary land cultivation, and

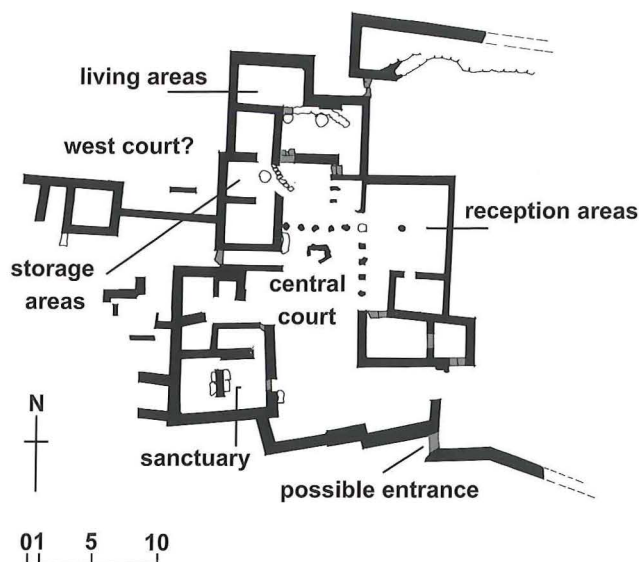


Fig. 2. Ground plan of Makrygialos "Villa".

this disappointing picture was certainly confirmed by our first visit to the site.

The importance of the site is attested by its unique architectural design, which resembles a miniature palace, the objects found inside, and its strategic position in the landscape connecting it with commercial maritime activities. The excavator has dated both the foundation and final destruction of the site to the LM IB period, primarily on the basis of the fine ware vessels, among which are superb examples of the Floral and Marine Styles,³ as well as characteristic types of coarse ware.⁴

Before proceeding to the discussion of the ceramic evidence from Makrygialos, it should be stated that the study of the material from the site is still at a preliminary stage. There is more unpublished material to be processed and the excavation notebook, although brief, needs further careful study. So far, the notebook has provided great assistance, especially regarding the relationship between the location of finds and the stratigraphic units. Under these circumstances, it is evident that any conclusions presented here will be of preliminary character.

² See Davaras 1973; 1977; 1985; 1997.

³ See Davaras 1997, 126–30, figs. 17–20, 23–5.

⁴ See Davaras 1997, 130–3, figs. 32, 34–41.

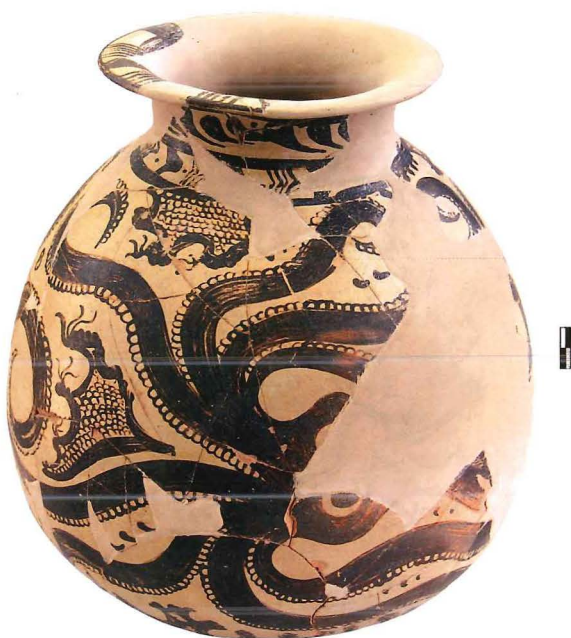


Fig. 3. Tall baggy alabastron decorated with octopus and subsidiary marine motifs.

It should also be noted that according to extant excavation data, Makrygialos witnessed a single phase of occupation. The excavation notebook and more recent examination of the baulks in the various parts of the building indicate the presence of only three stratigraphic layers: topsoil, a fill of collapsed debris and the floor deposits. In addition, the study of the architecture shows no intermediary repair phases, apart from a few blocked openings.

Finally, bedrock was found immediately below most of the floor levels. While it is true that the excavation notebook does not record any test trenches sunk below the floors to prove conclusively the absence of earlier phases, we do not think that any earlier floors are likely to be found.

So far, we have examined, cataloged and photographed all the complete or nearly complete vases. Additionally, we have conducted a detailed study of a large part of the sherd material. Complete and nearly complete vases and sherd material are being entered into a database with detailed descriptions of each piece (i.e., catalog number, vase shape, dimensions, fabric, surface treatment/decoration, context and other relevant information). We have also examined the fabrics macroscopically, and are in the process of preparing a petrographic study.

Our examination of the pottery from Makrygialos, and in particular the complete and nearly complete vases and sherds, has confirmed that the material dates to the LM IB period. In the following presentation only a selection of the main shapes and decorative motifs⁵ will be discussed, with

⁵ Although Niemeier's important article (1980) regarding the shape and decoration of LM I pottery has influenced many studies on the pottery of this period, there have been significant developments on the subject since then, which have either revised or added to his proposed system.



Fig. 4. Tall baggy alabastron fully painted with "sponge print" motif.

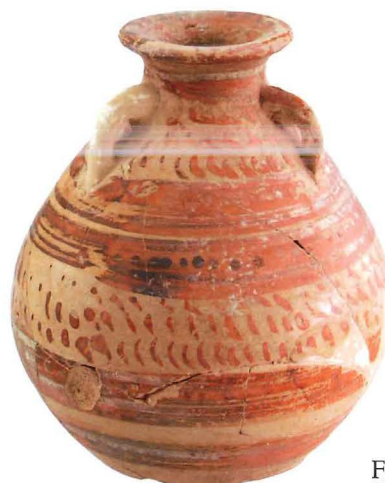


Fig. 5. Short baggy alabastron painted with small strokes.



Fig. 6. Three rounded cups: upper, left with crescent motif, right with dotted festoon; lower with single-stemmed foliate band.

reference to parallels from other contemporary sites in East Crete (e.g., Mochlos, Pseira, Zakros or Palaikastro) and whenever possible with finds from Central Crete (e.g., Knossos, Phaistos or Hagia Triada).

Fine/semi-fine ware

Macroscopically we have distinguished six different fabrics of fine and semi-fine wares. A number of well-known LM IB shapes and decorative patterns are found in these fabrics.

Two different types of the so-called baggy alabastron came to light at Makrygialos, the tall and short versions.⁶ Vases of the first type⁷ appear to have been imported from Knossos and are decorated with palatial Marine (Fig. 3) and Floral (Fig. 4) Style motifs (e.g., octopi, nautili, papyri, reserved rosettes or what is otherwise called “sponge-print”). The second, smaller version of alabastron⁸ is either locally produced or of East Cretan provenance (Fig. 5). Close parallels for this type have been found at Zakros,⁹ Mochlos,¹⁰ and Chryssi,¹¹ where they are decorated with rows of flecks, strokes or even schematized foliate bands.

In addition to the undecorated and decorated conical cups that are so popular at every LM IB Cretan site,¹² there were other cup shapes in use at Makrygialos. These include three fine rounded cups, one of which has a spout (Fig. 6). One cup is decorated with dark bands and a row of crescent motif, the second with what appears to be a dotted



Fig. 7. Two partially preserved ogival cups.

festoon, and the third with a single stem foliate band. The decoration of the first two is quite rare for this particular shape.¹³ Close parallels for the shape are found at Mochlos,¹⁴ Pseira,¹⁵ and Zakros.¹⁶ The “Villa” also contained a number of monochrome ogival cups (Fig. 7). The shape and decoration are found frequently in LM IB levels at Zakros,¹⁷ Mochlos,¹⁸ Palaikastro,¹⁹ and Papadiokampos.²⁰

A unique cup-rhyton (Figs. 8–9), probably also an import, is decorated with a row of retorted spirals with solid centers at the base and a single foliate band below the rim. The frieze on the body employs large pendent motifs of triple papyrus radiating from a central rosette, alternating with smaller groups of filler ornament, including small sea-anemones and groups of vertical wavy lines. The rim of the cup has an unusual interior ledge which is painted dark with reserve “sponge-print.” The decoration on the body places the vase in the SPT

⁶ For parallels from Hagia Triada, see Popham 1987, figs. 1–2.

⁷ See Davaras 1997, 127, figs. 17–20.

⁸ See Davaras 1997, 129, fig. 26.

⁹ See Platon in the present volume.

¹⁰ See Barnard & Brogan 2003, pl. 11, IB.296–7.

¹¹ Pers. comm. with V. Apostolakou, T. Brogan, and P. Betancourt in October 2009.

¹² For a detailed review of conical cups, see Gillis 1990.

¹³ For parallels from Mochlos, see Barnard & Brogan 2003, fig. 6, IB.204, IB.208.

¹⁴ See Barnard & Brogan 2003, figs. 6–8, pl. 7, IB.197, IB.201–6.

¹⁵ See Floyd 1998, fig. 8, BS/BV 125.

¹⁶ See Platon 1997a, pl. 123a; 2002a, fig. 19 left.

¹⁷ See Platon in the present volume.

¹⁸ See Barnard & Brogan 2003, pl. 6, IB.159–65, IB.167–9.

¹⁹ See MacGillivray, Sackett & Driessen 1998, fig. 6.7–12.

²⁰ Pers. comm. with T. Brogan, J. Morrison, and Ch. Sofianou in 2009.



Fig. 8. Cup-rhyton painted in the "Alternating Style".



Fig. 9. Drawing of the cup-rhyton with details of its decoration.

class of Alternating Style.²¹ The Makrygialos vase also exhibits features which appear to copy metal prototypes, including three relief discs imitating rivets where the handle attaches to the rim. The hypothesis that it may have had a special ceremonial use cannot be ruled out, although further study of its context is needed. The only close parallels for the shape of the cup are found at Zakros and Palaikastro.²² A close variation of the main motif is seen on a tall, footed cup from Phaistos²³ and a Minoan jug from a tomb on Karpathos.²⁴ Another tall cup-rhyton (Fig. 10) bearing an ivy leaf band again finds a close parallel for the shape at Zakros,²⁵ Palaikastro,²⁶ and Papadiokampos.²⁷

A number of decorated jars, including the side-spouted and cylindrical types, are also encountered at Makrygialos.²⁸ The first example is a side-spouted jar²⁹ (Fig. 11) decorated with a band of retorted running spirals with solid central discs above the

base and a frieze of running ivy and vertical foliate band between two dark bands across the main zone. It has a close parallel at Palaikastro³⁰ and is similar in shape to examples from Mochlos.³¹ A cylindrical

²¹ See Betancourt 1985, 140–4, 147–8; See also Müller 1997, 330, pl. 5.11, 6.14, 380, pl. 67.179.

²² Pers. comm. with Dr. L. Platon. The Zakros vase was found in Building B and is associated with serving wine. See also Petrakos 2005, 75, fig. 76; Bosanquet & Dawkins 1923, 72, fig. 57.

²³ See Betancourt 1985, 147–8, pl. 22, F.

²⁴ See Platon & Karantzali 2003, 196, 201, fig. 5, pl. 10b.

²⁵ See Platon 1997a pl. 123y; 2001, pl. 89 α–β; 2002a, fig. 21; 2002b, pl. XLVc.

²⁶ See MacGillivray *et al.* 1988, 269, fig. 4:1–2.

²⁷ Sofianou & Brogan 2009, fig. 5.

²⁸ See Davaras 1997, 129, figs. 24–5.

²⁹ See also Davaras 1997, 129, fig. 25.

³⁰ See Sackett & Popham 1970, fig. 15 NP 43, pl. 60d.

³¹ See Barnard & Brogan 2003, fig. 27, IB.351.



Fig. 10. Tall footed cup-rhyton decorated with ivy leaf motif.

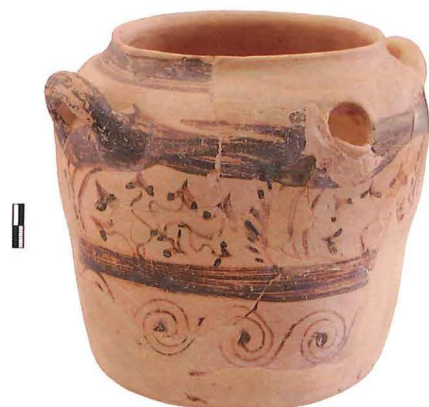


Fig. 11. Side-spouted cylindrical jar displaying ivy leaf motif combined with vertically set foliate bands on the upper zone, and running spirals on the lower zone.



Fig. 12. Two-handled cylindrical jar decorated with festoons and horizontal bands.



Fig. 13. Partly preserved strainer painted with horizontal bands.

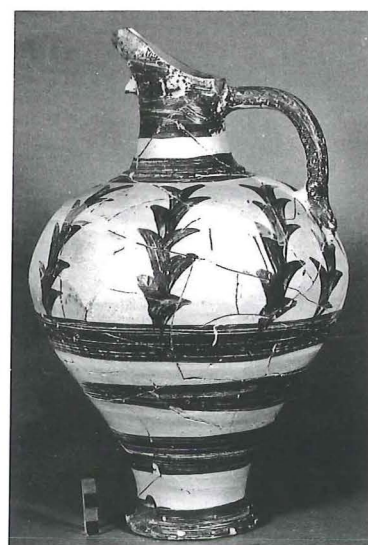
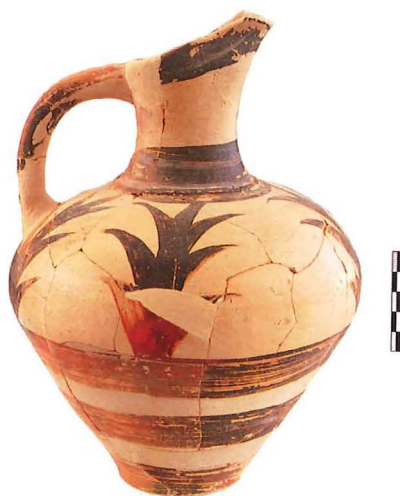


Fig. 14. a) Beaked jug with reed motif from Makrygialos; b) beaked jug with reed motif from the Palace of Zakros.

jar from the Villa is ornamented with bands and festoons (Fig. 12), while examples of the same shape from Zakros³² and Palaikastro³³ are simply banded.

A small number of strainers have been recognized in the sherd material from Makrygialos, including one fragment (Fig. 13) which resembles complete vases from Mochlos.³⁴ Parallels for the shape are also found at Zakros³⁵ and Palaikastro.³⁶

The Makrygialos assemblage also contains a variety of jugs³⁷ with close parallels from other LM IB sites on the island. Among the beak-spouted jugs is an example decorated with reed motif (Fig. 14a) that has a nearly identical parallel at Zakros (Fig.

14b)³⁸ and broad similarities with examples from Mochlos.³⁹ The second type of jug has a collared rim with horizontal spout, a more globular body, and is made in a more coarse fabric (Fig. 15). This

³² Pers. comm. with Dr. L. Platon. The examples from the site usually show a stylized foliate band just below the rim.

³³ See Sackett & Popham 1970, fig. 15, NP 59, pl. 60f.

³⁴ See Barnard & Brogan 2003, fig. 28, pl. 17 IB.357–8.

³⁵ See Platon 1974, 197, fig. 119.

³⁶ See Sackett & Popham 1970, fig. 15, NP56.

³⁷ See Barnard & Brogan 2003, 60–4 for a typology of jug shapes and parallels.

³⁸ See Platon 1974, 103, fig. 52.

³⁹ See Barnard & Brogan 2003, pl.12, IB.309–10.



Fig. 15. Collared jug with double-stemmed foliate band on the shoulder.



Fig. 16. a) Bridge-spouted jug with octopi from Makrygialos. b) bridge-spouted jug with nautili from Zakros.



Fig. 17. Spray-painted trefoil-mouthed jug.



Fig. 18. a) Stirrup jar displaying spirals with solid central discs. b) stirrup jar painted with ogival canopy.



Fig. 19. Three-handled piriform jar painted with zones of vertically set wavy lines.

particular type is usually decorated with a series of bands and a primary frieze on the shoulder, often with a foliate band. Bands of white are also frequently added over the dark horizontal bands. There are parallels for this shape at several sites in East Crete. The third type of jug has a bridge-spout and a compressed spherical body. A characteristic example (Fig. 16a) decorated with octopi finds good parallels for the shape at Zakros (Fig. 16b),⁴⁰ as well as at Mochlos and Pseira.⁴¹ This shape is in

⁴⁰ See Platon 1974, 106, fig. 53.

⁴¹ See Barnard & Brogan 2003, fig. 24, IB.328; Floyd 1998, fig. 15 BS/BV233.



Fig. 20. Two types of tripod cooking pots (left: with straight walls, right: with rounded body).



Fig. 21. Undecorated hole-mouthed jar.

fact popular at several East Cretan sites.⁴² A fourth type is the trefoil-mouthed jug. The Makrygialos example (Fig. 17) is spray-painted and belongs to the well-known category of spray-painted jugs from other East Cretan sites. It is almost identical in shape and decoration to jugs from Zakros⁴³ and Palaikastro.⁴⁴

Two classic examples of three-handled stirrup jars are also present at Makrygialos (Fig. 18a-b). One is decorated with running spirals with solid central discs, the other with ogival canopy. Good parallels for the shape and decoration were found at Mochlos.⁴⁵

Several piriform jars with three or four handles were recovered at Makrygialos.⁴⁶ One example (Fig. 19) has four broad friezes of vertical wavy lines that are separated by two or three thin horizontal bands with thicker bands of dark paint on the neck and base and slashes on the rim. The vase is identical to a piriform jar found in the Palace of Zakros and now displayed in the Siteia Museum.

Coarse/medium-coarse ware

Macroscopic examination has identified six coarse and seven medium-coarse fabrics in the Makrygialos pottery. The tripod cooking pots are among the best known vases of this class, and two types occur in large numbers at Makrygialos.⁴⁷ The first has an ovoid body (Fig. 20, right) while

the second employs straight walls (Fig. 20, left). The cooking pots were provided with either a short or longer spout. One of the distinctive characteristics of the cooking pots is the relief band on the lower body near the vessel base. A similar relief pattern is found on some of the tripod cooking pots from Zakros, while Zakros, Pseira and Mochlos provide numerous parallels for the two shapes.⁴⁸

The “Villa” at Makrygialos also contained a substantial variety of storage vessels that have not received widespread attention. Among the shapes are hole-mouthed jars (Fig. 21), which have parallels at many LM IB sites⁴⁹ and pithoi⁵⁰ of various shapes and decoration. The decoration on the larger pithoi is primarily raised rope pattern. Two examples (one

⁴² See Betancourt, 1985, pl. 20E.

⁴³ See Platon 1999a, pl. 10.4; 2002a, fig. 16.

⁴⁴ See MacGillivray, Sackett & Driessen 1998, fig. 8; 2007, 150–1.

⁴⁵ See Barnard & Brogan 2003, 69–70, fig. 29, IB.368, pl. 17, IB.368–9.

⁴⁶ See Davaras 1997, 129, figs. 27–8.

⁴⁷ See Davaras 1997, 130, figs. 35–6.

⁴⁸ For Zakros, see Platon 1996, pl. 161α. For Pseira, see Floyd 1998, 184–5, ill. 42 and for Mochlos, see Barnard & Brogan 2003, 80–2, pl. 25, IB.490–3.

⁴⁹ For Mochlos, see Barnard & Brogan 2003, 73–4, pl. 19, IB.396–7 and for Zakros, Platon 2002a, fig. 9.

⁵⁰ For a thorough study of the Minoan pithoi, see Christakis 2005.



Fig. 22. Pithos with piriform body bearing trickle motif.

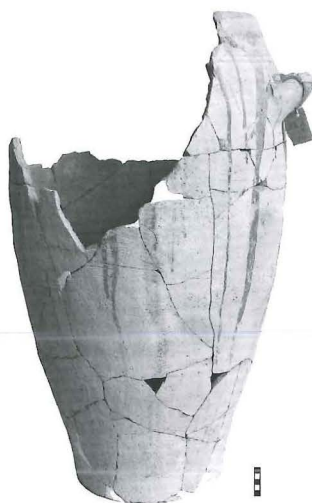


Fig. 23. Pithos with slender ovoid body decorated with trickle motif.



Fig. 24. Pithos with rope pattern decoration.



Fig. 25. Oval-mouthed amphora with trickle decoration.



Fig. 26. Two-handled large vat with hole at the bottom and trickle decoration on the interior.



Fig. 27. Two types of fireboxes (left: tripod type, right: with central dome).

with four handles and a piriform body, Fig. 22, and the other with two handles and a more slender ovoid body, Fig. 23) have trickle decoration. Another piriform pithos (Fig. 24) carries a wavy relief band incised with slashes. This latter example may be an heirloom originally imported to East Crete, if we follow the arguments put forward for a similar pithos from Mochlos.⁵¹ The Makrygialos oval-mouthed amphorae come in different sizes and decoration⁵² (Fig. 25), but all find parallels at

Mochlos⁵³ and Zakros⁵⁴ and many other sites in the central and eastern regions of the island.

A number of vats (Fig. 26) were also uncovered at Makrygialos. A few contain a hole in the lower

⁵¹ See Barnard & Brogan 2003, fig. 43, IB444.

⁵² See also Davaras 1997, 130, fig. 34.

⁵³ See Barnard & Brogan 2003, 71–2, fig. 32.

