FLORENS FELTEN, WALTER GAUSS, RUDOLFINE SMETANA (Editors)

MIDDLE HELLADIC POTTERY AND SYNCHRONISMS

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Florens Felten (Hrsg.)

Band I

MIDDLE HELLADIC POTTERY AND SYNCHRONISMS

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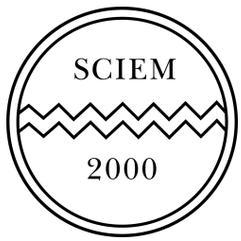

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Abbreviations

AA	Archäologischer Anzeiger
AAA	Archaiologika analekta ex Athenon (Athens Annals of Archaeology)
Aegaeum	Aegaeum: Annales d'archéologie égéenne de l'Université de Liège
AJA	American Journal of Archaeology. The Journal of the Archaeological Institute of America
AM	Mitteilungen des Deutschen Archäologischen Instituts, Athenische Abteilung
AmerAnt	American Antiquity
AnatSt	Anatolian Studies. Journal of the British Institute of Archaeology at Ankara
Antiquity	Antiquity. A Quarterly Review of Archaeology
AR	Archaeological Reports (supplement to *JHS*)
ArchCl	Archaeologia classica
ArchDelt	Archaiologikon Deltion
ArchEph	Archaiologike Ephemeris
ArchKorrBl	Archaeologisches Korrespondenzblatt
ASAtene	Annuario della Scuola archeologica di Atene e delle Missioni italiane in Oriente
BAR	British Archaeological Reports
BAR-IS	British Archaeological Reports, International Series
BCH	Bulletin de correspondence hellénique
BCH Suppl.	Bulletin de correspondence hellénique. Supplément
BICS	Bulletin of the Institute of Classical Studies of the University of London
Boreas	Boreas. Münstersche Beiträge zur Archäologie
BSA	Annual of the British School at Athens
BSA Suppl.	Annual of the British School at Athens. Supplement
CAJ	Cambridge Archaeological Journal
ClRh	Clara Rhodos
CretChron	Kretika chronika. Keimena kai meletai tes kretikes istorias
Egnatia	Egnatia. Epistemonike Epetiris tes Philosophikes Scholes tu Aristoteleiu Panepistemiu, Thessalonike
Ergon	To Ergon tes Archaiologikes Etaireias
Hesperia	Hesperia. The Journal of the American School of Classical Studies at Athens
Hydra	Working Papers in Middle Bronze Age Studies
IstMitt	Istanbuler Mitteilungen
JHS	Journal of Hellenic Studies
MarbWPr	Marburger Winckelmann-Programm
MeditArch	Mediterranean Archaeology. Australian and New Zealand Journal fort he Archaeology of the Mediterranean World
MonAnt	Monumenti Antichi
OJA	Oxford Journal of Archaeology
ÖJH	Jahreshefte des Österreichischen archäologischen Instituts Wien
ÖJHBeibl	Jahreshefte des Österreichischen archäologischen Instituts in Wien, Beiblatt
OpArch	Opuscula archaeologica
OpAth	Opuscula atheniensia
PBF	Prähistorische Bronzefunde
Prakt	Praktika tes en Athenais Archaiologikes Etaireias
SIMA	Studies in Mediterranean Archaeology
SkrAth	Skrifter utgivna av Svenska Institutet i Athen
SkrRom	Skrifter utgivna av Svenska Institutet i Rom
SMEA	Studi micenai ed egeo-anatolici
TÜBA-AR	Türkiye Bilimler Akademisi arkeoloji dergisi

Preface by the Editors

The long-term excavations at Aegina-Kolonna, the importance of the site for the Middle Bronze Age and our participation in the SCIEM 2000 project formed the starting point for the organization of an international workshop on "Middle Helladic Pottery and Synchronisms", held at the Department of Classical Studies at Salzburg University from October 31 to November 2, 2004.

From the earliest excavations on the Kolonna hill, by Adolph Furtwängler and Valerios Stais at the end of the 19th century, it was apparent that the headland north of the ancient and modern harbor of the town of Aegina was an important prehistoric settlement. Its significance was further highlighted by the excavations of Paul Wolters and Gabriel Welter between 1924 and 1942. But it was not until the excavations of Hans Walter in the seventies and eighties of the last century that the extent of the settlement and its unique role in the Aegean area became clearly visible. The substantial architectural remains and, above all, the wealth of locally produced and imported pottery left no doubt that the Kolonna settlement was one of the major centers in the Aegean Bronze Age and one of the very few sites in Greece with continuous and demonstrable stratigraphic settlement activity from the Early to the Late Bronze Age.

At the same time, it became quite clear that the high point of occupation at Kolonna extended from the end of the Early Bronze Age to the beginnings of the Late Bronze Age. In these periods, the site played a significant role within the central Aegean exchange networks as both an importer and exporter of perishable and nonperishable goods. This dual role is demonstrated above all by the considerable amount of high-quality imported pottery at the site and by the substantial quantities of locally produced Aeginetan ceramics that have been found at most Bronze Age sites in the central Aegean region.

The overall importance of the prehistoric settlement at Kolonna determined the direction of further research at the site. First of all it was only logical to join the efforts of the international research program "The Synchronisation of Civilisations in the Eastern Mediterranean in the Second Millenium B.C." (SCIEM 2000) launched by the Austrian Academy of Science (OEAW) at the Austrian Research Foundation (FWF). We estimated that the Kolonna site would provide important new results for the relative and absolute chronology of the central Aegean in the Early, Middle and the beginning of the Late Bronze Age. In order to contribute as much as possible we defined main objectives of our current and future research, namely the designation of stratigraphic and chronological sequences at Kolonna lasting from Early Helladic III to the shaft-grave period, as well as the establishing of synchronisms with other regions and sites, and, finally, the determination of the first appearance of imports at Kolonna and their quantification.

Since the pioneering work of Carl W. Blegen and Alan J.B. Wace and others, there has emerged a general agreement on the Middle Helladic pottery sequence and on its subphases. It is still difficult, however, to correlate with each other the individual stages of stylistic developments in different regions of mainland Greece. Problems also arise in the correlating of sites and regions significantly distant from one another – e.g., sites on mainland Greece and on the Aegean islands. We therefore arrived at the idea of bringing together scholars who have firsthand experience – that is to say, who have excavated and/or published large quantities of Middle Helladic material and related pottery from stratified contexts – to engage in topics such as:

- Aeginetan pottery in the Middle Helladic period
- Middle Bronze Age pottery from other regions in the Aegean
- the transition from Early Helladic III to Middle Helladic
- the transition from Middle Helladic to Late Helladic
- the origin, first appearance and distribution of specific groups of pottery
- different terminologies used in describing similar/identical features
- the synchronization between the mainland and the Cycladic islands and Crete, respectively

We are fully aware of the fact that at the present stage of research on the vast and highly variegated field of the Aegean Middle Bronze Age it is almost impossible to offer final solutions to the many hitherto unsolved questions. But we maintain that the attempt to shed new light on some of these topics is

a worthwhile endeavor and that it may help us in bringing some of questions more clearly into focus and in concentrating further research on the most urgent of the problems, such as those outlined by Peter Warren in his "General Discussion" in this volume.

It remains to thank all those who have contributed to the success of the meeting: first of all the participants, who gave us insight into the results of their previous and current research; Manfred Bietak, as the chairman of SCIEM 2000, who offered the framework and the means for the meeting within the province of the Special Research Program; the rector of the Paris-Lodron-Universität Salzburg, Heinrich Schmidinger, who has substantially supported our efforts; and finally Molly Richardson, who revised parts of the English manuscript and all who helped in organizing and carrying out the workshop.

The acts of the meeting constitute not only a volume in the publication series of SCIEM 2000 but are also the first volume of a new series of publications concerning research at Aegina-Kolonna. Following upon a period in which the basic history of the prehistoric settlement and of the historic sanctuary on Kolonna hill was ascertained, under the guidance of Hans Walter and published in the *Alt-Ägina* series (1974–), it is now the time for a series of more specialized studies, which cannot easily find place within the structure of that series. Our decision has therefore been to start a new and consecutively numbered publication series entitled *Ägina Kolonna. Forschungen und Ergebnisse*. The new series is hoped to differentiate the various stages of past, present and future research at Aegina-Kolonna.

Florens Felten
Walter Gauß
Rudolfine Smetana

Aegina-Kolonna: The History of a Greek Acropolis

Florens Felten

The main topic of the contributions collected in this volume is the Aegean Middle Bronze Age and the position of Aegina within this framework. The importance of the island in this epoch has become quite clear, and J. Rutter has characterized it most convincingly as a "Middle Helladic site without peer in the Greek mainland".[1] We must, however, not forget that the history of Cape Kolonna covers a much longer period of time and that archaeological research at the site started with an entirely different aim. It was the ruin of a late Archaic Doric temple on the hill that attracted the interest of the first excavators, and their hope was to uncover a Greek sanctuary like that of Aphaia within the inland of Aegina.[2] They wanted to catch a glimpse of the flourishing island Pindar sings about as "the queen of the Doric sea";[3] the home of Sostratos, the wealthiest man of Greece, as Herodotos reports;[4] and the rival of Athens in naval supremacy, "the pest in the eye of Piraeus", as Perikles is said to have called it[5] – that is, Archaic and early Classical Aegina.

But even in the odes of Pindar for Aeginetan athletic victors we get hints of an Aeginetan "prehistory". He does not tire of evoking the glorious beginnings of Aegina's fame by referring again and again to Aiakos, son of Zeus and first ruler of Aegina, and his sons and grandsons – Peleus and Telamon, and Achilleus and Aias, respectively.[6] Thus connecting

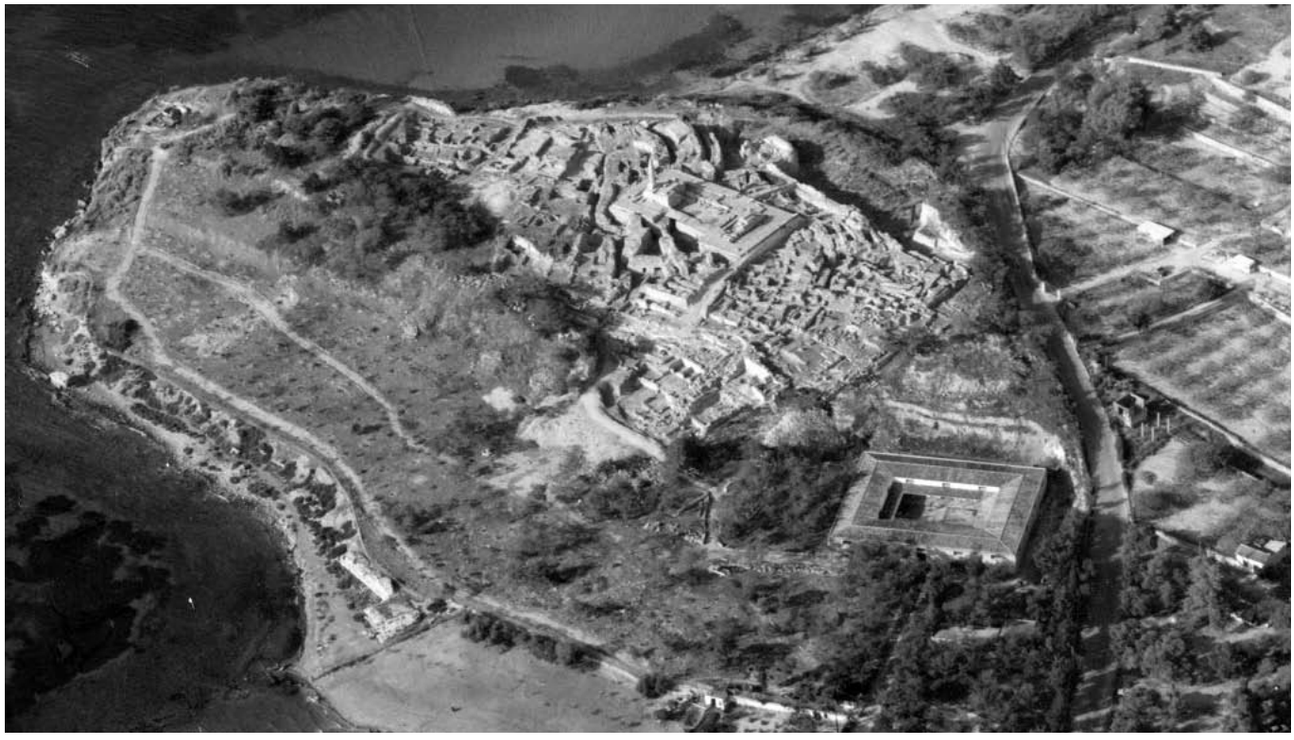

Fig. 1 Overall view of Aegina-Kolonna, from southeast

[1] Rutter 1993, 776.
[2] For the history of excavations at Kolonna see Wurster 1974, 12 –7.
[3] Pind. *Pae.* 6.123–5.
[4] Hdt. 4.152.
[5] Plut. *Per.* 8.
[6] Gzella 1981, 12 –3.

Fig. 2 FN biconical jug

Fig. 3 Pair of FN human clay idols (male and female)

the history of Aegina with the history of the Trojan wars, he stresses the leading role the island had played in the dim and distant past – we shall come back to this point later. What I want to do in the following pages is to give a – certainly very condensed – overall picture in which I will try to do justice to the continuity of human activities that is recognizable, on the basis of long years of research since the 18th century, on the headland of Kolonna.

The promontory on the west side of the island evolved at the latest in the course of the fourth millennium B.C. as the most important habitation site of the isle (Fig. 1). Without a doubt, it was the natural advantages that caused this development: elevated about 12 m above sea level, protected on three sides by steep cliffs, accompanied by shallow bays ideal for harbors on the north and south side, and with an expanded and fertile hinterland to the east it offered, as no other place on the island, sufficient space and all prerequisites for a successful exploitation of the agricultural and marine resources. The first clearly recognizable settlement is already fairly extended and consists of at least partially stone-built rectangular and curvilinear houses (black in the schematic plan Fig. 6), dated by its ceramic finds – pattern-burnished bowls, relief-decorated vessels, and a red-burnished biconical jug – to the final stage of the Late Neolithic period (Fig. 2).[7] Most noteworthy among the finds of this phase is a series of more or less naturalistic human clay idols (Fig. 3). They appear repeatedly in pairs but, all in all, males are predominant.[8]

If it is correct to say that Late Neolithic society underwent a change from an economy dominated by agriculture to a system of transhumant pastoralism connected with a wide interactive market or a trade/exchange network,[9] we may possibly – with the help of those idols – catch a glimpse of the Aeginetan way of life in those times: since in the case of a small island like Aegina we can surely exclude a system of transhumant pastoralism, the Aeginetans may have played a role in the second postulated economic factor – the trade/exchange network. If we interpret the repeatedly appearing male headgear – conical caps – rightly as helmets, the conclusion seems rather obvious: inhabitants of the headland settlement characterized as warriors imply a seafaring occupation – that means in all probability sea trade, possibly connected with piracy. Perhaps we see here the starting point of a tradition that becomes apparent again and again throughout the prehistory and history of Aegina.

The beginnings of the Early Bronze Age on Kolonna are still elusive because of later Early Helladic leveling actions and it is not until a developed phase of Early Helladic II that we get an impression of the settlement structure. The most characteristic feature of this period is the occurrence of the monumental two-storied corridor houses, best known from Lerna, Akovitika and Thebes,[10] which – because the

[7] Walter and Felten 1981, 10–1, 86–91; Weisshaar 1994, 675–89; Alram-Stern 1996, 157–9, 219–20; Felten and Hiller 1996, 90; 2004, 1090; Maran 2000, 179–81.

[8] Felten and Hiller 1996, 90, fig. 3, 91, fig. 1; Felten 2003a, 19–20.

[9] Douzougli 1998, 145; Alram-Stern 2001, 7–8.

[10] Themelis 1984, 340–50; Aravantinos 1986, 57–63; Shaw 1987, 59–79; 1990, 183–94; Wiencke 1989, 503–8; Cosmopoulos 1991, 23–4.

Fig. 4 Reconstruction of fortification of town V. Clay model by G. Praschak

urban background of these seemingly isolated buildings remains quite hazy – have provoked some speculation about their function.[11] Aegina may provide some new indications. Through the uncovering of quite a number of Early Helladic II wall remains with roughly the same direction north and northwest of the "White House",[12] it has become clear that the impression of isolation and of an architectural hierarchy transmitted by the "White House" does not fit the facts. We see now that the plateau of the Kolonna hill bore quite a number of buildings in this period. One of them, the so-called "House of the Dyer" at the north edge of the hill, was certainly one-storied but of considerably larger dimensions than the "White House", and a second one, to the west of the "White House", was in all probability two-storied, on the evidence of the greater than 60 cm thickness of its walls, even if we cannot at present determine its ground plan. So not only the impression of isolation, but also the impression of an architectural hierarchy may be misleading. We get instead the picture of an area loosely filled by a series of large-dimensioned houses and the general impression changes from a clearly stratified hierarchy to an accumulation of more or less homogeneous self-sufficient unities. But only further excavations can shed more light on this still open question.

A new chapter in the history of the settlement and a break with older patterns starts at any rate in the following period, Early Helladic III. After the abandonment of the large EH II houses and, with regard to the architecture, a still rather obscure intermediate period that clearly belongs ceramically to EH III,[13] we

Fig. 5 Jewelry hoard from EH III stratum

recognize a totally new start in town planning and building in the late third millennium B.C.[14]

Evidently a completely new settlement was erected on the basis of a general master plan and with the first surely verified fortification wall (Fig. 4). The main feature of the newly created settlement pattern is the fact that we now have to do not with separate houses, loosely dispersed over the headland, but with houses joined together in a form of "insulae" and enclosed by a tower-strengthened city wall. It seems

[11] Summaries with bibliography: Maran 1998, 193–7; Alram–Stern 2004, 238–43.

[12] Felten 2003a, 20–1, 24, fig. 2; Felten and Hiller 2004, 1090–1.

[13] Walter and Felten 1981, 23–8, 105–7; Gauss and Smetana 2002, 13; 2003, 471–86; 2004, 1105–6.

[14] Walter and Felten 1981, 28–42; Konsola 1986, 16; Forsen 1992, 114–7; Maran 1998, 209.

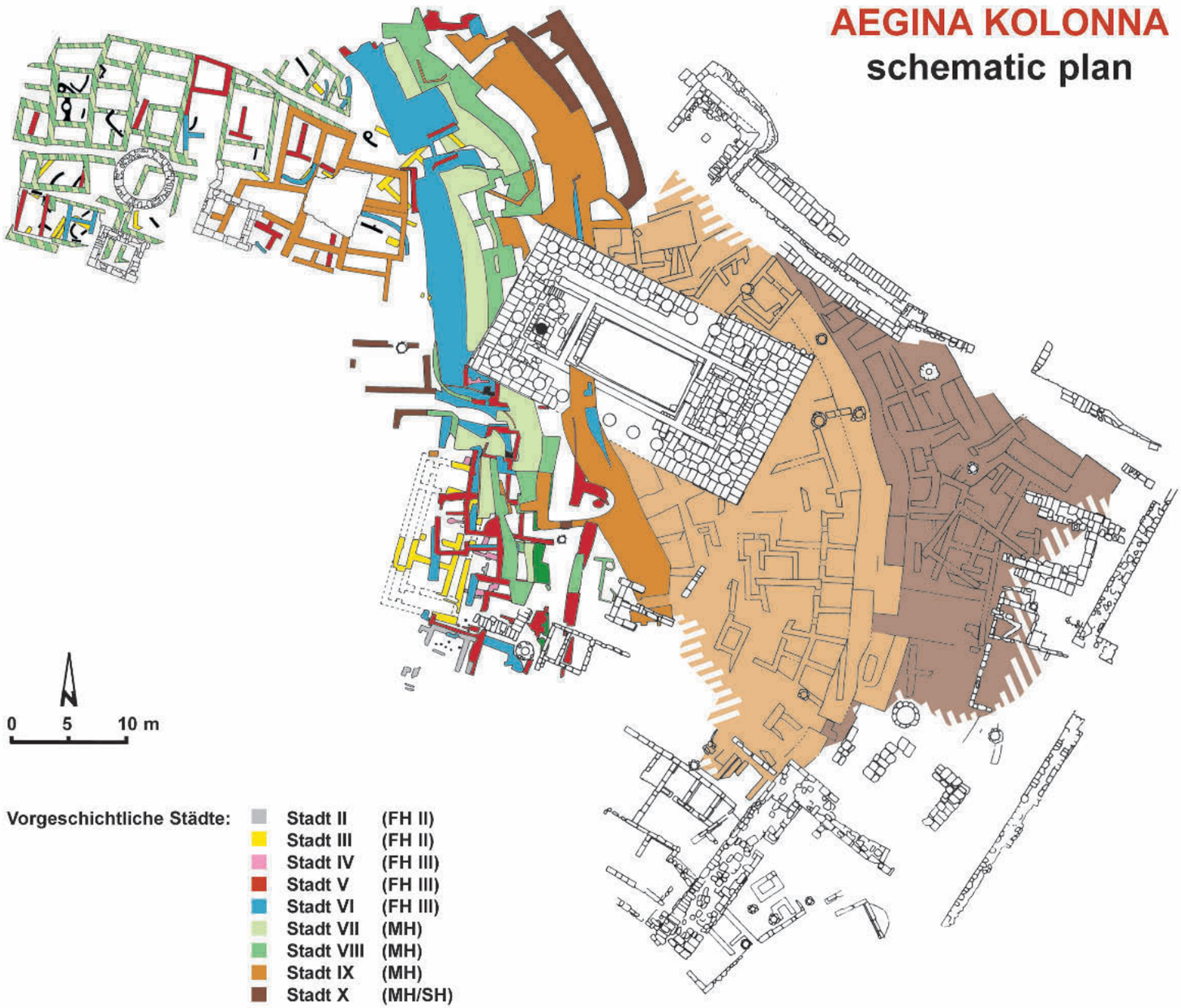

Fig. 6 Schematic plan of prehistoric settlement and fortifications of Aegina-Kolonna

quite clear that a general master plan of this size and the extensive common building activity necessary to realize this ambitious program demands a somehow centrally organized administration; it seems that we are here on the verge of a development that brought about the emergence of the "first Aegean 'State' outside of Crete", as W.-D. Niemeier has called it.[15]

The fact that at this time, when most of the other Bronze Age settlements were undergoing a phase of serious decline, there evolved in Aegina a wealthy elite, is shown by a hoard of jewelry that belongs to a stratum of this phase in the "Inner Town" (Fig. 5).[16] Apparently it was hidden in a time of danger – the stratum shows traces of severe burning – and not subsequently recovered. It consists of a series of long, deliberately bent golden pins with loop terminals, gold and silver bracelets, one or more necklaces with differently shaped beads of gold, silver, rock crystal, faience and carnelian – one of them with etched decoration – and a number of gold and silver pendants with embossed and soldered wire decoration. Evidently the hoard is a mixtum compositum whose items show close affinities to types of rather different provenances – from the eastern Aegean area, Anatolia, and the Levant as far as Mesopotamia. It demonstrates that Aegina could muster some wealth in these unstable times and, again, this is only to be explained by far-reaching sea trade.

But even Aegina did not remain untouched by the disturbances which affected so many of the roughly contemporary settlements. The newly erected township was destroyed by an extensive conflagration – evidently inflicted by a hostile invasion. At any rate the future history of Aegina Kolonna is marked by continuous efforts to reinforce the fortification walls as heavily as possible.

I cannot here go into detail with regard to the development of the fortification system from the end of Early Helladic III and throughout the Middle Helladic period (Fig. 6).[17] It is characterized by an ever-increasing thickness of the main wall that rose behind the old, now additionally strengthened city wall of the burnt settlement, and by an ever-growing complexity of the entrances, which developed from straight frontal gateways, flanked by rectangular towers, into an increasingly sophisticated system of more and more elongated, narrow and winding corridors which surely were much easier to defend.

About the extent of the rebuilding activities of the burnt houses in the "Inner Town" we are not altogether sure, but it seems that a number of curved walls found in the course of the new excavations in the area west of the fortification walls, and which seem to represent measures of repair of the old houses, belong to this phase.[18] The picture remains hazy, but these walls do not attest isolated apsidal houses as we know them from Lerna IV, but instead, irregularly curved house combinations following the course of streets, as at Poliochni and Thermi.[19]

At the same time it is quite apparent that the destruction did not gravely affect the economic prosperity and its causes. The ceramic finds show that pottery imports – from Argos, Boeotia and the Cyclades – are instead increasing,[20] and that the extent of local production is by no means reduced; the Aeginetan potters are eager to accept stimulation from outside and some of the vessels may be modeled on non-local forms such as the pattern-decorated jug, which imitates a Cycladic prototype, and the splendid red-polished jug with narrow neck, which copies an eastern Aegean shape (Figs. 7, 8).[21]

In spite of the sense of imminent danger, manifested in the efforts throughout the Middle Bronze Age to strengthen the fortification system permanently, the impression of a flourishing economy and community continues unbroken. It is now that the regular system of straight narrow streets running east–west and flanked by long rows of houses with common separation walls, still visible today, was introduced (Figs. 6, 9).[22] In the pottery sector, import activities are growing, and more and more it is Crete that supplies Aegina, the Peloponnese, and the Cyclades with fine potteries; while, at the same time, Aegina is increasing the export of its pottery production, becoming the supplier, especially with its characteristic matt-painted ware, for a vast number of settlements in the

[15] Niemeier 1995, 73.
[16] Reinholdt 2004, 1113–9.
[17] Walter and Felten 1981, 43–85.
[18] Felten and Hiller 1996, 71; 2004, 1092; Felten 2003a, 21, 24, fig. 2.
[19] Lerna: Caskey 1966, 145–51; Rutter 1995, 4–9, citing E. C. Banks. Poliochni, Thermi, Kastri: Sinos 1971, pls. 25–30, 37; Kouka 1997, 469.
[20] Mommsen *et al.* 2001, 80–96; Gauss and Smetana 2002, 13; 2004, 1111–2.
[21] Gauss and Smetana 2004, 1110 and pl. 12; see also Gauss and Smetana in this volume.
[22] Walter and Weisshaar 1993, fig. 1 following p. 294; Felten and Hiller 1996, 31 and pl. following p. 75; 2004, pl. 1 following p. 1119.

Fig. 7 EH III dark on light decorated jug

Fig. 8 EH III red polished jug

Aegean area.[23] The role that maritime trade must have played for Aegina is underlined by the fact that seafaring is repeatedly the topic of the otherwise figureless decoration of Aeginetan vessels (Fig. 31).[24]

The most distinctive feature of this phase, however, which must have been the result of a flourishing economy, is the apparent growth in the number of inhabitants, which increased in the course of the Middle Helladic period to such an extent that the old settlement area was no longer sufficient and an enlargement became necessary. For this purpose a new "Lower Town" (Figs. 6, 10), with new rows of rectangular houses and a new fortification wall to the east, was erected in front of the old fortification walls.[25] Again, the realization of such a fundamental change in a basically functioning pattern of fortification and settlement seems to demand the presence of a central authority, whose existence is attested by two sets of evidence.

The first is the singular stone-built and tumulus-covered shaft grave in front of the new fortification wall, with its rich gifts of armor and local as well as imported pottery,[26] and the second is the so called "Grosssteinbau",[27] in a central position immediately behind the fortification wall of the "Upper Town" between the north and the south gate. In this second instance, a number of originally separate houses were united to form a monumental structure – partly by circumvallating the older walls with a new wall and so achieving double thickness, which in all probability indicates the presence of a second story, and partly by erecting new walls on the foundations of big, roughly hewn blocks otherwise unattested in domestic context. We still do not know the full extent of this monumental building, but it is clear that it bars the course of the important east–west road leading through the settlement to the north city gate. It seems impossible to explain this fundamental alter-

[23] Hiller 1993, 197; Reinholdt 1992, 57; Kilian-Dirlmeier 1997, 123–54; Rutter 1993, 777, fig. 12.
[24] Rutter 1993, 778–9, figs. 13, 14.
[25] Walter 1983, 124, 133; 1993, 24.
[26] Kilian-Dirlmeier 1997, 13–82.
[27] Walter and Weisshaar 1993, 297; Niemeier 1995, 78; Kilian-Dirlmeier 1997, 111; Felten and Hiller 1996, 50, 71; Felten 2003a, 21–2.

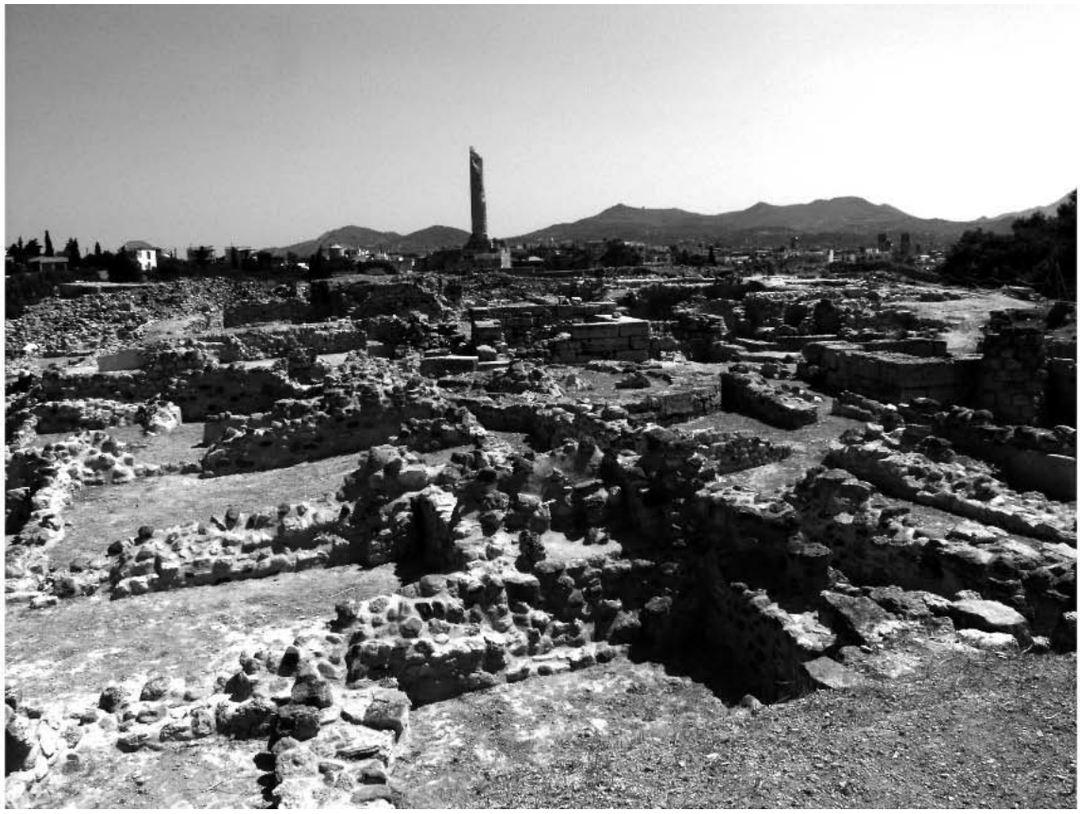

Fig. 9 View of MH houses in the "Inner Town"

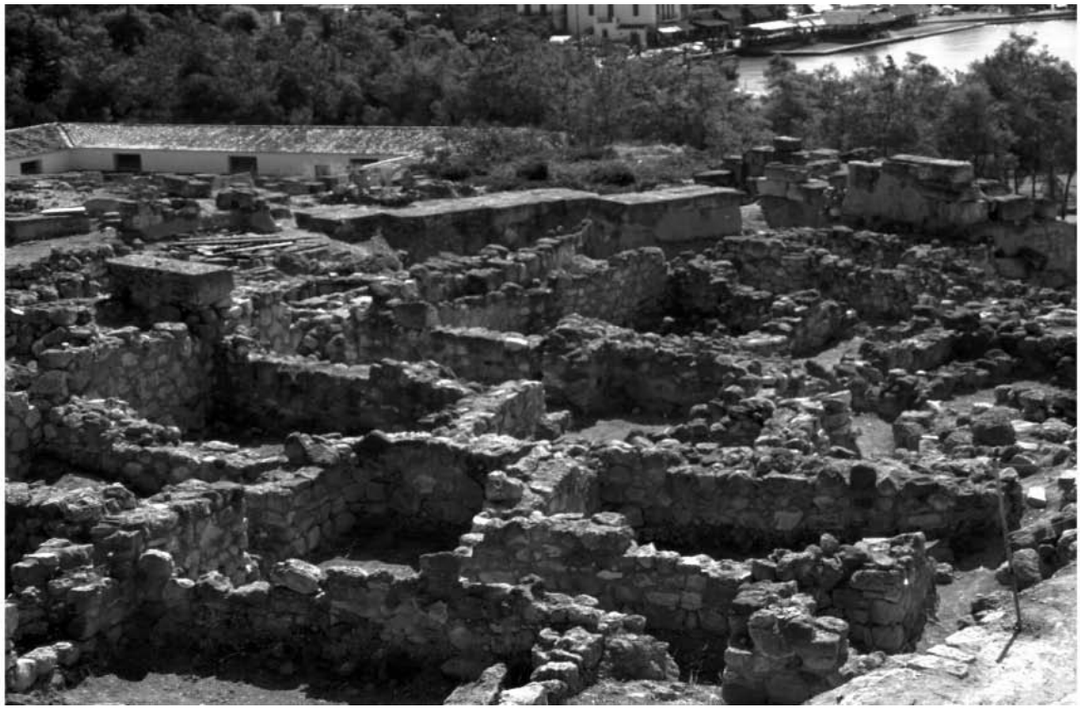

Fig. 10 First extension of MH settlement

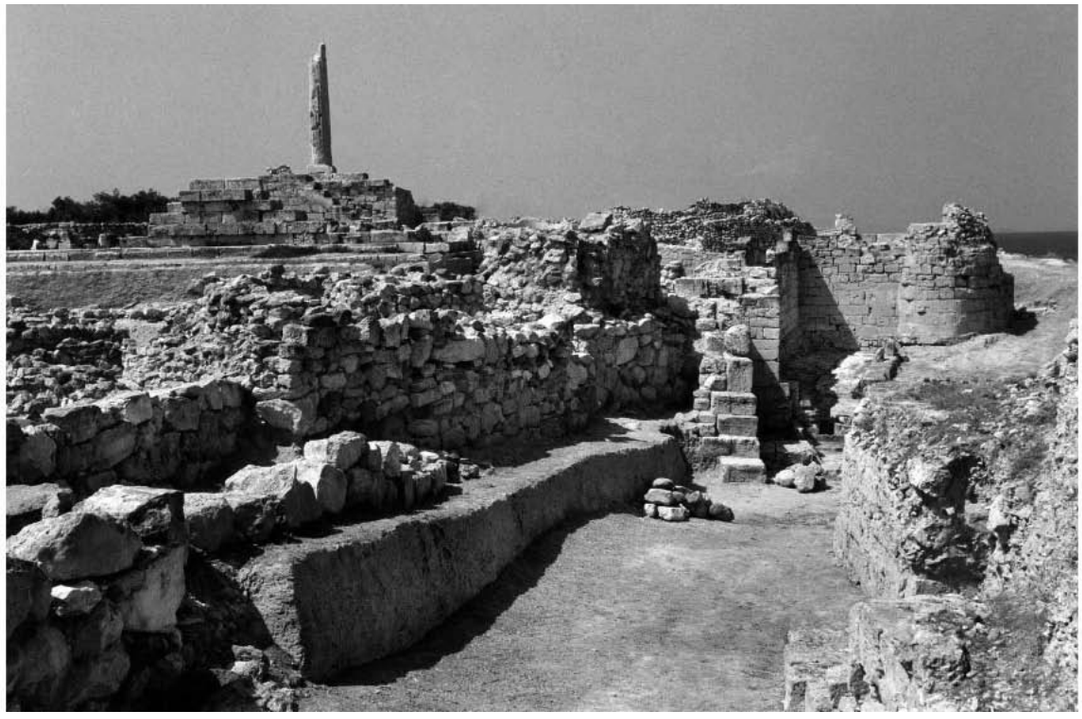

Fig. 11 Fortification wall of second extension of MH/LH settlement

ation of the city plan simply as a private initiative of a nouveau riche, and it is tempting to see in this building the residence of the local leader. It may be significant that initial survey of pottery found in this building over the last two years shows that it contains, besides the usual local wares, a high percentage of imported vessels – particularly from the Cyclades and Crete, but also including imported minoanizing and local Minoan-type pottery – not only in the category of fine decorated ware, but also undecorated and kitchen ware.[28] On the whole, the picture corresponds extremely well with the contents of the shaft grave and hence a link between these two monuments does not seem far-fetched.

From the following period, the end of the Middle Bronze Age and the beginnings of the Mycenaean period, the evidence becomes more scant, not because of a decrease in importance of the site – on the contrary, we now see again an extension of the settlement area to the east and, connected with it, the erection of a new, strong fortification wall (Fig. 11) – but as a consequence of far-reaching leveling actions in Archaic and later times. About the overall structure of the settlement, however, we know very little.[29] The only fact of which we can be sure is that the abovementioned monumental building underwent substantial alterations in this period with regard to structure as well as function: in its southwest part was installed a potters kiln, which was in use throughout a long period in the early Late Bronze Age.[30]

What is true for the late Middle Helladic and Early Late Helladic settlement is still truer for the later Mycenaean period, for which we have only rather sparse ceramic evidence and almost no substantial architectural remains at all on the Kolonna hill. But the quite numerous finds of this phase from the necropolis on Windmill Hill, which surely belonged to the Kolonna settlement, warn us – as had been stressed by St. Hiller[31] – against interpreting the paucity of evidence as clear indication of decline and of a significant decrease in population. Above all it is the results of the recent excavations at the south slope of the hill which show that this would be a rash conclusion.[32] Here, beneath the remains of Archaic and Hellenistic structures, were uncovered remnants of terrace walls and buildings that extended proba-

[28] Gauss and Smetana in this volume.
[29] Walter 1983, 139; 1993, 26; Wohlmayr 1989, 151–3; 2000, 1127–36; and in this volume.
[30] Felten *et al.* 2003, 61–3; Gauss and Smetana in this volume.
[31] Hiller 1975, 54.
[32] Felten *et al.* 2003, 64–5.

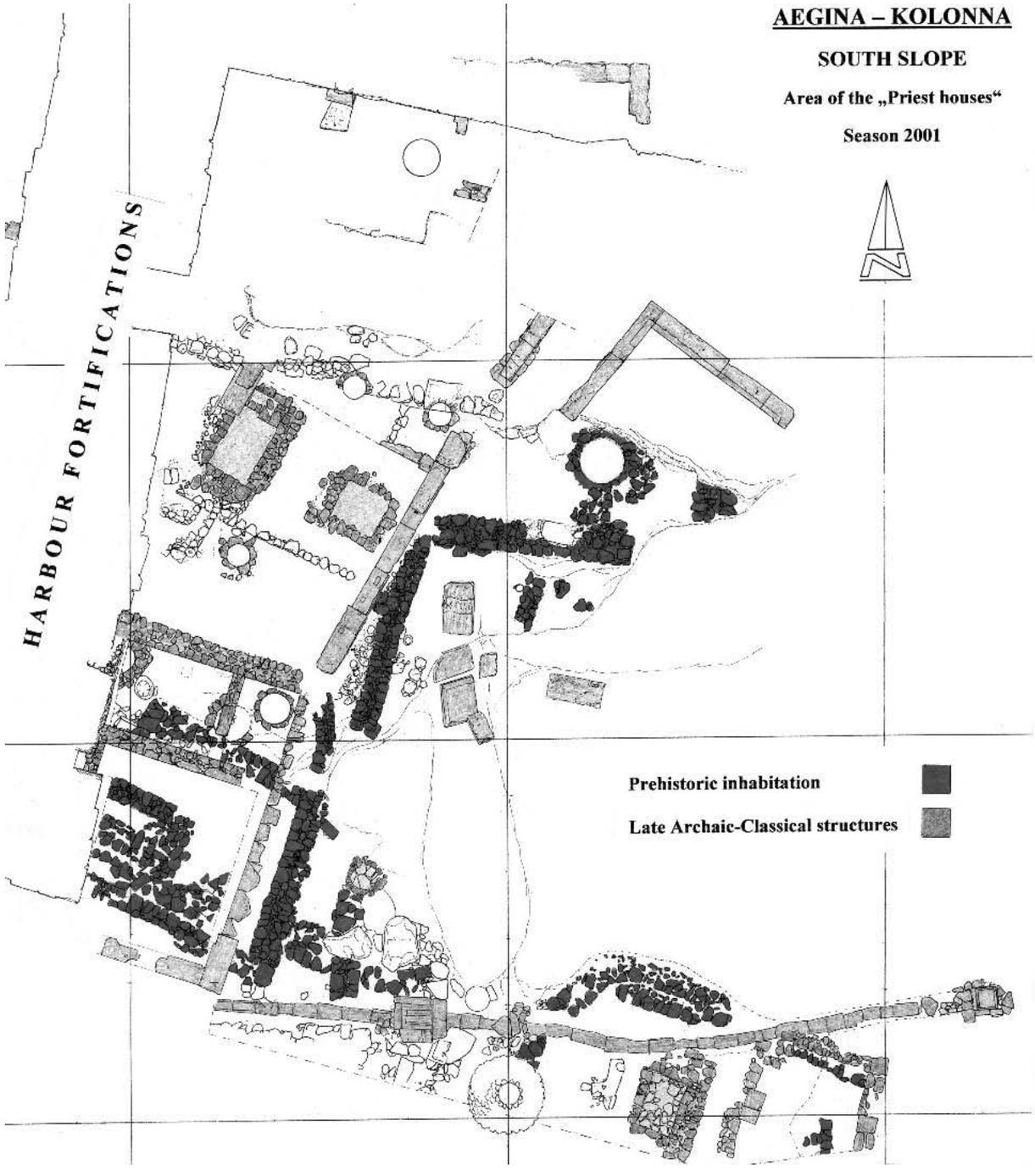

Fig. 12 MH/LH wall remains at the south slope of Aegina-Kolonna

bly as far as the shore and the harbor (Fig. 12). Even if we still cannot determine the overall structure and the date of origin of this real "Lower Town", the large number of later Mycenaean pottery fragments found here suggest that the whole enlarged settlement was in use at least until LH IIIB. Moreover, the quality of the pottery fragments – among them some fine examples of the pictorial style (Fig. 13) – show that the settlement must still have been quite flourishing and that, on the evidence of some Cypriot white slip II sherds (Fig. 14), sea trade still played a role. It is to be hoped that future excavations in this area will shed some more light on the Late Bronze Age history of Kolonna and especially on its conclusion, which must have taken place at the latest in the course of LH IIIC. In any case, among the finds of

Fig. 13 Fragments of LH IIIB deep bowl crater with representation of a sphinx

Fig. 14 Fragment of Cypriote white slip II bowl

Fig. 15 Protogeometric pyxis from child burial

this area there are hardly any LH IIIC sherds at all and the same is true among finds from the graves on Windmill Hill.[33] It is obvious that the traditional wealth of the Kolonna settlement had come to an end and that it would take some time until the hill again became the setting of human activity.

Resettlement did not occur until an advanced stage of the Protogeometric period. In the later 10th century B.C. there began a strong revival of the site, as is proven by a series of children's burials, securely dated by their gifts to Protogeometric/Early Geometric times (Fig. 15),[34] and by a large number of wells all over the hill, which because of their long-term use are not so precisely datable but which certainly belong at least in part to the same period. They testify to the existence at this time of a large settlement on the hill, which afterward, in the seventh and sixth centuries B.C., developed step by step to become the main sanctuary and acropolis of the city of Aegina.

It is rather tempting to connect this revival with the influx of Peloponnesian settlers into Aegina, reported by Herodotos, Strabo and Pausanias.[35] Moreover, the type of many of the burials, in small monolithic cists, a specialty – as was emphasized by St. Hiller – of the northeast Peloponnese, seems to confirm these reports.[36] If this is the case the question arises: what was the attitude of the new settlers toward the material remains, and the surely still visible testimonies, of former human life in their new place of dwelling?

Certainly, their primary interest in regard to ritual practice must have been to install their own tradition, a concern that is possibly documented by a building complex at the west edge of the hill. In this location, A. Furtwängler und G. Welter had uncovered part of a Late Archaic building that contained a series of sacrificial pits, full of miniature votive skyphoi and covered by omphaloi, apparently attest-

[33] Hiller 1975, 55.
[34] Kraiker 1951, 21; Hiller 2003, 14–5.
[35] Hdt. 8.46.1; Strabo 8.6.16; Paus. 2.29.5; cf. Hiller 2003, 17.
[36] Hiller 2003, 14–5.

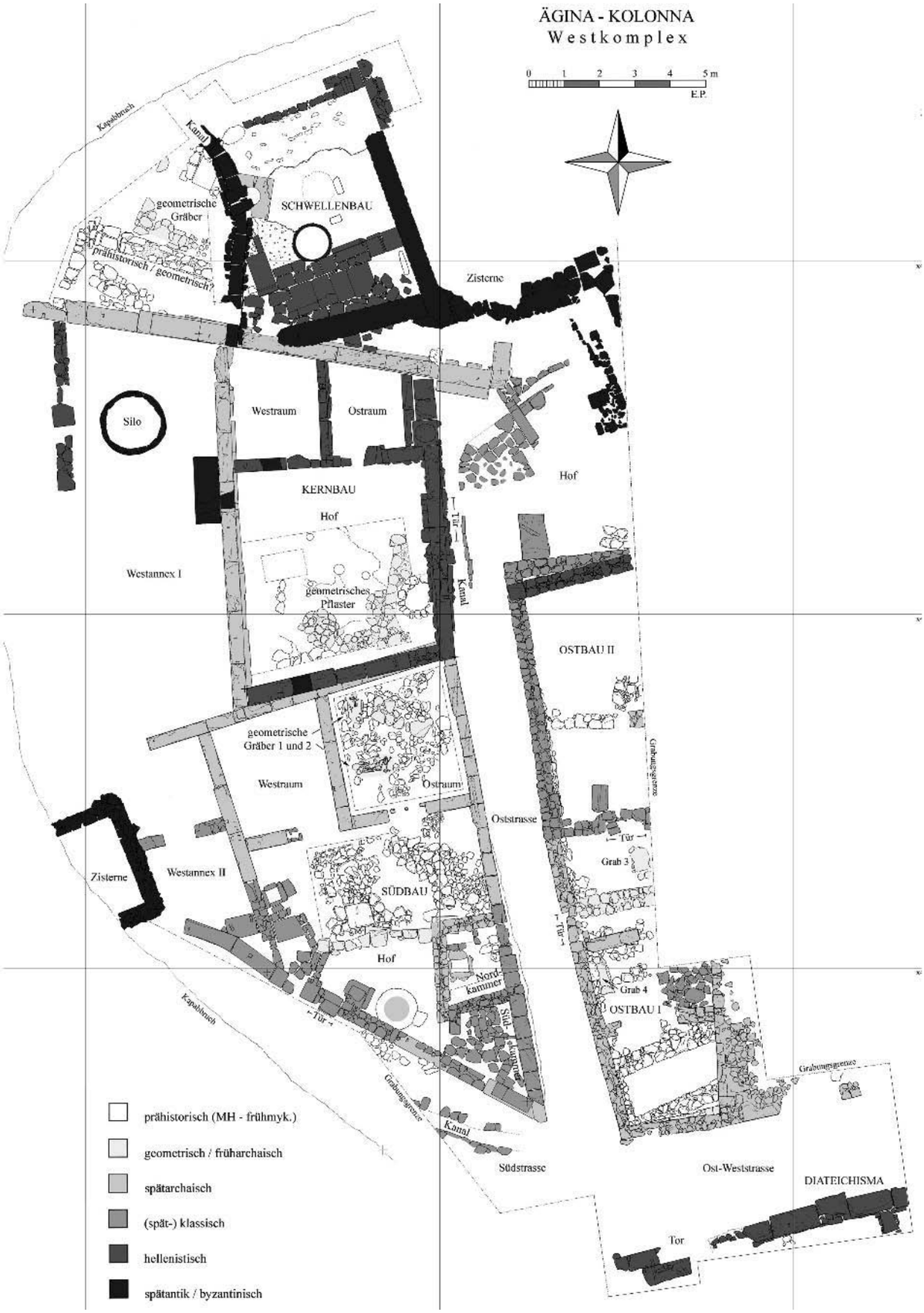

Fig. 16 Late archaic building complex at the western edge of Aegina-Kolonna

Fig. 17 Teracotta relief with pair of chthonic deities

Fig. 18 Stone paved platform in western building complex

ing a chthonic cult.[37] The new excavations have shown that we have to do here with an extended building complex of unroofed courtyards and small rooms (Fig. 16), probably for dining purposes, which underwent substantial rebuilding in Hellenistic times, though without – as it seems – much change in function: the small Archaic dining rooms, filled up in the course of the reorganization, were simply transferred into the former middle court, and the dining – as is proven by the pottery – continued, apparently still in chthonic context on the evidence of a terracotta relief depicting two deities bearing cornucopia (Fig. 17).[38]

Beneath the Late Archaic level, however, older structures were uncovered: again two Protogeometric/Early Geometric children's burials and, at a small distance south of them, two small circular stone-paved platforms of the same period (Fig. 18).[39] It is highly probable that the platforms are to be seen in connection with the burials and that they belong to the series of similar platforms found in burial contexts in Asine, Naxos, Lefkandi and Eleutherna and connected with older Bronze Age structures in Troy, Miletos and Mycenae.[40] The initial interpretation of these platforms as places for funerary meals, by R. Hägg, which has gained impressive confirmation through the finds of V. Lambrinoudakis in Naxos, must be valid for Aegina, too, and the possibility is not to be excluded that activities of ancestor cult connected with these funerary meals may have

[37] Welter 1932, 162–3; 1938, 494–5; 1954, 45–6.
[38] Felten *et al.* 2003, 41–52; 2004, in press.
[39] Felten *et al.* 2004, in press.
[40] Hägg 1983, 189–94; Lambrinoudakis 1988, 238–44; Stampolides 2001, 192–3.

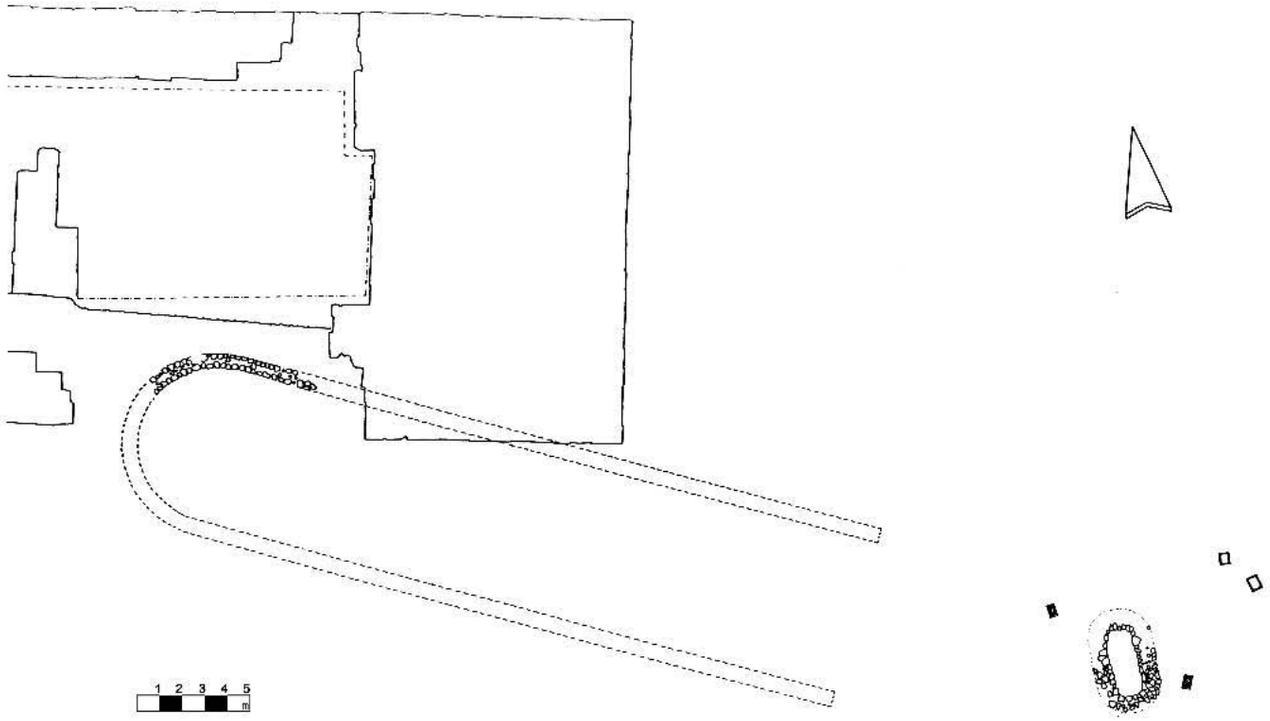

Fig. 19 Curved wall south of Apollontemple and MH shaft grave (reconstruction St. Hiller)

served as a means to connect the past prehistory, whose testimonies the new settlers must have encountered at every step, with the new history of the Kolonna hill.

There are perhaps still other, more direct indications that could support the assumption that the Dark Age settlers tried to incorporate the relics of the past into their own religious conceptions. One is a curved wall, reported by G. Welter as running east–west next to the temple of Apollo and connected with a deposit of Protogeometric skyphoi and amphoras, which Welter took as evidence of a chthonic cult with ritual libations.[41] The wall apparently no longer exists but in plans of the older excavations, there is a curved wall directed eastward immediately south of the temple foundations, which St. Hiller identified with the wall reported by Welter (Fig. 19).[42] On the basis of the plans, he reconstructs an early apsidal temple building, oriented to the MH shaft grave mentioned above, whose tumulus could have remained visible even in times when the MH fortification wall had fallen into disrepair. And it is indeed striking that we see a concentration of Protogeometric children's burial cists around the area of the shaft grave.[43] On Hiller's argument, a connection exists between the earlier, prominent burial, on the one hand, and the orientation of the cult building and the burials of the new settlers, on the other. Recently, however, W. Gauss has expressed serious doubts about the identification and interpretation of the curved wall, mainly on the basis of discrepancies in level and the difficulties in accommodating the hypothetical apsidal building in the given space,[44] and I tend to share his doubts, but the last word cannot be said until we can say more about the layout of the Geometric settlement.

Another, similar case, again connected with an exceptional burial, concerns a massive stone-built cist grave singular in one respect: it is the only such grave in the central area of the settlement that contained the skeleton of an adult male (Fig. 20). Its Dark Age date is attested by the remnants of a Protogeometric iron pin inside the cist and by Protogeometric sherds in the burial shaft.[45] It was found in 2003 inside the

[41] Welter 1954, 40.
[42] Hiller 2003, 16–7.
[43] Hiller 2003, 15.
[44] Gauss 2005, in press.
[45] Felten *et al.* 2004, in press.

Fig. 20 Protogeometric burial of male adult in MH monumental building

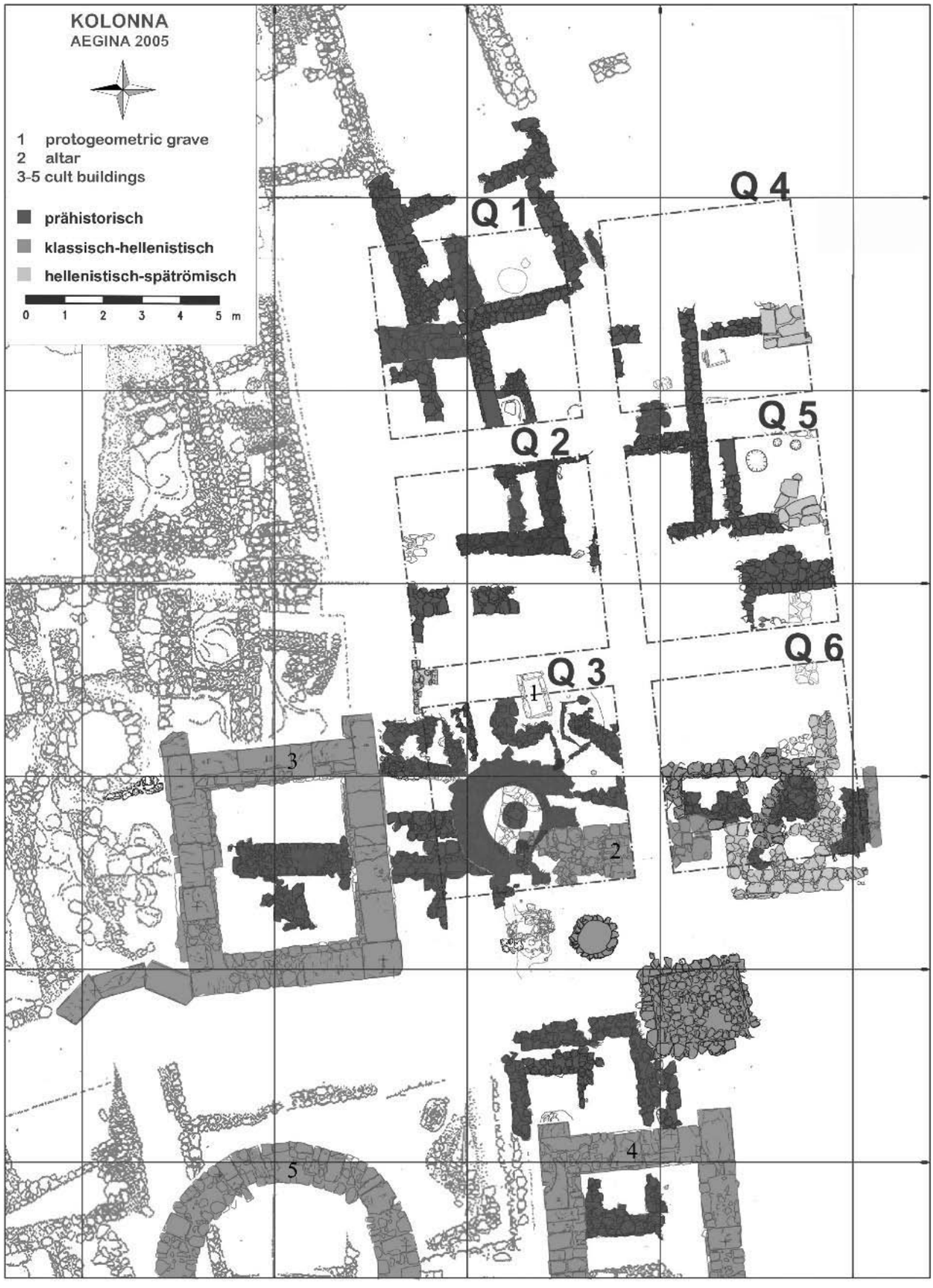

Fig. 21 Stone plan of excavation on "South Hill"

Fig. 22 Anta capital and doric capital of early archaic temple

Fig. 24 Horse, lime stone, from pediment (?)

Fig. 23 Herakles, Parian marble, from pediment (?)

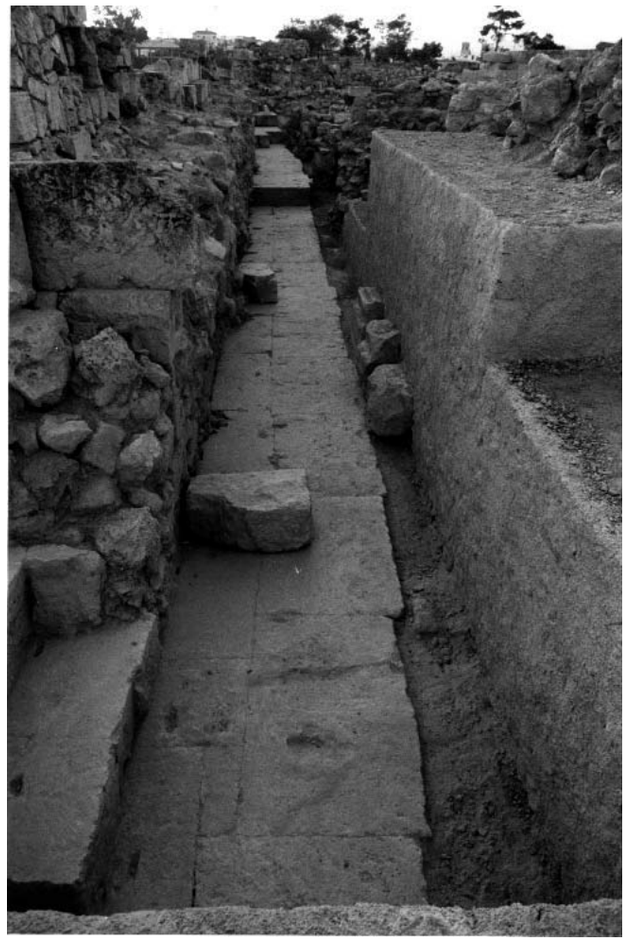

Fig. 25 Late archaic retaining wall, northern flank of Aegina-Kolonna

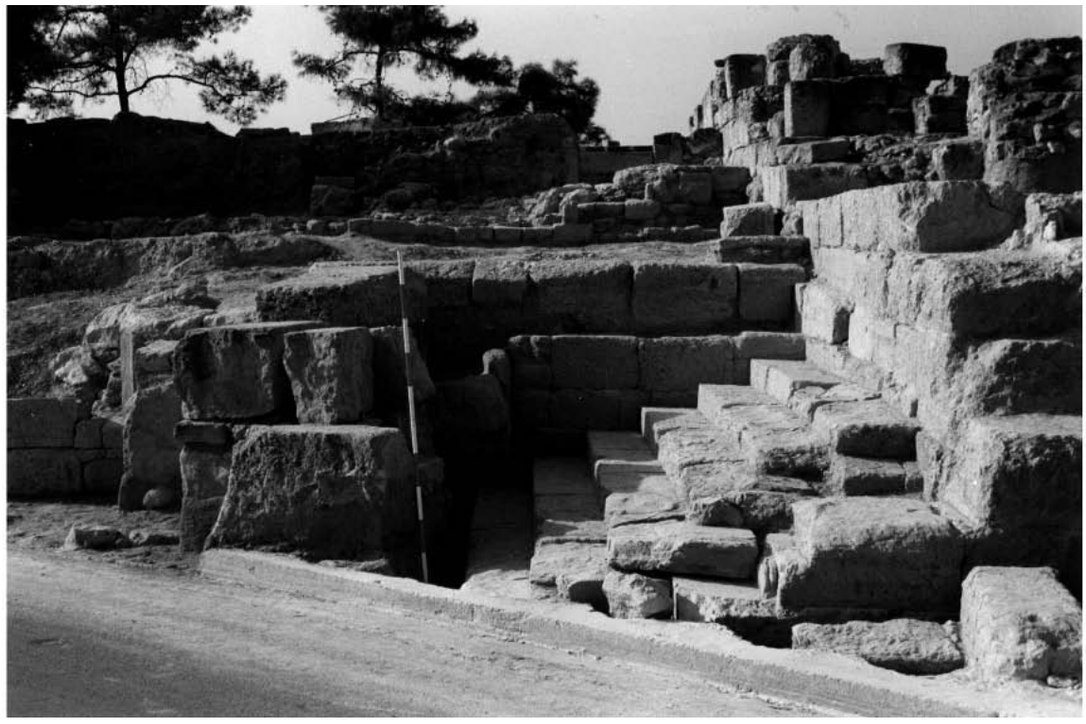

Fig. 26 Monumental stairway, north-eastern edge of Aegina-Kolonna

monumental MH building that we interpret as the local leader's residence. Again the inevitable question: is it purely fortuitous that this lone Dark Age burial found its place in a building of singular importance of the Middle Bronze Age settlement, or did there survive some knowledge of past times, founded on the visible remains on the hill, that prompted the location of the exceptional burial as well as the installation of an adjacent altar (Fig. 21)?[46] The altar in particular is reminiscent of Pausanias's description of the temenos of Aiakos in "the most excellent place of the town" – surely the Kolonna hill – where, the people said, an altar marks the tomb of the founder king.[47]

But even if these suggestions remain speculative, it seems nevertheless quite certain, as was shown by A. Zunker,[48] that in the course of the seventh century, when the sacral connotation of the Kolonna hill became stronger and stronger – as is shown by the splendid ceramic votive gifts that then accumulated on the hill – the inhabitants of Aegina were at work on a new mythical tradition for the island. Naturally enough it concentrated on their founder hero. Homer mentions Aiakos only as son of Zeus, not naming his dwelling place or his mother Aegina,[49] who is also absent from the catalogue of lovers of Zeus (*Il.* 14.312 ff.). These facts were provided, however, in the *Ehoiai*,[50] attributed to Hesiod, as was the origin of the Myrmidons from Aegina, whereas for Homer they are clearly Thessalians.[51] It seems that it was not until the seventh century B.C. that Aiakos, originally probably a central or northern Greek hero, and consequently Peleus and Telamon and also Achilleus and Aias – all highlights of Greek mythology – became firmly connected with Aegina[52] and hence supplied the necessary mythical background for an increasingly flourishing society.

It must have been then and in the years to come that the settlement on the hill was transferred to the area around the harbor and that the promontory was reserved for religious purposes. Other deities in addition to Apollo were worshipped,[53] monumental votive sculpture makes its appearance, and we have testimony of the first substantial temple building at

[46] Felten *et al.* 2003, 57–9.
[47] Paus. 2.29.6.
[48] Zunker 1988, 227–32.
[49] *Il.* 21.189.
[50] Hes. fr. 205; Zunker 1988, 65.
[51] *Il.* 1.180, 16.269, 21.188; *Od.* 3.88, 4.3.
[52] Zunker 1988, 231.
[53] Felten 2001, 127–34.

Fig. 27 Late archaic building complex, south slope of Aegina-Kolonna

the site, dating to the beginning of the sixth century B.C., whose associated deity and location remains unknown (Fig. 22).[54] Thereafter, before the middle of the sixth century, there was erected the first large peripteral temple at the site, its pediments decorated with sculpture (Fig. 23), which apparently fell victim to fire after a short time.[55] And finally, at the end of the sixth century, an extensive new building program was realized, which affected the entire Kolonna hill.

To this program belongs the new Late Archaic temple of Apollo with its marble pediments (Fig. 24),[56] a huge retaining wall at the north flank of the hill, and a monumental stairway up to the acropolis at the east side (Figs. 25, 26);[57] also, at the west end of the promontory, the building complex we have already seen; and, finally, at the south flank of the hill, another extensive architectural ensemble (Fig. 27).[58] On the basis of a series of stone-built sacrificial shafts and of female terracotta figurines and masks, I interpret this ensemble as the Thesmophorion, mentioned by Herodotos as situated at the "so-called old town"[59] – a name that perhaps again indicates the consciousness of the Aeginetans of the old history of the Kolonna hill.

This consciousness must have been intensified by the carrying out of the ambitious building program, in the course of which the Aeginetans must have been continually confronted with the remains of previous life on the promontory. And this, in turn, may have had consequences on Aeginetan mythology. Especially in preparations of the north flank of the hill for the erection of the huge retaining wall, it was inevitable that the builders ran into the impressive Middle and Late Bronze Age fortification walls (Figs. 11, 25). It may be that this is the point at which the Trojan connection enters in: while, according to Homer, Apollo and Poseidon had been the erectors of the walls of Troy,[60] Pindar, in the first half of the fifth century, provides a more detailed and enriched version of this story, involving Aegina. In *Olympian* 8 he adds the information that Aiakos, too, assisted in

[54] Hoffelner 1999, 15–46.
[55] Hoffelner 1999, 47–64.
[56] Wurster 1974. Pediments: Walter-Karydi 1987, 129–49.
[57] Hoffelner 1999, 129–32; Felten and Hiller 1999/2000, 21; 2000/2001, 18–9.
[58] Walter 1980, 88–90; Felten 2003b, 42–5.
[59] Hdt. 6.91.2.
[60] *Il.* 7.452, 21.441.

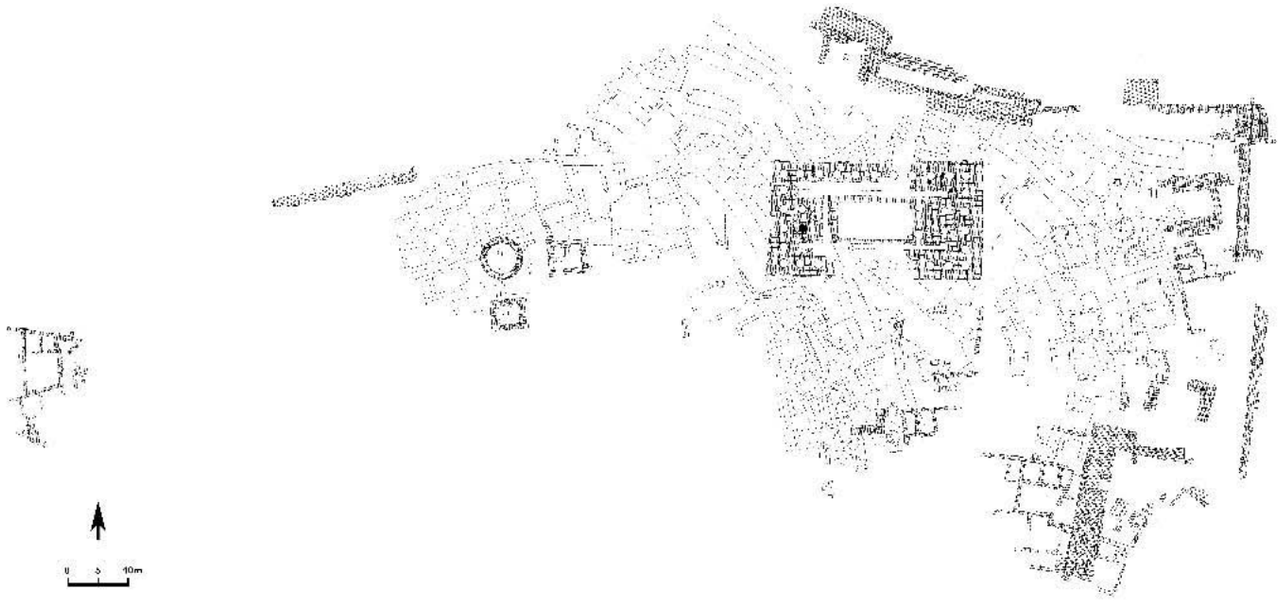

Fig. 28 Plan of archaic to late/postantique structures of Aegina-Kolonna

the erection of exactly that piece of wall, which would later in the second Trojan War be destroyed by the Greeks.[61] It does not seem far-fetched to suggest a connection between this later tradition of Aiakos's activity at Troy and the nearly contemporaneous discovery of the prehistoric fortifications at Aegina-Kolonna. If that is so, then the discovery originated a new local mythical explanation – Aiakos as erector of fortifications – that made its first literary appearance in the odes of Pindar.

Without a doubt, this period saw the summit of Aegina's wealth and glory; shortly afterward – about the middle of the fifth century – it fell victim to the rivalry of Athens. Athenians settled on the island and the Aeginetans were repeatedly expelled. Certainly, religious life continued on the Kolonna hill: existing buildings were repaired and adapted. But as far as we can see, there is nothing that could be compared with the efforts of the previous years, when the acropolis of Aegina could very nearly have entered into competition with the Athenian acropolis.

But still the history of the Kolonna hill was not at its end. When, in the late third century, Aegina was sold to the rulers of Pergamon,[62] the promontory experienced a sort of revival. In accordance with the intention behind the purchase, by which the Pergamenes acquired a strong naval base in the Saronic Gulf, new building activities took place. As a first aim, the area had to be transformed into a kind of military installation where the Pergamene garrison could stay in safety. For this reason the old temenos wall at the north flank and a new wall in the east were heavily reinforced by rectangular towers, and a new fortification was erected at the south flank of the hill and in the plain between hill and harbor (Figs. 28, 29) to provide sufficient space for the barracks of the Pergamene troops and, we suspect, for a palace for the governors and in particular the kings, who repeatedly spent the winter in Aegina.[63] In addition to these efforts to fortify the site, we see that the sacral function, too, continued to play a role and even received new impulses. We can take it as assured that the main cult buildings survived basically unchanged and that others, as we have seen in the case of the building complex at the west end of the promontory, underwent substantial reorganization without much apparent change in function. There were, as well, buildings that were newly erected, and that served apparently for religious purposes connected with the new rulers. We learn, for example, from an inscription, that King Attalos, through his ancestor Herakles a descendant of Zeus like Aiakos, received a cult together with his relative – certainly on the Kolonna hill,[64] and there survive the foundations of three cult

[61] Pind. *Ol.* 8.30–52; Zunker 1988, 80–3.
[62] Polyb. 22.8.9.
[63] Pollhammer 2002, 99–108; 2003, 165–9.
[64] Allen 1971, 6–8; Damaskos 1999, 278–9.

Fig. 29 Hellenistic fortification of the southern slope of Aegina-Kolonna

buildings and an altar of this period west of the Apollo temple.[65] I would not want to speculate whether this architectural group, in the area where the singular Protogeometric burial was found (Figs. 21, 28), should be identified with the Aiakeion, but this much seems clear: what evolves in the period of Pergamene rule on the promontory is a combination of fortified stronghold, rulers' residence, and sacral area as are known from Pergamon itself – again a vast field for future research.[66]

When Aegina as a consequence of the last will of Attalos III fell to Rome, this new revival found its end and the gradual decline is manifest. In the mid-first century B.C., Sulpicius Rufus writes to Cicero that Aegina belongs to the towns that were formerly highly flourishing but that now lie in ruins,[67] and

Fig. 30 Late/postantique fortification wall, northern flank of Aegina-Kolonna

[65] Pollhammer 2004, 130–71.
[66] Pollhammer 2002, 106–8.
[67] Cic. *Ep.* 4.5.4.
[68] Hoodot 1970, 42; Felten 1975, 64.

Fig. 31 Fragment of MH storage vessel with representation of a ship

indeed there are only very scant indications that cult practice continued on the hill. The end of the history of Kolonna seems to have been unavoidable given the banning of pagan cults, and it strikes one as an irony that it is only the turmoil of the migrations in the sixth century that produces a new start for life in this place. According to the *Chronicle of Monemvasia*, the

Fig. 32 Fragment of Early Byzantine vessel with represntation of a ship

inhabitants of Corinth fled in the late sixth century from the approaching Avars to Aegina,[68] and indeed, exactly at this time, we see the opening of a new, post-antique chapter of Aeginetan history, which in some ways refers back to the beginnings of Kolonna's prehistory: again it is an extended settlement, now covering the hill anew,[69] concentrated on security through fortification that is as strong as possible and that uses and reinforces for this aim the existing structures of the past (Fig. 30).[70] And still, or again, it is apparently the sea that supplies the basis for the life of the inhabitants – the main topic on the few figure-decorated vessels of this period is seafaring[71] – and there is not much difference between our pictures of the Middle Bronze Age and Early Byzantine times (Figs. 31, 32).

[69] The post-antique architectural remains on top of the hill were removed by A. Furtwängler at the start of his excavations in Kolonna at the beginning of the 20th century, but there survived extensive parts of the settlement on the south slope of the hill that give an impression of the original layout; see Felten 1975, plan 5, and Pennas 2004, 12, fig. 9.

[70] Felten 1975, 55–78; Pennas (2004, 11–5) is certainly right in dating the north retaining wall as post-Herulian; cf. Wurster 1975, 9–12.

[71] Felten 1975, 115–6, pls. 23, 24; Pennas 2004, 15, fig. 12.

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Reconceptualizing The Middle Helladic "Type Site" From a Ceramic Perspective: Is "Bigger" Really "Better"?

Jeremy Rutter[1]

More than twenty years of strewing, sorting, and writing up sherd material of the Early, Middle, and Late Helladic (hereafter EH, MH, and LH, respectively) periods from half a dozen different excavations on the central and southern Greek mainland (Korakou, Gonia, Ayios Stephanos, Lerna, Athens, Tsoungiza, and Mitrou), in addition to ten years of similar work with Middle to Late Minoan (hereafter MM and LM) ceramics from a major site in south-central Crete (Kommos), have persuaded me that MH pottery is quite limited in its typological ranges, whether in terms of shapes, decoration, or modes of production (including assessments of paste or fabric preparation, shaping techniques, and surface treatments). I also consider the MH ceramic tradition to be extremely conservative and disciplined throughout time. Choose a typical MH ware category – dark-burnished, matt-painted, cooking pottery – and consider how much that particular category changes from the middle of the 21st century B.C. to the end of the 18th in terms of its shape range and decorative practices (or surface treatments in the broadest possible sense). Changes certainly do occur, but the pace of change is comparatively slow and the changes observed are relatively minor. In my opinion, perhaps the most impressive single change across the more than three centuries of the MH period was the decision to produce plain burnished wares in a pale-firing class rather than exclusively in dark-surfaced classes (gray, black, brown, or red) – that is, the advent of what is often referred to as "Yellow Minyan". One result of this choice was to blur the previously sharp distinction between the dark-surfaced burnished classes and the very different pale-surfaced matt-painted classes. After "Yellow Minyan's" appearance, the clay grounds – that is, the undecorated surfaces – of both the pattern-painted and the plain burnished categories, the two principal components of MH table wares, looked increasingly the same. And consequently the basic distinction between these two categories is largely lost in LH pottery, although monochrome painted Mycenaean pottery may be viewed as the direct descendant of the plain dark-burnished tradition, perhaps affected by the solidly painted fine wares at home on Aegina from MH III onward.[2]

So MH pottery is quite simple typologically. It consists of two major tableware categories, as we have just seen (that is, plain burnished and matt-painted), each of which is represented by no more than three or four major forms at a time: goblets, kantharoi, horizontal-handled bowls, and some one-handled cups among open shapes; pouring vessels with various forms of handle and mouth profiles (all of which can be lumped together under the general heading of jugs) and various forms of storage vessels with at least two, and often more, horizontal handles (all of which may be described as jars) among closed shapes. When it comes to cooking pottery, the range is even narrower: a single wide-mouthed jar form may be supplied with no handles at all, but simply some shoulder lugs; alternatively, the same basic form may have a single vertical handle from the rim or neck to the shoulder, or else a pair of horizontal handles on the shoulder. Aside from a distinctive series of wide-mouthed jars, with a comparatively high-swung vertical handle to the rim, that feature coarsely incised ornament – the class of pottery infamously christened "Adriatic ware" by the excavator of Malthi, Natan Valmin[3] – none of this dark-surfaced cooking pottery is decorated. Finally, a typical MH pottery assemblage features pithoi, but so few of these have been preserved in restorable form or with any kind of particularly distinctive ornament that MH pithoi as a class have a claim to being the most neglected ceramic types of the Aegean Bronze Age.

The MH pottery repertoire does not compare favorably with contemporary ceramic assemblages

[1] My sincere thanks to the organizers – Professor Florens Felten and Drs. Walter Gauß and Rudolfine Smetana – for the invitation to participate in an exceptionally well-organized and informative workshop. I am also grateful to J. Maran and C.W. Zerner for several helpful suggestions for improvement of an earlier version of this paper. Such errors as may remain, however, are entirely the responsibility of the author.

[2] My thanks to C.W. Zerner for this last suggestion.

[3] Valmin 1938.

elsewhere in the southern Aegean. The inventiveness of Protopalatial Minoan ceramics is justifiably legendary, as even a brief visit to the Herakleion Museum makes abundantly clear in the three or four galleries packed with the remarkable achievements of MM potters.[4] Furthermore, this inventiveness of the Cretan artisan is manifested on just about every conceivable level when it comes to ceramics of the later Prepalatial and Protopalatial eras, most famously in the shape range and surface ornament of fine table wares, of course, but just as much in storage vessels (*especially* pithoi) and even in cooking pottery (within which the range of different major shapes puts the single wide-mouthed MH jar form to shame). The existence of palaces on Crete during much of this period, and hence of groups of palatial artisans, accounts for at least some of the phenomenal variability and creativity exemplified by MM IB and II pottery. But Prepalatial pottery of the EM III and MM IA phases is still vastly more varied than is MH pottery. Moreover, Minoan Protopalatial ceramic assemblages differ more from region to region within Crete than do the purely MH ceramic repertoires of the Greek mainland. Even a Middle Cycladic ceramic assemblage at a site like Phylakopi makes MH pottery look very dull by comparison.[5]

Given the simplicity of the basic MH ceramic repertoire, then, why has it been so difficult to come up with a taxonomic system – that is, a scheme of classification – that applies well enough to all the site-specific ceramic assemblages of the southern and central Greek mainland during the Middle Bronze Age? Especially over the past 25 years, the growing numbers of differently defined MH wares have become positively bewildering to the non-specialist. Indeed, this proliferation of different ware names had become such an issue by the late 1980s that three Argive specialists sought to introduce a standardized set of ware names applicable at least to *that* region of the Peloponnese.[6] I suspect that many ceramic specialists who have worked on MH pottery in particular (as opposed to Middle Bronze Age assemblages from other regions of the Aegean) might respond somewhat differently to this simple question: why has the equivalent of a Furumarkian classification[7] for MH pottery not yet been devised? As far as I am concerned, the basic problem is caused by ceramic imports, many of them from centers of production that lie outside of the MH cultural sphere. Since the numbers of such "extra-Helladic" production centers are multiple, and since any specific mainland Greek site imported variable amounts of their products according to where they were located and what slice of time is being considered, the resulting MH ceramic assemblages not surprisingly create the impression of being chaotically variable, notwithstanding the very simple nature of the MH core assemblage that I have just surveyed.

A simple example will serve to illustrate the problem as I see it. Carol Zerner, in a series of seminal publications spanning the years from 1978 to 1993, made us all aware of the existence of two major centers of pottery manufacture that exported their products widely throughout central and southern Greece.[8] One of these centers was located on Aegina, presumably in the neighborhood of the site of Kolonna, and appears to have specialized in the production of large closed and open vessels (water jars, barrel jars, and kraters), a restricted number of smaller drinking and eating vessels (mostly goblets, kantharoi, and handleless bowls), and four different types of cooking pots (three of them variants of the wide-mouthed jar form that I mentioned earlier).[9] The complex marking system that characterizes the pots produced at this Aeginetan center during both MH and later Mycenaean times has recently been explored in considerable detail by Michael Lindblom, who has also done much to clarify the full shape range of this impressive export industry based on Aegina (Fig. 2). The second major center or group of centers isolated by Zerner has yet to be so narrowly located, but is likely to lie either within southern Lakonia or perhaps on the nearby island of Kythera. This industry produced the class of pottery called by Zerner "Lustrous Decorated" in sufficient quantities for the various forms of decorated table ware it comprised to be distributed

[4] Betancourt 1985, 64–102; Levi and Carinci 1988; MacGillivray 1998.

[5] Atkinson *et al.* 1904; Dawkins and Droop 1911; Barber 1987.

[6] Dietz *et al.* 1988. For continuing problems with MH ceramic terminology 15 years later, see Stocker 2003, 360.

[7] Furumark 1941.

[8] See especially Zerner 1993, with references to earlier literature.

[9] For the shape range of Aeginetan MH pottery, Lindblom 2001, 22–38, figs. 4–8; also Gauss and Smetana in this volume. There is a distinct difference in some cases between the popularity of some shapes on the island of Aegina itself and their frequency as imports in off-island contexts: see Lindblom 2001, 35 (kantharoi and goblets).

widely in the eastern and southern Peloponnese.[10] MH sites located in the southern Peloponnese (for example, Ayios Stephanos) produce comparatively large quantities of Lustrous Decorated imports but negligible amounts of Aeginetan,[11] while sites located in central Greece north of the Isthmus of Corinth (for example, Kiapha Thiti)[12] produce substantial quantities of Aeginetan material but relatively little Lustrous Decorated by comparison. Sites in the northeastern Peloponnese, such as Lerna, Asine and Argos, on the other hand, produce large amounts of both.[13] Although we so far lack as much solid quantitative data as we might like for many of the MH sites in question,[14] we may imagine that the quantities of such imports differed not only relatively but also in absolute terms, depending on such factors as the distances from the production center or centers and from the sea (over which this material must have been principally distributed), local circumstances at the importing sites, and the individual economic trajectories over time of the production centers themselves.

Of course, there are unlikely to have been just two such centers of production, although these may well have been the principal ones affecting the eastern Greek mainland for much of the MH period. That is, we know of Cycladic imports at a number of MH sites, as well as of Minoan imports which differ sufficiently from Lustrous Decorated vessels to be attributable to centers of production on Crete proper.[15] The numbers of all these imports are understandably highest at sites which are at the larger end of the range of MH site size and which are also located on the coast (such as Lerna, Asine, Ayios Stephanos and Lefkandi). Unfortunately, these have also tended to be those sites which have been chosen as type sites at which the MH ceramic repertoires for specific regions have been considered to be best represented. These sites also tend to be multicomponent sites, selected for excavation precisely because they can contribute significantly to a diachronic view of MH culture. Of course, problems caused by kick-ups and remnant sherd material in later deposits are far more serious at sites of this kind than they would be at smaller sites occupied for shorter periods of time. It is thus fairly clear that the sites we have chosen for the characterization of regional MH pottery assemblages are in some important ways by definition poorly suited for this purpose. What we need instead of large, multicomponent coastal sites, one might argue, are small, single-component inland sites where the complications resulting from large quantities of imports produced at multiple centers of manufacture, some of them not yet located and others perhaps not even isolated or identified, are removed.

Do such ideal sites exist? The answer is yes, and there are at least two different varieties of them, each with its own particular virtues. In some ways the most desirable would be a MH site occupied for only a brief period of time and then abandoned. An example of such a site is the transitional EH III/MH I locale of Deriziotis Aloni located 500 m southwest of the Mycenaean palace at Pylos on the Englianos Ridge in western Messenia.[16] The site consists of just

[10] For the most recent overview of this industry, see Philippa-Touchais 2003 on its shape and decorative ranges as these are represented in the Aspis excavations at Argos.

[11] Rutter and Rutter 1976.

[12] Maran 1992.

[13] Zerner 1986, 1988, 1993 (Lerna); Nordquist 1987 (Asine); Philippa-Touchais 2002, 2003, and in this volume (Argos).