⁵⁴ See Platon 1996, pl. 160a; 2000b, pl. 134a, left; 2002a, fig. 11.

wall, near the base, as well as trickle decoration on the interior. None, however, has the large horizontal spout attached to the lower body which is characteristic of many vats connected with wine production installations at contemporary sites on Crete.⁵⁵ The size of the Makrygialos vats is quite impressive and their function needs further study. Similar types are found at Mochlos⁵⁶ and other sites in East Crete.⁵⁷

Finally, two types of fireboxes⁵⁸ are also present at the site (Fig. 27). The firebox with a central dome is more common in LM IB contexts, while the cylindrical tripod type is less frequent; however, examples of both⁵⁹ are known from LM I sites in Central and East Crete (e.g., Pseira, Mochlos⁶⁰ and the Zakros Palace).⁶¹

In summary, the Makrygialos ceramic assemblage demonstrates the typical range of LM IB shapes and decoration. One element often regarded as typical of LM IB ceramic decoration is the use of alternating dark brown and red painted bands; this decoration is frequently encountered on the pottery of the site (Fig. 28). At the same time, the use of added white paint⁶² (dots and horizontal lines) is also widespread at Makrygialos. This decoration is a well-known feature in Central Cretan MM III–LM I but is often used as an argument to prove conservatism in LM IB East Cretan pottery.⁶³

Thus far, the “Villa” has not produced much earlier LM IA material (just a few sherds with ripple or conglomerate pattern and some straight-sided cups), nor any later LM II material. Here it is important to underline the presence of shapes and motifs in the LM IB pottery at Makrygialos that are attributed to the LM IA period in Central Crete, as for example at Knossos (Fig. 29).⁶⁴ Moreover, it is clear that all the Makrygialos pottery belongs to one undivided phase.

As already demonstrated, there are close parallels with LM IB assemblages from East and Central Crete; however, we are not able to distinguish any sub-phases within LM IB, as has been done at some Cretan sites. I found it particularly difficult to correlate the evidence presented by Dr. Puglisi for LM IB sub-phases at Hagia Triada with the material from Makrygialos. At the same time, the



Fig. 28. Small side-spouted jar with alternating dark brown and red horizontal bands on body and foliate band on shoulder.

numerous close parallels with Mochlos suggest that the Makrygialos material could well fall into its Phase 2 – the main LM IB occupation deposit at the site. There are, however, problems with this hypothesis. At Makrygialos we find that the characteristic shapes and motifs (Fig. 30) of LM IB pottery (e.g., ogival and rounded cups, classic types of jugs, and motifs of both the Standard Tradition as well as the Special Palatial Tradition), coexist

⁵⁵ See Kopaka & Platon 1993, 41–66, figs. 1, 7, 10–3, 15–6, 19, 23–4, 34.

⁵⁶ For Mochlos examples, see Barnard & Brogan 2003, 55–8, pl. 10.

⁵⁷ See Kopaka & Platon 1993, 45 (from Malia).

⁵⁸ See also Davaras 1997, 130–3, pls. 37–41.

⁵⁹ For a detailed study of the fireboxes, see Georgiou 1980.

⁶⁰ For Pseira, see Floyd 1998, 186, fig. 10 BS/BV 169 and fig. 11 BS/BV 190. For Mochlos, see Barnard & Brogan 2003, 89, fig. 53, IB.616–7.

⁶¹ See Platon 1974, 196, fig. 113.

⁶² See Betancourt 1985, 139; Barnard & Brogan 2003, 105–7.

⁶³ See Betancourt 1985, 137.

⁶⁴ See Macdonald 1996, especially pls. 3B–C, 4A, 5A–C, 6A–C.

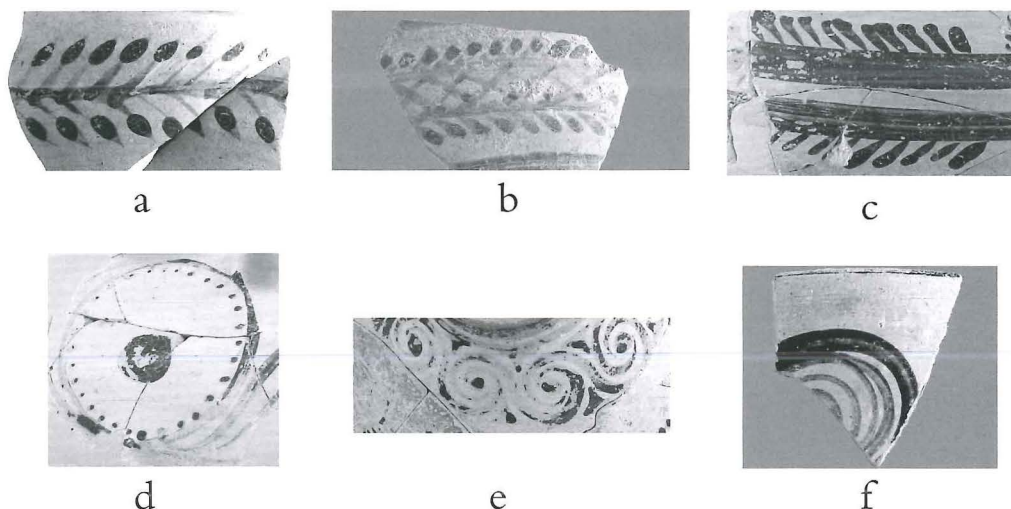
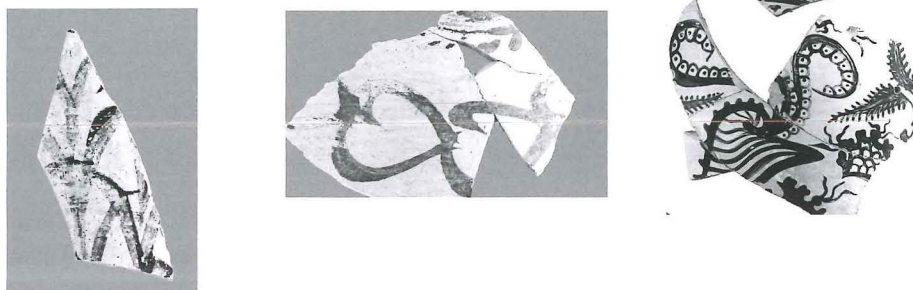


Fig. 29. Various versions of foliate bands (upper row: a, b, c) and running spirals (lower row: d, e, f).



Fig. 30. Examples of motifs of the LM IB Standard Tradition (upper row) and the LM IB Special Palatial Tradition (lower row).

Motifs of the LM IB Standard Tradition



Motifs of the LM IB Special Palatial Tradition

with vases with added bands of red. At Mochlos, vases with added red are attributed to Periods 1–2 (earlier LM IB). Thus, the Mochlos publication uses pottery with added red as a criterion for dating. For example, its presence in the destruction layer at Pseira, especially Building BS/BV, points to an earlier horizon in comparison with the Mochlos settlement in Phase 3 of the Artisans' Quarter. There, added red is absent, and it is assumed that the settlement was still in use and continued to flourish, until its final destruction at the end of the period.⁶⁵ How then can one explain the fact that

at the single-phase site of Makrygialos the ceramic features of Mochlos Periods 1–3 occur in the same deposit? It appears that a similar situation also exists at Zakros.⁶⁶

It is hoped that the Makrygialos pottery study, when concluded, may contribute to the clarification of several problems regarding local and island-wide developments of LM IB pottery production and consequently, dating issues. As a

⁶⁵ Barnard & Brogan 2003, 105–7 and especially 108.

⁶⁶ See Platon in the present volume.

final overall comment, I am convinced that if we wish to establish correlations between different site assemblages, we need a combination of three factors: clear stratigraphy, absolute chronology (wherever possible), and typological criteria for both shape and decoration that provide categories

with distinct differences. Only then can they be widely understood and applied to various LM IB sites. Otherwise, we risk mystifying our scientific methodology and dislocating ceramic typology from historical processes.

Discussion

Puglisi The questions from the respondent included many observations. I underlined that the evidence which I presented from Hagia Triada is problematic. I tried to identify some elements that in my opinion may be later than the final destruction of the Villa in order to contribute to this discussion. I think the most important evidence from Hagia Triada is represented by the LM IB contexts linked with the final destruction of the Villa because these are very large assemblages of pottery. There is a lot of evidence from other sites near Hagia Triada; so, we can study regionalism in the western Mesara. We do observe interrelations between Hagia Triada, Phaistos, and Kommos.

Brogan But this regional pattern at these three sites is difficult to trace across the island. I also would add one thing in support from Mochlos. One piece of evidence that we have (and I think you also have) are those really thin cups from your Villa destruction level, which have a foliate band, I think, with two stems in the middle. We have found two or three examples, Kellee [Barnard] can correct me, I believe in a kitchen, which has four or five floor levels. We find those in the middle floors, and based on your illustrations, they are probably imports of the same date, and probably made at Hagia Triada. You were arguing, I think, that they are local products. So, we are finding that material, not in our final destruction but – in support of what you are saying – in a middle level of LM IB, so it begins to provide some link. Mochlos in general has almost no imports from the Mesara, so when we look at Kommos pottery it is like comparing “apples and oranges”. But anyway there is one link that I can note.

Warren I think Dario [Puglisi] has done an absolutely first class piece of work by looking in great detail at the possibilities for subsequent phases to the Villa destruction, because that’s what we’re really talking about, the main issue of this question. But, I have to say that, like Eleni [Mantzourani], I am not at all convinced that there is yet enough evidence to talk about a real time phase after the main series of destructions represented by the Villa in Hagia Triada. Already we have seen examples from the destruction at Makrygialos of the same pottery, the cups with loops, which I showed (we have lots and lots of them in Knossos), the ones that you showed from the hypothetical subsequent phase. And finally, I just emphasize, as I said in an opening comment yesterday, that these deposits which Dario has presented, the post-destruction and the so-called IB:2, are simply sherds, they are not whole pots; it’s not a criticism, but we have to ask when were those pieces in use actually as whole vases. How do we know that they were not in the final main destruction period of the settlement? So, it was quite correct to examine this, but, for me anyway, I don’t see nearly enough evidence yet to postulate one let alone two separate phases after the villa destruction. And it’s hypothetical that Anna Lucia D’Agata’s kylikes and blob cups go with this material. If it could be proven stratigraphically that they go with them, as Eleni said, why not call them early LM II?

- Hood** I find this fascinating, these many badly made vases. Surely it reflects a complete breakdown, like one would expect if one believed, as I do, that there was a Mycenaean conquest. At Knossos I don't know if any deposit exists which reflects the situation immediately after the end of LM IB. But there is one warrior grave that Evans dug with a very broken down version of the Marine Style. The person who painted that jug would surely in an organized society have been sent straight to the quarries.
- Kanta** On that point may I suggest that perhaps we have evidence for products of a school of potters. It reminds me of pots that my daughter used to make when she took pottery lessons. Perhaps they put them in the kiln and fired them but thought that they shouldn't throw them out; maybe these people became potters and maybe they didn't.
- Brogan** I have looked at all (and drawn much of) the Makrygialos pottery as comparanda for Mochlos, and the beauty of the Makrygialos material, compared to all other East Cretan sites, is that it contains a tremendous amount of imported material from elite producers, probably located in Central Crete, and also imports from all the major sites in East Crete. It's a small assemblage, though Eleni [Mantzourani] has found many, many more crates of unwashed, unstudied pottery, but it's a really unique window into pottery consumption in East Crete, rather than production.

Late Minoan IB at Kommos: a sequence of at least three distinct stages^{*}

Jeremy B. Rutter

The primary purpose of the following paper is to present in summary form the existing evidence for a sequence of at least three stages of ceramic development at Kommos between the end of what we have termed Late Minoan IA (the last phase of which we call Late Minoan IA Final) and a Late Minoan II horizon that exhibits numerous close parallels with the ceramics from the major destruction level of the Minoan Unexplored Mansion (hereafter, MUM) at Knossos, the very large and extensively published body of material that presently defines the advanced LM II phase for Crete as a whole.¹ These three stages will henceforth be referred to by the terms “Late Minoan IB Early”, “Late Minoan IB Late”, and “Late Minoan IB Final”.

A secondary purpose of this paper is to present a table (Table 4) that lays out the correlations between the schema of LM IB ceramic phasing at Kommos and major published deposits of this period from other sites throughout Crete, especially those in the western Mesara most recently surveyed by Dario Puglisi.²

A third purpose of the paper is to draw particular attention to the morphological, decorative, and technological features that characterize the last phase of LM IB ceramic development at Kommos (Table 5). As the correlations outlined in Table 4 indicate, the distinction of this terminal phase from its immediate predecessor suggests that the widespread destructions that characterize the later LM IB phase throughout Crete were spread across both of these phases rather than being restricted to one or the other. As a consequence, the burnt destructions of large numbers of settlements that have traditionally defined the end of the Minoan Neopalatial era are shown to be part of a longer-term phenomenon than conventionally recognized. Analysis of the

spatial distribution of these destructions according to their temporal sequencing may result in new approaches to the interpretation of Neopalatial Crete's collapse, but it already seems clear that what was once considered a single destruction horizon that might plausibly have affected all of Crete at one and the same time, and thus might potentially have been due to a single natural disaster, can no longer be explained in such a simplistic fashion.

Late Minoan IB Early

The ceramic horizon at Kommos here termed LM IB Early is poorly represented by floor deposits or homogeneous dumped fills. The single context of any size that exemplifies this phase comes from a stratified dumped fill below a staircase in the northwestern wing of monumental Building T.³ A number of nearby contexts in or adjacent to the North Stoa of Building T appear to have been closed at approximately the same time, but these contain a fairly high percentage of earlier

^{*} The capitalization of the motifs in this paper differs from the rest of the volume but is consistent with the author's earlier publications of this material (ed).

¹ For Late Minoan IA Final at Kommos, see Rutter 2006a, 436–44; for the Late Minoan II pottery from the MUM at Knossos, Popham 1984, 159–81.

² The phase corresponding to LM IB Late at Kommos has been termed “LM IB Destruction of the Villa,” or simply “LM IB DFV” by Puglisi at Hagia Triada (2006 *passim*, esp. 529). The phase corresponding to LM IB Final at Kommos has been termed “LM IB After the Destruction of the Villa (at Hagia Triada),” or simply “LM IB PDFV,” at Hagia Triada; for the same phase, Barnard and Brogan prefer either “LM IB Final” or “LM IB/II Transitional” as terms (2003, 109).

³ Rutter 2006a, 458–61 [Group 40], 699–702 n. 119, 123, 130.

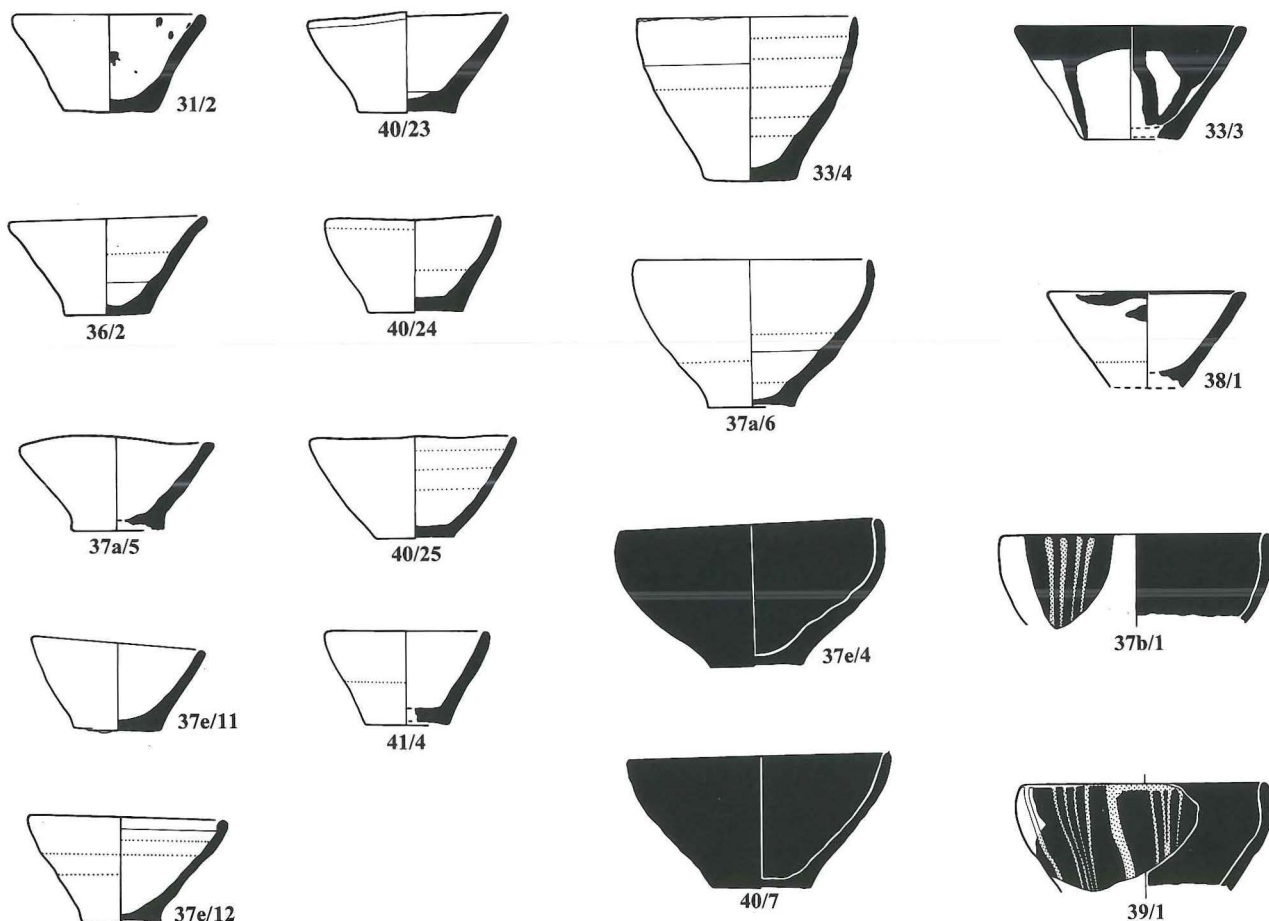


Fig. 1. Kommos. LM IB Early conical cups: Type C (31/2, 36/2, 37a/5, 37e/11, 37e/12, 40/23, 40/24, 40/25, 41/4); Type D (33/4, 37a/6); Types P–Q (37e/4, 40/7); Type J (33/3, 38/1); Type V (37b/1, 39/1) [after Rutter 2006a].

Neopalatial material as well. Two truncated floor deposits that appear to be contemporary were exposed only in small patches and thus produced very little in the way of comparative material.⁴ The meager amount of material from these deposits is summarized quantitatively in Table 1A, with the defining features of the phase's shape and decorative ranges recapitulated in Table 1B. Comparatively few shapes are plentifully enough represented to allow much in the way of meaningful comment on more than a handful of the most common forms, but the combination of this particular assemblage of shapes and a number of decorative peculiarities allow material of this sub-phase to be distinguished clearly enough from deposits of the preceding LM IA Final and succeeding LM IB Late sub-phases.

Unpainted conical cups are almost invariably

small and have either conical or slightly convex body profiles, the variety at Kommos that we have termed Type C (Fig. 1); made in generally finer fabrics than in LM IA Final and seemingly more homogeneous in terms of size and wall thickness, conical cups of this type now feature (for the first time) a distinct angle on the interior of their profile at the junction of the body and base. A few deeper-bodied cups with more ovoid body profiles are somewhat larger, and we distinguish these as Type D. Cups of about the same size as regular Type C examples, but with flat-topped rims that are provided with an irregular band at the rim, we call Type J. Larger, fully coated handleless cups with ovoid or hemispherical body profiles, the types we call P and Q respectively, are

⁴ Rutter 2006a, 448–9 [Groups 35–6], 700–1 n. 122.