[14] The quantities of Aeginetan pottery imported to Asine in MH III times have been estimated at 16% of the total sherds recovered at that site, but amount to as much as 25% in some portions of the site (Lindblom 2001, 41). The amount estimated from the site of Kiapha Thiti in MH III levels reaches as high as ca. 22.5–30% (Maran 1992, 218, Befundcomplex Schn. 153, SE 7/Schn. 154, SE 5; 33 of a total of 107 feature fragments [Signifikante Stücke] or 12 of a total of 53 as a minimum number of individual pots); see also Lindblom 2001, 41 and n. 165. At Tsoungiza in the Corinthian interior, Aeginetan imports increase enormously from only a couple of identifiable examples in MH III (Lindblom 2001, 41 n. 165) to between 9 and 12% of the total ceramic assemblage by both sherd count and weight in LH I (Rutter 1989, 12). On the Aspis at Argos, the amount of imported Aeginetan pottery may have been as high as 9 to 10% of the total assemblage in the earlier stages of the MH occupation of the hill (Philippa-Touchais 2002, 4–5, table 1). Further west on the other side of the Isthmus of Corinth, the quantities of Aeginetan material imported to Kirrha between MH I and LH III range between 1 and 6% (Lindblom 2001, 42 and n. 168). The limited evidence available suggests that there was a dramatic rise in the quantity of Aeginetan pottery imported at virtually all sites at the transition from the MH to the LH period (Lindblom 2001, 42), but the example of the Aspis at Argos shows that the quantities of imported Aeginetan material (and in this case also Lustrous Decorated) may also decline with time in some instances (Philippa-Touchais 2002, 4, 39, table 1; 2003, 4). Finally, at Asine, Nordquist has estimated that imports from Aegina make up as much as 86% of all identified ceramic imports to the site in the MH III phase (Lindblom 2001, 41 and n. 160).

[15] For Cycladic and Minoan imports into early MH Lerna, see Zerner 1978.

[16] Stocker 2003.

two poorly preserved apsidal buildings, one superimposed over the other, accompanied by a small assemblage of heavily worn but nevertheless quite closely datable pottery.[17] Of the 191 sherds published from this site, three ring bases reused from EH II vessels and two kylix fragments and a coarse handle attributable to Mycenaean pots are chronologically extraneous,[18] but the remainder appears chronologically homogeneous. Just one of the items published from the site has any claim to being a possible import.[19] The remaining sherds all belong to a narrow range of shapes encompassing the three basic functions of food preparation (in cooking pots), bulk storage (in pithoi), and eating and drinking (from table wares). No pattern-painted pottery whatsoever is attested, but this is as likely to be the result of the extreme wear suffered by this material as it is the reality of the ceramic assemblage that it represents.

A second kind of site that might be ideal for defining a typical MH ceramic assemblage of a particular phase is a site freshly reoccupied during the MH period after a substantial period of abandonment. Such a site is the small settlement at Tsoungiza in the Corinthia, resettled in the late MH period after two to three centuries of desertion.[20] Unfortunately, in this and similar cases, the site's subsequent occupation – in the case of Tsoungiza, for as long as four centuries during the Mycenaean era – has done considerable damage to the underlying MH levels. Sufficient MH sherd material nevertheless survived from two spatially discrete areas at Tsoungiza – trenches EU2 and EU6 – to allow isolation of two slightly different stages of a late MH ceramic assemblage that are broadly contemporary with the first phase of use of Grave Circle B at Mycenae (Fig. 1). Among the 176 inventoried pieces, a figure that includes a disproportionate percentage of table wares (over 85%), no more than 5% (8 or fewer pieces, to be exact) were suspected of being imports, including one probable and one possible Aeginetan fragment.

In both of these instances, we are able to gain an impression of a MH ceramic assemblage that does *not* consist largely of imports from locales other than one or more reasonably nearby places of manufacture. Sites such as Deriziotis Aloni and Middle Helladic Tsoungiza are by their very nature – they were, after all, small and occupied for only a short period – unlikely to have been loci of ceramic production. For these same reasons, they had not established during their initial phase of resettlement a network of contacts that had introduced them to substantial numbers of imports from a potentially quite widespread set of suppliers. In both cases, the range of ceramic types represented is limited, although only in the case of Tsoungiza is it possible to provide even roughly quantified data.[21]

Why have I gone to such lengths to make the case that the basic MH ceramic repertoire is so simple and restricted, a case that involves finding sites where the numbers of ceramic imports are minimal? After all, this is a workshop dedicated to the topic of intercultural connections and synchronisms, for which the detailed study of as many exchanged items as possible is desirable. Why am I focusing on sites of a kind that appear virtually antithetical to the ones in which those attending this workshop have traditionally been interested – the Lernas, the Kolonnas, the Ayios Stephanos's, and the Pefkakias? My answer is a simple one: rather than devoting most of my attention to identifying the large numbers of imports at major MH sites and wrestling with the taxonomic problems inherent in devising a scheme of ceramic classification that will incorporate all of these, I am interested instead in isolating a core MH ceramic assemblage because I would like to explore the processes whereby large amounts of imported containers were introduced into MH settlements and to investigate the effects of this activity on the lifeways of MH populations. After all, it is the fact of such large-scale importation of ceramics that is one of the

[17] Stocker 2003, 363 and ns. 36–8.

[18] EH II ring bases: Stocker 2003, 365 (P6, P7), 372 (P35); LH III kylikes: 365 (P8), 393 (P142); Mycenaean (?) coarse strap handle: 369 (P17). An additional body sherd is hesitantly attributed to an EH II shape, but without any compelling argumentation: 400 (P180).

[19] The medium coarse hemispherical bowl identified by Stocker as an EH II type (2003, 363–4, 387 [P119], figs. 22, 23) has perhaps a better claim to be an example of a shape well attested in late EH III and early MH contexts at Kolonna on Aegina as well as imported to contemporary sites such as Lerna: Walter and Felten 1981, 163–4, nos. 270, 271, pl. 102; Rutter 1984, 99 (Group IA [3]), fig. 1a.

[20] Rutter 1990.

[21] It should be possible to create a similar table for the extensive body of data published from Kiapha Thiti, a site which like Tsoungiza was barely if at all inhabited during the earlier MH period (Maran 1992, 200–1). Here, however, due to the location of the site in much closer proximity to both Aegina and the sea, the quantities of imports from that source are comparatively high right from the start of the MH III period (see n. 14 above).

	EU2					EU6					
DECORATIVE CATEGORIES / SHAPES	Matt-painted	Plain Pale-burnished	Plain Dark-burnished	Cooking Fabric	Coarse	Matt-painted	Plain Pale-burnished	Plain Dark-burnished	Cooking Fabric	Coarse	TOTALS
Goblet	13	14 + 15?	1 + 2?			6	8 + 2?	1			43 + 19?
Kantharos	7	8 + 5?				6	3 + 3?				24 + 8?
Miniature kantharos	1	4				1	3				9
Cup, round-bodied		1 + 1?									1 + 1?
Cup, angular		1					1				2
Dipper						1?	1 + 1?				1 + 2?
Juglet with cutaway neck	2						1?				2 + 1?
Neck-handled Jug	1	1					2				4
Side-spouted Jug	1	1									2
Misc. Jug	6	4				3	2				15
Bridge-spouted Jar	1										1
Narrow-necked Jar	6	1				6	3				16
Wide-mouthed Jar, vertical handle to rim				1?					2		2 + 1?
Wide-mouthed Jar, vertical handle to neck				1							1
Wide-mouthed Jar, horizontal handles				1					1		2
Misc. Wide-mouthed Jar				10					5		15
Lid				1							1
Tripod Cooking Pot									1 [Aiginetan]		1 [Aiginetan]
Pithos					2						2
TOTALS	38	56	3	14	2	23	30	1	9		176

Fig. 1 Shapes and Decorative Categories of MH III Ceramic Assemblage from Tsoungiza (Corinthia) [source of data: RUTTER 1990]

most striking features of MH material culture. Whether, in fact, this behavior is more or less pronounced on the Greek mainland during the Middle Bronze Age than in contemporary Crete or the Cyclades is an issue that might repay further study, as would a comparison of the nature and numbers of mainland ceramic exports to the islands with whatever the reverse traffic in Cycladic ceramic exports may have been.

One-period sites lacking any significant numbers of imports, such as Deriziotis Aloni seems to be, will certainly *not* be very informative for the study of ceramic exchange, intercultural contacts, or synchronisms, no matter how helpful they may prove to be in establishing the basic building blocks of a MH ceramic assemblage. But I wonder how many such single-component MH sites really exist. For example, Deriziotis Aloni itself may simply represent the initial occupation of the MH site that would go on to become the palatial Mycenaean center of Pylos. That is, if the Englianos Ridge were to be more thoroughly explored by excavation, it might well turn out that the ridge's occupation is continuous after the phase represented by the two superposed and heavily eroded structures uncovered at Deriziotis Aloni, but that the spatial organization of the site changed significantly from phase to phase during the early stages of the MH period before eventually becoming centered in the area of the later palace and adjacent lower town to the southwest.

By far the more common kind of import-free site we have so far discussed is the sort that constitutes a new settlement during the MH period, whether at a previously occupied locale (as in the case of the Tsoungiza hill) or at one never before chosen for settlement (such as Koumoula in Phokis),[22] but in either case one occupied for some time thereafter rather than for only a very short duration.[23] The combination of surface survey and excavation conducted by the Nemea Valley Archaeological Project during the 1980s revealed that a substantial number of sites in the vicinity of Tsoungiza (including Zygouries and Ayia Irini in adjacent valley systems to the east and west, respectively) were, like Tsoungiza itself, initially occupied in the late MH period either for the first time ever or after centuries of abandonment. Moreover, this phenomenon of the later MH colonization of the Greek mainland's interior does not appear to be limited to the Corinthia, since sites with similar histories may be cited from both Phokis and Attica.[24] At sites of this kind, it is possible to investigate the development through time of what often becomes the large-scale importation of ceramic containers in a more satisfactory way than would be possible at the much larger coastal emporia. Thanks to the lack of continuous occupation at such sites, problems caused by earlier kick-ups during the initial stages of their MH occupation are minimal. At the same time, the fact that their external contacts during these initial phases of MH occupation are also minimal allows the pathways by which such contacts first came into being, and then subsequently grew, to be plotted in a more sharply defined way than might otherwise be the case. In theory, it should be possible to track the growing numbers of imported types according to their various places of origin, and to consider at the same time the disparate functions of the container types represented, so as not only to reconstruct the nature of what are often extremely heterogeneous MH ceramic assemblages but also to *explain how* and perhaps even *why* they developed as they did.

Again, a specific example may serve to illustrate the points I am seeking to make. Figure 1 shows the range of shapes and functional categories represented at MH III Tsoungiza, with the table wares further broken down into the three principal decorative classes recognized: dark-on-light matt-painted, plain pale-burnished, and plain dark-burnished. The two sections of the table headed EU2 and EU6 display some basic ceramic statistics from two previously mentioned, spatially distinct areas of the site. A number of comparatively minor differences between these two bodies of material suggest that the finds from EU2 are slightly earlier than those from EU6.

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[22] Touchais 1981.

[23] The MH settlement on the Aspis at Argos is anomalous not only in that the quantities of ceramic imports represented during at least three distinct phases of occupation (Philippa-Touchais 2002, 3) decline with time (see n. 14 above), but also in that substantial numbers of both Aeginetan and Lustrous Decorated imports are present from the moment of this locality's resettlement after more than a millennium's abandonment following the Final Neolithic (or Chalcolithic) era. This peculiarity of the Aspis settlement may be explained by viewing it as an extension of an already well-established site rather than an entirely new foundation. That is, the initial MH occupants of the Aspis might not represent altogether new settlers in Argos, but rather simply a (higher status?) group within the larger population of MH Argos that was seeking a more dominating residential locale. For MH settlement throughout the limits of the modern town of Argos, see Touchais 1998.

[24] Rutter 2001, 131 and ns. 146–7.

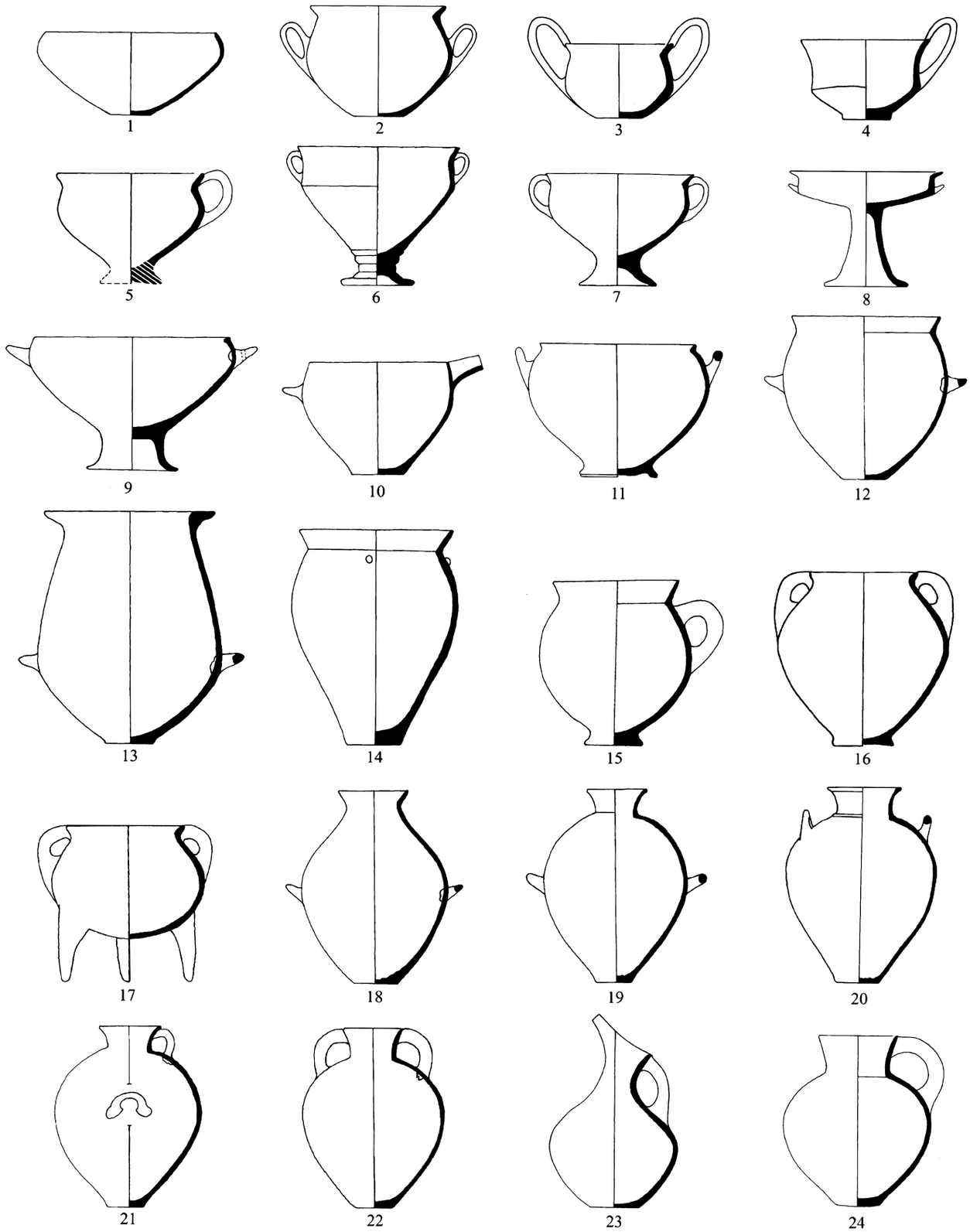

Fig. 2 Major Middle and Late Helladic Aeginetan Vessel Shapes (after Lindblom 2001:26 fig. 4)

In neither case, however, does the number of recognizable imports exceed 5% of the pottery recovered. Within one or perhaps two generations, however – that is, by the developed LH I period, attested in a number of discrete deposits at the site – the ceramic situation has changed dramatically, imports accounting for 20% or more of the total assemblage. Space considerations preclude any detailed analysis of these changes, whether according to formal types or to vessel provenances, but a few comments on some functional aspects of these changes and their broader cultural significance may be worthwhile.

The largest corpus of imports at LH I Tsoungiza comes from Aegina and consists of cooking pots (Fig. 2.14–5), matt-painted water jars (Fig. 2.19–22) and kraters (Fig. 2.11), and solidly coated goblets (Fig. 2.6) and kraters. To reach Tsoungiza, all of this material had to be transported a minimum distance of some 40 km overland from emporia located along the coasts of either the Saronic Gulf or the Gulf of Argos. Note that the range of imported Aeginetan shapes includes no one-handled cups, no ladles or dippers, and no small to medium-sized pouring vessels (that is, jugs). These imports were chosen for their functional utility in specific daily activities, namely food preparation, the fetching of water from springs or wells, and the consumption of beverages in substantial quantities, presumably (but not yet demonstrably) wine mixed with water in the kraters and then drunk from the goblets. It is not difficult to see the appeal of the Aeginetan imports to the second- and third-generation residents of Tsoungiza. The cooking pots were lighter in weight than the locally produced variety because they were better made, and furthermore their volcanic fabric better resisted thermal shock. The water jars – stamnoi, hydrias, amphoras, and large jugs – were also lighter in weight because much thinner-walled than the locally produced jars, thus allowing larger shapes to be produced and reducing the number of trips to be made to the local water source. Moreover, the greater porosity of their fabric resulted in more sweating of their unburnished or only very lightly tooled surfaces, thus promoting cooling of the liquid inside. Finally, the kraters satisfied a need for mixing bowls, and the goblets presumably came along with the kraters as part of a drinking set. The absence of any obvious dippers or ladles from the Aeginetan assemblage is an interesting fact. At Tsoungiza, the need for this shape already in late MH times is apparent from a pair of fragments from the later MH III horizon represented by EU6 (Fig. 1). In LH I, this shape became more standardized in form and much more common as a locally produced type.[25] What makes the example of the dipper noteworthy is that the failure of the external supplier to provide it required its local manufacture. The implication is surely that Aeginetan drinking behavior did not include a need for a decorated dipper to go with its kraters and goblets – or for small and attractively decorated jugs and juglets, either.

Among the other classes of imported pottery from LH I levels at Tsoungiza are Gray Minyan, Mainland Polychrome Matt-Painted (as well as other kinds of bichrome matt-painted in lesser amounts, presumably from distinct centers of production), Light-on-Lustrous-Dark-Burnished, and of course the Lustrous Painted that is the earliest manifestation of what we call Mycenaean decorated pottery. Each of these classes of imports is characterized at Tsoungiza by an idiosyncratic shape range, as they are also at other sites of the LH I period throughout central and southern Greece. The question of why this wide range of "specialty wares" all of a sudden came into being at the MH/LH transition is often raised, as should also be the question of why virtually all of them went on to disappear by the end of the LH IIA phase. Surely part of the answer to at least the first question is that they responded to a widespread demand for new collections of household pottery inspired by the colonization of large swaths of the Greek interior which had been effectively deserted since late in the 3rd millennium B.C. A question for the future is whether the sudden rise in the number of "specialty wares" in LH I is matched by a boom in the production of already long-established Aeginetan export wares. From the limited amount of data already available on this subject, it would appear that the Aeginetan ceramic industry responded to a sudden demand for large amounts of pottery at around the time of the MH/LH transition not only by an increase in production, but also by the development of a range of new vessel types, prominent among which are the kraters and several varieties of water jars that are such a prominent feature of the picture of Aeginetan imports at LH I Tsoungiza.[26] The rise to prominence of Lustrous Painted pottery at precisely this time presumably reflects a corresponding boom in the output of the

[25] Rutter 1990, 440 n. 50.

[26] Lindblom 2001, 26–7, fig. 4 (S11, S19–S22), 40–2.

similarly long-established producers of Zerner's Lustrous Decorated class. Do we, in fact, have enough data yet to conclude that it was an episode of late MH colonization of the mainland's interior that resulted in the dramatic changes in MH pottery that define the beginning of the Mycenaean era? Might the discovery of late MH pottery in the central Mediterranean at sites such as Lipari and Vivara (and perhaps Monte Grande) be another expression of either the rise in population or a sudden interest in decentralization or both that resulted in the phenomenon that I have been calling "colonization"? And last but not least, how is this "colonizing" behavior connected with the explosion of wealth and power manifested in the Shaft Graves of Mycenae at much the same time?

However these very large as well as loaded questions may ultimately be answered, there are two aspects of MH social behavior that *cannot* be called upon to explain the changes in MH pottery and in the importing of non-local containers that we have been surveying. Thanks to studies by both Carol Zerner and Gullög Nordquist, we know a good deal about how pottery was employed for funerary purposes in MH times, whether as grave goods, as grave furniture, or as the containers of bodies along with the associated lids.[27] Relatively few MH graves – only some 25–30% – contain pottery, and of those that do, rarely do the amounts exceed one or two vessels. Since most such tomb pottery consists of locally produced items rather than imports, there seems to be no connection possible between MH funerary behavior and a growing MH appetite for ceramic imports. Nordquist has also drawn attention to the curious phenomenon of the deposition of MH vessel types in pairs, whether in tomb or settlement contexts.[28] The range of such paired examples of the same shape is comparatively narrow and clearly points toward drinking behavior as the activity lying behind these instances of ceramic twins. The most popularly paired shapes are goblets and kantharoi, but jugs, cups of several kinds, and even dippers are also attested.[29] The temporal range of this pairing is also quite narrow, the least ambiguous examples dating exclusively from the MH III and LH I periods.[30] Virtually all examples of the twinned forms are local products rather than imports, a single exception being an Aeginetan goblet from a MH III settlement context on the Barbouna slope at Asine.[31] Once again, whatever drinking customs may have given rise to this pairing of vessels in the latest MH and earliest Mycenaean contexts, they cannot be cited as behavior that would have dramatically affected the importing of pottery from abroad. The hypothesis presented here, that a significant change in settlement patterns, loosely identified as "colonization", was responsible for some major ceramic changes in the late MH and LH I periods, though it certainly requires additional testing before it can be considered valid, may in the meantime serve as an example of an approach to MH ceramic analysis that is more problem-oriented than purely descriptive.

[27] Zerner 1990; Nordquist 2002, 121–7.

[28] Nordquist 2002, 127–33.

[29] A pair of rim-handled bowls from Prosymna grave 1 cited by Nordquist (2002, 127 and n. 82) and a possible pair of wide-mouthed cooking jars from Tsoungiza with different handle systems (Rutter 1989, 9–10, nos. 18, 19, fig. 7) are anomalies.

[30] Two earlier MH rim-handled cups with quite different feet, from the tumulus at Aphidna cited by Nordquist (2002, 127 and n. 93), are not very convincing as an example of the pairing phenomenon.

[31] Nordquist 2002, 130, fig. 13b.

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Aegina MH III–LH I: Ceramic Phases of an Aegean Trade-Domain

Wolfgang Wohlmayr

Two distinguishing features mark the urban development of Aegina-Kolonna during the middle phases of the Aegean Bronze Age: the continuous growth of fortification walls around the main settlement and the establishment of an "inner suburb" or inner ring encased by much weaker fortifications (Fig. 1). These are features of a community that was flourishing and that consequently provided for its safety. Given the highly mercantile character of the site, it is not surprising that at the end of Middle Bronze Age (MBA) the settlement at Kolonna experienced further expansion. Evidence of Mycenaean buildings in this sector – northeast of the suburb and the so-called shaft-grave district – has been known for a long time.[1]

Excavations in the 1980s brought to light several rooms, or better, chambers, outside this inner extension and inclined toward its east wall (Fig. 2). Without a doubt – as attested by ceramic deposits – these chambers have to belong to the latest MBA and to the Early Mycenaean (EM) period. Although the focus of my paper will lie on these ceramics, let us first cast an eye on the architectural remains in this part of Cape Kolonna. The northern boundary of the above-mentioned structures is a Mycenaean wall, one section of which is comparatively well preserved.[2] A gate within this Cyclopean-like wall, still visible, was filled in during later Mycenaean times. The EM building complex consists of the above-mentioned gate, a yard opening directly onto a few chambers, and at least one passage parallel to the MBA suburb wall. The complex is evidently a small bastion or bulwark of the Aeginetan settlement.

Upon excavation, the following structures were able to be clearly identified: the Mycenaean north wall, interior sections of the older fortress wall, the blocked entrance, and, backed onto the suburb wall at a lower ground level, the so-called chambers.

In contrast to this "inner suburb" of the town (Kolonna VIII to X), the precise area of which is known, the "outer suburb" – the beginnings of town XI – could only be verified in one small, trapezoidal area. One reason for the difficulty is the increase in rock level in the eastern section of this area, which resulted in only parts of the EM houses being covered by subsequent structures. The mighty relics of a later Mycenaean fortress were already, although only sketchily, presented by Gabriel Welter in the 1920s.[3] The Mycenaean houses were largely destroyed in later centuries by construction of the Archaic, Classical and Hellenistic periods. Although most remains of the LH I–II period were displaced by building activities of later periods, a small part of the EM settlement has survived in situ.[4]

Ceramic deposits at Kolonna of MH III–LH I date can be defined as predominantly local: Aeginetan potters' workshops had continued to carry on their exceptional production. The pottery falls into three major classes: a smaller group of pattern-painted vases decorated with one or more paints lacking altogether in luster and which are therefore termed "matt-painted"; a larger group of monochrome, hardly burnished red-, brown-, and black-slipped wares; and finally, unpainted and relatively coarse wares ("cooking pottery"). This spectrum of ceramics, collected under the term "Aegina Gold-Mica-Fabrics", is characterized by a distinctive form of mineral temper that includes gold mica.[5]

My investigations are based upon the following criteria. Which characteristic types and shapes of vases can be defined in this area of the excavations? Which shapes and decorative patterns can be identified at Kolonna in the transition between the Middle

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[1] Bibliography: Welter 1938; Hiller 1975; Walter 1993; Kilian-Dirlmeier 1997; Wohlmayr 2000.

[2] Wohlmayr 2000, 127, fig. 61.

[3] Welter 1925, figs. 3–7; 1926, 432–3; 1929, 185; 1938, 11, fig. 9, 21ff.

[4] Evidently the settlement at Kolonna enlarges both to its south and west in EM times. Excavations have uncovered rich ceramic deposits that provide firm evidence of the settlement's flowering at this period.

[5] Bibliography: Dietz 1991, 8 ff.; Maran 1992, 179ff.; Zerner 1993, 39–56.

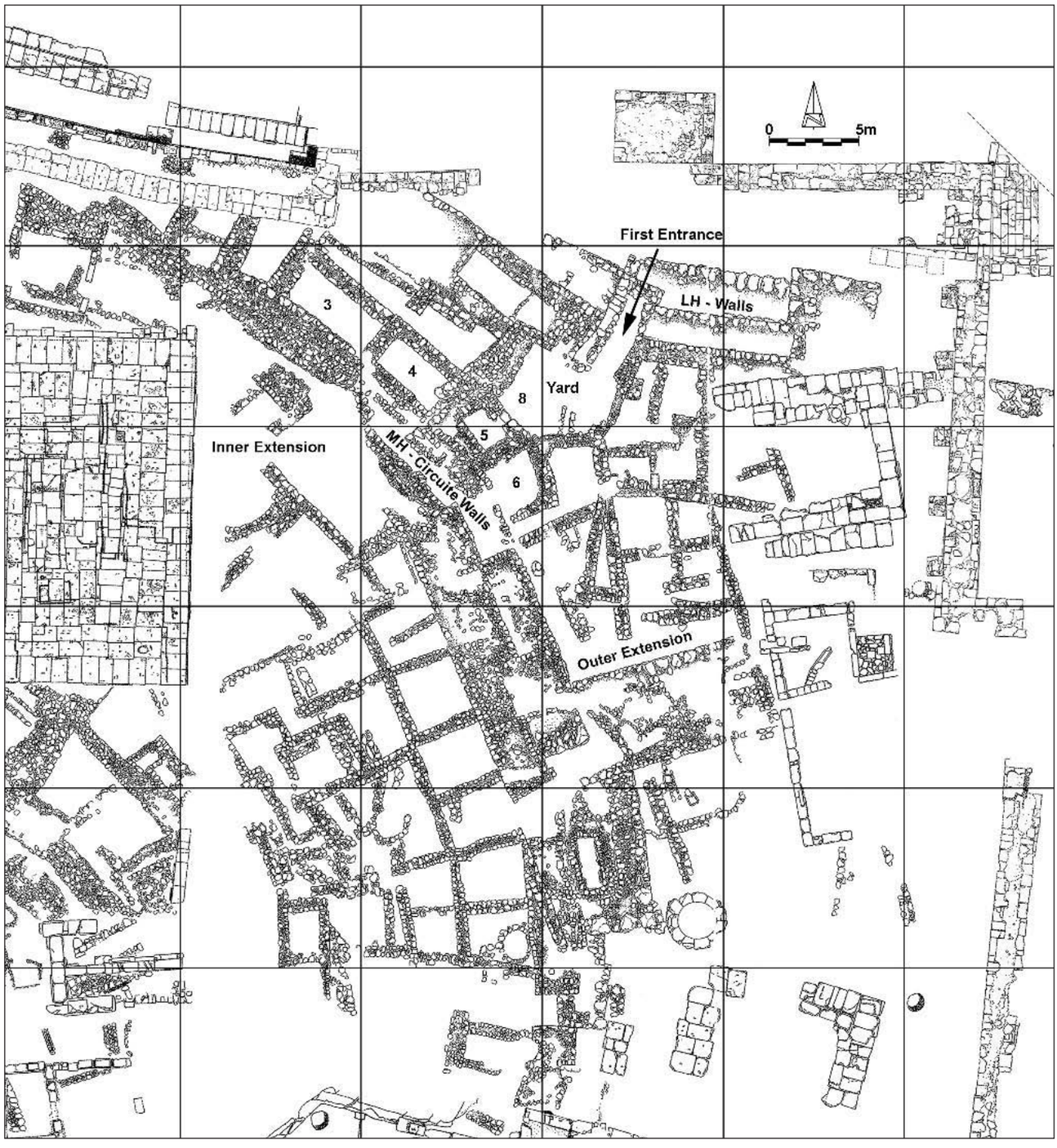

Fig. 1 General plan of the north-eastern part of Kolonna excavations

and Late Bronze Age? What are the invariable characteristics of this "Aegina ware"? In the following catalogue, I present closely connected finds of ceramics that – with due caution – can be taken to mark two periods of the "outer suburb": the first, connected with the latest MH and very early EM pottery style, and the second, connected with the developed EM style (LH IB) at Aegina.

First group

1. Amphora K 1 (2049) (Fig. 3)
H. 0.77 m; made up of many pieces.
Biscuit beige, without painted decoration; potter's mark on the handles.

2. Amphora K 10 I/1 (3106) (Fig. 5a–c)
Biscuit reddish yellow on the surface; porous and

Fig. 2 Early Mycenaean 'chamber system' of the Outer Extension (1987)

splintery; "firnisartige Mattfarbe"; decorated with circles.

3. Amphora K 13 I/1 (3422) (Fig. 4)
H. ca. 0.45 m (complete).
Biscuit beige yellow; "firnisartige Mattfarbe"; decorated with bends and scrolls.

4. Jar (?) K 4 I/2 (3265) (Fig. 6)
Fragment.
Biscuit reddish yellow on the surface.

5. Jar (?) K 10 I/10 (3110) (Fig. 8a, b)
Fragments.
Biscuit with a greenish look; "firnisartige Mattfarbe"; late "Aeginetan" decorative scheme.

6. Alabastron (?) K 8 I/3 (Fig. 7a, b)
Fragment.
Very fine greenish biscuit; light green-beige slip; "firnisartige Mattfarbe"; decorated with spirals and bends.

7. Bend-bowl K 8 I/1 (Fig. 9a, b)
Fragment. D. ca. 0.18 m.
Biscuit with a greenish look; "firnisartige Mattfarbe"; wavy line. Traditional shape.

8. Cup K 4 I/1 (3264) (Fig. 10a, b)
Fragment. D. ca. 0.15 m.
Biscuit with a reddish look; vertical panels and wavy lines. Local variation of a P-cup.

9. Cup K 8 I/7 (Fig. 11a, b)
Fragment. D. ca. 0.15 m.
Biscuit reddish beige on the surface; "firnisartige Mattfarbe".

10. P-cup ("Aeginetan") K 8 I/4 (Fig. 12a, b)
Fragment.
Local clay; "firnisartige Mattfarbe".

11. Straight-sided cup K 8 I/2 (Fig. 13a, b)
Fragment. D. ca. 0.7 m.
Local clay; very fine biscuit; "firnisartige Mattfarbe".

12. Goblet K 8 I/5 (Fig. 14a–c)
Fragments. D. ca. 0.22 m.
Biscuit soft; orange-reddish splintery slip, smooth burnished. Early shape.

Second group

13. Jar (?) K 10 II/4 (3143) (Fig. 15a–c)
Biscuit reddish; surface not burnished. Bichrome decor with stripes and curvilinear elements.

14. "Äginaschüssel" K 10 II/10 (Fig. 16a, b)
Fragments. D. ca. 0.26 m.
Biscuit greenish; stripes and curvilinear elements in dark matt painting, brown at the rim ("bichrome ware").

15. "Äginaschüssel" K 10 II/16 (3104) (Fig. 18)
D. ca. 0.28 m.
Biscuit reddish yellow on the surface, light-colored slip; decor with hanging bends ("bichrome ware").

16. "Äginaschüssel" K 10 II/15 (Fig. 17)
D. ca. 0.26–0.28 m.

17. Bowl (small "Äginaschüssel") K 10 II/25
(Fig. 19a, b)
D. ca. 0.20 m.
Reddish biscuit; stripes and a scroll in dark brown matt painting.

18. Hole-mouthed jar K 7 II/14 (3158) (Fig. 20a, b)
D. (rim) 0.22 m.
Reddish biscuit, red-brown slip; burnished.

19. Pot ("kitchen ware") K 13 II/20 (Fig. 21a, b)
D. (rim) ca. 0.22 m.
Coarse biscuit; blackened.

20. Cup ("kitchen ware") K 8 II/10 (Fig. 22a, b)

D. (rim) ca. 0.12 m.
Coarse biscuit.

21–22. Potters' marks ("kitchen ware") K 7 II/95.96 (Figs. 23a, b; 24a, b)

23–26. Potters' marks ("kitchen ware") K 8 II (Fig. 25a–d)

"Aeginetan" production of these two phases represents a wide assortment of matt-painted storage vessels (e.g., amphoras, jars) and table ware (e.g., bowls, jugs, cups) decorated with very late and restless patterns, some of them under the distinct influence of Greek "mainland style". In the first phase, recognizable initial signs of "Äginaschüsseln" and "bichrome ware" are absent, appearing during the next phases of development. Red-slipped bowls and goblets make up one of the distinct classes of local production, and the wide spectrum of undecorated medium coarse to coarse wares constitutes the main production of this "Aegean trade-domain" in EM times.

In the finds from these chambers of the "outer suburb", one can identify pottery characteristics that indicate the time span of the chambers' use. It is important to note that in the context of the ceramic deposits, individual pieces are identifiable as traditional LH I ware: for example, a "straight-sided cup" with running spiral (Fig. 26a, b). But this traditional Mycenaean ware ("local production"!) occurs only in small quantities.

At the end of the MBA and the EM periods, settlements on Cape Kolonna see their largest expansion. Ceramic production prospers and remote trade comes to its height.[6] In this context, the importance of Kolonna is evidently linked to the output of its local earthenware production. However, specific groups of Aegean pottery from this period (e.g., matt-painted, bichrome decorated pottery, burnished ware, plain wares) have not been sufficiently presented so far. My remarks refer to some deposits of the so-called outer suburb of prehistoric Aegina. This part of the settlement had been established at the end of MH period and the beginning of the first Mycenaean period. It has been my aim – very briefly – to present substantial classifications of ceramics, relevant to the questions of synchronization and, further, to construct a view of urban development of this important trade-domain.[7]

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[6] Some new ceramic deposits at Kolonna from the EM period attest the indisputable importance and range of local production during this phase. "Aegina ware" is found in quantity at island as well as coastal sites, and seems to be common at least as late as LH IIA.

[7] I would like to express my thanks to Prof. Dr. F. Felten and the staff of the Aegina excavations, who made it possible for me to work on the ceramics presented here.

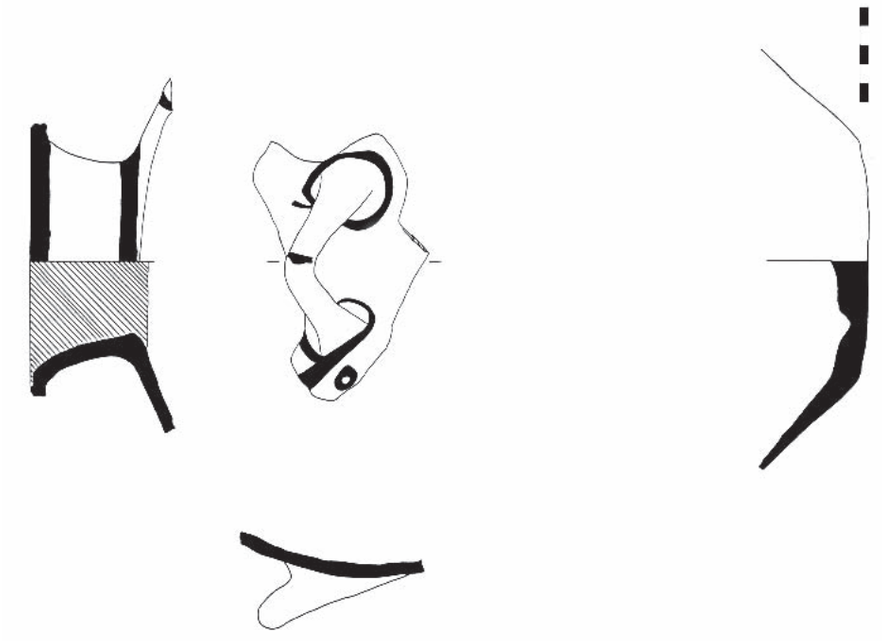


Fig. 4 K13 I/1 (3422)

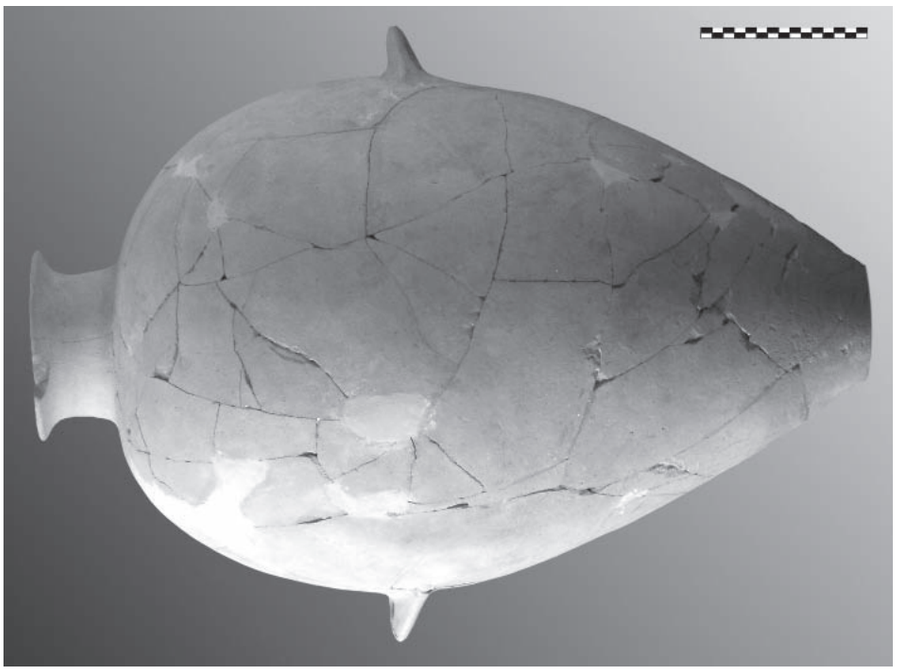
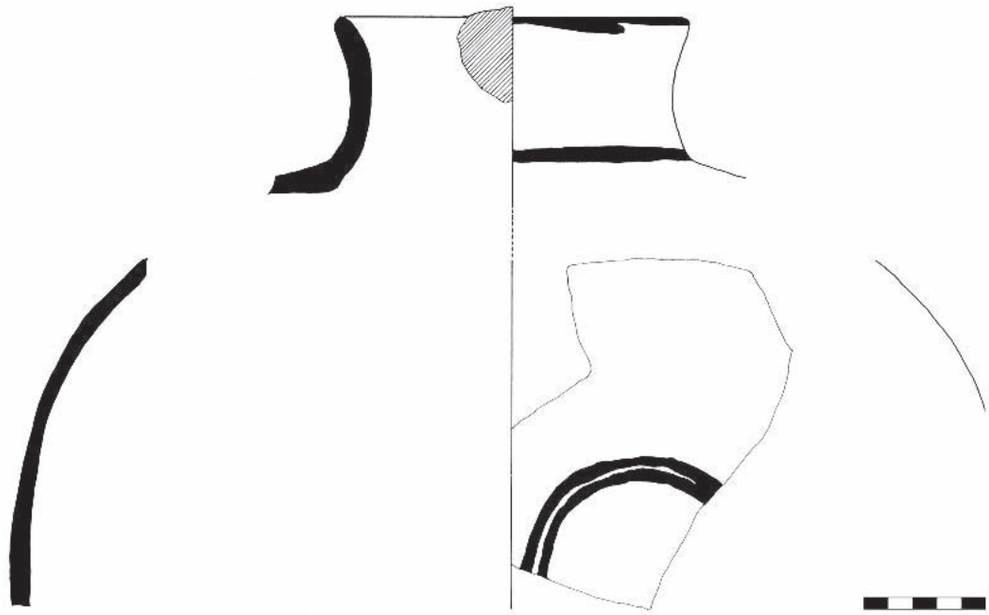


Fig. 3 K δ/1 (2049)



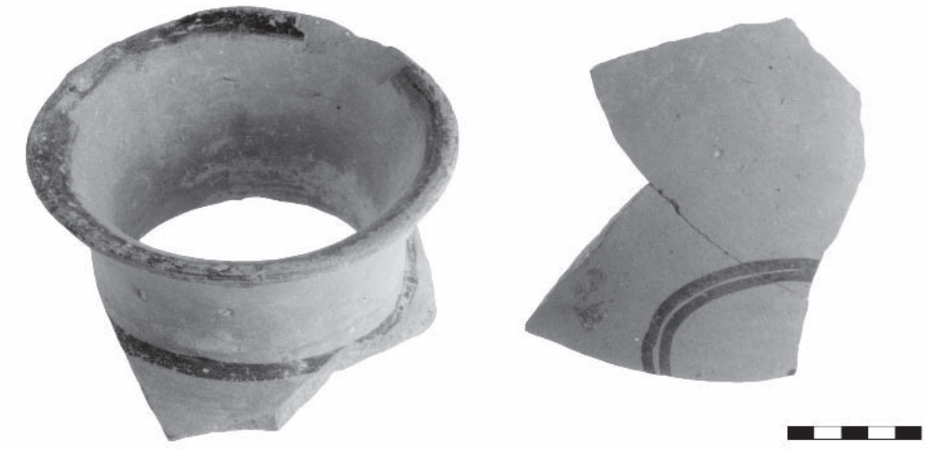


Fig. 5 a–c K10 I/1 (3106)

Fig. 6 K4 I/2 (3265)

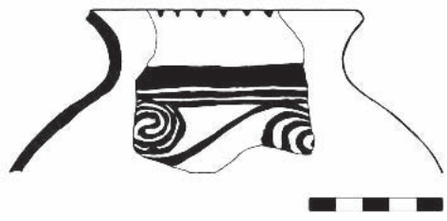


Fig. 7a K8 I/3

Fig. 7b K8 I/3

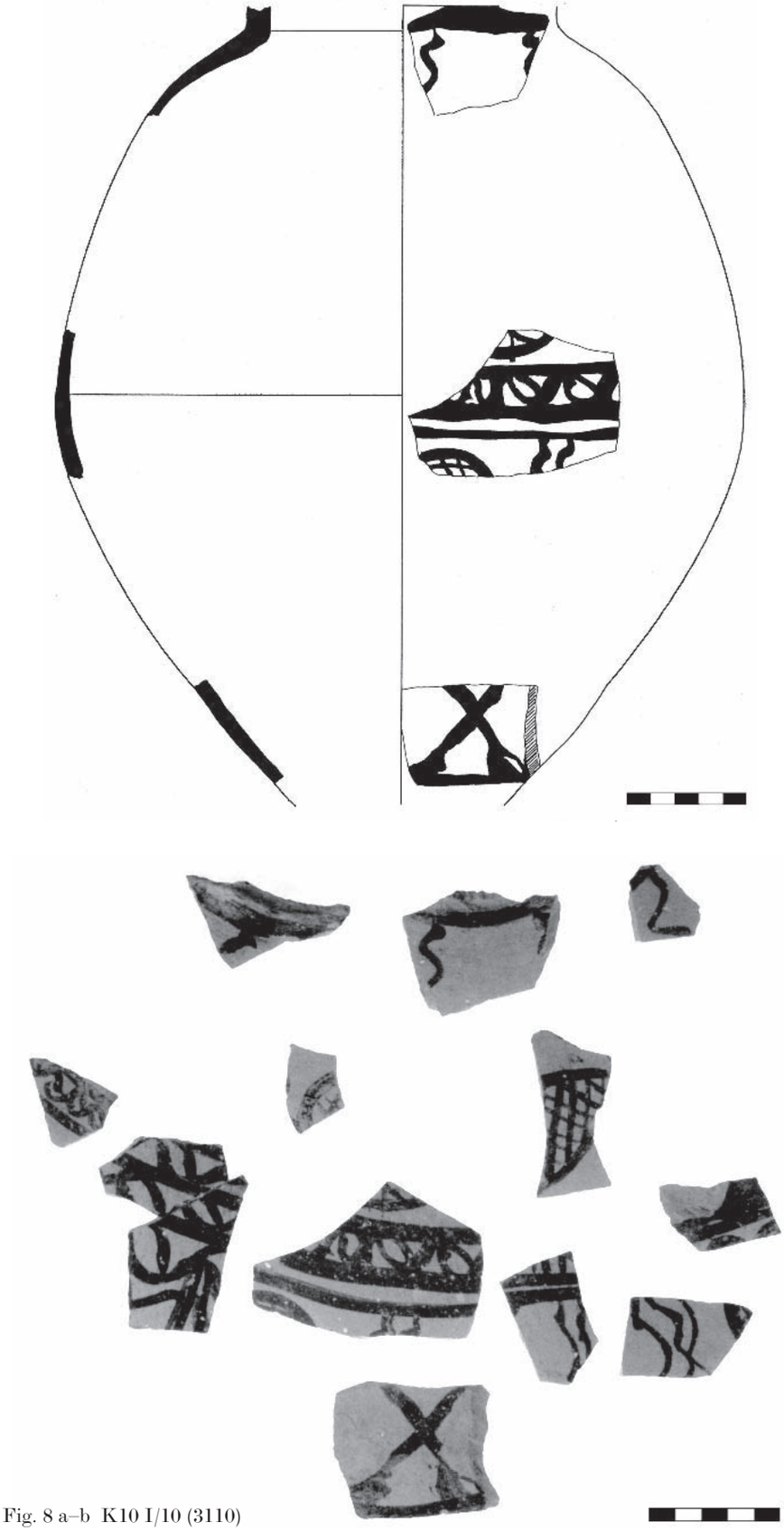


Fig. 8 a–b K10 I/10 (3110)

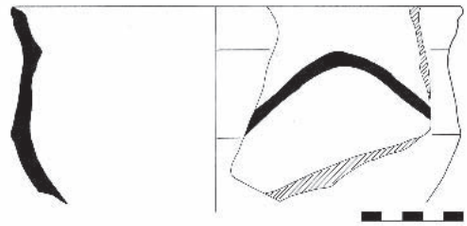


Fig. 9 a–b K8 I/1

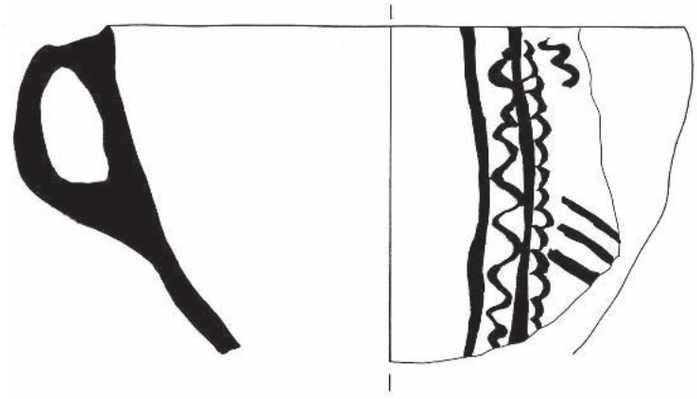


Fig. 10 a–b K4 I/1 (3264)

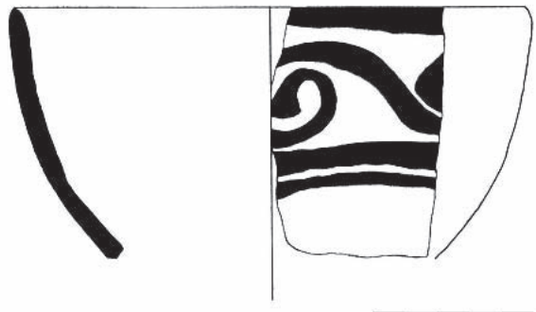


Fig. 11 a–b K8 I/7

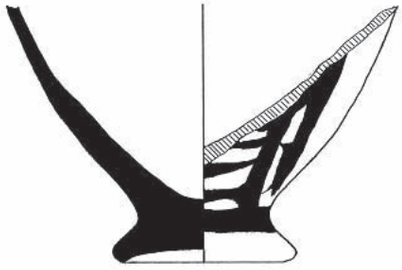


Fig. 12 a–b K8 I/4

Fig. 13 a–b K8 I/2

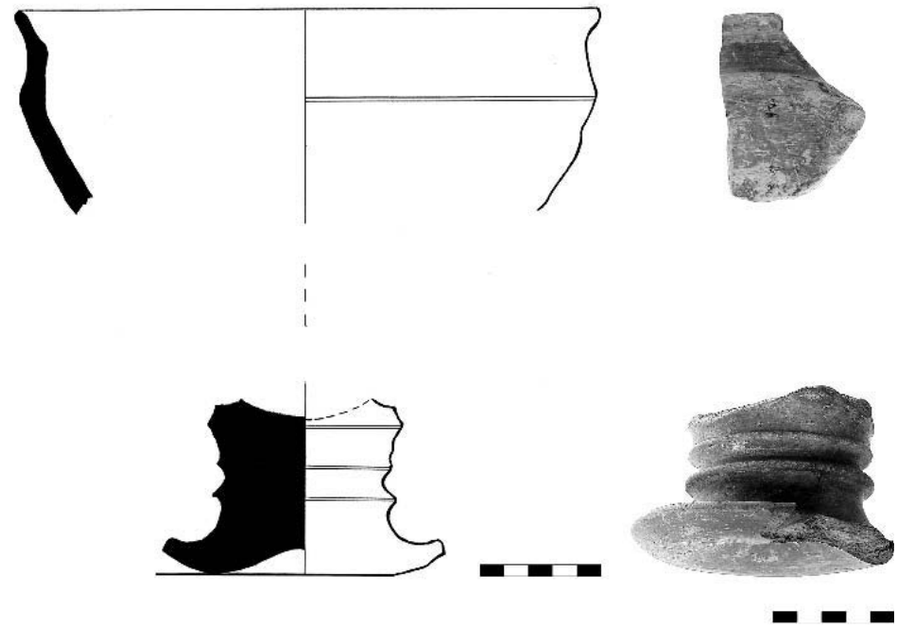


Fig. 14 a–c K8 I/5

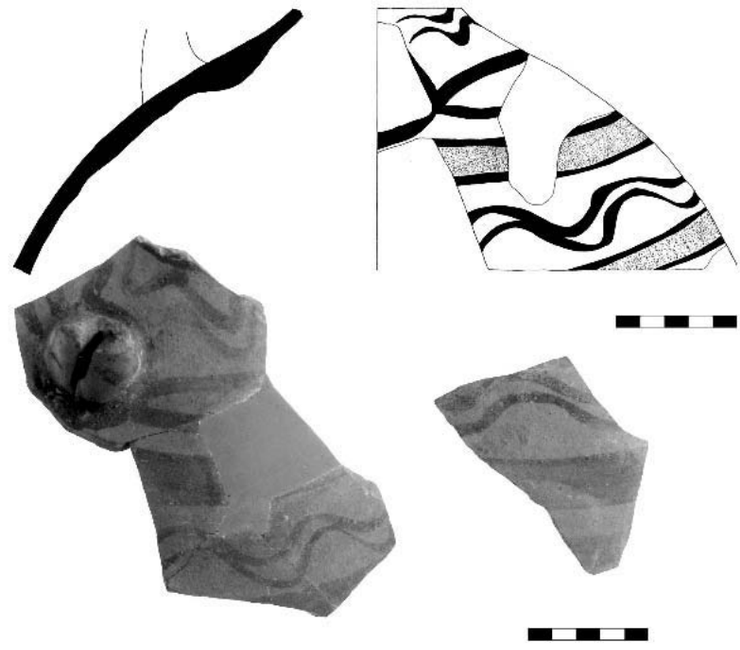


Fig. 15 a–c K10 II/4 (3143)

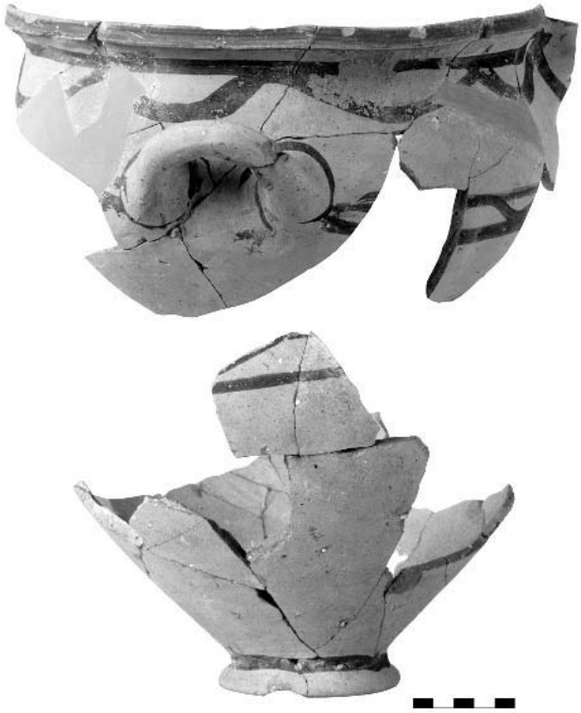


Fig. 16 a–b K10 II/10

Fig. 20 a–b K7 II/14 (3158)

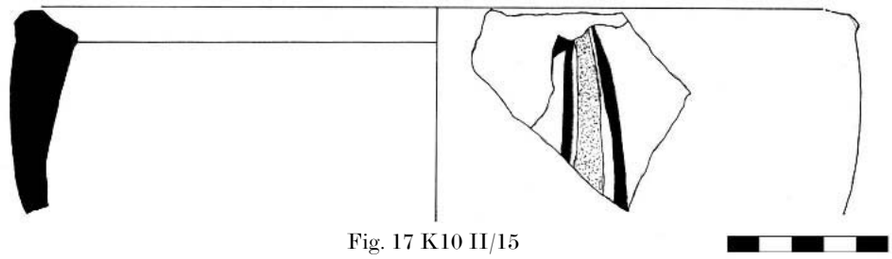


Fig. 17 K10 II/15

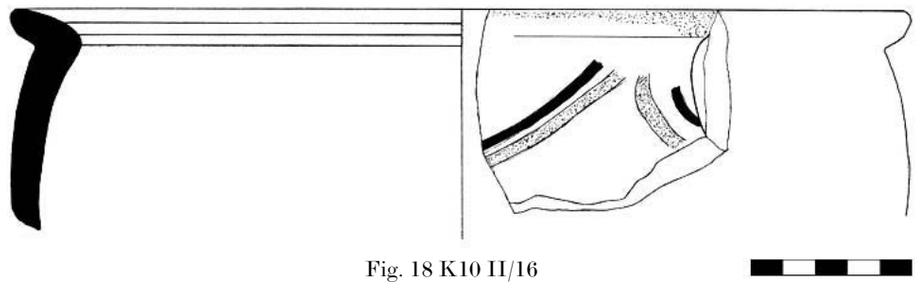
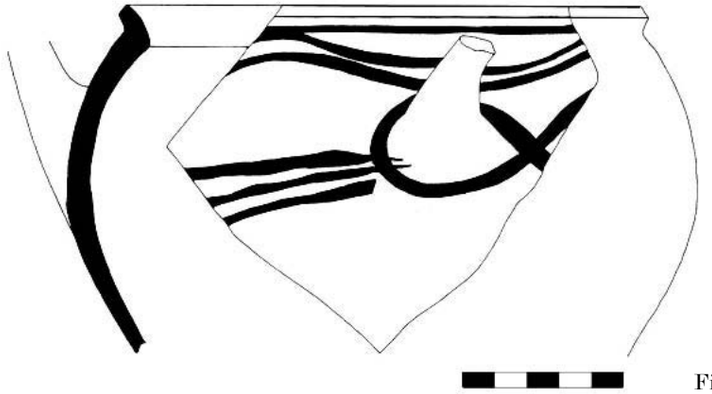


Fig. 18 K10 II/16



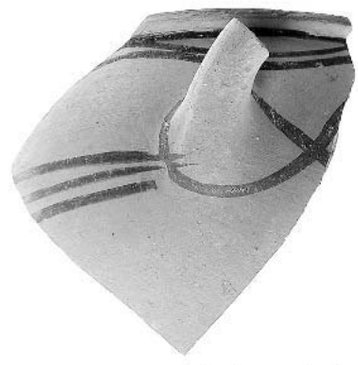


Fig. 19 a–b K10 II/25

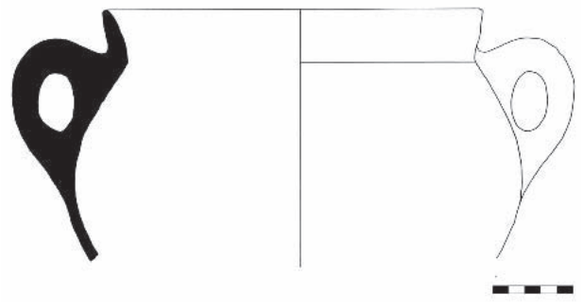


Fig. 21 a–b K13 II/20

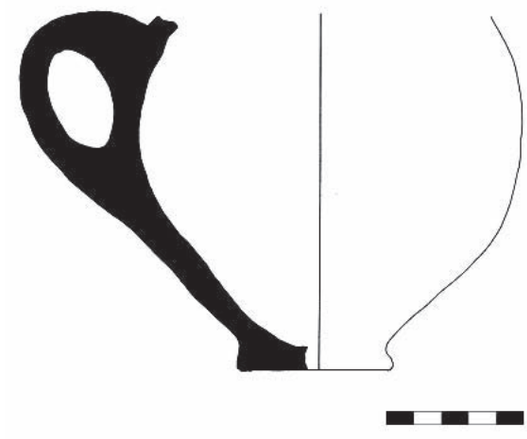


Fig. 22 a–b K8 II/10

Fig. 26 a–b K7 III/2

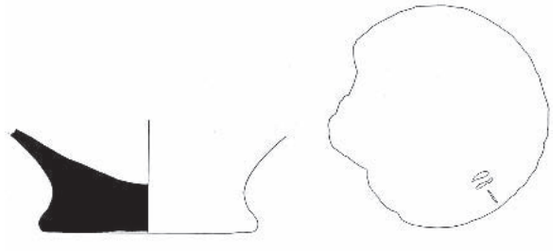


Fig. 23 a–b K7 II/95

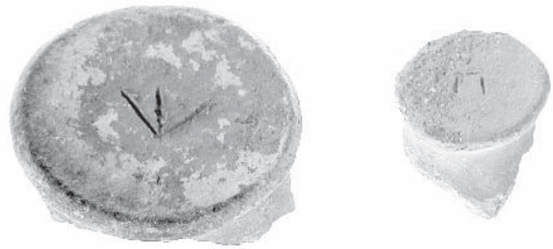


Fig. 25 a–d K8 II

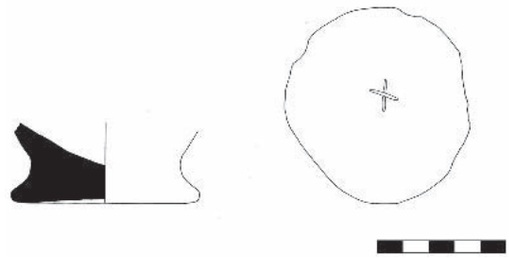


Fig. 24 a–b K7 II/96

Aegina Kolonna, the Ceramic Sequence of the SCIEM 2000 Project

Walter Gauß and Rudolfine Smetana

Establishment of a stratigraphic and ceramic sequence from Early Helladic III (EH III) to Late Helladic I (LH I) at Aegina-Kolonna has been the main aim of the SCIEM 2000 project over the last years.[1] This paper summarizes the most recent research and excavation work. We will also attempt here to compare the stratigraphic excavation results from the two main excavation areas with each other, namely the fortification wall (Fig. A/A) and the so-called inner city to the west (Fig. A/B). The excavations of the fortification wall in the late 1960s and 1970s were directed by the late Hans Walter and by Florens Felten and formed the basis of the stratigraphic exploration of Aegina-Kolonna.[2] Important additional evidence for the stratigraphic sequence was obtained in the excavations carried out between 1993 and 2002, under the direction of Florens Felten and Stefan Hiller, in the so-called prehistoric inner city, particularly in excavation area 19 (Fig. A).[3] In association with the SCIEM 2000 project, a new excavation connecting the prehistoric "inner city" with the fortification wall was initiated in 2002, with a primary focus on the stratigraphic sequence of the Middle Bronze Age (MBA) and the transition to the Late Bronze Age (LBA).[4]

Terminology and Phasing System at Kolonna

The terminology and phasing system at Kolonna, as well as some related problems, may be summarized as follows. In previous publications, three phases of occupation – Kolonna IV to VI – were distinguished for the EH III period, and four settlement phases – Kolonna VII to X – for the MH period.[5] The same terms have also been used for describing the sequence of ceramic phases. This practice is in our opinion liable to lead to misunderstanding and we would like, instead, to distinguish clearly between the stratigraphic sequence of settlement phases and the sequence of ceramic phases.[6] We have therefore introduced an alphanumeric system for describing the different stages of the ceramic development at Kolonna (Fig. B). It is important to keep in mind that the ceramic sequencing illustrated in figure B is still preliminary, as our own research – as well as the work by Lydia Berger on the EH II pottery and studies of the pre-EH II pottery – are not yet completed.[7]

Ceramic phases F and G characterize the end of the EH III period and the beginning of the MH period; on Figure C, the respective settlement phases Kolonna VI and VII are marked by a gray background, reflecting the difficulties and current debate concerning the correlation of these phases of settlement and ceramics. Until recently, settlement phases VI to VIII were defined primarily by the extensions of the massive fortification wall, in the virtual absence of houses and related pottery deposits. Since most of the pottery associated with these settlements was found in stratigraphically later contexts, as is shown on the map in Figure A, study of that pottery

* The authors want to thank all those who have supported the Aegina SCIEM 2000 project, particularly Florens Felten and Manfred Bietak, representing the Aegina excavations and the SCIEM 2000 project. Without their help, our research and the workshop at Salzburg would not have been possible. Friedrich Krinzinger and Georg Ladstätter, directors of the Austrian Archaeological Institute at Vienna and at Athens, respectively, have generously supported the research of one of the authors (WG) as well. The authors have further benefited from information helpfully shared in discussions with Evangelia Kiriatzi, Carl Knappett, Michael Lindblom, Nicoletta Momigliano, Aleydis van de Moortel, Irene Nikolakopoulou, John Overbeck, Jeremy Rutter, Peter Warren and Carol Zerner. The latter very kindly provided us with her catalogue and the plates of the stratigraphic sequence from area D at Lerna.

1 Reports on our research conducted under the SCIEM 2000 project: Gauss and Smetana 2002, 2003, 2004, 2007a, 2007b; Gauss 2006a, 2006b.

2 Walter and Felten 1981; for the labeling system used in that work to catalogue material from the old excavations, see Gauss and Smetana 2003, 472 n. 16; 2004, 1104 n. 56.

3 Felten and Hiller 1996, 2004; Berger 2004; Gauss and Smetana 2004.

4 Reports on the new excavations at Aegina-Kolonna: Felten *et al.* 2003, 2004, 2005, 2006.

5 Walter and Felten 1981; Felten and Hiller 2004, 1089.

6 Gauss and Smetana 2004, 1104–5; 2007a, 2007b; Gauss 2006b.

7 See Berger 2004 for a report on her important ongoing study of the EH II pottery from Aegina-Kolonna.

Fig. A Aegina Kolonna schematic plan

	Settlement Sequence	*Ceramic Sequence*
Neol to EH I	**I**	**Phase A (with subphases A1, A2, etc.)**
EH II	**II**	**Phase B**
	III	**Phase C**
	III (Rebuilding)	**Phase C**
EH III	**IV**	**Phase D**
	V (Destruction)	**Phase E**
	V (Reconstruction)	**Phase E**
EH III / MH	**VI**	**Phase F & Phase G**
	VII	**Phase G**
MH	**VIII**	**Phase H**
	VIIIA	**Phase H**
	IX	**Phase I**
MH / LH	**X**	**Phase J & Phase K**
LH I		**Phase K**

Fig. B Early and Middle Bronze Age settlement and ceramic sequence

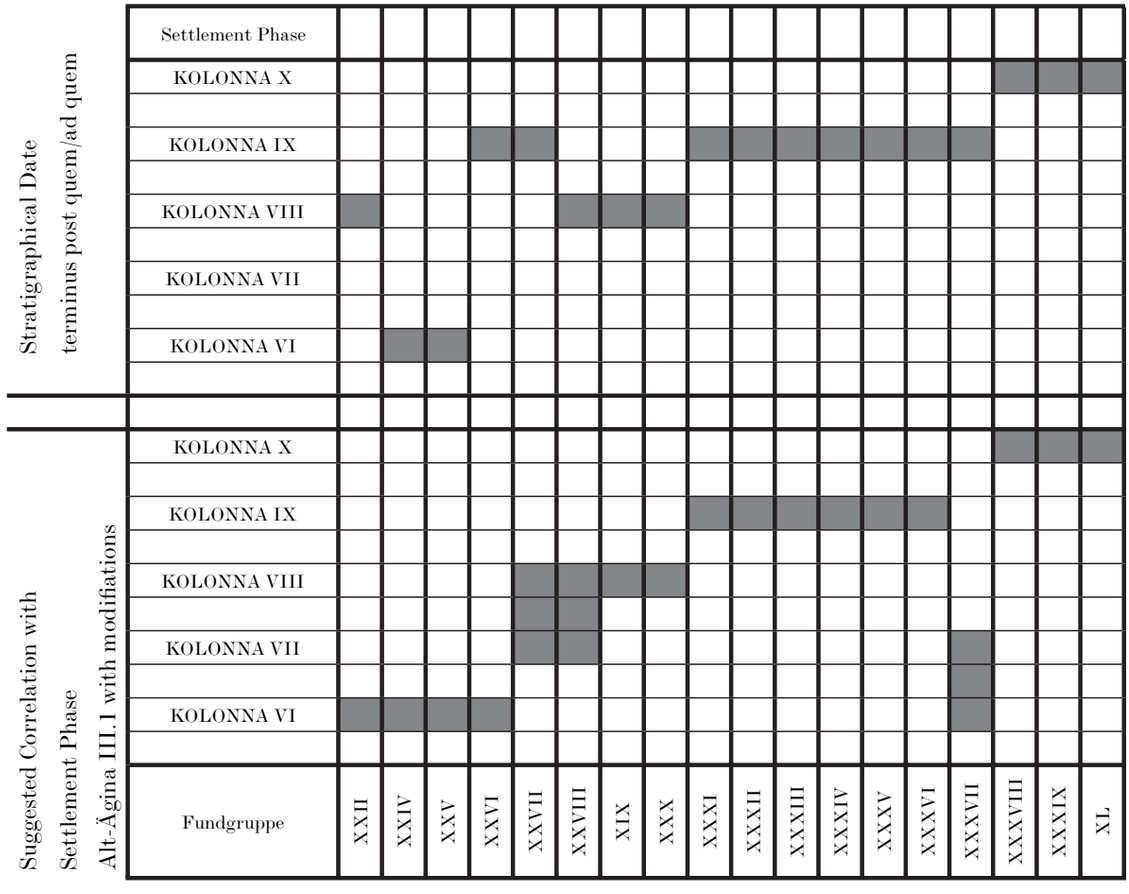


Fig. C Aegina Kolonna - Middle Bronze Age deposits

has been based mainly on stylistic analysis. Deposit FG XXII, for example, comprises pottery found in the fill of the MBA Kolonna VIII fortification wall.[8] Deposit FG XXVII was found underneath a Kolonna IX house and deposit FG XXVIII in the fill above a Kolonna VIII house.[9]

Ceramic Phase F (Fig. 1)

An important context of final EH III date was discovered only a few years ago in the so-called inner city, in excavation area 19. Pottery deposit 19/28, already published in considerable detail,[10] on our understanding defines ceramic phase F. It is characterized by new shapes such as the beaked jug (Fig. 1: 19/28-5),[11] the narrow-necked jug (Fig. 1: 19/28-7),[12] and the deep rim-handled bowl with incurving rim (Fig. 1: 19/28-4), and by the continuation of typical EH III shapes and patterns such as amphoras with multiple triangles,[13] Bass bowls[14] and kantharoi (Fig. 1: 19/28-8, 10). Patterns such as filled dots and cross-hatched rectangles or hatched vertical bands, unknown in previous pottery phases at Kolonna, appear here.[15] Fragments of identical shape and decoration, and consequently dated to the final stage of EH III, were also found during the recent excavations.[16] Other pieces of similar shape and decoration, lacking stratigraphic information, were found during the pre–World War II excavations.[17]

Most of the vessels from context 19/28 are of local origin; the exception is the jug decorated with hatched triangles and bearing a pot mark on the handle (Fig. 1: 19/28-6).[18] Most important for the synchronization with the Cycladic islands is the first appearance of Cycladic influence or inspiration since the end of the EH II period, the beaked jug and the narrow-necked jug (Fig. 1: 19/28-5, 7).[19] A beaked jug from another final EH III context is a Cycladic import.[20] Close comparanda for the locally made beaked jug, an obvious imitation of a common Cycladic shape, have been identified among vessels reported to have been found on the island of Melos.[21] The best comparanda for the narrow-necked jug (Fig. 1: 19/28-7) are a locally made neck and rim fragment found at Kolonna in a final EH III context and an almost complete Cycladic import from an early MBA context.[22] We therefore propose that the pottery of ceramic phase F should be linked with the pottery of the so-called Phylakopi I culture, thus providing evidence important for narrowing the so-called Cycladic gap.[23]

Ceramic Phase G (Figs. 2, 3)

The transition to, and the beginning of, the MBA period are defined by ceramic phase G, in which some significant changes in the pottery assemblage are noticeable.[24] Particularly interesting is an increase in gray pottery, imported as well as locally produced (Fig. 2: 19/23-17, 21b/06-2, 21b/07-5). The repertoire of locally produced handmade gray pottery is limited mainly to shoulder-handled bowls, the so-called

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[8] Walter and Felten 1981, 145. See also the critical remarks by Rutter on the original dating of FG XXII (Rutter 1983a, 107; 1995, 643) and also Overbeck 1989b, 26, cat. nos. 43–50.

[9] Walter and Felten 1981, 138.

[10] Gauss and Smetana 2004, 2007a.

[11] Gauss and Smetana 2007a, fig. 11.4 (photo).

[12] Gauss and Smetana 2007a, fig. 11.1 (photo).

[13] Gauss and Smetana 2007a, fig. 11.3.

[14] Gauss and Smetana 2007a, figs. 9.4, 10.4.

[15] See also from this context another almost complete vessel decorated with cross-hatched rectangles (19/28-9): Gauss and Smetana 2004, pl. 13 (photo); 2007a, fig. 8 (photo).

[16] Gauss and Smetana 2007a, fig. 13.1, 2, 4–6, 8.

[17] Gauss and Smetana 2007a, fig. 13.7, 9, 10.

[18] Gauss and Smetana 2007a, fig. 11.2 (photo).

[19] The only Cycladic product so far attested to have reached Kolonna during the EH III period is obsidian. The study underway by Tristan Carter on the obsidian found at Kolonna will shed light on topics such as the origin of the raw obsidian, local manufacturing vs. imported products, and observable technical changes in their manufacturing throughout the Bronze Age.

[20] Beaked jug (2a/02-8): Gauss and Smetana 2002, 13 n. 17, pl. 2.1; 2004, 1111 n. 99, pl. 12.2. For comparison see Barber 1974, 24–5, fig. 2, pl. 2b. The relation between the Cycladic islands and Aegina-Kolonna in the Bronze Age is discussed also by Gauss and Smetana (2007b).

[21] Zervos 1957, 120, 125, figs. 130–2, 144; Gauss and Smetana 2004, 1110 n. 92; 2007b.

[22] Gauss and Smetana 2007a, figs. 13.2, 14. The pre–World War II excavations also found fragments of a pattern painted narrow-necked jug (Kilian-Dirlmeier 1997, 132, cat. no. 72, fig. 75, pl. 10 [photo, drawing]; Gauss and Smetana 2007a, fig. 13.3 [reconstruction by the pre–World War II excavators]). Similar vessels, solidly painted and pattern painted, are also known from Phylakopi and Samos (Atkinson *et al.* 1904, 101, 152, fig. 134, pl. 8.7; Milojcic 1961, pls. 42.15–6, 43.14).

[23] Compare the statements on Cycladic chronology and on the so-called Cycladic gap in Barber and MacGillivray 1980; Rutter 1983b, 69–76; 1984, 95–102, 104, fig. 3; MacGillivray 1984; Sotirakopoulou 1986; Warren and Hankey 1989, 25–9; Maran 1992a, 363–6; Manning 1995, 66–72; Felten and Hiller 1996, 72–5; Sotirakopoulou 1996; Maran 1998, 139–52; Broodbank 2000, 320–35; Rambach 2000, 395–8; Gauss and Smetana 2004, 1111–2.

[24] Gauss and Smetana 2007a.

Bass bowls, and kantharoi. The typical locally produced EH III Bass bowls and kantharoi are dark-burnished. Ceramic phase G Bass bowls may still be burnished but often have a projecting and thickened lip (Fig. 2: 19/23-49); the unpainted versions are now replaced by solidly painted and sometimes heavily burnished vessels. The color of the paint is dark brown to black, with few exceptions. On the inner side of the vessel, paint and burnish usually stop at the junction between lip and shoulder (Fig. 2: 19/23-23). The shoulder zone and the interior of the rim are now often decorated with horizontal grooves (Fig. 2: 19/23-48, 21b/06-2; Fig. 3: XXXVII-1), a feature not previously represented.[25] Recognizable potters' marks on locally produced pottery now make their first appearance (Fig. 2: 19/23-23). There is, in addition, an increase of open and closed vessels made of light brown and buff clay. Medium coarse to coarse closed vessels are no longer burnished and the junction between rim and shoulder is increasingly angular (Fig. 2: 19/23-59, 68, 69). Unpainted bowls with incurving rim (Fig. 2: 19/23-33, 35, 36), so-called Lustrous Decorated pottery (Fig. 2: 19/23-79, 21b/07-3) and matt-painted pottery[26] appear for the first time. Only small quantities of Lustrous and matt-painted pottery, both imported, have so far been found, whereas unpainted bowls with an incurving rim are frequent. The so-called Lustrous pottery has a sand-tempered fabric and is mainly dark-on-light pattern painted with horizontally arranged geometric motives separated by bands. Phase G pottery includes also a small fragment of a so-called duck vase, its first appearance (Fig. 2: 21b/06-6).[27] Absent so far are the typical Aeginetan matt-painted pottery and Minoan imports.

Typical among ceramic phase G pottery are also large bowls with an incurving rim, either pattern painted with horizontal or diagonal bands or solidly painted (Fig. 2: 19/48-1; Fig. 3: 12a/09-1). The matt paint used for both vessels is neither uniform in color nor dense in appearance.[28]

The pottery defining the Transitional Early to MH phase at Lerna shows features similar to those described here, such as the first appearance of Lustrous Decorated pottery and the horizontal grooves on rim and shoulder.[29] However, the early bichrome/polychrome matt-painted pottery known from Lerna[30] is seen at Kolonna in only a few fragments found in a later MBA context.

Ceramic Phase H (Figs. 3–5)

The pottery of ceramic phase H, the early MBA pottery, is characterized by the first appearance of Aeginetan true matt-painted pottery. The term "true matt-painted" refers to the use of a dense and uniform matt paint, dark brown to black in color and nonshimmering. The category was defined to allow differentiation between the primarily EH matt-painted decoration of shimmering nonuniform appearance, usually red, brown to black in color, and the well-known dark, uniform and nonshimmering color typical of the MH period. We assume that the difference in the appearance of the matt paints is due to a change in chemical composition, namely the use of a manage.[31] Whether this change occurred originally by accident or on purpose is unknown. The result was apparently appreciated and almost all of the Aeginetan MBA matt-painted pottery is decorated with a dark and uniform matt paint. It is only at the final stages of the MBA and the beginning of the LBA that the amount of shimmering and nonuniform matt-painted pottery again increases.[32] We hope that further research will shed more light on the chemical composition of Aeginetan matt-painted pottery and the origin of manage.[33]

Potters' marks are another feature found on almost all complete Aeginetan vessels.[34] Kantharoi and the one-handled cup with high-swung handle

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[25] The best parallels for the horizontal grooves are found in the so-called Transitional IV/V pottery at Lerna: Zerner 1978, 191; see also Rutter 1995, 626. For a more detailed discussion of vessel FG XXXVII-1 of which a joining fragment was found in the fill of the Kolonna VI fortification wall, see Gauss and Smetana 2007a.

[26] Gauss and Smetana 2007a, fig. 15.13.

[27] See Rutter 1985 for a general study of duck vases.

[28] See below, ceramic phase H, on the definition of matt-painted pottery.

[29] Zerner 1978, 191, fig. 1 (D563/1–4, D607/1); Maran 1992a, 341 n. 1221; Rutter 1983c, 333–4, fig. 3.7.

[30] At Lerna the early bichrome painted pottery in red and brown color is limited to the Transitional IV/V and VA phases (Zerner 1978, 151, 155; Rutter 1986, 30, no. 4; Maran 1992a, 343 n. 1233; Zerner 1993, 44).

[31] On manage-based paint see Shepard 1965, 41–2; Noll *et al.* 1973, 328–33; Zerner 1978, 151; Letsch and Noll 1983, 134–5; Rutter 1986, 30, no. 3; Noll 1991, 141; Maran 1992b, 188–9 n. 379; Gauss and Smetana 2002, 18–9.

[32] See also Maran 1992b, 189, 195–8 ("Gattung D5, Goldglimmerkeramik mit monochromer farblich changierender Bemalung"), esp. 195 n. 404.

[33] It is assumed that the Laurion region is one possible source for the Aeginetan manage (Noll 1991, 141).

[34] Lindblom 2001 deals in particular with Aeginetan potters' marks.

seem to be the most popular small open shapes. Kantharoi, one-handled cups and Bass bowls may be decorated either in matt paint with simple geometric motives (Fig. 3: XXIX-1–4) or solidly painted in brown or black and burnished (Fig. 4: 8b/11-10). A third variety has a light buff color and is unpainted and burnished. There is a general tendency toward a more carinated shape, although the carination remains rather slight.

Pyxides and solidly painted lids, sometimes with incised decoration, now make their first appearance (Fig. 4: FG 60-13; Fig. 5: XXVII-40). Bowls solidly painted and burnished in red color, and occasionally in unpainted and patterned versions, are also now found for the first time at Kolonna. They are straight-sided, carinated, or have an incurving rim (Fig. 4: XXVIII-21, 22, 24, 8b/11-8).[35] Ceramic products from different regions, including the Cycladic islands, the mainland and Crete, now reach Kolonna. The mudstone-temper fabric of a light-on-dark, pattern painted askos (Fig. 4: XXVIII-8) most likely originates from an unknown mainland production center, whereas the cup with a barely visible light-on-dark decoration (Fig. 4: 8b/11-3) is most probably a Cycladic import. Most interesting are a presumably Middle Minoan (MM) IA import with barbotine decoration[36] and a Minoan-type loomweight[37] made of Aeginetan clay (Fig. 4: XXVIII-18, 19). Both are the first clear evidence for Minoan influence and imports to Aegina.[38] The best comparisons for their slightly carinated/kinked rim profile and decoration were found not on Crete[39] but at Lerna, in deposits of Lerna phase VA and VA–B.[40]

Another vessel shape, the handleless straight-sided cup (Fig. 5: FG 63-01, 02, 03) also makes its first appearance at Kolonna in ceramic phase H, both locally produced as well as imported. The Aeginetan varieties are handmade and so far we have not been able to identify a single clear pot mark. For Aeginetan vessels this exception to the rule is an interesting phenomenon. Regarding the place of origin or inspiration for this shape, further research is hoped to provide more evidence. Interestingly, handleless straight-sided cups are also found in the Cyclades[41] at approximately the same time and the shape is also well-attested on Crete.[42]

Ceramic phase H pottery also documents the continuation of another vessel shape, the beaked jug previously introduced to the local Aeginetan tradition (Fig. 5: FG 63-17).

Interesting pottery associated with ceramic phase H is found also in deposit FG XXVII (Fig. 5). This deposit and its stratigraphy are of some interest, as FG XXVII was found in the fill of the

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[35] Solidly painted (red) fine ware, mainly bowls with an inturning or carinated rim, presumably from Aegina, also make their first appearance in Lerna VA (see Zerner 1978, 148–50, figs. 6 [D 431/1, D591/5], 9 [D589/3]; Maran 1992a, 342 n. 1229).

[36] For other rim fragments with fine barbotine decoration see Kilian-Dirlmeier 1997, 136, cat. nos. 113, 114, pl. 14; Gauss 2006a, 436 ns. 7, 9, fig. 4. The rim fragment FG XXVIII-18 is presumably among the eggcup fragments mentioned by Hiller (1993, 197): "rim fragments of typical MM IA egg cups, decorated with a white band painted over a zone of small barbotine dots"; the fragment has a slight carination or kink in the zone below the barbotine dots. Barbotine decoration in general is dicussed by Andreou (1978, 47) and Walberg (1983, 63–4, 208–9, motive 28).

[37] On Minoan-type loomweights in general, see Wiener 1990, 139. Their chronological and special distribution outside Crete is discussed in detail by Carington-Smith (1975, 276, 279, 282–3 [distribution map 10]). For problems in distinguishing Minoan- and Anatolian-type loomweights see in particular Carington-Smith 1975, 284.

[38] On Minoan imports to Aegina and related questions, see Rutter and Zerner 1984, 81, app. IIB, no. 1; Hiller 1993; Kilian-Dirlmeier 1997; Gauss 2006a.

[39] The closest matches come from a footed goblet at Gournia (Zois 1969, pl. 31, inv. nos. 7008, 7009) and at Knossos (Andreou 1978, 47, fig. 2.8), as well as from a rim fragment at Chania Kastelli (Tzedakis 1969, pl. 435 delta). Momigliano refers to "egg-cups" as footed goblets (1991, 247–8) and mentions two fragments from the Upper East Well with rockwork barbotine decoration (156, 161, cat. nos. 8, 9) not comparable with the very fine barbotine decoration of FG XXVIII-18 at Kolonna.

[40] Lerna VA: Zerner 1978, 68–9, fig. 4 (deposit D 597/7), pl. 10; Lerna VA–B: Zerner 1978, 97, fig. 10 (deposit D 590/1). Both fragments are associated with the "Minoanizing" group (Zerner 1978, 169).

[41] Thera, Melos and Paros: Sotirakopoulou 1996, 125 ns. 92–4, cat. no. 7; Overbeck 1989b, 13, 15, 28, cat. nos. 93–102, 125, figs. 7, 9, 12, 42, 43 (both with further references).

[42] Momigliano (1991, 248–9) refers to fabric I footless goblets; type 1 is handbuilt, type 2 is made with the help of a rotating device and both types usually have a horizontal band on the rim. Fabric III, which is imported, produced only footless goblets of type 1 (Momigliano 1991, 261–2, 264, fig. 37); see also MacGillivray 1998, 68, fig. 2.9 (type 1), where he notes that type 1 is handmade, occasionally with traces of shaving or paring on the lower exterior. Type 1 "may represent the continuation of the footless goblet of type 1 of the EM III and MM IA pottery of Knossos [Momigliano 1991, 248 n. 288]. ... Its frequency in Group A ... may indicate that this type was manufactured in MM IB."

advanced MBA Kolonna IX fortification wall. Apart from a few pieces, this pottery is mainly attributed to ceramic phase H, which suggests that the fill of the fortification wall is comprised mainly of redeposited material. The solidly painted and burnished flask with vertical ribs (Fig. 5: XXVII-14) is therefore most likely attributable to ceramic phase H. This flask is a local Aeginetan product, finding a good comparison in a flask with spiral ribbing at Phylakopi on Melos.[43] Other vessels from this deposit, such as the solidly painted red bowls and the solidly painted dark lids, were already known. Some of the bowls with incurving rims (Fig. 5: XXVII-35) feature two shallow lambda-shaped lugs instead of a handle, a feature also known from Cycladic imports (Fig. 5: XXVII-36).

Ceramic Phase I (Figs. 6–9)

Ceramic phase I is so far the richest in respect to the amount of material and the number of complete or almost complete vessels. An entire series of new shapes and motives appears in this phase. The carinated one-handled cup and the carinated kantharos, both with a concave upper part and a slightly raised foot, are typical vessels of ceramic phase I (Fig. 6: XXXV-8; Fig. 7: 12a/11-2, 6). The range of matt-painted motives increases and there appear circular and semicircular patterns, such as hanging and sometimes intersecting semicircles or garlands (Fig. 6: XXXV-8; Fig. 8: Q3/85-1). The footed goblet (Fig. 6: XXXV-10) is an import from the Cyclades, most likely from Kea, with a characteristic potter's mark on the junction between foot and body.[44]

So-called Grey Minyan is now found in larger quantities. Footed goblets and kantharoi appear for the first time (Fig. 6: XXXV-4, 5; Fig. 7: 12a/11-1).[45] Most of the "Grey Minyan" pottery is wheelmade and shows different surface treatments but mainly a well-smoothed or polished surface, whereas gray pottery locally produced at Aegina is usually handbuilt, thick-walled and burnished. The same or similar differences are, generally speaking, also found among other groups of local and nonlocal pottery that adapt "Grey Minyan" shapes, such as the unpainted or solidly painted kantharoi, both with a burnished surface (Fig. 6: XXXV-5; Fig. 7: 12a/11-1).