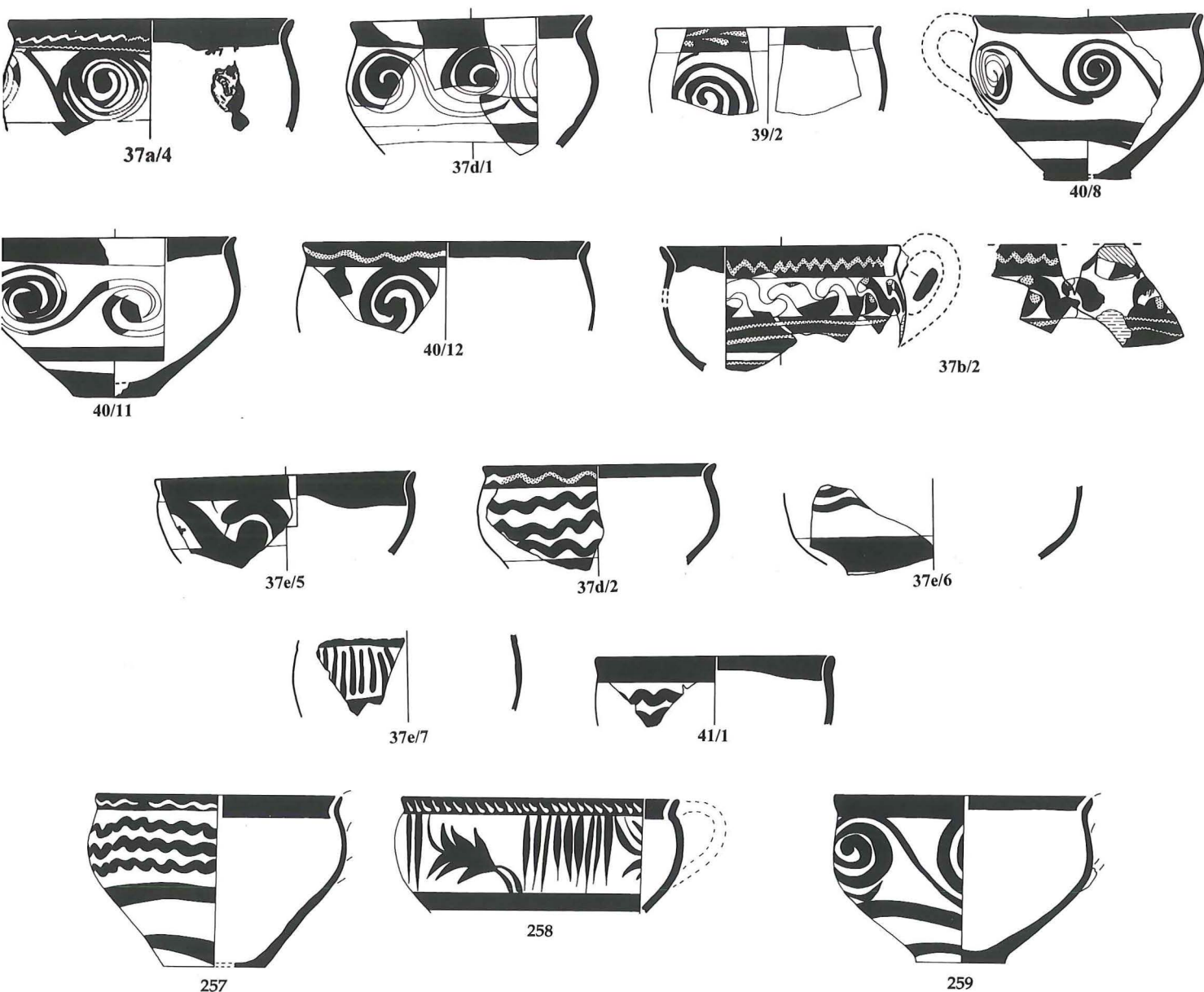


Fig. 2. Kommos. LM IB Early semiglobular cups: Running Spirals (37a/4, 37d/1, 39/2, 40/8, 40/11, 40/12, 259); Quirk (37b/2, 37e/5); horizontal Wavy Bands (257, 37d/2, 37e/6, 41/1); Floral Paneled Style (258, 37e/7) [after Watrous 1992 for three-digit numbers, Rutter 2006a for slashed numbers].

quite common, but the smaller ovoid light-on-dark patterned cups we call Type V are very rare and will disappear completely after this phase.⁵

The linear bell-shaped cups with a simple band at the rim that were quite common in LM IA in both vertical-handled and handleless forms have already disappeared, as has the spidery form of Ripple that appears commonly on virtually all patterned shapes in the later LM IA period at Kommos. Another

common feature of LM IA Final at Kommos that has likewise disappeared by LM IB Early is the decoration of semiglobular cups with a patterned

⁵ For purposes of comparison with the conical cup typology established for Hagia Triada by Puglisi (2006, 342–8), Kommos Type C is equivalent to Hagia Triada tipo 1, Kommos Type D to Hagia Triada tipo 3, Kommos Type J to Hagia Triada tipi 2 and 5, and Kommos Types P and Q to Hagia Triada tipo 6.

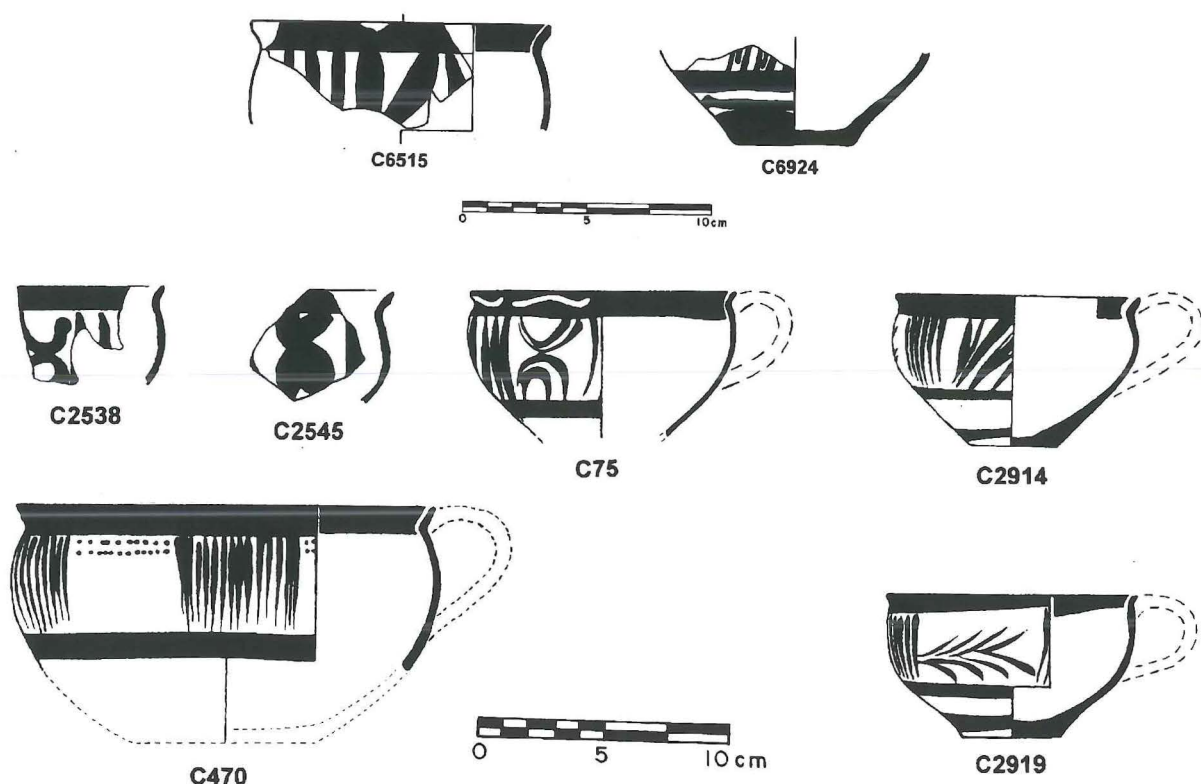


Fig. 3. Kommos. LM IB cups from Kommos decorated in the Floral Paneled Style [after Rutter 2004, fig. 4.7].

lower body zone, almost invariably occupied by a horizontal wavy line or band. Patterned semiglobular cups are now most frequently decorated with Running Spirals, although multiple horizontal Wavy Lines are also common (Fig. 2), as are cups decorated with two alternating kinds of plant ornament, one consisting of multiple vertically or somewhat diagonally oriented tall, thin leaves, in a style that I have termed Floral Paneled (Fig. 3). This style began in LM IA Final, but is at its most popular in LM IB Early, not only on semiglobular cups but also on in-and-out bowls and on collar-necked jugs. The style seems to be particularly well-represented in the western Mesara.⁶

Especially characteristic of the LM IB Early sub-phase at Kommos, although once again beginning in LM IA Final and still occurring in small quantities in later LM IB, is the application of patterns in added white over the dark rim bands on semiglobular cups and in-and-out bowls. The range of such added white patterns is narrow, being limited to a horizontal Wavy Line or Zigzag, a

single row of fat diagonal leaves, rare examples of Quirk, and occasionally a double row of thinner leaves (Foliate Band) or even a miniature version of an alternating Floral Paneled scheme. Added white is also used to enhance or accent the patterns on the exterior of in-and-out bowls and occasional semiglobular cups. The dark-on-light patterns on the bowls (Fig. 4) typically consist of either Floral Paneled compositions or of single horizontal Wavy Bands or multiple vertical ones, the last especially on interiors. Locally produced semiglobular cups have nothing but a rim band on the interior, most of which is thus left unpainted and is normally finely burnished. Thus cups with coated interiors are easily identifiable as imports, and so are patterned straight-sided cups of any kind, these last having disappeared even before the end of LM IA from the local ceramic repertoire.

Too few closed shapes survive to allow much to be said about them (Fig. 5). The preferred pouring

⁶ Rutter 2004; 2006a, 471–2.

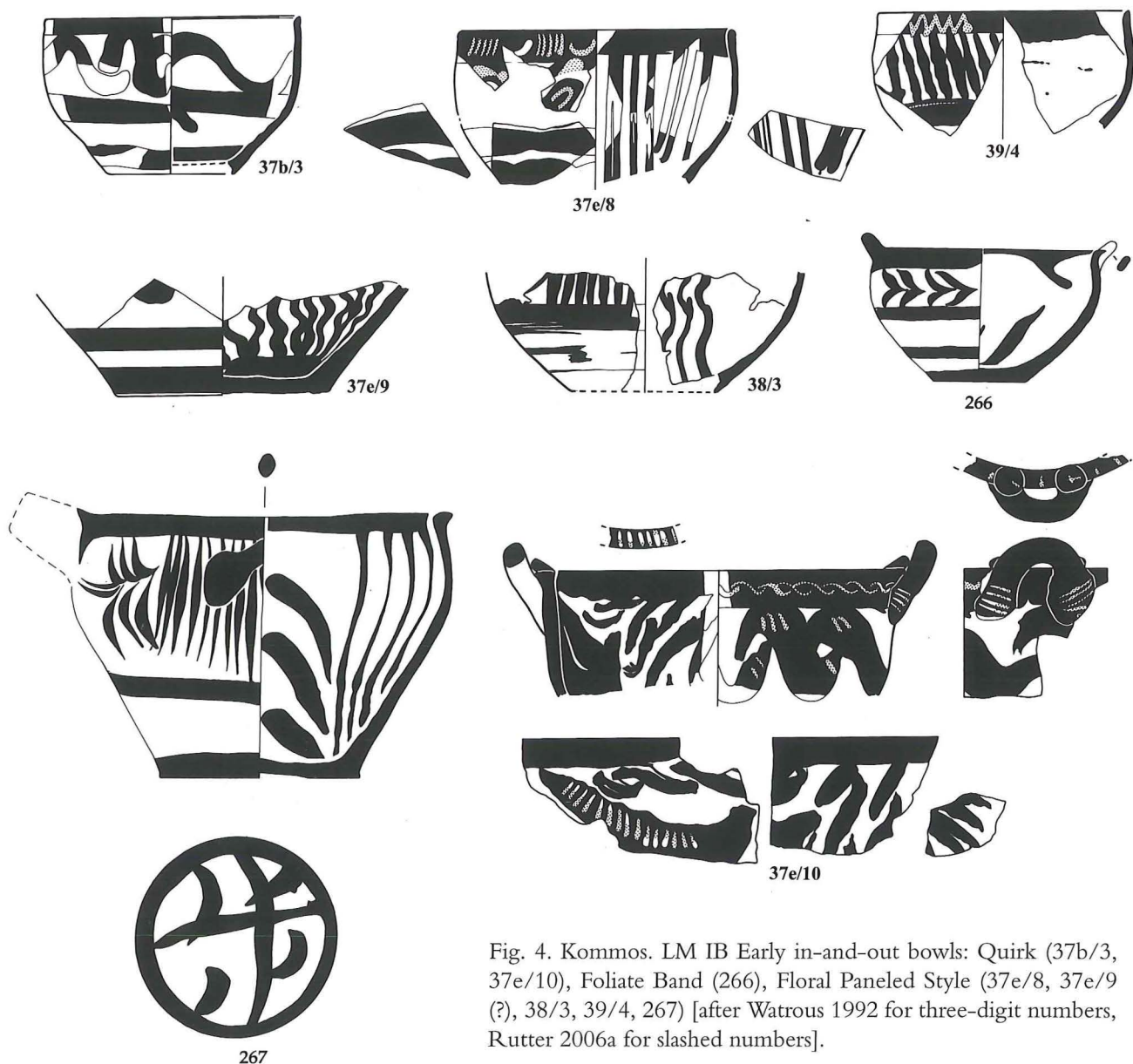


Fig. 4. Kommos. LM IB Early in-and-out bowls: Quirk (37b/3, 37e/10), Foliat Band (266), Floral Paneled Style (37e/8, 37e/9 (?), 38/3, 39/4, 267) [after Watrous 1992 for three-digit numbers, Rutter 2006a for slashed numbers].

vessels produced as dark-on-light patterned shapes are bridge-spouted jars and collar-necked jugs; beak-spouted jugs, like straight-sided cups, appear to be alien to the local repertoire, however common they may have been at contemporary Phaistos and Hagia Triada just a short distance away. Collar-necked jugs often appear to be decorated with ornament closely paralleling that which appears on contemporary semiglobular cups and in-and-out bowls (e.g., the Floral Paneled Style) or alternatively that which appears on both the interior and exterior of thin-walled kalathoi (diagonal or vertical Reed chains)

(Fig. 6). I have suggested that this kind of decorative parallelism was designed specifically with the aim of producing sets of fine ware shapes intended for feasting activities to be held in Building T's central court.⁷

Imports from outside the island, while not common, are nevertheless more abundant than at most Minoan sites and represent a truly wide geographical range for the first time at Kommos

⁷ Rutter 2006a, 475–6.

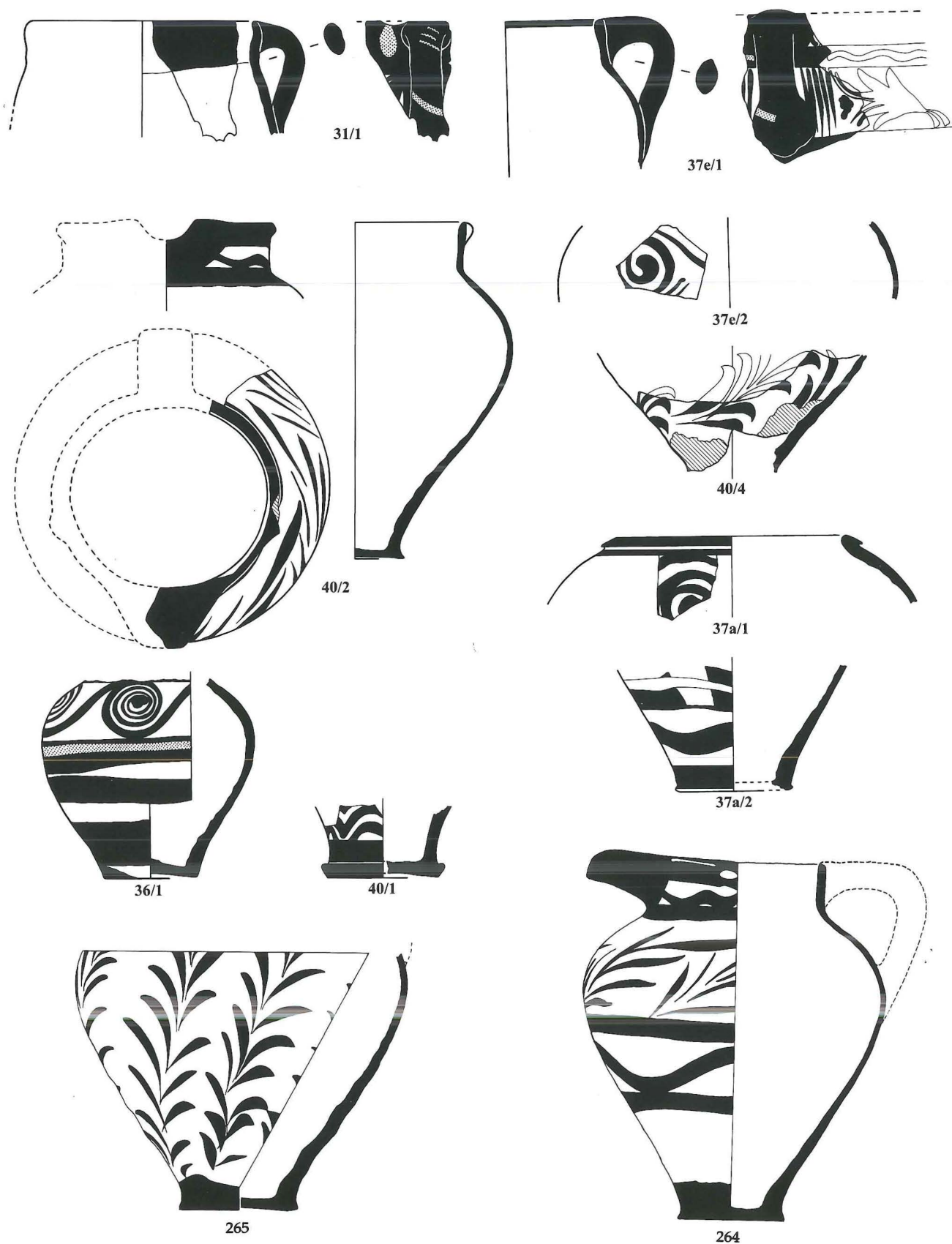


Fig. 5. Kommos. LM IB Early collar-necked jugs (31/1, 36/1 (?), 37e/1, 37e/2, 40/2, 40/4, 264, 265) and bridge-spouted jars (37a/1, 37a/2 (?), 40/1) [after Watrous 1992 for three-digit numbers, Rutter 2006a for slashed numbers].

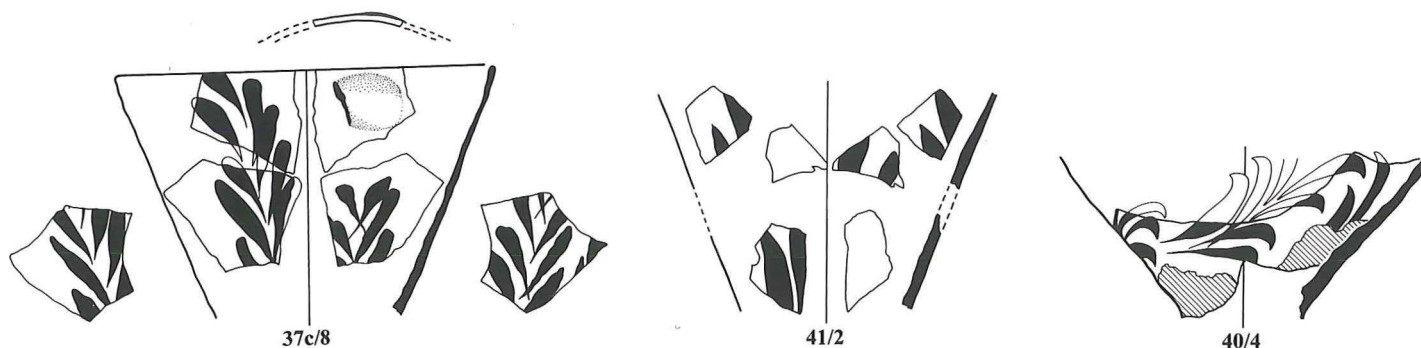


Fig. 6. Kommos. LM IB Early kalathoi (37c/8, 41/2) and collar-necked jugs (40/4) decorated with Reed Patterns [after Rutter 2006a].

in this phase: Egypt, Cyprus, and the Mycenaean mainland are all represented.⁸

Late Minoan IB Late

Contexts termed LM IB Late at Kommos are neither much more abundant nor much richer than those of LM IB Early. Moreover, we have not found a significant deposit of the later sub-phase stratified directly above one of the earlier sub-phase, with the result that it is difficult to gauge how much time may separate these two phases. Indeed, there may be a significant gap between the two that could in theory be filled by an assemblage of intermediate date (Table 4, hypothetical LM IB Developed sub-phase). The evidence for the size, frequency, and distribution of significant LM IB Late deposits identified at Kommos over the last decade is summarized in Table 2A, while Table 2B provides a synopsis of the more common vessel forms and decorative types.

Among unpainted conical cups (Fig. 7), the conical Type C is now no longer as numerically dominant as it had been in LM IB Early, the deeper-bodied Type D having become considerably more popular. A corresponding deepening of the body on solidly coated cups of Type P has also been noted,⁹ along with a significant decrease of roughly 15% in the average rim diameter. And finally, the linear conical cups with a simple band at the rim no longer feature the flat-topped rim and conical body profile of Type J but instead have developed

into a lipless, ovoid variant we have termed Type K. The end result of these changes is that all of the decorative variants of the common handleless cup now resemble each other more closely in terms of shape and size than they ever had before.

As throughout the later stages of LM IA and LM IB Early, locally produced patterned cups are almost exclusively semiglobular in shape and bear only a painted rim band on the interior (Fig. 8). Thus the examples of patterned straight-sided cups, bell cups, and wishbone-handled cups which now appear in somewhat greater numbers than before are all imports, as are some semiglobular cups with solidly coated or unfinished interiors (Fig. 9). The practice of decorating local patterned cups with added white patterns on the exterior rim band has sharply declined. New in this phase and extremely popular are cups decorated with a horizontal Reed pattern, possibly a local West Mesaran response to the extremely common Reed cups of North-central Crete on which the Reed is oriented either vertically or diagonally. In-and-out bowls may no longer be produced by local potters, their places having been taken by horizontal-handled bowls with plain or linear interiors (Fig. 10). The numbers and shape range of vessels decorated in the Floral Paneled Style have both declined, the only vehicles for this kind of decoration now being collar-necked jugs and semiglobular cups. The appearance of larger and denser spirals, and thus the replacement

⁸ Rutter 2006a, 647–9, 653–8, 666–72, 684.

⁹ Rutter 2006a, 483.