The deposits FG XXX–XXXIII, already published by H. Walter and F. Felten, again show a typical mix of Aeginetan pottery of ceramic phase I.[46] The pottery found in the shaft grave and in the fill above it is also attributed to this ceramic phase.[47]

The new excavations have provided important additional evidence for ceramic phase I pottery. Most of the pottery was found in a thick fill layer that was sealed by a floor horizon (figs. 8, 9). Aeginetan matt-painted pottery is represented (Fig. 8: Q3/85-1, Q3/87-13, Q3/90-17) as well as solidly painted (red) and burnished goblets (Fig. 8: Q3/83-2, Q3/86-2).[48] Solid reddish color is now also used for vessels previously coated with a dark color. Large shoulder-handled bowls (Bass bowls) sometimes have multiple kinks or facets on the shoulder, and are often decorated with multiple simple or intersecting semicircles, incised and hanging, in the lower part of the body (Fig. 8: Q3/86-11).[49] It seems as if incised decoration was inspired by or even copied contemporary pattern painted decoration. In this respect, a small body fragment indicates that other typical matt-painted patterns, such as segments with hatching, could be used for incised decoration (Fig. 8: Q3/87-4).

In ceramic phase I, Minoan-type pottery produced on Aegina can be clearly identified.[50] This pottery shows significant differences from the other locally produced pottery, as it is clearly wheelmade and as, at least to this point, no potters' marks have been found.[51] The new excavations have provided evidence mainly for unpainted and solidly painted

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[43] Atkinson *et al.* 1904, 154, fig. 138.

[44] Overbeck 1989a, 9, pl. 6, 19: IV-57.

[45] Maran 1992a, 327–8.

[46] Walter and Felten 1981, 146–7.

[47] Kilian-Dirlmeier 1997, 13–82.

[48] For additional Aeginetan pottery see Gauss 2006a, 438, fig. 4.11, 12.

[49] Felten *et al.* 2006, fig. 34.2 (Q3/198-08). This kind of pattern is first attested in Lerna phase VB (Zerner 1978, 146; Maran 1992a, 342 n. 1228).

[50] The term "Minoan-type pottery produced on Aegina" or "Aeginetan pottery of Minoan type" (see also Felten *et al.* 2004, 125, Abb. 31; Gauss and Smetana 2007a; Gauss 2006b) was introduced to differentiate this kind of pottery from other Minoan- and Minoanizing-type imports. The latter term was used by C. Zerner to "describe vases which in terms of their fabric are considered local [viz., at Lerna] but which in either their shape or their decoration imitate Minoan models" (Rutter and Zerner 1984, 79 n. 20).

[51] Gauss 2006a, 437; 2006b. A project in association with the Fitch Laboratory of the BSA at Athens (in conjunction with E. Kiriatzi) is scheduled to deal exclusively with the Minoan-type pottery from Aegina-Kolonna.

open shapes and cooking pottery. Research done so far points to a MM II–IIIA date for the locally produced Minoan-type pottery.[52] Within recent years, finds have included cups with a flaring rim[53] (Fig. 8: Q3/90-6) and with an inturning rim (Fig. 8: Q3/87-22, Q3/90-10),[54] as well as handleless straight-sided respectively conical cups (Fig. 8: Q3/90-11, 12),[55] straight-sided cups with one handle (Fig. 9: Q3/105-2),[56] and rounded one-handled cups (Fig. 8: Q6/42-1, Q6/38-23).[57] Locally produced Minoan-type cooking pottery (Fig. 8: Q3/89-13, Q3/96-11) is represented by tripod plates and tripod cooking pots.[58] Only a few pattern painted pieces of the locally produced Minoan-type pottery have recently been found.[59] They are mainly light-on-dark pattern painted, often with a white decoration applied on a solidly painted reddish surface (Fig. 9: Q3/105-3, Q3/106-16). The range of motives seems to be limited, mainly rosettes and rays/strokes, as has already been pointed out by Stefan Hiller,[60] but more time is needed for an extensive study of the newly found material in order to identify the range of patterns and their relation to specific vessel shapes.

Minoan imports as well as Minoan-type pottery from production centers still to be located have been identified as well. These imports are mainly limited to various types of open shapes, including carinated cups (Fig. 8: Q3/98-10)[61] but also closed vessels like the completely preserved jug (Fig. 9: Q3/181-5)[62] and unpainted bridge-spouted jars of an elongated rounded shape (Fig. 9: Q3/198-5).[63] During the recent excavations only a few pattern painted vessels were found. Splashes of white paint on straight-sided cups and a large vessel (Fig. 9: Q3/98-16, Q3/105-2, Q3/198-1) and white painted as well as polychrome pottery are attested. In ceramic phase I, imported pottery from the Cyclades, presumably again from Kea, Melos, or Thera, is found as well (Fig. 9: Q3/98-3).[64] Another group of imports, the so-called Lustrous Decorated pottery, is associated with the southwestern Peloponnese.[65] This kind of pottery is limited so far to handbuilt and most like-

[52] For additional pieces of Minoan-type pottery produced on Aegina see Gauss 2006a, 438, fig. 4.5–10.

[53] See MacGillivray 1998, 65–6, fig. 2.6 (shallow bowl).

[54] Exact parallels have not so far been found. Some rim fragments show traces of burning, perhaps suggesting that the vessels were also used as lamps.

[55] The development in conical cups of MM IIB to LM IB date from Kommos is discussed by Van de Moortel (1997, 32–81, 988–93, figs. 5–10). For Knossian examples of the First Palace period see MacGillivray 1998, 68, fig. 2.9; his type 3 is closely comparable with the Kolonna examples. It was the handleless straight-sided cups of ceramic phase I at Kolonna that led us to believe that the handleless cups of ceramic phase H represent simply an earlier stage in the shape's development.

[56] Straight-sided cups with one handle are discussed by Van de Moortel (1997, 101–6, 1000–2, figs. 17–19) and MacGillivray (1998, 68–72, fig. 2.10).

[57] Van de Moortel 1997; MacGillivray 1998, 75–7, fig. 2.14. The Kolonna rounded cup Q6/42-1 has a good parallel in MacGillivray's type 5, which is popular at Knossos in MM IIB and in the early stages of MM IIIA. On pattern painted rounded cups from the old excavations at Kolonna see also n. 59 below.

[58] For tripod cooking pots and plates from Kommos see Van de Moortel 1997, 201–10, 1056–8, figs. 73–5; Betancourt 1980.

[59] Hiller (1993, 198) notes that closed shapes of pattern painted pottery are more frequent among the pre–World War II finds and that the rounded cup is the only pattern painted open vessel he could identify. This view will have to be modified by the results of the new excavations. Most but not all pottery originally studied by Hiller has been published by Kilian-Dirlmeier (1997). For imported and locally produced rounded cups see Kilian-Dirlmeier 1997, 138, 147, cat. nos. 132–54, 217–25, figs. 78, 84, pls. 15, 21.

[60] Hiller 1993, 198; see also Papagiannopoulou 1991, 305.

[61] Zerner (1978, 170) notes that Minoan carinated cups of MM IB/II date become popular in Lerna phase VC. The carinated cup, a shape popular in the Protopalatial period, disappears by the end of MM IIB; dealt with in detail by Van de Moortel (1997, 97–100, 999, fig. 16) and MacGillivray (1998, 72–4, fig. 2.11, 12 ["angular cups"]). Fragments of carinated cups found prior to World War II at Aegina-Kolonna have been published by Kilian-Dirlmeier (1997, 140–1, cat. nos. 155–61, fig. 79, pl. 16).

[62] Felten *et al.* 2006, in print.

[63] The bridge-spouted jars from Kommos and Knossos are much smaller in height than the unpainted ones from Kolonna. An almost complete pattern painted canonical bridge-spouted jar was found in the shaft grave of Aegina-Kolonna (Kilian-Dirlmeier 1997, 58–9, 61, cat. no. 16, figs. 27.16, 28.16), and other rim fragments presumably from bridge-spouted jars originate from the pre–World War II excavations (Kilian-Dirlmeier 1997, 140–3, cat. nos. 168–74, fig. 80, pl. 17). Bridge-spouted jars from Kommos are discussed in detail by Van de Moortel (1997, 137–49, 1017–26, figs. 34–43) and MacGillivray (1998, 78–80, fig. 2.16 [rounded bridge-spouted jar]).

[64] For additional Cycladic and other imported pottery see Gauss 2006a, 438, fig. 4.1–4.

[65] Zerner 1978, 159–70; 1986, 66–8; 1988, 6–10, figs. 24–40; Hiller 1993, 197 (all with further references).

[66] Most likely identical with the "Lustrous Decorated gritty fabric" defined by Zerner (1988, 7–10, figs. 28–40).

ly coil-made closed vessels with a sand-tempered fabric.[66] The light-on-dark (red and white) pattern painted decoration is usually applied on a solidly painted dark surface.

Ceramic Phase J (Figs. 10, 11)

Ceramic phase J represents a late stage in MBA pottery development. So far this stage of ceramic development is not well represented and only a few deposits have been attributed. Characteristic is the first appearance of paneled cups, of Cycladic (Fig. 10: FG 87-11) as well as Aeginetan origin. The Aeginetan versions are handmade and thick-walled (Fig. 10: XXXVIII-6, 7). Some of the pattern painted decoration is also influenced by the Cyclades but the Aeginetan matt-painted patterns develop slowly.[67] There is a tendency toward circular patterns, garlands and wavy bands (Fig. 10) and rows of S-hooks make their first appearance (Fig. 10: XXXVIII-3). The pattern of two concentric double circles is a very common motive on the shoulder of amphoras, jugs and hydrias (Fig. 11: FG 89-27). Red-colored solidly painted and burnished goblets continue. The foot of large closed shapes develops gradually from having a flat base to having a raised and pointed one (Fig. 11: FG 89-16). At the same time, potters' marks move from the shoulder zone toward the base, and some marks are now deeply cut (Fig. 11: FG 89-16).

The new excavations have so far provided little additional evidence for ceramic phase J. The matt-painted pottery again shows wavy bands, segments, circles, garlands and S-hook patterns (Figs. 10–11). Paneled cups, most likely of Cycladic origin, have been identified as well (Fig. 11: Q3/40-8, Q3/50-1). A body fragment with spiral decoration is one of the few locally made pieces so far identified that adopt matt-painted patterns popular at mainland sites (Fig. 11: Q6/24-3). Other typical mainland patterns, such as the small festoon pendant, are rarely attested among the studied matt-painted Aeginetan pottery.[68]

Ceramic Phase K (Fig. 12)

Ceramic phase K, correlated with the beginnings of the LBA, is chronologically the latest phase presently defined. The deposit that we are using to define ceramic phase K pottery was found during the recent excavations.[69] It is characterized by a few complete profiles and additional sherd material. There are two Aeginetan wide-mouthed jars, one with a typical potter's mark at the base (Fig. 12: Q6/18-1). So-called mainland polychrome painted pottery[70] makes its first appearance, as seen in the Vapheio cup and in the small jug (Fig. 12: Q6/18-6, 13) that has an odd motive, presumably a stylized bird, painted on the shoulder.[71] Also represented are additional locally produced plain vessels, such as a Vapheio cup, a goblet and a small jug with a clay rivet on the apex of the handle (Fig. 12: Q6/18-7, 22, 26). Solidly painted and burnished pottery in red and brown color is of local origin as well (Fig. 12: Q6/18-4, 5, 29). In general, the solidly painted pottery of ceramic phase K has a wider range of color than pottery of earlier phases and the surface treatment is less carefully executed. Only a few fragments of Lustrous pattern painted pottery have been found so far, mainly of small open vessels (Fig. 12: Q6/18-15, 18, 20). The rim fragment of a vessel that is presumably a small bridge-spouted jar (Fig. 12: Q6/18-14) is an import.[72] Most interesting is the fact that Aeginetan bichrome painted pottery was not represented in this deposit,[73] but this may be by chance and due to the relatively small amount of material.

Summary

So far, six ceramic phases (F–K) extending from the end of the EH III period to the beginning of the LH

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[67] See Papagiannopoulou 1991 on Cycladic influence on pattern painted pottery.

[68] See, e.g., the small festoon pendant at Tsoungiza, the most popular motive on the shoulder of open vessels (Rutter 1990, 432, 434, figs. 11, 14, 120, 122) or at Asine (Nordquist 1987, fig. 53.11 [from building 2, group D; dipper]).

[69] See also Felten *et al.* 2004, 123–4, fig. 30 (photos).

[70] Mainland polychrome pottery is discussed by Dietz (1991, 217–23, 301–3), Maran (1992b, 168), and most recently by Kramer (2004, 163–72, 243–51) (all with further references). Maran (1992b, 168 n. 301) stresses the communis opinio that mainland polychrome pottery does not start until the beginning of LH I.

[71] See Dietz 1989, 219 ns. 496–501. For more recent collections of pictorial pottery of late MH and early LH date see Davis 1976 (birds); Dietz 1991, 177–8, 183, fig. 54 (birds), 219, 222–3, fig. 70 (birds and griffin); Crouwel 1989 and Crouwel and Morris 1996 (human figures, animals, birds and fish).

[72] Another rim fragment (XXXVIII-08), presumably again from a bridge-spouted jar, was published by Walter and Felten (1981, 176, cat. no. 454, pl. 123); see also the comments of Rutter and Zerner (1984, 81, app. IIIB, no. 2) and Papagiannopoulou (1991, 192 n. 42).

[73] At Asine, Aeginetan bichrome painted pottery is found in mixed MH/LH layers, according to Nordquist (1987, 49).

period have been differentiated. It is hoped that further research will show whether the suggested phasing system has to be modified or extended.

The traditional Aeginetan pottery is handmade throughout time, a feature that persists until the early Mycenaean period. Aeginetan potters were very skillful in adopting foreign influences, particularly from the Cyclades and Crete, to their own needs. This ability is already clearly noticeable in ceramic phase F. The vast majority of the locally produced vessels shows a wide range of surface treatments and decorations. A general rule on color management and surface treatment seems to have existed only in the early ceramic phases G to I and only in regard to the color of solidly painted vessels. Straight-sided bowls, bowls with incurving rim, and carinated bowls are colored mainly with a reddish paint; shoulder-handled bowls, kantharoi, incised lids and pyxides mainly with a dark brown to black paint. From ceramic phase I onward the solid red paint begins to dominate. But in ceramic phase K, a tendency toward a more brownish, darker color of the solid paint is already noticeable and simultaneously the surface treatment is less carefully executed. Among imports, it seems that Minoan and Cycladic pottery dominates, whereas "Grey Minyan" pottery was never widely distributed apart from pottery phase I.

The characteristics of each ceramic phase may be summarized as follows:

Ceramic Phase F shows new and presumably short-lived shapes and patterns, such as the narrow-necked jug and rim-handled bowls. Most important is the first appearance of Cycladic influence and Cycladic imports since the end of the EH II period.

Ceramic Phase G marks the transition to the MBA and its beginning. Typical are Bass bowls with horizontal grooves on the shoulder and on the interior of the rim, and unpainted bowls with incurving rim. Unpainted (plain) light-colored vessels are more frequent and coarseware vessels are no longer burnished.

Ceramic Phase H marks the first appearance of true matt-painted pottery and of red-colored solidly painted and burnished bowls of various shapes. Potters' marks are almost omnipresent on locally produced pottery. Minoan imports appear for the first time and we assume that Aeginetan handleless cups imitate either Cycladic or even Cretan prototypes.

Ceramic Phase I is characterized by a wider range of matt-painted patterns. Characteristic vessels are sharply carinated kantharoi and one-handled cups, both with a convex upper part. The Minoan-type pottery produced on Aegina reflects significant differences from the pottery produced in the ordinary Aeginetan tradition, as it is wheelmade and as no potters' marks have been found so far, and small open shapes and cooking-type pottery seem to dominate.

Ceramic Phase J is characterized by the first appearance of paneled cups, both imported and locally produced. Rows of S-hooks also make their first appearance, though matt-painted patterns develop slowly. Double circles on the shoulder zone of jugs, amphoras, and hydrias are frequently found. Closed vessels now show a tendency toward a raised and pointed foot and potters' marks move from the shoulder zone toward the base.

Ceramic Phase K is marked by the introduction of mainland polychrome painted pottery as well as Lustrous- (Mycenaean-) type pottery – the latter is wheelmade and sometimes shows additional white paint. Currently, Mycenaean pottery is represented in small quantities and mainly in small open shapes such as Vapheio cups and teacups. Aeginetan bichrome painted pottery is most likely introduced in ceramic phase K.

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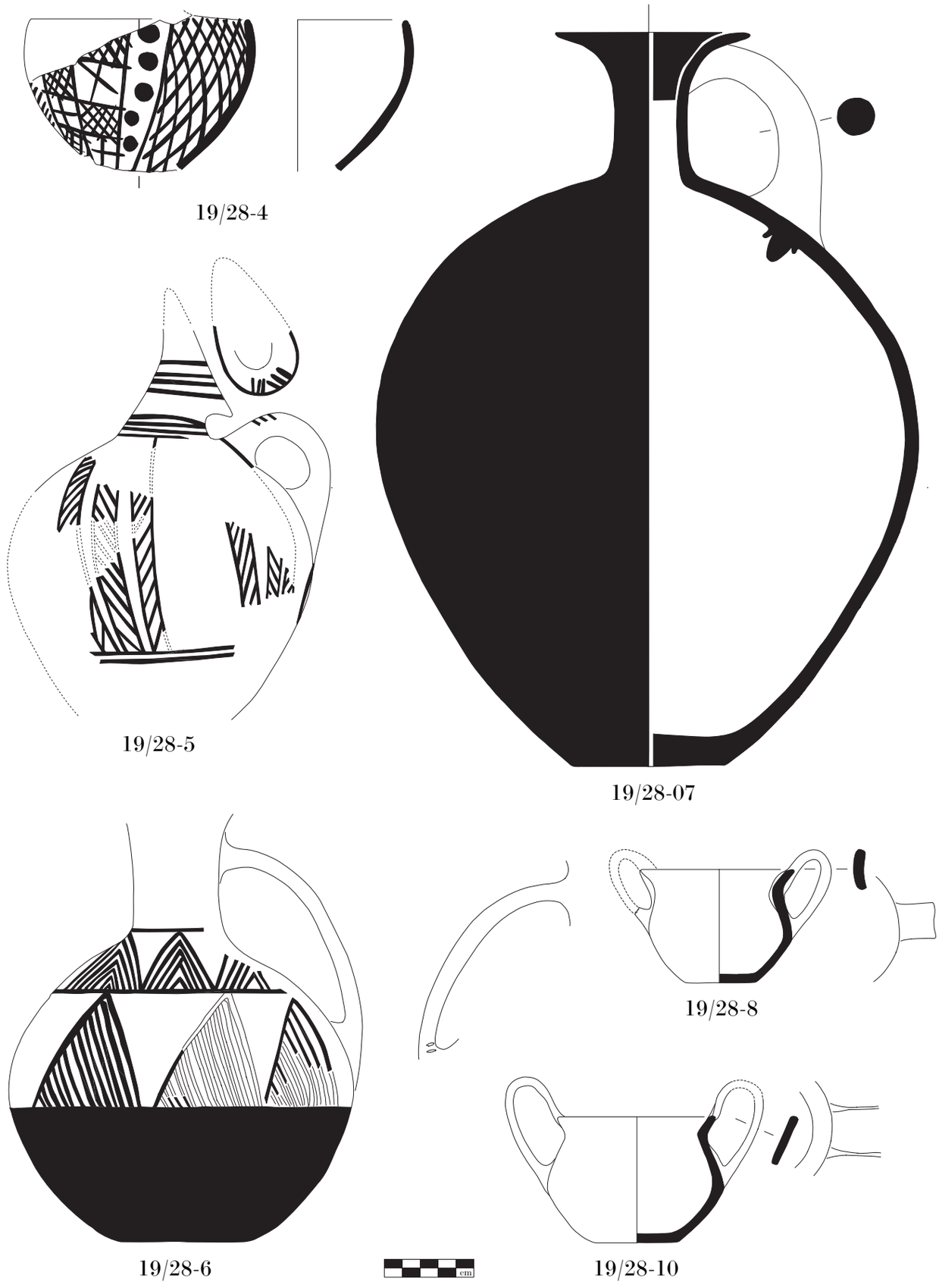

Fig. 1 Ceramic Phase F

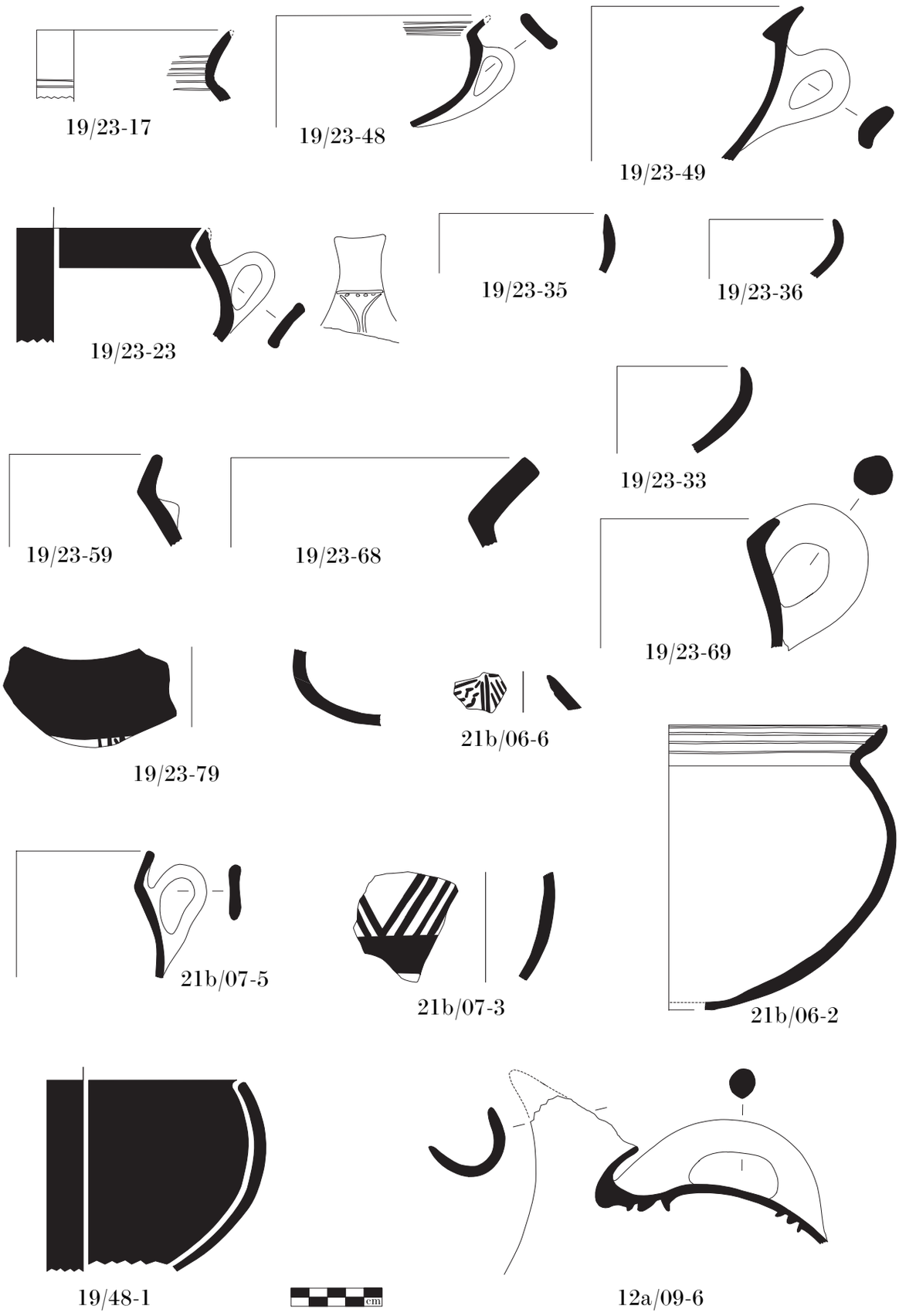

Fig. 2 Ceramic Phase G

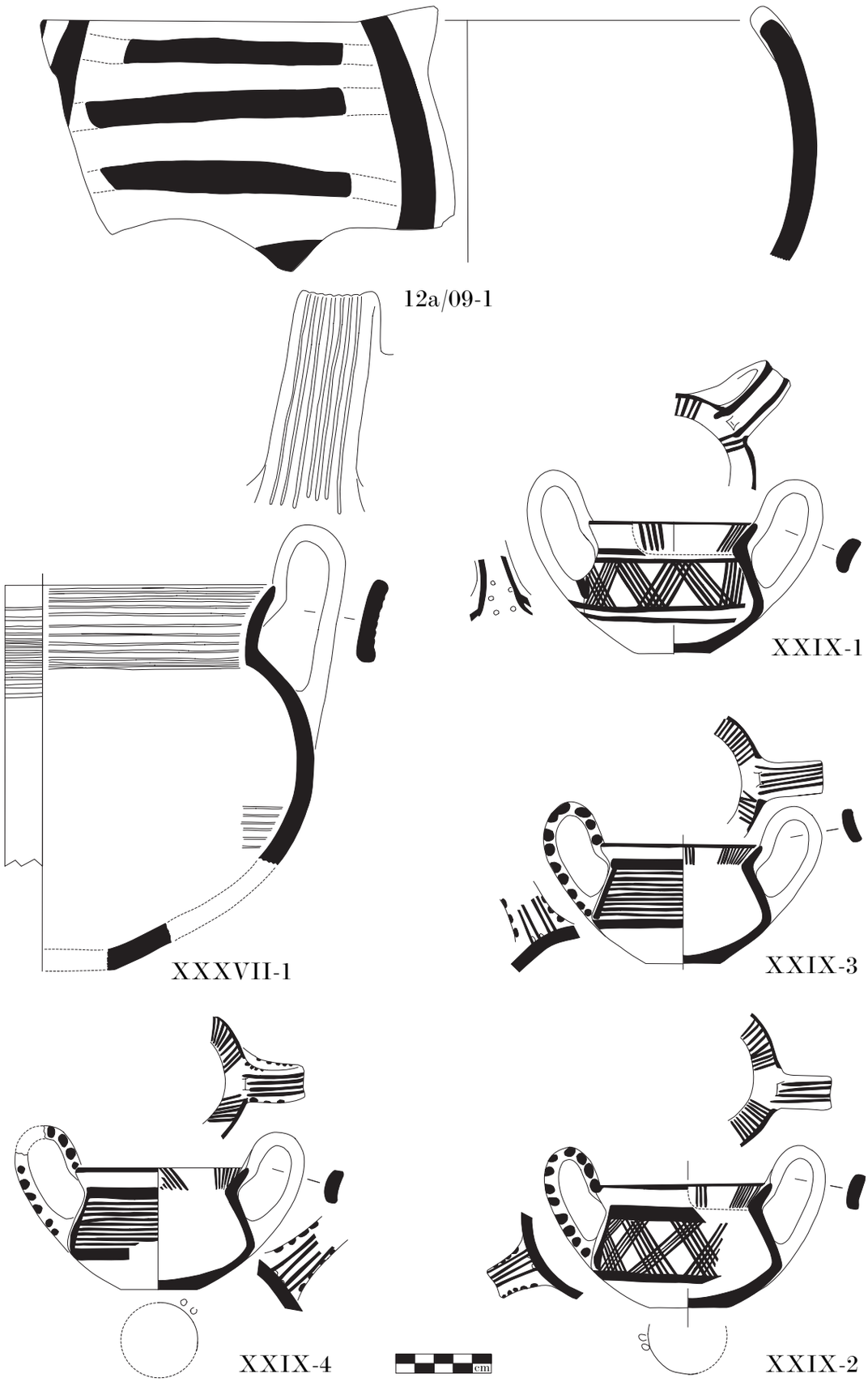

Fig. 3 Ceramic Phase G (XXXVII-1, 12a/9-1) and Ceramic Phase H

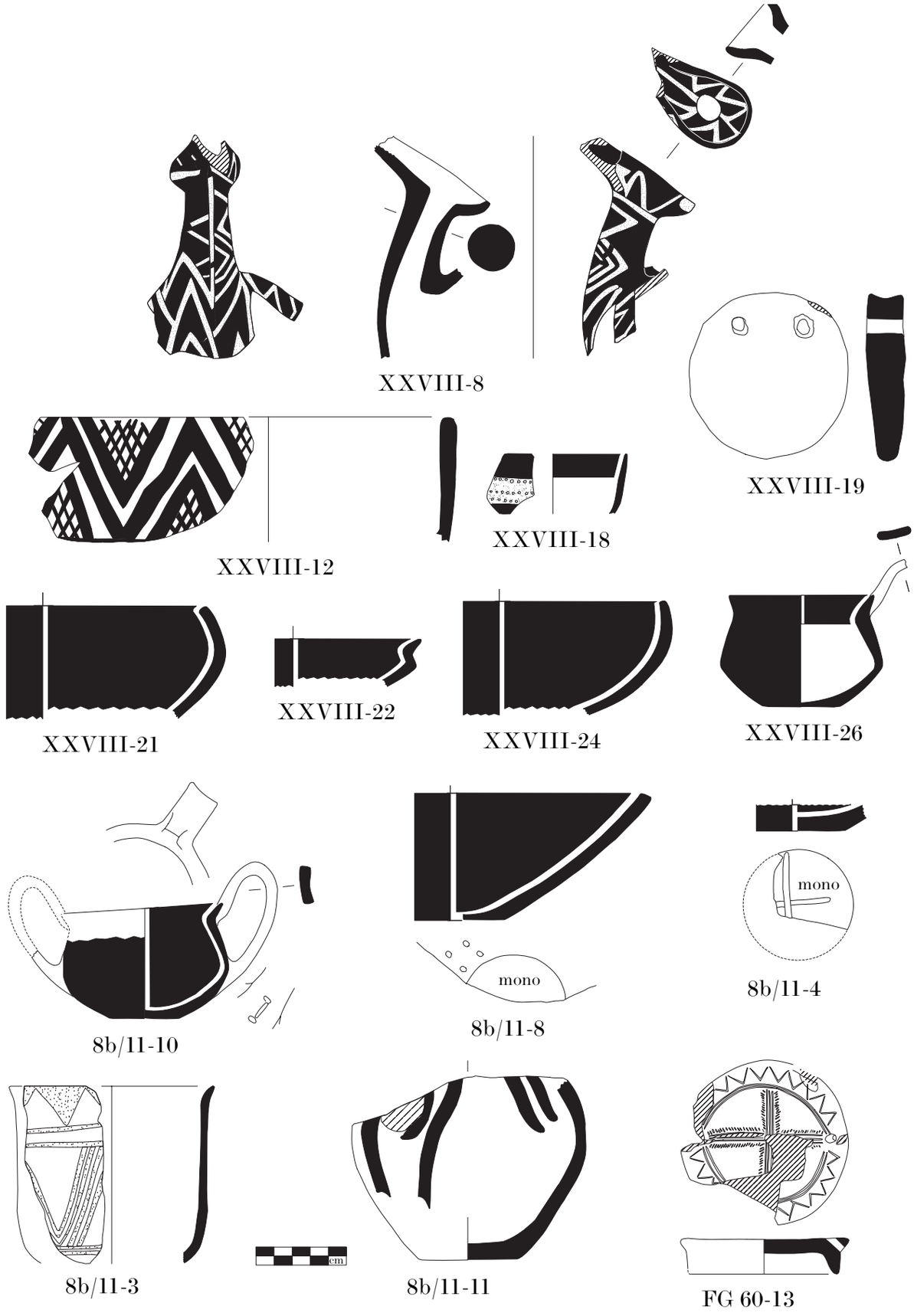

Fig. 4 Ceramic Phase H

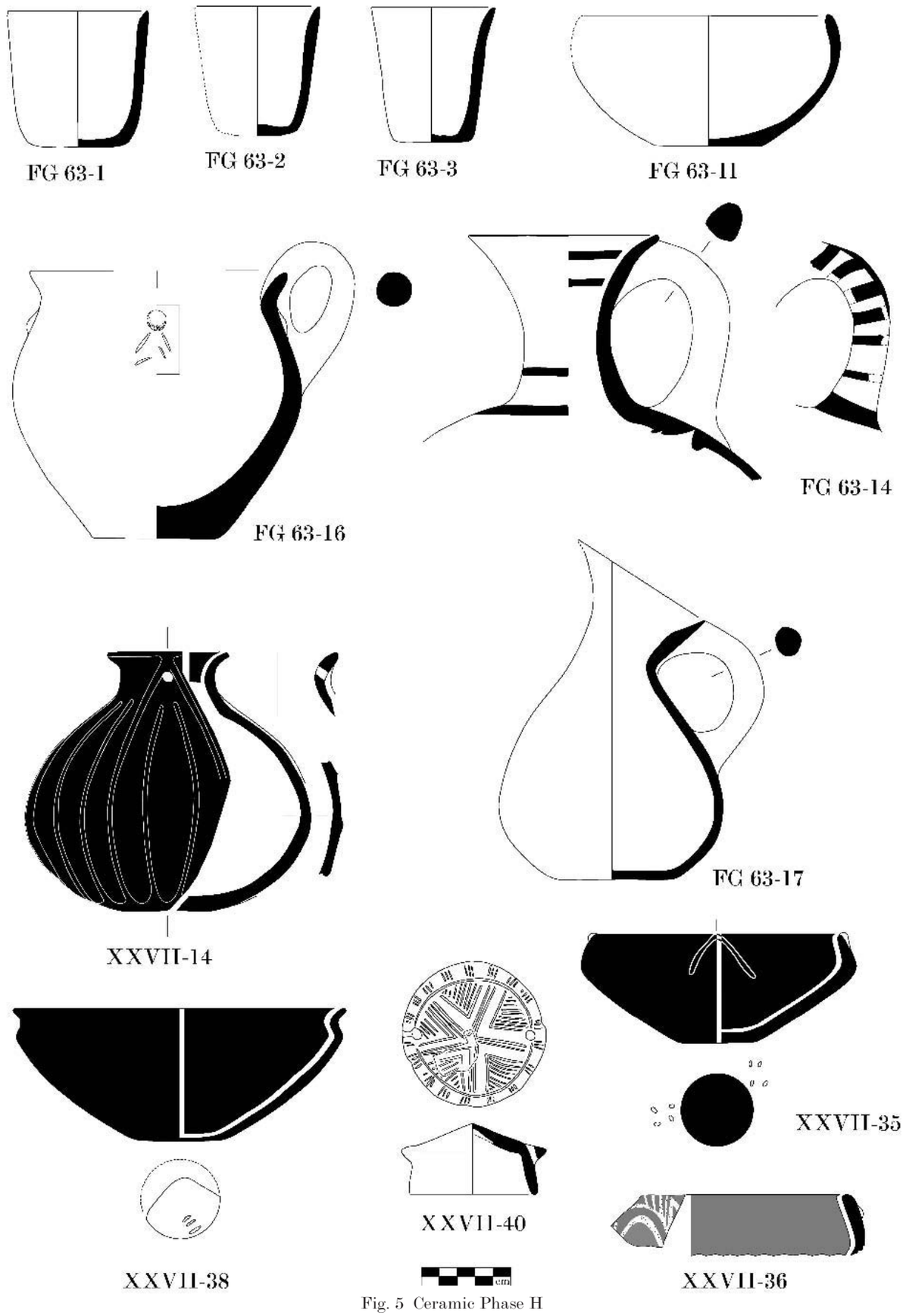

Fig. 5 Ceramic Phase H

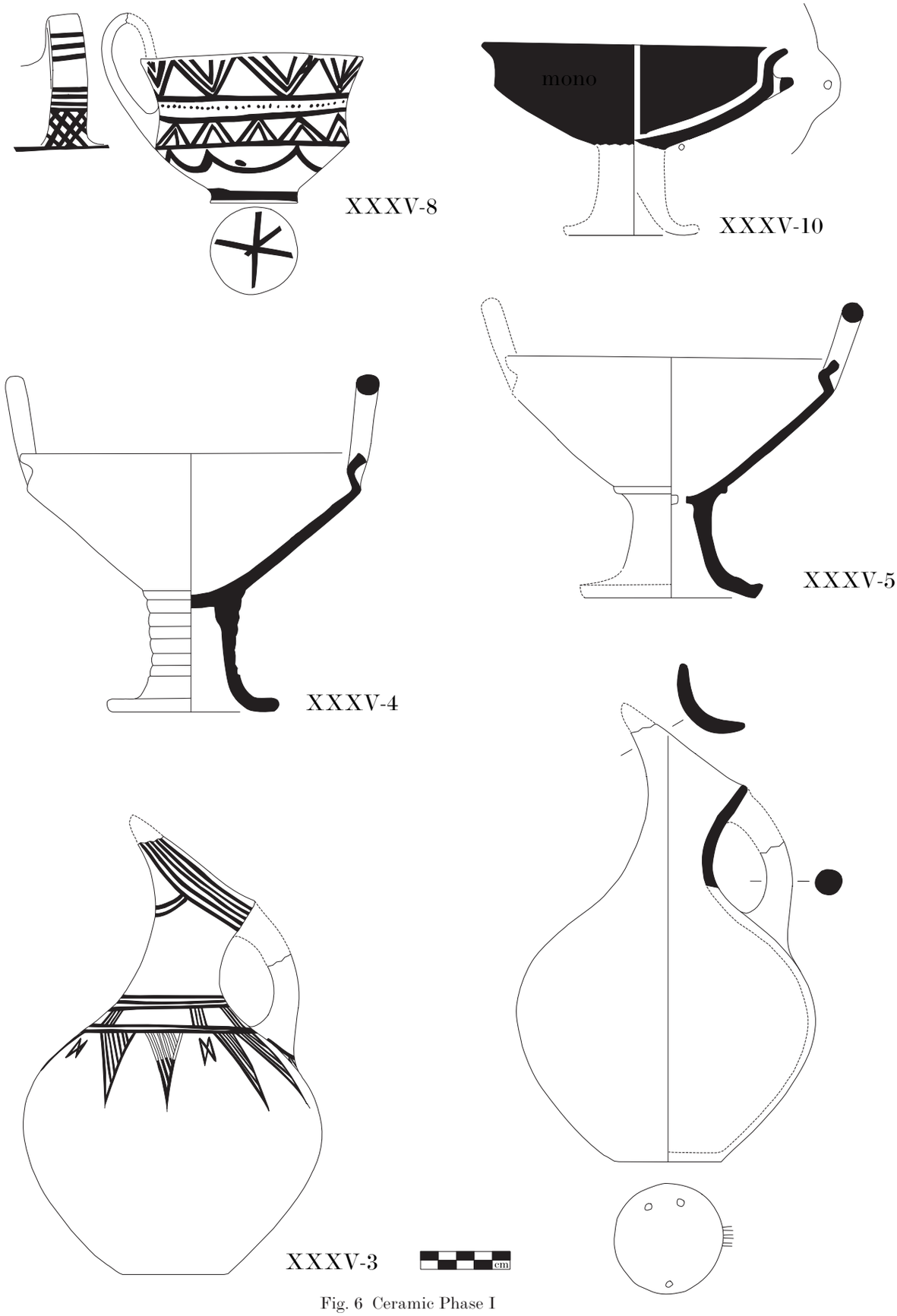

Fig. 6 Ceramic Phase I

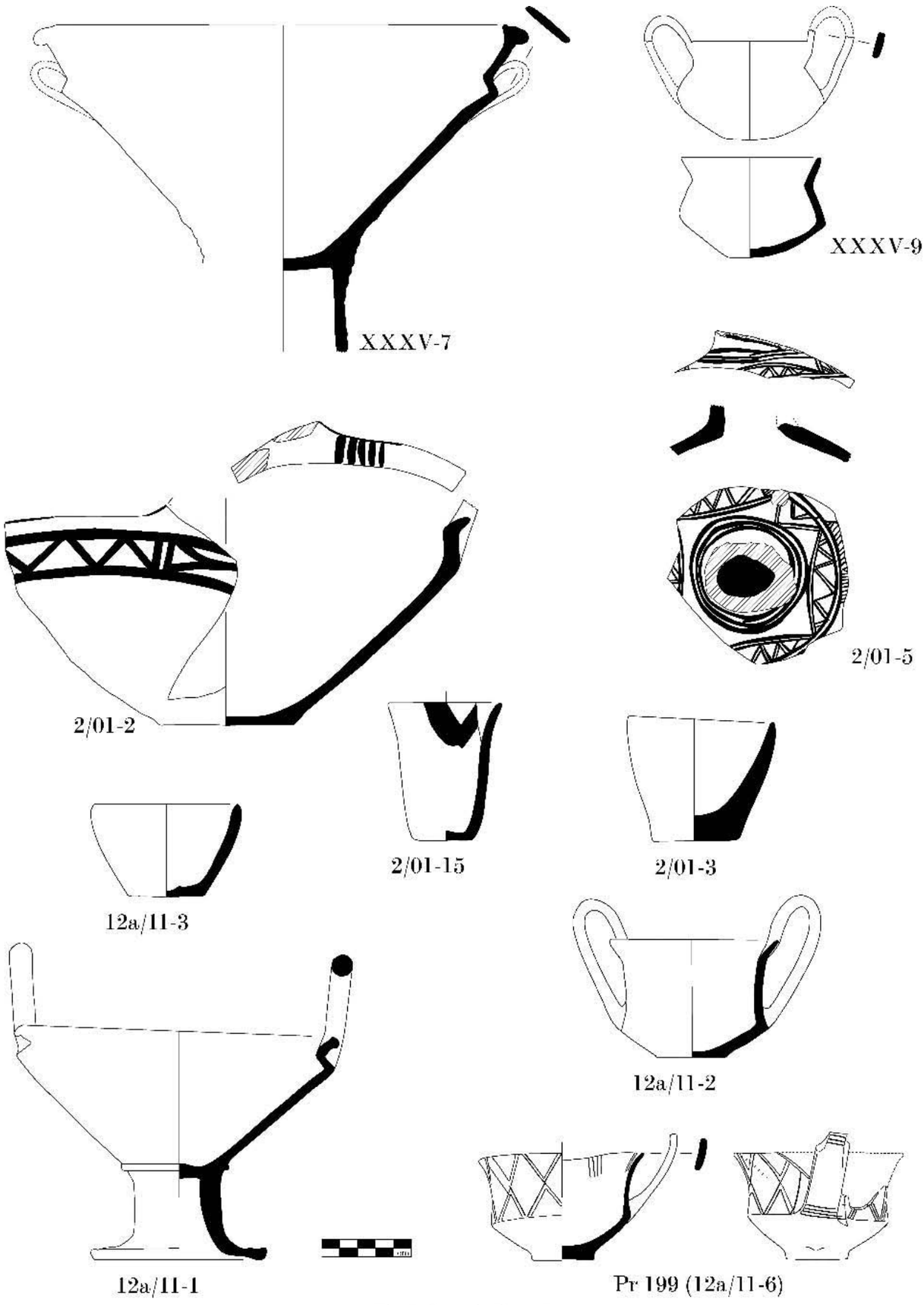

Fig. 7 Ceramic Phase I

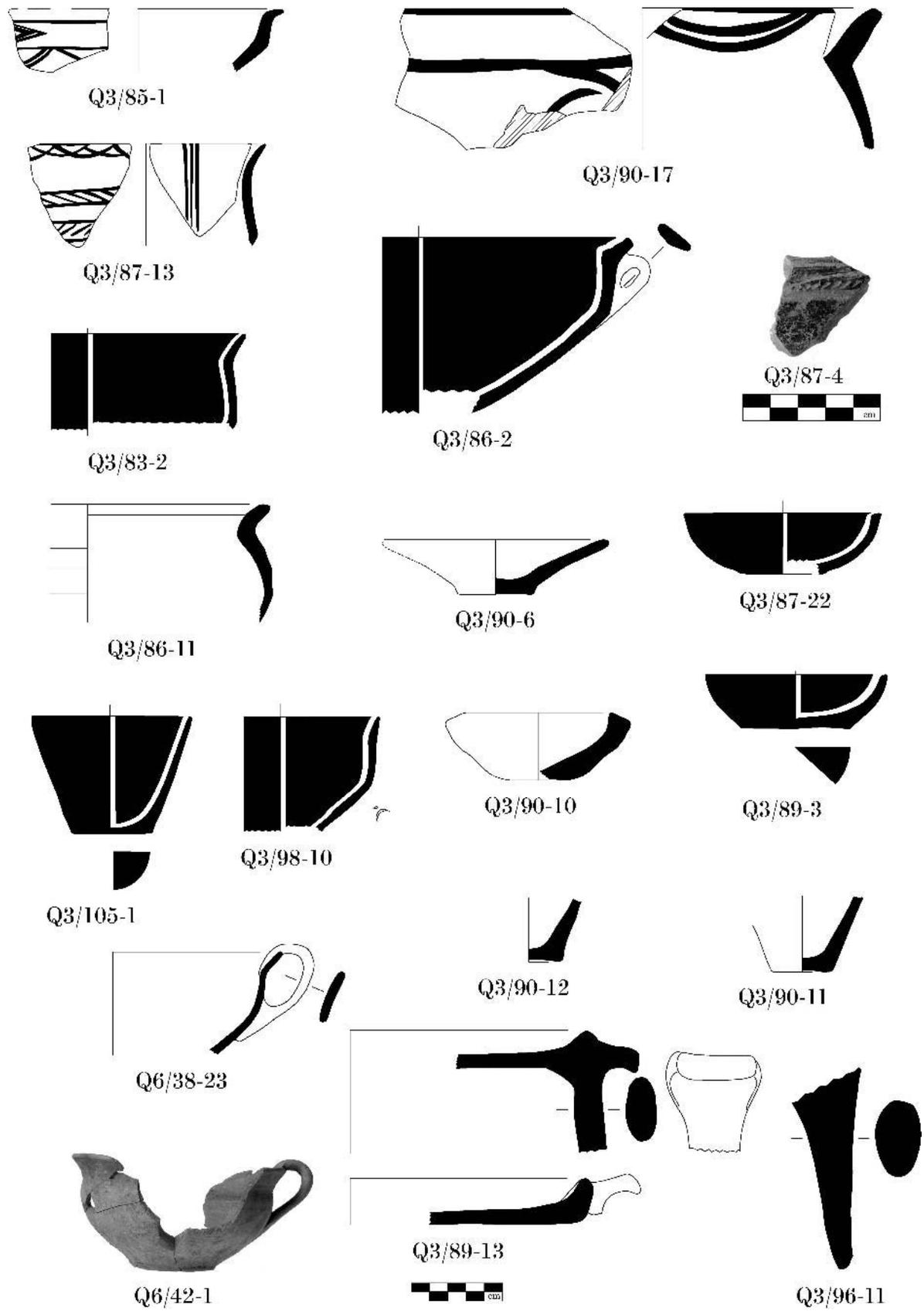

Fig. 8 Ceramic Phase I

Fig. 9 Ceramic Phase I

Fig. 10 Ceramic Phase J

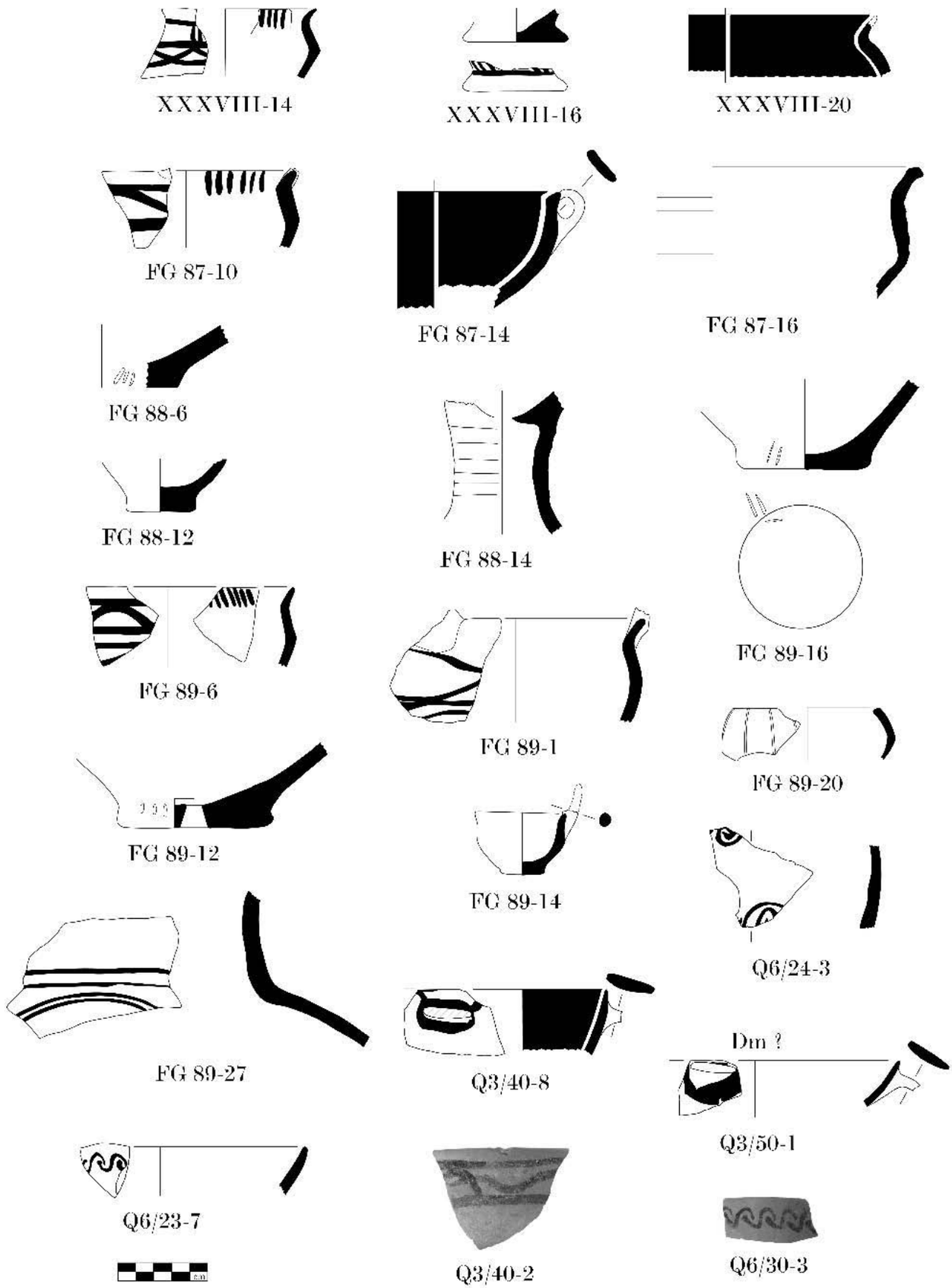

Fig. 11 Ceramic Phase J

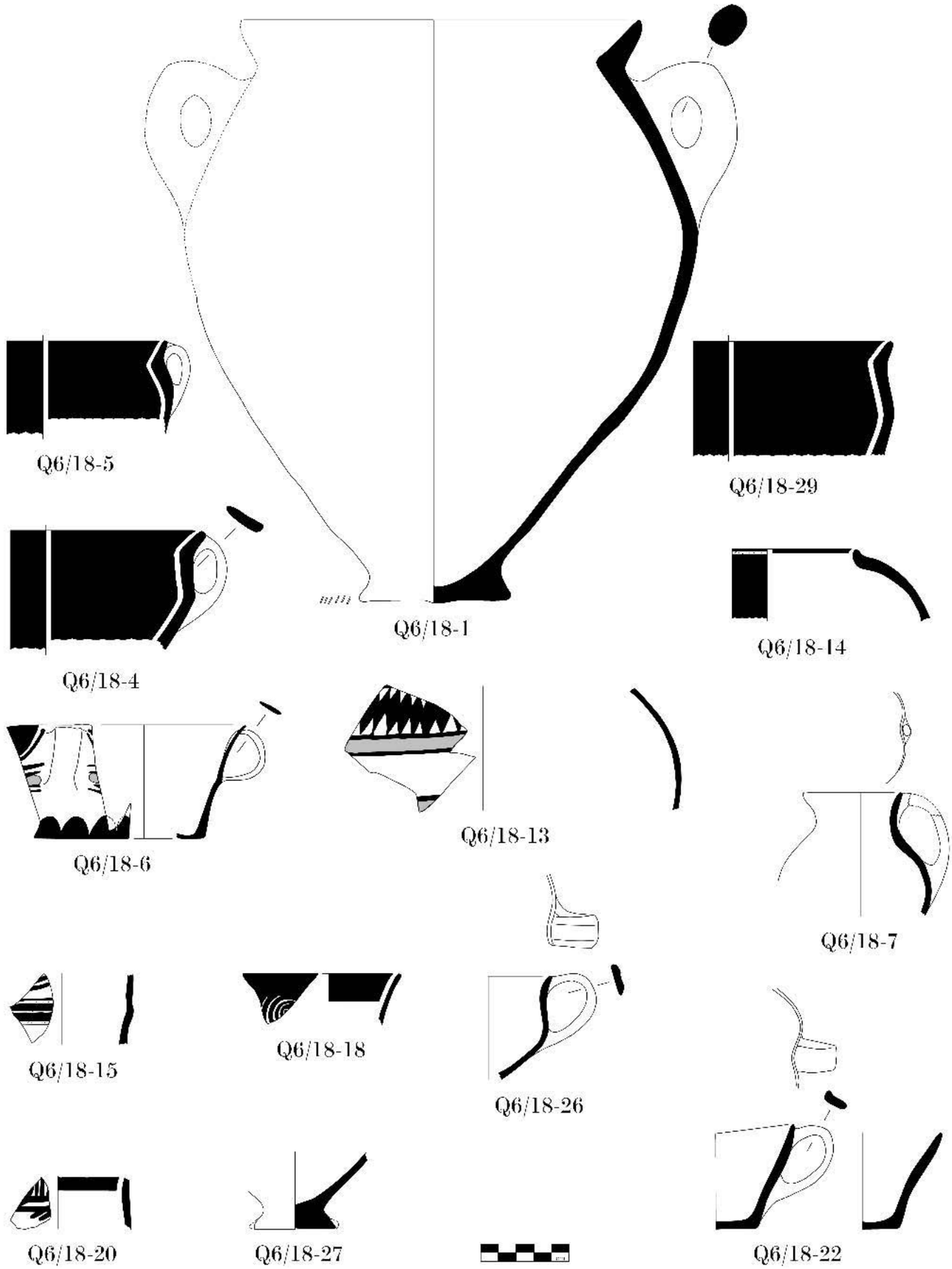

Fig. 12 Ceramic Phase K

Coarse Ware from the Middle Helladic Settlement of Aspis, Argos: Local Production and Imports

Gilles Touchais [1]

Although coarse wares constitute a fairly high proportion of the ceramic assemblage in most Middle Helladic (MH) settlements, they have received much less attention than the various categories of semifine and fine ware, such as the monochrome ("Grey" and "Yellow Minyan", dark burnished) or decorated (matt-painted, Lustrous Decorated) wares. The latter show much greater variability and therefore their study may provide some insights into the social structure and economic organization of the MH communities.[2] However, as coarseware vessels are almost exclusively utilitarian pots, and for this reason less dependent on *fashion* than table ware, we could assume that every variation in their shape, size, repertoire of forms, clay composition, spatial distribution, etc., may have economic or social significance, as it may reflect significant variation in basic practices such as storage, food processing, cooking, etc. Therefore, the study of coarseware assemblages from chronogically well-defined settlement deposits may shed some light upon aspects of MH life that are still obscure.

It may therefore be interesting to present – albeit in a preliminary fashion – the coarse wares from the stratified MH settlement of the Aspis in Argos, where excavation has recently been resumed. I shall discuss in this paper the characteristic features of these wares, as well as their typology, their place of production and their contexts of use and consumption. Yet I must stress that this study is still in progress, and that therefore my observations have a provisional character and may need to be modified substantially in the future.

1. The excavations

1.1. Vollgraff's excavations (1902)

The Aspis hill is the lower (ca. 90 masl) of the two hills that tower above the city of Argos on its northwest outskirts. It was first excavated in 1902 by Wilhelm Vollgraff, a Dutch scholar and member of the French School at Athens, who soon afterward published the results of his investigations in a rather summary fashion in two articles in the *BCH*.[3]

These first excavations focused on three areas (Fig. 1): the central area (I), around the chapel of Ayios Ilias, on the top of the hill; the eastern area (II), further down, which is the largest one; and a third area, on the southern part of the plateau (III). In the first two sectors, Vollgraff excavated a dozen "pre-Mycenaean" houses, several sections of two supposedly concentric walls that he interpreted as prehistoric fortifications, and remains of Late Classical/Early Hellenistic constructions: an imposing polygonal defensive circuit with rectangular towers and a triangular salient on the northeast side, and several houses of the same period. In the third, southernmost sector, all the remains, namely a big rock-cut cistern and a rectangular building, belonged to the historical period.

For the purpose of this paper – and of the one by Philippa-Touchais in this same volume – we may recall two points from Vollgraff's excavations.

First, the excavator realized only after the excavation was completed that there were two pre-Mycenaean architectural phases in the settlement. As he candidly confessed in a footnote,[4] he owed this observation to W. Dörpfeld, who visited the site and drew his attention to the existence of "un plancher d'argile battue, qui appartient . . . à une maison de la couche inférieure". It was by then too late to distinguish the finds and to attribute them to the two phases. Nevertheless, the fact that Vollgraff noticed the existence of at least two pre-Mycenaean stratified levels is important, even if he himself could not make much use of his observation. One of the main reasons underlying our decision to resume the excavations at the site was to clarify the sequence of the habitation layers in the Aspis.

[1] I would like to express my gratitude to the organizers of this meeting for their invitation and generous financial support, and to Sofia Voutsaki who kindly checked the English text.

[2] Philippa-Touchais 2002, 2.

[3] Vollgraff 1906, 1907.

[4] Vollgraff 1906, 45 n. 1.

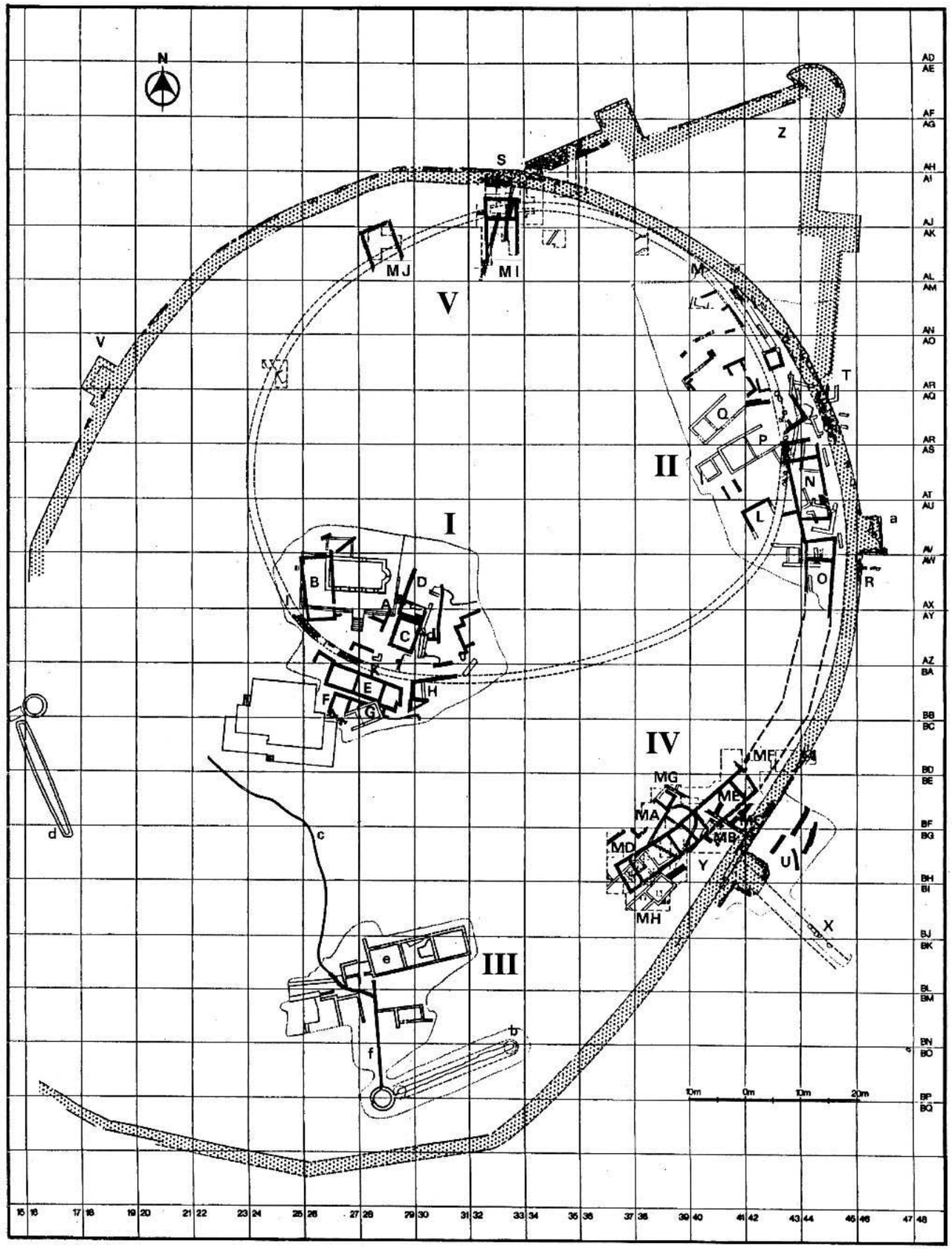

Fig. 1 Argos, Aspis Map of the site

Second, Vollgraff divided the ceramic assemblage into seven categories. The first, and according to Vollgraff the most abundant at the site, is coarse ware. In terms of frequency, matt-painted comes second; it is followed by Argive Minyan (dark burnished), Grey Minyan, incised coarse ware, red monochrome and, finally, Minoanizing ware, represented by only one fragment in Vollgraff's excavations.[5]

1.2. The new excavations (1974–1990)

Excavations on the Aspis hill resumed in 1974 and virtually ceased in 1990.[6] Since then, fieldwork has been restricted to cleaning operations, the excavation of fallen balks, the conservation and restoration of the prehistoric walls, and more recently the construction of retaining walls in order to consolidate trench sections in the southeast sector.[7]

The new excavations focused on two areas (Fig. 1). In the southeast area (IV), deposits were thicker and stratification more complete, and we were therefore able to distinguish five main phases of habitation, three of which belong to the MH period. In the north area (V), we hoped to come across the older "circuit wall", the existence of which Vollgraff had postulated. However, we found no trace of such a wall. Instead we came across two layers of MH habitation, which obviously correspond to the two older layers in the southeast area. We also found remains belonging to the historical period.

The sequence in the southeast sector may be summarized as follows:

Phase I (which corresponds to stratum 5, found directly on the bedrock) dates to the Final Neolithic period, as the pottery belongs almost entirely to the heavily burnished monochrome class, found also in some deposits in Lerna I.[8]

Phase II (corresponding to strata 4b–c) is the earliest MH building level. While only one or two wall sections could be connected with this phase in the southeast sector, considerable amounts of pottery were recovered and allowed us to date this phase to MH IB–II.

Several constructions belong to the subsequent phase III (stratum 4a). The best preserved among them is an apsidal house. The phase is firmly dated to MH IIIA because of a fine Yellow Minyan cup found in a cist tomb dug in the floor of this house and sealed by a wall of phase IV.[9]

In phase IV (strata 2–3; this phase is missing in the north sector) there occurred some interesting changes. The construction of a row of similar long tripartite buildings following the contours of the hill and at least partially surrounding the settlement marks a radical change in site planning. According to the pottery (namely matt-painted and Yellow Minyan), this phase is dated to MH IIIB, but does contain a few LH I elements. In later periods, from the Mycenaean to the Classical, the hill seems to have been abandoned or, to be more exact, to have been used only sporadically.

Phase V (stratum 1) corresponds to the reoccupation of the hill at the end of the fourth and the beginning of the third century B.C. after a long period of virtual abandonment. The polygonal circuit wall was built in this period.

The sequence of MH pottery, as established during the new excavations, allows us to complete, refine and correct Vollgraff's observations. Regarding the comparative frequency of the various categories, our excavations confirmed that coarse ware and matt-painted ware are in fact the two most abundant categories. However, coarse ware comes second in terms of frequency, rather than first, as Vollgraff had suggested. In fact, during each of the three phases, matt-painted averages up to 35 percent of the entire ceramic assemblage, whereas coarse ware hardly reaches 28 percent.[10]

It must be recalled that the classification of the pottery from the new excavations is based on morphological and technological criteria. About 20 classes were distinguished and those, in turn, were grouped into three broad categories: coarse domestic wares, monochrome burnished wares and painted pottery. About 100 sherds were selected and submitted to chemical analyses at the Demokritos Centre, under the supervision of V. Kilikoglou, and to petrography analyses undertaken at the Fitch Laboratory of the British School in Athens by V. Kiriatzi and I.K. Whitbread.[11]

2. Presentation of the material

The ceramic material from Aspis does not differ significantly from the coarse wares of most MH sites,

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[5] Vollgraff 1906, 8, 30.

[6] Touchais 1975, 1976, 1978, 1980, 1984, 1990, 1991; Philippa-Touchais and Touchais 1997b.

[7] Philippa-Touchais and Touchais 1996, 1997a, 2000, 2001, 2002.

[8] Touchais 1980b.

[9] Touchais 1978, 800, fig. 39; cf. Dietz 1991, 162, fig. 48 (MH IIIA, AB-1).

[10] Philippa-Touchais 2002, 4, table 1.

[11] Kilikoglou *et al.* 2003.

neither in terms of technique nor in terms of morphology. However, the Aspis material has two important advantages: first, it comes from stratified deposits, and, second, some sherds have been submitted to physico-chemical analyses, which is rather exceptional for MH coarse ware. Therefore, this material can elucidate the development and function of MH coarse ware, especially since there are only a few sites where this category has been carefully studied: Kiapha Thiti,[12] Pefkakia,[13] Tsoungiza[14] and Nichoria.[15] Some information is available from Lerna,[16] but very little can be gleaned from older excavations.[17]

Under the general term "coarse ware" we include several ceramic groups that have certain shared common characteristics: the use of gritty clay with medium coarse to coarse temper; manufacture by hand, and not with a potter's wheel; a treatment of the surface (by smoothing or burnishing) that leaves it somewhat uneven; a range of shapes intended mainly for storing and cooking.

Among the coarse wares from Aspis, we distinguish three main groups. The first two (GR1 and GR2) are very similar in terms of visual appearance (red-brown, sometimes grayish surface, often mottled) and choice of shapes (small and medium-sized pots). They are in fact so similar that we did not distinguish them during the first excavation seasons. It is only at the end of the 1980s, when Carol Zerner drew our attention to the presence of gold mica spangles in the clay of a fairly large number of pots, that we decided to separate these two groups. As a result we have no reliable statistics for the distribution of the two groups prior to 1989. Unfortunately, the coarse wares recovered after this date represent on average less than 15 per cent of all the coarse wares found during our excavations.

The third group (GR3) is very different from the first two and is much rarer. The surface has a light (buff, greenish) color and the vessels have very thick walls. All are huge storage vessels, the fragments of which were occasionally used to cover infant burials.[18] In this paper, I shall focus on the first two categories and leave aside this last group.

2.1. Local coarse ware (GR1)

2.1.1. Fabric

According to the macroscopic examination, the fabric is gritty and not very hard-fired; the walls tend to split and the fracture to exfoliate. The color of the surface is usually red-brown, often with a variegated aspect. It is smoothed, or more often burnished with a hard tool that leaves visible marks.

Three sherds from this group have been analyzed. They display a considerable chemical and mineralogical diversity. However, they also show significant similarities with a small number of coarse pottery samples analyzed from Lerna.[19] This similarity seems to support the local production of the majority of the coarse pottery.

2.1.2. Quantitative data

Coarse wares constitute about 28 percent of the total ceramic assemblage during the first two MH phases, and decrease slightly, i.e., to 25 percent in the last phase (MH IIIB).[20] As the ware GR1 is the most frequent among the coarse wares, we assume that it is locally produced. As far as we can tell, in phases II and III it represents about 80 percent of all the coarse wares.[21] For phase IV we lack accurate data, because this phase is found only in the southeast sector where excavation had more or less ceased by 1989, when we started distinguishing between GR1 and GR2. There are some indications of a slight decrease in the numbers of GR1 during the late phase, but this is far from certain.

As pointed out above, the total number of sherds belonging to ware GR1 cannot be established with precision, but it can be estimated at ca. 21,000. From

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[12] Maran 1992b, 144–7 (Kochgeschirr, Gattung B4; Vorratskeramik, Gattung B5), 185–8 (Goldglimmerkochgeschirr, Gattung D3).

[13] Maran 1992a, 138–46, 188, 198.

[14] Rutter 1990, 449–52.

[15] Howell 1992, 45–6, 48, 55–6, 64–5, 68–9.

[16] Zerner 1978, 186–90.

[17] Mainly from Korakou (Blegen 1921, 30–1), Asine (Frödin and Persson 1938, 280–3, 294–5; Nordquist 1987, 49, 52; Dietz 1991, 54, 69–70, 90–1, 101–2), Argos/Deiras (Deshayes 1966, 131–2), Asea (Holmberg 1944, 102–10), Malthi (Valmin 1938, 304–7), Athens (Immerwahr 1971, 66–8), Eleusis (Mylonas 1932, 80–6) and Eutresis (Goldman 1931, 175–81).

[18] Touchais 1978, 801.

[19] Kilikoglou *et al.* 2003, 133.

[20] At Nichoria, coarse ware constitutes ca. 45% of the entire ceramic assemblage during MH I, ca. 31% during MH II and ca. 55% during MH III (Howell 1992, 50, 64, 68, 204, fig. 3.83). At Kiapha Thiti, the proportion of coarse wares within the entire assemblage (without class B5; see above, n. 12) varies between 15 and 27% (Maran 1992b, 144, 186).

[21] Not 90%, as stated erroneously in Kilikoglou *et al.* 2003, 133.

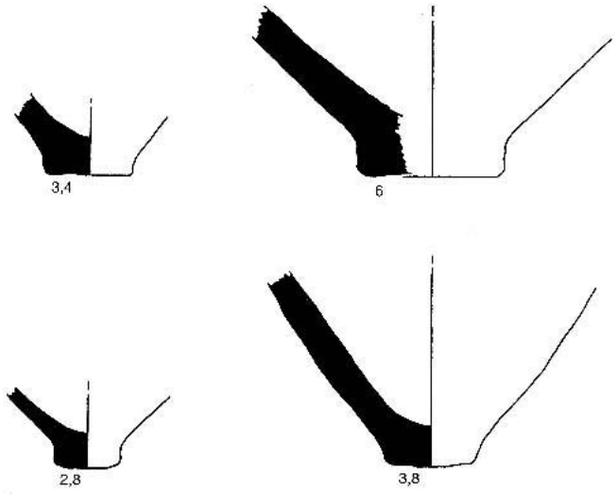


Fig. 2 Bases of ovoïd wide-mouthed jars (GR1)

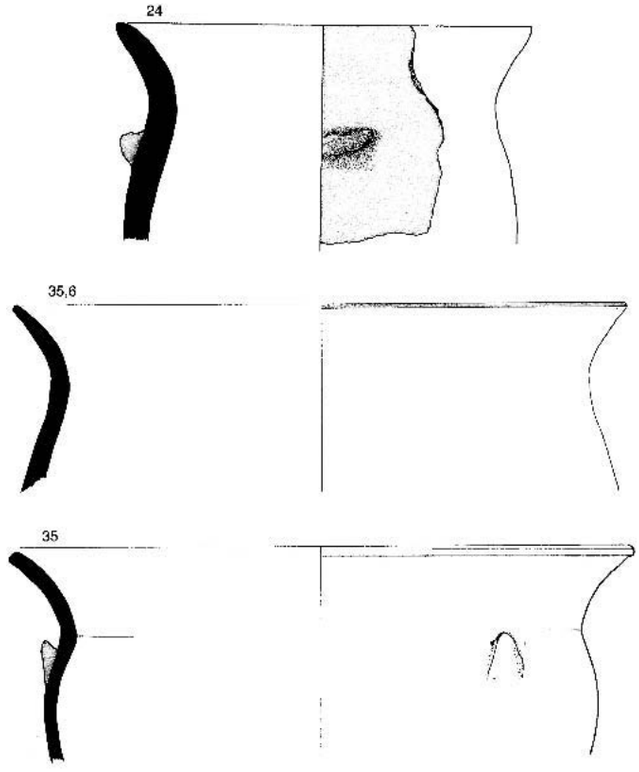


Fig. 3 Rims of ovoïd wide-mouthed jars (GR1)

those, about 800 fragments and two complete vessels were retained for further study.

2.1.3. Shapes

The range of shapes is relatively limited, with a predilection for deep and somewhat closed profiles. The most popular type is the *wide-mouthed jar*, which is usually between 25 and 40 cm high, with a rim diameter measuring between 15 and 30 cm. This type, which was already known from Argos[22] and is widely attested at most MH sites throughout the period,[23] has a deep ovoid body, a relatively small flat base (which is sometimes very small and thick) (Fig. 2),[24] and a more or less broad everted rim terminating in a rounded, thickened, flattened or thin lip (Fig. 3). The only completely preserved vessel (used as a container for an infant burial in the southeast sector; Fig. 4)[25] has no handle. However, many fragments of this type have elliptical lugs, or more or less projecting plastic features. These often take the form of an inverted horseshoe (Fig. 5)[26] that may be used as a handle, but they may also be purely decorative, as in the case of knobs or horns. Statistical data show that this type represents between 50 and 70 percent of the vases in this first group. A preliminary estimate of the minimum number of vessels of this type yields about 120 items – a fairly high number – for the two sectors as a whole. The type is present throughout the three habitation phases and its relative frequency among the coarse wares seems to increase slightly and consistently. But neither the breadth of the rim nor the profile of the lip seems to have any chronological significance, since all variants appear during all three phases. This variation is therefore to be better interpreted in terms of function – or it may perhaps be attributed to differences in the potters' skills.

The presence of about 70 vertical broad handles suggests that a fairly large number of these jars were in fact *handled jars*. Most of these handles have a more or less cylindrical section, but there are about 20 examples of strap handles, sometimes with broad vertical grooves down the back.[27] At least some of

[22] Deshayes 1966, 131, pl. XXXVII.4.

[23] For instance, at Korakou (Blegen 1921, 32, fig. 46), Asine (Frödin and Persson 1938, 280, fig. 193.9, 10), Lerna (Zerner 1978, figs. 2.16, 5.24, 13.12, 14.10, 16.15, 19.10–2), Kirrha (Dor *et al.* 1960, pl. XXXVI.15), Athens (Immerwahr 1971, pl. 25.362), Pefkakia (Maran 1992a, pl. 8.4).

[24] Cf. Rutter 1990, 449 ("thick-walled foot"), fig. 18.104–8; Howell 1992, 129, fig. 3.4 (P2078), 150, fig. 3.26 (P2359) (MH I), 188, fig. 3.66 (P2719) (MH II), 202, fig. 3.80 (P2866) (MH III).

[25] Touchais 1976, 757, cf. Frödin and Persson 1938, 280, fig. 193.8; Zerner 1990, figs. 1–6, 8.

[26] Cf. Rutter 1990, fig. 18.102, 172.

[27] Cf. Rutter 1990, fig. 18.172, 173.

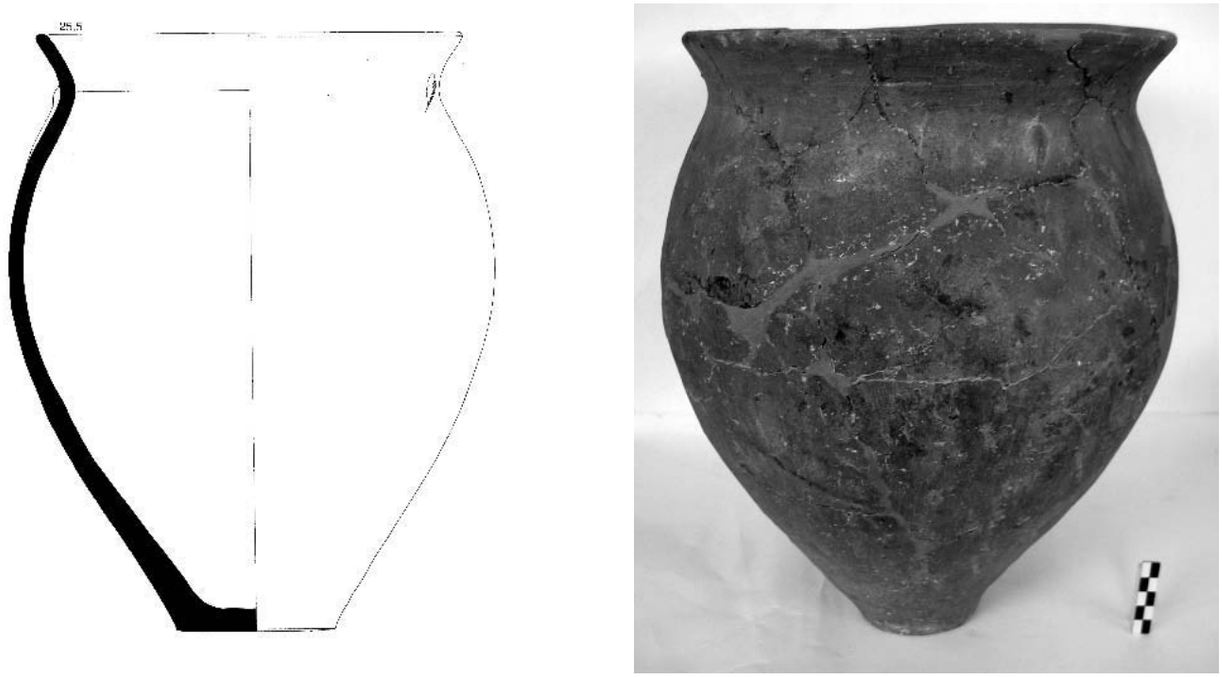


Fig. 4 Ovoïd wide-mouthed jar (GR1)

Fig. 5 Inverted horseshoe-shaped lugs and plastic ornaments (GR1)

Fig. 6 Rims of small jars or cups with rounded body (GR1)

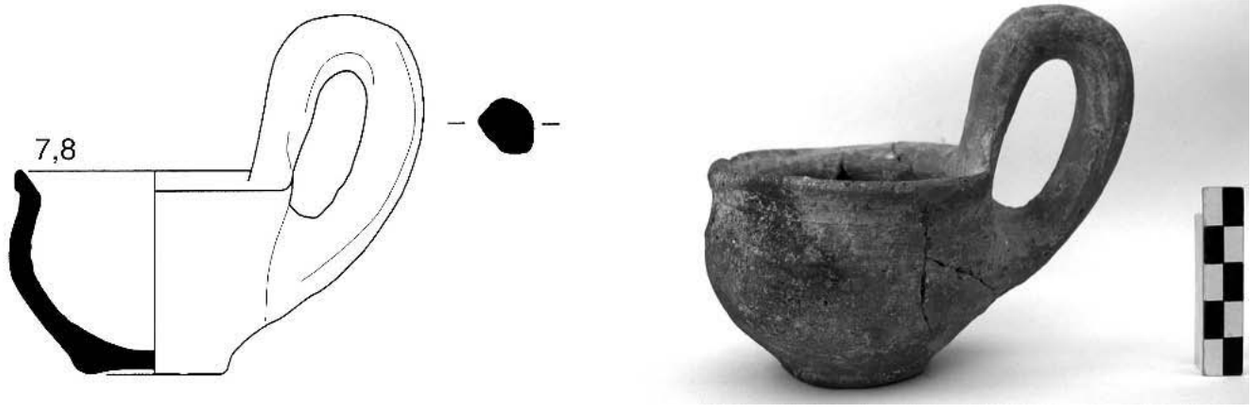


Fig. 7 Cup with high-swung handle (GR1)

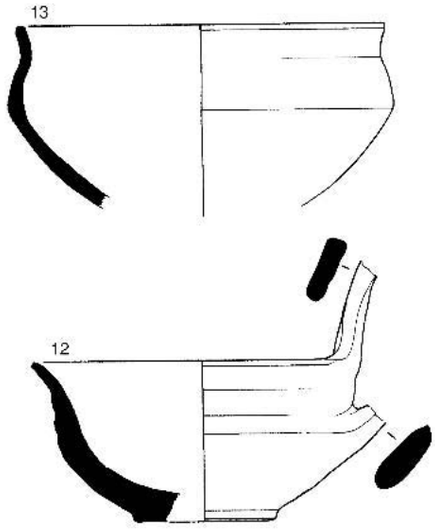


Fig. 8 Angular cups (GR1)

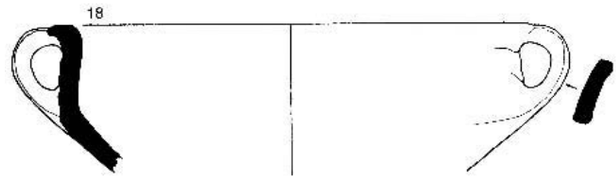


Fig. 9 Angular bowl or goblet (GR1)

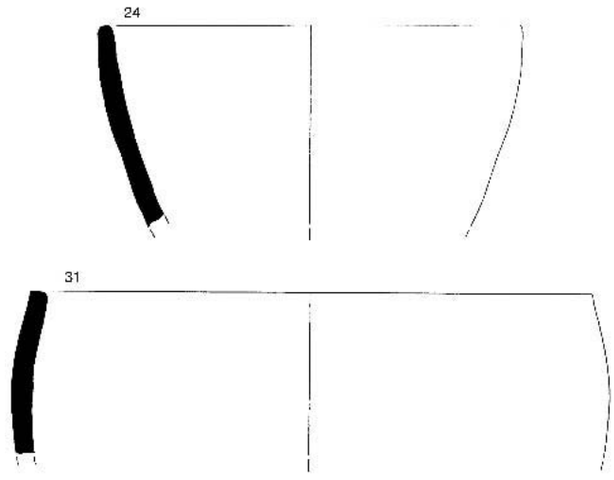


Fig. 10 Wide open bowls (GR1)

them are clearly rim-attached handles, but no fragment of rim with the adjoining handle has been found, and we therefore do not have a full profile of this type.[28] Horizontal handles, probably placed on the shoulder,[29] are much more unusual.

Rims similar to those of the wide-mouthed jars, but with a diameter smaller than 15 cm and handles thinner than the ones described in the previous paragraph, belong probably to *small jars* or *cups* with rounded body.[30] Nearly 40 fragments of such rims have been found, in equal frequency in the two sectors, and they cover a wide chronological range. Several of them bear a plastic knob on the shoulder (Fig. 6), a feature widely attested at other sites.[31] The only complete vessel of this type, without a knob but with a high-swung handle (Fig. 7),[32] was found in a grave together with a matt-painted cup.

Much more unusual are the *angular cups*, which seem to imitate Minyan types.[33] In fact, the majority have a dark surface and are fairly well-burnished; three of them have a high-swung strap handle, and one of them bears crudely executed grooves on the shoulder (Fig. 8). Fewer than ten fragments belong to this type; they were all found in the southeast sector, in MH IIIB contexts. Therefore, this shape is a late innovation.

Another type, which is quite rare, too, and also seems to imitate a Minyan form, is a sort of *bowl* or *goblet* with more or less carinated body and one or two small vertical flat strap handles below the rim (Fig. 9).[34] All seven fragments belonging to this type were found in the southeast sector, but their chronological range is wider than that of the angular cup, as it extends from MH IB–II to MH IIIB.

A different type, a *wide open bowl* with flaring and slightly incurved walls,[35] has the same chronological and spatial range. It is represented by a dozen rim

[28] The type is attested elsewhere: for instance, in Tsoungiza (Rutter 1989, 19, fig. 7.18), Eutresis (Goldman 1931, 178, fig. 246.3), Kiapha Thiti (Maran 1992b, pls. 12.426, 17.557) and Pefkakia (Maran 1992a, pls. 16.11, 117.2).

[29] Cf. Goldman 1931, 176, fig. 244.1, 2; Rutter 1989, 19, fig. 7.19; 1990, fig. 17.103.

[30] Cf. Howell 1992, 152, fig. 3.28 (MH I), 183–5, fig. 3.61–3 (MH II), 199–200, fig. 3.77, 78 (MH III).

[31] For instance, Asine (Frödin and Persson 1938, 265, fig. 184.11 [MH I]; 283, fig. 194.5 [MH II]), Asea (Holmberg 1944, 104, fig. 102e), Kirrha (Dor *et al.* 1960, pl. XXXIX.21).

[32] Cf. Mylonas 1932, 83, figs. 60a, 61b; Goldman 1931, 177, fig. 245.1, 2; Holmberg 1944, 105, fig. 103d, e; Dor *et al.* 1960, pl. XXXIX.18; Zerner 1990, 27, figs. 15, 17.

[33] Cf. Blegen 1921, 30, fig. 44; Immerwahr 1971, 67.

[34] Cf. Mylonas 1932, 84, fig. 62.4 (from a late MH context). The rare fragments of wide open "dishes" from Nichoria (Howell 1992, 203, fig. 3.81 [P2883, P2884]) are dated to MH III.

[35] Cf. Maran 1992b, pl. 14.489.

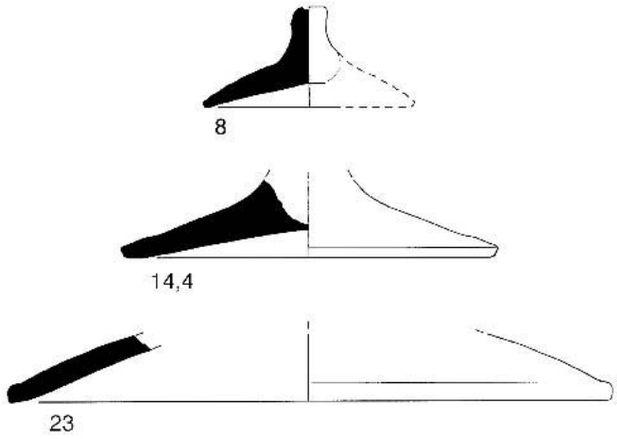


Fig. 11 Hollow-bottomed lids (GR1)

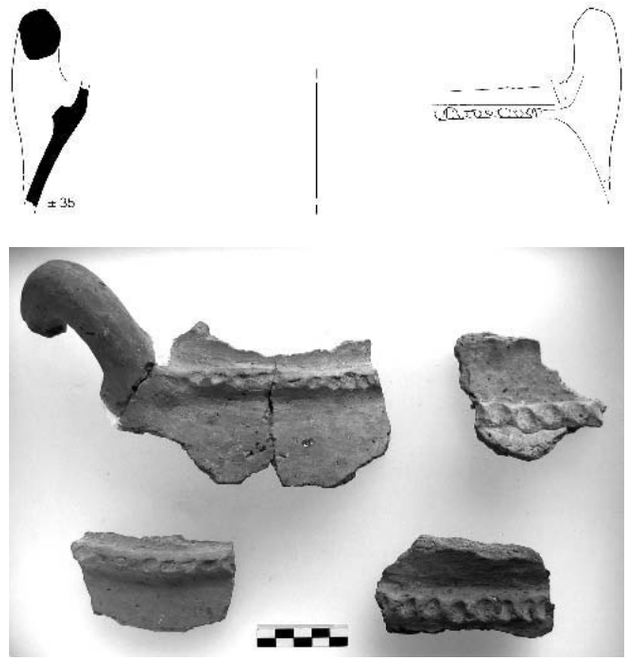


Fig. 12 Fragments of jars decorated with fingered ribbon (GR1)

fragments (Fig. 10). None provide any indication about the existence, number and position of handles.

There are very few truly closed shapes in this group. In fact, only two fragments can be attributed to such types: one *beaked jug*[36] and one fragment of a *narrow-necked jar* with large flaring neck (not illustrated) similar to the one found in the Deiras MH installation.[37] The two Aspis fragments belong respectively to MH IIIA and IIIB context.

Finally, I should mention three hollow-bottomed *lids* (Fig. 11): a small one with a knob in the shape of a pyramid, and two medium-sized ones whose knobs are missing.[38]

2.1.4. Decoration

Two decorative techniques are found in this group: plastic decoration and incision.

Plastic decoration has been mentioned above in connection with the jars where it is widely attested. It consists mainly of knobs, horns and pellets. About 90 fragments bearing such ornaments were recovered; they were distributed equally between the two sectors. They show no significant chronological variation, with the exception of the inverted horseshoe (more or less pronounced), as all 15 recorded examples were found in exclusively MH IIIB contexts.[39]

Other plastic ornaments, namely ribbon – plain (4 examples) or fingered (5 examples) – are much more unusual among Aspis material. They apparently decorated the shoulder of large wide-mouthed jars (Fig. 12).[40]

About 100 sherds are decorated with incisions. Since we kept nearly all the incised sherds recovered (including body fragments), this number must be valid. Therefore incised decoration is represented on less than 0.5 percent of the local coarse wares. From these sherds a maximum number of approximately 15 vessels can be reconstructed.

As the fabric does not differ from the local coarse ware, we named this category GR1a. This ware is referred to in other publications, where it is extensively described,[41] as "Adriatic ware". The entire surface of the vessels is covered with incisions: horizontal, vertical and/or oblique parallel lines, which cross each other or alternate, or sometimes form the classical "fishbone" pattern (Fig. 13). Very few fragments deviate from this general decorative scheme: among them, a jar (belonging to a MH IB–II context) with horizontal lines alternating with rows of dots (Fig. 14).[42]

[36] Cf. Immerwahr 1971, pl. 24.349, 350.

[37] In the Deiras this shape is reported as "exceptionnelle dans la céramique grossière": Deshayes 1966, 132, pl. XVIII.11.

[38] Cf. Goldman 1931, 179, fig. 249; Rutter 1990, fig. 18.100.

[39] At Nichoria, horseshoe-shaped lugs are apparently not attested before MH III (Howell 1992, 69).

[40] See, for instance, Immerwahr 1971, pl. 26.366; Howell 1992, 187, fig. 3.65.

[41] Valmin 1938, 287–90; Holmberg 1944, 106–10.

[42] The same motif occurs at Nichoria on an everted rim fragment in gray-brown "fairly coarse fabric" from a MH I context (Howell 1992, 47, 129, fig. 3.4 [P2091]).

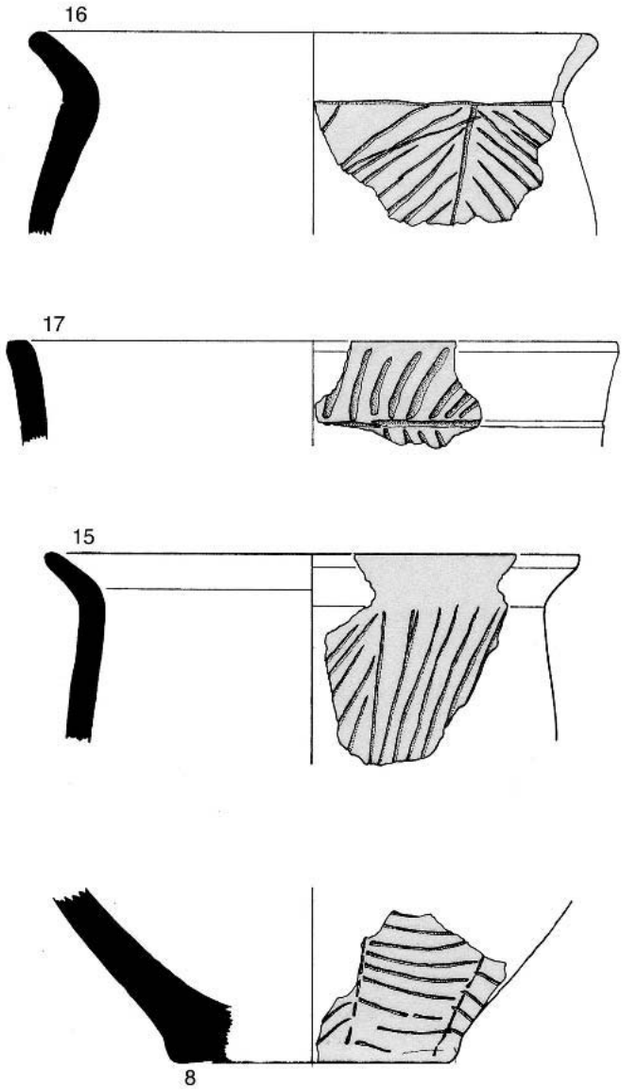


Fig. 13 Coarse incised ware (GR1a)

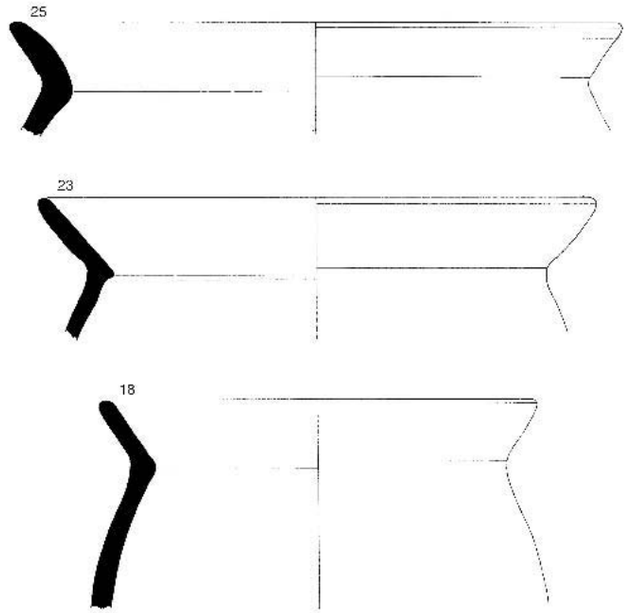


Fig. 14 Bowl in coarse incised ware (GR1a)

All the fragments of incised coarse ware seem to belong to medium-sized *wide-mouthed jars*, with or without vertical handle.[43] The few incised handles we recorded have a somewhat flat or rectangular, rather than cylindrical section.

It is worth noting that a relatively high proportion of the incised fragments (about 20 percent) were found in MH IB–II levels. This is not surprising, since at other sites (for instance, Lerna and Asine) this category is present already during the transition from EH III to MH I. The Aspis evidence, however, shows that this class survives until MH IIIB, since almost 50 percent of the incised fragments found in the southeast sector belong to this late phase.

2.2 Gold mica coarse ware (GR2)

2.2.1. Fabric

This group differs from GR1 in its method of manufacture and its fabric, which is not as coarse-tempered and contains sparkling inclusions of gold mica; as it has been widely described,[44] I shall not provide a lengthy description. The surface treatment is different from that of GR1: the vessels are usually well smoothed (perhaps by using a piece of cloth, or a brush?), but burnishing is rare. Traces of "wiping" are particularly visible on the inner face of the vessels. Firing must have been better controlled than in the local group, for the biscuit is harder and there is usually no difference in color between the core and the surface. In general, the profile of the vessels is more regular and their articulations at the rim and base sharper.[45]

[43] See, for instance, Goldman 1931, 179, fig. 250; Howell 1992, 55, 147, fig. 3.22 (MH I), 64, 182, fig. 3.60 (MH II).

[44] See for instance Zerner 1978, 189–90; 1986, 65–6; 1988, 5; Rutter 1989, 12; Maran 1992b, 185–6.

[45] This point has been stressed by Maran (1992b, 144–5).

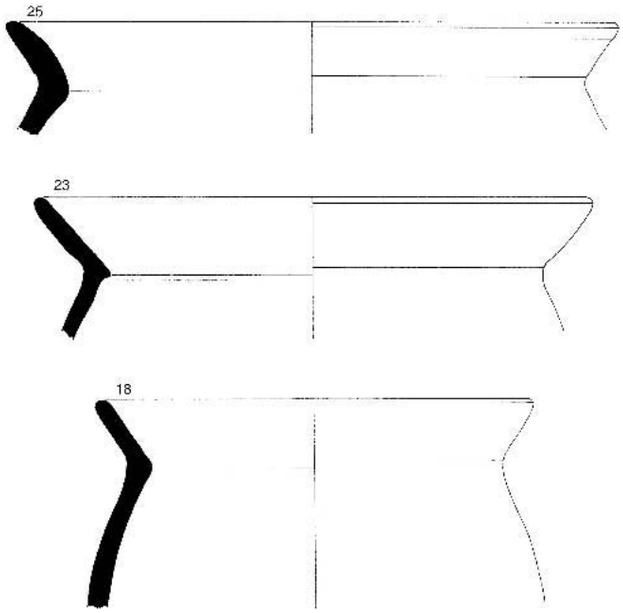


Fig. 15 Rims of ovoïd wide-mouthed jars (GR2)

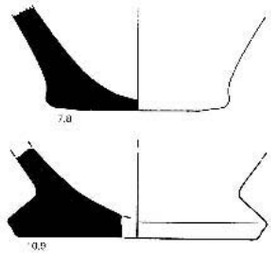


Fig. 16 Bases of wide-mouthed jars (GR2)

Fig. 17 Fragment of rim-handled jar (GR2)

Three sherds of this group have been submitted to chemical and petrographic analyses. The chemical analysis shows that these fragments display a remarkable compositional homogeneity. The petrographic analysis has confirmed their Aeginetan provenance, on the basis of their volcanic inclusions and in comparison with pottery and clays from Aegina.[46]

2.2.2. Quantitative data

According to the available statistical data – which, as I stressed earlier, must be treated with caution – this group represents about 7 percent of all the coarse wares in phase II, and about 14 percent in phase III. Within the total ceramic assemblage, the proportion of GR2 is less than 2 percent in phase II, and less than 4 percent in phase III.[47] For the reasons stated above, we have no reliable data for phase IV.

Nearly 500 sherds of this group were kept for study out of a total number that may not have exceeded 3,000. Only one complete vessel was found.

2.2.3. Shapes

The range of shapes is very close to those made in the local coarse wares.

Here too, the *wide-mouthed jar* is the most frequent type. It represents between 35 and 62 percent of the recognizable types in this group. The minimum number of vessels seems to vary between 60 and 70. In absolute terms this is, of course, smaller than the number of similar vases in the local coarse ware. It is, however, relatively high if one takes into account the relative frequencies of the two wares. From a typological point of view, the rim of the GR2 wide-mouthed jars is often not as broad as in those belonging to the local group, but in the GR2 jars the inner surface of the rim forms a sharper angle. The lip is generally rounded, but thickened or flattened lips are not uncommon (Fig. 15). One single example of a slightly concave inner rim, coming from a MH IIIB context, confirms that this is a late feature. Indeed parallels at Kiapha Thiti[48] and Korakou[49] date to LH I. The gold mica jars also differ in the form of the base. In this fabric, jars are often provided with a splaying flat-

[46] Kilikoglou *et al.* 2003, 133.

[47] Quantitative data are available only from Kiapha Thiti, where the percentage of gold mica coarse ware is somewhere between 3 and 8% of the total assemblage (Maran 1992b, 186).

[48] Maran 1992b, 188 n. 375.

[49] Davis 1979, 251, fig. 11.245–9.

tened base, which sometimes forms a sort of flange on the edge. Raised conical bases also occur, while these are entirely absent from the first group (Fig. 16).[50] Finally, since no complete vessels of this type have been recovered, we do not know whether handleless examples (similar to those attested in the local coarse ware) exist in the gold mica fabric.[51]

Fig. 18 Rim-handled jar from HM floor deposit beneath the Aphrodision (GR2)

In fact, most of these jars were probably provided with one vertical handle from the rim to the shoulder, and they may therefore be better characterized as *rim-handled jars*. In the Aspis material this type is represented by one rim fragment with an attached handle (Fig. 17) and about 100 vertical roll handles (but not a single strap handle) that may belong – at least in part – to such vessels. One complete vase of this type has been found in the lower town of Argos, in connection with MH habitation remains excavated by F. Croissant below the Aphrodision (Fig. 18).[52] This type – which is more frequently shoulder-handled – is widely attested at most MH sites, especially in late contexts, for example at Lerna,[53] Asine,[54] Mycenae (Circle B),[55] Korakou,[56]

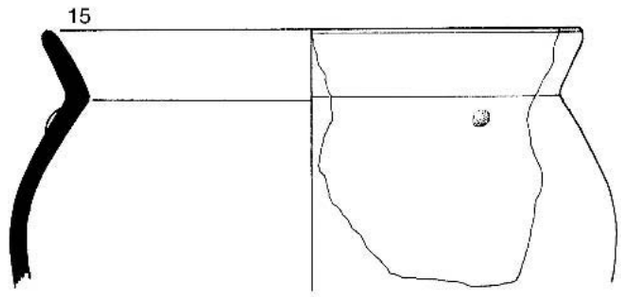
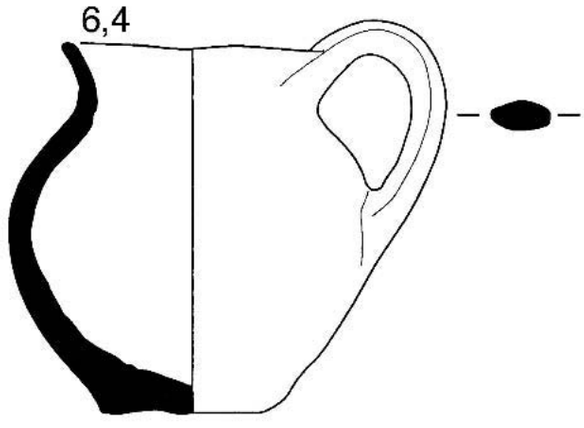


Fig. 19 Rim of small jar or cup with rounded body (GR2)



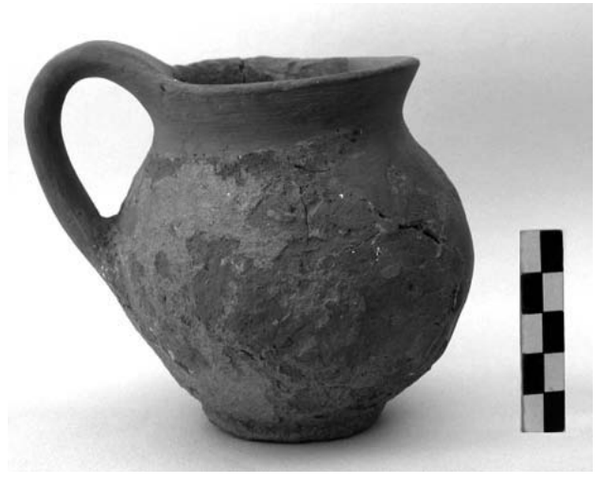


Fig. 20 Globular cup (GR2)

[50] Similar observations about the shape of rims and bases are provided in Maran 1992b, 187; characteristic profiles in Dietz 1991, figs. 24, 25.

[51] The same question is asked by Zerner (1988, 5) in connection with the material from Lerna.

[52] Another almost complete example was found on the southeast foot of the Aspis (Tzafas plot) in a MH III–LH I context (Divari-Valakou 1998, 91, 100, fig. 16).

[53] Zerner 1988, figs. 20, 22.10.

[54] Nordquist 1987, 172, fig. 50.8.

[55] Mylonas 1973, pl. 172b.

[56] Davis 1979, 251, fig. 11.240–1.

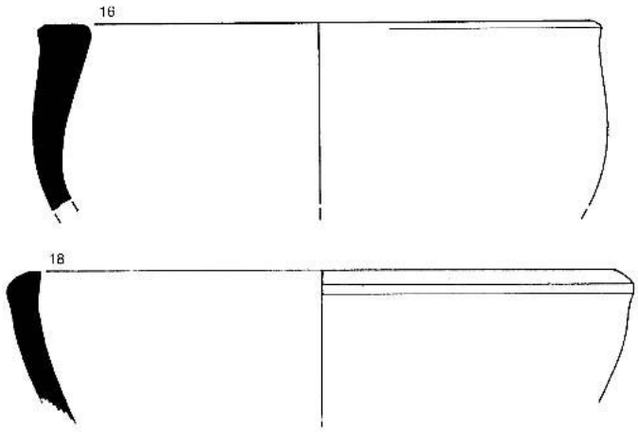


Fig. 21 Bowls with incurved or carinated walls (GR2)

Fig. 22 Small conical cup (GR2)

Fig. 23 Small flat-bottomed lid (GR2)

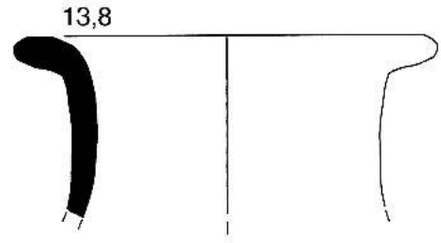


Fig. 24 Rim of necked jar (GR2)

Tsoungiza,[57] Kiapha Thiti[58] and Eleusis.[59] In the Aspis settlement it is found already in MH IB–II levels: a little more than 17 percent of the total number found belongs to these phases. The type becomes much more frequent during the two subsequent phases; the finds from Korakou and Tsoungiza confirm that it remains very popular in LH I.

As in the first group, *small jars* or *cups* are the second most frequent type (Fig. 19). However, the total number of fragments and the minimum number of vessels are, relatively speaking, much lower (about 30 percent). These small jars usually have a sharply offset rim and one vertical roll handle,[60] but the only complete example (recovered from a grave)[61] has a slightly concave everted rim and its handle is oval in section (Fig. 20). There is only one example, belonging to a MH IIIB context, of a ring handle set vertically upon the rim. This type of handle appears rarely in coarse ware,[62] but is well attested in fine or semifine monochrome burnished or matt-painted cups from late MH contexts.[63] A characteristic feature of these small jars or cups is the presence of one or two small plastic pellets at the top of the shoulder (Fig. 19).[64]

Approximately 10 fragments belong to *wide open bowls* with slightly incurved or carinated walls and thickened lip. Two of them are provided with a raised hoop handle,[65] found frequently in Minyan ware (Fig. 21).

The remaining types are represented by only one example each: a miniature *conical cup* with a vertical roll handle (Fig. 22),[66] a small flat-bottomed *lid* (Fig. 23),[67] a small fragment from a *strainer*[68] and two frag-

[57] Rutter 1989, 18, fig. 6.17 (from LH I context).
[58] Maran 1992b, pls. 6.220, 42e.
[59] Mylonas 1932, 81–2, figs. 58, 59.
[60] Cf. Zerner 1988, fig. 21.6–9; 1990, 28, fig. 21.
[61] Touchais 1978, 800, fig. 40.
[62] Examples in Korakou (Blegen 1921, 31, fig. 45 middle) and Eutresis (Goldman 1931, 177, fig. 245.5, 6), most probably in gold mica fabric.
[63] For instance, at Asine (Frödin and Persson 1938, 273, fig. 189.1; Dietz 1991, 163, fig. 48 [AB-7, 8, 12]) and Mycenae, Circle B (Mylonas 1973, pl. 232 [L2-135]).
[64] Cf. Frödin and Persson 1938, 283, fig. 194.2–4 (gold mica fabric?); Zerner 1988, fig. 21; 1990, 28, fig. 21.
[65] Cf. Maran 1992a, pl. 12.23.
[66] Cf. Zerner 1990, 27, fig. 14 (coarse burnished).
[67] Cf. Frödin and Persson 1938, 283, fig. 194.6 (gold mica fabric?).
[68] Strainers or "brasiers" in coarse ware (not specifically in gold mica fabric) are reported from numerous MH sites, namely Korakou (Blegen 1921, 31, fig. 45), Eutresis (Goldman 1931, 179, fig. 250.3) and Pefkakia (Maran 1992a, pl. 62.9, 10).

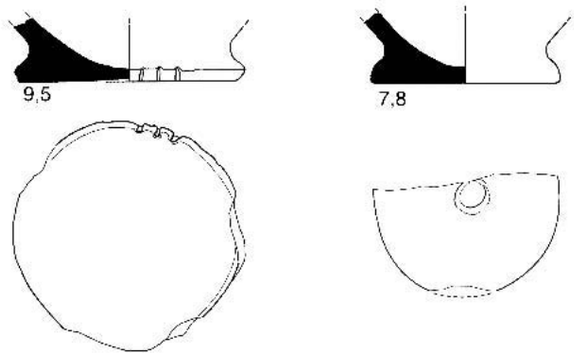


Fig. 25 Bases with potters' marks (GR2)

Fig. 26 Rim with potters' mark (GR2)

Fig. 27 Rim with pellets interpreted as potters' mark (GR2)

ments of closed vases: one from a *necked jar* (Fig. 24) and one that seems to belong to a *beaked jug* (not illustrated).

2.2.4. Decoration

Only plastic decoration is found in this group, consisting exclusively of knobs and pellets, placed on the shoulder of jars. Plastic decoration is therefore more standardized than in the first group.

2.2.5. Potters' marks

One feature specific to this group of coarse ware is potters' marks. The Aspis excavations provided four examples of such marks, all of them from the southeast sector. In three cases, all from a MH IIIB context, the mark is placed underneath the base: one or three small cuts along the baseline – which is quite frequent at Asine[69] and attested elsewhere as well[70] – or one small circle in the center (Fig. 25). In the fourth example, found in a MH IB–II context, the mark (two little cuts) is placed on the shoulder and combined with a plastic knob (Fig. 26).[71] If we accept M. Lindblom's idea that some arrangements of pellets may be considered potters' marks,[72] we could add one more example, also from a MH IB–II context: three pellets on the top of the shoulder of a jar, placed in such way that they resemble a human face (Fig. 27).

Though very few, these examples of potters' marks seem to confirm the observation made by Carol Zerner, namely that the marks are placed on the shoulder of the vases in the earlier MH phases and underneath their base during the later phases.[73]

3. Discussion

This brief overview confirms that the Aspis material shows no exceptional features. As the study of this ware is still at a preliminary stage, I shall conclude with a few remarks which, I hope, will provoke some further discussion.

The first point of interest is, of course, the existence of two groups of coarse ware side by side. Before I discuss this point further, I would like to stress the fact that – contrary to the impression one receives when reading publications of this material – distinguishing between the two groups with the naked eye, and even with the help of a magnifying glass, is often quite difficult, being dependent on the light, on the time of the day, and on the strength of one's eyes. For instance, most of the thick-walled feet belonging to jars recovered in the southeast sector display all the characteristics of the local fabric, and yet they contain fine sparkling inclusions that resemble gold mica, though the latter are usually much bigger. Further analyses are necessary in order to establish the exact petrographic composition of the fabrics.

The Aspis is not the only site where local coarse ware and Aeginetan gold mica coarse ware coexist.

[69] Fifteen examples (Lindblom 2002, 37–8, fig. 4.3).

[70] At Mycenae (Circle B, O 205, drawing in Dietz 1991, 226, fig. 71 [KC–1]), Korakou (Davis 1979, 251, fig. 11.251), Kiapha Thiti (Maran 1992b, pls. 20.663, 33.1011).

[71] Cf. Zerner 1988, fig. 21.4, 5; Lindblom 2002, 38, fig. 4.1.

[72] Lindblom 2002, 33.

[73] Zerner 1986, 65.

Among other sites excavated since the proposal of this distinction, or where material has been subsequently studied, Asine, Lerna, Tsoungiza and Kiapha Thiti provide at this point the best parallels. In Tsoungiza, Aeginetan gold mica coarse ware is reported as "extremely unusual".[74] In the other settlements, the amount seems to vary between 1 and 12 percent, while at Asine, S. Dietz notes its steady increase from MH II to IIIB.[75] The data from Aspis seems to confirm this general pattern, although in terms of quantity, Aspis receives rather fewer coarseware imports than most other settlements.

In most of these settlements, it appears that the coarse vessels imported from Aegina are most frequently one-handled ovoid jars. This is the case also in the Aspis. But if one looks at the entire assemblage from the Aspis, two observations can be made. First, this shape is also the most popular one made in the local coarse ware. Second, the entire repertoire of the local coarse and imported gold mica wares is very similar, with the exception of some local (and late) improvisations in the first group.

I think that these two points are important. They imply that the mainlanders did not import special forms that they themselves were not producing, but almost exactly the same forms that they were making at home. The difference, therefore, may be a matter of quality rather than function.

This proposal confirms the suggestion that Aeginetan coarse vessels may have possessed some special properties or specific qualities which made them highly desirable.[76] It has been argued that their volcanic composition may have rendered them more resistant to thermal shock. As most of them are kitchen wares, this is a very plausible explanation. However, thermal properties are rather irrelevant in the case of table ware (of which there are only a few pieces). A higher degree of impermeability may also be proposed. In any case, further study, especially experimentation with making vases from Aeginetan clays, is needed in order to provide a satisfactory answer to this question. Chemical analysis using the chromatography technique could also provide some information on the possible function of these vases, which might have been special. At present, only one sherd of an Aeginetan coarse jar from Aspis has been selected for such an analysis,[77] and the results are not yet available.

The possibility that the importation of Aeginetan coarse ware to the mainland may be attributed not only to utilitarian, but also to social reasons needs to be discussed. If a symbolic value, which has been proposed for the Aeginetan matt-painted ware,[78] seems rather improbable in the case of household vessels, it is possible that some kind of social value was derived from the possession of imported and easily recognizable kitchen vessels – in the same way as a Fissler or Lagostina saucepan may be valued by a Greek housewife today! There is, however, an important difference between the two Aeginetan imported series, the matt-painted and coarse wares. The study of matt-painted ware from Aspis has suggested that imports from Aegina tend to decrease from MH I to IIIB. We may therefore infer that imported types are progressively replaced by local ones.[79] In the case of coarse ware, the opposite trend can be observed, i.e., the number of imports increases, while similar types continue to be produced locally. In my opinion, this pattern strongly suggests a real *need* for imported coarse vessels; otherwise both series (Aeginetan matt-painted and coarse ware) would have undergone the same fluctuations.

In respect to the local coarse ware, it remains to be determined how "local" it is, first in terms of clay and, second, in terms of manufacturing technique. The physical and chemical similarities with some samples from Lerna suggest that the ware could have a regional rather than strictly local character. Here too, supplementary analyses are needed. In terms of shapes, the material from Aspis does not seem to reflect, for instance, the dichotomy that has been observed at Tsoungiza "between smaller rim-handled and larger shoulder-handled cooking pots"[80] – at least, it does not at the present stage of study. This might be a local feature, but the matter requires further study.

Finally, the Aspis material, despite the fact that it is well stratified, confirms the view that coarse ware offers very few clues relevant to internal subdivisions within the MH period. The apparent fixity of the

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[74] Rutter 1990, 421.

[75] See statistical diagrams in Dietz 1991, 53, 59, 71, figs. 9, 13, 18.

[76] Zerner 1993, 49–50.

[77] The analysis has been carried out by O. Decavallas (Philippa-Touchais and Touchais 2002, 498).

[78] Philippa-Touchais, this volume.

[79] Philippa-Touchais 2002, 37–9; and in this volume.

[80] Rutter 1990, 451.

types throughout the period can be clearly demonstrated. Since most of these vessels were used for storing food or for cooking, this fixity suggests that there were no significant changes in the diet and in the way that food was prepared, not even during the final phase, i.e., during the transition from the MH to the LH period. There is perhaps only one indication of new cooking practices, suggested by the presence, among the coarse ware from this phase, of one single foot from a tripod cooking pot.[81] This piece appears very exotic, not only because of its typically Minoan form, but also because of its fabric: it is the only fragment tempered with large quantities of silver mica inclusions.[82] It confirms that Minoan coocking practices still had very limited impact in Argos during the transitional phase.

These are some of the questions that arise from the preliminary study of the coarse ware from the MH settlement on the Aspis. No doubt further questions will be revealed as research progresses.

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Aeginetan Matt-Painted Pottery at Middle Helladic Aspis, Argos

Anna Philippa-Touchais[*]

Introduction

The pottery of Aeginetan provenance at Aspis in Argos belongs chiefly to two ceramic categories, matt-painted and coarse ware.[1] In the present paper we will examine the matt-painted Aeginetan pottery, one of the most characteristic and most attractive groups in the Aeginetan repertoire.

Toward the end of the 1970s, during conversation with Carol Zerner about the identification of Aeginetan matt-painted pottery, Gilles Touchais and I were quite puzzled to learn that a huge quantity of this ware had been found at Lerna. Our initial skepticism yielded shortly thereafter to surprise as we realized, during the course of the study of the material, that Aeginetan matt-painted pottery was present at Aspis in quite substantial amounts as well. In addition, a series of influential papers published in the early 1990s revealed that this phenomenon was not local in character: the presence of Aeginetan imported pottery was considerable not only in the northeast Peloponnese but also in most Middle Helladic (MH) sites of Mainland Greece and of several islands.[2] However, some of our initial questions remained: How was it possible to have such quantities of imported pottery outside Aegina? Was there on MH Aegina a ceramic production and exportation center of such large scale? And what meaning, or meanings, for a settlement are implied by this mass import of ceramics? Concerning the Aspis settlement in particular, a further question later arose, in the course of the study campaigns: Why do Aeginetan matt-painted ceramics appear with a greater frequency in the layer of the first MH occupation and decrease gradually thereafter,[3] contrary to what happens at other MH sites?

Based upon examination of the Aspis Aeginetan matt-painted material, we will propose some answers to these questions and will lay the basis for a discussion. First we shall look at the quantitative analysis of this pottery and its temporal distribution; next we shall discuss in more detail the range of shapes that are best represented. In the second part of the presentation an attempt will be made to interpret the reasons behind this impressive ceramic presence from Aegina as well as its quantitative variations through time. On the basis of the observed limited range of shapes and its physical characteristics, it is suggested that this pottery had a special function, perhaps with some symbolic connotations. It will also be argued that its abundance at the beginning of the period, as well as its gradual decrease, should be explained in socioeconomic terms.

The data

1. Quantitative analysis

It is unfortunately not possible to obtain precise data on the exact percentage of the Aeginetan matt-painted pottery recovered at Aspis. This is so for two main reasons. First, following practices that were current when the excavation began, the pottery was not conserved in its entirety; of the total number of matt-painted pottery fragments, approximately 7.5 percent have been conserved.[4] Second, the presence of Aeginetan pottery was not recognized in the very early stages of excavation, with the result that a distinction between local and Aeginetan matt-painted wares was not made prior to the quantification of the entire ceramic assemblage[5] and the selection of the material to be conserved. Therefore, all observations concerning the quantitative analysis refer exclusively to the registered material and consequently have no absolute value. The situation is not, however, entirely desperate since all diagnostic sherds (rims, handles,

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[1] G. Touchais, in the present volume.

[2] Dietz 1991, 303–5, fig. 91; Zerner 1993, 49–50, esp. n. 63; Rutter 1993b, 777, fig. 12; for a more recent study, see Lindblom 2001, 42–4, table 9.

[3] Philippa-Touchais 2002, esp. 37–40.

[4] Philippa-Touchais 2002, 4.

[5] Ceramic fragments intended to be thrown were counted, in accordance with an initial classification.

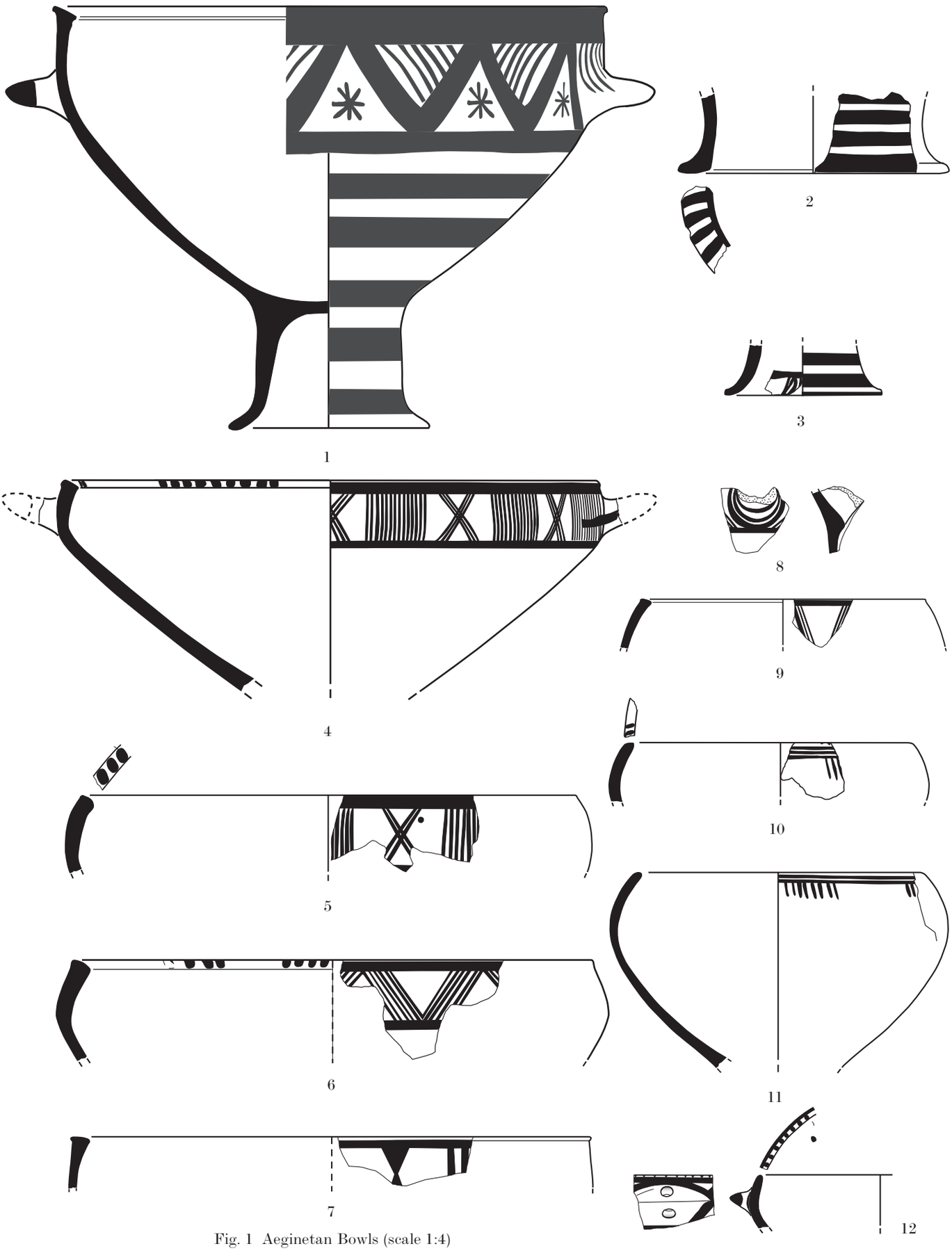


Fig. 1 Aeginetan Bowls (scale 1:4)

bases) have been preserved, allowing some approximate estimates regarding the number and the typology of vessels in the sample. On the basis of the catalogued material from the southeast sector, we may therefore suggest that Aeginetan wares comprise about 35 to 40 percent of the total matt-painted pottery. Apart from Lerna, where considerable amounts of Aeginetan matt-painted ware have been found,[6] this is quite a notable quantity in comparison with that of other MH sites of the Peloponnese (e.g., Asine,[7] Tsoungiza,[8] Magoula Galata Troizinias[9]), Attica (e.g., Athens,[10] Kiapha Thiti[11]), Boeotia[12] and the Cyclades.[13]

Another element complicating the quantitative analysis of this pottery is connected with its technology.[14] Although very characteristic in its gritty and semigritty version (porous clay, friable, yellowish or reddish colour, frequent appearance of gold mica), this pottery is not easy to differentiate macroscopically when dealing with fineware vessels made from well-levigated and well-fired clay. This difficulty is due mainly to the fact that the technological characteristics of this fine matt-painted class have not been precisedly determined – for instance, the possibly different treatments of the vessels' surface.

2. Temporal distribution

The study of the ceramic material has revealed that Aeginetan matt-painted pottery is present throughout the three main occupation phases of the settlement.[15] It is interesting to note however that this presence does not remain constant, but rather displays significant variation through time. In the earliest settlement phase of the MH period (Aspis phase II), corresponding to MH I–II, the number of Aeginetan matt-painted vessels seems to be, if not equal to, just slightly lower than that of the locally produced matt-painted vessels (roughly 1:1.5). Thereafter this percentage decreases dramatically: in the second MH phase of the settlement (Aspis phase III), dated to MH IIIA, the ratio is about 1:4, while in the final MH phase (Aspis phase IV), dated to MH IIIB–LH IA, it falls even further, to about 1:8. Thus, there is a strong presence of Aeginetan wares in the first settlement phase at Aspis. After that, Aeginetan vessels not only decrease numerically, but also in percentage, as local production of pottery increases noticeably. We may compare, for example, the number of 35 rim fragments from Aeginetan matt-painted vessels and 55 locally produced rim fragments in the oldest MH level, as opposed to the 30 Aeginetan and some 280 rims of local manufacture in the third and final phases.

3. Typological analysis

We will now present an overview of the most common shapes of Aeginetan matt-painted vessels discovered at Aspis. It is chiefly based on the pottery from the southeast sector of the site, which has been fully catalogued (for the plan, see G. Touchais, in the present volume, fig. 1.IV).

A. Table ware

Bowl

Bowls (Figs. 1, 2) make up about one-third of the Aeginetan matt-painted vessels recovered in the southeast sector. They are mainly of large or medium size (rim diam. 40+ and ±30 cm, respectively), and rarely smaller (rim diam. ±20 cm). The shoulder is usually rounded, with a slightly inturned rim, and more rarely carinated with an everted rim.

Rounded profile. Among the large-sized bowls, a specimen with a fully extant profile and tall cylindrical foot stands out (Fig. 1.1, Pl. 1).[16] Additional fragments of cylindrical bases make it apparent that this was not the only example of this type at Aspis (Fig. 1.2, 3). The decoration covers almost the entire surface of the vessel, being quite elaborate, and supplemented by stars, known from the early barrel-shaped

[6] Although there are no precise data on percentages, it is estimated that imported vessels, a large part of which comprises wares from Aegina, make up perhaps as much as 40 percent of the total ceramic assemblage (Zerner 1993, 45, 53 n. 28).

[7] Gold mica matt-painted fabrics make up ca. 19 percent of the total material from the Barbouna area and somewhat less of the material from the levels of House B in the lower town (Nordquist 1987, 49–51; see also Zerner 1993, 53 n. 28).

[8] Very few Aeginetan sherds have been identified (Rutter 1990, 421, 454).

[9] Konsolaki-Giannopoulou 2003, 162–4.

[10] Classes I and IV (Immerwahr 1971, 62–3, 64–6) are very probably of Aeginetan origin.

[11] Maran 1992, 188–95.

[12] See K. Sarri in the present volume.

[13] See J. Overbeck and I. Nikolakopoulou in this volume.

[14] The technological aspects of this pottery will not be treated in detail here. On this topic see Zerner 1978, 156–8; 1986, 64–6; 1993, 48–9; Siedentopf 1991, 10–3; Maran 1992, 188–9; Rutter 1993, 73; Cosmopoulos *et al.* 1999; Lindblom 2001, 34–5, 38–40; Kilikoglou *et al.* 2003, 134.

[15] On the habitation phases of Aspis, see Philippa-Touchais 2002, 3.

[16] Philippa-Touchais 2002, 7–10, no. 5.

Pl. 1 Aeginetan large bowl on pedestal foot

Pl. 2 Aeginetan large bowl

Pl. 3 Aeginetan bowl with potter's mark near the base

pithoi of Kolonna Stadt VII[17] and Stadt IX.[18] This bowl came to light in the earliest MH phase of the settlement (phase II), containing MH I and II material. Exact parallels from Lerna date to MH I,[19] while published examples of cylindrical bases from Kolonna all come from Stadt IX.[20]

Another large Aeginetan bowl with a largely extant profile (Figs. 1.4, Pl. 2) has a more angular shoulder, upon which there appears the classical metope decoration.[21] This bowl, as well as quite a few fragments from similar vessels (Fig. 1.5–7), also dates to the earliest MH phase of the settlement. It should be noted that similar bowls, greater still in size, well preserved and of outstanding quality, have come to light in a MH grave recently excavated by the Greek Archaeological Service on the eastern foot of the hill of Aspis (Thanou property).[22] At Kolonna, bowls of this type are already known in Stadt VII–VIII[23] but they become particularly popular in Stadt IX.[24]

Deep bowls with channel or tubular spout were not common at Aspis, as only two fragments of spouts have been found. One of them (Fig. 1.8) belongs to the earliest MH phase (phase II), the other to the latest (phase IV). A rim fragment (Fig. 1.9) could also come from a bowl of this type. At Kolonna, spouted bowls are known from both the earliest phases (Stadt VII–VIII)[25] and the later ones (Stadt IX–X).[26] At Lerna, similar examples date to MH II.[27]

Among the smaller-sized bowls of note is a group bowl with rounded shoulder and inturned rim, decorated with groups of small vertical lines hanging from two or three bands along the rim (Fig. 1.10, 11). The better preserved example (Fig. 1.11),[28] which retains an almost complete profile, has a potter's mark close to the base (Pl. 3). It belongs to phase II, along with the rest of bowls of the same type. Quite a few examples of this type have been published from Kolonna, dated to Stadt IX,[29] as well as from Lerna, dated to MH I–II.[30] Bowls with rounded shoulder and everted rim are rather rare at Aspis (Fig. 2.13 [phase II]), 14 [phase III]).

Carinated profile. Bowls with an angular shoulder and outturned rim are generally small to medium in

[17] Siedentopf 1991, pl. 2.
[18] Siedentopf 1991, pl. 6.
[19] Zerner 1988, fig. 6.16.
[20] Siedentopf 1991, 35 and pls. 87, 88 (Ständer grosser Schüsseln).
[21] Philippa-Touchais 2002, 7–10, no. 8.
[22] Pappi (forthcoming).
[23] Siedentopf 1991, 33–5, pls. 79, 80. At Lerna they also appear as early as MH I: Zerner 1988, figs. 5.14, 6.15.
[24] Siedentopf 1991, 33–5, pls. 80–5 (Grosse Schüsseln mit abgesetztem Rand).
[25] Siedentopf 1991, 31–2, pls. 73, 74.
[26] Siedentopf 1991, pls. 74–7.
[27] Zerner 1988, fig. 7.
[28] Philippa-Touchais 2002, 7–10, no. 3.
[29] Siedentopf 1991, 32, pl. 78.409–12.
[30] Zerner 1988, fig. 5.9, 10.

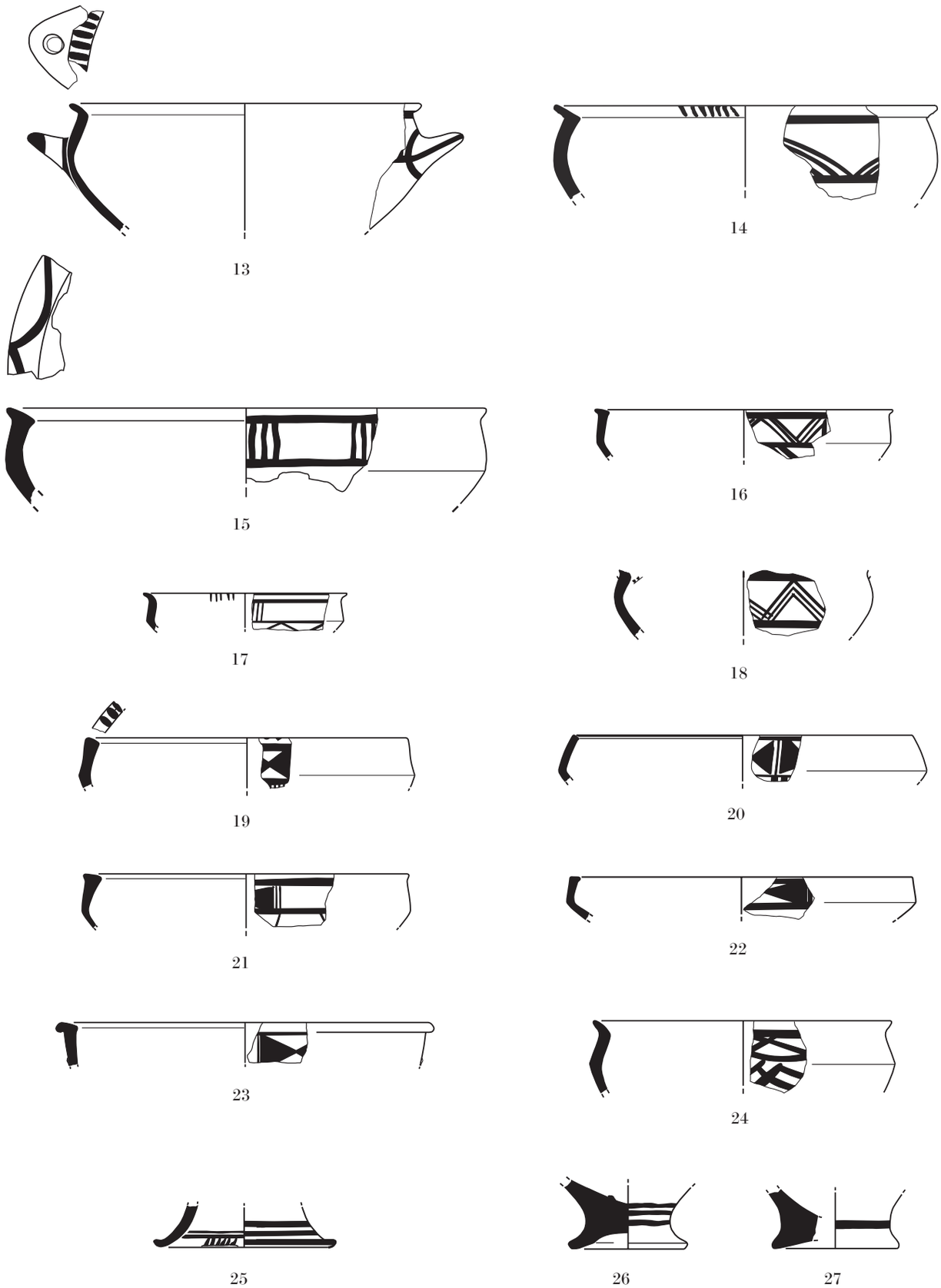
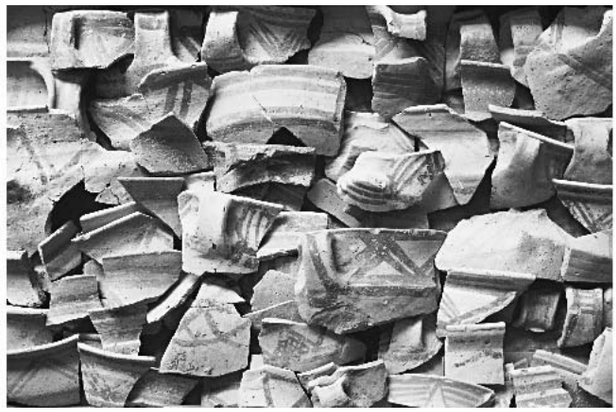


Fig. 2 Aeginetan Bowls and Goblet (scale 1:4)



Pl. 4 Goblets of local, argive production

size (Fig. 2.15–23). They may stand on a pedestal foot (Fig. 2.25).[31] The carinated bowl of Aeginetan origin is relatively rare at Aspis.[32] Most of the examples are of a very fine fabric (well-levigated and well-fired clay) and carefully decorated with lozenges and butterflies; this second motif is rather popular at Aspis (Fig. 2.19–23). Three published examples from the earlier excavations on the hill,[33] also decorated with this motif, are possibly of Aeginetan provenance. Chronologically this type of bowl seems to be later than the previous one; most of the carinated examples from Aspis come from the final phase of the settlement. The fact that bowls of this type are abundant at Kolonna Stadt IX,[34] making them contemporary to bowls with inturned rim – which at Aspis seem to be more popular earlier – raises a problem of synchronism between the two settlements. An Aeginetan example with butterflies from Lerna is dated to MH II.[35]

Goblet

We have already mentioned that among the numerous examples of goblets found at Aspis (Pl. 4) – exclusively in the southeast sector – not a single one is of Aeginetan origin.[36] Still, the ongoing study of the material suggests that there may be some very rare examples, such as the rim fragment illustrated here (Fig. 2.24) and some low foot fragments that also belong to this type of vessel (Fig. 2.26, 27). Goblets with small vertical strap handles on the shoulder are rare in Aegina as well.[37] In Lerna, imported Aeginetan goblets seem also to be very rare.[38]

Basin

Relatively rare at Aspis is the type of shallow basin (rim diam. ±40 cm) with conical body and a more or less pronounced rim (Fig. 3.28, 29).[39] Parallels from

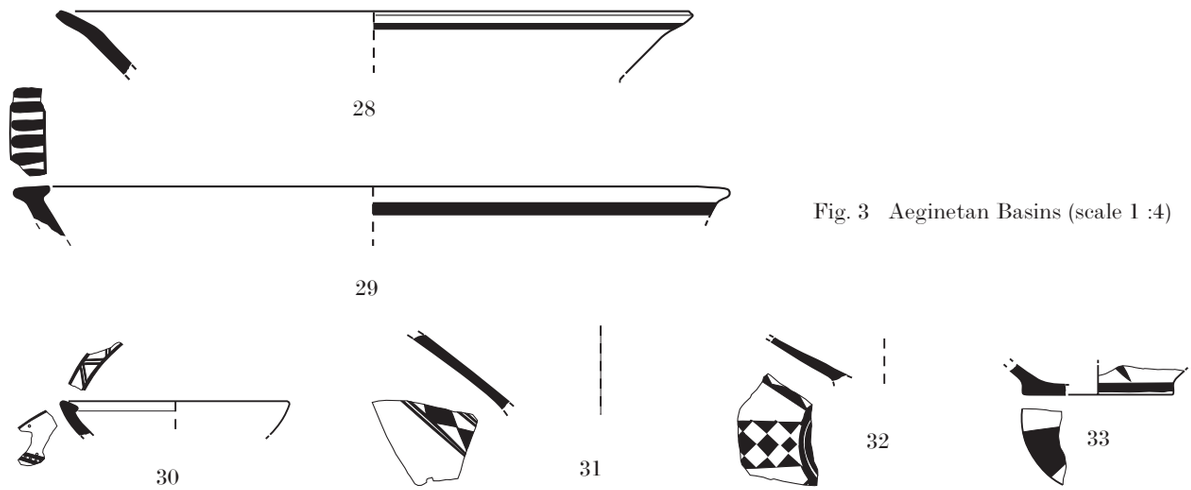


Fig. 3 Aeginetan Basins (scale 1 :4)

[31] Siedentopf 1991, pl. 89.
[32] Eight rim sherds in the southeast sector, the same number in the north sector.
[33] Vollgraff 1906, 28, figs. 47–9.
[34] Siedentopf 1991, 35–7, pls. 89–95.
[35] Zerner 1988, fig. 4.4.
[36] Philippa-Touchais 2002, 18.
[37] Siedentopf 1991, pl. 90.505, perhaps also pl. 95.572.
[38] One certain example is published by Zerner (1988, fig. 4.8 [MH III/LH I]).
[39] Some 10 samples in the southeast sector and as many in the north sector.

Kolonna[40] suggest that some of the examples supposed to be "basins" may have functioned as pithos lids.[41] Most of the examples from Aspis come from the earliest phase (II) of the settlement, and only some of them from phase III. A small conical cup of fine fabric seems to be a miniature version of this basin (Fig. 3.30); it may also have been used as a lid.

Two body fragments of very fine fabric, bearing an elaborate decoration (Fig. 3.31, 32), have close parallels to the "kalathoi" found during the earlier excavations at Aspis.[42] A parallel from Kolonna is considered to be a lid.[43] The illustrated base fragment (Fig. 3.33) comes probably from a vessel of this type.

Cup

Cups of Aeginetan provenance have not been found in great numbers at Aspis (Fig. 4.34–44). A very small semi-globular cup with everted rim and high tubular handle (Fig. 4.34) was found in a grave outside the apsidal building.[44] Dated to MH II, on the basis of the Aspis stratigraphy and parallels from Lerna and Asine,[45] this cup is probably of Aeginetan provenance. Three illustrated specimens of semiglobular cups with linear decoration (Fig. 4.35–7)[46] come from phase III and have exact parallels at Kolonna Stadt IX.[47] Two other cups from phase IV, decorated with a frieze of small festoons, are very probably of Aeginetan origin, too (Fig. 4.38, 39); although without parallels among the published material from Kolonna, they might have been among the latest imports from Aegina. The small rim fragment (Fig. 4.40) belongs to a cup or to a kantharos.

It is also probable that some of the rare fine straight-sided cups at Aspis[48] (Fig. 4.41–4) are of Aeginetan provenance. They all come from the final phase of the settlement (phase IV).

Kantharos

Aeginetan kantharoi of semigritty fabric are very rare at Aspis. In contrast, most of the kantharoi of fine fabric are probably Aeginetan in origin (Fig. 5.45–53),[49] although as was noted above, this is not always easy to confirm macroscopically. These fine and carefully decorated "Aeginetan" kantharoi, spread throughout the three occupational phases of the site, occurred in highest number in the oldest level.[50] Most of them are similar to the type B of Kolonna, dating to Stadt VII–VIII and IX (Fig.

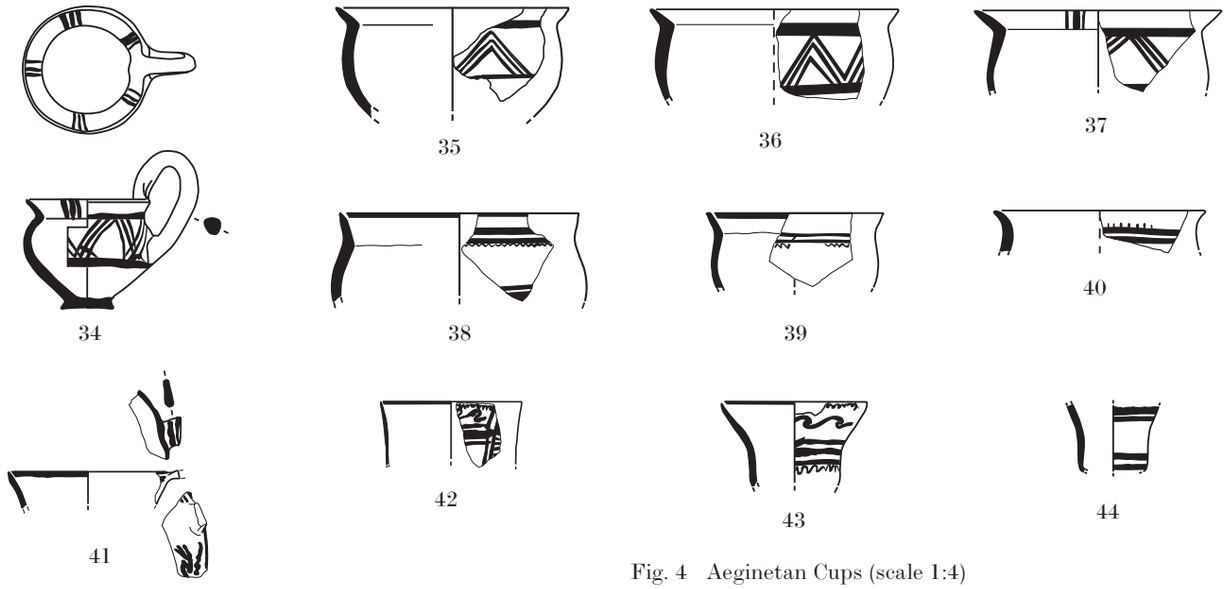


Fig. 4 Aeginetan Cups (scale 1:4)

[40] Siedentopf 1991, 43, pl. 118.794–800 (Teller).
[41] Siedentopf 1991, pl. 22.104.
[42] Vollgraff 1906, 27, fig. 45.
[43] Siedentopf 1991, pl. 55.257.
[44] Philippa-Touchais 2002, 22, no. 58.
[45] Philippa-Touchais 2002, 22 n. 95.
[46] Philippa-Touchais 2002, 22, no. 59.
[47] Siedentopf 1991, 38, pl. 102.
[48] Philippa-Touchais 2002, 22–33, nos. 63–5.
[49] Philippa-Touchais 2002, 11.
[50] Philippa-Touchais 2002, 12.

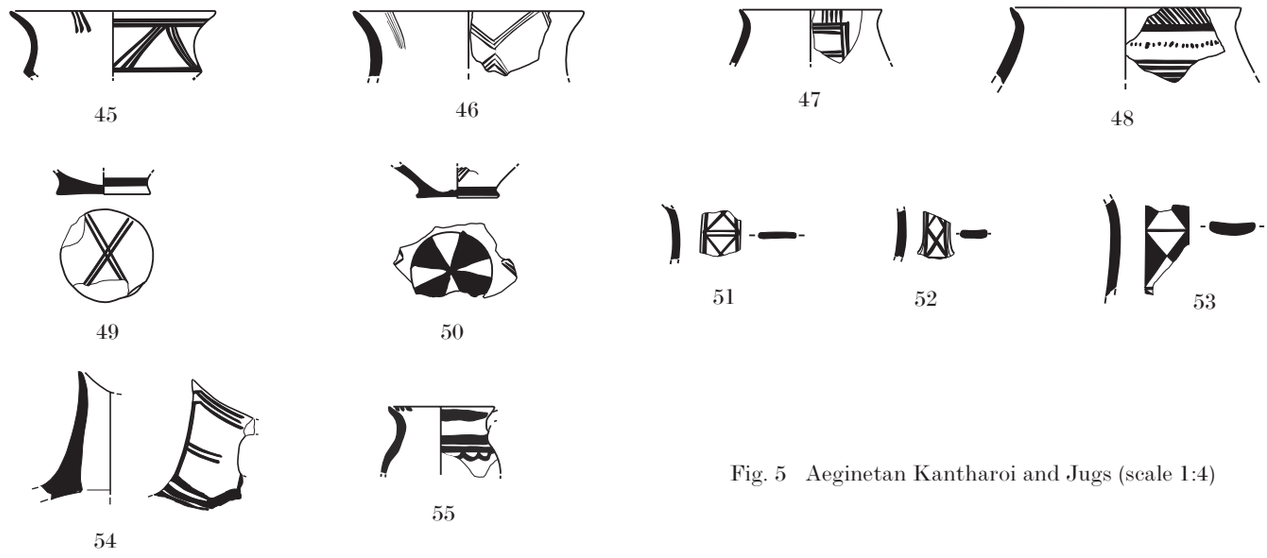
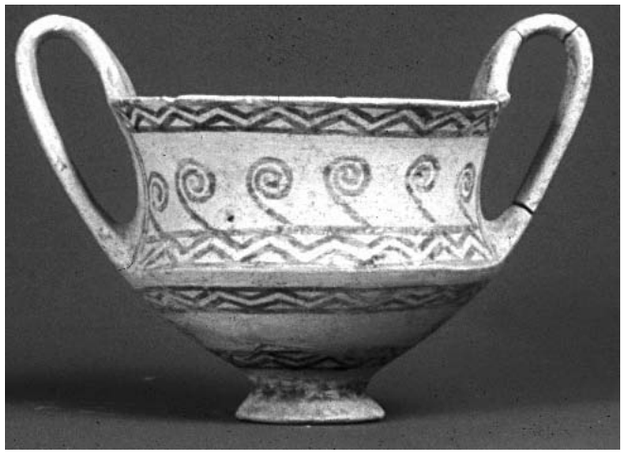


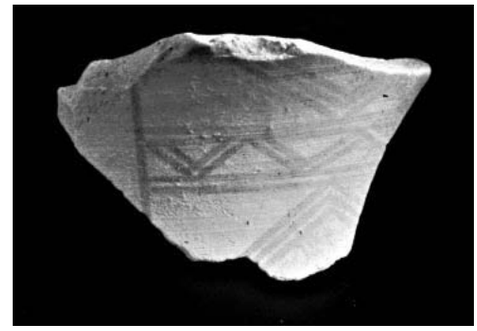
Fig. 5 Aeginetan Kantharoi and Jugs (scale 1:4)

5.45, 46).[51] Two rim fragments (Fig. 5.47, 48) have exact parallels in Kolonna type A examples dating to Stadt IX.[52] They come from Aspis phase II and III.

An outstanding example of a fineware Aeginetan kantharos with elaborate decoration (Pl. 5) comes from a MH cremation pit excavated in 1967 at the Aphrodision of Argos.[53] It is not surprising that such an exceptional tomb as this contained a vessel of such finesse. Stylistically (syntax, spiral motif) the kantharos should be dated to the extreme end of the MH period, as noted by the excavator. Its Aeginetan origin is confirmed by the presence of gold mica in the clay. Also of note is the motif of the double zigzag line popular at Kolonna from very early (Stadt VII–VIII[54] and Stadt IX[55]). This decorative motif is also found on several fragments of fine kantharoi from Aspis (Pls. 6, 7).



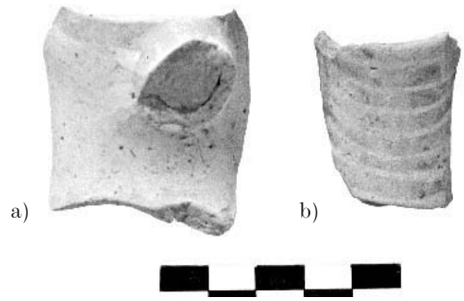
Pl. 5 Aeginetan kantharos from the Aphrodision of Argos



Pl. 6 Fine kantharos with elaborate decoration

Pl. 7 Fine kantharos with elaborate decoration

[51] Siedentopf 1991, 39–40, pls. 111–6.
[52] Siedentopf 1991, 38–9, pls. 107.675–9, 108.680–2, 109.695, 696; see also Immerwahr 1971, pl. 23.336.
[53] Daux 1968, 1037, fig. 31.
[54] Siedentopf 1991, pl. 114.737.
[55] Siedentopf 1991, pl. 115.741–3.



Pl. 8 Aeginetan jugs

Jug

The majority of jugs discovered at Aspis belong to the beaked type. Examples of Aeginetan origin are very rare and fragmentary.[56] A well-preserved example that could have been of Aeginetan origin is distantly related to material from Stadt IX (Fig. 5.54).[57] The fragment of a spout decorated with multiple horizontal lines (Pl. 8b) has close similarities to a jug from Stadt X.[58] The Aeginetan specimens found at Aspis seem to have been more carefully manufactured and more elaborately decorated than the local ones, and date to phases III and IV of the settlement.

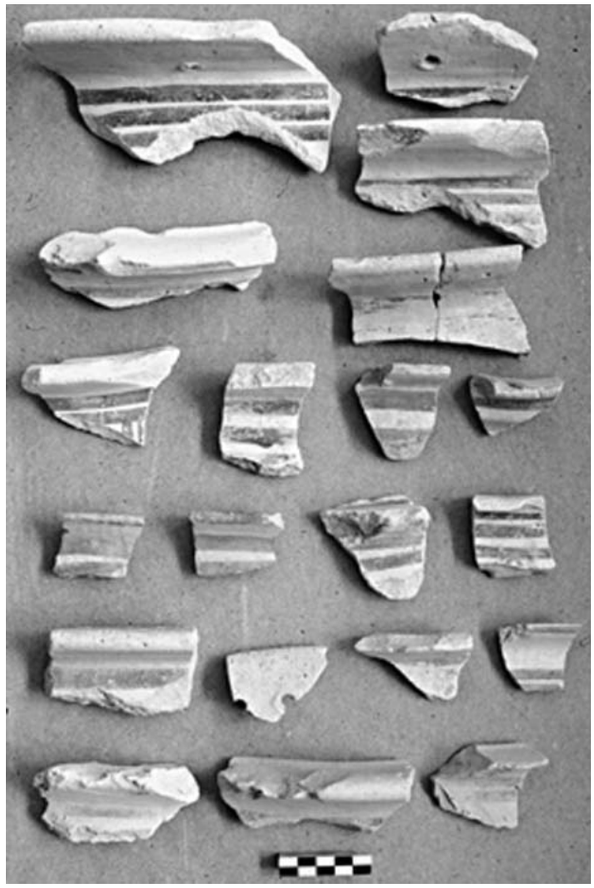
Of note is the possible Aeginetan origin of a small closed fineware vessel (Fig. 5.55), likely a ewer, coming from phase III. Its decoration, a frieze of small festoons, dates no earlier than MH IIIA. There is no parallel with a comparable decoration in the published material from Kolonna. This vessel must have been one of the latest that arrived from Aegina.

B. Storage and transport vessels

Pithoid jars from Aegina enjoyed perhaps the widest diffusion and the greatest popularity in the Aegean area.

Barrel jar

Of the 28 rim fragments of barrel jars found in the southeast sector, 21 are of Aeginetan origin (Figs. 6.56–8, Pl. 9). The only partially restored Aeginetan specimen (Fig. 6.56), of rather small size, comes from the earliest occupational phase[59] of Aspis and its decoration presents close similarities to a jar from Kolonna Stadt VIII.[60] Most Aeginetan barrel jars at Aspis come from the oldest MH phase.[61] This early date is confirmed moreover by the decoration on many body fragments (Pl. 10), very characteristic of the barrel jars from Kolonna Stadt VIII and IX (dense decoration, stars, net patterns). Many body fragments belonging to a single barrel jar,[62] probably of Aeginetan provenance, bear an elaborate decoration with parallels at Kolonna Stadt IX (Pl. 11).[63] Jars with a more simple and linear decoration[64] are found in the two more recent phases of Aspis (III and IV); they are more often manufactured of local clay and are very probably imitations of Aeginetan prototypes.



Pl. 9 Rims of Aeginetan barrel jars

[56] No more than three or four have been identified in the southeast sector (out of a total of some 30 vases) and as many in the north sector. At Lerna, the Aeginetan jugs must have been equally rare since Zerner presents only one example (Zerner 1988, fig. 9.27), dating probably to MH II.

[57] Siedentopf 1991, pls. 64–7.

[58] Siedentopf 1991, pl. 69.343.

[59] Philippa-Touchais 2002, 25–6, no. 71.

[60] Siedentopf 1991, pl. 3.4.

[61] Philippa-Touchais 2002, 25–6.

[62] This barrel jar was found in a level with mixed material.

[63] Siedentopf 1991, pls. 11–3.

[64] Reminiscent of the decorations of barrel jars from Kolonna Stadt X; see Siedentopf 1991, pls. 15–8.

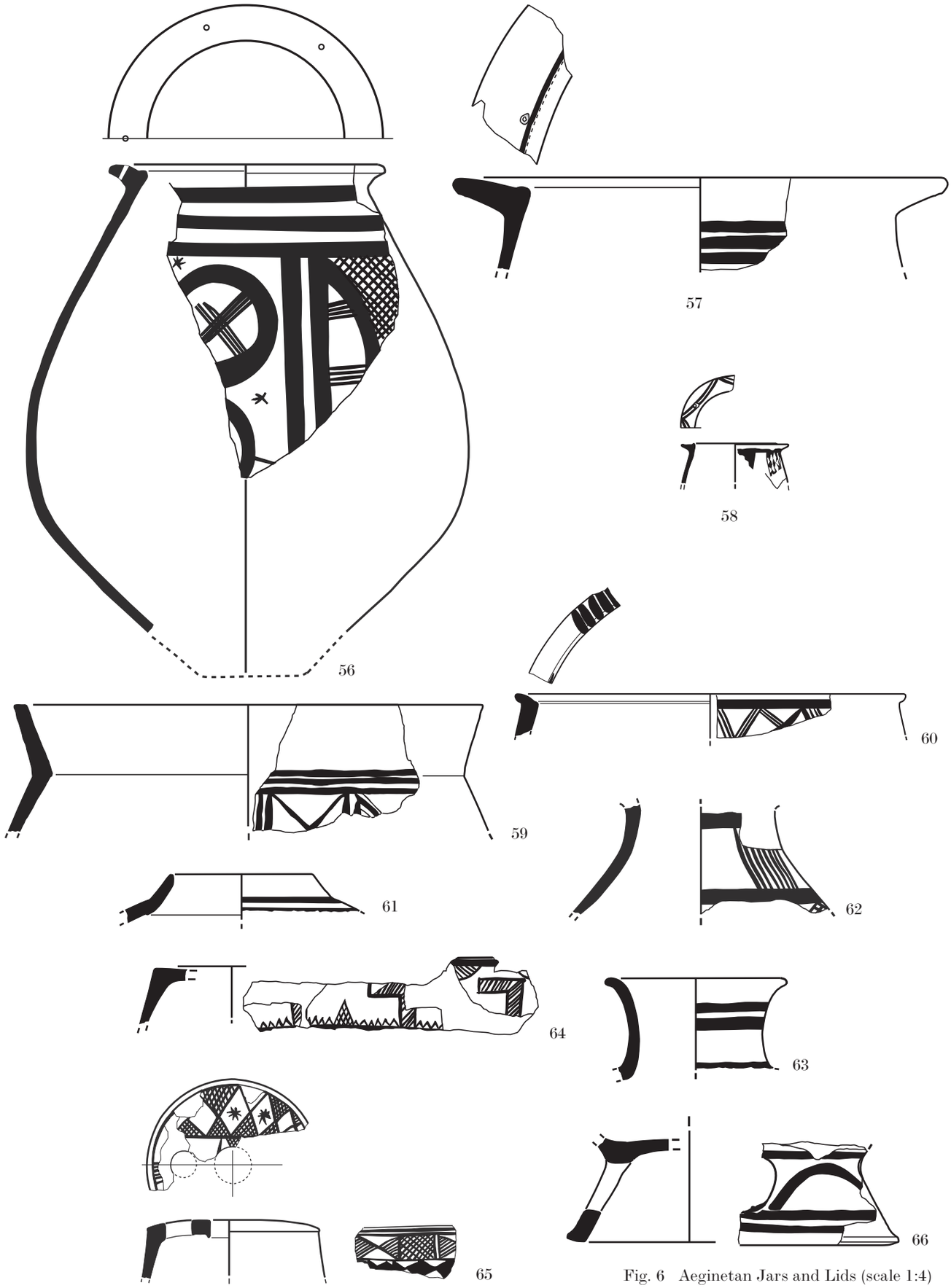
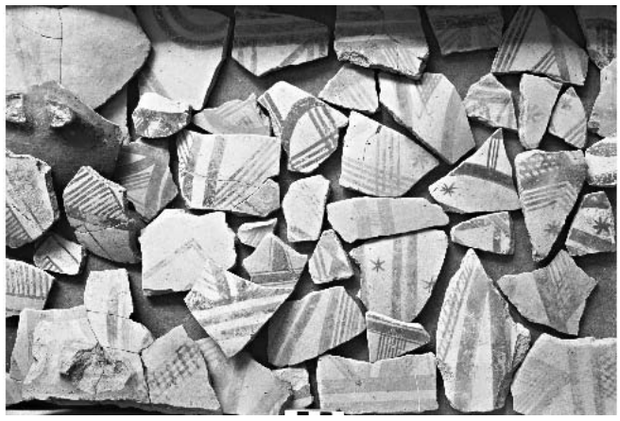
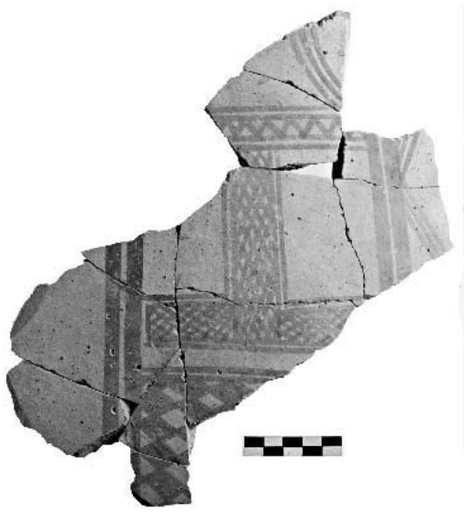


Fig. 6 Aeginetan Jars and Lids (scale 1:4)



Pl. 10 Body fragments of Aeginetan barrel jars



Pl. 11 Aeginetan (?) barrel jar with elaborate decoration

A miniature example from Aspis phase III (Fig. 6.58) has parallels in the material of Lerna dating to MH II.[65]

Wide-mouthed jar

The wide-mouthed jar (Fig. 6.59, 60) with outturned rim and ovoid body is less common at Aspis than the barrel jar. Of the 15 rim fragments discovered in the southeast sector, roughly half are made of Aeginetan clay.[66] These Aeginetan vessels appear in both the earlier phase and the two later ones. This fact is not particularly impressive since at Kolonna the vessels of this type date to Stadt IX[67] and X.[68] At Lerna, Aeginetan wide-mouthed jars appear during MH I later[69] and at Asine during MH II.[70] At Aspis, all the locally produced specimens come from the later phases (III and mainly IV), as is the case with the barrel jar.

Hole-mouthed jar

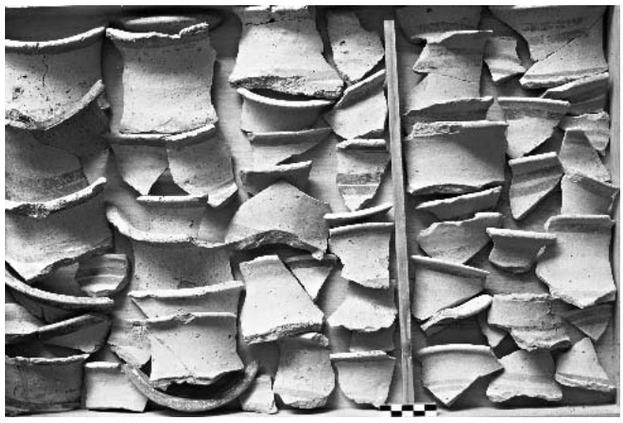
Only one specimen of the five or six hole-mouthed jars that came to light in the southeast sector is of Aeginetan manufacture (Fig. 6.61).[71] It is likewise the only one to belong to the earliest level of the MH occupation, whereas the others, locally produced, come from the final phase (IV). At Kolonna, the two published instances are dated to the earlier phases (Stadt VII–VIII).[72] Lerna has produced a comparable Aeginetan example with a low, cylindrical rim,[73] but the type is better known from the range of shapes of the Lustrous Decorated pottery.[74]

High-necked amphora with plastic decoration

Some four or five body fragments, found in the southeast sector, come very probably from the same closed vessel, a rather small-sized jar with elaborate painted and plastic decoration (Pl. 12). At Kolonna, this type of decoration is associated with a very particular amphora with a tall, wide neck and a flaring rim. This type of amphora appears in Stadt VII but is more common in Stadt VIII and IX.[75] It is very likely, then, that the Aspis fragments, which were discovered in the

Pl. 12 Amphora with plastic decoration

[65] Zerner 1988, fig. 12.35, 36.
[66] Philippa-Touchais 2002, 26.
[67] Siedentopf 1991, pls. 25.110, 26, 27.117–9.
[68] Siedentopf 1991, pl. 27.120–3.
[69] Zerner 1978, 157; 1988, 3, figs. 10.28, 11.30.
[70] For references, see Philippa-Touchais 2002, 28, n. 124.
[71] Philippa-Touchais 2002, 31–2, no. 85.
[72] Siedentopf 1991, 24, pl. 34.
[73] Zerner 1988, fig. 15.45.
[74] Zerner 1988, figs. 33, 34.
[75] Siedentopf 1991, 21–4, pls. 28–33 (Bogenrippenamphoren).



Pl. 13 Closed Jars of local (left) and Aeginetan (right) fabric

earliest habitation phase, belong to a small-sized amphora of this type.[76]

Narrow-necked jar

On the basis of their neck shape, the narrow-necked jars can be distinguished into two variations, the type with flaring rim and the type with cylindrical neck, or amphora.

1. The narrow-necked jar with flaring rim and piriform or ovoid body is particularly popular at Kolonna Stadt IX;[77] some examples of larger size are well known from their unique decoration of ships and armed men.[78] At Aspis, this type of jar manufactured from Aeginetan clay is very rare, represented by only two neck fragments from the oldest phase (Fig. 6.62).[79] It is far more common in the Lustrous Painted version.[80] At Lerna, the Aeginetan jars of this type are much more numerous and are assigned to MH I;[81] this date might be considered rather early, if indeed at Kolonna this jar does not appear before Stadt IX (MH II).[82]

2. The jar with cylindrical neck (Fig. 6.63) is definitely more common at Aspis, where it is represented by some 20 neck fragments of Aeginetan provenance (Pl. 13, right side of the drawer).[83] Most of these specimens were found in the earliest habitation level, but

Pl. 14 Fragment of Aeginetan conical lid

many of them are also present in the later layers (phases III and IV). This type of jar is therefore among the few Aeginetan vessels that were imported continuously at Aspis, in relatively large numbers, until the end of the MH period. At Kolonna this type is diachronic, appearing as early as Stadt VII–VIII,[84] but more common during Stadt IX[85] and Stadt X.[86] The Aspis examples present exact parallels to the material of these latter Aegina phases.

Lid

Four examples of cylindrical pithos lids of Aeginetan manufacture have been found in the southeast sector of Aspis.[87] Two of them preserve a nearly intact profile (Fig. 6.64, 65); their small diameter (13 cm) suggests that they might have been used to cover hole-mouthed jars or narrow-necked jars with flaring rim. Two holes on the upper part of one of them (Fig. 6.65) were probably destined to receive a handle, similar to that of an example from Kolonna.[88] All these Aeginetan lids come from the earliest MH phase of the Aspis settlement. Exact parallels – that is, small-sized examples of a similar cylindrical form – are very rare from Kolonna, at least among the published material, and their dating has not been precisely determined.[89] However, the elaborate decorative repertoire of the Aspis specimens has very close similarities to that of the jars from Kolonna Stadt IX.[90] The early dating of these lids is also indicated by the synchronic presence, at

[76] This type is also known from a well-preserved example at Eutresis (Goldman 1931, fig. 203, pl. XIII).
[77] Siedentopf 1991, 27 (Amphoren Gruppe B), pls. 49–53.
[78] Siedentopf 1991, 24–5, pls. 35–8.
[79] Philippa-Touchais 2002, 30–1, no. 82.
[80] Philippa-Touchais 2003, 19–24.
[81] Zerner 1988, figs. 13, 14.
[82] Siedentopf 1991, 27, 45.
[83] In comparison with the jars manufactured in local clay (some 25 rim fragments: fig. 18, left side of the drawer), the Aeginetan specimens carry a more standardized decoration (Philippa-Touchais 2002, 28–30, no. 78).
[84] Siedentopf 1991, pl. 39.
[85] Siedentopf 1991, pls. 40–5.
[86] Seidentopf 1991, pls. 46–8.
[87] Philippa-Touchais 2002, 35–6.
[88] Siedentopf 1991, pl. 54.256a.
[89] Siedentopf 1991, 28 (Gruppe B) and pl. 54; on their dating, see also Philippa-Touchais 2002, 36 n. 172.
[90] Siedentopf 1991, e.g., pls. 30.136, 33.150–4.

Pl. 15 Aeginetan Potmarks, North sector

Pl. 16 Aeginetan Potmarks, South-eastern sector

Aspis as at Lerna, of an identical type of vessel in the category of Lustrous Painted pottery.[91]

Only one fragment has been identified as belonging to a deep conical lid similar to those of type C from Kolonna (Pl. 14).[92] Its decoration presents very close affinities to a specimen from Kolonna[93] and to a fragment found during the earlier excavations at Aspis.[94]

Pierced stand

Finally, we can mention the only example of a pierced stand of Aeginetan provenance, belonging to a closed vessel (Fig. 6.66).[95] Exact comparanda from Lerna are dated to MH II–III,[96] while those from Kolonna are from Stadt IX.[97] The pierced stand from the Aspis came to light in the uppermost MH level, which frequently contains mixed material.

Potters' marks

Before closing the presentation of data, I will refer briefly to the potters' marks appearing on the Aeginetan matt-painted vessels from Aspis. The only certain matt-painted vessel bearing a potmark is the bowl with inturned rim referred to above (p. 100) (Fig. 1.11, Pl. 3). Of the 31 further vessel fragments with potmarks,[98] seven are from Aeginetan "plainware" vessels (Pls. 15, 16). However, since the potmarks always appear on or near the base of the pots – which in the case of matt-painted vessels is very rarely decorated – it is probable that some (if not all) of these seven "plainware" fragments belong in fact to matt-painted vessels.[99] Most of them belong to closed shapes – only two belong to open vessels –and come from the first occupation phase of the settlement. The execution and positioning of the marks follow the patterns known from other sites.[100] As to the signs of the marks themselves, all but two (Pl. 16, top left and right)were previously known.[101]

Discussion

Synchronisms

After this survey of the Aeginetan matt-painted vessels found at Aspis, and before we turn to a discussion of the questions raised in the introduction, I would like to make some observations concerning the synchronisms between the occupational phases at Kolonna and at Aspis.

In the earliest level of Aspis (phase II), the pottery of Aeginetan production dates exclusively to Kolonna Stadt VII/VIII (mainly VIII) and IX (MH I late and II). This may be a clear indication that the first settlement of Aspis is their contemporary and

[91] Philippa-Touchais 2003, 31–2; Zerner 1988, fig. 29.13–5.
[92] Siedentopf 1991, 28–9 (Deckel Gruppe C) and pls. 55–8.
[93] Siedentopf 1991, pl. 55.258.
[94] Vollgraff 1906, 26, fig. 40.
[95] Philippa-Touchais 2002, 35.
[96] Zerner 1988, fig. 9.25, 26.
[97] Siedentopf 1991, 35, pl. 88.
[98] In addition to the 7 on plainware (MC2), there are 3 on red-slipped ware (MR2), 5 on coarse cooking ware (GR2), and 16 on Lustrous Decorated ware (PL). We note also that of the total 32 potmarks, 13 come from the southeast sector and 19 from the north sector of the excavation.
[99] Lindblom (2001, 34–5) considers matt-painted and plain ware as one group.
[100] Executed before firing, consisting of shallow oval or circular depressions and/or incised short lines, placed on the base or the lower part of the body; see Lindblom 2001, 45–7.
[101] Without parallels in Lindblom's corpus of potmarks (Lindblom 2001, 48–50).

that its destruction is to be placed no later than the end of MH II.[102]

In the second MH level of Aspis (phase III), where parallels with the Grave Circles at Mycenae have been recorded (mainly Circle B),[103] Aeginetan material from Kolonna Stadt IX (MH II) is again present, beside pottery dated to Kolonna Stadt X (MH IIIA). The presence of material from Kolonna Stadt IX does not constitute a problem if the first settlement of Aspis was not destroyed at the very end of MH II, but rather somewhat before. Consequently, the second MH phase of Aspis should be placed between the expiring Kolonna Stadt IX and Kolonna Stadt X[104] – perhaps more particularly before the end of the latter.

The latest habitation level at Aspis (phase IV), dated to MH IIIB–LH IA,[105] contains Aeginetan material mainly from Kolonna Stadt X, but also from Stadt IX. The presence of Stadt X pottery should indicate that the final phase of Aspis begins before the end of Stadt X. Nevertheless a problem of synchronism is revealed by the presence, in this same level, of Aeginetan ware dated to Stadt IX. If the presence of this early material is not merely a question of survival, it would indicate the continued production of certain Aeginetan pottery types (such as the bowls with angular shoulder and outturned rim), probably because of their popularity, at least "abroad". If the further pottery study on Aegina confirms that these ceramic types, characteristic of Stadt IX, are not also present at Kolonna Stadt X, we could suggest that they were produced perhaps only for exportation.

Let us now discuss the two questions raised in the introduction, concerning: (1) the large quantity of Aeginetan matt-painted pottery at Aspis, and (2) the variations in its temporal distribution.

Quantity of imported Aeginetan matt-painted pottery

The large quantity of Aeginetan matt-painted ware at Aspis is probably not independent of the general popularity and the widespread distribution of this ware.[106] This great popularity must be connected with the special physical characteristics and the possible specific uses of this ware, making the Aeginetan vessels unique and desirable.

A. Physical characteristics

Decoration: With their rich and elaborate decoration, Aeginetan vessels were obviously very attractive. As already observed elsewhere, the decorative technique of the Aeginetan ceramics at Aspis is characterized by a remarkable precision and by a greater inventiveness than the local production.[107] It has been noticed, in addition, that some Aeginetan pottery types are associated with a particular ornamentation.[108] Therefore, the aesthetic aspect must have constituted one of the reasons for the widespread demand and distribution of this pottery. We could even suggest that through the wide distribution of these products, the Aeginetan workshop might have influenced contemporary aesthetics and, in a sense, might have imposed the canonical expression of the "beautiful". This proposal is reinforced by the fact that imitations of Aeginetan pottery are produced, in relatively great quantities, by the local Argive workshop, particularly from the middle of the period.[109]

Technology: In spite of the high aesthetic quality of the vessels, success would not have been possible without a good and consistent quality of manufacture. Microscopic analyses of the clay, both chemical and petrographic,[110] reveal, in fact, that the Aeginetan ceramics exhibit consistent technological characteristics, which testify to a standardized and specialized production. This technological superiority (appropriate levigation, constancy in clay composition, controlled firing conditions, standardized shapes), in combination with the volcanic nature of the clay, would have given the vessels a particular durability and suitability for their desired use (e.g., providing stable conditions for the storage of foodstuffs).

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[102] Concerning the Minoan connection, the terminus post quem of this phase is marked by the presence of some "minoanizing" material with parallels to MM IA (Philippa-Touchais 2003, 10–2, 34), whereas its terminus ante quem is marked by the appearance of some rare ceramics imitating the Kamares style (*ibid.*, 25, 34).

[103] Philippa-Touchais 2002, passim.

[104] It is worth noting that some characteristic traits of the early Shaft Graves ceramic repertoire, such as the frieze of small festoons, are not present among the published material of Kolonna Stadt X, dating traditionally to MH IIIA, and therefore contemporary with Aspis phase III. If there is not a problem of synchronism, is this because such elements are simply lacking among the Kolonna Stadt X material, or because this material is not yet fully published?

[105] Philippa-Touchais 2002, 3, 39.

[106] See n. 2 above.

[107] Philippa-Touchais 2002, 38.

[108] Philippa-Touchais 2002, 6 and n. 14.

[109] Philippa-Touchais 2002, 31.

[110] See n. 10 above.

In summary, the physical characteristics of the Aeginetan pottery clearly proclaim the workshops' specialization and largely explain the popularity of their products.