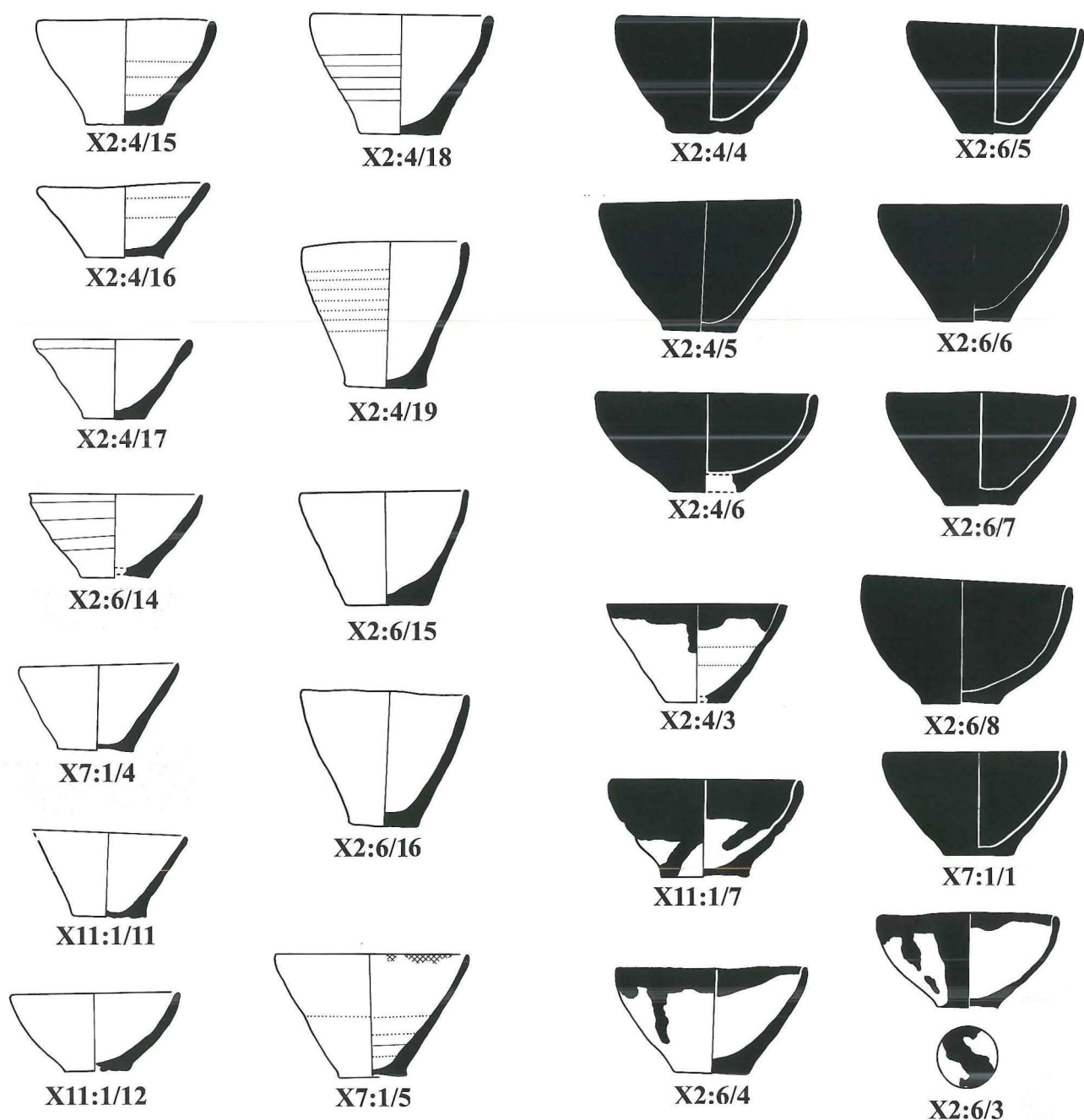


Fig. 7. Kommos. LM IB Late conical cups from House X: Type C (X2:4/15–7, X2:6/14, X7:1/4, X11:1/11–2); Type D (X2:4/18–9, X2:15–6, X7:1/5); Type J (X2:4/3); Type K (X2:6/3–4, X11:1/7); Types P–Q (X2:4/4–6, X2:6/5–7, X2:6/8, X7:1/1).

of Running Spiral compositions by Isolated Spirals on both semiglobular cups and collar-necked jugs, is another development that seems to distinguish LM IB Late from LM IB Early.

Aside from the occurrence in considerable numbers of the West Mesaran form of Reed cup, the most striking novelty of LM IB Late at

Kommos is the appearance of vessels produced in one or another of the four styles of the so-called Special Palatial Tradition,¹⁰ all of which stick out for one reason or another as imports rather than being possible local products (Figs. 9, 11). Examples

¹⁰ Betancourt 1985, 140–8, pls. 20–2; Mountjoy 2003, 78–9.

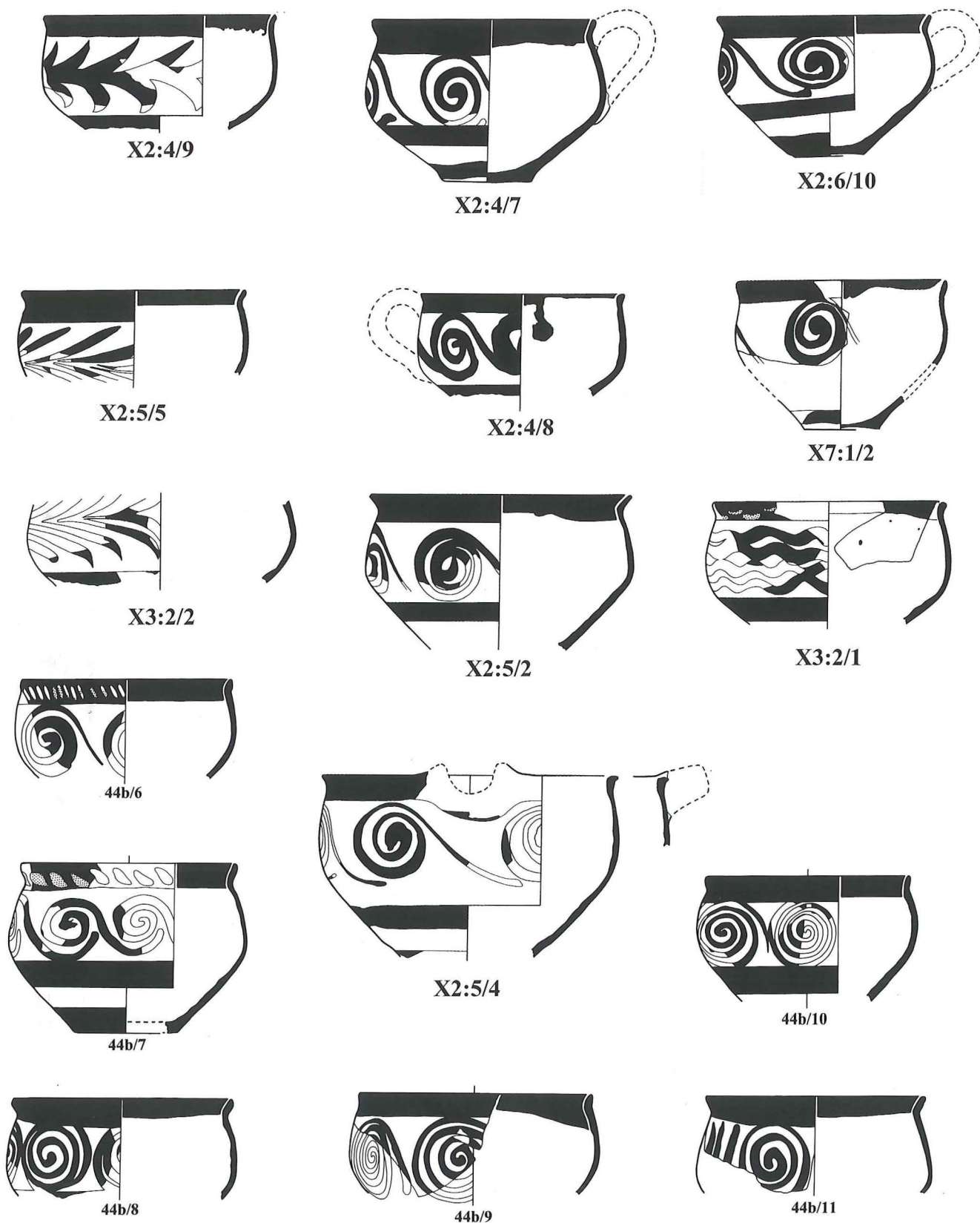


Fig. 8. Kommos. LM IB Late semiglobular cups: horizontal Reed (X2:4/9, X2:5/5, X3:2/2), Running Spirals (X2:4/7–8, X2:5/2, X2:5/4, X2:6/10, X7:1/2, 44b/6–7), Isolated Spirals (44b/8–11), horizontal Wavy Bands (X3:2/1) [House X for numbers prefixed by X; after Rutter 2006a for simple slashed numbers].

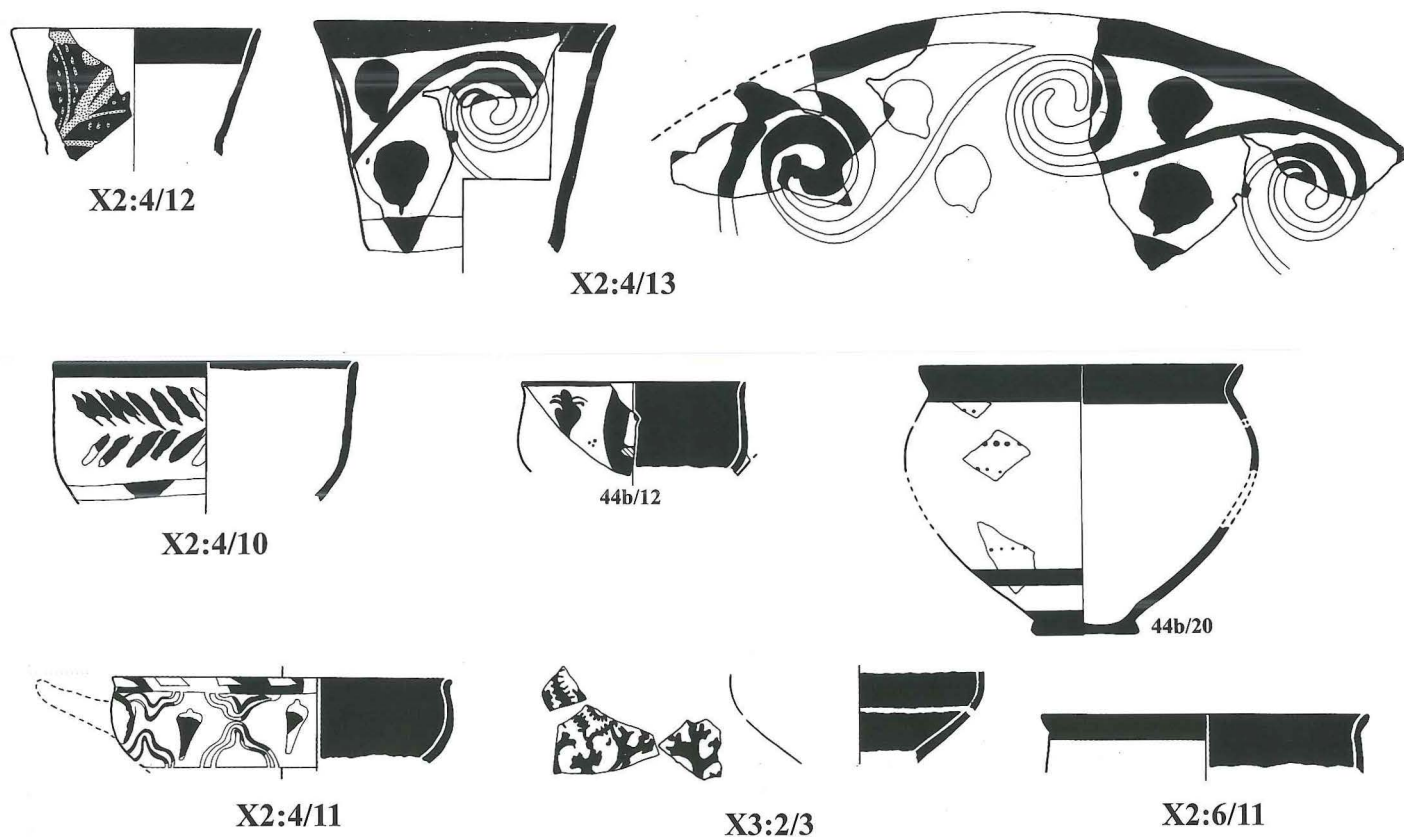


Fig. 9. Kommos. LM IB Late cups imported to Kommos (X2:4/11–13, X2:6/11, X3:2/3, 44b/12, 44b/20) [House X for numbers prefixed by X; after Rutter 2006a for simple slashed numbers].

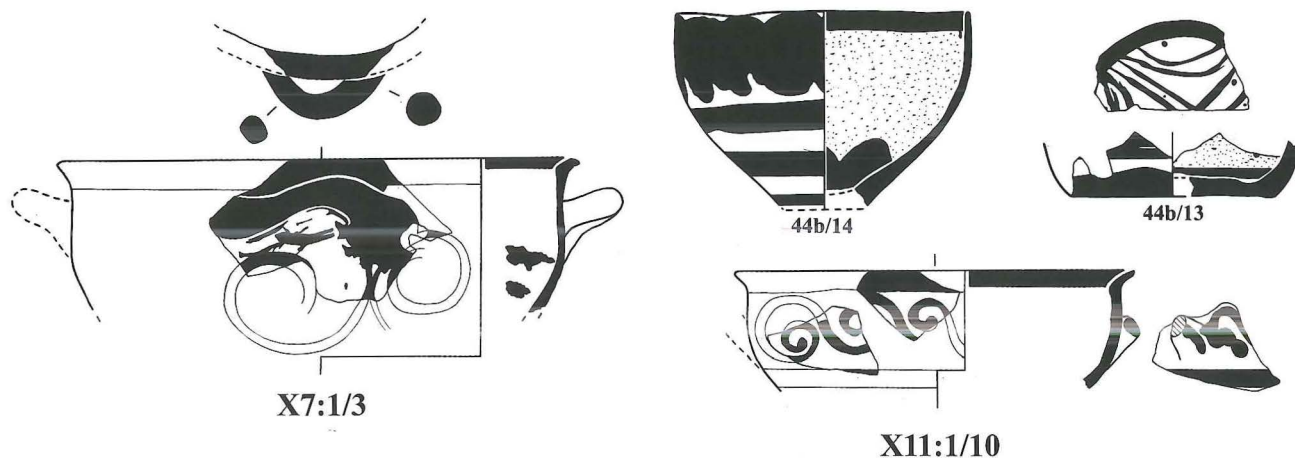
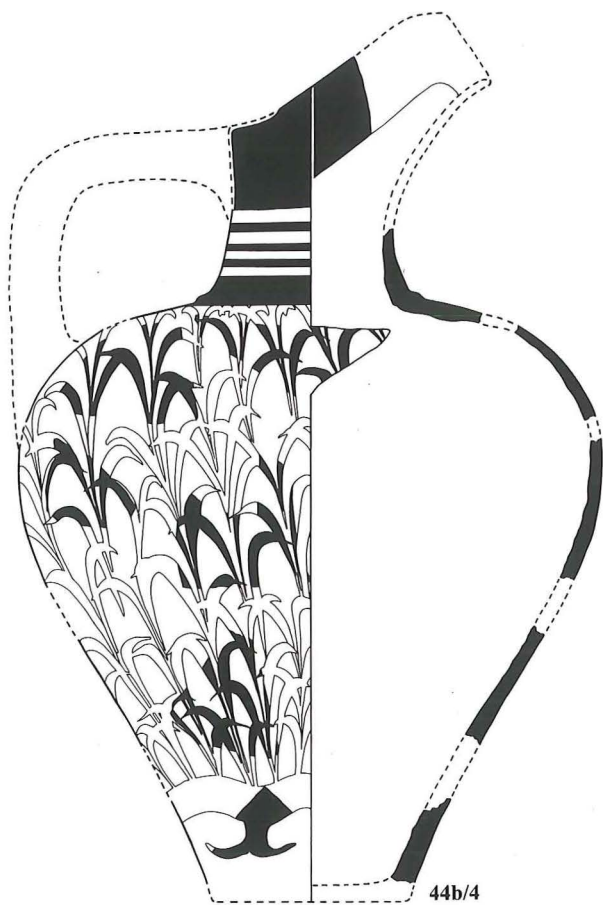
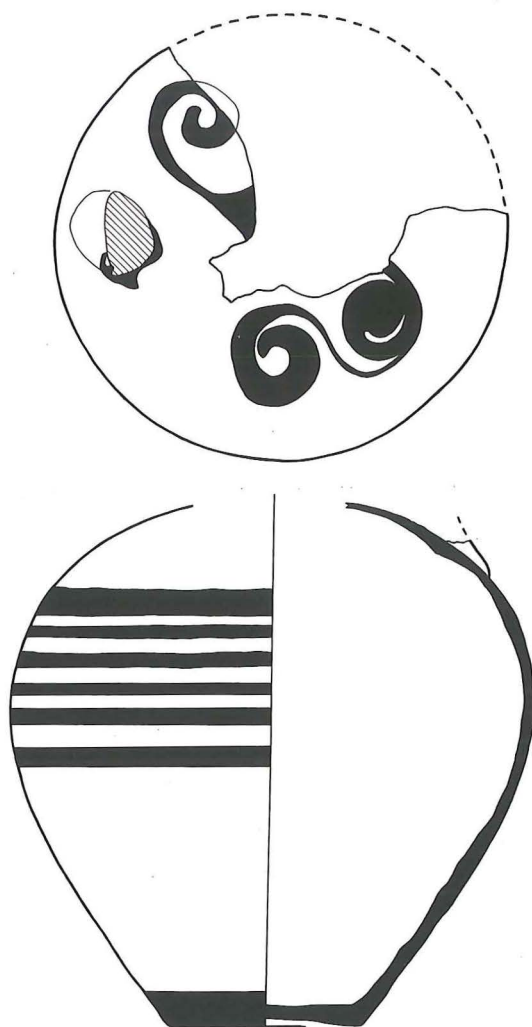


Fig. 10. Kommos. LM IB Late horizontal-handled bowls (X7:1/3, X11:1/10, 44b/13–4) [House X for numbers prefixed by X; after Rutter 2006a for simple slashed numbers].

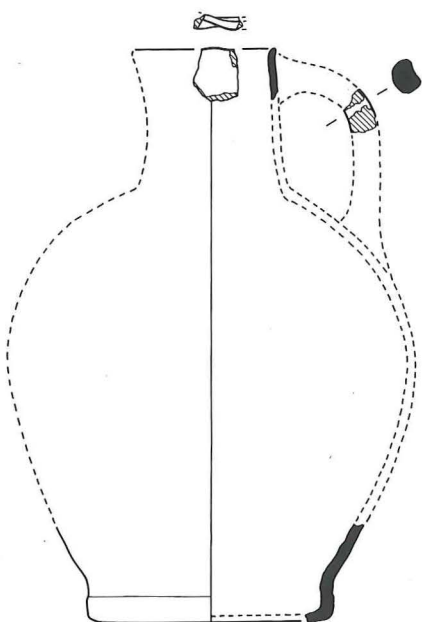
Fig. 11 (opposite). Kommos. LM IB Late closed shapes imported to Kommos (X2:6/2, X11:1/3, 44b/4–5, 44b/17–9) [House X for numbers prefixed by X; after Rutter 2006a for simple slashed numbers].



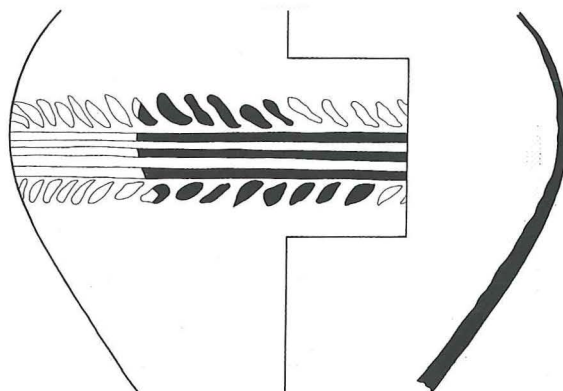
44b/4



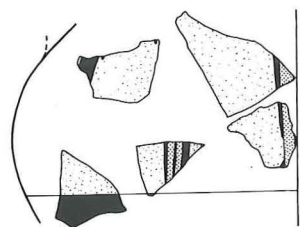
X11:1/3



44b/17



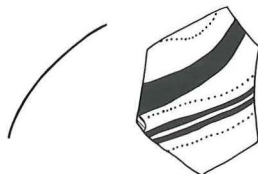
X2:6/2



44b/5



44b/18



44b/19

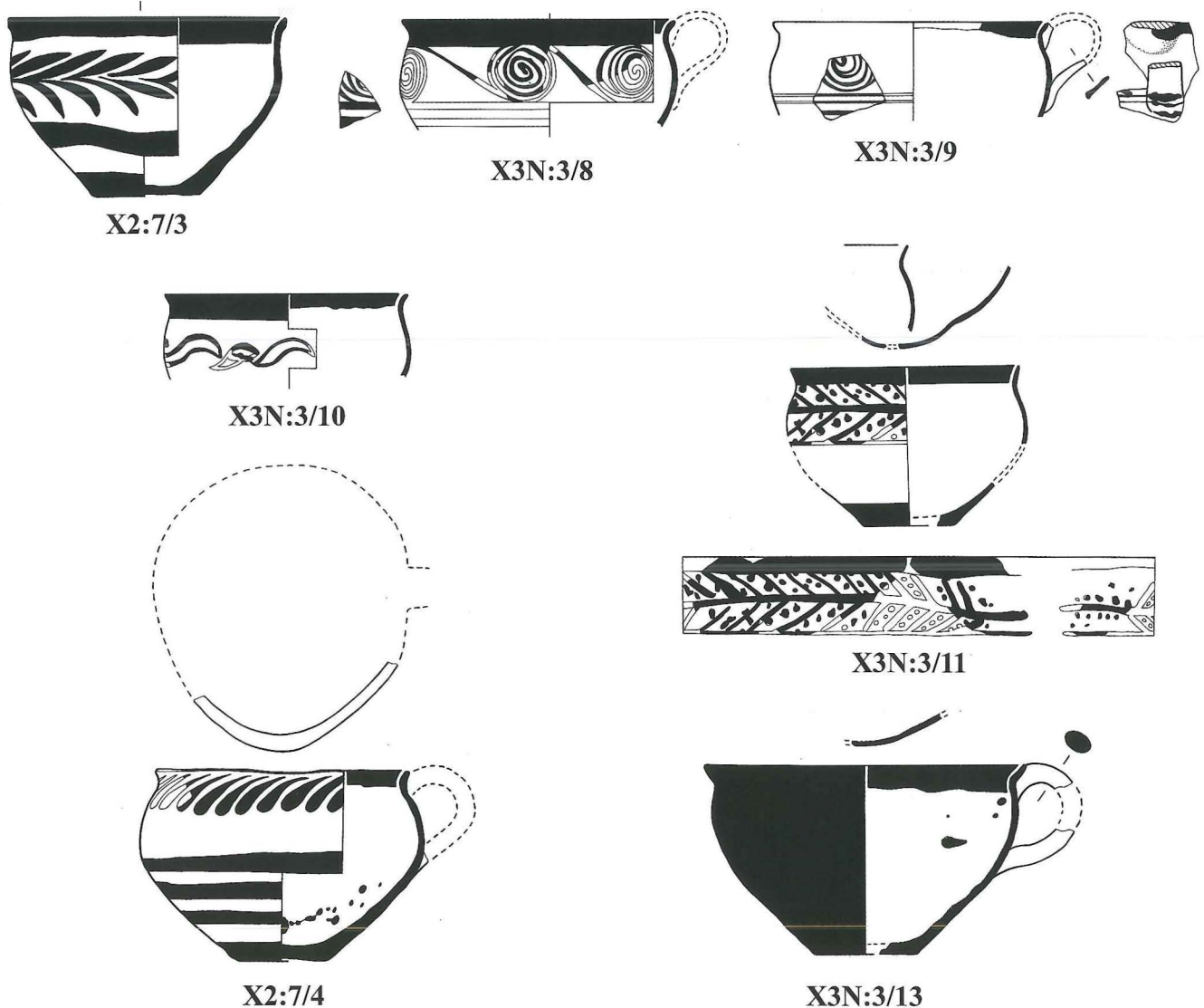


Fig. 12. Kommos. LM IB Final semiglobular cups from House X: horizontal Reed (X2:7/3), Running Spirals (X3N:3/8–9), Quirk (X3N:3/10), Foliate Band (X2:7/4, X3N:3/11), monochrome painted (X3N:3/13).

of the Marine Style (Fig. 9: X3:2/3), the Floral Style (Fig. 11: 44b/4), and the Alternating Style (Fig. 9: 44b/12; X2:4/11) are all represented, but the quantities of such material are very small, so that one cannot depend upon its presence as an indicator of a LM IB Late date.

One final minor difference distinguishing LM IB Late from LM IB Early is the disappearance of imported Cypriot Red/Black Slip jugs or tankards and the first appearance of Cypriot Plain White imports (Fig. 11: 44b/17), but once again the numbers are so small as to make this criterion of little practical value for dating.¹¹

Late Minoan IB Final

The number of deposits at Kommos that can be assigned to the subsequent stage of development here termed LM IB Final is not a large one – just three fills and a single floor deposit (Table 3A) – but they are substantially larger than those representing the LM IB Late phase. The two fills that accumulated or, more probably, were dumped against the south (or downhill) wall of the House

¹¹ Rutter 2006a, 653–8, 684–5.

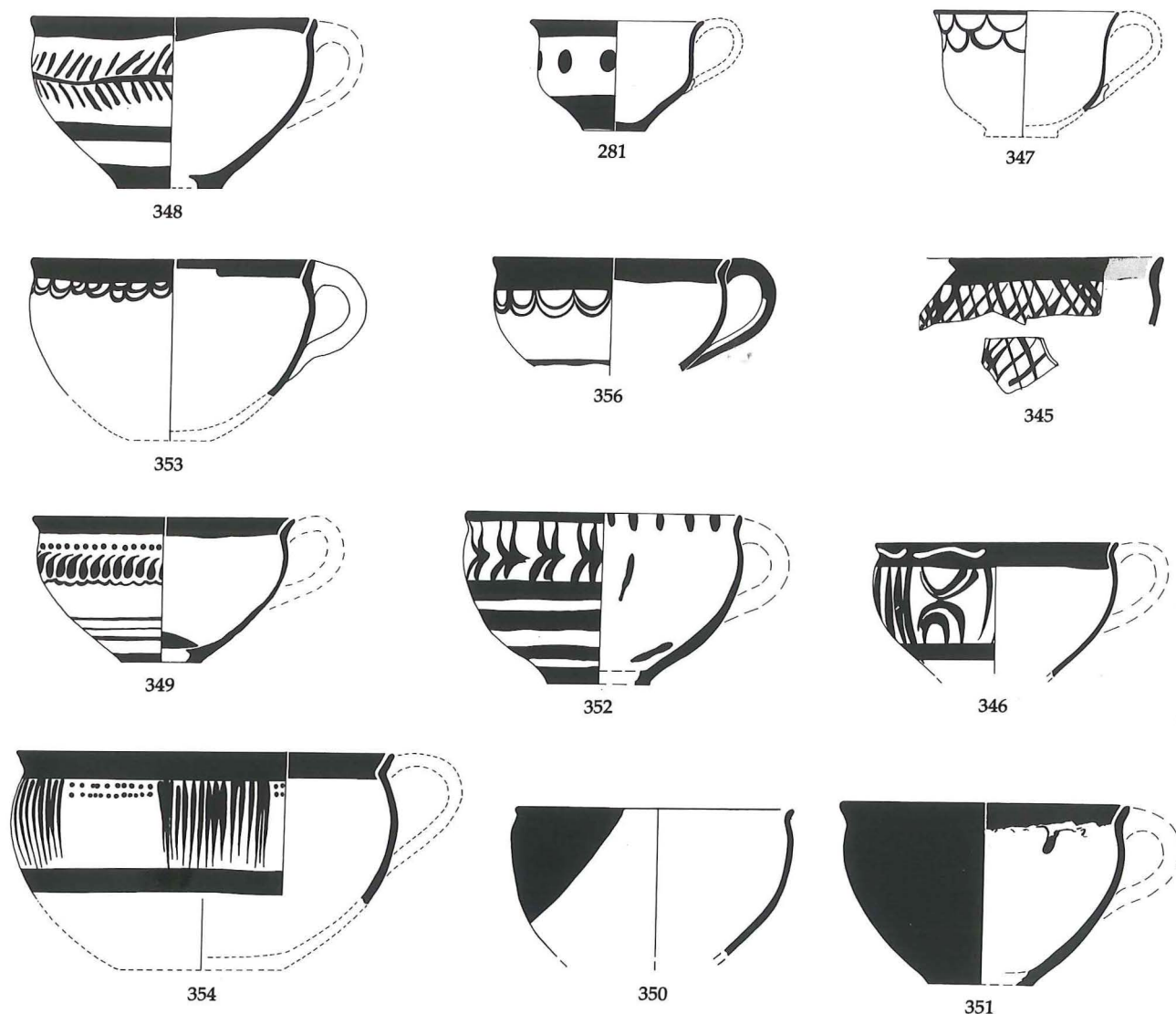


Fig. 13. Kommos. LM IB Final semiglobular cups from the House of the Snake Tube: horizontal Reed (348), Circles (281), Festoons (347, 353, 356), Diaper Net (345), Foliate Band (349, 352), Floral Paneled Style (346, 354), blob (350), monochrome painted (351) [after Watrous 1992].

of the Snake Tube on the Central Hillside portion of the site – Watrous' Deposits 8 and 16 – are stratified one above the other, the lower one resting on a packing that contains mixed Neopalatial sherd material including pieces datable to LM IB Late.¹² As recently as 2006, I accepted Watrous' dates of LM IB for his Deposit 8 and LM II for his Deposit 16,¹³ but such datings are no longer tenable in view of Dario Puglisi's findings at Hagia Triada and the evidence from both inside and immediately north of House X at Kommos itself. Instead, both of these fills from Kommos' Central Hillside can be assigned

to the same phase as a similar fill dumped just north (or uphill) of House X's Room 3 on top of a stratum

¹² Watrous' Deposit 16 (1992, 20–5, 200–1, figs. 18–21, pls. 9–11 nos. 339–428) overlies and entirely seals his Deposit 8 (1992, 16, 198, fig. 18, pl. 7 nos. 279–95), as is apparent from the north-south section extending south of the House of the Snake Tube's south wall (Watrous 1992, fig. 5). Deposit 8 overlies Watrous' Deposit 1 (1992, 1–2, fig. 12, pls. 1, 18 nos. 1–20), within which was found at least one fragment of an LM IB Late Reed cup (Watrous 1992, 2 no. 9, pl. 18).

¹³ For Watrous' Deposit 8, see Rutter 2006a, 482 Table 3.62; for his Deposit 16, Rutter 2006a, 508–9 Table 3.64, 706 note 160.

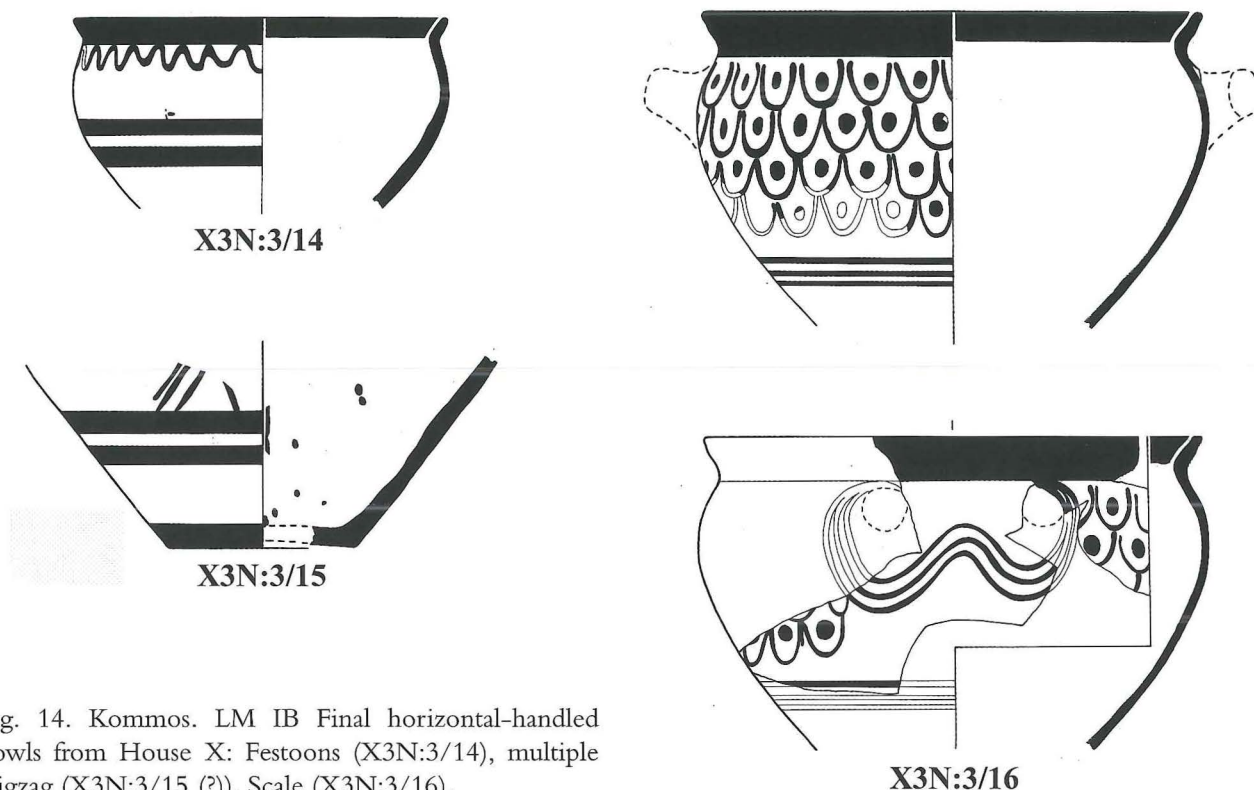


Fig. 14. Kommos. LM IB Final horizontal-handled bowls from House X: Festoons (X3N:3/14), multiple Zigzag (X3N:3/15 (?)), Scale (X3N:3/16).

datable to LM IA Final and covered by a fill of developed LM II date.¹⁴ A small floor deposit from Room 2 within House X,¹⁵ stratified above at least two LM IB Late floors¹⁶ and sealed by a fill of mixed MM II through developed LM II date,¹⁷ appears to be contemporary with the three much larger fills and provides welcome confirmation that this LM IB Final phase followed closely after the LM IB Late phase just described. A synopsis of the principal shapes and their decorative treatments at Kommos during LM IB Final is presented in Table 3B.

The phase termed LM IB Final at Kommos can be distinguished from what we recognize as traditional LM II most easily by the absence of goblets or kylikes, whether pattern-decorated, solidly coated, or plain. Although Watrous claimed that a half-dozen or so fragments from his Deposit 16 belonged to LM II kylikes,¹⁸ in fact none of the pieces cited do.¹⁹ This very large deposit of close to 6000 sherds weighing over 145 kilograms contains no unambiguous rim and handle fragments, stems, or foot fragments from LM II goblets; all of the pieces that Watrous attributed to kylikes are far

more likely to belong to horizontal-handled bowls.

Other common features typical of developed LM II that are lacking in LM IB Final deposits involve decoration more than shape. For example, there are no pattern-decorated pyxides of the kinds commonly found in the MUM at Knossos and also well attested at Kommos itself in LM II contexts, although the shape does appear rarely at LM IB Final Kommos in unpainted form (X3N:3/24).²⁰ There

¹⁴ The pottery from this more recently excavated LM IB Final fill will be published, Rutter in progress as Group X3N:3, with that from the strata below and above as Groups X3N:2 and X3N:4, respectively.

¹⁵ To be published, Rutter in progress, Group X2:7.

¹⁶ The pottery from these two LM IB Late floor levels will be published as Groups X2:4–6, Rutter in progress.

¹⁷ The pottery from this mixed fill will be published as Group X2:8, Rutter in progress.

¹⁸ Watrous 1992, 23 nos. 382–8, 121, figs. 19–20, pls. 9–10.

¹⁹ Rutter 2006a, 513–4, 706 n. 157, 159, 160.

²⁰ For decorated pyxides from the Knossian MUM, Popham 1984, 172–3, pls. 65b–c, 67c–d, 94b, e–f, 111d, 155:1–8, 163:1–2.

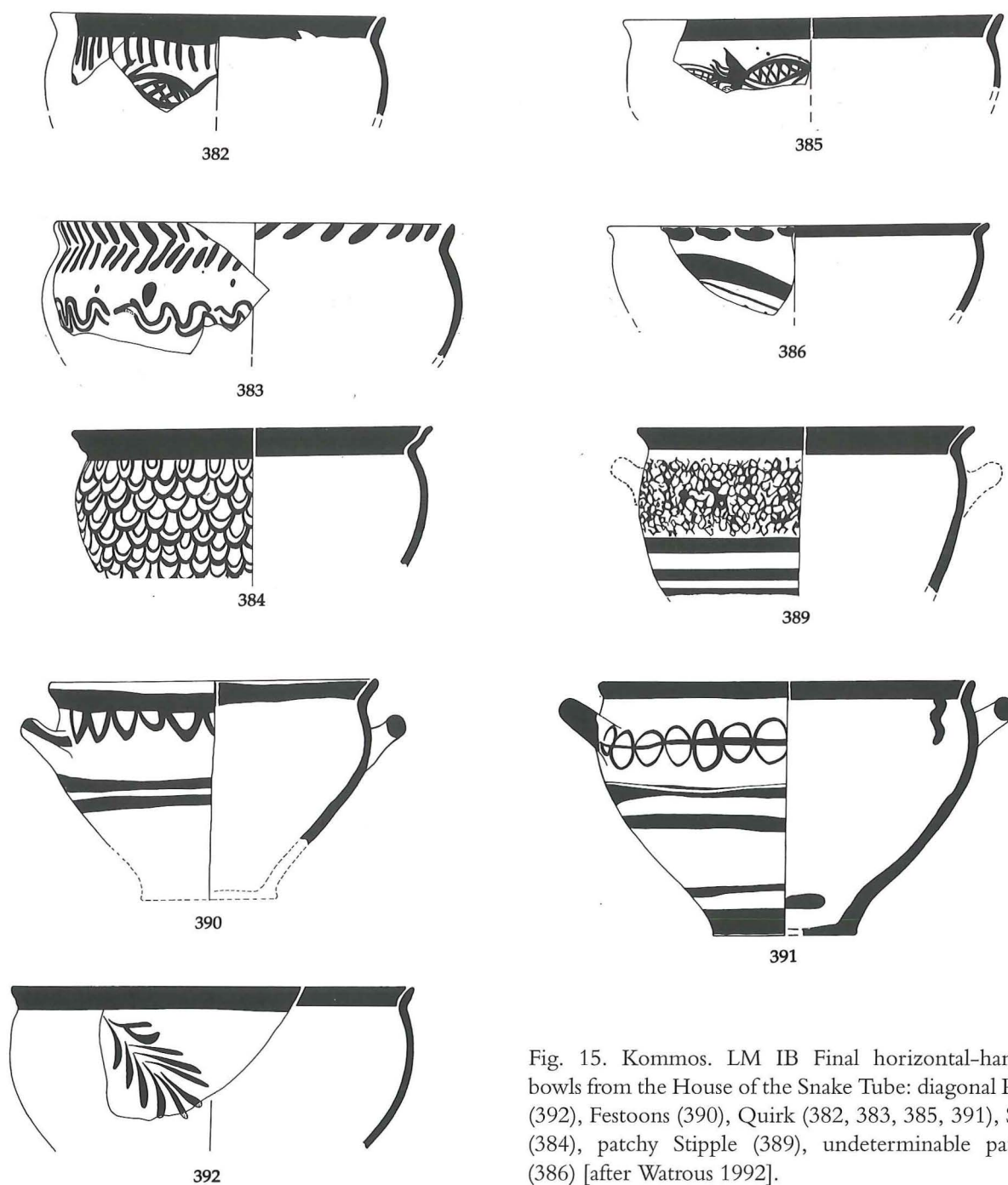


Fig. 15. Kommos. LM IB Final horizontal-handled bowls from the House of the Snake Tube: diagonal Reed (392), Festoons (390), Quirk (382, 383, 385, 391), Scale (384), patchy Stipple (389), undeterminable pattern (386) [after Watrous 1992].

are no examples of the tricurved arch patterns on cups and bowls that are so common in the MUM deposits²¹ nor any usage of horizontal wavy bands, which regularly alternate between thick and thin as they loop down and up as frames or upper borders of other patterns.²² There are also no examples of the multiple pendent semicircle group patterns

with the thickened lowermost loop – also often described as festoon groups – that are exceptionally

²¹ For example, Popham 1984, pl. 164.7–10; Niemeier 1985, fig. 39.

²² For example, Popham 1984, pls. 164.8, 10–1, 14, 19, 21; 165.30, 33–5, 44–5, 53; 166.66, 68.