B. Use and function

In order to address the possible use(s) of these "καλλά κ'αγαθά" imported Aeginetan vessels and the potential needs that they may have filled, it is necessary to examine the basic repertoire of their shapes.

On the basis of the Aeginetan matt-painted material presented above we can establish that while the repertoire of shapes may appear at first glance to be wide, it is essentially rather limited since some types of vessels occur very rarely, suggesting that they were not imported regularly.[111] The most frequently represented shapes in the Aspis assemblage are bowls, barrel jars and narrow-necked jars, while cups, kantharoi and jugs are exceedingly rare. Thus, the imported vessels belong most commonly to the category of storage vessels, but belong also to that of table wares.

The large number of Aeginetan matt-painted storage vessels suggests storage need, but not so much an increased need for storage in general as for storage differentiation. Using containers of high aesthetic and specialized technology indicates a specialization in storage management – that is, the use of specific vessels for specific products. Moreover, it indicates a desire to display the storage of these specific products, which should have had some special value. It would follow that these imported Aeginetan vessels not only covered simple economic needs, but also filled a complex function with social and symbolic dimensions.

The rather large number of necked jars likewise indicates similar needs for display and differentiation in the transport and storage of liquid products. If, as it has been suggested, the Aeginetan amphoras were employed for the transport and storage of water,[112] it is probable that this practice was connected with exceptional circumstances, such as feasts and ceremonies.

Bowls most likely saw multiple uses, with a definite emphasis on serving. The Aeginetan bowls, due to their large size and elaborate decoration, were probably not destined for daily use within the family context, but rather for larger and exceptional gatherings. It is hard, for example, to imagine that the large and fragile bowl on a pedestal foot from Aspis (Fig. 1.1, Pl. 1) would not have been kept with special care and reserved for special occasions only.

Consequently, for the three basic types of imported Aeginetan matt-painted vessels, the data lead us to suggest not a daily but rather a formal use with very probably a symbolic character. These vessels were perhaps desired not only for their aesthetic and technological perfection,[113] but also for function as prestige objects during communal manifestations of a likely ritual nature.

Temporal distribution of the imported Aeginetan matt-painted pottery

Aspis phase II (MHI–II)

We have shown above that, according to the data from the ceramic analysis, the presence of Aeginetan matt-painted pottery is much more pronounced in the first settlement phase of Aspis. A possible explanation for this phenomenon may be sought in a need for high-quality painted pottery, which the local production could not cover at this early stage, probably due to a lack of appropriate technical infrastructure or technological knowledge. Indeed, the results of the ceramic analyses indicate that the local production exhibits a wide technological variability, suggesting nonspecialized manufacture with several coexisting craft traditions.[114]

Normally, the low level of specialization and the lax control of production imply a low socioeconomic organization and weak hierarchical structures. Was this, in fact, the character of the earlier Aspis community, and if so, for what reason did they import all these "luxury" vessels for which we postulated a prestige function? Is there not a contradiction present here?

Unfortunately, the building remains from this phase of the settlement are too insignificant to give an idea of the architectural layout and thus of the socioeconomic organization. The only data currently available concerns a rather rich ceramic assemblage. Notable among its components is the presence of another imported painted ware, the Lustrous Decorated ware, of Minoan inspiration, for which we have

[111] Lindblom 2001, 35.
[112] Zerner 1993, 49–50.
[113] "As superior alternatives to local ones": Lindblom 2001, 42; see also Zerner 1993, 55 n. 62.
[114] Kilikoglou *et al.* 2003, 134; Philippa-Touchais 2002, 37.
[115] Philippa-Touchais 2003, 36–7.

also postulated a specific use.[115] On the basis of the existence of these two main imported pottery categories (Aeginetan matt-painted and Lustrous Decorated ware), and assuming that they did have the symbolic character we have assigned to them, we would venture to suggest the existence of a kind of local "elite" which tried, through special manifestations and rituals, to exhibit its pretensions and compete with other groups of high social and economic status, on Aegina and perhaps on Crete. In other words, during this early phase, the Aspis community – despite the absence of an advanced social organization – entertained important relations with the external world, through which it attempted to accommodate the great expectations of at least some of its members.[116]

Aspis phase III–IV (MH IIIA/B–LH IA)

It has been observed that in most MH settlements the number of imported Aeginetan vessels seems to increase through time.[117] At Aspis we are faced with the opposite phenomenon – that is, the gradual decrease of Aeginetan pottery, at least of the matt-painted category.[118] This phenomenon, since it is not apparently connected with a decrease in Aeginetan production or some problem in the trade network, should indicate a reduction in the demand for Aeginetan matt-painted vessels at Aspis. It is worth noting that the same picture of a decreasing presence through time has been observed in the second category of imported pottery at Aspis, the Lustrous Decorated ware.[119] The reason for this voluntary reduction in imports does not seem to be connected with some kind of economic crisis since, after the destruction of the first settlement at Aspis, life not only continued on the hill but instead flourished as the settlement was reorganized, and during its latest phase it acquired a monumental character and very probably a fortification. The explanation is rather to be sought in some social changes (change in practices, in the use of space, etc.) and/or the development of the local ceramic production, which must have covered, to a large extent, the demand. This local production, although never attaining the quality of the Aeginetan products or prototypes, gradually became particularly creative. In fact, the insistence on the production of some ceramic types of mainland tradition (kantharoi, goblets), in combination with the decline in imports, should indicate that the local society, contrary to others in the region (like that of Mycenae), presents signs of a kind of introversion and a desire to affirm its "Helladic" identity.[120]

Conclusions

In conclusion, I would like to highlight a point which seems to me of particular importance: the wide distribution of Aeginetan pottery during the MH period indicates not only the existence of a developed trade network over a large area of the mainland and the islands, but also the existence of a *network of common references*. People who used the Aeginetan vessels (and perhaps also those who could not obtain them) must have been instantly aware not only of their provenance, but also of their function and significance. Therefore, the special manifestations supposed to be connected with this pottery, and whatever they celebrated or symbolized, were known to and acknowledged by a large part of the MH world, constituting a common present and a common "vocabulary". These common references could not refer to anything but an ideological coherence, a sort of MH "koine", which apparently was developed from a very early stage of the period, at least from the end of MH I, with the decisive contribution of Aegina.

[116] Philippa-Touchais 2003, 40.
[117] Lindblom 2001, 40–2, with previous bibliography.
[118] See n. 3 above.
[119] Philippa-Touchais 2003, 33–4.
[120] *Ibid.*, 40–1.

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Early Mycenaean Mortuary Meals at Lerna VI with special Emphasis on their Aeginetan Components

Michael Lindblom

Abstract

The integrative role played by feasting in the creation and maintenance of hierarchical social relations is well documented in the archaeological and ethnographic record. During the past decade, several archaeological contexts from the Bronze Age Aegean have been interpreted as remains of such activities. It is argued that a large portion of the mortuary remains from the two shaft graves at Lerna VI represent clear examples of this phenomenon already at the beginning of the Mycenaean period. Arguments for such an interpretation are presented here, followed by an overview of the Aeginetan component in the assemblage.

Introduction

Half a century has elapsed since the discovery of the two shaft graves at Lerna. As a full account of their remains is in preparation, the remarks that follow offer only some preliminary thoughts on a few aspects of the pottery retrieved during excavation.[1] The first concerns the depositional history of the pottery in the fill of the shafts. Although a bit more complicated than in many other circumstances, this exercise is a prerequisite to understanding the possible circumstances and, ultimately, the motives behind its final deposition. A second aspect of the pottery to be discussed here involves a selective presentation of the vessels imported from the island of Aegina and a tentative evaluation of their bearing on the overall interpretation of the material. Needless to say, further analysis of the material may produce results that modify or even supersede this preliminary presentation.

The Shaft Graves

A short account of the excavation of the two graves will serve as a springboard for the discussion of the ceramic vessels. The first shaft grave (SG 1) at Lerna came to light in the northeast corner of area B on July 28, 1954 (Fig. 1).[2] In his field notebook, the trench supervisor Spiridon Charitonides remarked that "it is very probable that we have a shaft grave here. So from now we shall distinguish its filling by layer giving new number at each one of them." The outline of the shaft was recognized as a rectangular patch of soft, gray earth close to the surface at approximately 7 m above sea level. It measured roughly 2.50 m east to west and 4 m north to south. The shaft continued downward for more than 2 m and was excavated in artificial units called pottery lots, consisting of a letter designating the area and a consecutive number. Mixed in the filling were large quantities of Late Helladic (LH) I pottery and animal bones as well as some worked objects of different materials.

Beneath the soft filling was a layer of compact, reddish brown clay covering the entire floor of the excavated pit. The grave chamber was found immediately below this layer in the form of four walls built of large, flat slabs of stone. There was a gap over a meter wide in the western wall. The grave contained brown earth mixed with some stones probably fallen from above. Under the debris was a floor of rounded beach stones. No funerary remains, either in the form of grave offerings or human bones, were found despite additional soundings below the paved floor. This lack of finds, in combination with the damaged western wall, led Caskey to suggest that the grave had been robbed of its contents and that the fragmentary pottery in the fill had initially been part of the funerary offerings accompanying the deceased in the grave.

The following year a second grave (SG 2) of similar construction and content was excavated only 5 m to the east of the first one (Fig. 1).[3] The shaft was somewhat larger in plan than the previous one and the grave had been sunk more than 3 m into the ground. The bulk of the sherds recovered from the filling did

[1] In the fall of 2002 the Lerna Publication Committee invited me to undertake the publication of the remains from Lerna VI. Besides a handful of pit and/or cist graves, the material consists primarily of ceramic material recovered from the two shaft graves excavated in 1954 and 1955 and subsequently published in preliminary form by John Caskey in *Hesperia*.

[2] Caskey 1955, 32–4, pls. 15–7.

[3] Caskey 1956, 155–7, pls. 39, 41c.

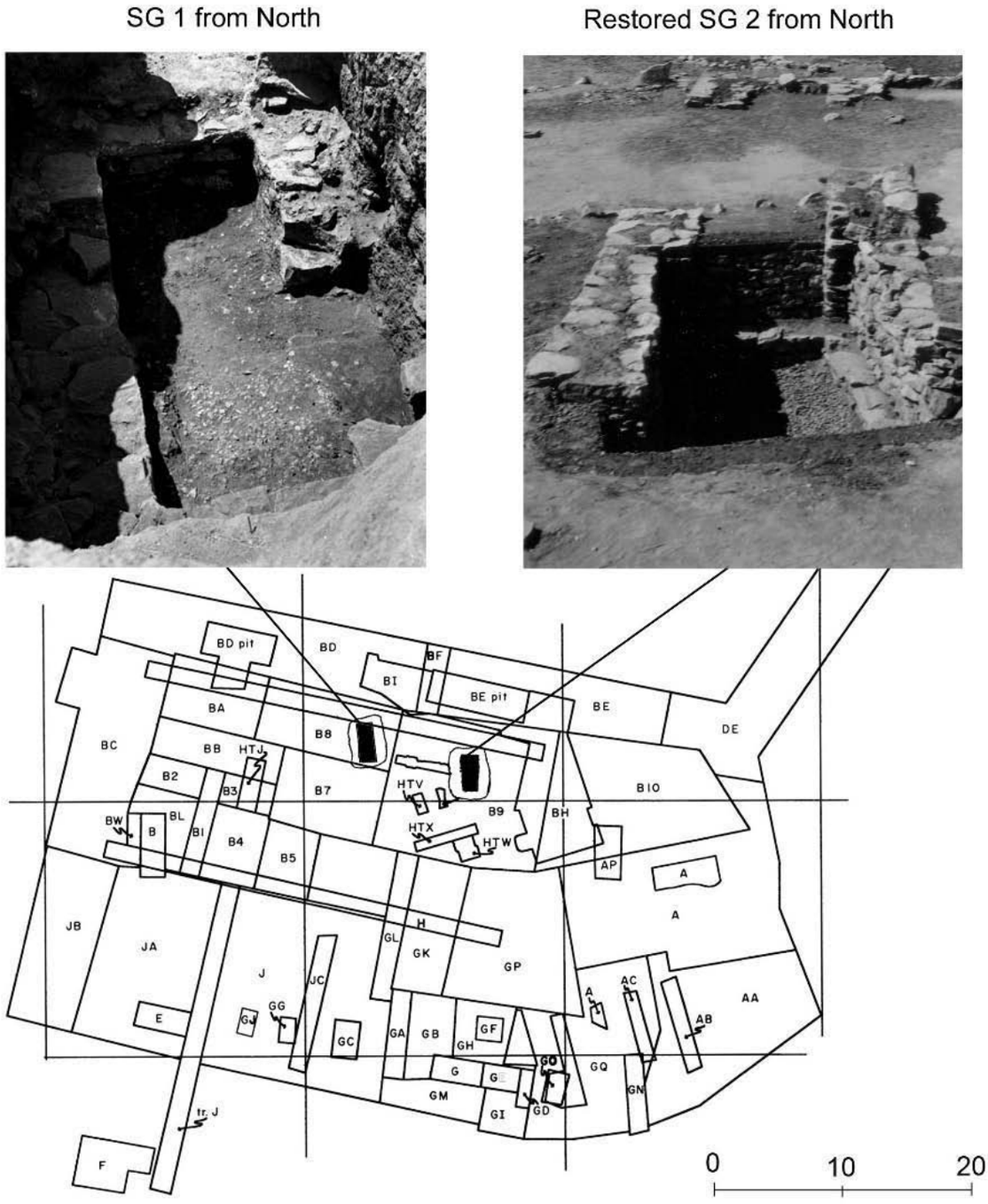

Fig. 1 General excavation plan of Lerna with the two shaft graves (SG 1-2) indicated

not differ qualitatively in any apparent way from those in SG 1 but appeared in larger numbers.

The collapsed grave chamber was enclosed by remains of four badly damaged stone walls and was floored with pebbles. Once again, there were clear signs that the funeral content had been removed. In the middle of the pebbled floor a couple of small bones, mainly tarsals and metatarsals, of an adult indicated that the grave had originally held at least one person.[4] Still left in chamber, in the southwest

[4] Angel (1971) did not include in his study the human bones found on the floor of SG 2.

Fig. 2 LH I Mainland Polychrome Vapheio Cup (L.598) and Semiglobular Cup (L.597) from SW corner of floor in SG 2 at Lerna

corner, were two complete LH I mainland polychrome cups, apparently funeral offerings (Fig. 2).

Depositional History

There is no unambiguous evidence as to when the shaft graves were opened and stripped of their content. However, a rectangular cutting about a meter down along the southern rim of the shaft in SG 2 held an upright slab of stone at the bottom. In the hollow thereby created, two largely restorable LH III kylikes (FS 267) had been placed. Martha Wiencke has suggested that they are remains of a commemorative ceremony performed at the grave either in connection with or after the removal of the contents.[5] Indeed, with no later intrusive pottery in the shafts, it is hard to escape the notion of a Mycenaean exhumation of the bodies and removal of the funerary offerings. Furthermore, as will become evident, the chronologically very homogeneous pottery assemblage excavated from the two shafts also indicates that much of the soil, intermixed with material, was put back soon if not immediately after the removal of the bodies.

Except for the fact that the graves contained no burials when excavated, the strongest indication of their disturbed condition is provided by pottery joins within or between the two shafts (Fig. 3). Although some joins may well have been overlooked during analysis, there can be no doubt about the mixed character of the fill in each shaft. Additionally, it can be surmised that the refilling of each shaft utilized material from the same source. As a result of these findings, the original lots were combined into larger units, better corresponding to the noticeable divisions within the graves (Fig. 4). Units B733 (SG 1) and B1536 (SG 2), for example, correspond roughly to the shaft of each grave, although some additional material is to be found in surrounding units as well.

Had the shafts been left open and the grave chambers exposed after the removal of their burials, it would be natural to assume a more or less even pace at which the two pits were gradually filled up with settlement debris. Discarded fragments from the same vessels would have been deposited at approximately the same level in each shaft. This is not the case, however. Instead, the soil and broken pottery was thrown back into the shafts so that sherds from one vessel ended up at very different levels, best illustrated in the long vertical distance between some joining pottery fragments. Also, except for the very small number of LH III sherds probably intentionally deposited some distance down in the shaft of SG 2, there are no later intrusive sherds in units B733 and B1536. These two observations constitute a powerful contextual argument that the LH I vessels excavated from the shafts were deliberately redeposited at a single moment in time soon after the removal of the skeletons in the LH III period. Hence, although we do not possess complete and undisturbed funeral assemblages from the graves, we should still regard

[5] Wiencke 1998, 201; cf. Caskey 1956, 157 and Blackburn 1970, 171.

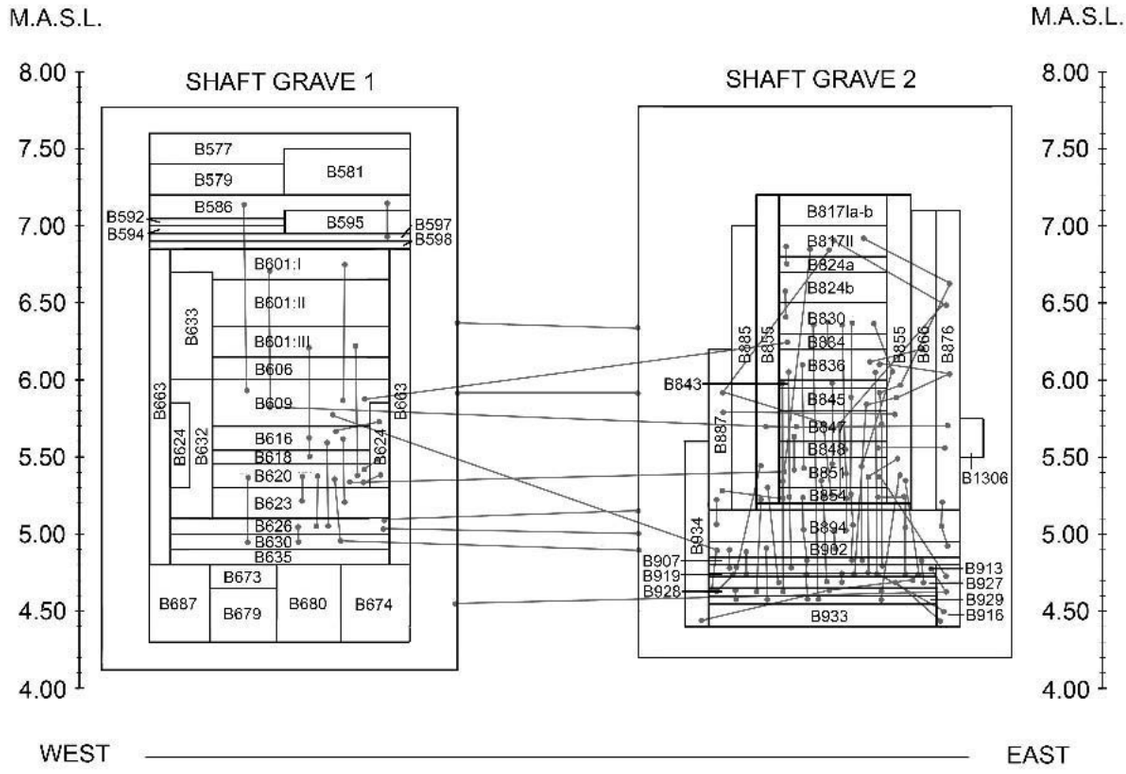

Fig. 3 Schematic sections of SG 1 and SG 2 at Lerna with selected pottery lots recorded during excavation. Each dot within a lot represent one pottery fragment, consisting of one or more sherds, while the connecting lines represent joins between them

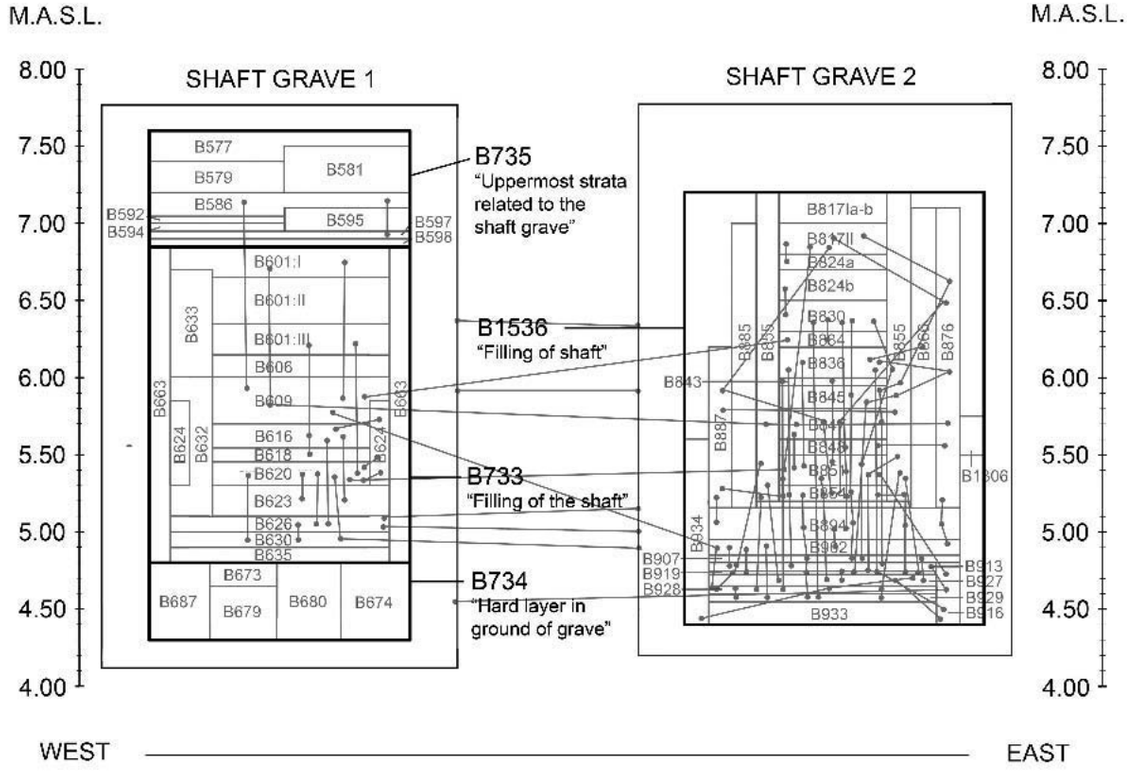

Fig. 4 Schematic section of SG 1 and SG 2 at Lerna with pottery lots combined into lager analytical units

the material from the fills, including also the faunal remains and the miscellaneous nonceramic objects, as integral parts of the original burials.[6]

The Pottery

Depending on the properties considered – whether mineralogical constituencies in the clay, manufacturing techniques, shapes, surface treatment or decoration – the fragmentary vessels from the two principal units B733 and B1536 can be sorted in a number of different ways. To facilitate comparisons, a division similar or identical to that used in many previous studies of ceramic assemblages from Early Mycenaean (EM) deposits in the central and southern Greek mainland is presented below (Fig. 5). The quantification is based on sherd counts by Caskey and other excavators during initial analysis of the pottery and before any substantial discards. While the fill in SG 1 contained around 4,000 sherds, the shaft in SG 2 held at least 11,000 and possibly up to 14,000 sherds.[7] Only a very small number of these, ca. 120 sherds, were intrusive from Early Helladic (EH) and Middle Helladic (MH) layers surrounding the shafts.

A wide range of pottery classes were present in the shafts. Several matt-painted and unpainted vessels of fine- or medium-tempered fabric reveal only subtle or no differences from those in use in the northeast Peloponnese during the end of the MH period. Others, however, place us firmly within the LH I period. Pattern painted decoration in a matt, bichrome style, found on mainland polychrome and Aeginetan bichrome vessels, suggest such a date. Sherds with iron-based paint, either lustrous pattern-painted on a light background or as a semi-lustrous to lustrous background for white pattern-painted decoration, provide even more compelling evidence (Fig. 6).

It is difficult to determine what to make of the different amounts of pottery in the two shafts, both in total number of sherds and in their distribution among various pottery classes. For instance, SG 1 contained a higher ratio of plain, unburnished pottery than SG 2, while the latter showed a higher percentage of painted Aeginetan vessels. If we consider the depositional history of the pottery, including the opening and refilling of the shafts in LH III resulting in numerous joins between the two shafts, it is perhaps best to treat the content of both shafts as one analytical unit. As such, it reveals some remarkable traits.

Comparisons With Contemporary Settlements

A comparison of the pottery from the shafts with contemporaneous settlement contexts on the southern and central Greek mainland is hampered by a general dearth of published material. At Lerna itself, the settlement was probably located some distance to the northeast of the shaft graves, in area D, but we know very little about its ceramic remains. Even when excavators have taken great care to describe and differentiate various types of LH I pottery at other settlements, the sherds have been few, as at Tsoungiza and Kiapha Thiti, or have been subject to previous discards, as at Korakou.[8] Statistics from Sören Dietz's study of some deposits from LH Asine can, however, serve as a general reference point (Fig. 7).[9] A few hours' walk away, this coastal settlement probably shared many formal traits also found at contemporary Lerna.

Three differences in the comparison of the pottery assemblages are particularly striking. The most apparent is the significantly lower percentage of unpainted, unburnished pottery in the Lerna shaft graves. While this type of pottery amounts to 38 percent at LH I Asine, its frequency reaches only 12 percent in the shaft graves. Second, the Lustrous Mycenaean pottery, novel for the period, is much more common in the shafts than in an ordinary settlement context. At Asine this type of pottery accounts for only 1 percent of the total pottery measured by sherd count. An even lower ratio was

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[6] Gejvall 1969 (animal bones); Blackburn 1970 (miscellaneous finds). Subsequent analyses by David Reese of the saved animal bones and by Elizabeth Banks and me of the miscellaneous objects kept in the Argos museum will supplement or modify previous results.

[7] The standard estimate of pottery quantities at Lerna were in "baskets". The shaft of SG 1 contained 13–14 baskets of pottery, while the shaft of SG 2 contained approximately 30 baskets. These figures say little more than that the latter shaft contained more than twice as many sherds as the former. Several discards of pottery after the excavation render many quantitative estimates impossible today. Before these occurred, however, Caskey carefully noted the number of sherds in selected ware groups and the percentages of most other wares present in units B733 and B1536. Combined with a knowledge of the criteria behind Caskey's classification, these numbers allow for a rather detailed reconstruction of the assemblages' internal composition as retrieved during excavation.

[8] Rutter 1989; Maran 1992; Davis 1979.

[9] Dietz 1991, 93, fig. 26.

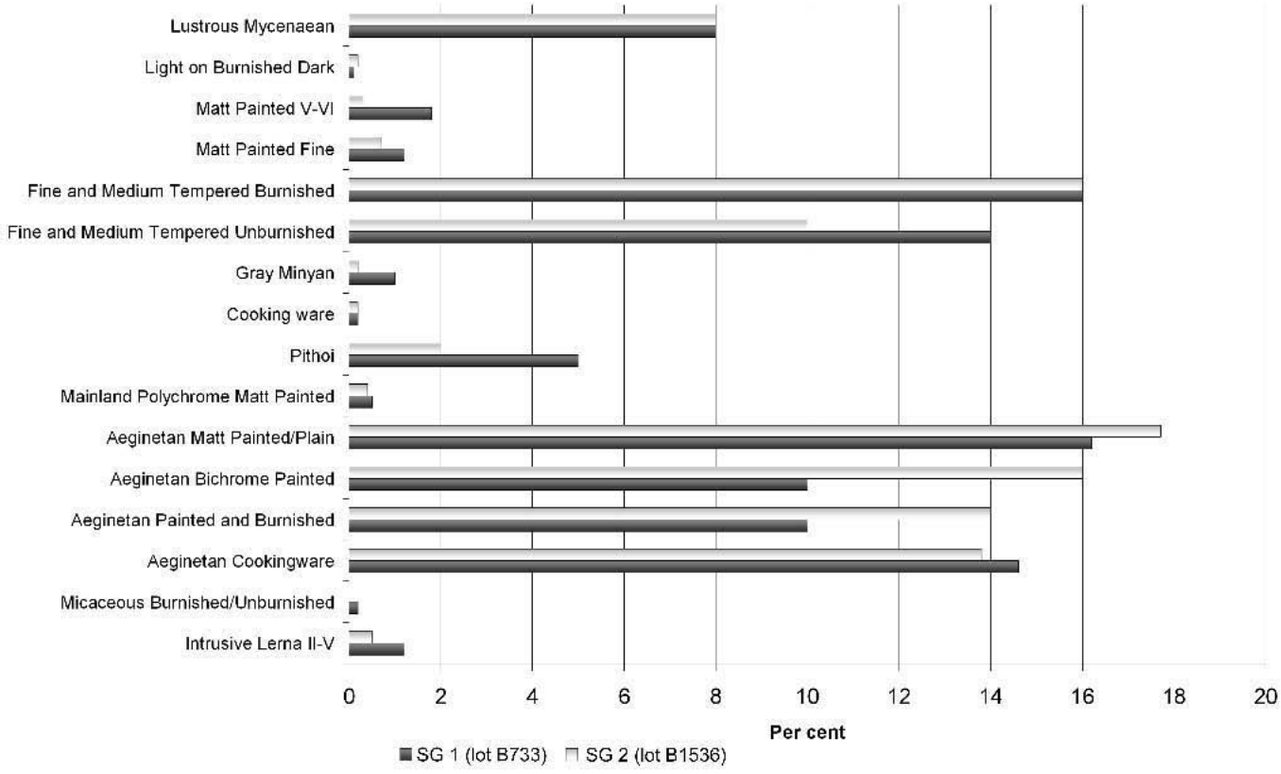

Fig. 5 Distribution of different pottery from Lerna shaft graves

recorded by Jeremy Rutter at LH I Tsoungiza and by Joseph Maran at Kiapha Thiti.[10] In the shaft graves at Lerna, this type of pottery is roughly eight times as common.

The third major difference is the very high amount of Aeginetan painted pottery in the shaft graves compared to an ordinary settlement context. Aeginetan imports are very common on the Greek mainland in LH I, but they rarely account for more than 20 percent of the total pottery and are dominated by wide-mouthed cooking jars. In the shaft graves, sherds from Aeginetan cooking jars are outnumbered by 1:4. Instead we find large numbers of mono- or bichrome pattern painted, as well as solidly painted and burnished vessels from the island.

Mortuary Meals

Most of the vessels from the shafts cannot have been funeral offerings in an ordinary sense. The estimated number of vessels collected from the shafts is so large that it would have been impossible to fit all, or even a majority of these vases into the roofed compartment together with the deceased. Before discard, Caskey estimated the number of vessels within each ware group. Based on different rim profiles and/or decorative motives on the saved pottery, renewed calculations in 2003–2004 have convinced me that his numbers are not disproportionate (Fig. 7). It is true that very few of the nearly 1,000 vessels originally identified could be fully or even mostly restored after excavation. However, on the proposition that both graves had been opened and refilled before excavation, it makes perfect sense that many fragments of the vessels were never redeposited in the shafts. By and large, the sherds left exposed at the top and around the shafts have disappeared by means of erosion and human activity. Only a few joins between sherds inside and around the edges of the shafts have been identified during analysis.

To sum up the ceramic evidence, we are thus confronted with an assemblage too large to have been fitted into the graves, but with a depositional history and several indications in its internal composition that strongly suggest that it is not ordinary settle-

[10] Rutter 1989, 10; Maran 1992, 204–7.

Fig. 6 Selected LH I Lustrous Mycenaean Decorated and White on Burnished Dark vessels from Lerna shaft graves

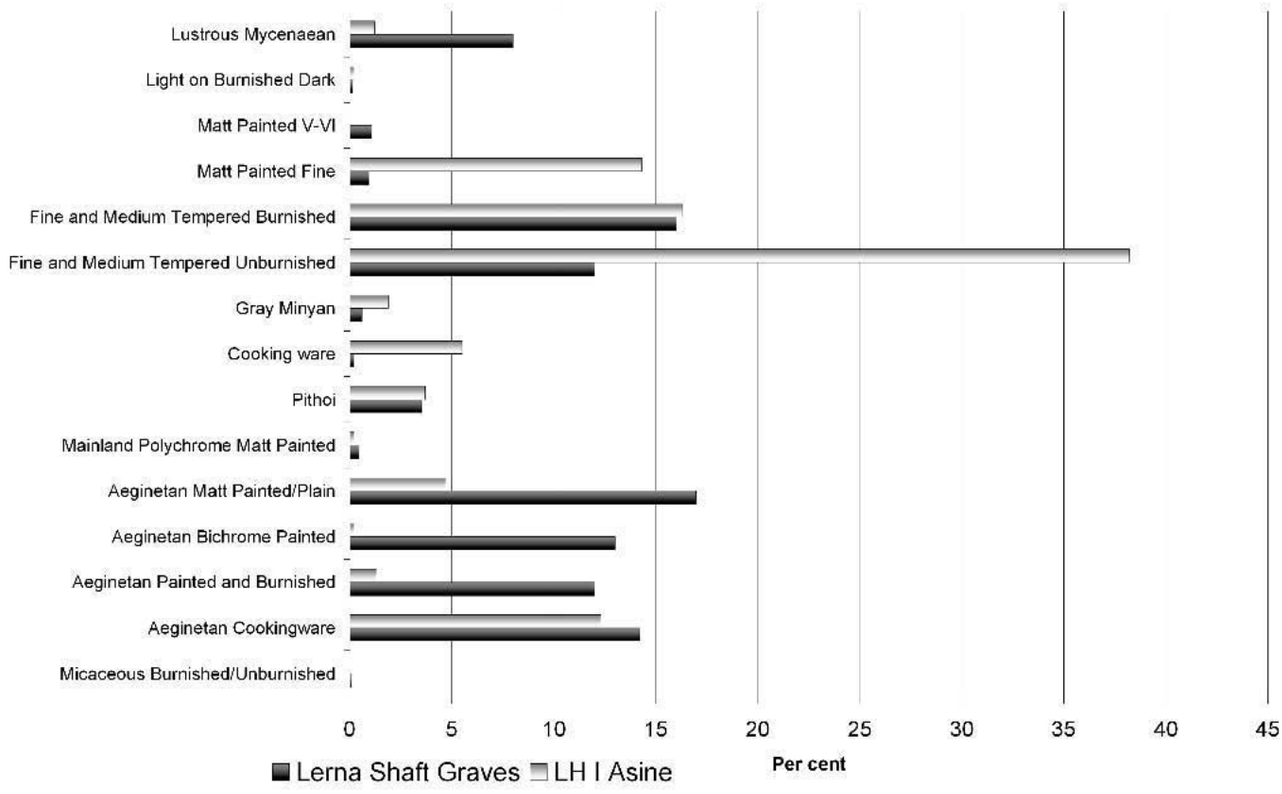

Fig. 7 Distribution between different pottery classes from Lerna shaft graves and at LH I Asine

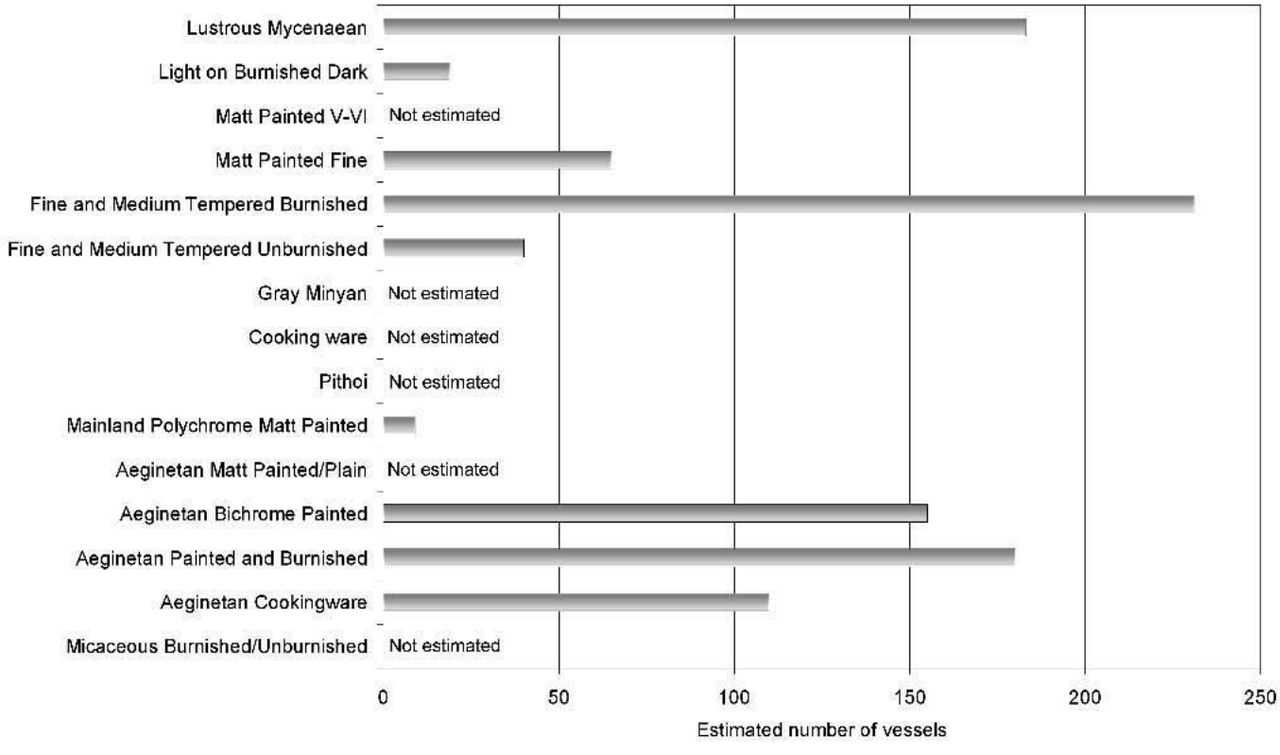

Fig. 8 Estimated number of fragmentary vessels in SG1 (B33) and SG2 (B) prior to discard

ment debris. Only by assuming that most of the vessels were intentionally thrown into the shafts, probably above the roof of the graves, can we account for their large number. Although the number of the dead originally interred in the graves is unknown, the mainland polychrome cups found on the floor of SG 2 and the homologous ceramic content of the shafts suggest that all of the burials took place in LH I. Before the shafts were filled, all of the vessels were thrown into the shafts, together with a large number of animal bones and possibly other organic materials that together produced over time the distinctly gray color of the soil. Because of the opening of the graves and the removal of the funeral offerings in later Mycenaean times, it cannot be ruled out that, in addition to the two polychrome cups mentioned above, a number of vessels were originally placed as grave goods inside the grave chambers together with the deceased. This would not, however, affect the overall number of vessels in a significant way.

The practice of depositing pottery and remains of food above or in the shaft of a grave is not unique to Lerna. Fragmentary vessels as well as animal bones and shells were found in the fill of many graves in Circle B at Mycenae.[11] Furthermore, animal bones, shells and traces of burning were found close to a few MH graves at Kirrha and on the cover slabs of grave 31 at Ayios Stephanos.[12] Not surprisingly, these contexts have been interpreted as the remains of meals held by kin groups in connection with the burials.[13] In a similar fashion, I argue that an overwhelming majority of finds from the two shaft graves at Lerna represent extensive examples of the same phenomenon. What is especially striking at Lerna is the magnitude of the assemblage as well as its relative completeness when compared to other grave contexts on the EM mainland.

The social dimensions of food and drink, especially in the maintenance of group relations and in the negotiation or resistance of power and dominance, has been well investigated both cross-culturally and in the prehistoric Aegean.[14] Feasting has become the buzzword of contemporary social archaeology while the theoretical and methodological approaches to the subject differ in both scope and depth. Most closely related to the contextual evidence at Lerna, an entire volume of conference papers has been devoted to the identification of Mycenaean feasting behavior. Following an introduction, James Wright presents a detailed overview of some proposed archaeological correlates to the phenomenon, chiefly from funerary and palatial contexts on the mainland but also from Neopalatial Crete. Through the overall patterning of metal vessels found in late MH and EM tombs, rather than detailed descriptions of specific ceramic assemblages, he argues that feasting played a key role in the process of social differentiation that becomes most apparent with the creation of centralized palatial economies on the mainland: Wright himself acknowledges that "largely missing from this [his] analysis is evidence for the multiple forms of feasting, and the social and ritual nuances of the practice of feasting that transpired during the Late Bronze Age (LBA) in the Aegean".[15] The vessels retrieved from the shaft graves at Lerna are part of the physical remains from a specific instance of feasting during LH I with which it will eventually be possible to evaluate and contrast the general proposals presented by Wright. Below, only one feature of the assemblage is highlighted, but one that may have repercussions for our understanding of the larger setting of the funeral feasts. It is hoped to become clear that during these events the stage was provided not only with food and drink but also with material that carried social, and probably also political, significance for those who attended.

The Aeginetan Component

It is possible to distinguish a very large group of ceramic imports from the island of Aegina by means of visual inspection of their fabric coupled with chemical and petrographic analyses. The sherds from these vessels, defined mainly by their volcanic inclusions but also manufacturing technique, shape, surface treatment and decorative schemes, outnumber all other ceramic classes combined and constitute around 56 percent of the entire ceramic assemblage from the shaft graves at Lerna. The vessels can be

[11] Mylonas 1973, 22, 37, 45, 80, 82, 110, 122, 158, 177, 187, 221; cf. Marinatos 1953, 63–66 and Mylonas 1957, 134–5.

[12] Dor *et al.* 1960, 58–9; Taylour 1972, 219, 222.

[13] Graziadio 1988, 92.

[14] Wiessner and Schiefenhövel 1996; Pottier 1999; Dietler and Hayden 2001 (ethnographic and archaeological studies outside the Aegean); Hamilakis 1998; 1999a; 1999b; Isaakidou *et al.* 2002; Hamilakis and Konsolaki 2004; Halstead and Barret 2005 (archaeological studies from the prehistoric Aegean).

[15] Wright 2004, 137.

further broken down into discrete classes, amply attested at many settlements during the Shaft Grave period (Fig. 8).

Fragments from cooking jars, tripods and lids constitute ca. 25 percent of all the Aeginetan sherds (Fig. 9). Some whole vessels and several large fragments make it possible to delineate the principal shapes of this type of pottery in the graves and to note which shapes are lacking or are represented only in small amounts. Medium- to small-sized, wide-mouthed jars with one vertical shoulder handle dominate the repertoire. Their bases are invariably raised or splaying. Large jars without handles and with a rim diameter of more than 30 cm are extremely rare or lacking altogether. Prefiring marks, common on shoulders especially during the first half of the MH period, occur during LH I only on or below handles or bases. A fair number of fragments of what can only be lids are present as well. Although no complete specimens of this combination in fabric and shape has to my knowledge been published, it is probable that what looks like inverted bases with circular handles are the tops of covers intended for wide-mouthed jars. Also, three or four tripod legs, and a fragment of a bottom from a tripod, find good parallels at Tsoungiza, Korakou and Kiapha Thiti.

Among the solidly painted sherds, three shapes have been so far identified (Fig. 10). The first, a goblet on a low pedestal foot, is extremely common. Ribbing on the stem is very rare and incisions are unattested. The krater with short rim, horizontal loop handles and a ring base, the second shape that is clearly recognizable, occurs considerably less frequently than the goblet. A single rim fragment with part of a vertical strap handle suggests that cups occur also, albeit in small number. In common with all shapes, their painted surfaces are only moderately burnished and the red color shifts to brown or black on about one out of ten vessels.

The narrow-necked jar is the commonest shape among the pale-surfaced sherds with monochrome, pattern painted decoration (Fig. 11). Unlike that of their MH predecessors, the paint on several of these fragments apparently contains only small amounts of manganese, as it often shifts somewhat in color within the same decorative element from black to brown or dark reddish brown. The jars are sparsely decorated, usually with concentric circles on the shoulder and with loops or circles around the bases of handles. Caskey did not estimate the number of these jars found in the fills of the graves. Among the saved sherds, however, 61 horizontal handles would suggest a minimum of ca. 30 vessels. Open shapes in the same fabric are very rare: only a handful of rim fragments from kraters and an occasional undecorated cup fragment have been found (Fig. 12).

Most Aeginetan mixing bowls from the shaft graves are instead decorated in a bichrome style. These vessels merit some attention because of their sheer number in the fills of the graves. Fragments of more than 150 vessels, mostly kraters, were collected during excavation. The kraters typically have short, everted rims, horizontal loop handles on the belly, and ring bases (Fig. 13). The rim diameter usually lies within a range of 20–30 cm, although larger examples are also attested. The interior and exterior rim is usually painted red but a few are either black or undecorated. Black circles or loops decorate the

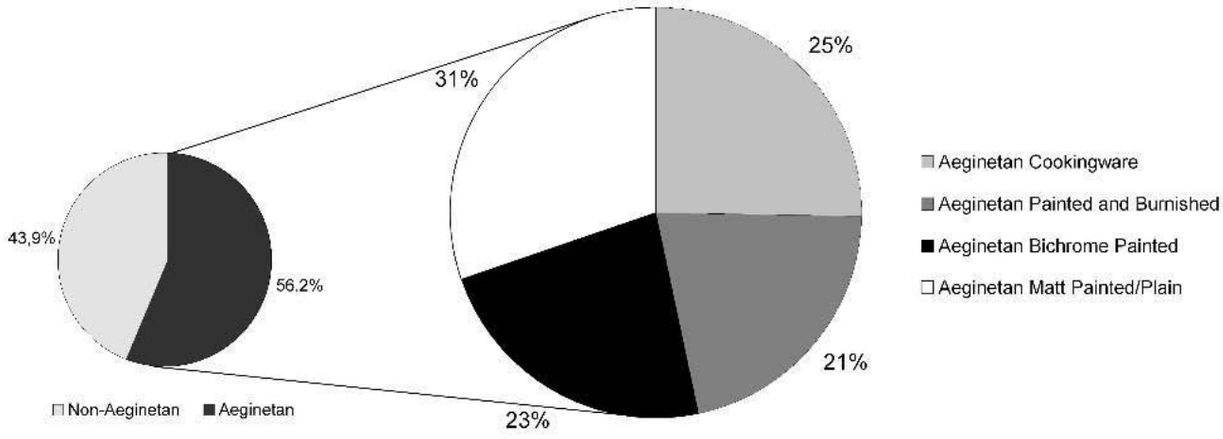

Fig. 9 Distribution of Aeginetan pottery classes

bases of handles. As a rule, two or three horizontal bands are found around the belly and one at the junction between the body and the base. The motives vary somewhat more on the shoulder zone, but wavy bands are most amply attested. With few exceptions, black bands are found above or framing red ones. A very limited number of sherds shows only red decoration and should perhaps, technically speaking, not be termed bichrome. Somewhat more unusual, but still amply attested, are the kraters with opposing or crossing diagonal lines painted on the shoulder (Fig. 14). Once again, black lines frame red lines, red dots, or red wavy lines. Two bowls or small kraters – manufactured in the same fabric as the others, as far as I have been able to observe – deviate both in shape and decoration (Fig. 15). To my knowledge, there are no good parallels to these. The first has pendant triangles below the rim, framed by lines in the color contrasting that of the triangle's filling. The second example, also unique, shows opposing semicircles between cross-hatched panels. The red semicircles are framed by the black ones while the red bars, for once, enclose the black ones. Finally, bichrome decoration is also found on a small number of narrow-necked jars (Fig. 16). Rim fragments with a red band on the interior or exterior lip suggest the occurrence of around ten such vessels. Some more intact examples are known from the destruction level at Akrotiri and the decoration seems to be more or less the same at both places.[16] Vertical and horizontal lines of black color usually enclose a broader red band or wavy line.

Value, Action and Politics

The overall number of Aeginetan vessels in the fillings of the graves is so large that we cannot avoid asking ourselves how their presence influences the overall understanding of the ceramic assemblage. In other words, is there a connection between the identification of the material as one or two feasting assemblages on the one hand, and the very large number of Aeginetan vessels in the overall ceramic record on the other? In my opinion, there is. Without resorting to simplistic views of how notions of power and prestige are mediated through the use of material culture, the potential range of socially meaningful messages that could be carried by these funeral feasts should be acknowledged.

In many discussions about social stratification and political hierarchizing, archaeologists implicitly equate economic value with social value. Especially in the early LBA Aegean, uneven access and distribution of selected material categories – e.g., imported pottery, metal vessels, weapons, and jewelry – have been seen to convey in some way certain key social values tied to individuals or groups of individuals. This relationship between economic and social values, but also between the material and the immaterial, is of paramount importance if changes observed in the mortuary customs during the Shaft Grave period are to be properly understood. Theories of economic value have to be explicitly reconciled with social value from a perspective where human actions, intentions and desires are at the core of analysis.

In a recent study, David Graeber suggests that most human activities that relate to the creation or realization of value should not be separated analytically: "Rather than having to choose between the desirability of objects and the importance of human relations, one can see both as refractions of the same thing. Commodities have to be produced . . . social relations have to be created and maintained; all of this requires an investment of human time and energy, intelligence, concerns. If one sees value as a relative distribution of that, then one has a common denominator".[17] The overarching medium through which value is realized, however imperfectly and biased, is action. Different activities thus represent, at a general level, the pursuit of desires and values that convey more general ideas of what it means to be human and part of society.

As today, these ideas were naturally multifaceted and complementary, but occasionally also contradictory. It is thus impossible to assign only one specific value to the Aeginetan vessels found in the shaft graves at Lerna. As containers not only for food and drink, but also of past actions, they echoed a multitude of messages when used during the funeral meal. The vessels were used in a local setting that could easily be reconciled with values embraced by most people: the sharing of food and drink probably represented one of the most basic ideas of what a community was all about. The importance and long history of hospitality, and of the ability to provide for guests, can be tentatively suggested on the basis of funeral assemblages and floor deposits from at least as early as the later half of the MH period. Gullög Nordquist has presented several instances of sets of very similar drinking vessels found on floors in three

[16] Marthari 1982.

[17] Graeber 2001, 45.

houses at Asine and one at Tsoungiza. The same pattern is also found in several graves. Together, these instances seem to indicate the importance attached to the ability to sponsor a drinking ritual, even if small and including only a few persons.[18] But while reminiscent of a familiar tenet, the large set of vessels used in the funeral meals at Lerna also carried other messages. The sheer magnitude of the set in combination with its deliberate destruction implied both the importance of the event and the length to which the sponsor had gone to mark the occasion. Produced in the fortified settlement at Kolonna or in its neighborhood, the Aeginetan vessels signaled access to a network of social relations beyond those of most individuals on the Argive plain – relations that surely also incorporated customs and material goods of foreign derivation from Cycladic, Minoan or minoanized areas.

By linking some material resources, such as the amassing of several hundred Aeginetan vessels, with ideas about exclusivity, knowledge, opportunity, and fortitude albeit cushioned in a familiar setting that emphasized continuity, reciprocity, hosting and provision, some important values were under negotiation during the funerals at LH I Lerna. In Graeber's words, "the ultimate stakes of politics . . . is not the struggle to appropriate value. Instead it is to establish what value *is*".[19] In terms of political centralization and hierarchizing, there can be little doubt that some of the values on display at Lerna were crucial for the formation of the Mycenaean polities during the generations to come. The persons who attended the burials in the shaft graves at LH I Lerna numbered, at a minimum, several hundred and possibly thousands. Followers of the deceased and his or her kin gathered in a collective ritual to reinforce bonds of obligation and affiliation and possibly also to witness the transferral of certain rights to an heir. Ultimately, these rights, if not already present in modest scale during LH I, were to be formalized into political offices vested with certain powers.

[18] Nordquist 2002.

[19] Graeber 2001, 18.

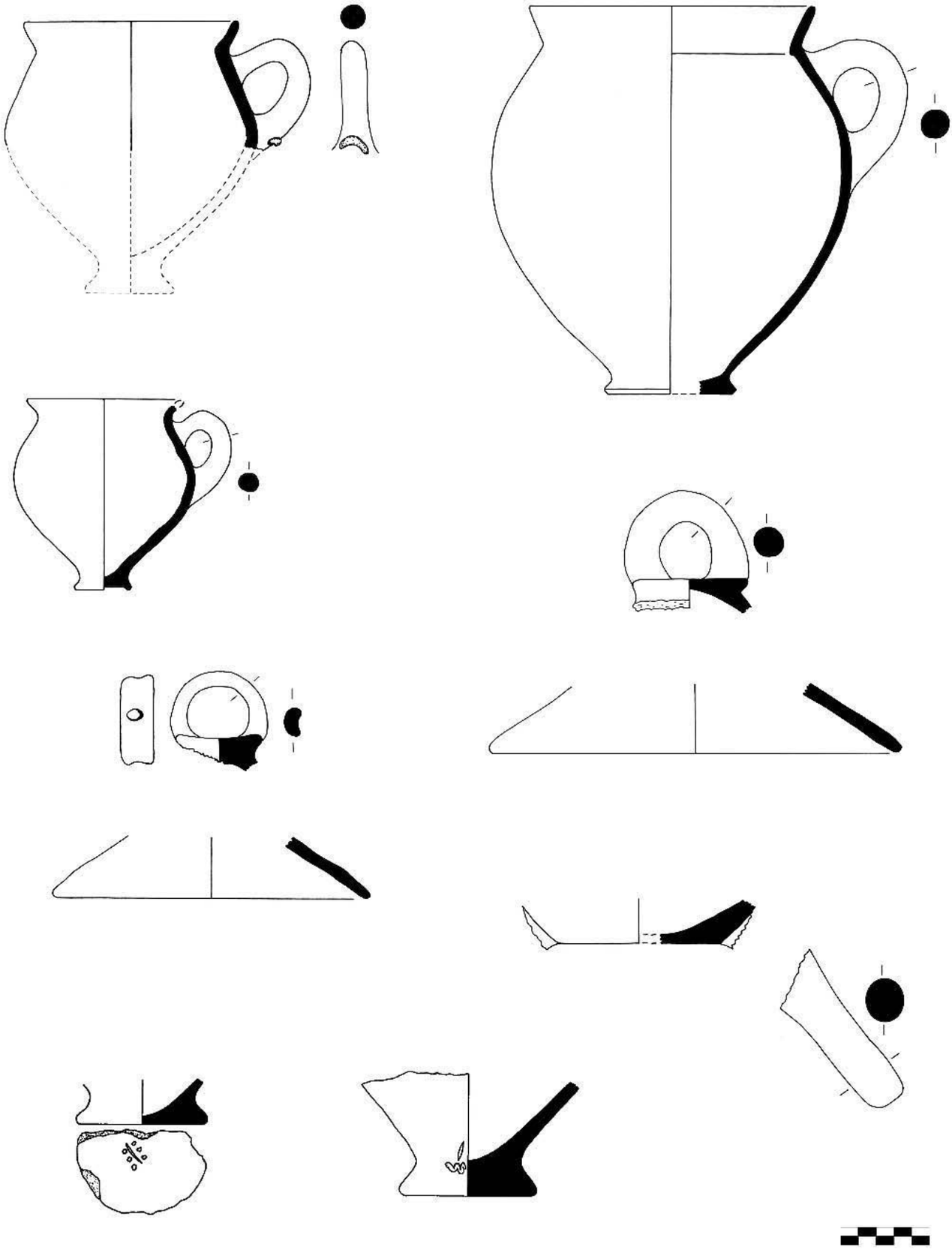

Fig. 10 Aeginetan cooking jars, lids, and tripods

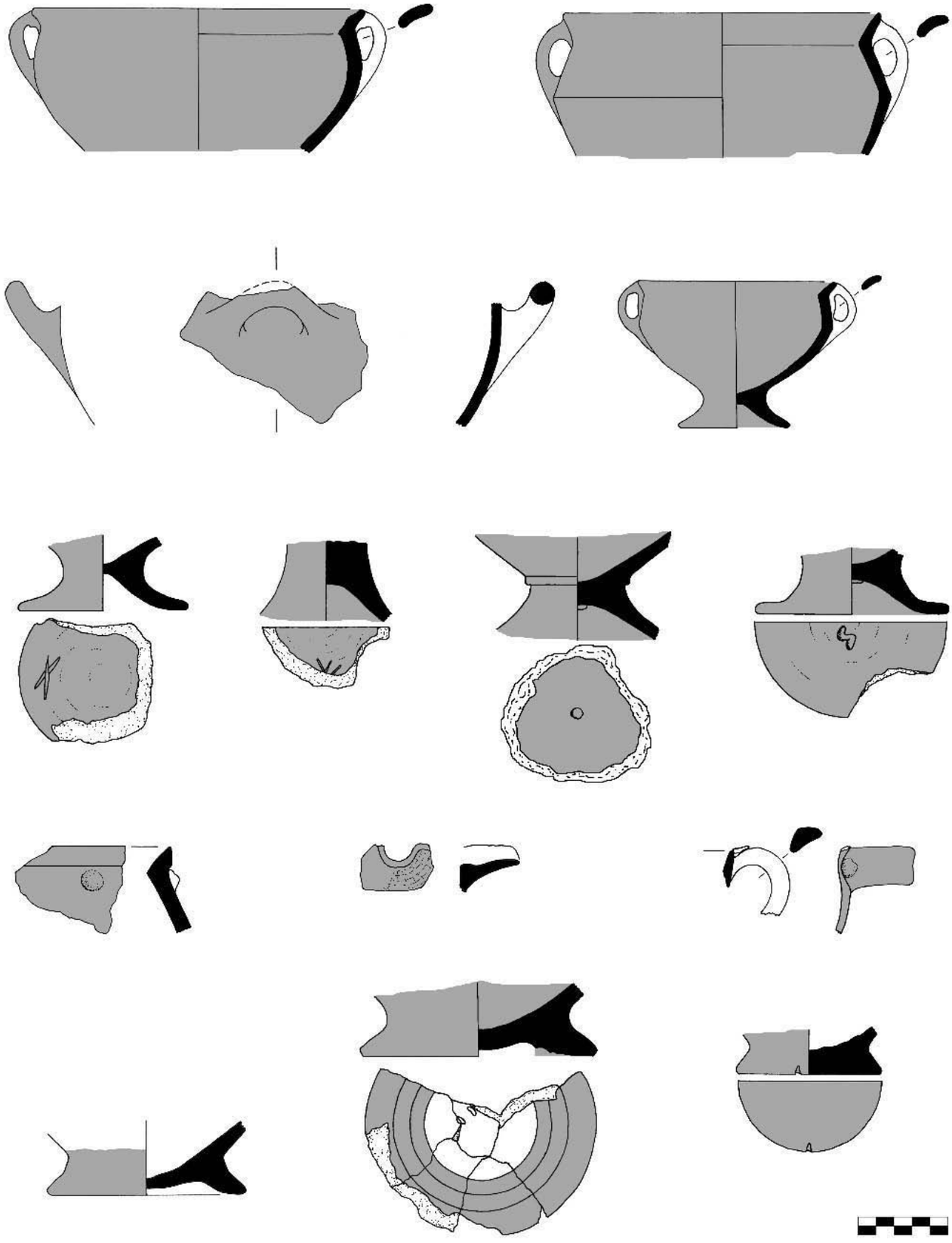

Fig. 11 Aeginetan Painted and Burnished goblets, kraters, and cup

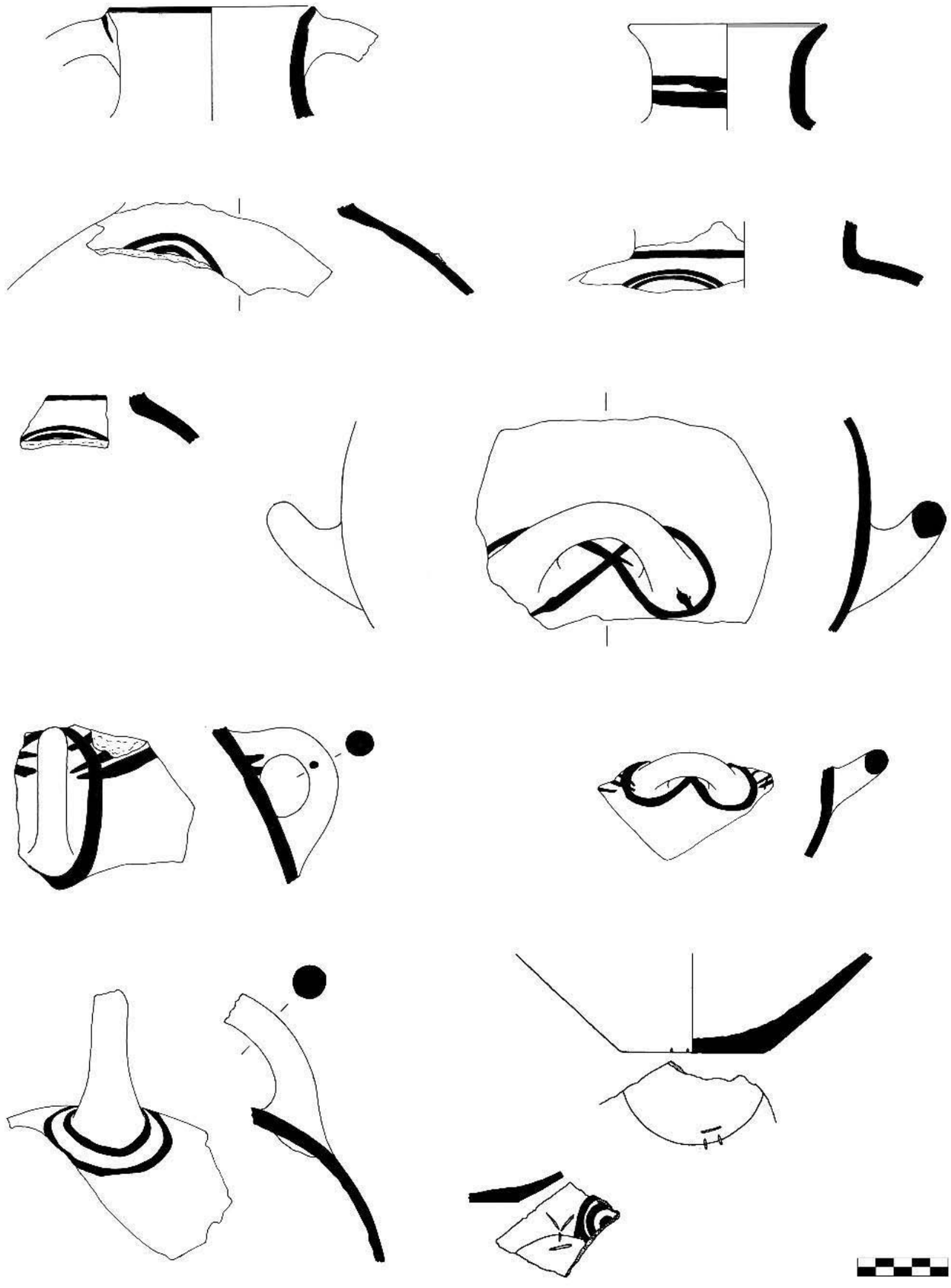

Fig. 12 Aeginetan Matt Painted narrow-necked jars

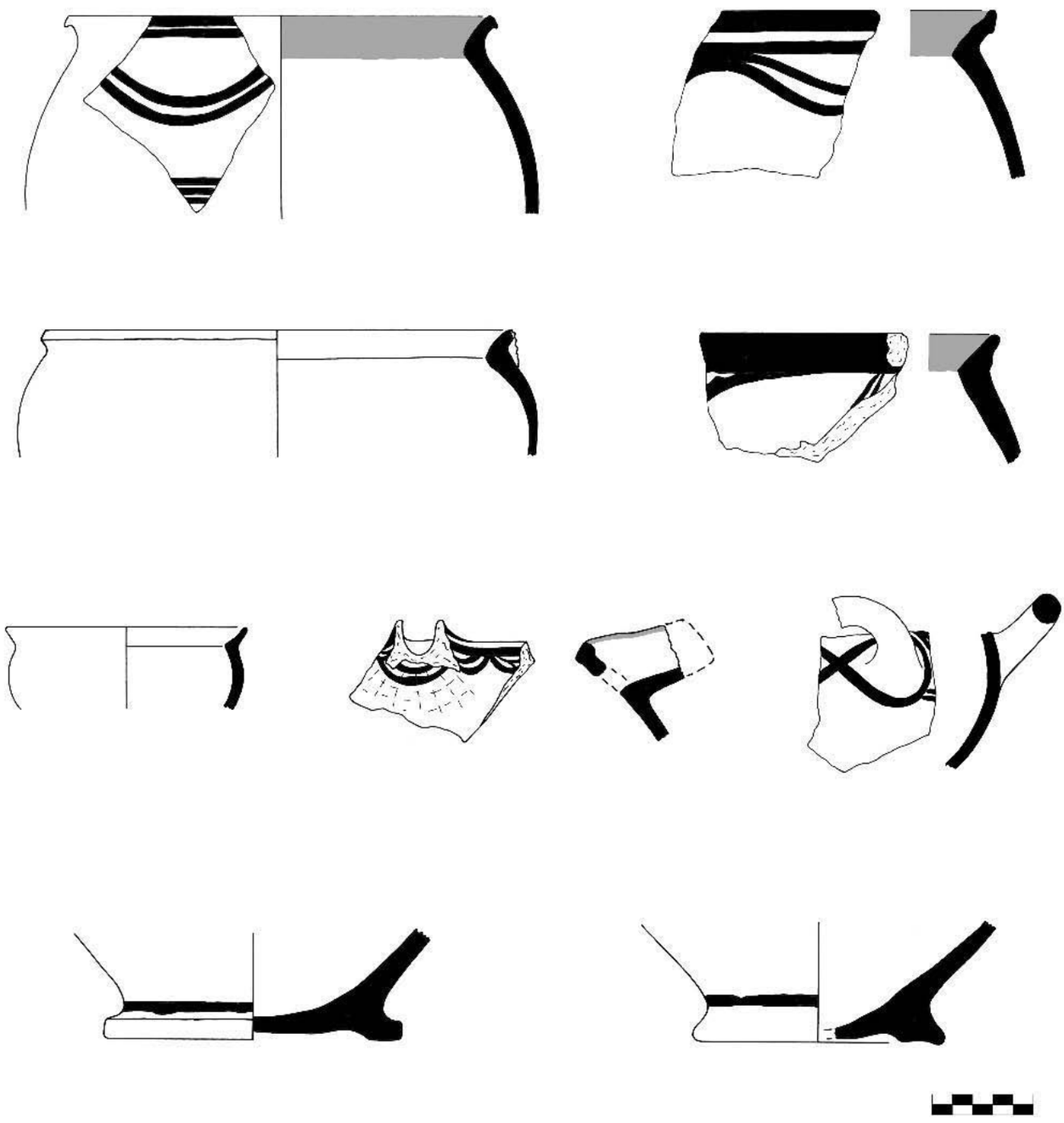

Fig. 13 Aeginetan Matt Painted kraters and cup

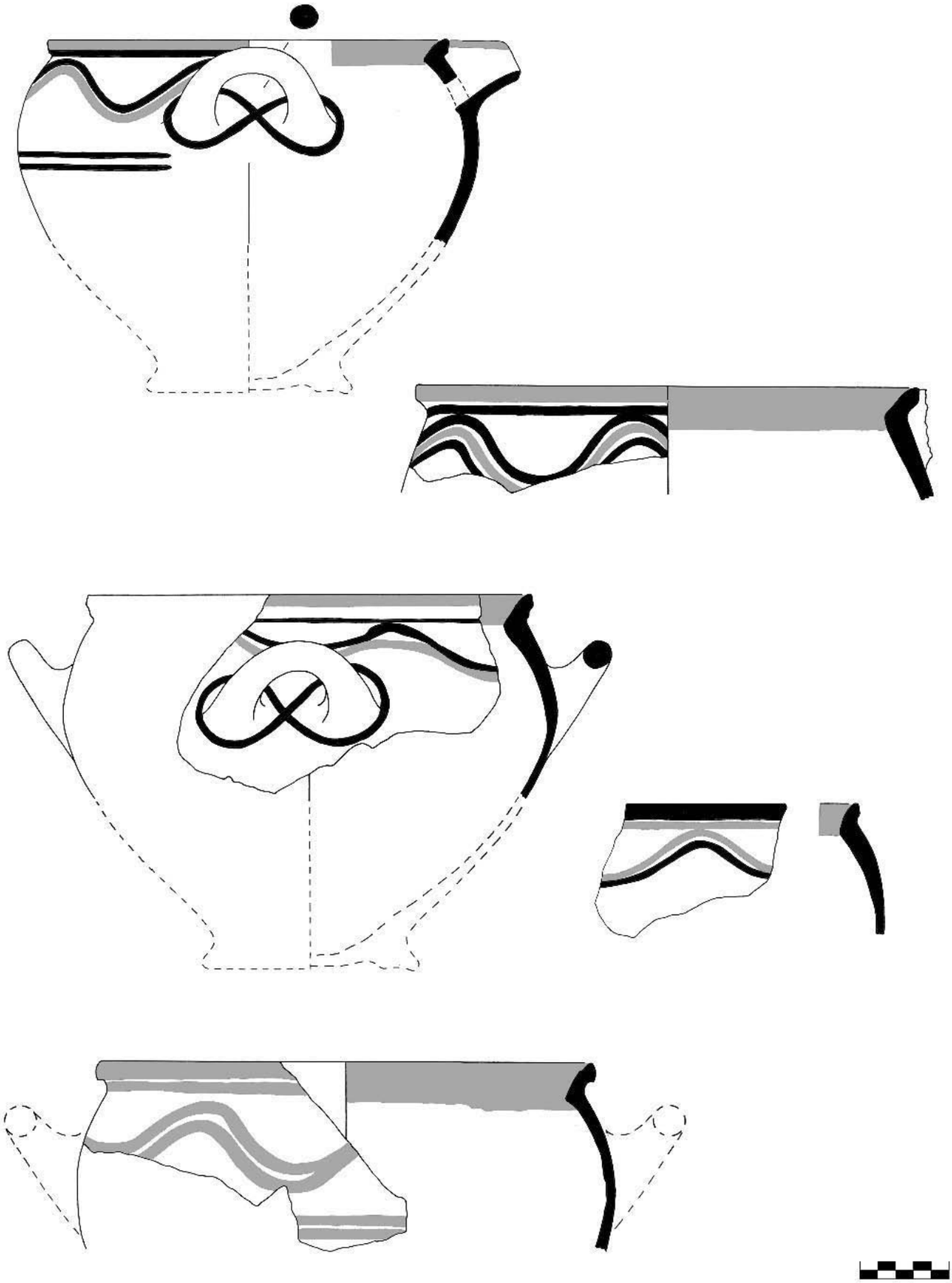

Fig. 14 Aeginetan Bichrome Painted kraters with wavy bands on shoulder

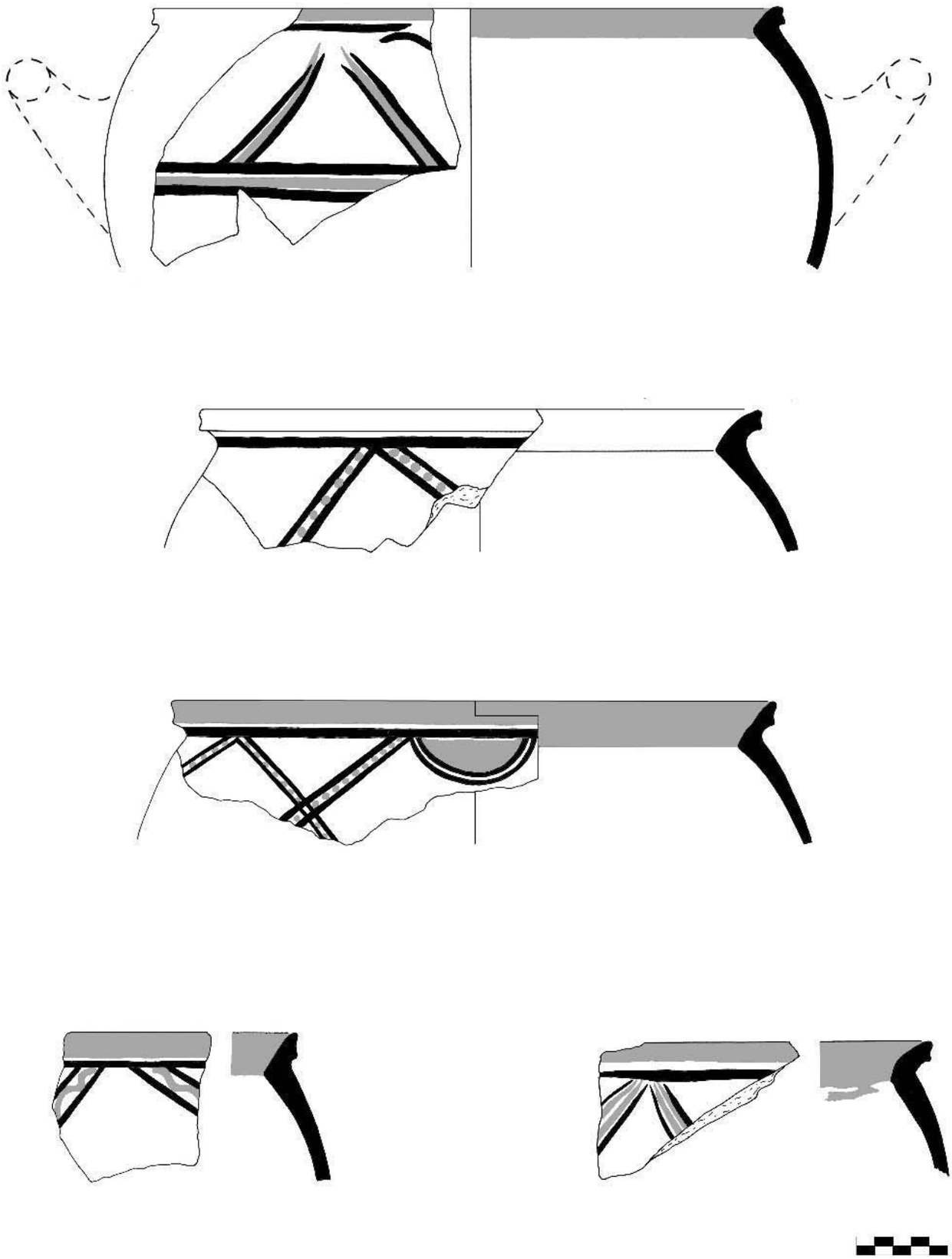

Fig. 15 Aeginetan Bichrome Painted kraters with opposing or crossing diagonal lines on shoulder

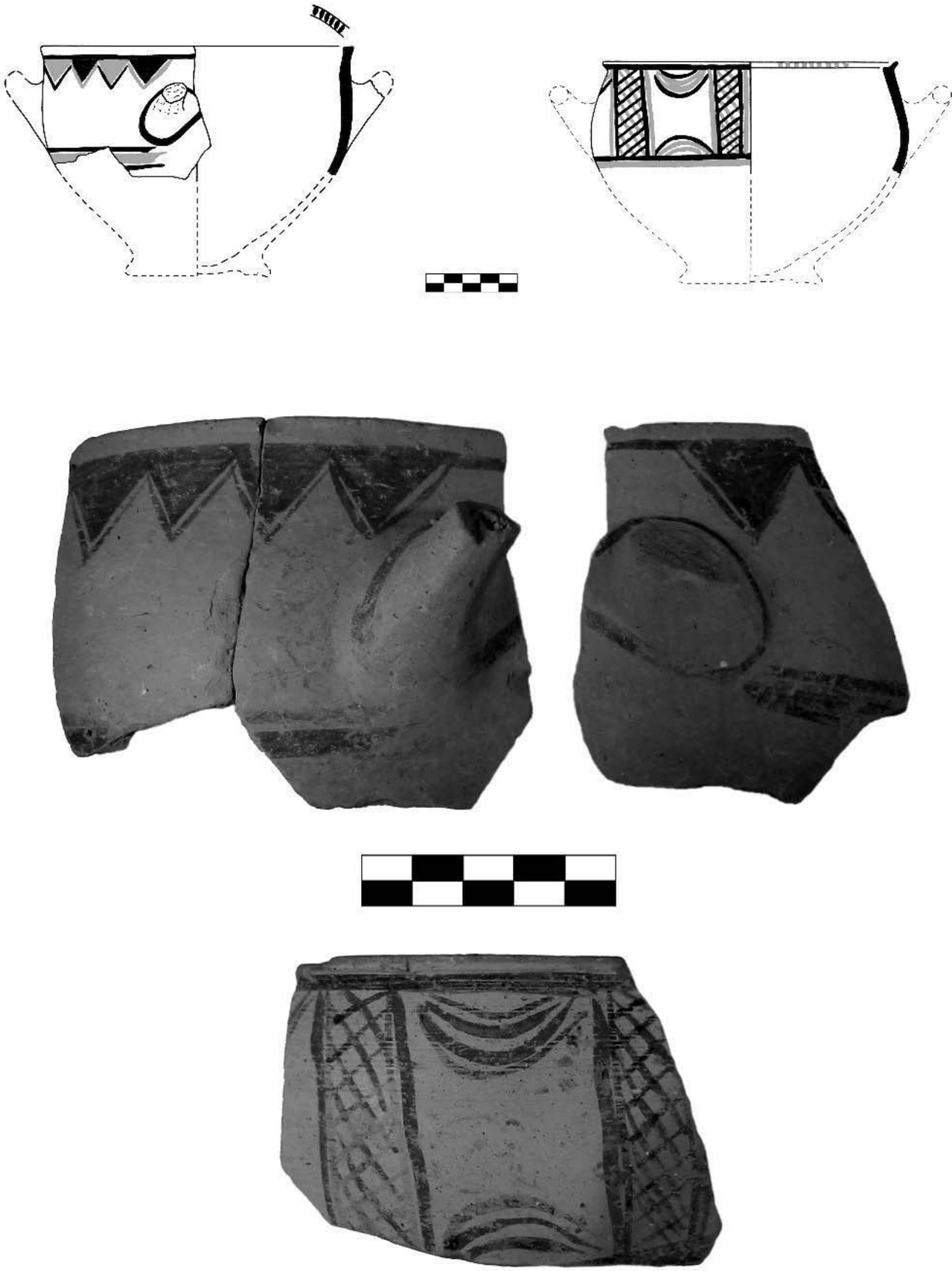

Fig. 16 Aeginetan Birchrome Painted kraters with pendant triangles and cross-hatched panels between opposing semi-circles

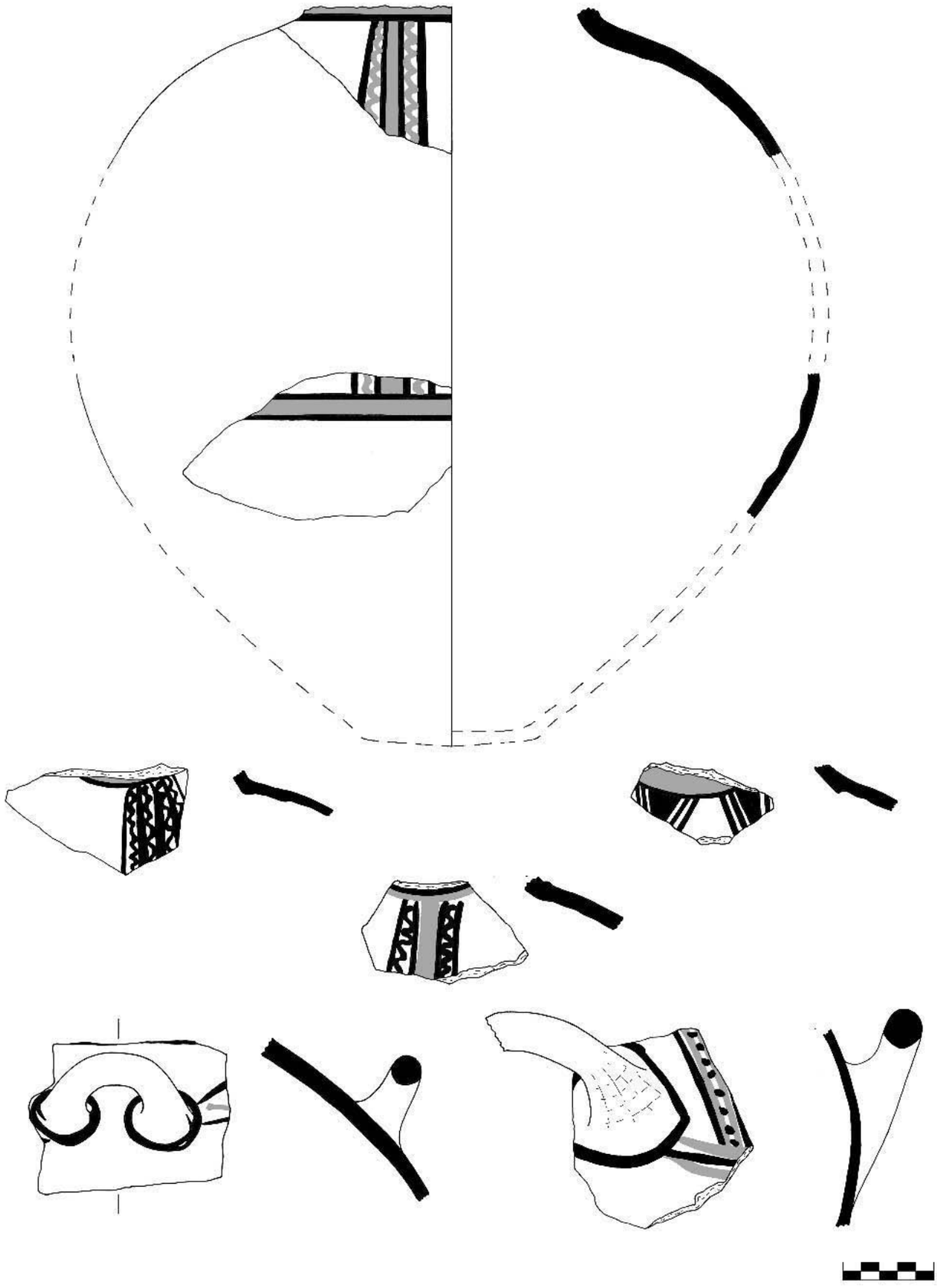

Fig. 17 Aeginetan Bichrome Painted narrow-necked jars

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Investigations of two MH I Burial Mounds at Messenian Kastroulia (Near Ellinika, Ancient Thouria)

Jörg Rambach

Hope Simpson and Dickinson, in their *Gazetteer of Aegean Civilisation in the Bronze Age* in 1979, mentioned the site of Ellinika about 10 km north of Kalamata.[1]

According to their description of the area, a ridge oriented north–south, nearly 1.8 km in length, running parallel to and east of the Kalamata–Tripolis highway, is situated to the east and above the villages of Antheia and, to its south, Aithaia (Fig. 1).[2] Traces of the Classical and later town had been observed mainly at the north end of the ridge. A Late Helladic (LH) settlement was on the central ridge and its upper west slope. An Early Helladic (EH) II settlement existed near the south end of the ridge and, as mentioned by the authors, possibly near the Pisovrysi spring on the southwest slope above Aithaia. Numerous LH chamber tombs, all robbed, had been examined in the previous decades, in the upper slopes of the ridge and mainly in its east flank above the Xeropotamos gorge.

Opposite, on the upper slope of the east bank of the Xeropotamos, two mounds, the tumuli of Kastroulia, were clearly visible and considered as possible LH tholos tombs (Fig. 1).[3]

In 1979 Hope Simpson and Dickinson described the two mounds as follows.[4]

The northernmost is ca.10 m in diameter and 5 m high. The clay capping is partly revealed. The second mound, about 40 m to the south, is ca.10 m in diameter and about 4 m high. LH III sherds and obsidian were found nearby.

The EH site, according to Hope Simpson and Dickinson, appeared to measure ca. 90 m north–south and 70 m east–west.[5] There, fine EH II wares could be observed and a stylized figurine (*BSA* 52, 1957, 245 Pl. 50b) was mentioned, too. A Middle Helladic (MH) Grey Minyan sherd and a few LH sherds were found in the area of the EH II settlement, but these may have spilled over from the adjacent LH area.[6] In making this observation, which follows their remark that "LH III sherds and obsidian were found nearby", it is clear that Hope Simpson and Dickinson have jumped in their description back to the ridge above the western bank of the Xeropotamos, specifically the EH II site in the central part of that ridge. They make no mention of EH II sherds in the area of the two mounds on the east side of the Xeropotamos gorge.

An instance of illegal digging in the center of the southernmost of the two tumuli in 2000 led Dr. Xeni Arapogianni – Director of the 7th Ephorate of Olympia, responsible for Elis, Zakynthos and Messenia – to undertake rescue excavations of the mound in 2001, assisted by the archaeologist L. Malapani.

On the evidence of reports concerning Kastroulia in the archaeological bibliography, the Greek excavators were convinced that the site of Kastroulia would present yet a further Mycenaean tholos tomb. Indeed, in the fill of the mound of the southernmost tumulus, the staff of the 7th Ephorate collected thousands of sherds of very good quality that appeared, prior to washing, to be Mycenaean.

However, instead of a Mycenaean tholos tomb, they found in the center of the southern tumulus an oval stone enclosure. This enclosure lay at the edge of a large oval pit that had been dug into the hard, clayey, natural earth beneath the artifical fill of the mound.

Initial examination of the sherd material from the fill by the present author led to the unexpected finding that roughly 99 percent of the sherds belonged to EH II fabrics, including many of best quality. Many of these were easily identified as fragments of sauceboats, saucers, askoi, ladles, coarse baking pans and deep bowls with thickened rim and plastic decoration.

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[1] Hope Simpson and Dickinson 1979, 163 D 137.

[2] For the detailed map of this area, see Hope Simpson 1966, 113–31 fig. 6.

[3] Ibid. fig. 6 "burial mounds".

[4] Hope Simpson and Dickinson 1979, 163.

[5] Ibid. 163.

[6] Ibid. 163.