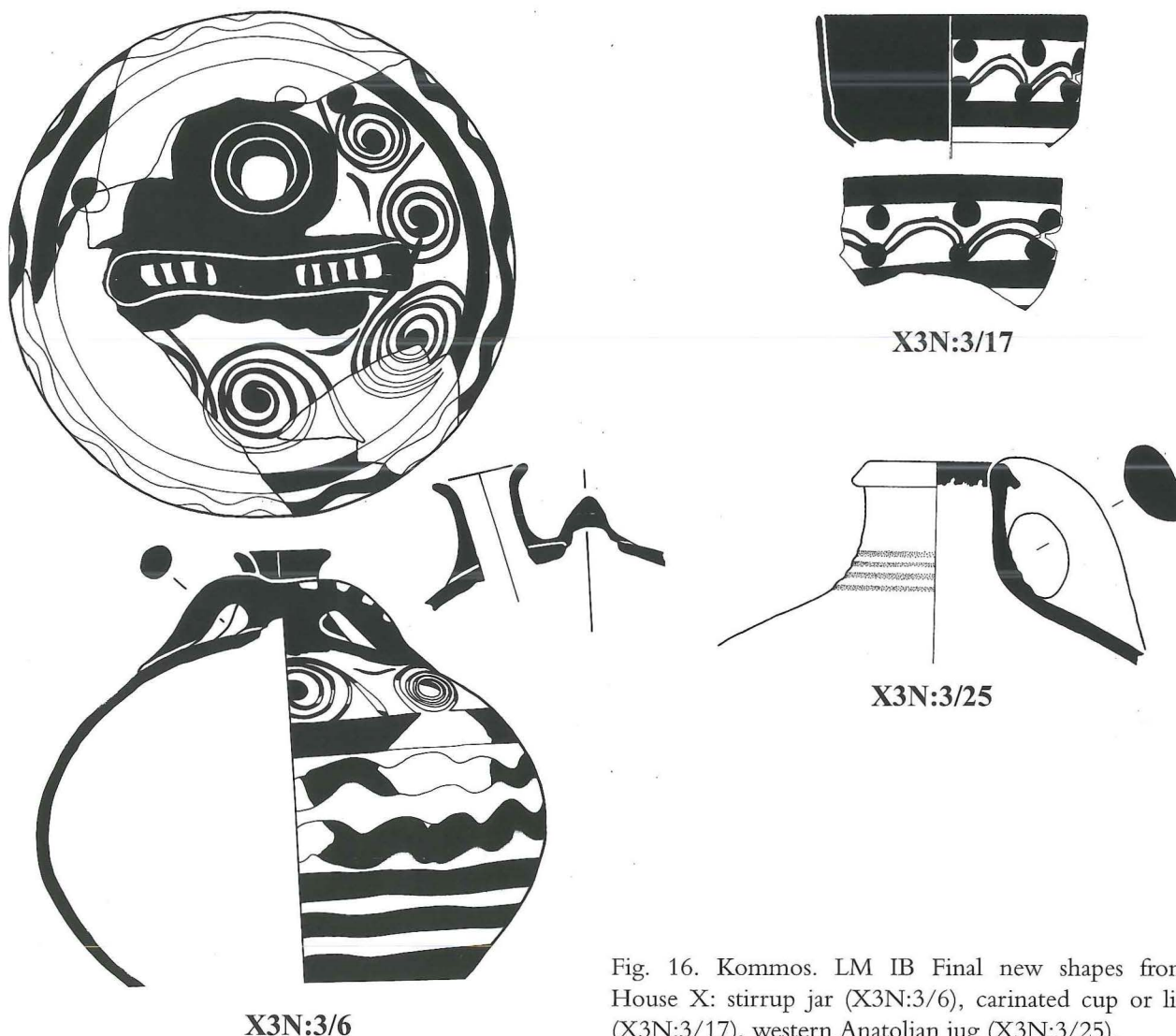


Fig. 16. Kommos. LM IB Final new shapes from House X: stirrup jar (X3N:3/6), carinated cup or lid (X3N:3/17), western Anatolian jug (X3N:3/25).

popular in both LM II and the succeeding LM IIIA1 phase, although there are hints that such ornament is just about to appear in some of the pieces from Watrous' Deposit 16.²³ Although patches of floating Stipple occasionally appear,²⁴ this pattern is not yet combined with Curved Stripes, columns of lunettes, or debased Reed as it will commonly be in developed LM II in both the MUM deposits and at Kommos.²⁵

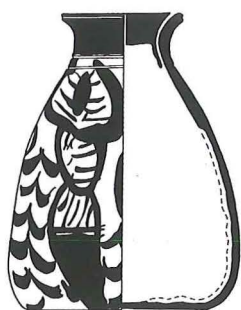
At the same time, although this phase at Kommos is clearly not what we recognize as developed LM II, it is just as obviously quite different from what we are calling LM IB Late. Once again, the differences are chiefly decorative ones, though there are a few changes in shapes as well. Thus

horizontal-handled bowls are far more popular in LM IB Final (Figs. 14–5) than they had been in LM IB Late, while in-and-out bowls have altogether disappeared. Local semiglobular cups (Figs. 12–3) occur in a much wider range of sizes than before, the smaller examples with rim diameters of less than 10 cm, perhaps imitating imported LM IB

²³ For LM II, Popham 1984, pl. 164.11–8; Niemeier 1985, fig. 53.4–5, 9–10. For LM IIIA1, Popham 1984, pl. 171.8; Niemeier 1985, fig. 53.13, 19–20, 22–4, 28–9, 32–6. For the incipient versions of this pattern from Watrous' Deposit 16, Watrous 1992, 23 nos. 384, 395, pls. 9–10.

²⁴ For example, Watrous 1992, 23 no. 389, fig. 20, pl. 10.

²⁵ For such LM II combinations of Stipple with other patterns at the Knossian MUM, Popham 1984, pls. 156.4, 5, 7; 167.89.



X2:7/1



X2:7/1

Fig. 17. Kommos. LM IB Final tall alabastron decorated in debased Marine Style from House X (X2:7/1).

Late pattern-decorated bell cups.²⁶ The first ring-based carinated cups appear as imports (Fig. 16: X3N:3/17),²⁷ a shape otherwise attested only at LM II Knossos to my knowledge, where it has been interpreted by Popham as a lid. Also among the imports that are such a prominent feature of the ceramic record at Kommos, the western Anatolian jugs that become common in developed LM II and LM IIIA make their initial appearance at this time (Fig. 16: X3N:3/25).²⁸

But it is in the syntax of decoration, as well as in the much broader range of patterns that appear on locally produced semiglobular cups, horizontal-handled bowls, and collar-necked jugs, that the differences between LM IB Late and LM IB Final at Kommos are most apparent. With respect to syntax, the patterns on cups and bowls have generally been shifted upward on the vessel body so that they often are either pendent from the rim band or in the case of some Foliate Band motifs actually replace the rim band (Fig 12: X2:7/4).²⁹ Equally striking is the virtual explosion in the number of patterns that now decorate cups and bowls in particular (contrast the lists of such motifs itemized in Tables 2B and 3B). While the most common patterns on locally produced cups survive from LM IB Late into LM IB Final in small numbers – for example, horizontal

Reed, Running Spirals, and multiple horizontal Wavy Lines – such holdovers are swamped by such new patterns as Festoons, Foliate Band, and Quirk, each in a variety of different forms, and also by solid Circles, Diaper Net, Scale, and simple foliate sprays in continuous horizontal series rather than alternating with panels of leaves as in the earlier Floral Paneled Style (Figs. 12–3). Ancillary dot rows have also become popular. The dipped semiglobular cup decorated with roughly semicircular patches of paint inside and out – the so-called blob cup – now also makes its initial appearance. The overall range of patterns on horizontal-handled bowls (Figs. 14–5) is much the same as on cups, although some motifs are peculiar to one shape or the other. Examples of such shape-specific patterns on bowls include elaborated Scale patterns featuring blob fills³⁰ or

²⁶ For example, Watrous 1992, 16 no. 281, 21 no. 347, fig. 18.

²⁷ Kommos: X3N:3/17; also Watrous 1992, 37 no. 642, 45 no. 775, 106 no. 1684, figs. 27, 32, 67, pls. 15, 18, 48. Knossos: Popham 1984, 173, pls. 59a–c; 94d, top right; 151.13; 156.12; Mountjoy 2003, 125, 127, fig. 4.34.588–91.

²⁸ Rutter 2006b, 658–63; 2006c.

²⁹ For Foliate Band at the rim, X2:7/4; Watrous 1992, nos. 383, 386, figs. 19–20.

³⁰ Fig. 14: X3N:3/16; Watrous 1992, 23 no. 387, pl. 9.

doubly outlined scales³¹ and cross-hatched versions of Quirk combined with floral buds that Watrous identified as attempts to render fish.³² A further link with developed LM II in this phase is the appearance of the “moustache” form of decoration around the horizontal handles of horizontal-handled bowls.³³ On closed shapes, the diagonal Reed pattern now appears for the first time in a debased form consisting of rows of teardrop-shaped dashes that will become the dominant form of the pattern in developed LM II.³⁴ A bizarre new form of stirrup jar appears (Fig. 16: X3N:3/6) on which the false neck has been reduced to little more than a raised bump that serves as the point of attachment for the stirrup handles. An additional feature of this phase drawn to my attention by Puglisi’s work at Hagia Triada is the usage of motifs characteristic of the Special Palatial Tradition of LM IB Late in ways that are alien to its constituent styles and which reveal that the decorators of LM IB Final vessels had little understanding of the representational motifs that they were imitating.³⁵ Examples include the Whorl-shells alternating with Parallel Chevron groups on a tall alabastron from House X Room 2 (Fig. 17) and the Argonauts decorating a wishbone-handled cup from the Central Hillside; probably also to be identified as an example of this debased version of the Marine Style is a bridge-spouted jar from Watrous’ Deposit 3 (just uphill from the House of the Snake Tube) decorated with symmetrically rendered Octopi in what appears to be an imitation of the Ephyraean style.³⁶

Terminology

The distinction between early and late stages of LM IB ceramic development at Kommos now has a published history of more than a decade, and the terms LM IB Early and LM IB Late as applied locally both to substantial deposits of pottery – that is, assemblages – as well as to individual ceramic types or features can be considered to have become fully established with the final publication of Kommos’ monumental buildings in 2006.³⁷ The isolation of a discrete phase of ceramic development stratified above contexts datable to LM IB Late (in House

X Room 2, as well as south of the House of the Snake Tube) and below those of LM II (north of House X Room 3 and once again south of the House of the Snake Tube) has raised issues of terminology that were profitably debated in July 2007 at the workshop on “LM IB pottery: relative chronology and regional differences” and that have been the subject of extensive consultation since that time.³⁸ The principal issue at hand is how to label the ceramic phase identified at Kommos as chronologically intermediate between LM IB Late and LM II. At least three different labels have been proposed at one time or another: a term incorporating “LM IB” that communicated unambiguously that the phase in question is subsequent to LM IB Late; LM II Early; or an altogether new relative chronological designator, LM IC.

In previous discussions of the newly recognized and isolated phase,³⁹ as well as in the oral presentation of this paper in Athens on 28 July 2007, I employed the term “LM II Early”. During the general discussion at the end of the workshop on 29 July and in a subsequent mailing to all participants distributed in August 2007, I proposed the term “LM IC” instead, in response to the cogent arguments presented by a number of colleagues to the effect that a label incorporating “LM II” was inappropriate in view of the implied Mycenaean element and a Monopalatial political context that such a label would entail for the slice of time in question. The suggestion that “LM IC” might be a useful term to invoke for a phase

³¹ Watrous 1992, 23 no. 384, fig. 20, pl. 10.

³² Watrous 1992, 23 nos. 382, 385, figs. 19–20, pl. 10.

³³ Fig. 14: X3N:3/16; Popham 1984, 164, pl. 157g.

³⁴ Watrous 1992, 24 no. 402, fig. 20, pl. 11; Niemeier 1985, fig. 26.13, 18.

³⁵ Puglisi 2006, 477–8.

³⁶ Fig. 17: X2:7/1; Watrous 1992, 22 no. 358, fig. 19, pl. 10; 8 no. 124, fig. 14, pl. 2 (= Mountjoy 1984, 192 no. 5a), respectively.

³⁷ Van de Moortel 1997, 28–9, 70–1, 268–74; Shaw & Shaw 2006; Rutter 2006a, 444–86, 698–703.

³⁸ I would like to thank P. P. Betancourt, D. Puglisi, and A. Van de Moortel especially for their sage counsel on these terminological issues.

³⁹ Rutter 2006a, 513–4, 706 n. 160.

of ceramic development that clearly followed what had already been termed LM IB Late, and that moreover appeared, by virtue of its defining characteristics (Table 5), to be recognizable at a number of sites other than Kommos alone (Table 4), likewise received little support. Even those who were willing to accept the existence of a discrete ceramic phase intermediate between LM IB Late and LM II as here defined considered that achieving widespread acceptance of such a basic change in the standard archaeological nomenclature would be exceptionally difficult, worthy neither of the effort invested nor of the potential confusion caused. Furthermore, even if such an intermediate phase were conceded to exist at Kommos and in the western Mesara, or for that matter throughout all of South-central Crete, could a phase so defined be recognized in other major regions of the island (notably the far east and the far west) at a time when ceramic regionalism has already been demonstrated to be quite pronounced? But even more important was the simple fact that many participants at the workshop, by virtue of their own experiences at the sites with which they were most familiar, conceive of LM IB pottery as that typical of the very phase for which the new term in question is being sought. To ask the excavators of Knossos, for example, to abandon the LM IB label in favor of something altogether new when they had never applied the term LM IB to anything other than the assemblage for which the novel label was being sought (as is the case for the major deposits of this phase recovered in both the Royal Road: North and Stratigraphic Museum Excavations; see Table 4 and the contributions of Hood and Warren to this volume) was clearly altogether inappropriate.

The term chosen for the problematic phase has therefore here become LM IB Final. A few important points about this phase ought to be stressed here, inasmuch as they are not transparent from the term used to designate it. First of all, this phase is markedly different in several significant respects from that which immediately precedes it (LM IB Late) and the two should not be considered to be essentially the same. For example, at Kommos the various styles of the Special Palatial Tradition (SPT) are characteristic

of LM IB Late but not of LM IB Final; as already noted, LM IB Final vessels decorated with marine motifs are readily distinguishable from examples of the true Marine Style of LM IB Late, and such examples of the Alternating Style as occur in well-dated contexts at the site appear in LM IB Late and not in LM IB Final (compare Tables 2B and 3B).⁴⁰ How much absolute time each of these two phases represents is largely a matter of guesswork with the evidence presently available, but neither is likely to be shorter than a couple of decades, and both could be longer, albeit surely no longer than half a century in either case.

Secondly, LM IB Final exhibits several features that are truly transitional between LM IB Late and LM II. This newly recognized phase thus serves to smooth the ceramic discontinuities that to some degree have traditionally differentiated LM IB from LM II, and thus makes the shift from the Neopalatial to the Monopalatial era even less abrupt, from a ceramic point of view at least, than it already was. In view of the copious evidence for the destructions by fire of settlements throughout the island during the LM IB Late and LM IB Final phases, the smoothening of the ceramic transitions during what were clearly turbulent times that resulted in a dramatic and widespread change in the sociopolitical order is a noteworthy phenomenon.

Thirdly, the essence of the distinction between LM IB Late and LM IB Final at Kommos with respect to the pottery that was locally produced⁴¹ is a dramatic expansion of the ornamental repertoire on the most common pattern-decorated open shapes, especially the semiglobular cup and the horizontal-

⁴⁰ Watrous (1992, 8 no. 124 [C953], 118) describes a bridge-spouted jar from Kommos decorated with widely spaced octopi at 90-degree intervals around the body as though it were an example of the Alternating Style. There is, however, no alternation of two different motifs on this vessel, and it is better viewed as an example of the debased version of the Marine Style that is characteristic of LM IB Final, like the tall alabastron X2:7/1 (Kommos C9364) illustrated in Fig. 17. As noted in the text, the bridge-spouted jar C953 is stylistically closer to the Ephyraean Style of the LH IIB Greek mainland than to the true Alternating Style of LM IB Late Crete.

⁴¹ As opposed to imported from North-central Crete (i.e., Knossos and its immediate surroundings) or from one or more areas in the eastern part of the island.

handled bowl. Many of the new patterns (Table 5) are variants of the semicircle, whether pendent as single or multiple loops in chains of festoons or alternating in rows as scales, either pendent or upright. Other novelties are simply more schematic versions of varieties of plant ornament such as Reed and Foliate Band that had been current throughout the LM IB period. Although both a predilection for pendent festoons and a tendency to schematize naturalistic motifs are hallmarks of mainland Greek approaches to ceramic ornamentation in the later Middle Helladic and early Mycenaean eras, nothing in the shape repertoire of LM IB Final suggests any connections with the Helladic tradition of the mainland. Such decorative resemblances between LM IB Final and early Mycenaean (LH I – IIB) ceramic ornament as exist are therefore probably fortuitous.

Intra-Cretan correlations and their implications

Table 4 displays in schematic form the chronological correlations suggested here between the sequence of LM IB phases recognized at Kommos and major deposits of LM IB pottery published from other sites in Central and East-central Crete.⁴² As full and complex as the Kommos sequence appears to be on the present evidence, it should not be considered complete. As noted earlier, what happens between the phases here termed LM IB Early and LM IB Late is uncertain, as is the length of time that elapsed between the laying down of deposits closed in LM IB Early (Table 1A) and the corresponding deposition of contexts assigned to LM IB Late (Table 2A). With the possible exception of Mochlos, no other site presented in any detail at the workshop hosted by the Danish Institute in July 2007 appears to have significant deposits of material that might be assigned to the intermediary horizon between these two phases at Kommos, which has been tentatively designated “LM IB Developed” in Table 4. How to define the beginning of LM IB with criteria that have more than purely local (whether regional or even site-specific) applicability is a separate though related question to which I shall return below.

The evidence from Kommos and Mochlos, as perhaps also that from Khania, strongly suggests that LM IB was longer-lived than the 50–60 years (ca. 1480–1425 BC) conventionally assigned to it according to the traditional Aegean absolute chronology (henceforth the “low chronology”)⁴³ or even than the expanded span of 70 to 90 years (ca. 1520/1510–1440/1430 BC) more recently accorded to the phase by adherents of this low chronology.⁴⁴ The duration of roughly a century accorded to the period by Manning (ca. 1600/1580–1500/1490 BC) with the Aegean “high chronology” seems more appropriate.⁴⁵

The distinguishing features of the LM IB Final phase at Kommos (Table 5) are particularly well represented in the later LM IB destruction deposits of North-central Crete at the sites of Knossos, Nirou Chani, and Tylissos (Table 4).⁴⁶ By contrast, the principal destruction horizon encountered in the South-central portion of the island at Hagia Triada, Phaistos, and Pitsidia Plakes dates to the earlier LM IB Late phase, although LM IB Final material is attested in the south at Hagia Triada and Seli as well as at Kommos, and the destruction of the Chalará complex at Phaistos belongs to this later phase.⁴⁷ The resulting picture of destructions by fire at discrete, but not all that widely separated intervals, some of them resulting in a site’s abandonment (e.g., Pitsidia Plakes, Nirou Chani) but in other cases clearly not (e.g., Knossos), or at least not immediately (Hagia Triada, Phaistos), is rather confusing when

⁴² Sites in the far east of the island (e.g., Palaikastro, Zakros) and far west (e.g., Khania) have been omitted.

⁴³ Warren & Hankey 1989, 78–81, 138–44, 169; Driessen & Macdonald 1997, 21–3, fig. 2.3.

⁴⁴ Warren 2006, 318.

⁴⁵ Manning 1999, 335–40, fig. 62.

⁴⁶ The destructions of Nirou Chani and Tylissos were recognized long ago by Niemeier (1985, 177–8) as being later, on ceramic grounds, than the LM IB destructions of the Palaces at Kato Zakros, Malia, and Phaistos and the Villa at Hagia Triada.

⁴⁷ For a helpful and detailed overview of the complex situation in the western Mesara during the LM IB Late and Final phases, particularly useful for the numerous sites explored by the Italian School of Archaeology at Athens (e.g., Hagia Triada, Kannia, Phaistos, and Seli), see Puglisi 2006, 471–513.

juxtaposed against the conventional picture of a single destruction horizon across virtually the entire island at the end of LM IB, followed by a period of widespread abandonment during the ensuing LM II period. Kommos, of course, never suffered a site-wide destruction during the LM IB period, thus further complicating any simple or straightforward interpretation of the event-filled terminal stages of the Neopalatial era in the western Mesara. The recent recognition of a similarly bewildering picture with respect to the destruction and abandonment of the two most recently investigated major sites in and around the Bay of Mirabello in the northeast, Pseira and Mochlos, suggests that the western Mesara may not be all that atypical: Pseira was evidently destroyed in LM IB Late and largely, but not completely, deserted during LM IB Final before being abandoned for the rest of the prehistoric era thereafter; Mochlos was destroyed only in LM IB Final, but entirely abandoned for several decades thereafter.⁴⁸

As was made abundantly clear by Driessen and Macdonald a decade ago, the collapse of Neopalatial Minoan civilization is an enormously complicated phenomenon.⁴⁹ The more finely tuned our ceramically based relative chronologies are becoming, the more complex the situation is turning out to be, not only across the entire island but even within its comparatively small regions. It is perhaps time at long last to give up overly simplistic approaches, such as invocations of single natural disasters, whether these be volcanic eruptions, earthquakes, tidal waves, or combinations thereof, and to acknowledge that we need to build up a more complete data bank of actual events through fuller publication before we launch into the process of interpretation. It is, after all, not only the LM IB phase that is turning out to be characterized by two or more chronologically differentiable destruction horizons – the same is true of the immediately preceding LM IA phase!

Additional issues of concern involving the LM IB phase and its ceramics

How should the beginning of the LM IB phase be defined in ceramic terms? At Kommos, we have cobbled together a series of criteria for distinguishing the two ceramic horizons we have termed LM IA Final and LM IB Early, but we recognize that these are unlikely to apply to regions of Crete outside the western Mesara.⁵⁰ Indeed, since it has proven quite challenging to align the various LM IA and LM IB ceramic phases identified at sites as close to one another physically as are Kommos, Phaistos, and Hagia Triada,⁵¹ one is entitled to be skeptical about the chances of reaching consensus on how to do so from one end of the island to the other. At Kommos we have relied heavily on the most commonly occurring open shapes – conical cups, semiglobular and straight-sided cups, in-and-out bowls – to define our phases. Closed shapes have provided relatively little help by comparison, and in some cases – the bridge-spouted jar springs immediately to mind – it is very difficult to trace their morphological or decorative development through time with any real confidence. Changes in the popularity of easily recognizable motifs – especially Ripple and Running Spirals for LM IA and various kinds of floral ornament for LM IB – offer a supplementary approach to documenting temporal developments. At the same time, considerations about the functions of the various ceramic types whose decoration is being quantified, and related concerns about what shapes would have been in regular demand at the various different kinds of sites for which dates are being determined, should always be part of our overall assessments. Perhaps the cooking pottery repertoire can be more usefully investigated for the purposes of chronology

⁴⁸ Betancourt, this volume; Betancourt & Davaras 1995; 1998a; 1999; Floyd 1998; Brogan, Smith, & Soles 2002.

⁴⁹ Driessen & Macdonald 1997.

⁵⁰ Van de Moortel 1997, 268–74; Rutter 2006a, 467–77.

⁵¹ For various relatively recent attempts at such correlations, see Van de Moortel 1997; Puglisi 2006, 461–529; Shaw & Shaw 2006, 866–73.

than it has been in the past.⁵² However this problem of definition is ultimately approached, it should be clear from what has already been said above that the lack of explicit definitions of what ceramic criteria define both the beginning and the end of the LM IB period will inevitably make more difficult the task of interpreting any observed cultural changes within it. The list of features presented in Table 5 is intended as a specific proposal for defining the period's end, not only at Kommos but also elsewhere in what is roughly the central two-thirds of Crete. One suggestion made at the July 2007 workshop for recognizing the beginning of LM IB was to take the volcanic eruption horizon on Thera as marking the end of the preceding LM IA period. By the workshop's end, however, this promising suggestion unfortunately remained nothing more than that.

Within the later LM IB period, the flowering of the so-called Special Palatial Tradition with its particularly elaborate approaches to vessel ornamentation has made possible the identification (if not often the localization) of individual workshops and even artists' hands.⁵³ Presented with this degree of precision with regard to production, we should in theory be able to construct as sophisticated a relative chronology for high-end Minoan ceramics as has been possible for the output of Corinthian black-figure vase painters of the Archaic era.⁵⁴ But a number of factors have kept this from happening, some of them truly beyond our control (for example, the comparative dearth of complete vessels decorated in the SPT from funerary contexts, especially on Crete). Even what ought to have been the relatively straightforward determination of whether or not the Alternating Style constitutes a genuinely later stage of LM IB ceramic development than that represented by such other SPT styles as the Marine, Floral, and Geometric has become a much debated but as yet still unresolved question.⁵⁵ Attempts to discern different stages in the development of the Marine Style⁵⁶ are said to be based more on purely stylistic arguments than on solid contextual evidence.⁵⁷ But it may now be possible to point to one variant of a popular Marine Style motif that is characteristic of LM IB Final rather than LM IB Late contexts, yet is part of overall decorative schemes that no one

would consider to be in any sense debased versions of that style. Previous efforts to isolate a stylistically more advanced stage of the Marine Style have been focused chiefly on variants of the Octopus and Argonaut motifs,⁵⁸ but Müller's exceptionally detailed investigation of the SPT has shown how a number of other motif variants can be attributed to earlier and later stages within this class of elaborately and complexly decorated ceramics.⁵⁹ A group of vessels bearing a distinctive version of the Triton shell, lacking interior spikes around its upper opening and with a distinctive body shape as well as additional decorative details, prove to come in four out of six cases from contexts that can be assigned on other grounds to the sub-phase identified here as LM IB Final (Table 4). Four of the six have been attributed to the same painter by Müller:⁶⁰ a bridge-spouted bucket jar from Nirou Chani,⁶¹ two pithoid jars from Knossos, one of them from the court just north of the Stratigraphical Museum Excavations' North House;⁶² and a closed body sherd from the South House at Knossos.⁶³ Closely related versions of the Triton shell decorate two other vases, a pithoid jar from the Royal Road: North deposit⁶⁴ and the

⁵² Note, for example, the interesting comments of Barnard & Brogan 2003, 81 on changes taking place between LM IA and LM IB with respect to the varieties of tripod cooking pots conventionally identified, following Betancourt 1980, as Types A and B.

⁵³ Most recently and in the greatest detail, Müller 1997.

⁵⁴ Amyx 1988; Amyx & Lawrence 1996.

⁵⁵ Puglisi 2006, 476 and n. 19–21.

⁵⁶ Mountjoy 1974a; 1984, 161 note 1; Müller 1997.

⁵⁷ Barnard & Brogan 2003, 108; Puglisi 2006, 476 n. 18.

⁵⁸ Mountjoy 1974; Mountjoy, Jones & Cherry 1978, 143–6, fig. 2; Müller 1997, 212–43.

⁵⁹ Müller 1997, 308–14.

⁶⁰ *Der Maler der Tritonamphora*: Müller 1997, 269–71, fig. 153.

⁶¹ Heraklion Museum 7572: Xanthoudides 1922, 20, fig. 17; Mountjoy 1984, 193 Nirou Chani 1, pl. 27f; Müller 1997, 348 Zyl 66, pl. 32.

⁶² Mountjoy 1984, 182 Knossos 44–5, pl. 21d–e; Müller 1997, 353 PAm 86–7, pls. 39–40 (the latter illustrated by Warren 1981, fig. 45; also Warren, this volume).

⁶³ Mountjoy 1984, 189 Knossos 139, fig. 18; Müller 1997, 448 XG 485, pl. 97.

⁶⁴ Heraklion Museum 15060: Hood 1962a, figs. 10–1; Mountjoy 1984, 179 Knossos 22, pl. 19d; Müller 1997, 357 PAm 103, pls. 50–1.

well-known Marine Style goblet from the South Corridor of the MUM at Knossos,⁶⁵ considered by Müller to have been produced by the same workshop, if not necessarily the same artist, on the grounds of the very close resemblance in the freely contoured Rockwork that accompanies the distinctive version of the Triton shell on these two vessels.⁶⁶ The close correspondence, in the cases of four of these six vessels, between independently determined stylistic and contextual dates suggests that it may be possible in the future to identify additional stylistic traits within the SPT decorative repertoire that serve to distinguish LM IB Final from LM IB Late.

In spite of the massive amounts of carefully excavated Neopalatial ceramic remains recovered during some fifteen field seasons at Kommos between 1976 and 1995, the number of genuinely useful deposits for the purposes of defining phases within LM IB has thus far proven to be a very small one (Tables 1A–3A). There are several readily intelligible and perfectly valid explanations for this: for example, relatively few contexts at Kommos have been left altogether undisturbed since their original deposition, thanks to the site's long history of occupation in both prehistoric and historic times, and no site-wide destruction horizons have ever been documented, in marked contrast to the situation at the vast majority of other Minoan sites excavated as intensively over an equivalent amount of time. Nevertheless, the small number of such chronologically useful deposits is a sobering fact. One result of this, as already noted, is our ignorance about how much time may have elapsed between what has been described above as LM IB Early and LM IB Late. The comparatively small number of sites thus far reported at which multiple stages of LM IB ceramic development have been noted is striking (Table 4: Hagia Triada, Kommos, Malia, Mochlos, Pseira; also Khania), but recent publications, including this volume, suggest that the documentation of multiple LM IB ceramic phases at individual sites will henceforth become considerably more common.

In view of how long the LM IB period has been recognized and how richly represented at least some stages within it are by major destruction deposits

from numerous locales distributed throughout the island, it is disappointing how little can yet be said with confidence about the nature and extent of ceramic regionalism on Crete during the three or four generations that this period may have lasted. For example, it is not possible to gauge the degree of such regionalism with respect to that of the preceding LM IA period nor in comparison to that of the first subsequent ceramic period that is widely represented throughout the island, LM IIIA1. The workshops producing the elaborately decorated vessels of the SPT during LM IB Late are conventionally considered to have been located at or in the immediate neighborhood of Knossos, but Puglisi has presented compelling evidence for the production of at least some SPT vases at Hagia Triada.⁶⁷ The comparatively recent publication of substantial bodies of Neopalatial pottery from a diverse and rapidly growing number of settlement sites by the individual contexts in which this pottery was recovered⁶⁸ has resulted in the identification of other distinctive styles and product lines peculiar to specific regions or sites. For example, the Floral Paneled Style of LM IA Final and LM IB Early was evidently produced at or near Kommos, while a distinctive class of LM IB piriform jars decorated with incised lilies was manufactured at or near Mochlos and cups painted with a particular form of Lily pattern were produced at LM IB Late and Final Hagia Triada.⁶⁹ It thus seems likely that many Cretan sites and regions will have produced distinctive vessel forms, decorative motifs, and especially combinations of the two during the LM IB period. The identification of additional examples will obviously allow much more to be said about ceramic regionalism. The discovery and

⁶⁵ Popham 1984, 97 SC18, 158, pl. 124b; Mountjoy 1984, 188 Knossos 97, pl. 28c; Müller 1997, 416 Sf313, pl. 86.

⁶⁶ Müller 1997, 181, 212, figs. 102, 121.

⁶⁷ Puglisi, this volume.

⁶⁸ These sites include Hagia Triada, Kommos, Mochlos, Palaikastro, Pseira, and Seli in addition to the already well-represented palatial sites of Knossos, Malia, Phaistos, and Zakros.

⁶⁹ Rutter 2004; 2006a, 443, 475–6, 485–6 [Kommos]; Barnard & Brogan 2003, 73, figs. 37, 39–40 and Brogan 2004, 29–41 [Mochlos]; Puglisi 2006, 449–50 and n. 23 [Hagia Triada].

publication of such distinctive pieces from well-dated contexts, whether as imports or as local products, will likewise facilitate the correlation of site-specific ceramic sequences throughout the island. The variable distribution of such items as imports will have much to say about the nature of Minoan exchange, as will the differential impacts that localized types had outside their production locales. The rise of the SPT to a position of pan-Cretan, and indeed pan-Aegean, importance in LM IB Late, as well as its apparent decline in LM IB Final (at least in some regions of Crete such as the western Mesara) and eventual disappearance in LM II are phenomena that merit more detailed

investigation. Further study of the rise and decline of the earlier Floral Paneled Style might similarly be rewarding, with comparisons of the natures and histories of regional styles of tableware being at least one logical outgrowth of such more focused analyses. My own experience at Kommos has shown me that spotting individual vessels as imports at a site where one has spent a considerable amount of time is not all that difficult – but identifying the source of that import is a far more challenging task, chiefly because of the inadequate state of publication of regional ceramic traditions within Crete, especially during the Neopalatial and Post-palatial eras of the Late Bronze Age.

NATURE OF DEPOSITS	PUBLICATION REFERENCES	Date of stratum below	Date of stratum above	Weight in kg. (number of sherds)	Complete or fully restorable vases (inv. frags)
Floor deposits and major fills [Rutter 2006a, 474 table 3.61]	Building T, Room 42, fourth floor [Tr.52A/53; Tr.62D/70] (Rutter 2006a, 448 Group 35 , 700–1 n. 122, pl. 3.40)	LM IA Final (– LM IB Early?)	Mixed Neopalatial to LM IB	2.10 (ca. 150)	0 (1)
	Building T, North Stoa, east end, fourth floor [Tr.62D/74, 80] (Van de Moortel 1997, 740; Rutter 2006a, 448–9 Group 36 , 700–1 n. 122, pl. 3.40)	LM IA Final	Mixed Neopalatial to LM IB	6.20 (ca. 400)	1 (1)
	Building T, Room 5A, <i>sottoscala</i> [Tr.36A/4, 5, 6, 9, 10, 14, 15, 18, 30] (Watrous 1992, 14–6, figs. 17–8, pls. 6–7 [Deposit 7]; Van de Moortel 1997, 739–40; Rutter 2006a, 458–61 Group 40 , 698–700 n. 119, pl. 3.44–6)	LM IA Final	LM III	> 34.70 (> 1010)	14 (22)
Contexts closed in LM IB Early but containing substantial amounts of Earlier Neopalatial pottery	Building T, Space 22, west end [Tr.53A1/57, 62, 63, 64] (Rutter 2006a, 445 Group 31 , pl. 3.39)	LM IA Final	LM IIIA2	24.51 (ca. 740)	1 (1)
	Building T; removal of “platform” in Room 16 [Tr.62D/96] (Rutter 2006a, 446–7 Group 33 , pl. 3.39)	LM IA Advanced	LM IIIA2	2.33 (ca. 120)	2 (2)
	Building T, Space 11 = North Stoa near west end [Tr.37A/27, 29] (Van de Moortel 1997, 741–2; Rutter 2006a, 449–50 Group 37a , pl. 3.40–1)	Mixed Neopalatial	LM IIIA2	4.65 (ca. 110)	2 (5)
	Building T, Space 11 = North Stoa near west end [Tr.43A/93] (Rutter 2006a, 450–1 Group 37b , pl. 3.41)	Mixed Neopalatial	Neopalatial	8.72 (ca. 220)	1 (3)
	Building T, Space 10 = North Stoa near west end [Tr.43A/94] (Rutter 2006a, 453–4 Group 37d , pl. 3.42)	Mixed Neopalatial	Mixed LM IA to LM IIIA1	7.00 (ca. 140)	0 (2)
	Building T, northwest part of pebbled court immediately south of North Stoa’s west end [Tr.37A/52, 53, 57, 59, 60] (Van de Moortel 1997, 741–2; Rutter 2006a, 454–6 Group 37e , pl. 3.42–3)	LM IA	Mixed LM IB to LM II	14.02 (ca. 440)	5 (11)
	Building T, portion of pebbled court below later Room N13 [Tr.44A/52] (Rutter 2006a, 456–7 Group 38 , pl. 3.43)	LM IA (?)	LM IA Final to LM IB Early	0.70 (ca. 40)	0 (3)
	Building T, clayey fill directly overlying preceding group [Tr.44A/49, 50] (Rutter 2006a, 457 Group 39 , pl. 3.44)	LM IA Final to LM IB Early	LM IIIA2	3.23 (ca. 100)	0 (4)
	Building T, Space 28 at west end [Tr.94A/68, 76, 77, 78, 79, 80] (Rutter 2006a, 461–2 Group 41 , table 3.57, pl. 3.46)	Unexcavated	LM IIIA2 Early	1.055 (198)	1 (3)

Table 1A: Late Minoan IB Early at Kommos: significant contexts.

SHAPE	DECORATION	Inventoried Examples ¹	Comments
Conical Cup	Unpainted (conical Type C; tall ovoid Type D) Solidly coated (ovoid Type P) Linear: band at rim (conical Type J) Light-on-dark patterned (ovoid Type V)	Type C: 31/2, 36/2, 37a/5, 37e/11-2, 40/20-5, 41/4 Type D: 33/4, 37a/6 Type P: 37e/4, 40/6-7 Type J: 33/3, 38/1, 40/5 Type V: 37b/1, 39/1	
Semiglobular Cup	Patterned: Running Spiral FM 46 (usually "stemmed", occasionally retorted) Quirk FM 48 Isolated Spiral FM 52 multiple horizontal Wavy Lines FM 53 3-petaled buds Floral Paneled style Solidly coated Unpainted	37a/4, 37d/1, 40/8, 40/9, 40/10, 40/11, 40/12 37b/2, 37e/5 39/2 37d/2, 37e/6, 40/13, 41/1 37a/3, 38/2(?) 37e/7, 40/14 40/16 37e/13	3-petaled buds possibly residual LM IA Final. Added white common on rim band in form of Wavy Line FM 53, Zigzag FM 61, single row of plump diagonal leaves or double row of thin leaves (Foliate Band FM 64).
Side-spouted Cup	Unpainted	40/30	Residual LM IA (?)
In-and-out Bowl	Patterned Exterior: Quirk FM 48 Foliate Band FM 64 Floral Paneled style Interior: horizontal Wavy Band FM 53 vertical Wavy Lines FM 53 Floral Paneled style spatters undeterminable pattern	37b/3, 37e/10 40/17 38/3, 39/4, 40/18 37b/3 37e/9, 38/3 37e/8, 40/18 39/4 37e/10, 41/3	Added white common on rim band in form of Quirk FM 48, Wavy Line FM 53, Zigzag FM 61, single row of plump diagonal leaves (Foliate Band FM 64), or Floral Paneled Style; added white also used for accents over dark patterns on exterior.
Kalathos	Unpainted Patterned: vertical Reed FM 16 inside and out	40/26, 40/27 41/2 (also 37c/8)	Unpainted version may have midrib; all are exceedingly thin-walled.
Spouted Basin	Patterned: horizontal Wavy Lines FM 53	37e/14	
Collar-necked Jug	Patterned: horizontal Wavy Line FM 53 (neck; lower body zone) diagonal Reed FM 16 (shoulder only) diagonal Reed FM 16 (entire body) Running Spiral FM 46 (shoulder) Floral Paneled style (shoulder)	37a/2(?), 40/2 40/2 40/3, 40/4 31/1(?), 36/1(?), 37e/2 37e/1	Added white on handle (31/1)

Bridge-spouted Jar	Patterned: Running Spiral FM 46 (shoulder) multiple horizontal Wavy Lines FM 53 (lower body zone) Ripple FM 78 (lower body zone)	37a/1 40/1 33/2	Ripple FM 78 on LM IA residuals (?)
Tubular-spouted Jar	Patterned: Diaper Net FM 57 (shoulder) 3-petaled buds (mid-body zone)	33/1 33/1	3-petaled buds indicative of LM IA residual (?)
Pithoid Jar	Patterned: Running Spiral FM 46 (shoulder) multiple horizontal Wavy Lines FM 53 (lower body zones)	37a/7, 40/28 37a/7	
Oval-mouthed Amphora	Solidly coated (?) Unpainted (?)	35/1 (?) 37b/4 (?)	
Globular Rhyton	Solidly coated (?)	37e/3	LM IA residual (?)
Tripod Cooking Pot		37e/15, 40/32, 40/33	
Cooking Jar		40/31	
IMPORTS			
Semiglobular Cup	Patterned: Running Spiral FM 46 (Knossian?) Variegated Stone FM 76 (Knossian)	39/3 40/15	Coated interior Coated interior
Alabastron	Fine Grey Ware (unknown Minoan source)	40/19	
Amphora	Egyptian, unpainted	40/34	
Spindle Bottle	Cypriot Red Lustrous Wheelmade ware	40/35	
Jug or Tankard	Cypriot Red/Black Slip IV	40/36, 40/37	
Vapheio Cup	Mycenaean patterned (Running Spiral FM 46)	37e/16	

Table 1B: Late Minoan IB Early at Kommos: common vessel types.

¹ All references in this column are to the catalog numbers of pieces published in Rutter 2006a.

NATURE OF DEPOSITS	PUBLICATION REFERENCES	Date of stratum below	Date of stratum above	Weight in kg. (number of sherds)	Complete or fully restorable vases (inv. frags)
Floor deposits and major fills [cf. Rutter 2006a: 482 table 3.62]	Building T, northwest corner of central court, ca. 0.14 m of fill above pebbled surface of court [Tr.50A/79; Tr.100D/34, 35, 36, 37, 38, 39, 40, 41] (Rutter 2006a, 463–7 Groups 44a–b , 700 n. 120, tables 3.59–60, pl. 3.46–8)	Unexcavated	LM II	> 16.44 (> 3910)	0 (20)
	House X, Room 2, pebble floor at 4.89/4.90 and overlying 0.20 m of fill [Tr.74A/77, 77A, 78, 79; Tr.80A/41, 42, 43, 44] (Van de Moortel 1997, 742–3; Rutter in progress, Groups X2:4–5)	LM IB Late	LM IB Late	8.48 (1284)	7 (24)
	House X, Room 2, beaten earth floor at 5.04/5.09 and overlying 0.20 – 0.25 m of fill [Tr.66A/25, 28; Tr.74A/75, 76] (Van de Moortel 1997, 742–3; Rutter in progress, Group X2:6)	LM IB Late	LM IB Final	c. 5.885 (ca. 540)	3 (14)
	House X, Room 3, floor at 5.08/5.14 and overlying 0.05 – 0.15 m of fill [Tr.74B/75A, 76A; Tr.93E/101] (Van de Moortel 1997, 744; Rutter in progress, Group X3:2)	LM IA Final	LM II	4.64 (470)	0 (5)
	House X, Room 6, beaten earth floor at ca. 4.85 and overlying 0.05 m of fill [Tr.66A/40; Tr.73B/112, 116; Tr.93E/103] (Rutter in progress, Group X6:2)	LM IA Final	LM II	c. 14.54 (ca. 954)	0 (4)
	House X, Room 7, floor of stone slabs and beaten earth at 4.81/4.82 and overlying 0.10 m of fill [Tr.73A/67A, 94B, 95A, 95B] (Rutter in progress, Group X7:1)	Unexcavated	LM II	1.13 (160)	1 (4)
	House X, Room 11, beaten earth floor at 5.00/5.05 and overlying 0.10 – 0.15 m of fill [Tr.11A/30 = Watrous 1992: 17, pl. 7 nos. 296–302 [Deposit 9]; Tr.73B/107] (Van de Moortel 1997, 744; Rutter in progress, Group X11:1)	Mixed MM IIA to LM IA Final	LM II	c. 6.635 (ca. 930)	0 (12)

Table 2A: Late Minoan IB Late at Kommos: significant contexts.