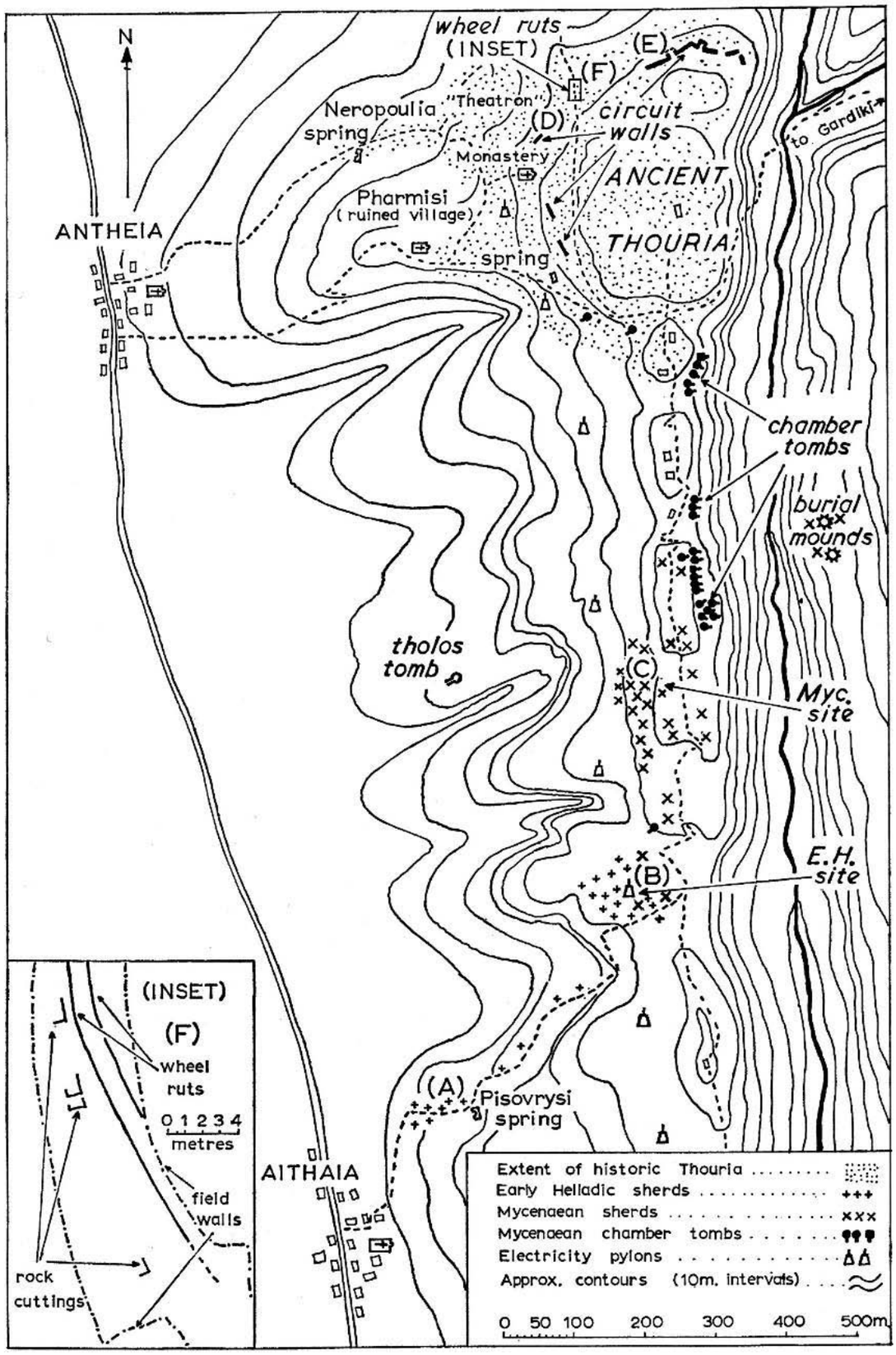

Fig. 1 Map of the surrounding area of Ancient Thouria and the two burial tumuli of Kastroulia. After Hope Simpson, R., The Seven Cities offered by Agamemnon to Achilles, *BSA* 61, 1966, 113–131 fig. 6

One sherd of blue and yellow slipped and burnished ware, presumably of an askos, carried a zoomorphic protome on the shoulder.[7]

This very impressive quantity of EH II sherds initially suggested that the excavation might uncover a burial mound of EH date.[8]

Because the southern mound at Kastroulia, tumulus I, had been to some degree disturbed at its center by the illegal digging activities, it was decided to begin systematic excavation at the northern mound, our tumulus II.[9] This mound was also in danger, the owner of the land around it having planted new olive trees increasingly closer to the circular edge of the mound, which was already "nibbled off" by plowing and other farming activities.

The northern mound, tumulus II, was divided into four excavation areas in order to allow for the drafting of a north-south and east-west cross-section through the center of the tumulus.

The four "quarters", the *tetartimoria* of the mound, were labeled in the following way: northeast (quarter A), northwest (B), southwest (Γ), and southeast (Δ).

At the northeast of the mound, an attempt at illegal digging undertaken long before had left traces of an old north–south trench cut into the fill and extending from the north to the center of the mound, as far as the southwest corner of our quarter A. Apart from a row of fieldstones near the periphery of the fill, the huge number of EH II sherds in the tumulus earth were the only substantial find.

The southeast quarter presented the same picture, no finds above bedrock other than fill rich in EH II-sherds. Near the center of the southeast quarter, however, cut into the natural ground, we uncovered a shallow pit containing scant remains of a young child (Fig. 2). This inhumation was furnished with a plain

Fig. 2 Kastroulia, Tumulus II, quarter Δ, burial of a child (grave 1), from South-West (apart from Fig. 1 all the photos for Figs. 2–32 were made by the author)

Fig. 3 Kastroulia, Tumulus II, quarter Δ, burial of a child (grave 1), gravegifts: matt-painted kantharos and plain jug

[7] Rambach 2003, 225–55 esp. 251. 255 fig. 12; 13 a–c.

[8] Until now there has been no clear evidence of EH II burial mounds in the southern or central Greek mainland. It is still doubtful whether the burial mounds at Lakonian Pellana are to be dated to the EH II period. For Pellana, see Spyropoulos, 1998, 28–38 esp. 35–7 fig. 2.19–22. For the huge EH II "Ritual" Tumuli at Lerna and Olympia, see Forsén 1992 232–7; Rambach 2002, 177–212; Rambach 2004, 1199–254; Rambach 2003, 225–55 esp. 241–6 and Beilage 14, with further references. For the small EH II burial mounds at Steno in Leukas, see Dörpfeld and Goessler 1927, 206–50; Goessler 1927, 275–338 esp. 286–309; Maran 1998, 102–4; Zachos and Douzougli 2003, 30–41. For prehistoric tumuli in Greece, generally, see Müller 1989, 1–42; For the mounds at Steno see Kilian-Dirlmeier 2005, 1–181.

[9] The present author was responsible for constructing the excavation grid, in 1 m² units, for the drawing of all plans and sections and for the general progress of the excavation. The author is very grateful to Dr. Arapogianni fo rthe permission to publish the results of the excavations at Kastroulia. Thanks for good cooperation to L. Malapani.

Fig. 4 Kastroulia, Tumulus II, quarter Δ, stratigraphy of the West- and North-section of this quarter, from South

Fig. 5 Kastroulia, Tumulus II, quarter Δ, stratigraphy of the West-section of this quarter, from East

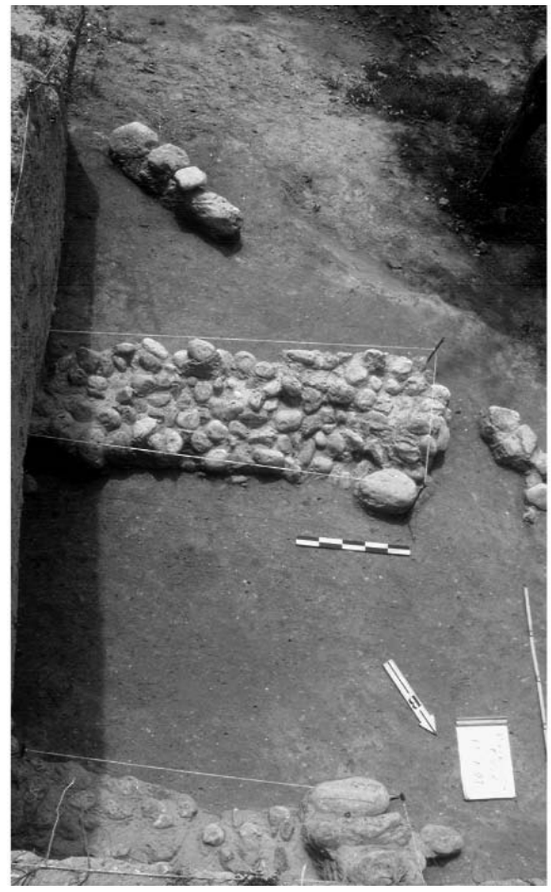

Fig. 6 Kastroulia, Tumulus II, quarter Γ, undisturbed parts of the pebble-build platform above grave 2, in the middle intrusive earth in the area of the grave-chamber or grave-shaft

jug and a matt-painted kantharos, clearly of MH I date (Fig. 3). Approximately 1 m above the burial was a small pile of fieldstones apparently serving as a grave marker. Study of the stratigraphy indicated clearly that a small mound initially erected above the grave had been later covered by the fill of the greater tumulus (Fig. 4 and Fig. 5).

Excavation next in the southwest quarter of the tumulus, in the eastern vertical section of this quater, soon presented indications of a disturbance. It was clear that soil here had fallen from a higher level, presumably in the collapse of the ceiling of a cavity that had been dug further below. Indeed, a bit lower down, excavation revealed a horizontal rectangular platform constructed of river pebbles of roughly the size of tennis balls. The platform was built about 10–15 cm above the hard, greenish, clayey natural ground (Fig. 6). The platform measured approximately 2.40 m north-south and approximately 2 m east-west.

Toward the middle of the platform, the original pebble layer was destroyed. An extension measuring approximately 2 m east-west and 1.20 m north-south contained intrusive earth from higher levels of the fill, doubtless an indication of an unrobbed grave lying beneath.

No objects identifiable as grave gifts were found on the pebbles of the preserved areas of the platform. Bordering the western edge of the platform, however, was a row of larger river pebbles laid side by side with an east–west longitudinal axis (Fig. 7). This was the only find of larger river pebbles within the soil that had collapsed onto the floor of the grave chamber. The floor itself, cut into the hard, clayey, natural ground, was reached about 1 m beneath the platform.

On the floor of the grave chamber, apart from the intrusive earth containing a great number of river pebbles from the destroyed part of the platform, was found a female skeleton in contracted position, the head placed toward the east and the face turned southward (Fig. 8). The entrance to the grave evidently was in the west, toward which the grave shaft extended approximately 1 m beyond the pebble platform.

Fig. 7 Kastroulia, Tumulus II, quarter Γ, row of larger and higher river-pebbles at the western edge of the platform above grave 2, from South-West

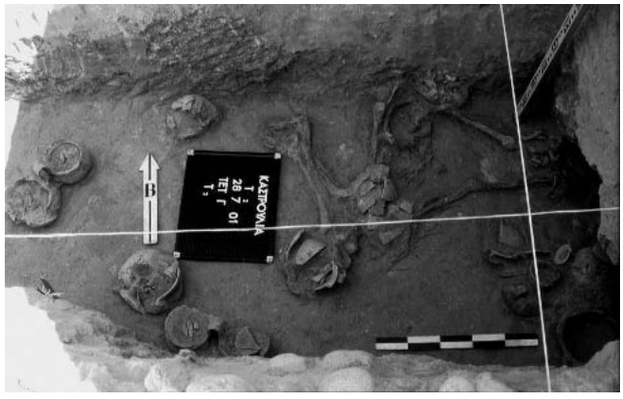

Fig. 8 Kastroulia, Tumulus II, quarter Γ, grave 2, female skeleton in contracted position and some of the grave-offerings, from West

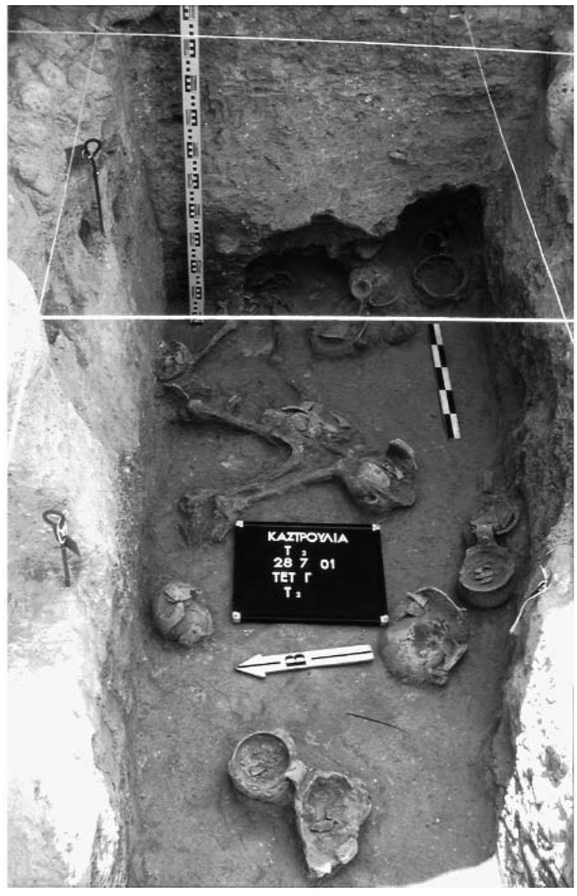

Fig. 9 Kastroulia, Tumulus II, quarter Γ, grave 2, female skeleton in contracted position and some of the grave-offerings, from West

It is not entirely clear whether the grave had been cut as a shaft from above, and subsequently covered with wooden beams topped with the platform, or had been cut as a chamber tomb, with the entrance from the west, and tunneled from there into the extremely hard, clayey, natural ground. No traces of wooden beams or posts were observed.[10]

Use of chamber tombs in the Peloponnese from EH I times is attested by the recently discovered cemetery of Kalamaki in Kato Achaia and also by the EH I cemetery in ancient Elis, recently investigated by the 7th Ephorate.[11]

The female burial in this grave - grave 2 of tumulus II – was furnished with more than 30 clay vases, many of them with incised or painted decoration. Most of the vases were found around the head of the decedent or along the southern side of the grave in front of the body. Other vases lay near the feet, immediately behind the back, and above the body (Fig. 9).

The following pottery vessels were observed:

1. Several two-handled biconical bowls with flat, sharply offset everted rims in Grey Minyan or dark burnished fabric (Fig. 10). The shape can be identified among bowls of Lerna VA.[12] Similar profiles of bowls are also known from Nichoria MH I, Group C contexts.[13]

[10] The fact that the "shaft" extended some 1 m further to the west than the pebble platform suggests the form of a chamber tomb. The greater length would have not been necessary for the deposition of the (a) skeleton, whether in contracted or extended position.

[11] For Kalamaki see Vasilogambrou 1998, 366–99; Alram-Stern 2004, 680 pl. 40–1; Rambach in press.

[12] For parallels see Zerner 1978, fig. 3, D602, 1; 11, BD419, 2; 11, BD410, 4; 12, BD155, 3.

[13] Howell 1992, 43–204, fig. 3–13 P2185; 3–14 P2192.

Fig. 10 Kastroulia, Tumulus II, quarter Γ, grave 2: one of several two-handled biconical bowls with sharply offset everted rims in Grey Minyan or Dark Burnished Fabric

Fig. 11 Kastroulia, Tumulus II, quarter Γ, grave 2: one of several biconical kantharoi with flat, sharply offset everted rims in Grey Minyan or Dark Burnished Fabric

Fig. 12 Kastroulia, Tumulus II, quarter Γ, grave 2: Depas Amphikypellon in Grey Minyan Ware

Fig. 13 Kastroulia, Tumulus II, quarter Γ, grave 2: one of the two rounded cups with high swung handle in Dark Burnished Ware

Fig. 14 Kastroulia, Tumulus II, quarter Γ, grave 2: large matt painted askos

Fig. 15 Kastroulia, Tumulus II, quarter Γ, grave 2: large painted jar of Lustrous-Decorated Ware

Fig. 16 Kastroulia, Tumulus II, quarter Γ, grave 2: one of the two depata with matt painted decoration

Fig. 17 Kastroulia, Tumulus II, quarter Γ, grave 2: one of the two matt painted kantharoi

Fig. 18 Kastroulia, Tumulus II, quarter Γ, grave 2: two-handled tankard with incised decoration, Grey Burnished Fabric

Fig. 19 Kastroulia, Tumulus II, quarter Γ, grave 2: narrow-necked jar with two upright horizontal handles on the shoulder

2. Several biconical kantharoi with flat, sharply offset everted rims in Grey Minyan or dark burnished fabric (Fig. 11). These bowls again are similar in shape to vases from Lerna VA.[14] Bowls with similar profiles occurred also in Nichoria MH I, Group C contexts.[15]

3. One depas amphikypellon in Grey Minyan ware with incised decoration (Fig. 12). Sherds with similar incised motifs are known, for example, from Nichoria MH I, Group C.[16]

4. Two rounded cups with high-swung handles in dark burnished ware (Fig. 13). A similar but less rounded cup with incomplete handle has been published from Nichoria MH I, Group B.[17] Known from Lerna VA is a small incomplete rounded bowl with inturned rim and with missing handle(?).[18]

5. A large matt-painted askos (Fig. 14). This wonderful piece is presumably furnished with an Aeginetan style of decoration.

6. A large jug in Lustrous Decorated ware (Fig. 15), very common in Lerna VA.[19]

[14] Zerner 1978, fig. 18, 1.5; 19, BE45, 1.
[15] Howell 1992, fig. 3–14 P2190.
[16] Ibid. fig. 3–16 P2212.
[17] Ibid. fig. 3–4 P2089.
[18] Zerner 1978, 76 fig. 6, D591, 1.
[19] Ibid. 159–67. For lustrous decoration in Nichoria MH I, Group B and C, see Howell 1992, 48 (P2117) pl. 3–4 P2117; 49 (P2132) fig. 3–7 P2132; 54–5 (P2296–P2310. P2389) fig. 3–21 P2296–P2297. P2300. P2307. P2310 pl. 3–15 P2296–P2310; 3–20 P2389.

Fig. 20 Kastroulia, Tumulus II, quarter Γ, grave 2: Depas Amphikypellon in Grey Minyan Ware

Fig. 21 Kastroulia, Tumulus II, quarter Γ, grave 2: one-handled bowl with flat, Kastroulia, Tumulus II, quarter Γ, grave 2sharply offset everted rim

7. Two depata with matt-painted decoration (Fig. 16).[20]

8. Two matt-painted kantharoi (Fig. 17).

9. One two-handled tankard in Grey Minyan fabric with incised decoration (Fig. 18). This is a unique shape for the early MH period. In shape, this vase is a clear descendant of the EH III shoulder-handled tankards.[21]

10. One narrow-necked jar with two upright horizontal handles on the shoulder (Fig. 19). Not a very common shape in the early MH period, but a vase of this type is previously known in Aegina Fundgruppe XVIIIa, Stadt V, EH III.[22]

11. One depas amphikypellon in Grey Minyan Ware, consisting of two small jugs with low globular body and high flaring neck/rim (Fig. 20). The shape could be interpreted as a late descendant of the so-called Trojan Cup of the late EH II period[23] or as a typological forerunner of the late MH/early LH squat jugs.[24]

Fig. 22 Kastroulia, Tumulus II, quarter Γ, grave 2: one of three footed braziers or strainers in Grey Minyan Ware with incised and punctate decoration

12. One one-handled bowl with flat, sharply offset everted rim (Fig. 21), a characteristic shape of Lerna VA and Nichoria MH I, Group C.[25]

[20] For a parallel of this form from tumulus A of Voidokoilia in Messenia, found standing on remains of EH II walls in front of burial pithos 4 or 5, see Korres 1990, 1–11 esp. 6 pl. 4, 1; Korres 1987, 711–43 esp. 734 with note 40 fig. 14.

[21] For EH III shoulder-handled tankards, see Rutter 1995, 270–1; 281–305 (form III); 640–54.

[22] For the vessel from Aegina see Walter and Felten 1981, pl. 92, 195 XVIIIa.

[23] For "Trojan Cups", see Renfrew 1972, 454 (one-handled cup) fig. 20.4, 1–4; 20.5; Maran 1998, 57 with note 608 ("Trojan Cup"), 97–8 (einhenkliger Trichterhalskrug), pl. 11, 7–8; Rambach 2000a, pl. 23, 3–5; 36, 7; 48, 2; 53, 10; 69, 1; 125, 4–9; 126, 1; Rambach 2000b, 345–56. New finds from the EH I cemeteries of Kalamaki near Kato Achaia and from the area of the town of ancient Elis, however, demonstrate that depata of similar shape were in use in the western Peloponnese as early as EH I; see Alram-Stern 2004, 680 pl. 41 bottom. An unpublished example from excavations of the EH I cemetery of ancient Elis, carried out by the 7th Ephorate in Olympia, is somewhat more similar in shape to our depas than the example from Kalamaki. Rambach in press

[24] For squat jugs of the late MH/early LH phases, see Lolos 1987, 274–85.

[25] For parallels of this shape in Lerna VA, see Zerner 1978, fig. 13 deposit BD 399 and BD 406; 14 deposit B 1247 and deposit B 1487, 1; 16 deposit BE 426, 2; 18 deposit BE 429, 2; 19 deposit BE 45, 3. For Nichoria MH I Group C, see Howell 1992, fig. 3–14 P2192 pl. 3–8 P2192. This fragment could, however, belong to a kantharos.

Fig. 23 Kastroulia, Tumulus II, quarter Γ, grave 2: four bronze pendants in the shape of the minoan double axe. At the central perforation of one of these pendants small parts of brown threads are preserved, which belong to the original string used for the suspension of these four pendants in a vertical row

Fig. 24 Kastroulia, Tumulus II, quarter Γ, grave 2: two spindle whorls with incised decoration

13. Three footed braziers or strainers in Gray Minyan ware with incised decoration and, in two of the three cases, also punctate decoration (Fig. 22). Numerous sherds in Minyan ware from Nichoria MH I, Group C which seem to have belonged to strainers appear very similar to these in decor and shape.[26]

Found near the breast of the decedent were, in addition, four bronze pendants in the shape of the Minoan double axe (Fig. 23). Collected in the soil around the head were two spindle whorls with incised decoration (Fig. 24), some stone beads and dozens of very tiny beads, presumably bone, which may perhaps have been part of a veil.

Near the southern edge of the pebble platform of grave 2 was found another grave (grave 3) with single inhumation (Fig. 25), presumably of a male. This grave was partially destroyed, apparently as a result of modern planting activities. Under a mass of collapsed fieldstones, were uncovered scanty remains of a skeleton (Fig. 26).

As grave gifts, in addition to a bronze knife (Fig. 27) and a small bronze dagger (Fig. 28), were five clay vases, as follows.

One kantharos (Fig. 29), a so-called Nichoria bowl ("Nichoria kantharos"), a shape that is a hallmark of

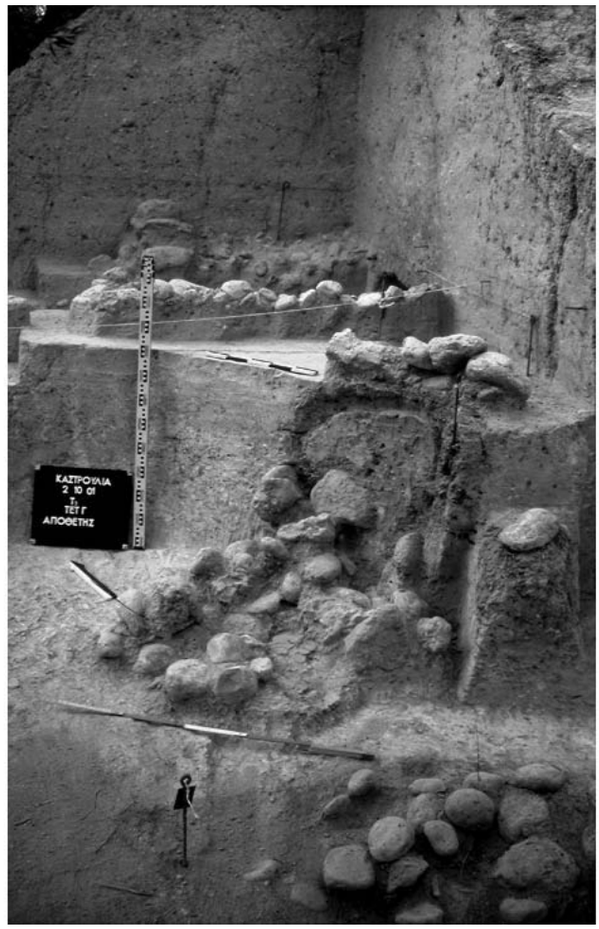

Fig. 25 Kastroulia, Tumulus II, quarter Γ, grave 3: collapsed pebble-covering above the partially destroyed burial of presumably a male person, from South. In the background the pebble build platform of grave 2

Fig. 26 Kastroulia, Tumulus II, quarter Γ, grave 3: scanty remains of a skeleton and funeral-gifts, from South-West

[26] Compare Howell 1992, fig. 3–16 P2211–P2212, P2216–P2217; 3–17 P2233, P2236, P2243; pl. 3–9 P2211–P2212, P2216–P2217; 3–11 P2233–P2248. For a footed brazier from the "southern grave", a stone-built cist grave, in tumulus A of Voidokoilia, see Korres 1990, 7 pl. 4, 2; Korres 1987, 735 with note 47 fig 15.

Fig. 27 Kastroulia, Tumulus II, quarter Γ, grave 3: bronze knife

Fig. 28 Kastroulia, Tumulus II, quarter Γ, grave 3: small bronze dagger

Fig. 29 Kastroulia, Tumulus II, quarter Γ, grave 3: kantharos of the so called 'Nichoria bowl'-type

Fig. 30 Kastroulia, Tumulus II, quarter Γ, grave 3: one of two large narrow necked jars with two vertical handles on the shoulder in matt pattern-painted fabric

the early MH period. This peculiar shape is very common in Nichoria MH I, Group C and is also known from Lerna VA and from pithos grave 11 in tumulus A of Voidokoilia in Messenia.[27] The example from Kastroulia is furnished with two strap-handles, each formed of six parallel rods of clay bedded in a thin, flat clay-strap. Strap-handles made of rods of clay are not uncommon in Nichoria MH I, Group C.[28]

Two large narrow-necked jars with two vertical handles on the shoulder, with matt-painted decoration (Fig. 30). This shape was already popular in Aegina Fundgruppe XVIIIf, town V (EH III),[29] and in Olympia it occurred in apsidal house III (toward the end of EH III).[30]

One small biconical narrow-necked jar, with double perforation beneath the rim (Fig. 31). This is a very popular shape in Lerna VA.[31]

A large jug with horizontal ribs on the shoulder (Fig. 32). This vase shape seems to show some influence from Minoan pottery tradition.[32]

Conclusions

To highlight the significance of the archaeological evidence of tumulus II in Kastroulia, we stress the following points.

[27] For Nichoria MH I, Group C, see Howell 1992, 51. 71 fig. 3–6 P2119–P2120; 3–11 P2151, P2154. For a bowl (kantharos) of this type from Lerna VA, see Zerner –1987, pl. 13 above left (dark burnished ware). For the example from pithos grave 11 in tumulus A of Voidokoilia, see Korres 1978, 323–60 esp. 353–4 pl. 212α.

[28] See Howell 1992, 51 fig. 3–13 P2176 pl. 3–8 P2176–P2178.

[29] See Walter and Felten 1981, pl. 92, 192,XVIIIf.

[30] See Weege 1911, 163–92, fig.19; Rambach 2001, 327–34 esp. 330 with note 33.

[31] For close parallels in shape from Lerna VA, see Zerner 1978, fig. 12 deposit BD 155, 4. 10; 14 deposit B 1487, 8; 17 deposit BE 426, 11. 13; 19, deposit BE 45, 4.

[32] P. Warren and M. Cultraro considered this jug as a possible Minoan import from the Mesara.

Fig. 31 Kastroulia, Tumulus II, quarter Γ, grave 3: small narrow necked jar with double perforation beneath the rim

Fig. 32 Kastroulia, Tumulus II, quarter Γ, grave 3: large jug with horizontal ribs on the shoulder. The lower part of the handle is thrust through the body wall of the vessel

Tumulus II provided us with three burials, each a single inhumation. These were furnished with rich or even very rich grave gifts, a circumstance extremely rare among early MH tumulus burials. Graves 2 and 3 of tumulus II are the richest burials of the early to mature MH period so far known in Messenia.[33] The three graves of tumulus II represent true "closed deposits" and may therefore be highly helpful in studies of chronological issues. Both tumulus I and II are to be dated to the late MH I period. Tumulus II seems to have served as a burial place for a single family: in grave 2, near the center of the tumulus, a woman of high social status, perhaps a priestess or an "archontisa"; and in graves 1 and 3, closer to the periphery of the tumulus, a child and a man, respectively.[34] The preserved archaeological evidence indicates use of both tumuli exclusively in MH I. No traces of burials of later MH or LH phases were observed.

The two tumuli of Kastroulia clearly demonstrate the existence of a hierarchically divided society in this part of Messenia as early as the beginning of the MH period. The female burial in the extraordinarily rich grave 2 of tumulus II was furnished with a complete set of tableware, easily imagined to have been used for feasts and banquets during the lifetime of the decedent. Most of the pots in this assemblage designed for drinking or eating were manufactured in a mainland Helladic pottery tradition. The three vessels made to be used as pouring vessels, however – two jugs from grave 2, and one from grave 3 – include a possible import from the wider Aegina-region (the matt-painted patterned jug) and minoanizing products or perhaps even true imports from Crete (the jug with horizontal plastic ribs from grave 3). These jugs obviously were products of high value and high prestige for the owner. It is perhaps no coincidence that vessels for pouring were particularly favored as items brought from abroad,[35] since a pouring vessel would have been readily noticed by each participant in a feast or banquet, having come close at least once to everyone taking part in the event. With its rare and foreign design and decoration, such a vessel could easily have been used as a means of achieving prestige for the owner by demonstrating his ability, knowledge and connections for gaining access to a

[33] For Kephalovryson, grave 1 (Chora, Volimidia), Ayios Ioannis Papoulia and Voidokoilia, see Kilian-Dirlmeier 1997, 97–8. 101–4. For Kephalovryson, grave 1, see also Lolos 1987, 196–207 esp. 203 fig. 350, 353, 355–66.

[34] The anthropological examination of the skeletal remains from Kastroulia has been assumed by Professor M. Michalodimitrakis of the University of Crete and by Prof. M.Y. Iscan of the Univesity of Istanbul. After an initial study of the skeletal remains from graves 1–3, he agreed with the identification of the sex and age (child) of the three decedents found in tumulus II. DNA analyses are in progress.

[35] Compare the remarks of Kilian-Dirlmeier 1997, 104 for the MH II shaft grave in Aegina. For the commercial connections of Messenia in the Bronze Age see Korres 1993, 231–48. See also Rutter and Zerner 1984, 75–83.

product presumably available to only a very limited number of persons and hence of high value.

The pottery of Helladic tradition among the grave gifts from Kastroulia presents strong resemblances in shape, decoration and manufacture with the pottery of Nichoria and Lerna VA. In contrast, not a single vessel of the so-called Adriatic incised ware was found among the assemblages,[36] and there is no evidence among the incised decorated pottery of Kastroulia of foreign decorative motifs of Cetina type known from MH I Nichoria and from late EH III to earliest MH I Olympia.[37]

The bronze pendants in the shape of the Minoan double axe from grave 2 may be the earliest known finds of this shape *in corpore* and in metal on the Greek mainland.[38] Whether these pendants indicate strong Minoan influence, perhaps even of religious nature, or whether they are to be considered a phenomenon of mainland tradition with roots in the EH II period is a question for debate.[39] It is perhaps noteworthy, in this respect, that bronze pendants of this shape became very popular on the mainland in the Mycenaean and, especially, in the Geometric period.[40]

[36] For the term "Adriatic Incised Ware", see Rutter 1982, 459–88 esp. 460 with note 5. See also Rutter 1995, 632–4; Rambach 2001, 330–3 pl. 1, 2ab.3–4.

[37] See Rambach 2001, 333 with note 56. Maran 1998, 18–25, 323–9; Rambach 2002, 177–212 esp. 178–80, 192–8.

[38] For two votive terracotta double axes from Lerna V, see Arapojanni, Rambach and Godart 2002, 63 note 175. One of these could be dated to Lerna VD, a later subphase of the MH development at Lerna; see Banks 1967, 656–8 pl. 21; compare also Caskey 1957, 142–62 esp. 146 fig. 2. For the depiction of an incised double axe motif on a pebble of MH III context from Kavkania, see Arapojanni, Rambach and Godart 2002, 6–8, 61–6 fig. 2, pl. 13 S1–S2 and Godart 2002, 213–40 fig. 2.

[39] For large "ceremonial" hearths, with a central cavity in the shape of a double axe head, of the EH II period from Building BG in Lerna and from the Megaron House in Berbati, see Caskey 1958, 125–44 esp. 130 pl. 32 c–d; Caskey 1959, 202–7 esp. 206 pl. 42 a; Säflund 1965, 96–106 figs. 80–2.

[40] See Kilian-Dirlmeier 1979, 243–58 esp. 254–8 (Doppelbeile mit Klingenausschnitten).

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Aeginetan Matt-Painted Pottery in Boeotia

Kalliope Sarri

The Middle Helladic (MH) sites of Boeotia are exceptionally important for understanding cultural developments during the Middle Bronze Age (MBA), as they are for later periods of Greek history. From the Early Helladic (EH) period, Boeotia yields an idiosyncratic style in architecture and site planning, while a broad production of goods indicates a gradual concentration of power in a series of strong administration centers.[1] The EH background seems to predict the subsequent evolution of this region during the Late Bronze Age, when the region became one of the most important centers of the Mycenaean world.

Between these two crucial periods, MH Boeotia presents the same signs of cultural retreat known from other regions of central Greece. However, in the same time period, a high standard of pottery production and export industry is observed, indicating a population increase and economic strength. This period also saw the beginning of long-lasting efforts of the local population to drain Lake Copais.[2]

The most important remains of MH settlement and of contemporary burials were, in chronological order, those of Orchomenos, Eutresis and Thebes.[3] In addition to these three Boeotian "type sites", a large number of MH sites discovered during extensive[4] and intensive surveys and collections have confirmed the excavation data, at least regarding the repertory and distribution of ceramic production.

MH Pottery Wares in Boeotia

The main MH fine pottery class of Boeotia is Minyan ware, which divides into subgroups according to the surface colors: the grey, brown, yellow and red varieties.[5] Indeed, this ware class seems to be a true product of the local workshops and covers all of the period, often surviving beyond the end of the MBA.[6] In contrast to what might have been expected, the Minyan pottery of Boeotia is not always characterized by excellent quality – usually a key indicator for the identification of "true Minyan" in other areas – but by many and different qualities and varieties.[7] These subgroups may signify products of short-lived experimentation or the production of smaller workshops, but they could also represent stages of chronological development. This characteristic of the pottery supports the suggestion that variety rather than homogeneity is compatible with long-lasting local production. Another factor that makes it hard to identify Boeotian material in other areas is the absence of potters' marks in the Boeotian Minyan production.[8] Thus the trademarks of this pottery remain its manufacturing technique and style. The percentages of Minyan are so high that any other ware group except for coarse wares could be characterized as imported.[9] An exception is represented by a "semicourse" undecorated group, which is rather grittier than Minyan ware but often borrows Minyan ware shapes.

One of the smaller groups considered as imports to this region is the Aeginetan matt-painted pottery found at all three "type sites" and also at some of the sites known from survey and recent excavation. The main criterion for a macroscopic classification of the Aeginetan ware is its very distinctive fabric: a pale brown, whitish or greenish, light, and porous clay – very often containing the typical biotite inclusions – and the black or dark brown matt decoration, which is thick but brittle. The decorative patterns and the shape repertory – well known from the Aegina publi-

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1 Forsén 1992, 125–42.
2 Knauss 1987, 103–106; Knauss 2000, 243–4.
3 Goldman 1931; Bulle 1907; Demakopoulou-Konsola 1975.
4 Hope Simpson and Dickinson 1979; French 1972; Bintliff 1986; Bintliff 2003; Fossey 1988.
5 There are many descriptions of Minyan ware, e.g., Childe 1915; Forsdyke 1914.
6 Mountjoy 1980, 148.
7 This is a common feature observed at sites with large amounts of MH pottery, such as Orchomenos and Medeon.
8 J. Crouwel (1973) has identified some Minyan fragments bearing potters' marks. These all seem to belong to a north Peloponnesian manufacture.
9 The local matt-painted ware can be considered a decorated variant of Minyan.

cations – are also fairly distinctive, vastly different in appearance from those of Boeotian production trends. The matt-painted pottery of Aegina is also different from other matt-painted categories imported to Boeotia, such as Wace and Thompson's "Δ1β", a ware group that seems to have its origin in a northern area between the Spercheios valley and Thessaly,[10] and from the so-called "Polychrome Mainland" ware, which seems to be a local version of the light-colored Minyan bearing bichrome decoration.

The identification of Aeginetan pottery in excavation deposits is relatively easy, unlike the situation in survey collections. There, the scarcity of an imported and therefore poorly represented pottery group, combined with the fragile nature of the paint and the bad state of preservation, make it easily confusable with the pottery of other periods. In Boeotia, for example, the undecorated samples of Aeginetan pottery from surface collections are often confused with the porous and light-colored pottery of the Geometric or even the Archaic period. As a result, the evidence provided by imported pottery is often limited, while in other cases it is overestimated.

Identification of other Aeginetan products, such as the so-called "red-slipped Aegina",[11] is difficult if the examples are not well preserved. Some typical examples of this ware are found in Eutresis.[12] Even more difficult to identify are Aeginetan coarse wares, in particular Aeginetan cooking and storage vessels, such as have been found at mainland sites, e.g., at Kiapha Thiti in Attica and at Aspis in the Argolid.[13] There is still no evidence for such imports in Boeotia, although future study of the Boeotian coarse wares from stratified deposits could well change this picture.

In the following part of this paper we will discuss the distribution of the "Aeginetan-type" pottery at a series of Boeotian MH sites.[14]

Orchomenos

For the purposes of historical research, Orchomenos is considered a "type site", both because it is the place where "Minyan ware" was first discovered by H. Schliemann and because it was named after the Minyans, the inhabitants of Orchomenos.[15] Detailed study of the old excavation reports, records and notes reveals that it was not Schliemann who gave this name to the pottery, as is usually assumed; in his published works, he uses the simple term "grey ware".[16] The term "Minyan" should be ascribed, instead, to the Bavarian excavators, who used this name unofficially – as a working term during the excavation seasons – replacing it soon afterward with the term "ältermykenisch" (early Mycenaean) on the grounds that "Minyan" had the potential to develop into a misleading term.[17]

The fine Minyan ware of Orchomenos constitutes the most dominant MH pottery group found at the site, making up 80 percent of the diagnostic fine MH examples.[18] Minyan ware is a pottery group of technologically high standard that has attracted a great number of precise descriptions by many scholars during the last century. "True Minyan" is thought to be a very characteristic fabric, wheel-thrown but also handmade, with a hard and smooth feel that results from intense burnishing and highly developed firing techniques. Not all the representatives of this ware group share the superb quality attributed in other regions to "true grey Minyan". Products of a medium quality of firing, such as pottery with soft surface or with pale reddish biscuit, are fairly common. We were able to distinguish eight subgroups of grey Minyan according to color, burnishing techniques and firing conditions. One of the most typical and numerous subgroups shows a grey-brown striated surface and a dark grey biscuit with a thin light brown outline.

The rich Minyan assemblage of Orchomenos shows that the old division of "true Minyan" into grey, yellow, and red is quite reasonable.[19] All Minyan variants seem to be identically constructed in respect to shape repertory and manufacturing techniques. The only dissimilarity is the color of the surface. As is true of grey Minyan, the groups of brown, yellow

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[10] Wace and Thompson 1912, 20f, Maran 1992a, 151. See also Maran's "Magnesian ware" in the present volume.

[11] For the distribution of this ware in Boeotia, see French 1972, 26.

[12] Goldman 1931, pl. X.

[13] Maran 1992b, 179, 190; G. Touchais in this volume.

[14] I am very grateful to the following institutions, colleagues and friends for providing permission to study material discussed here and for giving valuable advice over many years of work: Archaeological Ephoreia of Thebes, DAI Athens, Bavarian Academy, V. Aravantinos, J. Bintliff, O. Dickinson, S. Dietz, H. Hall, H. Hauptmann, S. Jalkotzy, A. Konency, J. Maran, G. Nordquist, Siedentopf, T. Tartaron, I. Whitbread.

[15] Schliemann 1881.

[16] Schliemann 1881, 41–4.

[17] Bulle 1907, 53; Wace and Thomson 1912, 194.

[18] Because almost all the material comes from unstratified deposits, the statistics refer only to diagnostic MH fine pottery and do not include the coarse or semicoarse wares.

[19] Goldman 1931, 124.

and red Minyan can be also divided into subcategories according to minor fabric differences. There is also a distinctive and quite large class of gritty grey Minyan, always handmade and with no reddish biscuit, similar in these respects to its Argive Minyan counterpart but with a light grey core. This variety appears to be a characteristic local version of coarse Minyan.

The shape repertory of Minyan ware is rather limited; the most typical shapes are open table wares for the consumption of beverages or cooked food, namely ring-stemmed goblets, two-handled bowls and kantharoi.[20] These three key shapes show many variations in a gradual development from sharply carinated to globular forms. They often bear decorations of grooved, ribbed or incised bands, placed primarily on the shoulder of the vases. Closed vessels were not preferred, at least for the greater part of the period, a preference perhaps imposed by contemporary drinking customs or by a technical difficulty in throwing such vessels on the wheel. The function of pouring vessels was perhaps fulfilled by coarseware pottery.[21] In the latest phase of the Minyan tradition, early Mycenaean shapes such as small-sized cups, Vapheio cups and amphoriskoi appear, showing an ongoing adoption of new traditions.[22]

It seems clear that the local pottery production is characterized by a persistent tendency to construct well-burnished monochrome pottery, sometimes ornamented with relief decoration. Therefore it is worthwhile to calculate the amount of matt-painted pottery at the "center" of the Minyan production. A remarkable number of yellow and red Minyan vases decorated with simple black or dark brown matt-painted ornaments seems to be locally produced, as it is not technically differentiated from the rest of the Minyan pottery. This ware group appears to derive from a combination of Minyan manufacture with matt-painted traditions brought to the mainland from Aegina and the Cyclades. It appears in fully developed Minyan shapes, which indicates a later date (MH II–III). An even later variant of this ware, sometimes decorated with very elaborate ornaments in purple and black, is known as "Polychrome Mainland" ware. In Orchomenos this ware is very well represented, strongly supporting its Boeotian origin.[23]

Apart from this locally made matt-painted version of Minyan, several examples of the northern matt-painted pottery "Δ1β"[24] and a few matt-painted sherds indicating Cycladic origin, the rest of the matt-painted examples belong to the Aeginetan style.[25] This class reaches approximately 2 percent of the total of diagnostic MH wares, a very small amount, strongly supporting the case for import. A group of 17 examples, including both fine and coarse wares, preserve painted patterns, very well known from the Aeginetan pottery production of towns VII–IX (Fig. 1). Most of them are body sherds decorated with simple band ornaments such as cross-hatches and hatched triangles, but there are also free-standing motifs such as butterflies, dots, stars, concentric circles and groups of chevrons.[26]

Orchomenos also yielded two well-preserved matt-painted pithoi, which are exhibited at the Athens National Museum (Fig. 1, 9–10).[27] One of them comes from an exceptional "closed" deposit of the site – the so-called burnt house revealed in trench K to the east of the Treasury of Minyas – where it was found in situ on a clay slab, as part of the permanent equipment of this house (Fig. 1, 9).[28] The surface of this vessel is decorated with alternating vertical panels with concentric circles, series of saltires and zigzag bands. The lower part of the body is plain. On the surface there are visible marks of secondary firing. This find can be attributed to Aeginetan pottery production, as the fabric, the shape and the decoration correspond with the material found in town IX.[29] As some ring-stemmed goblets from the same deposit indicate, the house belongs to the "classical Minyan MH II" phase. The

[20] Two classical Minyan examples from Schliemann's excavations are kept in the National Museum, inv. nos. 3271 and 3273. Rontiri 1990, 383–4, nos. 378 and 379.

[21] The deficiency of the stratigraphic evidence from the site makes it impossible to distinguish the greatest part of the MH coarse wares.

[22] See a grey Minyan "Vapheio type" cup, from Schliemann's excavations, exhibited in the National Museum, inv. no. 3274; Rontiri 1990, 383, no. 377.

[23] Dietz 1990, 217.

[24] Wace and Thomson 1912, 20, 180. For the distribution of this ware in Boeotia, see French 1971, 38, fig. 15.

[25] Sarri 1998.

[26] Compare fig. 1, 5,8 with Siedentopf 1991, 66, 319–21; fig. 1, 6 with Siedentopf 1991, fig. 76, 388.

[27] NMA nos. 5875 and 5876.

[28] For the description of the "burnt house" see Bulle 1907, 58, 110–1, fig. 19. The location of the pithos is reported from the excavation records kept in the archives of the Bavarian Academy in Munich.

[29] Siedentopf 1991, fig. 22, 104–106. See also two similar fragments from floor XXXII–1 and from the fill layer in Q3, both belonging to phase 6. Gauß and Smetana 2004.

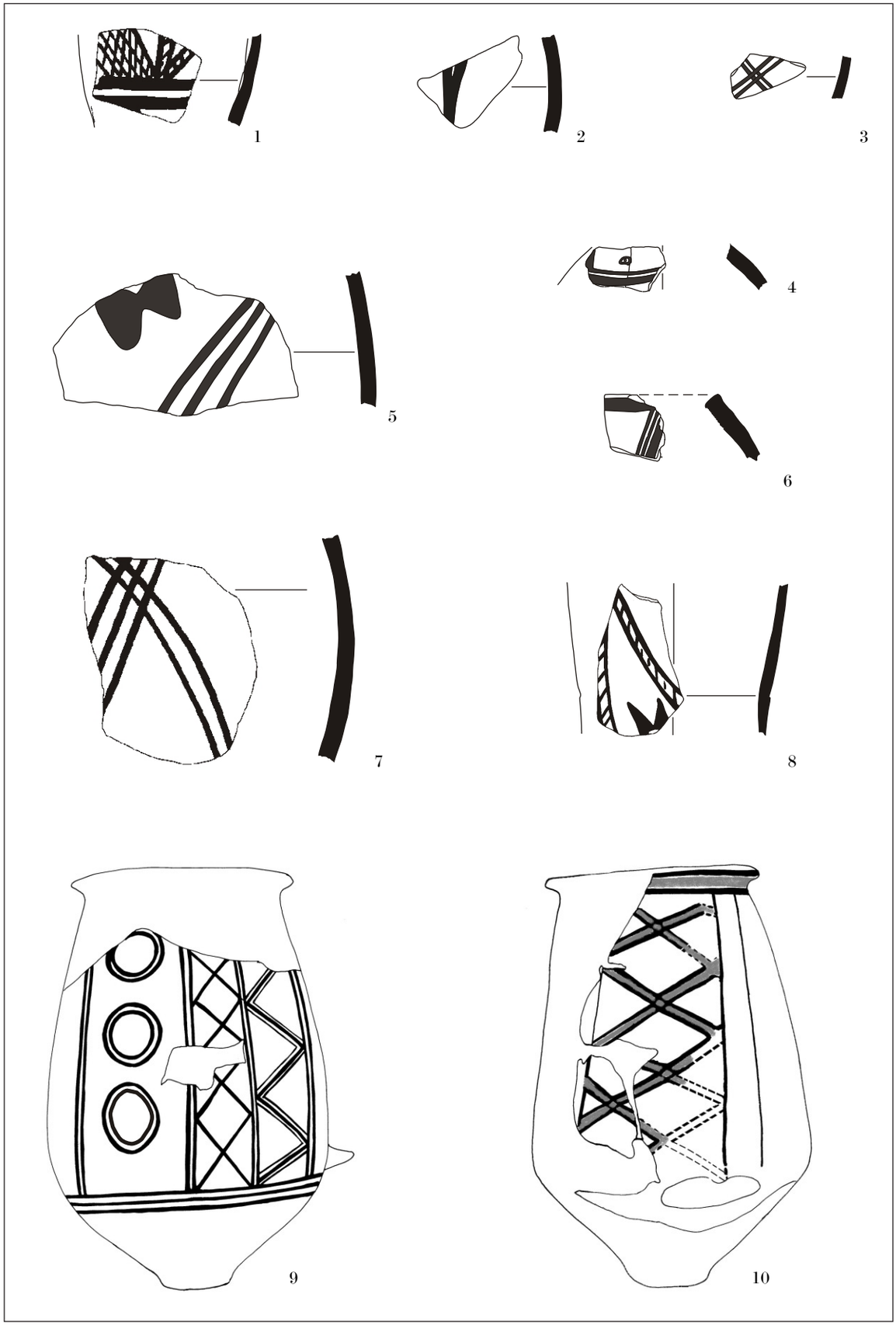


Fig. 1 Orchomenos. Matt-painted pottery, 1–8: scale 1:3

second pithos was found in trench ABC, which is located on the hilltop and for which there is no stratigraphic data (Fig. 1, 10). This pithos is only half-preserved, has a low-carinated body and bears an oblique check decoration, in black and light red, which is placed on a thick buff slip. This style of decoration seems not to be very common on Aegina but similar examples have been found on Keos.[30]

The matt-painted pottery of "Aegina type" found in Orchomenos represents a pottery group which, by its low representation and by its texture, shows a clear distinction from local pottery production. In order to clarify similar assessments of imports or foreign influences at a site with such a solid pottery production, a petrographic study project has been undertaken by MIT and the Fitch laboratories under the direction of T. Tartaron, I. Whitbread and E. Kyriatzi. The study addresses the local and imported pottery groups of Orchomenos, focusing primarily on the Minyan wares and using a broad array of comparative data from other regions.[31] The first preliminary results of this study have already demonstrated that a range of the samples attributed to Aeginetan production by means of macroscopic criteria contain the characteristic volcanic and microfossil assemblage of Aeginetan pottery.[32]

Eutresis

The next major Boeotian MH site, Eutresis, is the first at which MH fabrics were classified.[33] Goldman's classifications of the rich MH pottery material from three building layers continue to appear accurate and representative of the entire geographical region, on the evidence of similar material subsequently found in similar quantities at many other Boeotian sites. Among "enormous quantities" of grey, yellow and red Minyan – according to Goldman – were identified many examples of matt-painted and some of "red-slipped Aegina".[34] Goldman used the term "yellow minyan with matt decoration", [35] a very useful and precise term for Boeotia, since it distinguishes the local matt-painted production from the industries of Aegina and the Argolid (Fig. 2, 3).

A part of the decorated pottery certainly belongs to the Aeginetan type (Fig. 2,1–2, 5–6). The quantities cannot be accurately estimated, but the illustrated material presents 44 examples, both fine and coarse, a number that comes very close to the amount of the comparable Orchomenos group.[36] One of the most famous finds from Eutresis, the large pithos exhibited in the Museum of Thebes, belongs to the Aeginetan type (Fig. 2,5).[37] Its best parallels are in the early "close style" of Aegina VII.[38] To the same period should belong another Aeginetan-like pithos decorated with hatched lozenges (Fig. 2, 2)[39] and a pithos with friezes filled with hatched zigzag bands and wheel ornaments (Fig. 2,6).[40] Some more typical Aeginetan shapes represented in Eutresis are wide bowls with T-rim and pithos fragments with lid rim (Fig. 2,1).[41]

The quantity of Aeginetan imports in Eutresis seems to be higher than at any other Boeotian site. They show, moreover, sometimes elaborate shapes, such as a well-known bird-shaped askos and two basket-handled deep bowls,[42] and they tend to be much better preserved than at other sites.

Thebes

Unlike the MH finds of the two sites discussed above, those from Thebes are very difficult to treat within a single study. Thanks to D. Konsolas's study of pre-Mycenaean Thebes, we know that MH Thebes was a very large settlement, covering almost the entire area of the Kadmeia.[43] The most detailed report on MH settlement layers is that of the "Papageorgiou-Panagiotopoulou" plot on the southwest edge of the Kadmeia, which we believe provides a representative

[30] The use of a thick pale yellow slip over coarse red clay is met often in the Cyclades. Overbeck 1989, fig. 52, 6; 59, 20; 81,18. See also Overbeck, in the present volume.

[31] For some preliminary results, see Whitbread *et al.* 2002, 123.

[32] I owe this information to I. Whitbread and T. Tartaron.

[33] Goldman 1931, 124–86.

[34] The term "red-slipped Aegina" was introduced by French (1972, 26).

[35] Goldman 1931, 167.

[36] Goldman 1931, figs. 200–3, 205–25. Comparison between the material from Orchomenos and Eutresis can be given only in rough percentages. Both sites are, however, extensively excavated, with a yield of some thousands of MH ceramic examples.

[37] Goldman 1931 Table XIII; Demakopoulou and Konsola 1981, fig. 11.

[38] Siedentopf 1991, figs. 30, 136, 137.

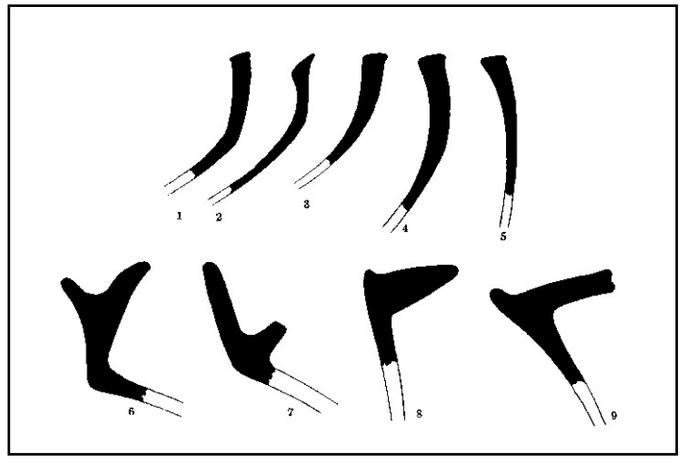
[39] Compare Goldman 1931, fig. 201 with Siedentopf 1991, figs. 3, 4.

[40] Siedentopf 1991, 44, figs. 5, 15.

[41] Compare Goldman 1931, fig. 208 with Siedentopf 1991, figs. 79–86.

[42] Goldman 1931, 223, 224, 218–9.

[43] Konsola 1981, Map 6, 111, 186. Compare with Kilian 1997, 112.



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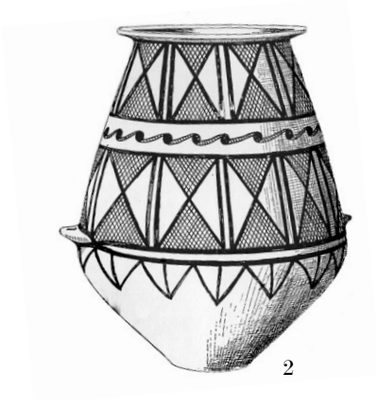

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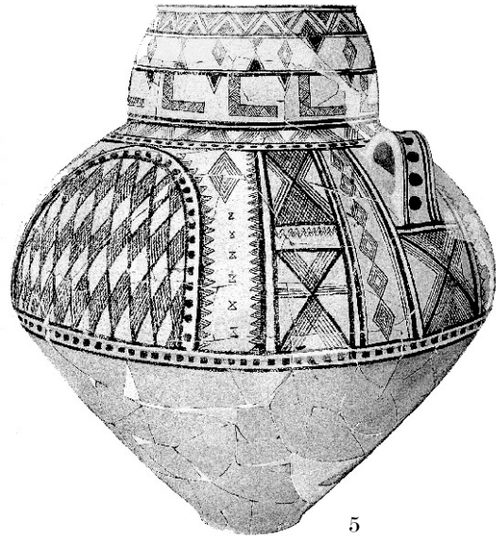

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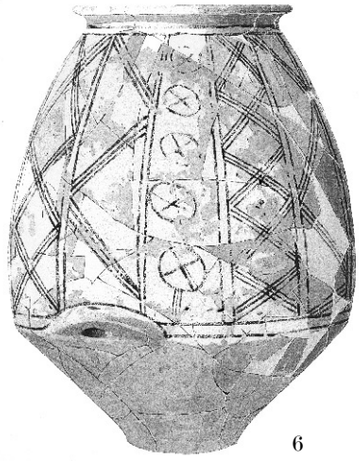

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Fig. 2 Eutresis. Matt-painted pottery

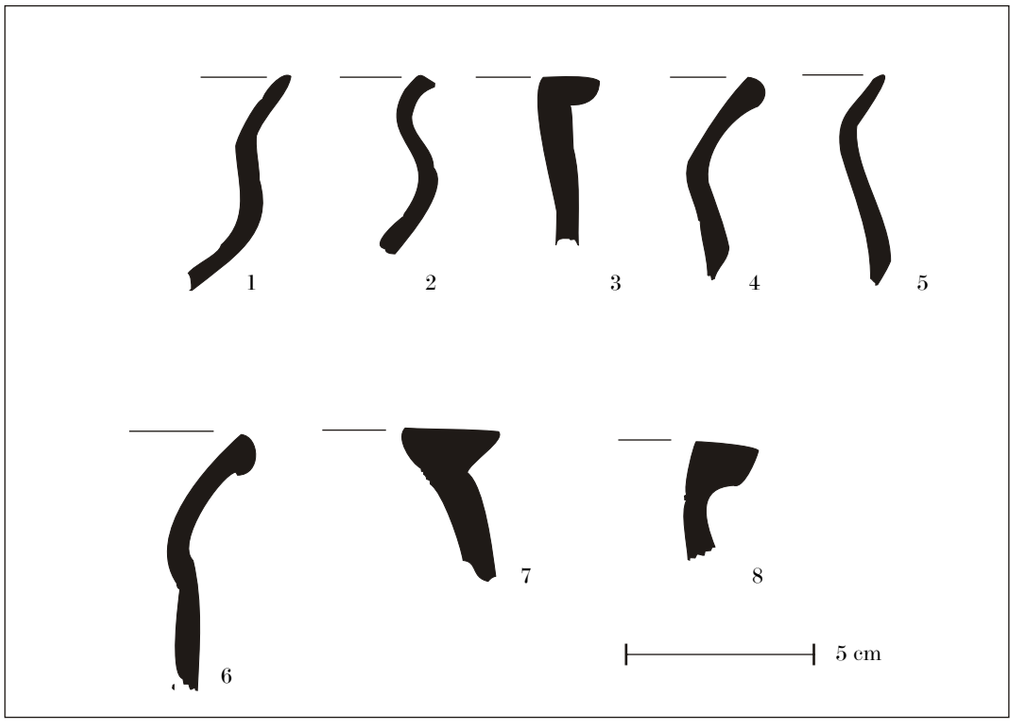

Fig. 3 Thebes. Minyan ware (after Demakopoulou-Konsola 1975)

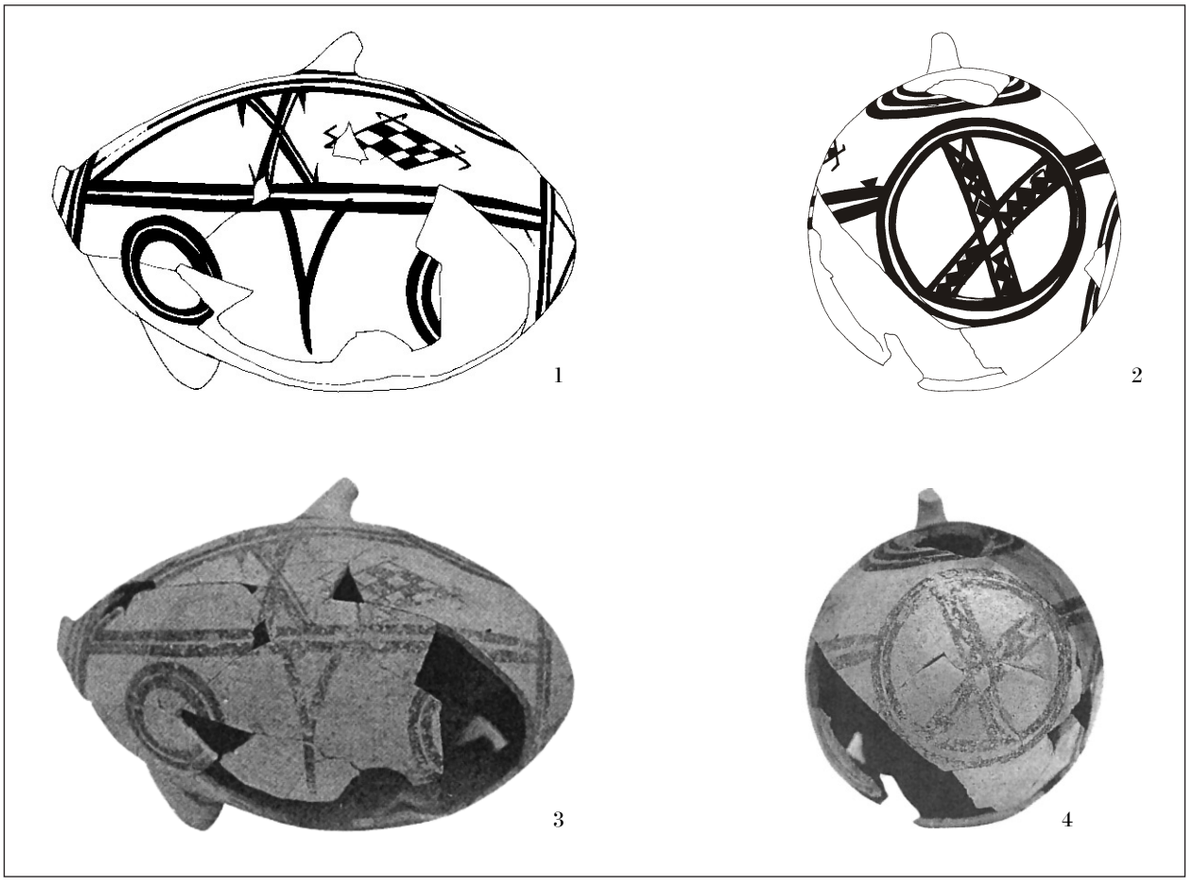

Fig. 4 Thebes. Matt-painted bird-shaped askos (after Deliyianni 2003)

sample.[44] The report refers to "large quantities" of matt-painted pottery found in Thebes, making up the second largest group after Minyan (Fig. 3).[45] This information, combined with the long-established view of the coexistence of the two categories on the mainland, leads to a reasonable assumption that there is also a local matt-painted version here.

A more detailed description of the proportions, however, allows for a second reading. Most of the matt-painted fragments belong to the coarse wares, represented mainly by large pithoid vessels. The "good quality" finds are few, of which a handful can be classified as "matt-painted Minyan".[46] On the other hand, the polychrome variant seems to be quite numerous. If we read between the lines, then, it appears that the quantitative contrast between matt-painted and Minyan is fairly pronounced. This discrepancy becomes even clearer if we consider that large pithoi break into many pieces. Consequently, the Aeginetan-type pottery found in Thebes could be considered to have been imported from Aegina, nearly approaching its percentage at Orchomenos.

A remarkable recent find from Thebes well fits the present discussion. It is a matt-painted bird-shaped askos (BE 26989) found during the 2000 rescue excavations in the Municipal Conference Centre of Thebes, which is located in the northwest section of the Kadmeia (Fig. 4, 1–4).[47] This vessel was found in an intramural burial pithos, together with large fragments of grey Minyan stemmed goblets.[48] Although the deposit was mixed up by later intrusion, these pottery finds are considered to be offerings from the same burial.

The body of this exceptional vase, missing the spout and parts of the body, is an elongated ovoid. On the back side, one leg is preserved. There is not any directly comparable MH shape, excepting perhaps a very similar vase found at Eutresis that is also decorated with matt-painted patterns.[49] The fabric is pale yellow, the clay very porous and soft, containing many nonplastic inclusions. These features, and the lack of a highly burnished surface, seem to differ widely from those of the local pottery production, while strongly resembling the characteristic Aeginetan matt-painted ware.

Moreover, the general arrangement of the decoration, such as a series of ornaments, refer to the "mature style" of Aeginetan matt-painted pottery, preferred in town IX.[50] The main parts of the vessel, such as the spout, the handles and the foot, are emphasized by means of single or double circles. The body of the vessel is separated into frames containing free-standing ornaments such as concentric circles, hatched lozenges and triangles. Some of the most distinctive motifs of Aeginetan MH pottery appear here. The double vertical bands alternating with concentric circles are a very common decoration on the pithoi of town IX.[51] A similarly characteristic decorative element of the same phase is the long-drawn-out lines on hatched triangles[52] or lozenges.[53] In the middle of both sides, triangles are appended from the horizontal frame as "dropping" lines toward the lower part of the body, a decoration often used on Aeginetan jugs of the same period.[54] The front side of the vase, below the missing spout where the framing bands meet, is decorated with a large crossed medallion, an ornament often used on bases of Aeginetan pithos lids and cups.[55]

The occurrence of so many Aeginetan features on this vessel provides strong evidence that the bird-shaped askos from Thebes is an imported product from Aegina. Since there is no exact parallel from the island or from adjacent areas, this unique find from Thebes expands the original Aeginetan repertory to include an unusual shape that seems to incorporate Cycladic and Minoan influences.[56] The finding of an Aeginetan matt-painted vessel together with grey Minyan goblets recalls the comparable finds from the burnt house of Orchomenos, discussed above.[57] Consequently, both the evidence from the settlement of Orchomenos and this burial find from Thebes suggest

[44] Demakopoulou and Konsola 1975, 44–89.
[45] Demakopoulou and Konsola 1975, 73.
[46] Demakopoulou and Konsola 1975, 75.
[47] Deliyanni 2003, 599.
[48] Andrikou 2000, 290–4.
[49] Goldman 1931, 160, fig. 223.
[50] For a description of the Aeginetan "mature style", see Siedentopf 1991, 45–6. Compare also a ring-shaped bird jug, standing on legs, attributed to the same period: Siedentopf 1991, figs. 71, 351.
[51] Siedentopf 1991, pls. 22, 104–6.
[52] Siedentopf 1991, pls. 8–9, 33–6a.
[53] Siedentopf 1991, pl. 40, 175a, 176.
[54] Siedentopf 1991, pl. 64, 302.
[55] Siedentopf 1991, pl. 56, 260, 261; pl. 57, 267 and pl. 118, 789.
[56] Matt-painted bird-shaped jugs are found also in previous phases in Aegina. Compare two fragments from pottery phases 4 and 5, Gauss and Smetana 2004, Pottery Phase 4, 3, FG 19/48, 12a–09–6 and Pottery Phase 5,14, FG XXVIII–8.
[57] The decoration of the two matt-painted vessels with alternating concentric circles and vertical frames is similar. Compare fig. 1, 9 with fig. 4, 1.

the coexistence of Aeginetan pottery of town IX (phase 6) with classical Boeotian Minyan pottery, offering a first useful chronological synchronism between MH Aegina and Boeotia.

Apart from the scanty MH pottery data from Thebes, we should consider the very interesting feature shared by Thebes and Aegina during the MH II period, namely the "rich warrior graves".[58] Kilian-Dirlmeier, in her comparative study on the Aegean warrior graves, comments that the most common features appear in centers with weak evidence of pottery imports.[59] This seems to correspond absolutely with the case of Aegina and Thebes, where the shared imports are sometimes exceptional but low in number. Consequently, both the pottery evidence and the social affinities indicate close relations between two large urban centers, and also a common development on the level of politics, taking place long before the Mycenaean establishment.

Medeon

The puzzle of the Boeotian MH sites has recently been clarified slightly by the evidence from Boeotian Medeon, a hill site located on the southeast edge of the Copais plain.[60] The Archaeological Ephoreia of Thebes carried out rescue excavations here during 1995 and 1996.[61] These two excavating seasons revealed the remains of a MH settlement, with three succeeding building layers and five intramural cist graves, in the southeast part of the upper plateau of the hill.[62]

The MH layers were uncovered just below the surface. As they were mostly undisturbed, Medeon became the first excavated site in Boeotia to provide secure statistical pottery data from intact settlement layers. One extensive modern intrusion and the surface finds showed that the site was first occupied during the Neolithic period and that it has remarkable EH remains.[63] The habitation, at least in the investigated area, ends during the MH III phase. The closing of the excavation inhibited the screening of the earlier MH layers and the transition from the Early to the Middle Bronze Age.

The site is a typical Copaic settlement, where grey Minyan pottery of excellent quality predominates as 55 percent of the fine pottery.[64] The analogies between the variants of the Minyan subgroups correspond entirely with those observed in Eutresis and Orchomenos. The quantities of yellow and red Minyan wares are abundant in every stratigraphic layer, always lower than those of the grey Minyan group. It should be borne in mind, however, that the preliminary statistics do not concern the total amount of the pottery, but only the material bearing shape-diagnostic features. We were also able to observe an undecorated "semicoarse red ware", which is likely to play a great role in future pottery studies for the area – especially for petrographic studies – as it is a still unknown local pottery group.

Among the sherds were identified some small-sized drinking and pouring vessels of Argive or Aeginetan matt-painted wares (Fig. 5). A very distinctive find of excavation layer 5 is a small matt-painted pithos with globular body and collar neck (Fig. 5.10). It was found leaning against an apsidal wall, together with a ribbed foot of a Minyan goblet, near the north edge of trench Q12.[65] Although no human bones were found, the deposit looks like a disturbed pithos burial in the floor of a house. This pithos shape has parallels in Aegina towns XII and XIII, but the spacing of the decoration refers to the later town IX.[66] A fragment of a wide bowl with T-rim and hatched decoration over the shoulder is comparable with a whole series of similar decorated matt-painted vessels in Aegina (Fig. 5.11).[67] The Aeginetan decorating tradition can be recognized also in smaller vases such as goblets and cups (Fig. 5.2, 9).[68] Parallel chevrons (Fig. 5.3), other free-standing motifs placed in friezes (Fig. 5.1) and groups of lines on the handle, which are very common in Aegina, decorate the shoulder of some matt-painted kantharoi and one-handled bowls from Medeon.[69]

At Medeon, the presence of bichrome matt-painted pottery is very sparse, which is rather significant for the chronology of the MH settlement. Due to this

[58] Kasimi-Soutou 1986; Kilian 1997, 83,112. For the parallel development of the elite during the MBA, see Kilian-Dirlmeier 1997, 120–2.
[59] Kilian-Dirlmeier 1997, 177.
[60] Topographic information is given by Lauffer 1989, 34.
[61] Aravantinos 2002, 353, Sarri 2000, 224–41.
[62] Sarri 2000, figs. 3–4.
[63] Sarri 2000, fig. 5, 1–6.
[64] Sarri 2000, fig. 5: 7–12, 6: 3–9, 13–8.
[65] Sarri 2000, fig. 3, location 5.
[66] Siedentopf 1991, fig. 34, 156–7.
[67] Siedentopf 1991, fig. 79–84.
[68] Compare fig. 5, 11 with Siedentopf 1991, 1, 5 and fig. 5,2 with Siedentopf 1991, figs. 116, 763–8, 117, 773.
[69] Compare, respectively, with Siedentopf 1991, fig. 116, 761; fig. 104 and fig. 102, 627–8.

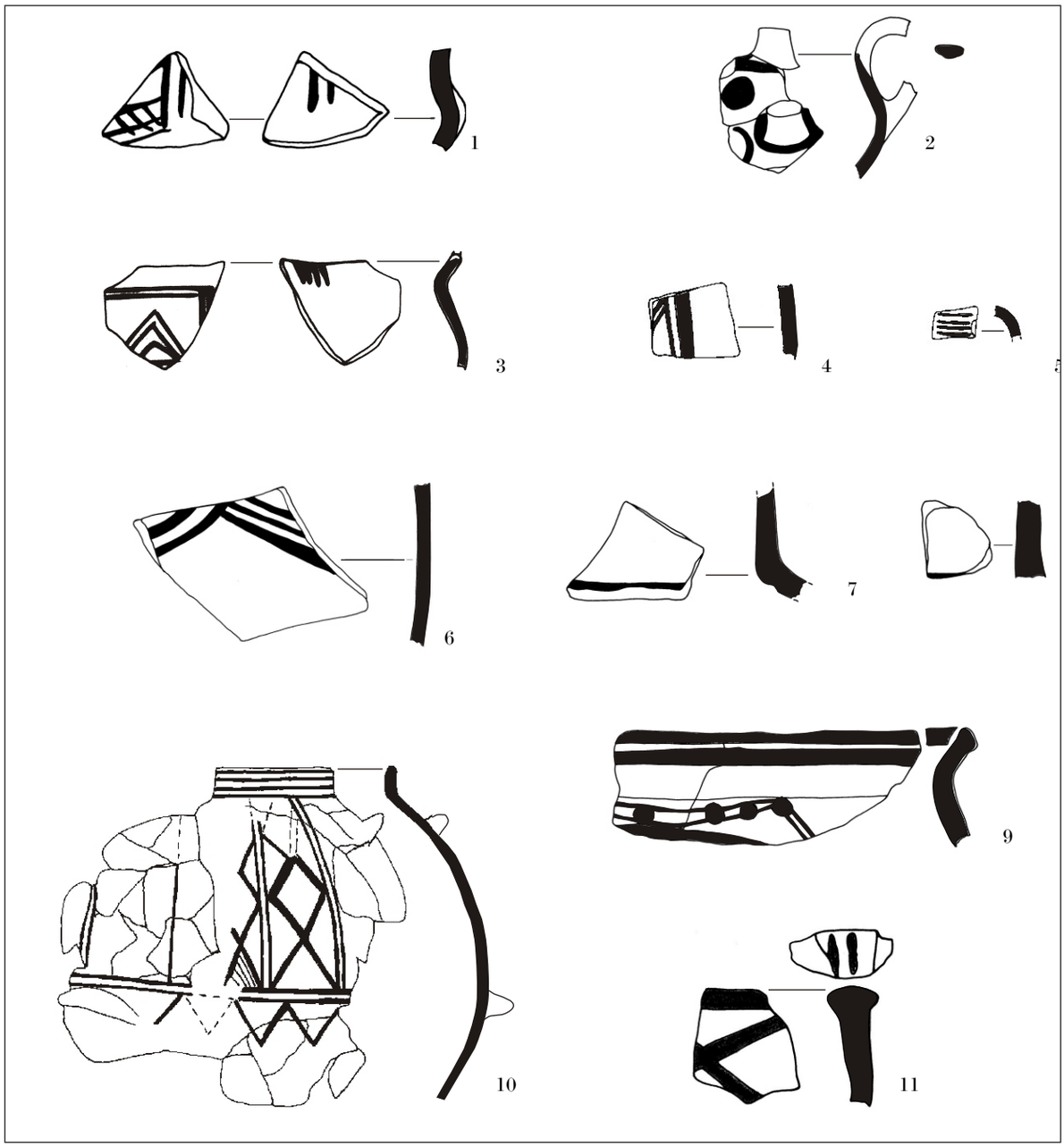

Fig. 5 Medeon. Matt-painted pottery, 1–9, 11: 1:3; 10: 1:10

fact, as due to the lack of a real change in the ceramic development – as all MH examples belong to the "mature Minyan" period – the habitation levels of Medeon are dated to the MH II–III phase and might not reach the very end of the latter. Furthermore, the evidence from Medeon reflects the contrast between older "type sites" and recently investigated sites, proving that even a short excavation season can sometimes upstage a century of difficult and often vague research of long-known sites.

Plataia

New evidence about the MH period in southwest Boeotia is provided by recent research in Plataia.[70]

[70] Aravantinos, Konecny and Marchese 2003, 313.

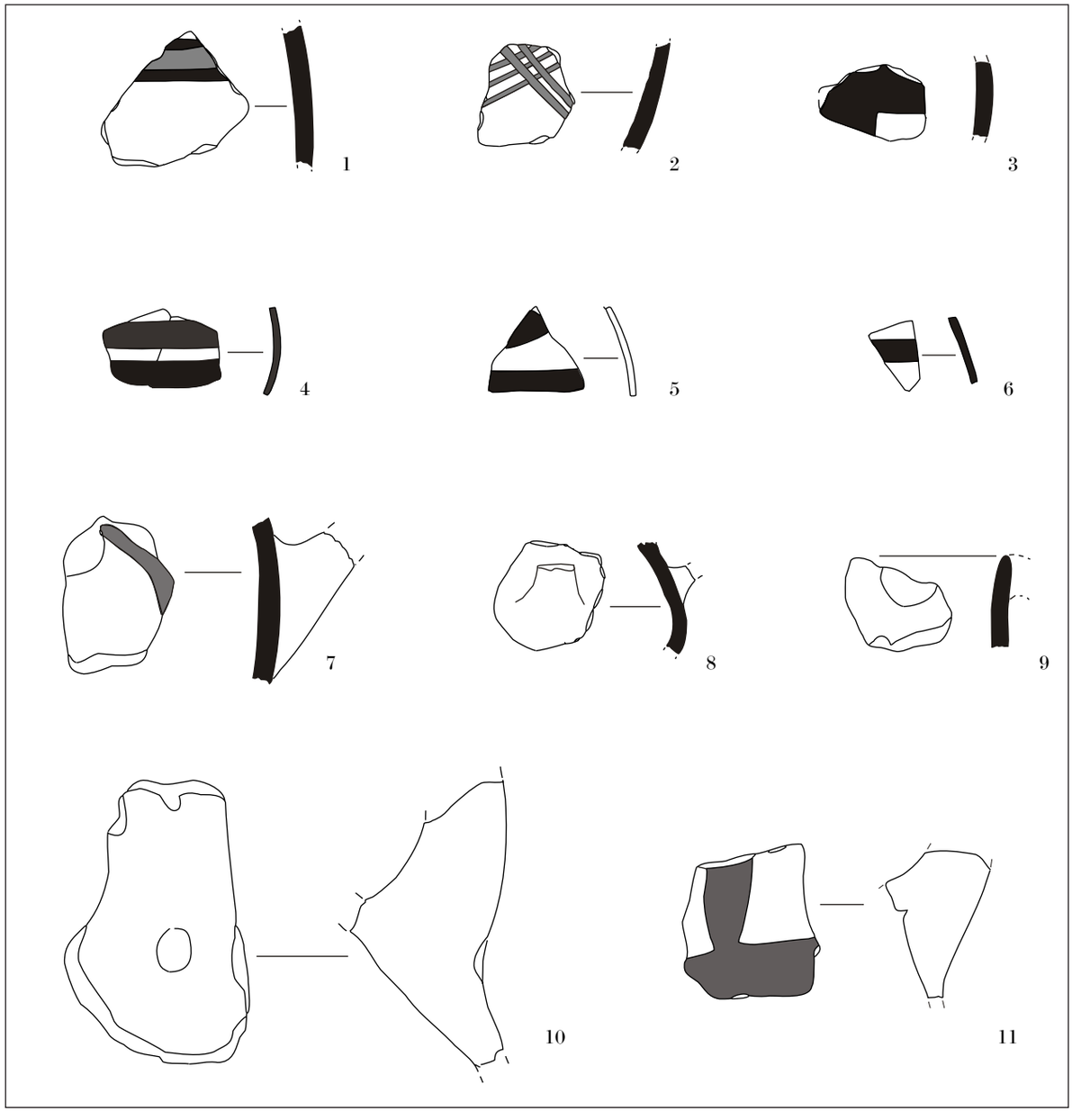

Fig. 6 Plataia. MH matt-painted pottery, 1:3

Two small trial trenches near the west acropolis wall yielded a considerable amount of prehistoric pottery, dated from the Neolithic to the Late Bronze Age, which was unfortunately found in disturbed layers. The proportion of the MH pottery here makes up ca. 23 percent of the diagnostic prehistoric sherds and, compared to proportions from the other prehistoric periods, appears to be relatively high. In this deposit, grey Minyan was dominant, but some matt-painted sherds of probable Aeginetan origin were also observed (Fig. 6,3–11). One of them perhaps bears a potter's mark on the handle (Fig. 6,10). The local matt-painted variants are represented by some body fragments with monochrome or bichrome decoration (Fig. 6,1–2).

The ongoing study of the surface finds may clarify the location and the extent of the MH site, which up to now seems to be limited to the upper plateau of the acropolis. MH material at Plataia offers a very useful comparison to that at Eutresis, as the sites are located just a few kilometers apart. Although it would be unwise to compare the results of an extended excavation with the material from two small trial trenches, it can be assumed that Plataia was less important than Eutresis during the MBA, forming perhaps a smaller satellite site.

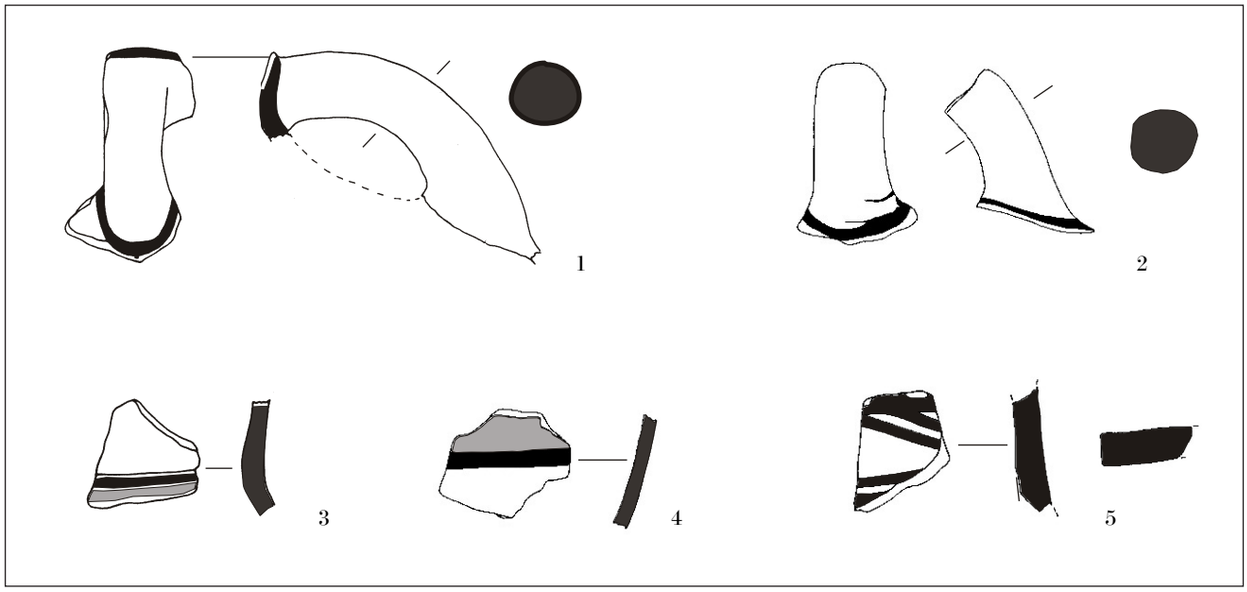

Fig. 7 Agios Konstantinos. Matt-painted pottery, 1:3

Surveys

It would be useful to introduce also the evidence from older and modern surveys into this discussion. Here, we usually come across the problem of a rough definition of the matt-painted classes, since the reports are often focused on the dating of the collected material.[71] As a result, we cannot often clarify whether the matt-painted pottery group belongs to the Aeginetan type or to another local or imported variety. Subsequent to R. Buck's and D. French's work,[72] the literature usually refers to the presence of particular matt-painted classes, but we are still ignorant of the percentages.

The Cambridge-Durham survey in northwest Boeotia revealed a new series of MH sites.[73] At some of them – such as Haliki, Mauromati plains, Palaiopanagia, the Valley of the Muses, site 4 and Hyettos – matt-painted pottery of Aeginetan type has been found among larger quantities of Minyan wares.[74]

Tanagra

The most recent intensive survey in Boeotia, conducted by the Universities of Leiden and Ljubljana, focuses on the area of ancient Tanagra.[75] The first three seasons of fieldwork in the city and the offsite area brought to light some prehistoric finds. Within the city walls, the prehistoric finds – covered by a thick deposit of Greco-Roman remains – were very few, but extended across a long chronological span, from the Neolithic to LBA. Among a handful of MH finds, only one matt-painted sherd was located, probably of Aeginetan origin.

During the 2003 season, in the southwest extension of the investigation area toward the area of Ayios Thomas, samples were collected on the site of Ayios Konstantinos, which is a naturally fortified hill in the Asopos valley.[76] The prehistoric site was inhabited from the Neolithic to the end of the LBA and yielded a large amount of well-preserved prehistoric sherds. Unlike MH finds at the city of Tanagra, those at Ayios Konstantinos were numerous, strongly resembling those at the three major Boeotian sites: the best quality Minyan wares, some matt-painted sherds belonging to the Aeginetan class (Fig. 7, 1–2; 5) and only a few matt-painted sherds belonging to the local polychrome mainland class (Fig. 7, 3–4). The Aeginetan-type examples are some handles of jugs or jars with a band decoration

[71] Hope Simpson and Dickinson (1979, 235–71) name 40 MH sites in Boeotia.
[72] Buck 1964, French 1972, 30.
[73] Bintliff 1986.
[74] I am grateful to J. Bintliff and O. Dickinson for their permission to view the prehistoric material.
[75] Bintliff *et al.* 2000.
[76] Hope Simpson and Dickinson 1979, 222. Fossey 1988, 52–3, fig. 6. Bintliff *et al.* (forthcoming).

around the handle base. A band-handle fragment is ornamented with "closed style" decoration of oblique lines.

Ayios Konstantinos represents a major Bronze Age site and it seems that it had been more important than the prehistoric site below the site of ancient Tanagra. The location of the site, and the amounts and the high quality of the finds, indicate also that the Tanagraike had strong local pre-Mycenaean centers that ruled the coastal area of the Euboean gulf and that these – in contradiction to what is usually assumed – must have been independent of the control of Thebes.[77]

Conclusions

Comparing the available information, it is possible to suggest that Boeotia does not have its own production of matt-painted pottery prior to a very developed stage of the MH II period. The main production in the area at this time is still devoted to Minyan, as this was the main product competing with the Aeginetan wares and was also exported to many, sometimes very distant, regions.

Although the present stage of research does not permit any final conclusions, it allows the observation of some tendencies regarding style and trading itineraries. Even within the close geographical borders of Boeotia, the distribution of Aeginetan pottery seems to depend on the distance from Aegina and the Argolid. In Eutresis, which is the Boeotian settlement nearest to Aegina, and in easy communication with Aegina through the Corinthian golf, the best-preserved and most elaborate Aeginetan examples were found. These gradually reduce, the more northward and the further away from the coast one looks.[78] This is, of course, a generalized, working pattern, which does not exclude other factors such as the significance of the site and its position in a comparable inland trading network.

The distribution of Aeginetan pottery in the mainland – where it is represented by a low but constant percentage throughout the MH period - unsurprisingly suggests that goods were usually transported by ships to harbors. In all investigated areas of MH activity, there is at least one Aeginetan matt-painted pithos, indicating that in Boeotia the importing of small matt-painted vessels was not markedly important but that the possession of an Aeginetan decorated pithos was very desirable for the most prominent households.

The richness, the variety and the increased artistic character of the matt-painted pottery, which reached the mainland through Aeginetan and Cycladic pottery styles, is likely to have led to a new aesthetic pursuit quite different from the monochromy of traditional Minyan. This new trend, probably associated with socio-economical and/or political events between the mainland and the islands, was very much preferred by consumers during the MH II period and was finally able to radically influence local production. The native potters made a major effort to combine the two mainstream styles of their period, the Minyan and the matt-painted, and the two categories coincide in the creation of "yellow and red Minyan matt-painted". The features of this pottery class follow the Minyan tradition, but with the addition of black or dark brown decoration. Later, in the final stage of MBA, in the MH III period, this trend apparently leads to the occurrence of "polychrome mainland", a ware dominating the burial assemblages of the shaft graves.[79]

In conclusion, we can observe that in Boeotia no attempt to imitate the Aeginetan pottery in terms of style and manufacturing techniques took place. On the contrary, great efforts were made to select diverse stylistic elements and to combine their advantages in order to build new pottery styles. The perception of Aeginetan matt-painted pottery in Boeotia offers a further indication that during the MH III period, the pronounced regionalism of MH production was retreating markedly. The old traditional goods were gradually replaced by products of a fruitful exchange of ideas, reflecting a more intensive phase in commercial and political contacts and perhaps a first confrontation of power among the later Mycenaean centers.

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[77] Konsola 1981, 66.

[78] A typical mainland example is represented by the MH material of Elateia, where some matt-painted vases were found: Soteriades 1908, 63–95.

[79] Mylonas did not distinguish between Aeginetan and mainland matt-painted wares. This division was made by French and then used broadly by a series of scholars. Mylonas 1973, 305–310. French 1971, 30–7. Dietz 1991, 32,218–22, fig. 90.

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Emulation of Aeginetan Pottery in the Middle Bronze Age of Coastal Thessaly: Regional Context and Social Meaning*

Joseph Maran

It may seem unusual to start an article dealing with Middle Helladic (MH) pottery by referring to the Mycenaean period. Nevertheless, I do this, because in my opinion certain aspects of MH pottery can only be set in proper perspective if we take the later development into consideration. One of the remarkable characteristics of the Late Helladic (LH) period is the process of the homogenization of the production of fine decorated and undecorated pottery throughout the Greek mainland. What we call Mycenaean pottery originated somewhere in the Peloponnese and spread in different stages to other areas of mainland Greece.[1] Until the beginning of LH IIIB, at the latest, even the northern border regions of Greece had integrated into their pottery repertoire, in varying degrees, morphological and stylistic elements of southern Greek derivation. The factors underlying this homogenization of pottery are insufficiently understood, but one point is certain: the homogenization was embedded in a many-faceted process of the "Mycenaeanization" of Greece. Since there are no indications that this "Mycenaeanization" occurred as the result of an occupation or a political federation spanning the whole of Greece, any attempt to explain it must necessarily turn to the prospect of a voluntary adaptation of customs and values originating in southern Greece.[2] The reasons why Mycenaean cultural traits were regarded as exemplary by other societies must be sought in the political upheaval triggered during the shaft-grave period by the emergence of centers of power in regions such as the Argolid and in the ensuing transformation of intersocietal relations in Greece. We will return to this linkage between material culture and social structure at the end of this paper.

When we look at the pronounced ceramic regionalism of the MH period, the phenomenon of the "Mycenaeanization" of the fine pottery seems at first sight to represent a completely new quality of ceramic uniformity. However, by using Thessaly as an example, I will argue that the reorientation of the production and use of pottery toward southern Greek prototypes had been already foreshadowed long before the actual "Mycenaeanization" got underway.

It is characteristic of the diversity of MH pottery production that apart from a few widely distributed types of pottery, such as fine Gray Minyan and Aeginetan wares, we are confronted with a bewildering variety of pottery classes reaching only a rather limited distribution. This characterization applies especially to matt-painted pottery, with its conspicuous regional differentiation. When we concentrate on Thessaly we see that within the seemingly confusing variety of matt-painted pottery types, certain basic patterns emerge, pointing to a complex interplay between producers and consumers in different parts of Greece. During the entire Thessalian Middle Bronze Age (MBA) we are confronted with a marked dichotomy in the use of pottery between the coastal regions and the Thessalian plains. While fine Gray Minyan and matt-painted pottery abound in the Magnesia peninsula, in Phthiotis, and in the Spercheios Valley, they only rarely appear in most parts of the Thessalian plains.[3]

Among the MBA pottery of Pefkakia-Magula, I was able to differentiate no fewer than 17 different kinds of matt-painted pottery. Of these, however, only two stood out for reason of high frequency of occurrence. The first is the pottery identified by Wace and Thompson in Lianokladi in the Spercheios Valley and called by them the Δ1ß class.[4] This pottery

* Special thanks go to Prof. H. Mommsen who through his analyses and statistical groupings provides invaluable insights into the provenance of Middle Helladic pottery. Tables 1–4 as well as figure 2 are also his. I would like to thank Drs. A. Batziou-Efstathiou (Volos), Ph. Dakoronia (Lamia) and D. Skorda (Delphi) for taking part in our NAA project and for allowing our group to sample the vessels.

1 Mountjoy 1999, 19–38.

2 Feuer 1983, 202–7; Davis and Bennet 1999, 111–4; Wright 2004b, 13–7.

3 Maran 1992, 285–9.

4 Wace and Thompson 1912, 20; Maran 1992, 151–6.

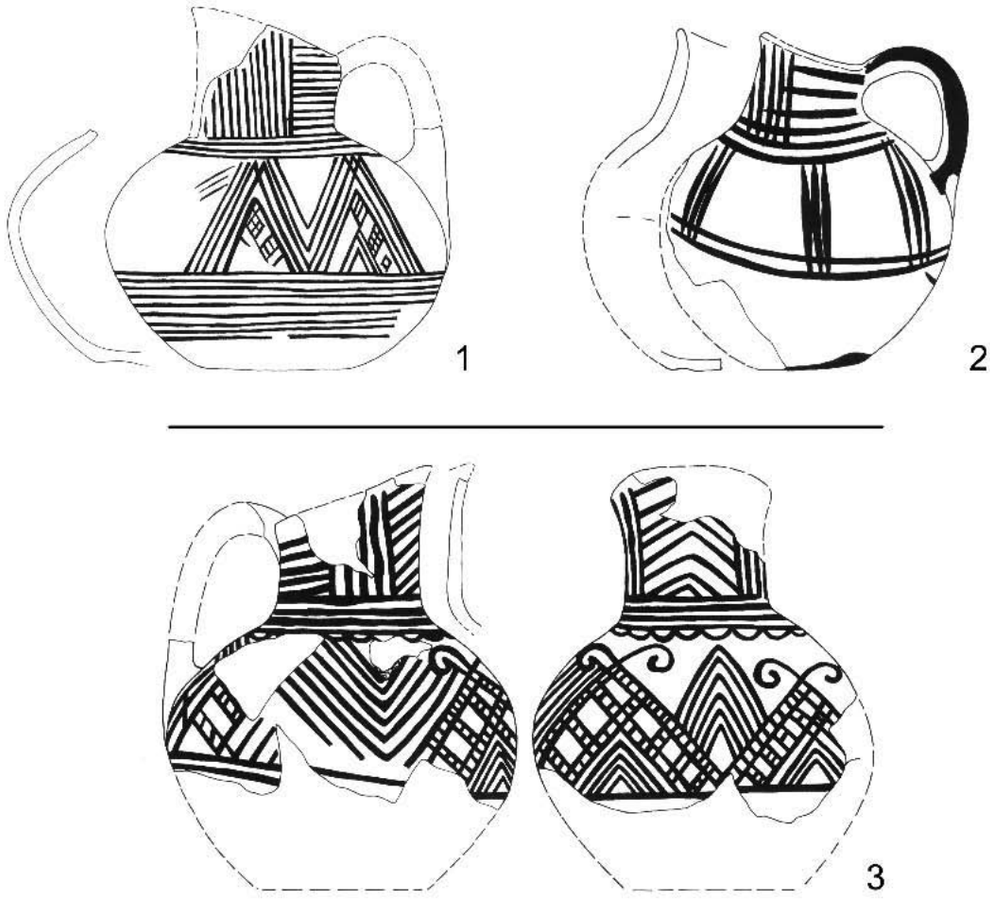

Fig. 1 Mattpainted jugs of the Δ1ß-class from Pefkakia-Magula sampled for NAA. 1-2 Group phtk; 3 Single. Different scales. **1)** Sample-No. Pefk 7 (Maran 1992, pl. 122:7); **2)** Sample-No. Pefk 9 (Maran 1992, pl. 110:1); **3)** Sample-No. Pefk 8 (Maran 1992, pl. 50:9) (graphics by S. Matskevich, Seminar für Ur- und Frühgeschichte, Universität Heidelberg; drawings by J. Maran)

is distinguished by a decoration applied very densely on a burnished reddish surface, usually with a fine or very fine brush. While at the type site Lianokladi this pottery is represented by a wide range of open and closed shapes, in Pefkakia-Magula a specific kind of vessel, namely the beaked jug, clearly predominates (Fig. 1:1–3).[5] The chronological distribution of the Δ1ß class has hitherto been determined only at Pefkakia. There it first appears at the time of Early Helladic (EH) III in central and southern Greece, and reaches its climax contemporary with MH I. Although afterwards a slight decline in frequency can be noted, it continues to belong to the main matt-painted categories until the end of MH II. Only thereafter, during the time of MH III, does its frequency significantly decline.[6]

The Δ1ß class shows a strange distribution. It is frequently found around the Gulf of Volos, in the region of Pharsala, in the Othrys Mountains, in Phthiotis, and especially in the Spercheios Valley.[7] But in nearby Boeotia and Euboea the number of pieces that can be attributed to this class diminishes significantly.[8] Thus, a seemingly clear picture emerges, suggesting that this variety of matt-paint-

[5] Wace and Thompson 1912, 180–185, figs. 125–6, 128, 131–3; Maran 1992, 152–3.

[6] Maran 1992, 151–2.

[7] Maran 1992, 286, fig. 24.

[8] For Boeotia see Goldman 1931, 158, pl. 11:4; Sarri 1998, 89, pl. 66:1–10; Maran 1992, 305 with footnote 912. In the unpublished MH sherd material from Lefkandi on Euboea, I saw one sherd of this class. In the Argolid this ware is extremely rare: see Zerner 1978, 178–9, fig. 2:D604/2; Maran 1992, 343 with footnote 1237.

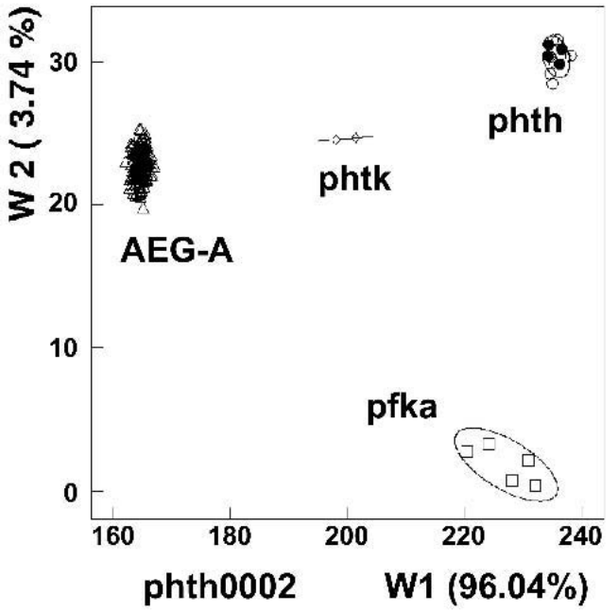

Fig. 2 Discriminant analysis of 193 samples, mostly belonging to Middle Helladic mattpainted pottery, using concentrations of 27 elements (see Table 1, not As, Ba and Na) and assuming 4 groups: phth (12 samples, the 4 samples from Kirra are marked with black circles), phtk (2 samples from Pefkakia, according to the statistical analysis not very different from group phth), pfka (5 samples from Pefkakia), AEG-A (174 samples, local pattern of Aegina with 100 samples from that island and 74 samples of imported Aeginetan pottery in Lerna). Plotted are the discriminant functions W1 and W2 which cover 96% and 4% respectively of the between group variance. The ellipses drawn are the 2σ-boundaries of the groups (diagram by H. Mommsen, Institut für Strahlen und Kernphysik, Universität Bonn)

ed pottery did not significantly spread southward beyond the Spercheios Valley. That things are not that simple is proven by the astonishing fact that many examples of beaked jugs as well as other closed and open shapes of this pottery were found beyond the high central Greek mountain ranges at Kirrha.[9] While studying the unpublished pottery from this site, I was surprised to find that the Δ1ß class seems to be the predominant kind of matt-painted pottery.[10]

Since the matt-painted jugs from Kirrha are archaeologically indistinguishable from those at Pefkakia and many other sites in the border regions between northern and central Greece, the question of the origin of such vessels immediately arose. In order to pursue the inquiry, vessels from Kirrha,[11] from Perivoli in the Spercheios Valley,[12] from Achinos at the Pthiothian coast,[13] from Neo Monastiri in southwest Thessaly[14] as well as from Pefkakia-Magula (Fig. 1:1–3) were included in a project of provenance determination by NAA undertaken between 1994 and 1997 under the direction of H. Mommsen and myself.[15] With the exception of an amphora from Perivoli, all other vessels were beaked jugs. According to Mommsen's analyses, all of the sampled vessels from the widely dispersed sites of Kirrha, Neo Monastiri, Perivoli and Achinos belong to a narrowly defined chemical pattern (group phth; Tables 1–2; Fig. 2).[16] On the other hand, contrary to my expectations none of the three sampled vessels from Pefkakia showed this chemical pattern.

[9] For published examples of such matt-painted beaked jugs from Kirrha see Dor *et al.* 1969, pl. 42:27–9; Nikopoulou 1968, 145, fig. 2; Tsipopoulou 1980, 259, pl. 110:β.

[10] Maran 1992, 315 with footnotes 998–9, 317 with footnote 1020.

[11] The sampled matt-painted jugs from Kirrha, which are stored in the Museum of Delphi, derive from the Greek excavations and are still unpublished. They resemble the vessels cited in footnote 9 above. For the recent excavations at the site see Chatzimichail-Skorda 1989, 205–10; Skorda 1992, 215–8. *Sample no. Kirr 54:* Fragment of a beaked jug. *Sample no. Kirr 63:* Beaked jug (Delphi Museum inv. no. 17870). *Sample no. Kirr 64:* Beaked jug (Delphi Museum inv. no. 17929). *Sample no. Kirr 65:* Beaked jug (Delphi Museum inv. no. 17931).

[12] The two sampled matt-painted vessels from Perivoli are stored in the Museum of Lamia. For this site see Dakoronia 1994, 240–1. *Sample no. Peri 1:* Amphora (Lamia Museum inv. no. K3639: published in Dakoronia 1994, 240, fig. 23). *Sample no. Peri 2:* Beaked jug (Lamia Museum inv. no. K2638).

[13] The two sampled unpublished matt-painted vessels from Achinos are stored in the Museum of Lamia. For the site see Dakoronia 1997, 211–4; 1999, 181–5. *Sample no. Achi 1:* Beaked jug (Lamia Museum inv. no. K8006). *Sample no. Achi 2:* Beaked jug (Lamia Museum inv. no. K8034).

[14] For the site see Dakoronia 1985, 178–9; 1997, 214–20; 1999, 183–5. *Sample no. NeoM 1:* Beaked jug (Lamia Museum inv. no. K8280).

[15] For the initial results see Mommsen *et al.* 2001, 347.

[16] In addition to the Δ1β vessels three examples of other pottery classes proved to be members of group phth. Two of them derive from Bounarbashi in northeast Thessaly, and the third comes from Bikiorema in eastern Lokris. *Sample no. Biki 17:* Undecorated small one-handled jug (Lamia Museum inv. no. K927) with highly burnished reddish yellow surface. *Sample no. BuBa 7:* Handle, Thessalian undecorated handmade plain ware. *Sample no. BuBa 8:* Fragment of the neck of a closed vessel; Thessalian undecorated handmade plain ware. The jug from Bikiorema again points to the Spercheios Valley as a likely source of the Δ1β class because the vessel is related to the Γ3ß class, another kind of pottery typical of Lianokladi, which is the undecorated version of the Δ1γ class of that site; see Wace and Thompson 1912, 19, 21, 185.

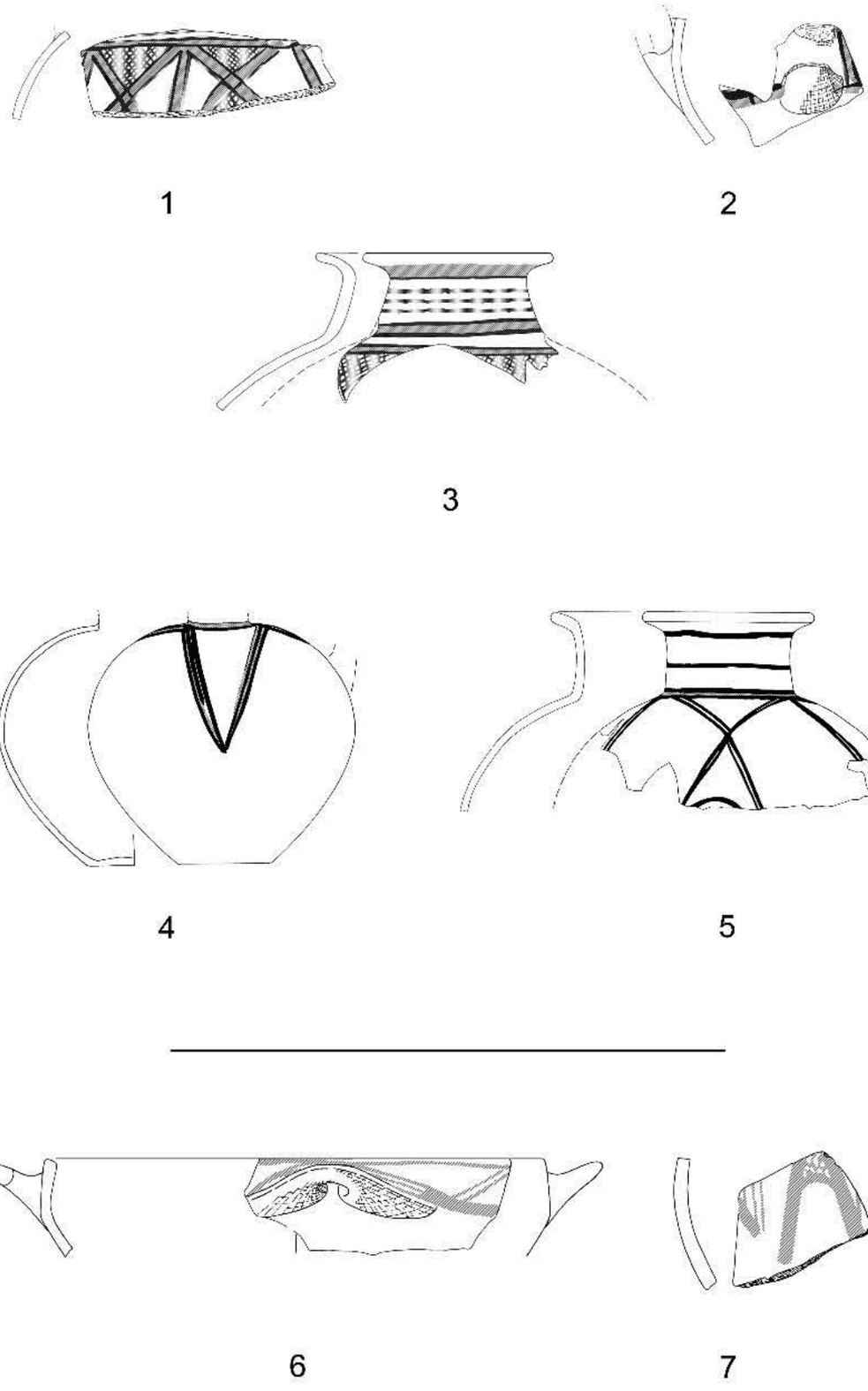

Fig. 3 Mattpainted vessels of the Magnesia polychrome class from Pefkakia-Magula sampled for NAA. 1-5 Group pfka; 6-7 Singles. Different scales. **1)** Sample-No. Pefk 1 (Maran 1992, pl. 78:4); **2)** Sample-No. Pefk 4 (Maran 1992, pl. 78:3); **3)** Sample-No. Pefk 5 (Maran 1992, pl. 110:5); **4)** Sample-No. Pefk 10 (Maran 1992, pl. 78:9); 5) Sample-No. Pefk 11 (Maran 1992, pl. 80:2); **6)** Sample-No. Pefk 2 (Maran 1992, pl. 78:1); **7)** Sample-No. Pefk 6 (Maran 1992, pl. 87:2) (graphics by S. Matskevich, Seminar für Ur- und Frühgeschichte, Universität Heidelberg; drawings by J. Maran)

Instead, two of them form a group (group phtk; Tables 1, 3; Fig. 1:1–2), and the third one is a singleton (Fig. 1:3).[17]

Therefore, in spite of its homogenous appearance the Δ1ß class was probably manufactured in different workshops. One of these workshops seems to have had supraregional significance, and I assume that it was located in the Spercheios Valley or its immediate vicinity, since in this area of its distribution the Δ1ß class appears most frequently and exhibits the widest range of products. From there these matt-painted vessels were transported over the mountain ranges to the region of Delphi, a fact clearly underlining the importance of the routes of communication cutting through the high mountain regions.[18]

In view of the variety of MBA matt-painted pottery in Thessaly it is striking that Aeginetan matt-painted vessels are almost unknown in this region. Moreover, the few examples likely to belong to such pottery show a conspicuously uneven distribution. While the very large ceramic assemblage from Pefkakia has not yielded a single piece of Aeginetan matt-painted pottery, the relatively small MBA pottery corpus from the site of Velestino in the southernmost part of the east Thessalian plain includes fragments of at least two probably Aeginetan matt-painted vessels.[19] To my knowledge, these are the only known examples in Thessaly likely to belong to this class of Aeginetan pottery. At first sight, the obvious explanation for the rarity of Aeginetan matt-painted pottery in Thessaly seems to be that the island was too far away and the transport infrastructure not capable of moving Aeginetan vessels that far north. But in my opinion, this explanation does not stand up under close scrutiny. In Boeotia, for instance, huge matt-painted Aeginetan pithoi were moved overland seemingly without difficulties and reached inland sites such as Orchomenos.[20] Moreover, S. Günel was able to ascertain the presence of fragments of Aeginetan matt-painted vessels in the coastal site of Liman Tepe in the Izmir region of western Anatolia, thus emphasizing the wide radius of distribution of such vessels.[21]

For an adequate assessment of the factors involved in the distribution of Aeginetan vessels in the area to the north of the Spercheios Valley we have to turn to the second main category of matt-painted pottery in Pefkakia. During phase 5 of the local MBA sequence, contemporary with the beginning of MH II, the first examples appear of a kind of pottery that, at the start of phase 6, suddenly rises in quantity to become the dominating matt-painted class.[22] This second category, for which I propose the term "Magnesia polychrome class",[23] is distinguished by a decoration in different colors applied with brushes of varying thickness on a light-colored, burnished clay surface or thin coating. Among the mostly large open and closed shapes, three appear most frequently, namely amphoras (e.g., Fig. 3:3.5), beaked jugs of different types (e.g., Fig. 3:4) and basins with upturned rim (e.g., Fig. 3:6). Rather uncommon are barrel jars, which are all of small size.[24] Small and medium-sized open shapes, on the other hand, were only very rarely produced in this category, probably because this sector of fine table ware was already taken by Gray Minyan vessels. Typically enough, the few open vessels of the Magnesia polychrome class are all based on Gray Minyan prototypes.[25]

The Magnesia polychrome class differs from the Δ1β class not only in the colors of its surface and paint, but also fundamentally in the syntax of decoration. Stylistically the decoration of the latter is

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[17] Although five of the nine members of group phth (sample nos. Achi 1, Achi 2, NeoM 1, Kirr 63, Kirr 64, Kirr 65) have a painted cross on their base, this feature is not restricted to this specific group since one of the sampled jugs from Pefkakia belonging to a different chemical group also exhibits this feature (fig. 1:2). For this base decoration of the Δ1β class, see Wace and Thompson 1912, 20; Maran 1992, 155.

[18] Maran 1988, 350–1; E.W. Kase in Kase *et al.* 1991, 21–45, figs. 3–1 to 3–6.

[19] It must be stressed that the Aeginetan origin of the fragments from Velestino has not yet been confirmed by NAA or petrography. An Aeginetan origin was already assumed in Maran 1992, 247 with footnote 505, for the neck fragment of an amphora or hydria (Kakavojiannis 1977, fig. 6: lower row, right). Maran identified other sherds belonging to a closed vessel with a ribbed yellowish green surface and a matt decoration (Kakavojiannis 1977, fig 6: lower row, left and center) as imports, citing comparisons from other sites in central and southern Greece (Maran 1992, 246 with footnote 502). Until now, however, it was not possible to assign such matt-painted vessels to a specific region. During the Salzburg conference, Dr. W. Gauss pointed out that an Aeginetan origin is very likely.

[20] Sarri 1998, 87, 92.

[21] Günel 1999, 56–7, figs. 17–8, pls. 12:9–10, 13:4.

[22] Maran 1992, 162–6, figs. 13–4.

[23] The term "Magnesia polychrome class" is here introduced as a substitute for the names proposed in Maran 1992, 163, 166.

[24] Maran 1992, pls. 81:1, 102:21.

[25] Cf. Maran 1992, pls. 92:15, 102:19.

characterized by the dense filling of broad horizontal zones bordered by multiple parallel lines, while the former exhibits a sparse and much more openly arranged decoration that emphasizes the proportions of the vessels.[26]

Concerning the use of the vessels of this class of pottery, House 311B of early phase 6, uncovered in 1970 in the excavation of V. Milojčíc, provides important clues because it was suddenly destroyed, leaving the equipment inside the destruction level.[27] Both rooms of the house were densely packed with vessels and evidently had served as a separate storage space for one or more households in its vicinity (Fig. 4). In the eastern room three huge coarseware pithoi with heights of 1.30, 1.35 and 2.0 m, respectively, were found with their lower parts dug into the floor. Next to the pithos in front of the south wall two ceramic funnels, one of the Black Polished class and the other Gray Minyan, were discovered, and a third funnel, again in Gray Minyan, came to light in the western room.[28] In the eastern room, fragments of numerous examples of the Magnesia polychrome class were found, including at least five amphoras, two beaked jugs, one of them with an original height of about 0.5 m, and basins with upturned rim.[29] In addition, this deposit also comprised open and closed vessels of other ceramic categories with or without painted decoration, among them fine Gray Minyan goblets, bowls and kantharoi. In contrast only a few small sherds and no whole vessel of the Δ1ß class appeared, and this in spite of this pottery figuring very prominently in deposits of the preceding phase 5 and still being well represented even in contexts of the following middle subphase of phase 6.

Remarkably, the one completely preserved amphora with polychrome decoration and most other fragments of this pottery class were not found on the floor of House 311B, but rather in the fill above it.[30] The marked vertical dispersal of the pottery suggests that at the moment of the catastrophe some objects, and especially all large vessels of the Magnesia polychrome class, were situated above the floor, probably standing on shelves.[31] Undoubtedly still in situ were the three huge pithoi, of which at least one must have been used for the storage of wine or oil. By the use of smaller vessels the fluid was scooped out of the pithos and poured through a funnel into the matt-painted and plainware amphoras or jugs, which then were transported to the households of the owner or the owners of the storage space.

There can be little doubt that the range of shapes as well as the principles of decoration of the Magnesia polychrome class cannot be explained on a purely local basis since they do not conform to the morphological and stylistic traditions of pottery production in the previous phases of the Thessalian MBA. Still, all archaeological indications point to a manufacture somewhere in the region. Not only do the surface treatment and clay particles of this pottery closely resemble those of the contemporary Thessalian plain ware ("Gebrauchskeramik"), but also, and most importantly, this kind of matt-painted pottery is often found at sites around the Gulf of Volos while outside of this area it is extremely rare on the Greek mainland.[32] It is all the more astonishing that, in the excavation of Chr. Boulotis at Koukonisi on Lemnos, large closed vessels very likely to belong to the Magnesia polychrome class,[33] and at least one other possibly also of Thessalian origin,[34] were recently discovered in a destruction deposit of a MBA building.

In order to obtain additional clues about the provenance of the Magnesia polychrome class, we included in our NAA project eight vessels from Pefkakia. Five of them proved to be members of a well-defined chemical group, hitherto known only from Pefkakia (group pfka; Tables 1, 4; Fig. 3:1–5),

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[26] Maran 1992, 155, 168–72.

[27] Maran 1992, 24–6, pl. VIII:1–2, plan VIIA.

[28] The inventory of the house is listed in Maran 1992, 25.

[29] Maran 1992, pls. 78:1–2.4.9, 79:1, 80:1–2.4, 81:2.

[30] Maran 1992, pl. 81:2.

[31] This view differs from the interpretation given in Maran 1992, 25–6. There I argued that after the collapse of the house, inhabitants searched the debris in order to recover objects, and that through these activities some of the fragments had moved upward within the fill. After looking again into the linkages of sherds I changed my opinion and now think that the vertical displacement stems from a downward movement of the objects in the course of the collaps of the house.

[32] Maran 1992, 286, fig. 24. In eastern central Greece, I noticed a few fragments of this class in the unpublished sherd material of Kirrha (Maran 1992, 317–8 with footnote 1021), Eutresis (Maran 1992, 305 with footnote 909) and Lefkandi (Maran 1992, 333 [Lefkandi phase 5]). Sarri (1998, 89, pl. 56:10) has identified one fragment of this class at Orchomenos.

[33] Boulotis 1997, 264, fig. 26:2–3. I have not seen this pottery, but Dr. Boulotis was kind enough to show me color photographs.

[34] Boulotis 1997, fig. 26:1. The neck decoration, consisting of a net of cross-hatched chevrons, is often found in the Δ1β class (cf. Wace and Thompson 1912, fig. 126:a–b), while it is unknown in the Magnesia polychrome class.

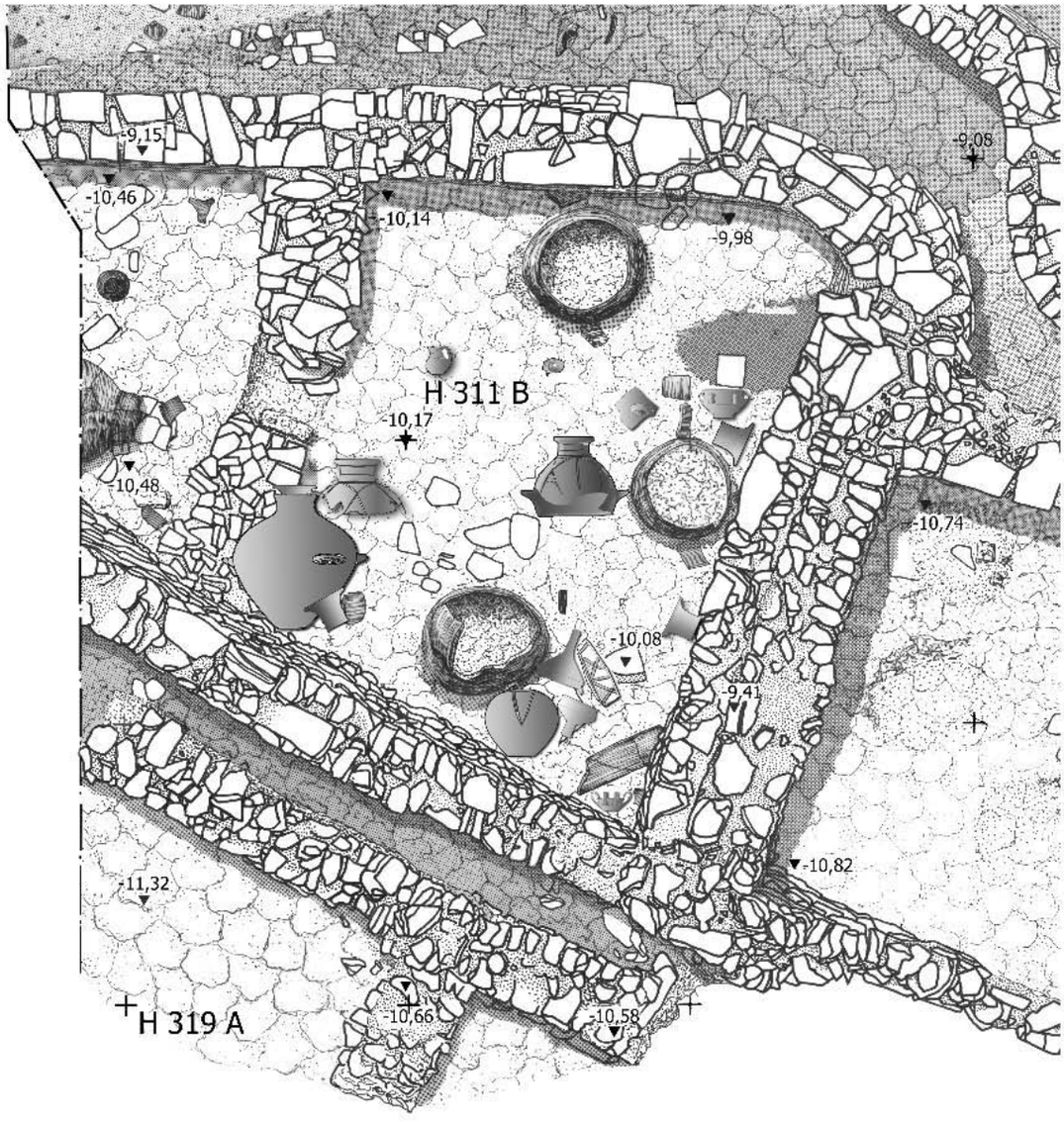

Fig. 4 Pefkakia-Magula. Distribution of finds in House 311B of early Phase 6 of the Middle Bronze Age. After Maran 1992, plan VIIA with finds added which according to the excavation diary were found on the floor (graphic by S. Matskevich, Seminar für Ur- und Frühgeschichte, Universität Heidelberg)

two of them are singletons (Fig. 3:6–7), and another sherd belongs to a group whose other members derive from Boeotia (group thebM).[35] The scientific analyses certainly do not contradict the notion of a manufacture of this pottery in the area of its highest archaeological concentration. Nevertheless, the question remains of how we should explain its strange distribution and the quite abrupt change in local traditions heralded by its appearance.

The solution to these problems lies in the investigation of the origin of the shapes and decoration of the Magnesia polychrome class. While they are not rooted in local traditions, they are linked to Aeginetan matt-painted pottery. Forms such as the large ovoid

[35] Sample no. Pefk 3: Fragment of a closed vessel (Maran 1992, pl. 107:5). It has to be said that the archaeological assignment of this sherd to the "Magnesia polychrome class" was not well founded. On the other hand, the two sherds analyzed as "singles" (sample nos. Pefk 2, Pefk 6; fig. 3:6–7) showed all traits characteristic for this class.

amphoras, the beaked jugs and the basins with upturned rim are very close to contemporary vessels of Aegina, and the same holds true for syntactical elements of the decoration. The large hatched or cross-hatched hanging triangles on Aeginetan amphoras and jugs are replaced in coastal Thessaly by the hourglass motive, and the paneling of the rim zone is a common feature of basins in both production regions.[36] The major differences between the two varieties of matt-painted pottery lie in the careful burnishing of the surface and the polychrome decoration, both features characteristic of the Magnesia polychrome class but alien to Aeginetan pottery during MH II.

What we observe at Pefkakia at the transition between MH I and II is in my opinion a response to the growing popularity of pottery from Aegina. By emulating the main shapes and schemes of decoration of the matt-painted gold mica fabric, pottery workshops in the area of the Gulf of Volos started picking up a very successful southern trend. The Thessalian workshops thus managed to create an equivalent for the true Aeginetan vessels and were able to meet the growing demand for such vessels.

In Pefkakia at exactly the time of the described change in matt-painted pottery other ceramic elements pointing to Aegina emphasize the far-reaching impact of the widening exchange circles based on that island. In early phase 6 not only are two fragments likely of gold mica red-slipped bowls represented,[37] but also a new type of ovoid cooking pot with one or two vertical handles on the shoulder, similar to gold mica cooking vessels.[38] Since none of the cooking-pot fragments from Pefkakia showed potters' marks and since we were not able to sample them for NAA, we cannot say whether these are genuine imports from Aegina or whether they again stem from a local adaptation of the Aeginetan pottery.

There is reason to believe that the emulation of Aeginetan pottery is part of a wider process extending beyond Thessaly and northern central Greece. Indeed, the discovery of large matt-painted closed vessels of probable Thessalian origin on Lemnos and of Aeginetan origin in the İzmir region leads me to suspect that the decision to follow Aeginetan pottery traditions was guided in part by the wish to maintain outside marketing areas for commodities stored in the ceramic containers. Behind the differing distribution of Aeginetan and Thessalian vessels, two MBA networks operating in the Aegean begin to emerge. Through the southern network, Aeginetan vessels that were probably used as containers for certain commodities reached the central part of the coast of Asia Minor, while through the northern network Thessalian products were distributed to the northeastern Aegean.

But this likely economic incentive for introducing new types of containers for commodities only partially accounts for the changes in pottery, described above, at the Gulf of Volos. I say this because the adoption of the new type of cooking vessel and of the large matt-painted basins and jugs provides evidence for an even more profound impact, namely on methods of food preparation and consumption. At the table, the matt-painted basins with diameters between 0.30 and 0.50 m must have replaced or supplemented large undecorated bowls of the local plain ware[39] and, in turn, the jugs of the Magnesia polychrome class offered a functional substitute for the jugs of the Δ1ß class. The result of all this was the transformation of the composition of pottery used in households. Until the end of MH I at the Gulf of Volos the table and cooking wares were characterized by a combination of local decorated or undecorated open and closed vessels with open Gray Minyan shapes.[40] In MH II, Gray Minyan pottery maintained its significance, but the addition of the new range of open and closed shapes based on Aeginetan prototypes must have challenged previous traditions.

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[36] Compare Maran 1992, pls. 80:1, 81:2 with Siedentopf 1991, pl. 42; Maran 1992, pls. 78:1–2, 141:11 with Siedentopf 1991, pls. 82–3; Maran 1992, pls. 78:9, 79:1 with Siedentopf 1991, pls. 59–60, 64.

[37] Maran 1992, 105–7, pl. 72:1–2.

[38] Maran 1992, 145, pl. 73:2–4.6.

[39] Cf. Maran 1992, pls. 48:1–3, 60:1–3.

[40] The function of the different Gray Minyan shapes would warrant a study of its own. Although the goblet is the precursor of the kylix, it is in my opinion uncertain whether prior to MH III the goblet was already used solely as a drinking vessel. Instead, this shape may have undergone a slight change in function from MH II to the shaft-grave period. At least the Gray Minyan goblets of MH II date are usually larger than Mycenaean kylikes and even larger than Yellow Minyan goblets of MH III date. Since, as far as I know, kraters only become a regular part of mainland pottery inventories starting with the shaft-grave period, it is possible that the MH II Gray Minyan goblets served as mixing vessels out of which the fluid was scooped with cups and kantharoi. This does not exclude the possibility that the Gray Minyan goblets had a dual function and were also passed around at the table as vessels for communal drinking. An argument in favor of their use as drinking vessels is the elaborate shaping of the lip of Gray Minyan goblets; see Maran 1992, 85–6.

Evidently, already during MH II in a certain zone of Thessaly a segment of pottery production was adjusted to models of southern Greek derivation. But why were the MH Aeginetan potters' workshops much more successful than their competitors in other regions, and why were their products so attractive? Undoubtedly, factors such as the geographical position of the island, a well-organized infrastructure of transport and distribution by land and sea, the existence of excellent clay sources and finally certain functional and aesthetic properties of the vessels contributed to this success.[41] Still, these advantages alone do not suffice to account for the demand for Aeginetan vessels and for their serving as models for pottery production in distant areas. The one additional factor instrumental in the success of this pottery was the position of Aegina as the outstanding center of political power in MH Greece,[42] an example which the elites in other regions strove to match.

The social meaning of this transformation of table and cooking wares in MH II coastal Thessaly becomes more apparent when we consider the fact that material culture in addition to its often utilitarian function also has the quality of conveying messages related to the position of persons within society. The importance for LBA elites of access to certain material symbols obtained from abroad has been impressively underlined in recent years by S. Sherratt and G.J. van Wijngaarden in their analyses of the background for the spreading of Mycenaean pottery in the eastern Mediterranean and the social construction of its value in different regions.[43] In order to understand the mechanisms linking the choice of certain cultural traits with the social standing of individuals, the work of P. Bourdieu offers important insights.[44] He has demonstrated how cultural practices, goods and values can be mobilized and employed by social groups in order to emphasize their distinctiveness and hence either to bolster their current position or to compete for a higher position in what he calls the social space typical for a particular society.[45] The significance of pottery in such intrasocietal struggles lies in its integration into communal eating and drinking customs, that is, forms of social interaction through which the ties and relationships between people as well as their norms and values are reproduced and socially negotiated.[46] This interaction offers the opportunity to increase what Bourdieu has called the social and symbolic capital of individuals and their families.[47] In the case of Pefkakia, I would assume that through the possession and use in feasts of new kinds of exquisite wares and possibly also through changes in the ways that food and drinks were prepared and served, the host signaled to the members of his kin group and to his guests that he participated in feasting practices of contemporary elites in other parts of Greece. This activity would correspond to what M. Dietler in his classification of different modes of commensal politics has called "diacritical feasts".[48] Dietler argues that such feasts are based above all upon categories of style and taste and "represent a special kind of boundary-defining practice based upon commensal exclusion".[49] In order for the use of particular wares to function as a sign of distinction the participants of diacritical feasts must have shared similar categories of perception and taste, on the one hand, allowing them to appreciate the relevance of the use of certain kinds of pottery, and on the other

[41] Zerner 1993, 49–50; Lindblom 2001, 131–3.

[42] Rutter 1993, 776–80; Niemeier 1995; Kilian-Dirlmeier 1997, 108–11.

[43] Sherratt 1999; Van Wijngarden 2002, 23–9, 275–80.

[44] The importance of Bourdieu's work for archaeological studies dealing with aspects of the communal consumption of food and drink has already been emphasized by Dietler (2001).

[45] Bourdieu 1998, 13–27; 1987, 277–311, 378–499. Dietler (2001, 77) is right to emphasize that such "competition" does not necessarily indicate a wish to aggressively dominate and relentlessly accumulate power. It should be understood instead as the effort to maintain or redefine one's status in comparison to others. This point was also emphasized by Bourdieu, who observed that his concept of "social space" is *per definitionem* relational, inasmuch as the position of each person in it is not absolutely fixed, but rather defined in relation to the positions of the other members of society; see Bourdieu 1998, 15–23.

[46] Wright 1996, 287–295; 2004b, 13–25; Dietler 2001; Sherratt 2004; Halstead and Barrett 2004.

[47] Bourdieu 1998, 108–15, 1987, 204–209, 311–22.

[48] Dietler 2001, 85–88. Dietler (2001, 76–85) has called the other two modes of commensal politics "empowering feasts" and "patron-role feasts". Although he stresses that these three modes should not be mistaken for evolutionary stages, he states that diacritical feasts "are generally a feature encountered exclusively among state societies" (Dietler 2001, 93). He does not elaborate on the reasons for this conclusion, and it is difficult to see why the symbolic logic characteristic of diacritical feasts should not apply also to pre-state societies. In fact, Junker (2001) presents a very good example of this kind of feast in the context of chiefdoms of the prehispanic Philippines.

[49] Dietler 2001, 94.

hand they must have set themselves apart from other groups within society.[50] At Pefkakia we possibly even have an indication that new pottery features were introduced through the competition between different instrasocietal groups. The surprising fact that the inventory of House 311B was filled with a whole array of new kinds of pottery, substituting for earlier forms of cooking and table ware still in use in other households, may indicate that the novelties were initially accepted only by specific "progressive" groups within society.[51] They may have used these novelties to exhibit their distinction from "conservative" families still clinging to the old fashions, and to forge new coalitions with like-minded persons through social interaction.

To understand why certain segments of the society living at Pefkakia-Magula ascribed such a high value to the use of emulated Aeginetan pottery, it is necessary to link this phenomenon with the social dynamics in the wider region and especially with the hierarchy of settlements. The striking difference in the distribution of imported pottery classes in MBA Thessaly was already noted in relation to Velestino, currently the only Thessalian site with true Aeginetan matt-painted pottery. In addition, there is the interesting case of Iolkos, where, in the excavation of D. Theocharis, there appeared groups of imported pottery unknown from Pefkakia-Magula, which is situated just opposite on the other side of the Gulf of Volos.[52] As in the case of Velestino, this occurrence of imported pottery is particularly noteworthy inasmuch as the MBA pottery assemblage from Iolkos is so much smaller than that from Pefkakia. Seemingly, certain goods coming from abroad were destined for specific sites, probably because these were the seats of regional elites.[53] They were the primary recipients of the novel vessels from faraway centers such as Aegina and Crete, and they set the standards for integrating such vessels into the social strategies of distinction that were subsequently followed by groups in other villages and that ultimately triggered the demand for substitutes for Aeginetan pottery.[54] I would hence identify as the main reason for the hitherto rare finding of Aeginetan matt-painted vessels in Thessaly a highly directional distribution toward the socially dominant sites that have not yet been excavated on a large scale.

In making these observations, I wanted to underline the need for focusing our attention on possible interrelations between the outputs of pottery production centers in different regions of MH Greece. The possible significance of the distribution of a pottery class begins to unfold only when we do not look at it in isolation. Evidently, the expansion of marketing areas for the ceramic products of a workshop had repercussions on the range of production and usage of vessels in distant areas. This suggestion holds true especially in the case of the Aeginetan workshops, with their outstanding role in the distribution of pottery. The reasons for the special attraction of Aeginetan vessels in MH II were in my opinion similar to the ones leading to the widespread acceptance of Mycenaean pottery a few centuries later. In both cases, the combination of certain utilitarian qualities and an ascribed social value - stemming from the connection of the pottery to a source of political power - created the incentive for integrating it into the local context. And in both cases the transformation in pottery was intimately linked to social dynamics fueled by a continuous intrasocietal competition that made use of cultural traits to exhibit the distinction of specific groups.

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[50] Dietler 2001, 77 rightly states that feasts "both unite and divide at the same time".

[51] The occurrence of cooking pots of Aeginetan type (see above) at MBA Pefkakia seems to be chronologically and spatially highly restricted. Besides the examples from House 311B (early phase 6) there are only two such pots from a later context, dating to the late subphase of phase 6 (House 310B; Maran 1992, 146, pl. 112:4–5). It seems that after the early subphase of phase 6 these vessels were not generally integrated into the pottery assemblage but remained confined to specific contexts. For the social importance of different cooking practices see Borgna 1997, 200–12; Sherratt 2004, 194–6.

[52] At Iolkos were found not only a fragment of a Minoan light-on-dark decorated bridge-spouted jar, but also a sherd of a decorated closed vessel of probably Cycladic origin and also a small pithos with white decoration on a polished red surface, likely to derive from Boeotia; see Maran 1992, 218–22.

[53] See already Maran 1992, 246 with footnote 500. Another case illustrating the uneven distribution of imported goods is the citadel of Larisa, where there appear types of true Gray Minyan pottery that are missing in the surrounding settlements of the eastern Thessalian plain. This circumstance was interpreted in Maran 1992, 286 as a sign of the special importance of this site.

[54] Dietler (2001, 86) makes the important point that since diacritical feasting is founded on criteria of style and taste, it is often the subject of emulation by groups who want to reach a higher status. A good example of the mechanisms underlying such processes of ceramic emulation is provided by Junker (2001, 289–95) for the prehispanic Philippines.

	AEG-A 174 samples factor 1.00 M +/– ()		Phth 12 samples factor 1.00 M +/– ()		phtk 2 samples factor 1.21 M +/– ()		pfka 5 samples factor 1.00 M +/– ()	
As	9.89	46.	7.82	29.	9.60	57.	37.3	36.
Ba	380.	31.	520.	53.	490.	17.	695.	19.
Ca %	10.5	23.	1.04	38.	0.73	62.	6.26	33.
Ce	45.4	4.0	74.7	3/7	73.2	6/6	82.4	8.0
Co	19.9	9/9	23.5	19.	18.6	12.	16.1	7/8
Cr	383.	12.	229.	9/9	231.	24.	143.	13.
Cs	5.50	11.	7.07	7/1	7.95	10.	6.93	2/3
Eu	0.93	3/7	1.38	4/2	1.32	3/5	1.25	11.
Fe %	4.10	3/6	5.57	5/7	5.66	11.	4.54	0.8
Ga	12.8	30.	21.3	25.	38.6	14.	21.8	41.
Hf	3.98	5/5	5.82	8/1	5.81	11.	4.30	9.0
K %	1.85	14.	2.13	10.	2.47	2/9	3.13	4/2
La	21.9	3/6	35.2	3/9	34.8	7/6	39.4	11.
Lu	0.34	8/1	0.59	36.	0.45	5.0	0.41	14.
Na %	0.98	15.	1.09	18.	1.45	3/2	1.63	14.
Nd	19.7	8/4	32.3	6.0	27.3	14.	33.4	11.
Ni	312.	12.	137.	17.	116.	8.0	152.	11.
Rb	74.2	7/1	137.	5/3	150.	1/8	157.	2/5
Sb	0.72	18.	0.67	14.	0.77	8.0	2.83	6/5
Sc	15.9	3/7	22.6	4/6	24.0	8/3	17.1	1/5
Sm	3.78	6.0	6.25	5/2	5.07	0.9	6.07	13.
Ta	0.65	6/4	1.01	6/4	1.01	10.	1.00	4/5
Tb	0.57	7/5	0.88	7.0	0.84	5/7	0.79	11.
Th	7.48	5/6	13.4	4/2	13.8	3.0	16.2	5/2
Ti %	0.37	25.	0.44	5/9	0.54	7/4	0.43	19.
U	2.05	14.	2.76	7/3	2.96	5/2	2.09	20.
W	1.36	14.	2.42	12.	3.09	6/9	2.56	14.
Yb	2.28	4/2	3.40	5/7	3.64	1/6	2.82	6/6
Zn	93.0	13.	104.	5/1	115.	2/2	96.1	9/5
Zr	174.	17.	267.	13.	256.	12.	194.	18.

Table 1 Grouping values, 30 elements. Concentrations of elements: Averages M in g/g (ppm), M, corrected for dilution; the pattern phtk is quit similar to phth, if a dilution factor of 1.21 is applied as shown here and in Figure 1

Sample	factor	As	Ba	Ca %	Ce	Co	Cr	Cs	Eu	Fe %	Ga
Biki 17	1.024	9.55	460.	1.81	75.0	29.2	244.	6.91	1.46	5.75	25.1
Peri 1	1.009	4.93	340.	0.82	78.7	25.1	200.	7.38	1.33	5.52	24.7
Peri 2	1.045	8.03	1381.	0.74	79.1	31.7	234.	6.97	1.28	5.43	23.7
Achi 1	0.986	9.48	418.	1.02	70.7	18.4	217.	7.32	1.31	5.74	26.6
Achi 2	0.975	5.04	449.	0.50	76.1	26.9	227.	7.02	1.33	5.70	23.4
NeoM 1	1.044	7.55	430.	0.96	72.8	22.5	229.	7.47	1.33	6.04	23.2
BUBA 7	0.843	3.53	452.	0.85	75.1	16.6	284.	7.12	1.42	4.79	24.7
BUBA 8	0.912	11.2	542.	1.11	75.6	23.1	228.	5.72	1.42	5.80	16.8
Kirr 54	1.059	7.28	507.	0.85	76.2	25.0	228.	6.76	1.37	5.40	15.6
Kirr 63	1.067	9.05	376.	1.64	71.1	20.1	208.	7.01	1.40	5.76	14.8
Kirr 64	1.059	10.1	416.	1.39	72.2	19.9	242.	7.46	1.41	5.36	10.1
Kirr 65	0.997	8.14	470.	0.76	73.5	24.0	202.	7.68	1.43	5.53	--
av.meas.error		0.11	53.	0.22	0.67	0.13	1.2	0.093	0.027	0.020	2.3
in %		1.4	10.	22.	0.9	0.6	0.5	1.3	1.9	0.4	11.
av.value M		7.8	520.	1.0	75.	24.	229.	7.1	1.4	5.6	21.
spread		2.3	276.	0.39	2.7	4.4	23.	0.50	0.058	0.32	5.2
in %		29.	53.	38.	3.7	19.	9.9	7.1	4.2	5.7	25.

Table 2 continued

Sample	factor	Hf	K %	La	Lu	Na %	Nd	Ni	Rb	Sb	Sc
Biki 17	1.024	6.38	1.79	35.1	0.52	1.03	29.6	196.	127.	0.62	22.7
Peri 1	1.009	5.78	2.12	34.1	1.07	1.00	30.8	105.	144.	0.66	22.1
Peri 2	1.045	6.34	2.16	34.5	(9.19)	1.35	30.8	153.	134.	0.60	22.1
Achi 1	0.986	5.73	1.94	35.8	0.54	0.89	29.8	148.	138.	0.54	21.7
Achi 2	0.975	5.71	1.92	33.2	0.50	0.99	30.5	136.	138.	0.58	23.0
NeoM 1	1.044	5.06	2.26	34.0	(1.24)	1.27	28.8	138.	152.	0.75	25.0
BUBA 7	0.843	5.16	2.06	38.1	0.51	0.67	34.4	181.	133.	0.71	23.4
BUBA 8	0.912	5.73	2.53	36.3	0.54	1.28	32.4	118.	127.	0.60	21.2
Kirr 54	1.059	6.63	2.13	33.8	0.46	0.99	30.5	129.	135.	0.66	21.2
Kirr 63	1.067	6.09	1.95	35.2	(2.20)	1.21	33.6	131.	135.	0.88	23.1
Kirr 64	1.059	5.72	2.23	35.3	(0.88)	1.21	29.6	133.	140.	0.77	22.5
Kirr 65	0.997	5.51	2.16	36.6	(1.44)	1.21	29.8	119.	147.	0.70	22.9
av.meas.error		0.074	0.034	0.13	0.017	0.008	1.9	11.	2.5	0.062	0.029
in %		1.3	1.6	0.4	2.9	0.7	6.0	8.1	1.8	9.3	0.1
av.value M		5.8	2.1	35.	0.59	1.1	32.	137.	137.	0.67	23.
spread		0.17	0.22	1.4	0.21	0.20	1.9	23.	7.3	0.093	1.0
in %		8.1	10.	3.9	36.	18.	6.0	17.	5.3	14.	4.6

Table 2 continued

Sample	factor	Sm	Ta	Tb	Th	Ti %	U	W	Yb	Zn	Zr
Biki 17	1.024	6.35	0.94	0.83	13.0	0.43	2.53	2.25	3.48	95.6	280.
Peri 1	1.009	5.75	1.01	0.84	13.7	0.42	2.68	2.31	3.18	107.	287.
Peri 2	1.045	6.36	1.03	0.83	13.0	0.45	2.69	2.28	3.39	100.	232.
Achi 1	0.986	6.45	1.07	0.87	14.7	0.46	2.89	2.41	3.44	101.	297.
Achi 2	0.975	6.40	0.99	0.95	13.6	0.46	3.03	2.28	3.16	101.	271.
NeoM 1	1.044	5.79	0.92	0.79	13.4	0.42	2.85	2.20	3.19	111.	171.
BUBA 7	0.843	6.64	1.08	0.86	13.9	0.47	2.84	2.89	3.55	112.	--
BUBA 8	0.912	6.78	1.07	1.02	13.5	0.47	2.50	3.03	3.86	112.	--
Kirr 54	1.059	6.29	1.07	0.88	12.6	0.47	2.88	2.18	3.30	103.	282.
Kirr 63	1.067	6.22	1.01	0.89	13.3	0.42	2.49	2.43	3.38	104.	292.
Kirr 64	1.059	5.95	1.05	0.89	13.2	0.40	3.16	2.29	3.39	102.	281.
Kirr 65	0.997	5.97	0.89	0.84	12.8	0.41	2.67	3.13	3.43	101.	245.
av.meas.error		0.11	0.032	0.027	0.047	0.069	0.021	0.10	0.16	0.057	2.3
in %		0.5	2.6	5.3	0.5	4.8	3.6	6.7	1.7	2.2	10.
av.value M		7.8	6.2	1.0	0.88	13.	0.44	2.8	2.4	3.4	104.
spread		0.32	0.065	0.062	0.57	0.026	0.20	0.30	0.19	5.3	34.
in %		5.2	6.4	7.0	4.2	5.9	7.3	12.	5.7	5.1	13.

Table 2 Group phth (12 samples). Concentrations of elements C in g/g (ppm), if not indicated otherwise, average errors, also in percent of C, average values M and spreads, also in percent of M, corrected for dilution (factor, column 2)

Sample	factor	As	Ba	Ca %	Ce	Co	Cr	Cs	Eu	Fe %	Ga
Pefk 7	0.973	11.1	454.	0.39	63.3	16.6	158.	7.04	1.11	4.33	33.5
Pefk 9	1.025	4.76	355.	0.83	57.7	14.1	223.	6.10	1.06	5.02	30.9
av.meas.error		0.11	54.	0.37	0.40	0.096	1.0	0.074	0.023	0.017	4.4
in %		1.4	13.	62.	0.7	0.6	0.5	1.1	2.1	0.4	14.
av.value M		7.9	405.	0.60	60.	15.	191.	6.6	1.1	4.7	32.
spread		4.5	70.	0.37	4.0	1.8	47.	0.66	0.038	0.49	4.4
in %		57.	17.	62.	6.6	12.	24.	10.	3.5	11.	14.

Table 3 continued

Sample	factor	Hf	K %	La	Lu	Na %	Nd	Ni	Rb	Sb	Sc
Pefk 7	0.973	5.18	2.09	30.3	0.38	1.22	22.0	94.1	124.	0.64	18.7
Pefk 9	1.025	4.43	2.01	27.2	0.36	1.17	23.2	97.7	124.	0.64	21.0
av.meas.error		0.063	0.049	0.079	0.018	0.008	3.2	7.7	2.2	0.052	0.024
in %		1.3	2.4	0.3	5.0	0.7	14.	8.0	1.8	8.0	0.1
av.value M		4.8	2.0	29.	0.37	1.2	23.	96.	124.	0.64	20.
spread		0.53	0.060	2.2	0.018	0.039	3.2	7.7	2.2	0.052	1.6
in %		11.	2.9	7.6	5.0	3.2	14.	8.0	1.8	8.0	8.3

Table 3 continued

Sample	factor	Sm	Ta	Tb	Th	Ti %	U	W	Yb	Zn	Zr
Pefk 7	0.973	4.19	0.90	0.70	11.6	0.45	2.51	2.61	3.04	94.0	194.
Pefk 9	1.025	4.19	0.78	0.68	11.1	0.44	2.39	2.50	2.98	96.9	230.
av.meas.error		0.036	0.024	0.040	0.056	0.033	0.13	0.18	0.047	2.0	23.
in %		0.9	2.8	5.7	0.5	7.4	5.2	6.9	1.6	2.1	11.
av.value M		4.2	0.84	0.69	11.	0.44	2.4	2.5	3.0	95.	211.
spread		0.036	0.088	0.040	0.34	0.033	0.13	0.18	0.047	2.1	25.
in %		0.86	10.	5.7	3.0	7.4	5.2	6.9	1.6	2.2	12.

Table 3 Group phtk (2 samples). Concentrations of elements C in g/g (ppm), if not indicated otherwise, average errors, also in percent of C, average values M and spreads, also in percent of M, corrected for dilution (factor, column 2)

Sample	factor	As	Ba	Ca %	Ce	Co	Cr	Cs	Eu	Fe %	Ga
Pefk 1	0.985	42.0	613.	5.96	87.6	18.0	124.	6.77	1.35	4.54	25.8
Pefk 4	0.997	--	607.	9.62	88.5	16.3	126.	6.75	1.42	4.48	--
Pefk 5	1.030	--	716.	7.19	82.2	16.0	168.	7.01	1.19	4.56	--
Pefk 10	1.002	47.7	634.	3.69	71.9	14.9	157.	7.09	1.08	4.58	28.9
Pefk 11	0.980	22.3	942.	6.25	81.9	15.1	139.	7.04	1.22	4.56	12.5
av.meas.error		0.14	64.	0.80	0.43	0.098	0.82	0.076	0.024	0.016	3.3
in %		0.4	9.2	13.	0.5	0.6	0.6	1.1	1.9	0.3	15.
av.value M		37.	695.	6.3	82.	16.	143.	6.9	1.3	4.5	22.
spread		13.	134.	2.1	6.6	1.2	19.	0.16	0.14	0.038	8.9
in %		36.	19.	33.	8.0	7.8	13.	2.3	11.	0.84	41.

Table 4 continued

Sample	factor	Hf	K %	La	Lu	Na %	Nd	Ni	Rb	Sb	Sc
Pefk 1	0.985	3.88	3.08	42.9	0.49	1.87	33.3	139.	156.	2.76	17.3
Pefk 4	0.997	3.89	--	44.4	0.42	--	37.2	152.	151.	2.90	16.9
Pefk 5	1.030	4.70	--	36.5	0.43	--	31.6	178.	160.	2.58	16.7
Pefk 10	1.002	4.55	3.28	34.1	0.34	1.44	29.0	157.	161.	2.84	17.2
Pefk 11	0.980	4.48	3.03	39.3	0.38	1.58	36.3	135.	157.	3.08	17.3
av.meas.error		0.057	0.044	0.73	0.014	0.009	3.5	8.0	2.3	0.084	0.021
in %		1.3	1.4	1.9	3.5	0.5	11.	5.3	1.5	3.0	0.1
av.value M		4.3	3.1	39.	0.41	1.6	33.	152.	157.	2.8	17.
spread		0.39	0.13	4.3	0.058	0.22	3.5	17.	4.0	0.18	0.26
in %		9.0	4.2	11.	14.	14.	11.	11.	2.5	6.5	1.5

Table 4 continued

Sample	factor	Sm	Ta	Tb	Th	Ti %	U	W	Yb	Zn	Zr
Pefk 1	0.985	6.52	0.94	0.85	16.9	0.38	2.74	2.81	3.02	90.4	191.
Pefk 4	0.997	6.71	0.98	0.88	17.0	0.63	1.88	--	2.99	99.6	209.
Pefk 5	1.030	5.81	0.98	0.77	16.2	0.50	2.28	--	2.44	84.3	170.
Pefk 10	1.002	4.82	1.03	0.67	14.9	0.46	1.67	2.76	2.75	98.8	244.
Pefk 11	0.980	6.51	1.05	0.79	16.2	0.39	1.92	2.16	2.76	108.	156.
av.meas.error		0.038	0.025	0.040	0.063	0.049	0.12	0.16	0.11	1.9	22.
in %		0.6	2.5	5.0	0.4	11.	6.0	6.1	4.0	2.0	11.
av.value M		6.1	1.00	0.79	16.	0.43	2.1	2.6	2.8	96.	194.
spread		0.78	0.044	0.084	0.84	0.081	0.42	0.37	0.18	9.1	34.
in %		13.	4.5	11.	5.2	19.	20.	14.	6.6	9.5	18.

Table 4 Group pfka (5 samples). Concentrations of elements C in g/g (ppm), if not indicated otherwise, average errors, also in percent of C, average values M and spreads, also in percent of M, corrected for dilution (factor, column 2)

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Transition from Middle to Late Bronze Age in Central Macedonia and Its Synchronism with the "Helladic World"*

Barbara Horejs

In many aspects Macedonia is considered a peripheral area, but during the Bronze Age it was situated between the two large cultural spheres of the Balkans and the Danube and the Aegean. While on the one hand closely associated with events in the Balkans, central Macedonia is geographically directly adjoined with the Aegean. The region therefore plays an important and connective role in questions concerning far-reaching correlations and the course of history in a broad geographical context. The separate chronological periods in central Macedonia and the Aegean can be linked with one another by means of contact finds – whether imports or imitations – and can be synchronized within the Helladic chronological framework.

1. State of Research on the Bronze Age in Macedonia

The current state of knowledge pertaining to the Bronze Age periods in Macedonia varies greatly among the different periods. Whereas the Early Bronze Age (EBA) is relatively well known and culturally defined – at least in its general features[1] – the Middle Bronze Age (MBA), by contrast, has hardly been investigated and is attested at only a few

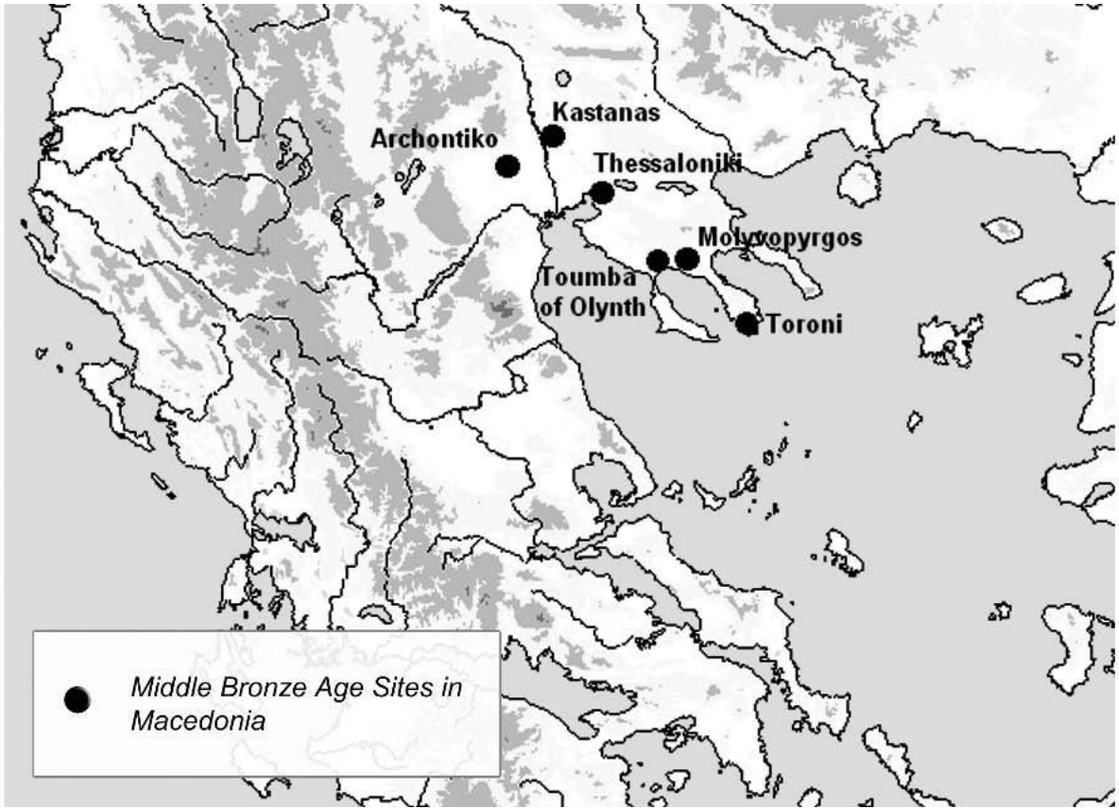

Fig. 1 Settlements of Middle and Early Late Bronze Age in Macedonia

* I would like to thank Emily Schalk for translating the paper.

[1] See the summary by Andreou *et al.* 2001, 282–313, 321–7 with recommended literature; Alram-Stern 2004, 779–847.

archaeological sites. The settlement of Archontiko in western Macedonia (Fig. 1) apparently emerged at the very beginning of the MBA period,[2] according to radiocarbon dates that establish the end of the settlement at the transition to the second millennium.[3]

In Kastanas on the Axios River (Fig. 1) only the beginning and the very end of a MBA cultural horizon are recognizable; all pure levels of this period are absent due to a distinct hiatus in settlement.[4] Building phase 19 in Kastanas, which follows the interruption in settlement, marks the transition to the local Late Bronze Age (LBA),[5] although it cannot be precisely defined due to the limited number and size of the finds.[6] A handmade kantharos with grooved decoration, found in level 19, can be seen as a local imitation of Minyan pottery.[7] A gold ring, also from this level, finds its best parallels in Grave Ξ in Grave Circle B at Mycenae, and hence allows a rough synchronization of level 19 with Middle Helladic (MH) IIIB to Late Helladic (LH) I.[8]

At the Toumba in Thessaloniki (Fig. 1) very little stratified material was obtained from excavations of the horizon preceding the LBA.[9] Finds from the site published in preliminary reports are dated from the MBA to early LBA.[10] These include, in particular, handmade pottery, which can be subdivided according to its local development in central Macedonia; for example, amphoras with broom-brushed surface ("Besenstrich") and vessels with characteristic incised decoration.[11] A few Grey Minyan sherds are also present,[12] and a handmade bowl with horizontal grooved decoration was found in level 8. The bowl can be identified as a local Minyan imitation comparable to the one in Kastanas.[13]

At the Toumba in Molyvopyrgos (Fig. 1), W.A. Heurtley uncovered settlement remains that he dated to the EBA and MBA.[14] Finds from four sectors of the MBA period B cannot be assigned to a specific building phase, however, and some trenches contained LBA material. Besides handmade local imitations of Minyan pottery, genuine Grey Minyan ware was also present.[15] J. Maran dates the latter to the "Mature Minyan phase" at the earliest, but it could equally well be placed in the transition from MH III to LH I.[16] Hence, period B in Molyvopyrgos seems to have covered a longer span of time than Heurtley suggested.

Research in Toroni, on the southwest coast of the Sithonia peninsula (Fig. 1), is not yet concluded. MBA sherds from the site have been mentioned and some are illustrated in preliminary reports and in the first volume of the series on the excavations. The authors compare the sherds with examples from Molyvopyrgos and with older finds from the Toumba at Olynth (Ayios Mamas).[17] Only one wall with accompanying floor, from trenches 67 and 68, has been assigned to the MBA.[18] The published pottery found in these complexes seems to be less the "real" Grey Minyan ware, and more the local handmade imitations that are characteristic of the north – for example, of Kastanas, Molyvopyrgos and Thessaloniki.[19] A relatively large amount of the early Mycenaean pottery can be dated to LH I and IIA–B,[20] confirming the continued use of the area into these periods.[21]

This brief synopsis is intended to show that until now, it has not been possible to define the MBA in Macedonia as a distinct period. The beginnings of the LBA seem equally vague. The picture of events dur-

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[2] Papaefthymiou-Papanthimiou and Pilali-Papasteriou 1992, 1993, 1994, 1997, 1998, 1999, 2000; Pilali-Papasteriou and Papaefthymiou-Papanthimiou 1995; Papanthimiou and Pilali 2004.

[3] Papanthimiou and Pilali 2004, 59.

[4] Hänsel 1989, 53.

[5] Ibid.

[6] Hänsel 1989, 65–70.

[7] Hochstetter 1984, 64, pl. 2,10.

[8] Hochstetter 1987, 15, pl. 25,9.

[9] Andreou and Kotsakis 1988; Anagnostou *et al.* 1990; Andreou *et al.* 1990; Andreou and Kotsakis 1992, 1991, 1991–2, 1993, 1996, 1999; Kiriatsi *et al.* 1997; Kiriatsi 1999, 2000.

[10] Andreou and Kotsakis 1996, 379 (phases 10 to 6).

[11] Ibid., 382.

[12] Ibid., 380 footnote 23.

[13] Ibid., 382 fig. 10,TKA 889.

[14] Heurtley 1939, 12.

[15] Ibid., 210 ff. n. 398–9; 211 fig. 78, 79; 212 fig. 80–1.

[16] Maran 1992, 382 f.

[17] Cambitoglou and Papadopoulos 1988; 1990, esp. 142; 1991, esp. 165 fig. 21; Cambitoglou *et al.* 2001, fig. 48,3.16–3.22; 49,3.23–3.25.

[18] Cambitoglou and Papadopoulos 1989, 159 fig. 15, 162 ff.

[19] Cp. Cambitoglou and Papadopoulos 1989, 165 fig. 21 with Hochstetter 1984, 64, pl. 2,10 (Kastanas); Heurtley 1939, 210 n. 396–7 (Molyvopyrgos); Andreou and Kotsakis 1996, 382 fig. 10,TKA 889 (Thessaloniki).

[20] Cambitoglou and Papadopoulos 1989, 165 fig. 22, 166 fig. 23.

[21] Remains found in the small sections hardly convey an impression of the former architecture. Mention is made of a stone basement surmounted by a mudbrick wall accompanied by a floor (Cambitoglou and Papadopoulos 1988, 140), which probably belonged to the house with walls 16, 9 and 10 and in whose floor a pithos was embedded during a second phase (Cambitoglou and Papadopoulos 1989, 162 ff.).

ing the developed phase of the LBA, by contrast, is quite different. The number of excavated and published archaeological sites suddenly increases in LH IIIA.[22] From this point onward, aside from the dominant local handmade wares, Mycenaean wheelmade pottery is used as well, enabling the uninterrupted chronological synchronization of settlements and necropoleis in Macedonia with those in central and southern Greece.[23]

Recent excavation at the Toumba of Olynth (Ayios Mamas) has enabled detailed observations of the MBA and LBA in a continuous sequence of settlement. The uninterrupted building phases of the settlement allow for a definition of local development and subdivision, which can then be correlated – on the basis of various imports and imitations – with diverse cultural spheres ranging from the Danube areas in the north to southern Greece. In the following discussion, the development of settlement in Prehistoric Olynth will first be summarized, followed by a defining of the transition from the MBA to LBA, and will then be synchronized with the chronological framework of southern Greece.

2. The Toumba of Olynth

The Toumba of Olynth was excavated by William A. Heurtley in the 1920s and has since been referred to in the archaeological literature as Ayios Mamas.[24] It is located on the Chalkidiki between the Kassandra and Sithonia peninsulas and belongs to the modern community of Nea Olynthos. In all likelihood the Toumba was the predecessor of the renowned archaic and classical city of Olynthos.[25] Today the Toumba lies at a distance of about 5 km from the coast, but in prehistoric times it was probably a small peninsula that jutted into the sea. In the course of time, the area around the site gradually became silted up, which might account for its abandonment during the Protogeometric period at the latest.

From 1994 to 1996, excavations were resumed under the direction of Bernhard Hänsel as part of a research project of the Free University of Berlin and the German Archaeological Institute (Fig. 2). A surface area about 30 m in width was opened on the west side of the Toumba and was progressively enlarged to encompass a total of three large stepped

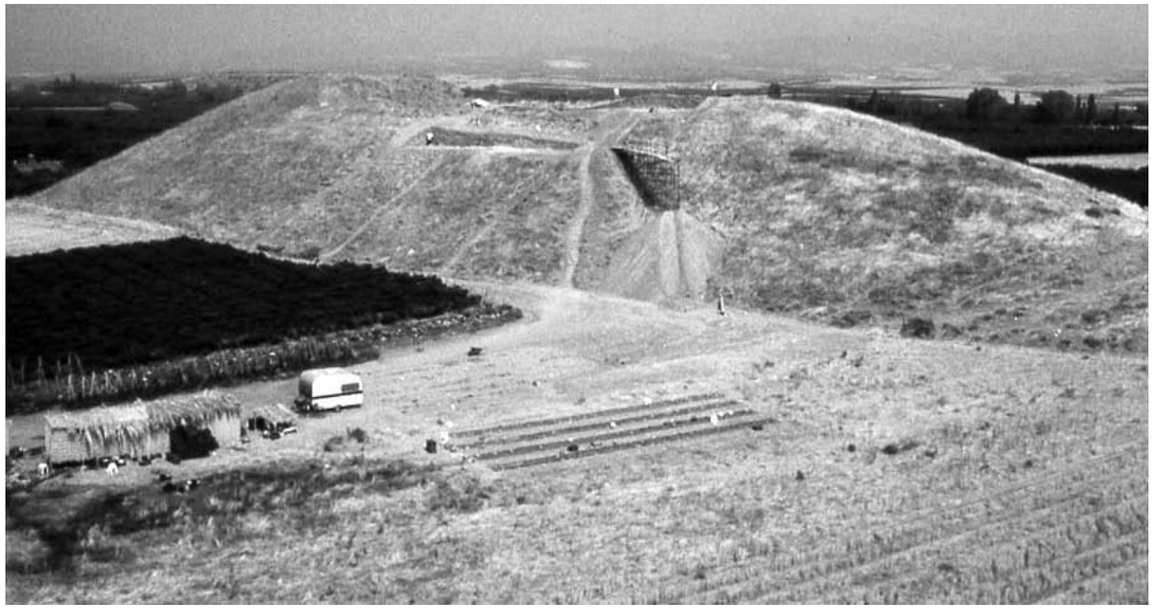

Fig. 2 View of the Toumba of Olynth from the West

[22] For a compilation of the most important sites with recommended literature, see Andreou *et al.* 2001, 285 fig. 2; Horejs 2005, 10 ff.

[23] Wardle 1993; Wardle et al 2001; Jung 2002a, 230–43; Jung 2003a, 2003b, (forthcoming).

[24] Heurtley and Ralegh Radford 1927–28, 118–55; Heurtley 1939, 1–10.

[25] Hänsel 2002, 71.

Fig. 3 Trenches on the west slope of the Toumba

areas (Fig. 3). Only a small part of the Toumba was uncovered, from the top to about halfway down; the lower part and the base of the Toumba remained untouched. Evaluation of the archaeological find complexes has been completed and preparations for publication of the individual categories of finds are in progress.[26]

History of settlement

A total of 18 consecutive building phases, designated as levels, could be distinguished. As is often the case, within the limits of the excavated area, only parts of building structures, and no complete structures, were exposed. Two factors were decisive for the subdivision of the settlement levels in the Toumba of Olynth: first, the building development as evidenced by the architectural complexes, and second, the development of local handmade pottery that predominated among finds in all phases. Examination of these developments attests that the Toumba of Olynth was continuously inhabited for a span of approximately 1,000 years.[27]

The earliest excavated level, 18, with simple one-room houses built of posts and wattle-and-daub, possibly dates to the last phase of the EBA – that is, the transition to the MBA[28] – and is designated as period I at Prehistoric Olynth.[29] Levels 17 to 14 display an architectural plan differing fundamentally from that of level 18. Instead of a row of adjoined, one-room structures, the houses now have several rooms and are arranged parallel to one another.[30] Investigations by I. Aslanis of the ceramics found in levels 17 to 14 are not yet completed; however, initial findings indicate a very homogeneous spectrum of pottery. Characteristic MBA forms and wares, such as the so-called rötliche Keramik, date these levels to the MBA, and they together constitute period II at Prehistoric Olynth.[31]

A change in architecture can again be observed in level 13. Mud bricks begin to be used for building, and houses with several rooms are closely aligned along the longitudinal axis of the Toumba (Fig. 4).[32] A distinct change is initiated in the pottery spectrum. Vessel shapes characteristic of the LBA are now produced for the first time; for example, bowls with wishbone handles (Fig. 5), undecorated globular kan-

[26] First preliminary reports by Becker 1996; Kroll and Neef 1997; Aslanis and Hänsel 1999; Becker 1999; Kroll 1999; Hänsel 2002, 2003; Jung 2002b, 2003a, 2003b; (forthc.); Horejs, 2003, 2005a.

[27] Horejs 2005b, 320–22.

[28] Hänsel 2002, 73, 75 fig. 5; 76 fig. 6.

[29] Horejs 2005b, 320 tab. 31.

[30] Aslanis, in preparation.

[31] Horejs 2005b, 320 f.

[32] Hänsel 2002, 75, 77 fig. 7.

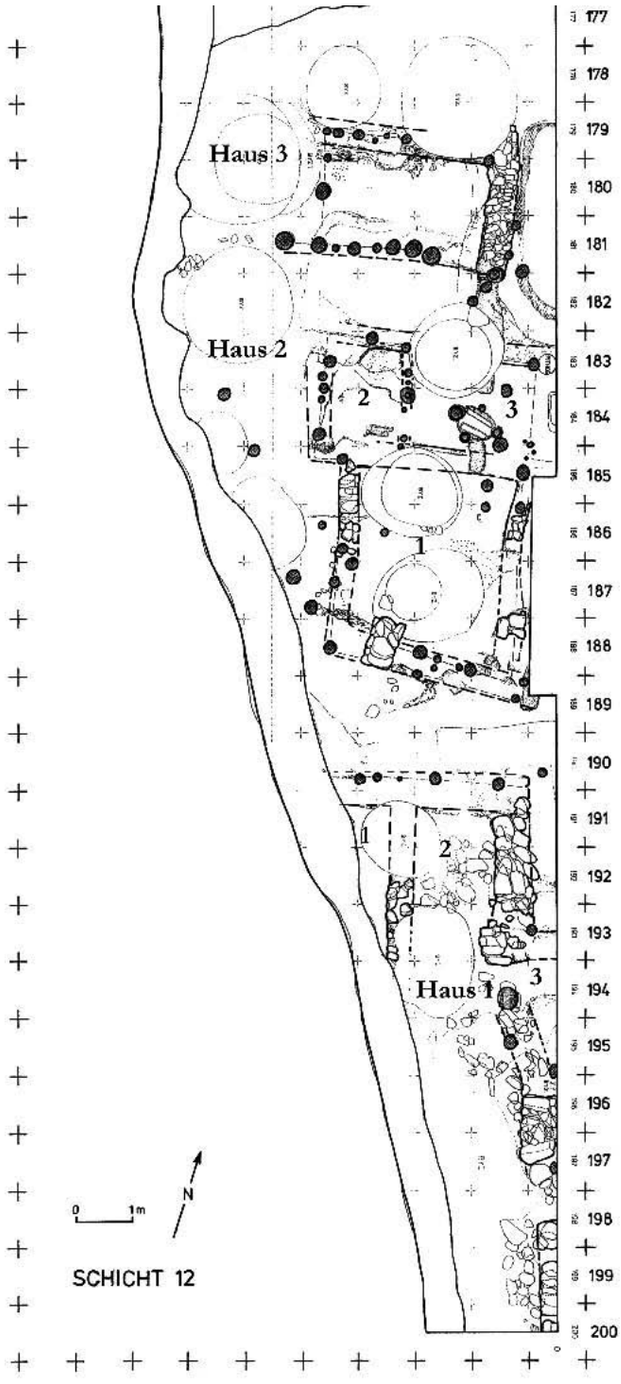

Fig. 4 Architectural remains of level 12 (Period III)

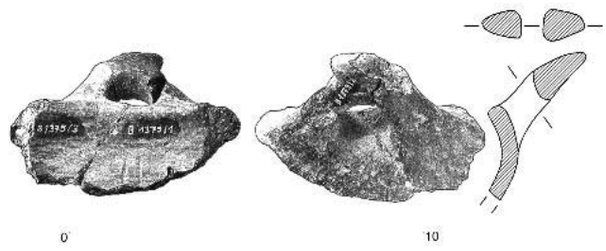

Fig. 5 Bowl with Wishbonehandles from level 13 (Period III)

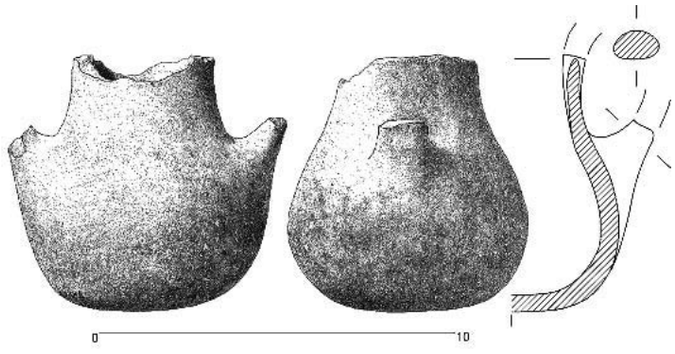

Fig. 6 Globular undecorated kantharos ("Kugelkantharos") from level 13 (Period III)

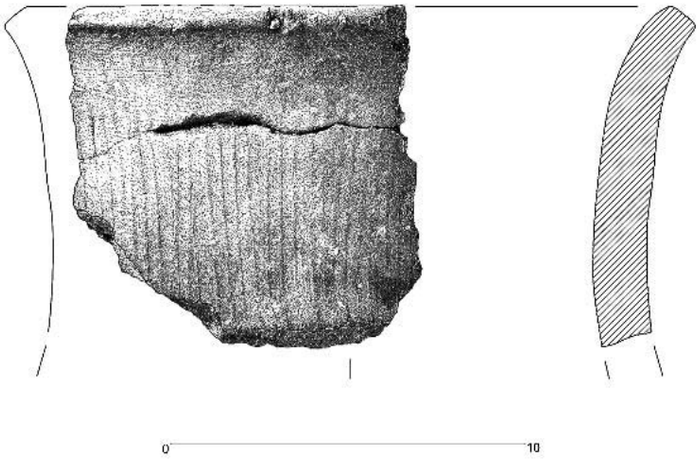

Fig. 7 Amphora with a cylindrical neck and "broom-brushed" surface ("Besenstrich") from level 13 (Period III)

tharoi ("Kugelkantharoi") (Fig. 6), and amphoras with a cylindrical neck (Figs. 7, 8). New fine and coarse wares typical of the LBA can also be observed, and remain in use until the end of the settlement. Only a few elements still provide a link to traditions of the older MBA levels; for example, vessels with a rounded spout and the "broom-brushed" surface ("Besenstrich") of coarse vessels. These elements can be interpreted as a continuation in the development of local pottery still tied to older MBA traditions. The architecture as well as the spectrum of pottery shapes and wares indicate that levels 13 to 10 belong

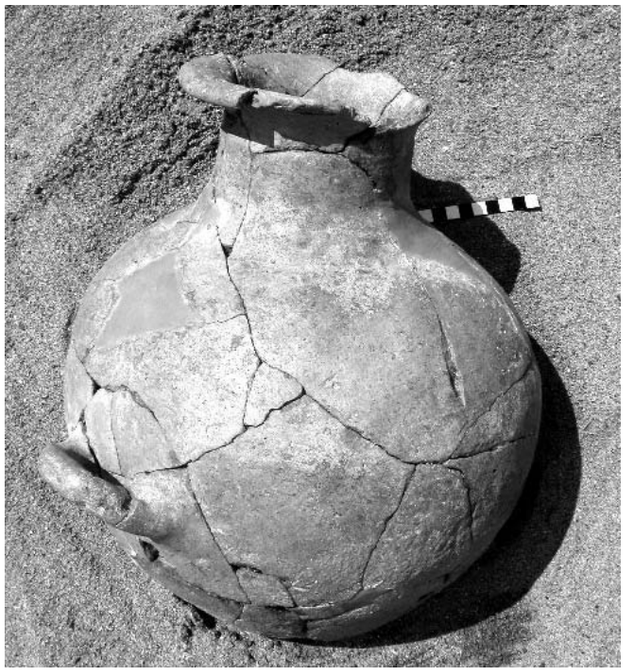

Fig. 8 Amphora with a cylindrical neck and well burnished surface from level 11 (Period III)

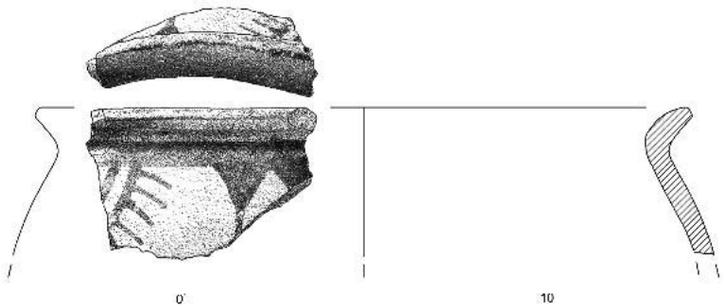

Fig. 10 Mattpainted bowl from level 7 (Period IV)

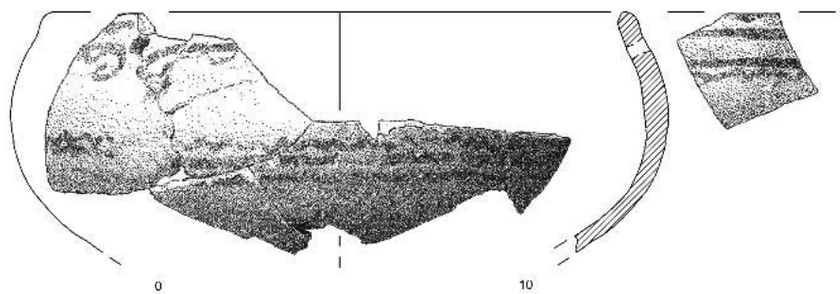

Fig. 11 Mattpainted bowl from level 7 (Period IV)

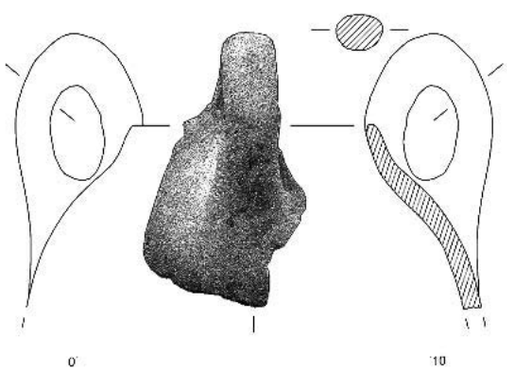

Fig. 9 Globular kantharos ("Kugelkantharos") from level 7 (Period IV)

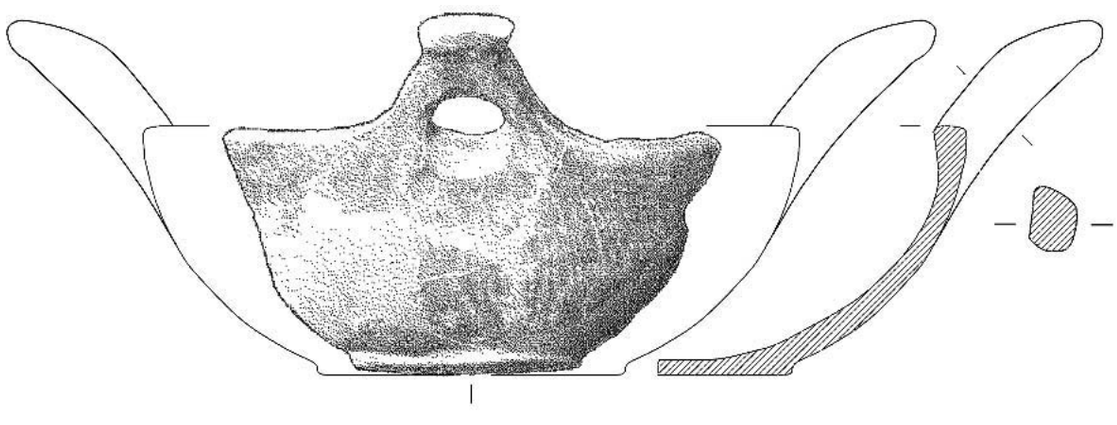

Fig. 12 Bowl with Wishbonehandles from level 8 (Period IV)

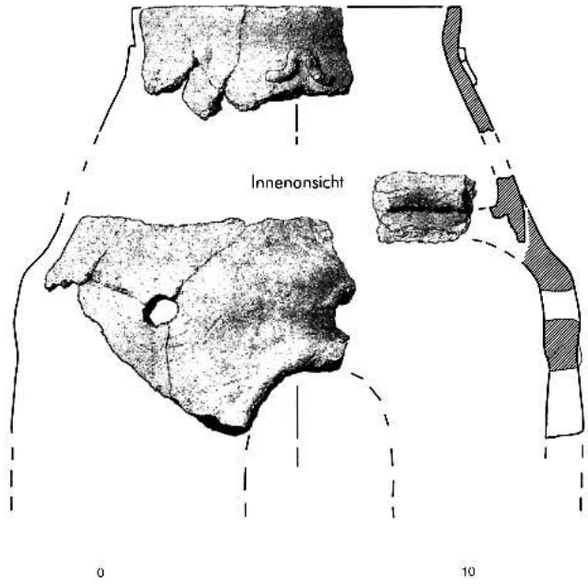

Fig. 13 Pyraunos from level 8 (Period IV)

to one and the same period, defined as period III, the early phase of the local LBA.[33]

Houses in levels 8 and 7 are larger in size, but are still constructed of mud bricks set upon stone foundations.[34] It is in this phase that the first fragments of Mycenaean pottery are attested.[35] The local handmade vessels correspond in shape and fabric to the well-known repertory of pottery of the developed LBA in Macedonia;[36] for example, globular kantharoi ("Kugelkantharoi") with and without incrusted decoration (Fig. 9), variations of matt-painted pottery (Figs. 10, 11), different types of bowls with wishbone handles (Fig. 12) and the *pyraunos*, a cooking pot typical of the Balkans (Fig. 13).