SHAPE	DECORATION	Inventoried Examples ¹	Comments
Conical Cup	Unpainted (conical Type C; tall ovoid or conical Type D) Solidly coated (ovoid Type P, hemispherical Type Q) Linear: band at rim (conical Type J with flattened lip; ovoid lipless Type K)	Type C: X2:4/15–7; X2:6/14; X7:1/4; X11:1/11–12 Type D: 44b/15; X2:4/18–9; X2:6/15–6; X7:1/5 Types P–Q: X2:4/4–6; X2:6/5–9; X7:1/1 Type J: X2:4/3 Type K: X2:6/3–4; X6:2/3; X11:1/7–8	Types C and D become somewhat larger. Type P becomes somewhat smaller and deeper.
Semiglobular Cup	Patterned: horizontal Reed FM 16 Running Spiral FM 46 Running Spiral FM 46 with grouped tangents Isolated Spirals FM 52 multiple horizontal Wavy Lines FM 53 Solidly coated	X2:4/9; X2:5/5; X3:2/2; X11:1/9 44b/6–7; X2:4/7–8; X2:5/2–4; X2:6/10; X7:1/2 44b/11 44b/8–10 X3:2/1 X2:6/12; X6:2/4	Examples with added white at rim probably LM IB Early residuals (44b/6–7) Possible earlier residual
Bell Cup	Linear	X2:6/13	Residual LM IA.
Horizontal-handled Bowl	Patterned: Running Spiral FM 46 (?) Quirk FM 48	X7:1/3 (?) X11:1/10	
Miniature Brazier	Solidly coated	X2:4/20	
Collar-necked Jug	Patterned: double horizontal Wavy Line FM 53 (neck), diagonal Reed FM 16 (shoulder) Floral Paneled Style (shoulder), horizontal Reed FM 16 (mid-body) Isolated Spiral FM 52 (shoulder)	X2:4/2 X2:6/1 44b/3	
Bridge-spouted Jar	Patterned: Double Axes FM 35 (shoulder) Running Spiral FM 46 (shoulder) Solidly coated	X2:4/21 44b/2 X6:2/1; X11:1/2, 5(?)	
Tubular-spouted Jar	Patterned: Running Spiral FM 46 (shoulder)	X11:1/1	

Table 2B: Late Minoan IB Late at Kommos: common vessel types.

¹ All references in this column are to the catalog numbers of pieces published in Rutter 2006a (for Group 44b from Building T) or to the catalogue numbers in Rutter in progress for all pieces from House X prefixed with the letter X followed by the relevant room number).

Pithoid Jar	Patterned: Running Spiral FM 46 (shoulder))	44b/16	
Pitharaki	Solidly coated Unpainted	44b/1; X2:4/1 X2:4/14	
Pithos	Patterned: re-used MM III examples Unpainted	X2:4/22-4 X2:4/25	Perfectly paralleled at Phaistos Palace
IMPORTS			
Semiglobular Cup (Knossian) (Mycenaean)	Patterned: Rockwork FM 28 + Seaweed FM 30 (Marine Style) Variegated Stone FM 76	X3:2/3 44b/20	Coated interior
Bell Cup (Knossian?)	Linear Patterned: Crocus FM 10 + Trefoil FM 29 (Alternating Style)	X2:6/11 44b/12	Coated interior Coated interior
Wishbone-handled Cup (Knossian)	Patterned: Crocus FM 10 + Tricurved Arch FM 62 (Alternating Style)	X2:4/11	Coated interior
Straight-sided Cup (Knossian?) (unknown Minoan source)	Patterned: Running Spiral FM 46 with blob-flanked tangents Light-on-dark Papyrus FM 11 (Lyrical Floral Style)	X2:4/13 X2:4/12	Coated interior White pattern on solidly coated cup
Miscellaneous Cup (unknown Minoan source)	Foliate Band FM 64	X2:4/10	Unfinished surfaces
In-and-out Bowl (Knossian?)	Patterned: Exterior: broad Wavy Band FM 53. Interior: Stipple FM 77 with Wavy Band (13) at, or Wheel (14) on base	44b/13-4	
Beaked Jug (Knossian) (Knossian?) (unknown Minoan source)	Patterned: solid Circles FM 41 (neck) vertical Reed FM 16 (all over body) Quirk FM 48 (shoulder)	X6:2/2 44b/4 X11:1/3	
(Knossian)	Foliate Band FM 64 (mid-body)	X2:6/2	
Bridge-spouted Jug (Mycenaean)	Patterned: Sacral Ivy FM 12 Ogival Canopy FM 13	44b/18 (?) 44b/19	
Bridge-spouted or Beaked Jug (Knossian?)	Patterned: Sacral Ivy FM 12 + Shield FM 37 (shoulder), Arcade Pattern FM 66 (lower body) (Alternating Style)	X2:5/1	
Misc. Jug (Knossian?)	Panels FM 75 and Stipple FM 77	44b/5	Added white vertical lines on panels
Trefoil-mouthed Jug (Cypriot)	Unpainted	44b/17	Cypriot Plain White import

Table 2B (continued from previous page): Late Minoan IB Late at Kommos: common vessel types.

NATURE OF DEPOSITS	PUBLICATION REFERENCES	Date of stratum below	Date of stratum above	Weight in kg. (number of sherds)	Complete or fully restorable vases (inv. frgs)
Floor deposits and major fills	House of the Snake Tube, deposit of yellowish earth ca. 0.30–0.35 m deep against south side of house [Tr.9A/17] (Watrous 1992, 16 Deposit 8, 198, fig. 18, pl. 7 nos. 279–95; Van de Moortel 1997, 745)	Neopalatial to LM IB Late	LM IB Final	8.31 (1832)	0 (17)
	House of the Snake Tube, deposit of soft dark gray earth c. 0.70 m deep overlying the previous deposit [Tr.9A/12, 15, 19, 20] (Watrous 1992, 20–5 Deposit 16, 200–1, figs. 18–21, pls. 9–11 nos. 339–428)	LM IB Final	Mixed, mostly LM II to LM IIIA1	145.54 (5917)	5 (85)
	House X, Room 2, beaten earth floor at 5.30 and overlying 0.15 – 0.40 m of fill [Tr.66A/21; Tr.74A/74] (Van de Moortel 1997, 742–3; Rutter in progress, Group X2:7)	LM IB Late	Mixed MM II to LM II	3.20 (ca. 278)	5 (2)
	North of House X Room 3, dumped fill ca. 0.50–0.55 m thick against north wall of room, east of retaining wall running north from midpoint of Room 3's north wall [Tr.93E/67, 68, 71, 72, 74, 75, 76] (Rutter in progress, Group X3N:3)	LM IA Final	LM II	22.60 (1655)	0 (25)

Table 3A: Late Minoan IB Final at Kommos: significant contexts.

SHAPE	DECORATION	Inventoried Examples ¹	Comments
Conical Cup	Unpainted (conical Type C; ovoid Type E) Solidly coated (ovoid Type P, hemispherical Type Q) Linear: band at rim (ovoid lipless Type K)	Type C: X2:7/5-6 ; X3N:3/18-9 ; Watrous 1992, nos. 280, 340, 341 Type E: Watrous 1992, no. 342 Types P-Q: Watrous 1992, no. 343 Type K: X3N:3/7 ; Watrous 1992, no. 279, 344	Type E exceedingly rare
Semiglobular Cup	Patterned: Crocus FM 10 (with dot row above) horizontal Reed FM 16 horizontal Reed FM 16 with central line solid Circles FM 41 Festoons FM 42:2 (single row) Festoons FM 42:2 (double row) Festoons FM 42:2 (triple row) Running Spiral FM 46 Quirk FM 48 multiple horizontal Wavy Lines FM 53 Diaper Net FM 57 Foliate Band FM 64 (single row of leaves) Foliate Band FM 64 (double row of leaves) Scale FM 70 (with iris buds at base) floral sprays Floral Paneled Blob decoration Linear only Solidly coated all over Solidly coated exterior, rim band on interior	Watrous 1992, no. 381 Watrous 1992, nos. 282, 362, 379 Watrous 1992, no. 348 Watrous 1992, no. 376 Watrous 1992, nos. 359, 364 Watrous 1992, nos. 285, 347, 353, 356, 365 Watrous 1992, nos. 377, 398 X3N:3/8-9 ; Watrous 1992, nos. 284, 290, 368 X3N:3/10 ; Watrous 1992, no. 369 Watrous 1992, nos. 289, 370 Watrous 1992, nos. 283, 345 Watrous 1992, nos. 349, 374 (dots above, wavy line below) X2:7/4 (at rim); Watrous 1992, no. 352 (in spaced pairs); X3N:3/11 (with dotted leaves) Watrous 1992, no. 375 Watrous 1992, no. 366 Watrous 1992, nos. 346, 354, 371 Watrous 1992, nos. 287, 350, 373 X3N:3/12 Watrous 1992, nos. 367, 380 X3N:3/13 ; Watrous 1992: nos. 351, 372, 397	no. 346 a LM IB Early residual?
Handleless Rounded Cup	Patterned: horizontal Reed FM 16	X2:7/3	Only securely attested example of a handleless version of the common locally produced Reed cup
Bell Cup	Linear	X3N:3/20	Residual LM IA?

Horizontal-handled Bowl	<p>Patterned: diagonal Reed FM 16 (pendent from rim band) Festoons FM 42:2 (single row) Festoons FM 42:2 (triple row) Running Spiral FM 46 Quirk FM 48 (bisected) Quirk FM 48 (cross-hatched)</p> <p>Quirk FM 48 (double, with fill of dots and blobs)</p> <p>multiple Zigzag FM 61 Curved Stripes FM 67 (?) Scale FM 70 (single, with fill of solid circles) Scale FM 70 (double); horizontal Wavy Line FM 53 at base of bowl patchy Stipple FM 77</p>	<p>Watrous 1992: no. 392 X3N:3/14; Watrous 1992, no. 390 Watrous 1992, no. 395 Watrous 1992, no. 399 Watrous 1992, no. 391 Watrous 1992, nos. 382 (below pendent dashes at rim), 385 (combined with floral buds) Watrous 1992, no. 383 (below Foliate Band at rim), X3N:3/15 Watrous 1992, no. 388 X3N:3/16; Watrous 1992, no. 387 Watrous 1992, no. 384 Watrous 1992, no. 389</p>	
Collar-necked Jug	<p>Patterned: horizontal Wavy Band FM 53 (neck) debased Reed FM 16 (shoulder) Festoons FM 42:2 (single row)</p>	<p>Watrous 1992, nos. 400, 406, 409 Watrous 1992, no. 402 Watrous 1992, nos. 400, 409</p>	
Bridge-spouted Jar	<p>Patterned: Running Spiral FM 46 (shoulder) multiple horizontal Wavy Lines FM 53 (lowermost zone) Foliate Band FM 64 (upper shoulder)</p>	<p>X3N:3/2 X2:7/2 Watrous 1992, no. 411</p>	Troughed, not bridged, spout.
Pyxis	Unpainted	X3N:3/24	
Pitharaki	Solidly coated	X3N:3/1	
Tall Alabastron	<p>Patterned: vertical Whorl-shells FM 23 and Parallel Chevrons FM 58 (debased Marine Style)</p>	X2:7/1	
Stirrup Jar	<p>Patterned: blob-centered Stemmed Spirals FM 51 (shoulder), double horizontal Wavy Line FM 53 (mid-body)</p>	X3N:3/6	

Table 3B (continues next page): Late Minoan IB Final at Kommos: common vessel types.

¹ All references in this column are to the catalog numbers in Rutter in progress (for all pieces from House X prefixed with the letter X followed by the relevant room number and printed in bold) or to items published by L. V. Watrous in *Kommos III* (1992).

SHAPE	DECORATION	Inventoried examples ¹	Comments
IMPORTS			
Semiglobular Cup	Patterned: Papyrus FM 11 and Parallel Chevrons FM 58 solid Circles FM 41 Quirk FM 48 above horizontal Wavy Line FM 53 above antithetic Stemmed Spirals FM 51 Foliate Band FM 64 (single row of leaves, wavy line above and below) Stipple FM 77	Watrous 1992, no. 288 Watrous 1992, no. 281 Watrous 1992, no. 357	Coated interior Coated interior; added white on ext. Coated interior
Wishbone-handled Cup	Patterned: Argonaut FM 22 (debased Marine Style)	Watrous 1992, no. 355	Coated interior
Ring-based Carinated Cup	Patterned: solid Circles FM 41 above Arcade Pattern FM 66	Watrous 1992, no. 378 Watrous 1992, no. 358	Coated interior Coated interior
Beaked Jug	Patterned: Running Spiral FM 46 (shoulder) Quirk FM 48 above Foliate Band FM 64 (single row of leaves) above horizontal Wavy Line FM 53	X3N:3/17 X3N:3/5 Watrous 1992, no. 405	Coated interior
Amphora, Egyptian Jug, West Anatolian	Unpainted Unpainted	X2:7/7 X3N:3/25	

Table 3B (continued from previous page): Late Minoan IB Final at Kommos: common vessel types.

¹ All references in this column are to the catalog numbers in Rutter in progress (for all pieces from House X prefixed with the letter X followed by the relevant room number and printed in bold) or to items published by L. V. Watrous in *Kommos* III (Princeton 1992).

SITE	LATE MINOAN IB EARLY	LATE MINOAN IB DEVELOPED	LATE MINOAN IB LATE	LATE MINOAN IB FINAL
Kommos	<see Table 1A>	??	<see Table 2A>	<see Table 3A>
Hagia Triada [Puglisi 2006, this volume]			Destruction of Villa, <i>Casa dei Fichi</i> , <i>Casa a Nord della Casa Est</i> , <i>Complesso della Mazza di Breccia</i>	Rooms <i>a</i> and <i>b</i> of <i>Casa Ovest</i>

Knossos [Hood 1962a; 1962b; 1962c; this volume; Warren 1981; this volume; Mountjoy 2003, 78–127]				Royal Road: North, Basement A deposit; Stratigraphic Museum Excavations, destruction of North House; South House, unstratified LM IB-II debris
Kolokythi Skinias [Mandalaki, this volume]				Destruction of Villa
Makrygialos [Mantzourani, this volume]			Destruction of Court- centered Building (?)	
Malia [Van de Moortel, this volume]	Northeast of Palace (A.N.E.), fill of Pit 11 and construction fill of Passage 14		Destruction of Palace (?)	
Mochlos [Barnard & Brogan 2003, this volume]	Earliest LM IB floors in Houses C.2 and C.3	Floor 2 in House C.7(?)		Destruction of Artisans' Quarter ¹
Myrtos Pyrgos [Cadogan 1978; this volume]			Destruction of Villa (?)	
Nirou Chani [Xanthoudides 1922]				Destruction of Villa
Petras [Tsipopoulou, this volume]	House II, LM IB phase (?)			
Phaistos [Palio 2001a; 2001b, 376–8, 380–1; Puglisi 2006, 505–9]			Destruction of Palace, House at Hagia Photeini	Destruction of House at Chalara ²
Pitsidia: Plakes [Vallianou, this volume]			Destruction of Villa	
Pseira [Betancourt & Davaras 1995, 1998a; 1999; Floyd 1998; Betancourt, this volume]			Destruction of Town	Reoccupation of Block AF
Seli [La Rosa & Cucuzza 2001, 199– 201; Puglisi 2006, 511–2]				Abandonment of Casa Sifakis ³
Tylissos [Hazzidakis 1912; 1921]				Destruction of Villas

Table 4: Correlation of phases of LM IB Early through LM IB Final at Kommos with published deposits at other Minoan sites.
(See notes on next page)

¹ Critical for the date in terms of the criteria adopted here for LM IB Final (Table 5) are the numerous blob cups (Barnard & Brogan 2003, 46, 48 IB.206, 214, 218, figs. 6, 8, pls. 7–8), a bridge-spouted jug decorated with dot-outlined triple festoons on the neck and a blob-centered Scale pattern on the shoulder (Barnard & Brogan 2003, 63 IB.328, fig. 24, pl. 14), and a stirrup jar decorated with three-armed octopi (Barnard & Brogan 2003, 70 IB.369, fig. 29, frontispiece [bottom], pl. 17).

² Critical for this dating are the multiple examples of blob cups (Palio 2001b, 299 no. 242, 304 no. 319, 312 no. 414, 325 no. 629, 326 no. 652, 329 no. 685, figs. 39, 51e, 53i) and a piriform cup decorated with multiple pendent semicircle groups at the rim (Palio 2001b, 299 no. 236, fig. 45n), as well as some rims from open shapes, whether cups or bowls, decorated with Foliate Band (Palio 2001b, 303 nos. 306–7).

³ Critical for this dating are a semiglobular cup decorated with double festoons pendent at the rim (La Rosa & Cucuzza 2001, 117 XLVII–4, figs. 148, 252) and a probable horizontal-handled bowl fragment (La Rosa & Cucuzza 2001, 114 XLII–1, figs. 147, 267).

	VERBAL DESCRIPTION	EXAMPLES FROM STRATIFIED CONTEXTS AT KOMMOS	ILLUSTRATED EXAMPLES FROM OTHER SITES [with dates as applicable]
SHAPES	Carinated Cup (or Lid)	X3N:3/17	Popham 1984, 173, pls. 59a–c, 94d (top right), 151:13 [Knossos, LM II]
	Horizontal-handled Bowls (in significant numbers)		Hazzidakis 1912, 207 nos. 3–6, fig. 12 gamma, epsilon, nu [Tylissos, LM IB]; Xanthoudides 1922, fig. 19, lower left and lower right [Nirou Chani, LM IB]; Popham 1984, 164–5, pls. 52–53, 148.5–8 [Knossos, LM II]
	Stirrup jar, small to medium-sized without a distinct false neck but simply a thickened bump at the top of the vase	X3N:3/6	Hood, this volume [Knossos, LM IB]
DECORATIVE MOTIFS	Degenerate Reed Pattern (Furumark 1941, 282 Motive 16) on closed shapes and bowls	Watrous 1992, no. 402 [collar-necked jug]	
	Solid Circles (Furumark 1941, 335–7 Motive 41.3) as the principal pattern on semiglobular cups, bell cups, and small horizontal-handled bowls	Watrous 1992, no. 281	Hazzidakis 1921, fig. 12a [Tylissos LM IB]
	Single row of Festoons in a row (Furumark 1941, 337–40 Motive 42.2) pendent from the rim bands of cups or bowls or from the base of the neck on collar-necked jugs	Watrous 1992, nos. 355, 390; Kommos X3N:3/14; Watrous 1992, no. 400	
	Series of double Festoons (i.e. semicircles) pendent from the rim band of cups or bowls	Watrous 1992, nos. 353, 356	Hazzidakis 1912, 208 nos. 2–3, fig. 13: eta, theta (= Hazzidakis 1921, fig. 13g–h; see also 31 and fig. 12g) [Tylissos, LM IB]; Xanthoudides 1922, figs. 19 (lower left), 20.3, 5 [Nirou Chani, LM IB]
	Series of triple Festoons (i.e. semicircles) pendent from rim band (Furumark 1941, 340–8 Motive 43.23)	Watrous 1992, no. 395	Xanthoudides 1922, fig. 20.11 [Nirou Chani, LM IB]

DECORATIVE MOTIFS			
	Isolated double Quirk floating in a row in the patterned zone of semiglobular cups and bowls	X3N:3/10; Watrous 1992, no. 386	
	Other versions of Quirk (Furumark 1941, 359–61 Motive 48) with bisected or cross-hatched centers floating in the handle zone of bowls	Watrous 1992, nos. 382, 385, 391	
	Row of pendent leaves (Furumark 1941, 396–400 Motive 64.6) pendent from the rim of open vessels <i>not</i> decorated in the Alternating Style	X2:7/4; Watrous 1992, nos. 383, 386	
	Fringes (degenerate Foliate Band?) pendent from the rim bands of cups and bowls	Watrous 1992, no. 382	
	Scale pattern (Furumark 1941, 405–6 Motive 70.1) on the shoulder of closed shapes or pendent on the shoulders of bowls, especially when elaborated with dotted centers (Motive 70.2) or with doubled outlines (Motive 70.8)	Watrous 1992, no. 384	Xanthoudides 1922, fig. 16:3 [Nirou Chani, LM IB]; Barnard & Brogan 2003, no. 328, fig. 24, pl. 14 [Mochlos, LM IB Late/Final]
	Blob cups	Watrous 1990, no. 350	Barnard & Brogan 2003, nos. 206, 214, 218, figs. 6, 8, pls. 7–8 [Mochlos, LM IB Late/Final]; Popham 1984, 162, pls. 79b–d, 160: 2–3 [Knossos, LM II]
DECORATIVE ACCESSORIES	“Moustache” decoration of handles on horizontal-handled bowls	X3N:3/16	Popham 1984, 164, pl. 157g [Knossos, LM II]
	Horizontal or diagonal bars on semiglobular cup handles	X3N:3/9	Popham 1984, 161, pl. 157a–b
STYLISTIC FEATURES	Degenerate Marine Style motifs (e.g., Cuttlefish FM 21, Argonaut FM 22, Whorl-shell FM 23) used in ways alien to the canonical Marine Style of LM IB	X2:7/1; Watrous 1992, nos. 124, 358	Barnard & Brogan 2003, no. 369, fig. 29, pl. 17 [Mochlos, LM IB Late/Final]
	Elaboration of earlier patterns with dotted fills or outlines	X3N:3/11; Watrous 1992, no. 354	
TECHNOLOGICAL FEATURES	Initial appearance of soft, greenish-gray, powdery fabric on which the original burnished surface and paint rarely survive in full [symptomatic of a change in kiln usage, possibly the switch from Neopalatial multichanneled kilns to simple circular updraft kilns?]	X2:7/4	

Table 5: Late Minoan IB Final: defining characteristics.