Beginning with level 6, houses are notably smaller and are arranged along a street that runs parallel to the hill's longitudinal axis. They continue in the basic construction found in earlier levels, mudbrick structures built upon a stone foundation, in levels 5 through level 2 (Fig. 14).[37] The range of local pottery clearly conforms with that of the developed to late LBA,[38] whereas Mycenaean wheelmade ware becomes more frequent and increases substantially in level 3.[39]

Level 1, the latest level, was extensively disturbed by Byzantine use of the mound as well as by erosion, so that its architectural remains can scarcely be determined. Only occasional pits and sections of walls attest this latest phase. A few scattered pottery frag-

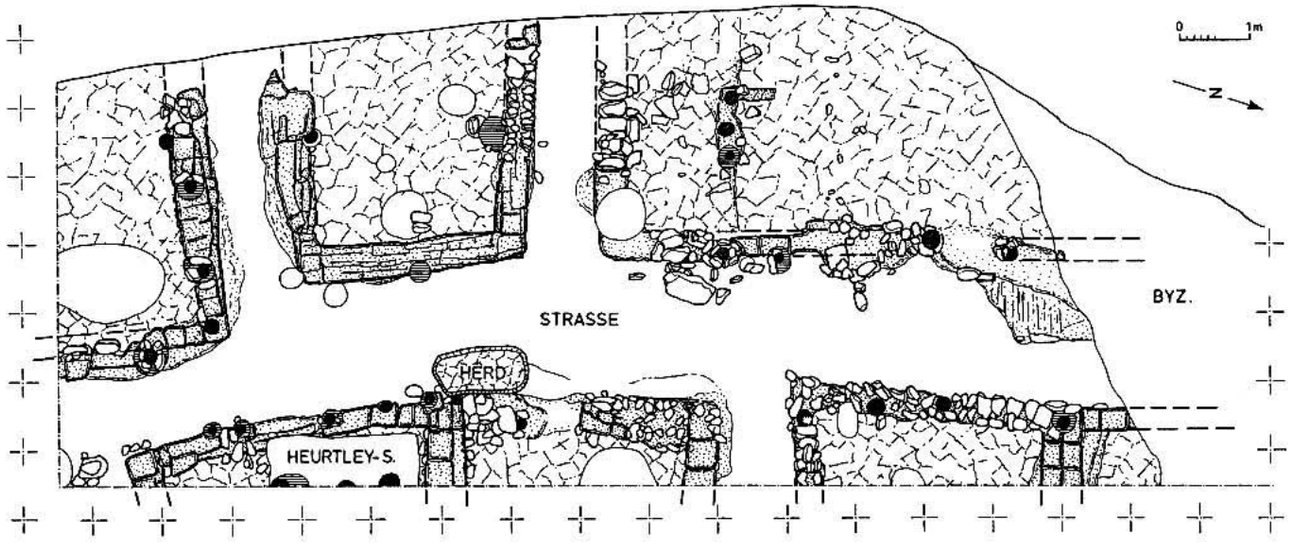

Fig. 14 Architectural remains of the levels 5 to 3 (after Hänsel 2002, 94 fig. 20)

[33] Horejs 2005b, 293–8, 312–4, 319 tab. 30.
[34] Hänsel 2002, 91.
[35] Jung, in preparation.
[36] Horejs 2005b, 314 ff.
[37] Hänsel 2002, 93 f. fig. 20.
[38] Horejs 2005b, 314–7.
[39] Jung, in preparation.

Periods of "Prehistoric Olynth" (PO)	Level	Local Chronology	
PO VI	1 + 0	Early Iron Age	
PO V	2	Late Bronze Age	Late
	3		
	4		
PO IV	5		Middle
	6		
	7		
	8		
PO III	(9)		Early
	10		
	11		
	12		
	13		
PO II	14	Middle Bronze Age	
	15		
	16		
	17		
PO I	18	(EBA–) MBA	

Fig. 15 Table of Periodisation and local chronology of the Toumba of Olynth

ments found without any architectural context indicate the final use of the mound in Submycenaean to Protogeometric times.

In summary, based on developments in the local pottery and in architecture, the 18 levels in the Toumba of Olynth can be assigned to the following periods (see Fig. 15). The transition from the EBA to MBA, period I of the Toumba, occurs in level 18. Period II encompasses the MBA, in levels 17 to 14. Level 13 marks the beginning of the LBA, assigned on the basis of developments in pottery and architecture to periods III, IV and V. Settlement at the Toumba comes to an end in level 1, dated to the Early Iron Age and assigned to period VI.

The Toumba in Olynth represents, for the first time in Macedonia, a settlement with a continuous, uninterrupted stratigraphy, supported by developments in architecture and pottery and encompassing the entire MBA and LBA. The extent to which this division into periods corresponds to stages of development in central and southern Greece will be taken up in the following section, in which the focus will be the transition from the MBA to LBA – that is, periods II and III at Prehistoric Olynth – which yielded a pottery spectrum that enables a synchronization with the Helladic system of sequence.

3. Synchronization

Three categories of MBA to LBA ceramics from the Toumba at Olynth can be used for correlating the local chronology with that of southern Greece: Minyan pottery, imported painted cups and a few early Mycenaean fragments.

Minyan pottery is represented in levels 16 to 11 at Olynth – that is, within periods II and III – and is most frequent in levels 14 to 12.[40] It mainly comprises different hues of a Grey Minyan ware; wheelmade brown and yellowish beige vessels are, by contrast, infrequent.[41] Without entering into a complex discussion about the various descriptions of Minyan ware presented in publications,[42] let it suffice to state that the Olynthian finds best correspond to the so-called True Gray Minyan Ware in central Greece[43] and to fine and coarse Grey Minyan ware from Pefkakia Magula.[44] The spectrum of shapes of this "true" Minyan ware is quite distinct, consisting of a limited number of types with variants. Open vessels predominate, as expected, among which several varieties of goblets are the most frequent. The most important and datable types that appeared in the sequence of levels will be presented here.

In level 15 of period II only few characterizing Minyan shapes begin to appear. The goblet variant with a thickened T-shaped lip (Fig. 16) can be compared with goblets with similar rims from Pefkakia phases 6 early to 7;[45] it is also basically similar to goblets found in the first settlement horizon at Eutresis[46]

[40] Horejs 2005b, 195 fig. 90.

[41] In level 13 a presumably handmade and locally produced imitation ("minysche Imitation") occurred alongside "genuine" wheelmade Minyan pottery, which, however, will not be discussed at length here.

[42] For the various usages of the term "Minyan", see for example Bulle 1907, 9; Wace and Blegen 1916–8, 180 f.; Caskey 1966, 119; Kilian 1976, esp. 117 with fig. 5; Zerner 1986, 59–66; 1993, 42 ff.; Nordquist 1987, 48; Dietz 1991, 31; Maran 1987; 1992, 80, 102.

[43] Zerner 1993, 42 ff.

[44] Maran 1992, 80, 102 ("grauminysche Ware feiner Machart" and "grauminysche Ware grober Machart").

[45] Maran 1992, 85 ("Schale Typ 1FIa"); pl. 89,3; 96,10; 103,9; 117,8; 120,6.7.

[46] Goldman 1931, 137 fig. 185,3.

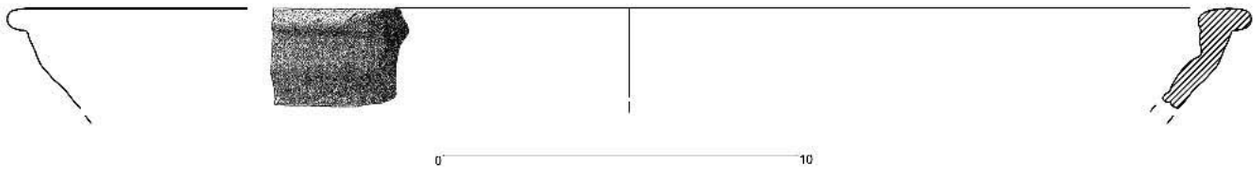

Fig. 16 Goblet with t-shaped lip from level 15 (Period II)

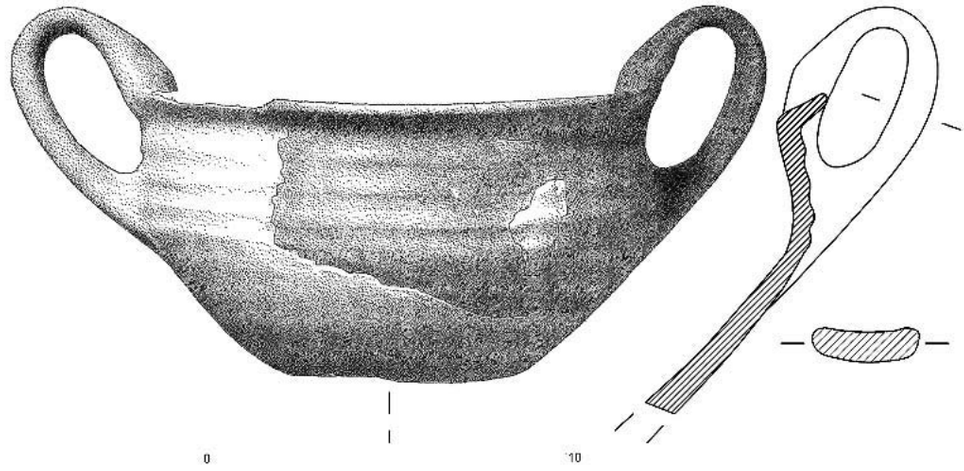

Fig. 17 Kantharos with everted rim and horizontal-ribbed surface from level 15 (Period II)

and at Thebes.[47] At the same time, the kantharos with high vertical handles appears for the first time (Fig. 17). Its surface is either divided by horizontal ribs or is left plain. This type of kantharos has been categorized by Oliver Dickinson as "Mature Minyan" and "Late phase" and is accordingly quite frequent in the Minyan repertory of central and southern Greece.[48] The best analogies can be found in Pefkakia phases 5 to 7,[49] in the second horizon at Eutresis,[50] at Orchomenos[51] and in late MH Asine[52] and in Lerna V, where it is categorized by C. Zerner as "Dark Burnished Ware".[53] Two similar kantharoi with horizontal ribs are published from Molyvopyrgos, where they are described as wheelmade.[54] Similar shapes with plain surface are part of the typical repertoire of Anatolian Grey Ware from Troy VIa (MH III) onwards.[55]

By contrast, in the succeeding level 14, the entire spectrum of open vessels is represented. The simple goblet with a low shoulder and diagonally flattened rim belongs to the standard Minyan repertory during the developed MH period (Fig. 18). This so-called Lianokladi Goblet is quite comparable to the shape designated by Maran as type 1FIa in Pefkakia phas-

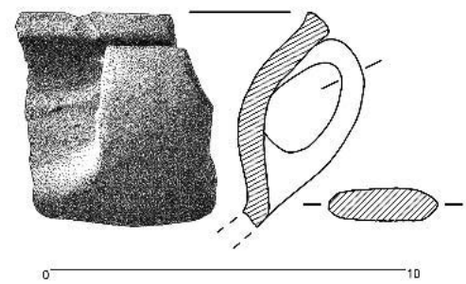

Fig. 18 Lianokladi-Goblet with high shoulder from levels 14+15 (Period II)

[47] Konsola 1985, 16 fig. 1,2.6.
[48] Dickinson 1977, 19–23.
[49] Maran 1992, 87; pl. 55,14; 97,2 (type 1HII); pl. 56,1; 64,10; 69,7.8; 113,12 (type 1HIII); 88; pl. 83,3 (type 2CII); pl. 103,16a–b; 117,9; 124,6 (type 2CIII).
[50] Goldman 1931, 139 fig. 187,2.
[51] Buchholz and Karageorghis 1971, 304 n. 883.
[52] Nordquist 1987, 171 fig. 48,3; 173 fig. 52,6.7.
[53] New unpublished pottery charts from Lerna V Area D are handed out by C. Zerner at this conference, in which this analogy is on fig. 28,P528 (Lerna V:5, MH II later).
[54] Heurtley 1939, 210 nr. 396–397.
[55] Pavúk 2002, 51 f. fig. 11,39–42 and Pavúk this volume.

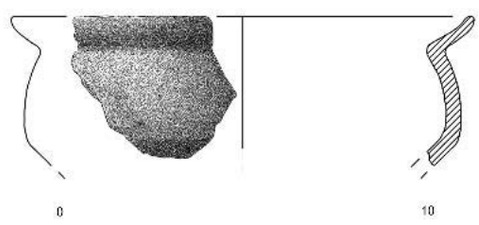

Fig. 19 Semiglobular cup from level 14 (Period II)

es 5 to 7,[56] despite the thickened lip that distinguishes it from Olynthian shapes. Further analogies can be found in late Middle Helladic houses at Asine;[57] in several graves of Grave Circle B at Mycenae;[58] and in Ayia Irini V;[59] where it is dated to the advanced MH period. At the same time there appears a variation of that goblet, with handle pressed into a comparatively high shoulder. Significantly, this shape typifies the latest developmental phase of goblets, as Joseph Maran was able to discern in Pefkakia, where this type is confined to phase 7.[60] Two Grey Minyan goblets, one of which has a thick buff slip, were published from the neighboring settlement at Molyvopyrgos.[61] On the whole, the dating of the analogies for this Olynthian Goblet varies from developed to late MH; only the variant with pressed handle is limited to the last developmental phase of Minyan pottery, MH IIIB to LH I.

Another new feature attested in level 14 is the semiglobular cup (Fig. 19). Although the handles are not preserved on a single such cup in the Toumba of Olynth, the cups are nevertheless fairly comparable with semiglobular cups in central and southern Greece. The globular body has a slightly outcurving rim without any special treatment of the lip. Oliver Dickinson designates the cups as a characterizing element of the "Late Phase", marking the final phase in the development of the Minyan pottery.[62] The finest analogies are found in the later Graves Γ and M in Grave Circle B,[63] dated by Sören Dietz to LH I. There is also relative similarity to types 3F and 1FII from Pefkakia Magula; however, these appear over a longer span of time, from phase 4 to 7.[64]

Several variations of the Lianokladi Goblet as well as of the semiglobular cups emerge in level 14 (period II) at Prehistoric Olynth and continue to appear through level 12 (period III); the single exception is the so-called Pteleon Goblet,[65] examples of which were found only in level 14+15 (Fig. 20). Although the handles on the Olynthian examples are broken, it can be assumed that there were two and that they were raised, round and horizontal.[66] These goblets can be compared with type 1FIb that appears in Pefkakia phases 5 to 7, most frequently in phase 6 middle.[67] Further analogies can be observed in the first horizon at Eutresis,[68] the ninth city (IX) on Aegina (group XXXV),[69] and grave Γ of Grave Circle B.[70] The last was assigned by Sören Dietz to the older

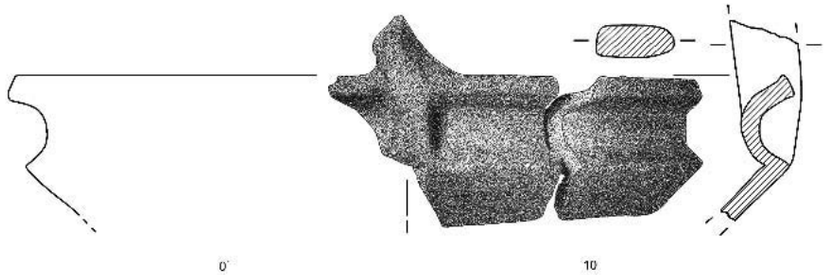

Fig. 20 Pteleon-Goblet from level 14+15 (Period II)

[56] Maran 1992, 85 f. pl. 46,13 (without carination); 46,15; 55,6.8; 68,10; 69,1.
[57] Nordquist 1987, 171 fig. 49,2; 173 fig. 52,4–5.
[58] Mylonas 1973, pl. 92δ (grave H); 96α.γ ; 97α (grave I); 141α (grave N); 197α (grave P); 51γ–δ ; 205β–γ (grave Γ); 174β–γ; 175α–β (grave O); 118α–β ; 119α–β ; 120α (grave Λ).
[59] Davis 1986, pl. 22,7.8.
[60] Maran 1992, 86 with fig. 3.
[61] Heurtley 1939, 210 n. 398; 211 n. 399.
[62] Dickinson 1977, 22 with fig. 3. See also the discussion of semi globular cups with further literature in Pavúk, in this volume.
[63] Mylonas 1973, pl. 52δ1–2; 133η.
[64] Maran 1992, 58; 89; pl. 51,9; 97,3; 113,2.8.
[65] After Pavúk 2002, 48 ff. esp. 51 with footnote 107.
[66] Ibid., pl. 148,1–3.
[67] Ibid., 86; pl. 55,7; 68,12; 82,14; 89,3; 93,7; 96,15; 107,18; 113,5.6; 116,14.
[68] Goldman 1931, 136 fig. 184,3.4; 137 fig. 185,6.
[69] Walter and Felten 1981, pl. 121,437–9.
[70] Mylonas 1973, pl. 156α.

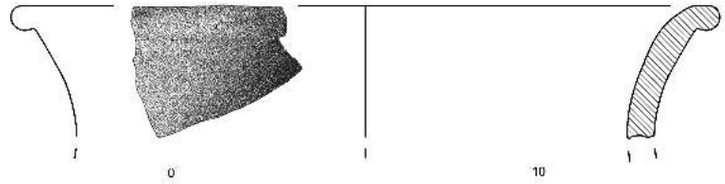

Fig. 21 Amphora or Amphoriskos with conical neck and everted rim from level 13 (Period III)

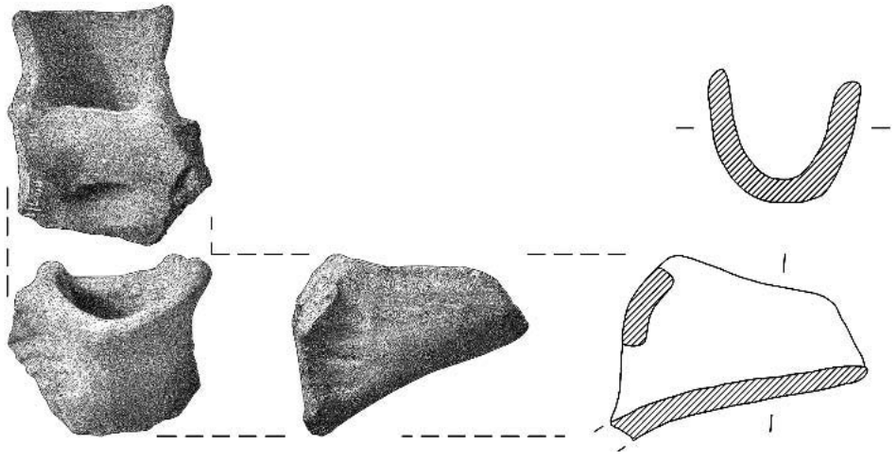

Fig. 22 Bridge-spouted jar from level 13 (Period III)

group in MH IIIB. Three Pteleon-Goblets from Lerna V show a wider chronological range from MH II early to MH III early.[71] Those Goblets are typical for the older phase of Troy VI Early (VIa),[72] which is dated by Pavúk in MH III.[73]

The entire spectrum is still present and more numerous in level 13 (period III), now including only two additional yet decisive shapes: amphoras or amphoriskoi with a conical neck and thickened lip, which appear only in this level (Fig. 21). Closed vessels are not a typical shape during the peak of Minyan pottery, appearing only during its final developmental phase.[74] The best analogies are noted in graves E and M of Grave Circle B,[75] which Dietz dates to LH I.[76] Amphoriskoi found at other sites are not directly comparable;[77] however, their late appearance in stone cist graves in Pefkakia, dated to phase 7 and later,[78] represents a rough chronological foothold at least for the use of closed Minyan vessels. The fragment of a bridge-spouted jar from the Toumba of Olynth is unique (Fig. 22); its only convincing analogy comes from grave VI, 949 in Grave Circle A in Mycenae, and probably dates to the beginning of LH I.[79]

The last tie to Minyan pottery is represented by a jug with a half-broken neck from level 11 (Fig. 23), the neck covered – from the break of the missing rim downward – with broad horizontal ribs. The narrow possible cutaway neck finds its best parallels in a

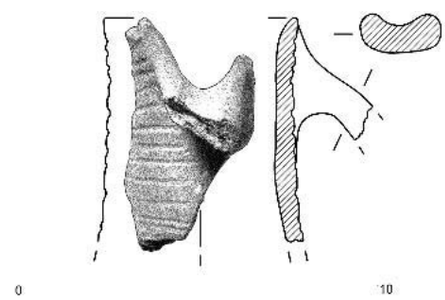

Fig. 23 Jug with cut-away-neck (?) from level 11 (Period III)

[71] See above footnote 53, fig. 24,P475 (Lerna V:4); fig. 28,P550 (Lerna V:5 oder V:6).
[72] Pavúk 2002, 48 ff. Abb.10 and this volume.
[73] See Pavúk in this volume.
[74] Dickinson 1977, 22 with fig. 3.
[75] Mylonas 1973, pl. 80α1–2; 133γ.
[76] Dietz 1991, 250.
[77] Goldman 1931, 141 fig. 193; 164 fig. 230; 166 fig. 232,1 (Eutresis); Konsola 1985, 18 fig. 4,1 (Thebes).
[78] Maran 1992, pl. 123,8,12,14.
[79] Dickinson 1977, 22; Dietz 1991, 203.

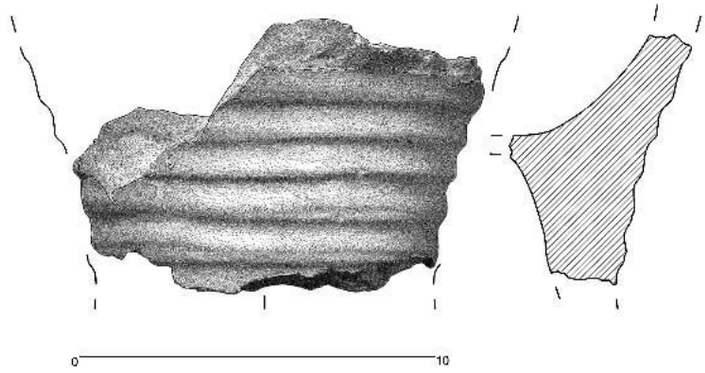

Fig. 24 Fragment of a ribbed pedestal from level 13 (Period III)

Grey Minyan jug from grave 1971-3 in Asine,[80] dated to MH IIIB or LH IA.[81]

Any conclusive remarks as to the development of the vessels' pedestaled foot would be premature at this stage in research. Basically, tall ribbed pedestals appear in levels 14 to 11. The fragment of a massive ribbed pedestal found in level 13 presents a very gradual junction with the body (Fig. 24). The pedestal has convincing comparisons in two goblets from grave Δ of Grave Circle B,[82] whose profile and

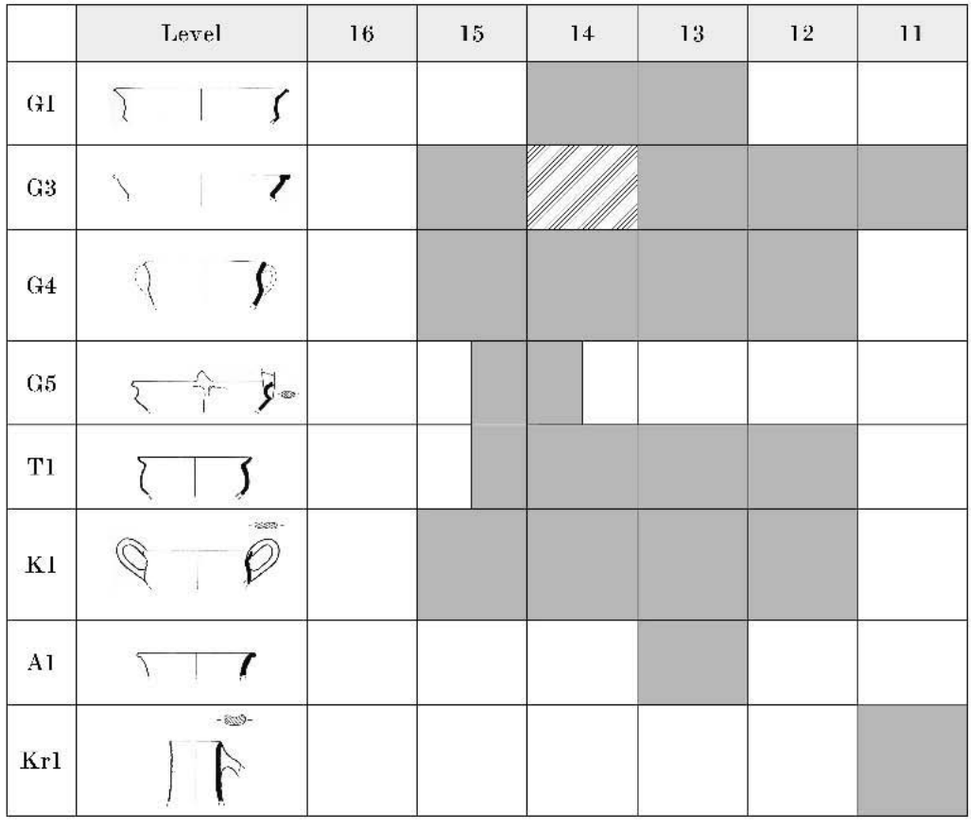

Fig. 25 Duration of Minyan Types in the Toumba of Olynth

[80] Dietz 1980, 48 fig. 49; 51 fig. 57,37.
[81] MH IIIB according to Dietz 1980, 88; LH IA according to Dietz 1991, 203 fig. 61 BE–1.
[82] Mylonas 1973, pl. 66δ1–2.

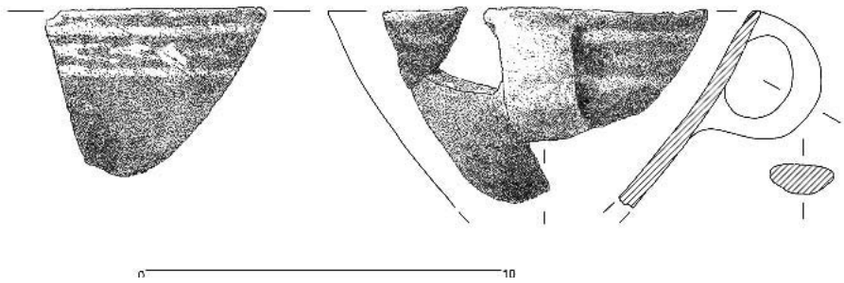

Fig. 26 Handmade painted cups from level 7 (Period IV)

impressed handle link them to Pefkakia phase 7 and which can be dated to MH III.[83] This occurrence is paralleled by the appearance of shorter pedestals with a smooth surface in levels 13 to 11 at Olynth, which would correspond roughly with Dietz group 2[84] and would thus belong to the later developmental phase of the goblets.[85]

Let us consider once again the span of time in which the characteristic vessel types are present in the Toumba of Olynth (Fig. 25). Shapes appear in level 15 that correspond in general to those of the developed MH period. However, already in level 14 and more distinctly in level 13 we are confronted with a problem. There we find, on the one hand, several forms that are typical "Mature Minyan" vessels, yet, on the other hand, forms that – according to the current classification in southern Greece – belong to the latest and final developmental phase of Minyan pottery. In accordance with the methodological concept that the temporally latest pieces of pottery in a complex determine its date, the following synchronization would result for Minyan pottery in Prehistoric Olynth. Levels 15 and 14 can be most closely correlated with a developed to late MH period, which would roughly correspond to MH II to III. Level 13 at the latest – that is, period III at Olynth – correlates with MH IIIB to LH I, a horizon that can scarcely be defined more precisely by the Minyan pottery of central and southern Greece.

Two imported handmade cups from level 7 enable a synchronization also of the following period (IV) in Olynth with the Helladic chronological system (Figs. 26, 27). They were found along with a third cup, albeit a matt-painted cup, in a vestibule-like structure in a large building complex. The two conical cups are monochrome, painted both inside and out in a dark red color covering the whole surface. The slightly shiny surface is well burnished, showing only a few irregularities. The decoration is executed in a dull, milky white color. The fabric of the cups was fired hard and has a grey core. The temper is fine with some amount of silver mica visible on the surface. Both cups are identical in ware and undoubtedly of the same origin. The style of painting, in light on a dark ground, as seen here, is an absolutely singular appearance in northern Greece, which would justify their interpretation as imports. Yet, although numerous categories of painted pottery exist in southern Greece, no direct analogies exist for this ware. Similarities can best be sought in the "white on burnished dark ware" of the northeastern Peloponnese. However, this ware usually does not have a slip and, in contrast to the Olynthian cups, it has a pink core with small black inclusions.[86]

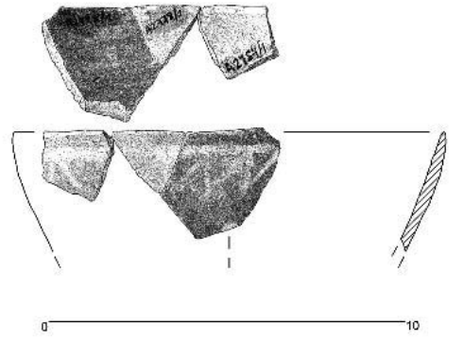

Fig. 27 Handmade painted cups from level 7 (Period IV)

[83] Dietz 1991, 204 fig. 62; 250 fig. 78.

[84] Dietz 1980, 80 f. He divides the goblets from Grave Circle B into two chronological groups, the later group of which (group 2) is characterized by goblets with a round body without ribs and with a low foot.

[85] Cf. Grave Γ (Mylonas 1972, pl. 51γ.δ). According to Dietz 1991, 250: LH IA–B.

[86] Dietz 1991, 29–35. I thank M. Lindblom for drawing this to my attention.

Both cups possess a slightly curved conical body with a small narrowing lip and a diameter at the mouth of ca. 12 cm. One cup still has a vertical ribbon handle, 0.8 cm in section, that attaches at the rim and extends to the middle of the body. The shape of the cups is essentially comparable with the "egg cups" of southern Greece, which, however, were produced in another ware.[87] There the majority is decorated in the "mainland panelled style", which does not concur with the decoration on the conical cups from Olynth. J. Davis has compiled a total of 32 examples of this type of cup from Asine, Aegina, Korakou, Mycenae, Tiryns and Zygouries that date from MH III to LH I and that no longer appear in the later graves of Grave Circle A.[88] Some display a similarity in decoration to the Olynthian cups with lip encircled by a narrow band and the handle painted with a "ladder" motive.[89] A matt-painted cup with a similar encircling narrow frieze consisting of a row of lateral V's, bordered on each side by a narrow horizon band, was found in Grave Γ of Grave Circle B in Mycenae.[90] Similar motives also appear on matt-painted cups from a stone cist grave as well as in the lower town at Asine.[91] The decorative motive on the second cup from Olynth, consisting of a simple horizontal band of zigzags encircling the rim, compares only roughly with motives in southern Greece, where matt-painted pottery often displays several parallel bands of large zigzag-like designs.[92] In short, an origin in southern Greece can be presumed for both imported cups at Olynth, and in view of the analogies presented above they can be dated to LH I.

A further chronological fixed point for period IV in the Toumba at Olynth can be gained from the Mycenaean pottery, which appears first but infrequently in level 7 and thereafter increases in number. The preliminary dating of the Mycenaean ware as determined by R. Jung points to a date in LH IIA for level 7, followed by (LH IIB–) LH IIIA1 for level 6 and LH IIIA late for level 5.[93] Consequently, the four building phases of period IV at Olynth, which on the basis of the development in pottery could be defined as the middle phase of the LBA, would encompass the chronological horizons LH I to LH IIIA late.

In conclusion, the synchronization of the local settlement history at the Toumba of Olynth with central and southern Greece presents the following picture:

Starting with level 15 of period II, which comprises the locally defined MBA, a cautious correlation may be made with MH II to MH III, based on the Minyan pottery. The four building phases of period III – the time of the early LBA – can be roughly synchronized with MH IIIB to LH I. Finally, the beginning of period IV (levels 8–7) can be linked with LH I to LH IIA, based on the imported painted cups and individual Mycenaean fragments.

4. Conclusion

The continuity in habitation at the Toumba of Olynth during the entire MBA and LBA has made it possible to define these periods, from beginning to end, for the first time in Macedonia. In the nearly 1,000 years of settlement history at the Toumba there were recurrent intervals of time during which contact with the Aegean increased. The period of the developed MBA and early LBA as described here represents such a phase, during which the coastal region of central Macedonia and the Chalkidiki were obviously involved in a broad communicative network with the Aegean.

Analysis of the local development in Macedonia and its synchronization with the Helladic chronological system has shown that the transition from the MBA to LBA in Macedonia can be directly correlated with the shaft-grave horizon in southern Greece.

Thus, the epoch that brought about great achievements and changes in the south is now attested to a substantial extent in Macedonia as well. Finds verifying this contact, as shown here, are evidence that the regions of central Macedonia and the Chalkidiki were not at all isolated from the activities farther south; indeed, they played a part in the Aegean interrelationships.

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87 Davis 1978, 219.
88 Davis 1978.
89 Ibid., 219 fig. 3.
90 Mylonas 1973, pl. 52α; 240 G–53.
91 Hägg and Hägg 1975, 159 fig. 14 (right); Dietz 1991, 94 n. 256; 95 fig. 27,256.
92 Examples in Nordquist 1987, 169 fig. 43,5.7.8.
93 R. Jung (pers. comm.).

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Middle Minoan Pottery Chronology and Regional Diversity in Central Crete

Aleydis Van de Moortel

Pottery specialists working on the Greek mainland and in the Aegean tend to view Minoan pottery chronology as a monolithic sequence pretty much equivalent with Knossian pottery chronology. In reality, the landscape of Minoan pottery production is far more complex. Everywhere in Bronze Age Crete local ceramic traditions existed that at times produced vases of considerably different character, even in the Palatial periods, which were times of relatively greater homogeneity.[1] For instance, Middle Minoan (MM) II potters at Malia produced shapes that are entirely unknown at contemporary Knossos or in the Mesara, such as large wheel-thrown collar-necked jugs made of fine buff fabrics with unpainted polished surfaces.[2] Body fragments of those Protopalatial Maliot jugs are nearly indistinguishable from unpainted body fragments of large Late Minoan (LM) IA Mature and LM IB Knossian dark-on-light patterned jugs with lustrous buff surfaces.[3] Protopalatial Maliot potters also made fine buff vases with polished surfaces splattered with dark paint, which at first sight are not so different from Knossian vases decorated in Peter Warren's LM IB "Jackson Pollock" style.[4] Only the well-smoothed surfaces of the Maliot dark-splattered vases allow us to distinguish them from the roughly finished LM IB Knossian vases.

These few examples serve to show that it is important for scholars working elsewhere in the Aegean to learn about regional diversity in Minoan pottery, not only to determine the origin of their Minoan ceramic imports with greater precision, but also to avoid making mistakes in dating, since Knossian chronological criteria are not always valid in other areas of Crete. Regional variation can be seen in vases of all classes but, as can be expected, is most common among utilitarian pottery that did not carry prestige value and did not circulate much outside the local consumer area, such as conical or other simple cups, saucers, bowls, and pouring and storage vessels.[5]

The present paper focuses on problems related to the synchronization of the Protopalatial pottery sequences of Knossos and of the western Mesara plain in south-central Crete during the MM IB, IIA, and IIB phases. One may wonder about the relevance of discussing southern Cretan pottery chronology in a collection of papers on Aegean synchronisms, since southern Crete borders on the Libyan Sea, not the Aegean Sea. I believe that southern Crete is relevant to this volume for two reasons:

1) Many close similarities exist between the Protopalatial pottery of Knossos and of the western Mesara plain, more than between Knossos and any other region of Crete. What is more, a lot of the highest-quality pottery consumed at Knossos and in the western Mesara – the so-called Kamares pottery – may in fact have been produced in the western Mesara, as Day and Wilson have suggested on the basis of fabric analysis.[6] Hence the southern Cretan ceramic sequence offers the possibility of testing the Knossian sequence as established by Duncan Mackenzie and Arthur Evans in the early 20th century and recently reinterpreted by MacGillivray.[7] It is primarily this Knossian sequence that is used as a dating reference by archaeologists elsewhere in the Aegean. In this paper it will be argued that the cur-

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[1] Cf. Andreou 1978, 164–171; Walberg 1983, 1–2.

[2] A dark monochrome coated jug has been published from Quartier Mu: Poursat and Knappett 2005, 66, 221, no. 646, fig. 17.5, pls. 24, 49. Several unpainted examples have been found in the *Abords Nord-Est*, the area northeast of the palace at Malia. I thank Pascal Darcque for permission to mention them. Much smaller dark monochrome versions of this bridge-spouted jug type have been published from Quartier Mu and other houses as well as from the cemetery of *l'îlot du Christ* at Malia (Poursat and Knappett 2005, 65, fig. 17.4; van Effenterre 1969, 73, pl. XLVIII, L157; 1963, 108, pl. XLIV, no. 7878).

[3] Cf. Popham 1967, pls. 76c, 80a; Betancourt 1985, pl. 17F–G.

[4] Warren 1996. The splatters on the Protopalatial Maliot vases are in fact sloppy versions of the *algue* pattern; cf. van Effenterre 1963, pl. III.f–h. Many fragments with this decoration have been identified by the author in mixed early Neopalatial fills at the *Abords Nord–Est*.

[5] Van de Moortel 1997, 444–448, 475–476, 634–663.

[6] Day and Wilson 1998. The authors never specify, however, how many vases they have analyzed in respect to their fabrics. For definitions of the term "Kamares pottery", see Betancourt 1985, 96, and Day and Wilson 1998.

[7] Evans 1905; 1906, 5–11; 1921; 1928; 1930; 1935; Mackenzie 1903; 1906. MacGillivray 1998.

rent definition of the MM IIA and IIB phases at Knossos needs to be reexamined in the light of new evidence from stratified Protopalatial contexts excavated at Kommos, the harbor of Phaistos.[8]

2) The western Mesara plain is also relevant to the topic of the present volume because, even though oriented toward the African coast, it has yielded a number of Aegean pottery imports from Protopalatial contexts that in the future may provide the possibility of cross-dating Aegean and southern Cretan ceramic sequences. All of these come from the harbor of Kommos; none have been identified at Phaistos or Ayia Triada. There are fragments of Cycladic pans and a few other Cycladic vases identifiable by their highly micaceous fabrics. Other nonlocal vessels, such as lentoid flasks, may come from the Aegean as well.[9]

Regional diversity in Cretan ceramic production is greater in the Protopalatial period than in the Neopalatial period. Even though Knossos and the western Mesara plain show the fewest regional differences, each production area has idiosyncratic vase types not seen in the other area, such as Knossian saucers, thin-walled tumblers, and tripod cups, and the fast-changing conical cup types of the western Mesara.[10] Moreover, among vase types with similar shape and decoration, there are enough subtle differences relating to manufacturing practices to help us distinguish between the products of Mesara and Knossian potters. So, for example, Protopalatial western Mesara potters were much slower than their Knossian counterparts to adopt the potter's wheel and to fully oxidize their pottery during firing. Mesara pottery routinely shows a gray core in its fracture in the MM IB and IIA phases, whereas Knossian pottery already in the MM IA phase is fully oxidized and often shows a reddish fracture.[11] Western Mesara potters always finished the surfaces of their utilitarian vases very well, whereas Knossian potters, certainly by the MM IIB phase, did only a rudimentary job of it.[12] Such differences are the result of different decisions taken by potters at various steps of the production sequence. Other differences relate to motor habits and routine actions acquired through training and passed down through generations of potters. So, for example, western Mesara potters, from at least as early as the MM IIB phase and through the LM IB phase, make their cup handles the same way: narrow, thin strap handles twisted to the side at the lower attachment.[13] In terms of decoration they paint rim bands of consistent width (ca. 1 cm) and their spiral bands always run from the right to the left. Such consistencies based on routine are especially striking on simple mass-produced pottery such as conical cups, where the potter went "on automatic pilot".[14] Because of its close similarities in manufacturing details it seems to me that western Mesara pottery was produced by one or only a very small group of potters at any time, in contrast to Knossian pottery, which shows much more variation and may represent the output of several local production traditions. This impression is strengthened by the fact that wheelmade western Mesara pottery, at least from the MM IIA through the LM IB phases, always was thrown on a wheel turning counterclockwise, whereas at Knossos the direction of the wheel varies.

All these subtle differences in manufacture make it possible to distinguish western Mesara from Knossian vases, even if their shape and decoration look the same in drawings and their fabrics are closely related. Thus close autopsy of Protopalatial pottery from the Mesara and Knossos has led me to conclude that during the Protopalatial period there was not much movement of pottery between the two regions other than of the highest-quality "Kamares" vases and some transport vessels. It is primarily on the basis of the shared "Kamares" styles that the western Mesara region offers the potential, more than any other region in Crete, to establish a pottery chronology synchronized with that of Knossos.

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[8] The pottery of these stratified Protopalatial contexts from large civic building AA and elsewhere in the Southern Area at Kommos has been published by the author (Van de Moortel, 2005).

[9] These nonlocal vases and fragments are still under study. Some have been published in Van de Moortel (2005, 630–646).

[10] For Knossian MM II saucers, tumblers, and tripod cups, see Popham 1974, 185–186, fig. 6.1–8, 6.10, 7.1, 8.7; MacGillivray 1998, 82–83; Van de Moortel 1997, 446. For Protopalatial conical cup types of the western Mesara, see Fiandra 1973, 84–91, pls. 19, 21, 2, 27a, 29, 31, 34; Levi and Carinci 1988, 234–245, pls. 99–103a; Van de Moortel 1997, 308–311; Betancourt 1990, 29–35. MM IB and IIA conical cups from Kommos are discussed in Van de Moortel (2005, 330–331).

[11] Protopalatial western Mesara firing practices are discussed by Van de Moortel (2005, 330). The fabric colors of fine Knossian MM IA pottery are described by Momigliano 1991, 245, 260. The same fabrics continued into the Protopalatial period at Knossos (MacGillivray 1998, 55, 85).

[12] Van de Moortel 1997, 638–639; 2001B, 195.

[13] Van de Moortel 2001A, 104–105.

[14] For discussions of motor habits and its implications for the identification of a potter's output, see Morris 1993; Thomas 1997. See also Redman 1977.

Phaistos Levi and Carinci	Phaistos Fiandra	Kommos	Knossos MacGillivray
fase IA	period 1	MM IB	MM IB
fase IB Early	period 2	MM IIA	MM IIA
fase IB Late/II	period 3	MM IIB	MM IIB
FINAL PROTOPALATIAL DESTRUCTION			
fase III	period 4	MM III	MM III

Table 1 Approximate synchronization of ceramic phases at Phaistos (Levi and Carinci 1988; Fiandra 1961–1962), Kommos, and Knossos (MacGillivray 1998)

In the early days of excavations at the Phaistian palace, these shared characteristics allowed Luigi Pernier and Luisa Banti to apply Evans's pottery phases – without any problem – to the modest amounts of Protopalatial vases they found below the New Palace at Phaistos.[15] This situation changed when Doro Levi in the 1950s discovered the southwest wing of the Old Palace, and excavated deeply stratified layers with well-preserved architecture and masses of pottery. On the basis of his finds, Levi proposed a ceramic sequence that was quite different from that of Knossos. Levi's sequence consisted of four ceramic phases (*fase* IA, IB, II, and III), each corresponding, in his interpretation, to different architectural phases separated by layers of concrete ("calcestruzzo") (Table 1).[16]

Levi's *fase* IA roughly corresponded with Evans's MM IB phase, and his *fase* III with Evans's MM III, but Levi's *fase* IB and II were problematic. As several critics pointed out, *fase* IB pottery showed strong similarities with both MM IIA and IIB pottery from Knossos, and it had been found on top of, as well as below, floors of the First Palace.[17] The pottery of *fase* II, on the other hand, did not differ significantly from that of *fase* IB, which raised doubts over the validity of this pottery phase. Because of the close similarities between the Phaistian and Knossian "Kamares" pottery, it was evident that either Evans or Levi was right, but not both, and so a major controversy erupted in which Levi resolutely rejected Evans's Knossian chronology.[18] It did not help communications that Evans had not published the Knossian palace in a systematic fashion.

Among Levi's most severe critics was his own excavation architect, Enrica Fiandra. She rejected Levi's interpretation of the Phaistian stratigraphy and proposed instead the existence of four architectural periods in the palace based primarily on changes in building style and the composition of mortar and plaster.[19] According to Fiandra, Levi's *fase* IB and II do not represent different architectural phases but two stories of the period 3 palace. Associated with Fiandra's four architectural periods is a sequence of pottery styles that closely follows Evans's ceramic chronology at Knossos. The pottery of her architectural period 1 agrees stylistically with Evans's MM IB phase, that of her period 2 with Evans's MM IIA phase, and so on (Table 1). Fiandra's interpretation of Phaistian stratigraphy and pottery chronology has been widely accepted among British archaeologists working in Crete, whereas Levi's work has been largely ignored by them.[20]

Unbeknownst to many scholars, however, already in 1988 Levi and his co-worker Filippo Carinci had published changes to Levi's chronological scheme, bringing it more in line with those of Fiandra and Evans. First, they accepted that the pottery of the *fase* IB and II floor deposits is stylistically the same, even though they maintain that it belongs to two different architectural phases.[21] A second important step was their division of Levi's *fase* IB into two stages. The Early stage of *fase* IB is represented by the pottery found *below* the latest floors of the palace. It is stratigraphically earlier than and stylistically distinct from the vases found on top of the floors of the destruction horizon, which are now assigned to a Late stage of *fase* IB.[22] The new *fase* IB Early is roughly equivalent with Evans's MM IIA phase and its contexts correspond more closely, but certainly

[15] Pernier 1935; Pernier and Banti 1950.

[16] Levi 1976.

[17] Platon 1961; 1968; Zois 1965.

[18] Levi 1981.

[19] Fiandra 1961–1962; 1973; 1980; 1990; La Rosa 1995, 884–887.

[20] MacGillivray, for example, in his publication of pottery groups from the Old Palace at Knossos, rejects Levi's chronology simply by stating that Fiandra's chronology is the most convincing and most relevant for the Knossian material (MacGillivray 1998, 100).

[21] Levi and Carinci 1988, 299, 303, regarding Rooms XXVII–XXVIII, IL, L, LI, LIII, LIV, LV, LXI, LXIII, LXIV, LXV. For a recent affirmation of the existence of a final MM IIB architectural phase after the large late MM IIB destruction of the Phaistian palace and settlement, see Carinci and La Rosa 2001.

[22] Levi and Carinci 1988, 300–301. There seems to be little difference between the pottery dated to *fase* IB Early and that dated to transitional *fase* IA/IB Early.

Ceramic Phase	Number of Contexts	Number of Vases/Sherds	Percentage of Vases/Sherds
MM IA	4	35	1.6
MM IB *fase* IA	23	192	9.0
MM IIA *fase* IB Early	27	415	19.4
MM IIB Early	2	11	0.5
MM IIB Late *fase* IB Late/II	85	1,484	69.5
Total	141	2,137	100

Table 2 Chronological distribution of Phaistian pottery dated specifically to the MM IA, MM IB, MM IIA, and MM IIB phases as well as the number of contexts in which it was found (after Levi and Carinci 1988, 311–351)

not entirely, with Fiandra's period 2 (Table 1). Both Levi's *fase* IB Late and II are considered to be contemporary with Evans's MM IIB phase.

Levi and Carinci's 1988 monograph is the most detailed study of a chronology of regional Protopalatial pottery produced anywhere on Crete, and should serve as a model for future pottery publications. In more than 300 densely filled pages and over 1,000 shape drawings the authors published some 1,500 complete vases from the *fase* IB and II destruction deposits of the southwest wing of the Phaistian palace, and hundreds of vases and fragments from earlier and later Middle Minoan contexts, totalling some 3,000 pieces in all (Table 2). The stratigraphic basis of their pottery chronology was explained as well, and is here graphically represented in Table 3. For the first time in Minoan pottery studies, the *entire* range of vase shapes, from the humble conical cup to the most exquisite "Kamares" vase, was characterized in minute detail for each phase and subphase. Numerous parallels were drawn with pottery from other Cretan and Aegean sites. Thus this study is a true treasure trove for pottery specialists working elsewhere in Crete and the Aegean, and deserves to be better known.

More recently, Carinci has introduced further changes. He recognized that *fase* IB Late/II, rather than *fase* III, was the last Protopalatial ceramic phase at Phaistos, and that *fase* III was the first Neopalatial phase, more or less equivalent with Evans's MM III phase.[23] As a last step, Carinci has abandoned Levi's terminology in favor of Evans's terms MM IB, MM IIA, and MM IIB.[24]

Even though, with all these changes, there is now significantly more common ground between Levi and Carinci's chronology on the one hand and Fiandra's – and Evans's – on the other, the chronologies still differ substantially in respect to the stylistic characteristics of the ceramic phases, and in particular of the MM IIA and IIB phases. Not only do Levi, Carinci, and Fiandra date some contexts differently based on their different interpretations of Phaistian stratigraphy, they also disagree about the dating of many vases from mixed contexts. For instance, two bridge-spouted jars (F.426 and F.428) from a mixed context excavated below room 11 of the Phaistian palace are dated to MM IIA by Fiandra, but to MM IIB by Levi

	Palace Room IL	**Palace Room LXIII**	**Palace Room LXV**	**Palace Rooms XXVII–XXVIII**	**Palace Below Room 11**	**House Rooms IC, C, CIII**	**Acro. Med. Room CVII**	**A. Phot. Room Beta**	**Bastione II**	**Chalara Below Room Iota'**
MM IIB Late	floor depo.	floor depo.	floor depo.	floor depo.	mixed debris	floor depo.	floor depo.			
MM IIB Early	Bench fill									fill
MM IIA	fill	bench fill, two lower levels					fill	floor depo. with few earlier and later vases	mixed fill	
MM IB			floor depo.		Larnax fill	floor depo.		Bench fill		
Prepalatial				fill						

Table 3 Protopalatial stratified sequences in the palace and settlement at Phaistos. Thick black horizontal lines represent floors; "floor depo." is a floor deposit (after Levi and Carinci 1988, 299–302; for the dating of the fill below the floor of Room IL to MM IIA, see Van de Moortel 2005, 271, 691, n. 22)

[23] Carinci 1989, 73, 78.

[24] Speziale 1993, 540–544; Carinci 1997; 1999.

and Carinci. The dating of those two Phaistian jars is important for Knossian chronology, because they have a decoration similar to that of teacup no. 617 from the Royal Pottery Stores and of fragmentary cup no. 170 from the Northwest Treasury at Knossos, respectively, dated by MacGillivray to MM IIA (see below).[25]

It is difficult to make an informed choice between Levi and Carinci's and Fiandra's chronologies, because Fiandra does not provide detailed stratigraphic descriptions. Her pottery discussions are brief as well, and provide explicit dates for only approximately 150 Protopalatial vases and fragments, in contrast to the more than 2,000 Protopalatial vases dated and discussed in minute detail by Levi and Carinci. Nevertheless, it is possible to establish that Fiandra disagrees with Levi and Carinci on some major decorative and morphological characteristics of MM IIA and IIB pottery. For instance, in terms of painted decoration, Levi and Carinci's high-quality MM IIB pottery shows more intricate and dynamic patterns than their MM IIA pottery, which still has a certain simplicity and stiffness. Levi and Carinci's MM IIB pottery also displays, to borrow from Furumark's terminology, a much greater emphasis on horizontal circumcurrent designs, often with continuous motives, whereas their MM IIA pottery decoration shows a greater emphasis on vertically oriented patterns. Thus horizontal bands of running and retorted spirals, in Levi and Carinci's view, do not begin before the MM IIB phase. In Fiandra's chronology the differences between MM IIA and IIB decorative syntax are not as pronounced.

Discrepancies between Fiandra's and Carinci's pottery sequences do not pertain merely to details of style but also to the overall characteristics of the various Protopalatial phases. As Evans and MacGillivray maintain in respect to Knossos, Fiandra considers the MM IIA phase at Phaistos to be the acme of ceramic and architectural developments, having produced pottery of the highest quality and greatest variability, whereas the MM IIB phase would have been one of decline.[26] In contrast, Levi and Carinci believe that the high point of Protopalatial ceramic production in the Mesara was the MM IIB phase.[27] Levi and Carinci's assessment is supported by Betancourt and Walberg.[28]

Levi and Carinci in their 1988 study tentatively proposed a further refinement of Phaistian chronology on the basis of some characteristics of a pottery fill found inside a bench in Room IL of the Phaistian palace. This bench fill was stratified between a MM IB–IIA pottery fill below the floor and a MM IIB destruction stratum on top of the floor. Stylistically the latest vases from this bench fill are intermediate between the MM IIA phase and the late MM IIB destruction horizon. The bench fill of Room IL contained 125 mendable vases, most of which are MM IB and IIA in date, but six vases look more advanced. Two conical cups similar to Kommian Type C and D cups have bases with sloping interior surfaces that are typical for conical cups of the late MM IIB destruction horizon at Phaistos.[29] They differ from MM IIA conical cups, which have base interiors with a "hollowed-out" profile.[30] Two carinated cups from the bench fill in Room IL have low carinations which also are typical of MM IIB destruction contexts and are not found in MM IB or IIA contexts at Phaistos.[31] Two more vases from the bench fill look stylistically more advanced than MM IIA pottery but less advanced than vases from the late MM IIB destruction horizon. One is conical cup F.457, with a shallow convex bowl and a ledge rim, which is similar to Kommian Type A conical cups.[32] Type A cups never occur in MM IB or IIA contexts at Phaistos or Kommos – and in this respect Carinci and Fiandra agree – but they do appear in late MM IIB contexts at Phaistos and Kommos. Cup F.457 – from the bench fill in Room

[25] Fiandra 1961–1962, pl. KH'.1–3; 1973, pl. 28a–b; MacGillivray 1998, 28–29 (group C), 36–37 (group F), 98, fig. 3.1, 130, no. 170, 151, no. 617, pls. 7, 50, 103; Evans 1921, pl. IIa. A similar rosette is seen on a lentoid flask from the West Polychrome Deposits (group E), a mixed context closed in MM IIIA (MacGillivray 1998, 98, fig. 3.1, 149, no. 570, pls. 20, 94). *Contra* Levi and Carinci 1988, 128, 129, 193, 315, F.426 and F.428; Levi 1976, pls. 107c, 110d.

[26] Fiandra 1973, 90; 1980, 169.

[27] Levi and Carinci 1988, 299. The authors observed, however, some deterioration in the surface finish of many MM IIB vases.

[28] Betancourt 1985, 96–101; 1990, 32–34; Walberg 1987, 122–125. However, Walberg's highest-quality "Classical Kamares" phase is not coterminous with the MM IIB phase, since it begins already in MM IIA and continues into MM IIIA.

[29] Levi and Carinci 1988, pl. 100i, k. For MM IIB conical cup types from Kommos, see Van de Moortel 1997, 35, fig. 5; 2005, 331, 368.

[30] In this respect Fiandra (1973, 89) agrees with Levi and Carinci (1988, pl. 100b–c, g, l, m).

[31] Carinated cups F.53 and F.89: Levi and Carinci 1988, 197, pl. 90h; Levi 1976, pl. 130w.

[32] Levi and Carinci 1988, 244, pl. 102v; for Kommian Type A conical cups, see Van de Moortel 1997, 35; 2005, 331, 368, pl. 3.13, no. L/I.

Fig. 1 MM IIB Early bridge-spouted jar fragment with handle preserving its groove throughout, from a construction fill of Building AA at Kommos (photo T. Dabney)

IL – has a less developed rim than its late MM IIB counterparts, however, and looks less advanced.[33]

The other vase from the bench fill that is more advanced than MM IIA vases but less than late MM IIB vases is fine bridge-spouted jar F.189. It has grooved horizontal strap handles, a feature that is common in the MM IIB destruction horizon but that never occurs in MM IB or IIA contexts at Phaistos as defined by Levi and Carinci.[34] However, in contrast to late MM IIB bridge-spouted jar handles, which are flattened at their attachments, the handles of bridge-spouted jar F.189 are not flattened, but have carefully finished grooves that continue all the way down to the point at which the handles are attached to the body (cf. Fig. 1). Carinci tentatively proposed that such carefully executed bridge-spouted jar handles, preserving their grooves throughout, are typical for the beginning of the MM IIB phase.

A similar bridge-spouted jar has been found with a MM IIB carinated cup in a pottery fill below the floor of Room ι' at Chalara South, which is the area of the Phaistian settlement located on the south slope below the palace.[35] Since the latest vases from the bench fill of Room IL and from below Room ι' at Chalara are stylistically much closer to the pottery from the MM IIB destruction horizon than to that from the MM IIA phase, Carinci believed that they should be considered to belong to an early stage of MM IIB rather than a late stage of MM IIA.

Ceramic Phase	Contexts	Sherd Count	Mendable Vases
MM IIB Late	K–M, O	1,972	37
	other contexts		3
MM IA–MM IIB Early	A–Ji	27,361	
Total		29,333	40

Table 4 Protopalatial pottery groups from Building AA at Kommos with numbers of sherds and mendable vases

The number of vases that can be assigned to the beginning of the MM IIB phase is certainly very small and the morphological criteria for identifying them are quite subtle. Levi and Carinci were fully aware that the Phaistian evidence alone was insufficient to support the creation of a new subphase, and they limited themselves to merely pointing out the possibility.[36] The same minute stylistic differences, however, as well as several other stylistic changes, have now been observed in a large number of newly excavated stratified contexts at Kommos, the nearby harbor of Phaistos. Thus we can now make a strong case for the existence of a MM IIB Early subphase at Kommos and, by extension, in the western Mesara. At the same time, it will be argued here that the new evidence from Kommos clearly supports Levi and Carinci's pottery chronology over Fiandra's, and allows us to question some of the stylistic criteria presently used for identifying the MM IIA and IIB phases at Knossos.

Protopalatial pottery from Kommos is in all respects indistinguishable from that of Phaistos and must have been produced by the same workshop or a small group of workshops working closely together. The Phaistian and Kommian sequences, combined, represent by far the best known regional Protopalatial pottery sequence published anywhere in Crete.[37] In the most recent series of excavations at Kommos, carried out from 1991 through 1997, three superimposed large civic buildings were found in the Southern Area. The oldest of the three, Building AA, dates to the period of the First Palaces. Its stratigraphy is simple (Table 4). Very little of its superstructure survives since it was largely razed to make way for the

[33] Cf. the MM IIB Late Type A conical cups illustrated by Levi and Carinci 1988, pl. 102w, y–a'.

[34] Levi and Carinci 1988, 124, pl. 54l; Levi 1976, pl. XXXIVc.

[35] Bridge-spouted jar F.4350: Levi and Carinci 1988, 124, fig. 35; Levi 1976, pl. 112a; and carinated cup F.4361: Levi and Carinci 1988, 197; Levi 1976, pl. 132h.

[36] The author would like to thank Prof. Carinci for generously discussing the characteristics of MM IIB Early pottery with her during her study of the pottery from Kommos.

next civic building, Neopalatial Building T. The extant architectural remains are mostly massive foundation walls, on the east and south sides of the building, which held large fills consisting of gray *lepis* (marl), stones, and lots of pottery. Similar construction fills were also encountered elsewhere wherever soundings were made below the interior of the building. In all, more than 27,000 pottery fragments were excavated from these fills (groups A–Ji), and nearly all were single fragments. They are mixed in date, including MM IA, IB, and IIA pieces. The latest fragments belong to fine bridge-spouted jars and other vases datable to MM IIB Early as defined by Levi and Carinci (see below).

The foundation fills were found covered by earthen or pebble surfaces. Here and there on top of these surfaces small amounts of pottery were found, 40 vases in all, which were highly mendable and stylistically datable to MM IIB Late, as defined by Levi and Carinci. It is believed that this pottery was used during the lifetime of Building AA. One of these groups (group K) consisted of three vases lying on the earthen floor of the south stoa of Building AA. Two other groups (groups L and M) appear to have been redeposited, probably during the construction of Building T. Group L – the largest, with 23 mendable vases – was part of a MM IIB–III fill of potsherds and other debris found below a staircase of Building T. It was only partially excavated since it extended further south below the massive south walls of the later buildings T and P. Group M, consisting of eight vases, was found in the fill of a stone-lined pit or drain in the south stoa of Building AA. A final batch, of three vases belonging to group O, was found on the slab floor of room T5 in the northwest corner of the civic structure. In addition, three single mendable vases – found in more obscure stratigraphic positions (C/1, C3352; C9785) – are stylistically similar to the groups of purported use pottery of Building AA.

Thus the bulk of this MM IIB Late pottery believed to have been used in the lifetime of Building AA is clearly distinguishable in its stratigraphic position, degree of preservation, and stylistic characteristics from the pottery of the underlying construction fills, of which the latest pieces are datable to the MM IIB Early subphase. Furthermore, in a sounding to the north of Building AA and east of the Classical Round Building, a large homogeneous fill, excavated and recently restudied, appears to consist of restorable vases dating to the same MM IIB Early subphase.[38]

The simplicity of Building AA's stratigraphy and the paucity of high-quality pattern-painted vases datable to the MM IIB phase did not allow me to test the chronologies of Levi and Carinci and of Fiandra in every detail. I was, however, able to focus on some major stylistic differences between the two ceramic dating systems. For instance, according to Fiandra, the wheel-thrown low teacup already appears in the MM IB phase and continues into MM IIB, whereas in Levi and Carinci's view it is not found until late in the MM IIB phase.[39] Fine bridge-spouted jars with grooved horizontal strap handles are assigned by Fiandra to her MM IIA and IIB phases, but for Levi and Carinci they begin only in MM IIB (handles preserving their grooves throughout are dated to MM IIB Early, and flattened handles to MM IIB Late; see above).[40] In terms of decoration, the two systems differ about the chronology of the wavy-line pattern. Fiandra believes that it dates to both the MM IIA and IIB phases, but Levi and Carinci assert that it does not begin before MM IIB.[41]

The results of my study of the stratified pottery from Building AA at Kommos and the large homogeneous fill to its north unequivocally support Levi and Carinci's chronology over Fiandra's. The latest pottery of Building AA's construction fills and of the fill east of the Round Building consists of conical cups of Types C and D with sloping interior bottoms – which are dated to MM IIB by both Carinci and Fiandra – and fine bridge-spouted jars with grooved strap handles that preserve their grooves up to the handle attachment (Fig. 1). Perhaps more significant are the features missing from the construction fills. Even though the ca. 27,000 pottery fragments include a

[37] The Protopalatial pottery of the residential area on the hill at Kommos has been published by Betancourt (1990), and that of the civic Building AA and the southern Area by Van de Moortel (2005).

[38] Trench 20B, pails 35, 37, 39, 41, 42, 43, 44, 56, 58, 64, 66, 67, 68, 74, 76, 77, 78, 80, 82, 83, 84, 85, 86, 87, 88, 89, 90: Van de Moortel 2005, 264, 272, 689 n.s. This partially excavated fill includes thousands of fragments. The discovery of numerous cross-joins throughout this fill has led the author to conclude that it was deposited in a single episode rather than in successive phases, as was thought by Betancourt (1990, 55).

[39] Fiandra 1973, pls. 27.g–d, 30b.1–2; 1990, figs. 7, 20, 21, 22, 23. Levi and Carinci 1988, 189–193, 300.

[40] Fiandra 1961–62, pl. KH'.2–3; 1973, pl. 28a–b. Levi and Carinci 1988, 123–124, pls. 55c, 56o.

[41] Fiandra 1973, pls. 27g–d, 30b.1–2; 1980, pl. 40.1. Levi and Carinci 1988, 193.

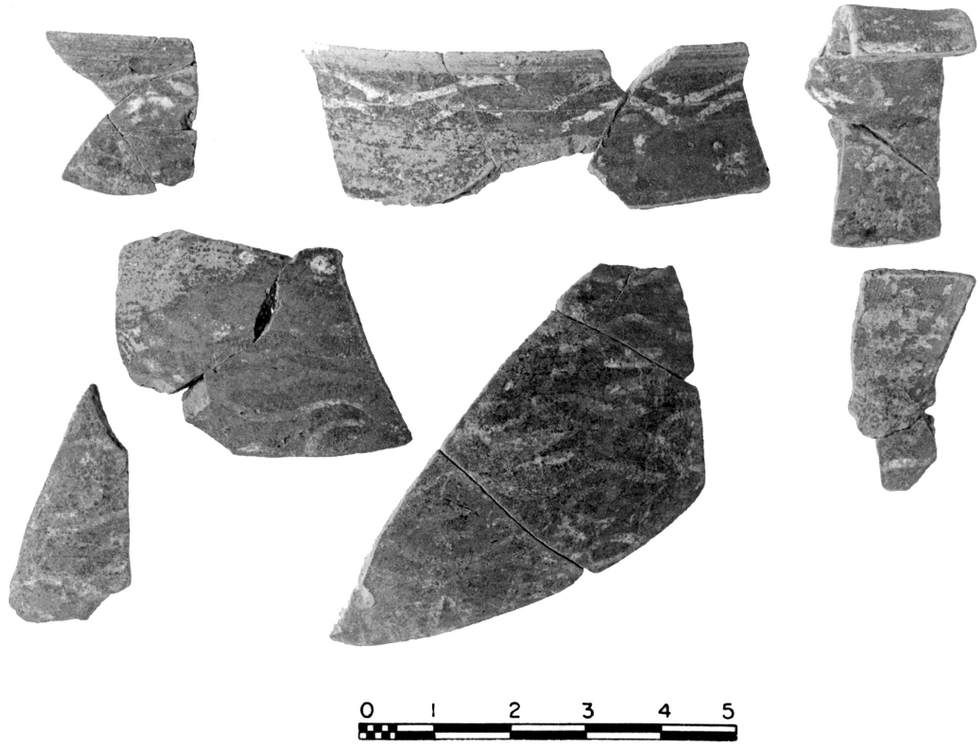

Fig. 2 MM IIB Late teacup C9785 decorated with a wavy-line pattern, from Building AA at Kommos (photo T. Dabney)

large variety of rounded cups, there is not a single example of a standardized low teacup; neither do they include fine bridge-spouted jars with grooved strap handles and flattened handle attachments or vases decorated with a wavy-line pattern. Also absent from the construction fills are fragments of high-quality "Kamares" vases decorated with intricate dynamic polychrome patterns or circumcurrent designs. Instead, the many high-quality pattern-painted fragments found in the fills are datable to the MM IB and IIA phases as defined by Levi and Carinci.

When we turn to the much smaller amounts of MM IIB Late pottery thought to have been used in the lifetime of Building AA, we immediately encounter a low teacup (C9785) decorated with a wavy-line pattern (Fig. 2). We also find other new shapes that in Levi and Carinci's view begin late in MM IIB: type A and type J, conical cups with fully developed rim, standardized straight-sided cups, and deep globular bowls.[42] We do not have mendable fine bridge-spouted jars with flattened strap handles, but this lack may be attributed to the relatively small number of mendable vases found in building AA and to their restricted range of shapes. Thus it is safe to conclude that the new data from Kommos clearly support Levi and Carinci's chronology and cast serious doubts on the validity of Fiandra's.

At Knossos, the stylistic characteristics of the MM IIA and IIB phases were not always clearly delineated by Evans.[43] Much more precise definitions are provided by MacGillivray in his recent restudy of Knossian Protopalatial pottery chronology. Like Fiandra, MacGillivray dates wheel-thrown low teacups (his types 3–6) to MM IB–IIB and fine bridge-spouted jars with horizontal grooved strap handles (his types 4 and 5) to MM IIA–IIB. Unlike Fiandra, however, he dates the wavy-line pattern at Knossos to the MM IIB and IIIA phases, which is in agreement with Levi and Carinci's dating of that pattern at Phaistos.[44]

One could make the case that the morphological differences between MacGillivray's and Levi and Car-

[42] Van de Moortel 2005, 368–372, pls. 3.3 (no. c/1), 3.13–3.17A.

[43] MacGillivray (1998, 16) points out that Evans's chronology was based on fewer than 100 vases and a few groups of pottery fragments; moreover, Evans changed his mind several times.

[44] MacGillivray 1998, 62–64, 75–76, 79–80.

inci's pottery sequences are due to regional diversity. It is possible that the low teacup appeared at Knossos already in the MM IB phase and was imitated at Phaistos only late in the MM IIB phase.[45] One also could accept the possibility that grooved strap handles on fine bridge-spouted jars may have begun at Knossos in the MM IIA phase and may have been copied at Phaistos in MM IIB. The case is different, however, for the intricate decoration of high-quality polychrome vases of the "Kamares" class, such as teacup no. 617 from the Royal Pottery Stores and cup no. 170 from the Northwest Treasury, discussed above. Both cups are dated by MacGillivray to the MM IIA phase, but they closely parallel the decoration of two bridge-spouted jars from Phaistos dated by Levi and Carinci to the MM IIB Late phase. The similarities in their design strongly indicate that the Knossian and Phaistian vases are contemporary. Similarly, a group of 21 highly decorated bridge-spouted jars with grooved strap handles from the Early Floor beneath the Room of the Olive Press are dated by MacGillivray to the MM IIA phase, but their horizontal circumcurrent designs are closely comparable to typical MM IIB Late painted patterns from Phaistos.[46] The Royal Pottery Stores and the Early Floor beneath the Room of the Olive Press at Knossos are considered by MacGillivray to be *the* type deposits of the MM IIA pottery phase at Knossos. The close comparanda from Phaistos just cited, however, make it seem plausible that a number of their high-quality "Kamares" vases deemed typical for the MM IIA phase at Knossos should in fact be dated to MM IIB.[47] Such downdating would obviously necessitate a revision of the characteristics of the Knossian MMIIA and IIB pottery phases.

Upon close scrutiny it appears that the stratigraphic information preserved for the Royal Pottery Stores, the Early Floor beneath the Room of the Olive Press, and the Protopalatial levels below the Northwest Treasury allows for such a downdating. All these contexts were dug according to artificial stratigraphy without absolute elevations related to fixed points, and the information given in Mackenzie's notes is quite scanty. The fact that the restorable pottery of all three contexts is definitely mixed in date – assigned to MM IB and IIA by MacGillivray – leads one to suspect that several earthen floors may have been excavated together, something already suggested by MacGillivray for group H of the Royal Pottery Stores.[48] Furthermore, nothing in the recorded stratigraphic sequences of the three areas forms an impediment to downdating the contexts' closing to the MM IIB phase.

To begin with the Northwest Treasury, a series of clay floors that may belong to a single Protopalatial structure was reportedly found below this building. A lot of Protopalatial pottery was recovered from various locations, including restorable and intact vases dated by MacGillivray to the MM IB and IIA phases.[49] Cup fragment no. 170, which has a polychrome radiating pattern identical to that of MM IIB Late bridge-spouted jar F.426 from Phaistos, belongs to MacGillivray's group C, which is Pendlebury's "Porcelain Deposit".[50] This group does not have a specific documented context, but is thought by MacGillivray to have come from this area. From among reportedly numerous fragments of polychrome cups and bridge-spouted jars, MacGillivray publishes only one other fragment (no. 169). It belongs to a grooved tumbler of MacGillivray's morphological type 4, which is MM IIA–B in date.[51] Two more vases found in a different context (group B) below the Northwest Treasury are closely comparable in shape and decoration to vases from Phaistos that are said by Levi and Carinci to come from the MM IIB Late destruction horizon. One is squat bridge-spouted jar no. 157 with high-set, almost vertical coil handles and a squat dark-coated body decorated with a horizontal band of white-painted retorted spirals.[52] The

[45] MacGillivray 1998, 69–70 also believes that standardized straight-sided cups of medium quality with simple or no painted decoration appear at Knossos already in MM IB, whereas at Phaistos they do not occur before the MM IIB Late subphase.

[46] MacGillivray 1987, 274, fig. 1a, b, d; 1998, 42–44 (group L), 98, fig. 3.1, pls. 28–29, 136–140; see below for more discussion.

[47] A similar conclusion was reached by Walberg (1987, 107) and Betancourt (1985, 94–95).

[48] MacGillivray 1998, 38. It is possible that some pottery in the boxes in the Stratigraphical Museum was contaminated during its tumultuous post-excavation history (MacGillivray 1998, 18, 36, 43), but this is not likely to have been the case for the vases discussed here, since they were specifically identified by Evans or Pendlebury as coming from the stated contexts.

[49] MacGillivray 1998, 27–30. One of these floors contained a two-handled jug which from Mackenzie's description seems to be a MM IB two-handled jug with diagonal barbotine and polychrome bands on a dark ground. MacGillivray dates it to MM IIA, however.

[50] MacGillivray 1998, 28–29, 98, fig. 3.1, 130, pls. 7, 50; see pp. 204–205 and n. 25 above.

[51] MacGillivray 1998, 68.

[52] MacGillivray 1998, pls. 48–49.

second is a well-known intricately decorated polychrome bridge-spouted jar (no. 165) which, according to MacGillivray, may well have a Phaistian medium-coarse fabric, and compares very well in shape to several large bridge-spouted jars from Phaistos. However, whereas MacGillivray dates the jar from below the Northwest Treasury to MM IIA and claims that Fiandra does likewise for the Phaistian comparanda, the Phaistian jars are in fact dated to MM IIB by Fiandra as well as by Levi and Carinci.[53] Also, the highly complex decoration of radiating and revolving curvilinear patterns and stylized plant motives of jar no. 165 closely fits the characteristics of Phaistian MM IIB pottery as defined by Levi and Carinci. The remaining Protopalatial pottery from below the Northwest Treasury comes from the Northwest Pit (group D), which is interpreted by MacGillivray as a mixed dump with MM IB, IIA, and IIB pottery.[54] Thus it appears that not only cup no. 170 but also a number of other vases from these Protopalatial contexts found below the Northwest Treasury are datable to the MM IIB phase. Hence it seems likely that the closing of all these Protopalatial contexts should be dated to some time in the MM IIB phase.

The second Knossian context dated by MacGillivray to the MM IIA phase, but having close comparanda among MM IIB Late vases from Phaistos, is the Royal Pottery Stores.[55] These consist of a complex of small rooms and corridors, located on a slope running from west to east, which were disturbed by the construction of a lime kiln. Teacup no. 617, closely comparable in its painted decoration to MM IIB bridge-spouted jar F.428 from Phaistos, as well as all the other highly decorated "Kamares" vases from the Royal Pottery Stores published by Evans are thought by MacGillivray to belong to group F and to come perhaps from the small enclosed room in the southwest corner of the complex.[56] Group F was reportedly not covered by later Minoan material but was found immediately below a 0.50 m thick surface level. Its stratigraphic relationship to the rest of the complex has not been made clear, but there appears to be no reason for dating its closing to the MM IIA phase rather than to MM IIB, all the more since one of its fragments, cup no. 642, is decorated with a scale pattern, a design that at Knossos has only MM IIB–IIIA comparanda.[57]

The other pottery groups from the Royal Pottery Stores (groups G, H, and I) are believed to have been found in a complex of two corridors and a series of small rooms that are located to the north of the small room of group F and do not communicate with it. The stratigraphy of group G is not documented, but group H is described by Mackenzie as having been covered by two strata, one pale and one dark and burned. Both strata, according to Evans, contained

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[53] Evans 1921, 247, fig. 186a, pl. III; MacGillivray 1998, 28. Betancourt (1985, 101, fig. 72), dates the bridge-spouted jar from the Northwest Treasury to MM IIB. It is similar in shape to two bridge-spouted jars C 5833 and C 5834 from Room XXVII (Pernier 1935: pl. XVIa–b) and the famous large bridge-spouted jar F.1400 from a MM IIB Late destruction level in Room LV of the Phaistian palace (Levi 1976, 103–104, pl. 103c; Levi and Carinci 1988, 114, 323). Bridge-spouted jar C 5833 as well as various vases found in Room LV in association with bridge-spouted jar F.1400 are dated to MM IIB by Fiandra (1990, 123, figs. 30–32, 35, 39). Pelagatti (1961–1962, 101–103, pl. G'.2–4, E'.1–2) provides an identical dating and includes bridge-spouted jar C 5834.

[54] For a description and plan, see MacGillivray 1998, 28–29.

[55] MacGillivray 1998, 35–39. For its slope, see Hood and Taylor 1981, section 3. Evans had also considered the Royal Pottery Stores to be the MM IIA type deposit of Knossos (Evans 1921, 231–247). Their MM IIA dating is accepted by Cadogan and his co-workers, who see the pottery from the Royal Pottery Stores as stylistically related to the unpublished upper floor deposit of Hood's basement south of the Royal Road, which was stratified above a middle floor of MM IB date (Cadogan *et al.* 1993, 25–26). Both the Royal Pottery Stores and the Royal Road deposits are considered to be stylistically earlier than the pottery from Popham's trial KV in the modern village of Knossos, whose date is unanimously accepted to be MM IIB (Popham 1974). However, the fact that Hood assigned this Royal Road deposit first to MM IIA and later to MM IIB and the fact that Warren dates the Royal Pottery Stores to MM II illustrate the uncertainties surrounding the differentiation of the two MM II stages at Knossos (*AR* 1959, 19; Hood 1961–62, 96; Warren and Hankey 1989, 52).

[56] See pp. 204–205 and n. 25 above. The rosettes of teacup no. 617 are also found on tray F.1033 from a MM IIB Late destruction level in Room LV (Levi 1976, pl. 60d; Levi and Carinci 1988, 320) and, executed in a reverse scheme, on amphoriskos F.777 from a MM IIB Late destruction level in Room LIV at Phaistos (Levi 1976, pl. 76k; Levi and Carinci 1988, 318). Betancourt dates the motive to MM IIB (Betancourt 1985, fig. 70). The white dashed line on the rim of teacup no. 617 from the Royal Pottery Stores is paralleled on the interior of bowl F.5099 from the Grande Frana at Phaistos, dated by Levi and Carinci to MM IIB Late (Levi 1976, pl. XLIIIb; Levi and Carinci 1988, 341).

[57] MacGillivray 1998, 153, pl. 106. For his dating of the scale pattern, see MacGillivray 1998, 62–64. He considers the decoration of cup no. 642 to be an early version of this pattern.

pottery similar to that of the Loomweight Basement, which is now dated to MM IIB–IIIA. This MM IIB–IIIA pottery is best explained as belonging to a fill laid down during cleanup operations early in the MM IIIA phase.[58] Like the restorable pottery from below the Northwest Treasury, that of the Royal Pottery Stores is believed by MacGillivray to be mixed MM IB and IIA in date. Group I (Room of the Jars) would have been closed already in the MM IB phase according to MacGillivray, whereas Evans saw it as contemporary with the MMIIB–IIIA fill overlying group H. Not clear is the stratigraphic relationship between group I, thought to have been found in a corridor, and group H, believed to have come from one of the small rooms that communicated with this corridor. It seems to the present author that the stratigraphic information from the Royal Pottery Stores is generally quite confusing and does not preclude a closing date of MM IIB for these contexts.

Certainly not all of the vases recovered from the Royal Pottery Stores need to be downdated to MM IIB in Phaistian terms, but MacGillivray's nos. 615, 617, 620, 636, 638, 639, 642, 651, 652, 657, 658, 686, and 746, and perhaps no. 650, would stylistically be at home in MM IIB at Phaistos. To these can be added a low teacup published by Evans as coming from this area, decorated with a band of retorted spirals and cross-hatched loops.[59] Cross-hatched loops do not appear at Phaistos before MM IIB, according to the chronologies both of Levi and Carinci and of Fiandra.[60] Cups 618, 619, 621, 633, 634, 635, and 645, on the other hand, are more closely paralleled in MM IIA at Phaistos.[61] The proposed mixture of mendable or intact MM IB, IIA, and IIB vases in the Royal Pottery Stores may be explained by suggesting that this context was a dump that remained open into the MM IIB phase or that these vases belonged to multiple earthen floors excavated together.[62]

The third and final Protopalatial pottery group from Knossos that is dated to the MM IIA phase by MacGillivray but that is stylistically closer to MM IIB in Phaistian terms, comes from a small sounding carried out by Mackenzie beneath the Room of the Olive Press (a.k.a. the Area of the Stone Drain-Heads). This lower area, also called the Early Floor beneath of the Room of the Olive Press, had a floor covered by a 2 m thick deposit of nearly complete vases.[63] MacGillivray believes that this pottery, too, is mixed MM IB and IIA in date, but a comparison with Levi and Carinci's Phaistian sequence suggests that the deposit also contained MM IIB pottery.[64] The deposit includes a series of 31 polychrome bridge-spouted jars with grooved strap handles, of which 21 are decorated with polychrome circumcurrent designs of spiky foliate bands, linked dots, dots, and chevrons, or with rapport patterns of interlinked circles or spirals. MacGillivray considers these bridge-spouted jars to be typically MM IIA in style, but in Phaistian terms their design structures and motives are closely related to MM IIB vases and quite different from MM IIA pottery.[65] Evans himself believed that the deposit from beneath the Olive Press was mixed MM IIA and IIB in date, and he dates one of the bridge-spouted jars with horizontal circumcurrent design to the MM IIB phase.[66]

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[58] Cf. MacGillivray 1998, 41. Mersereau (1991, 87–88) reports finding pottery joins between the fill overlying the Royal Pottery Stores (presumably over group H) and fills covering the Loomweight Basement as well as the Early Floor beneath the Room of the Olive Press (a.k.a. the early floor below the Area of the Stone Drain-Heads) and the Basement of the Monolithic Pillars. MacGillivray (1998, 36, 43) does not mention Mersereau's study but points out that the contents of some of these boxes had been switched. He apparently does not accept the identification of box #1198 recorded by Mersereau as "coming from the Loomweight area beneath dais to floor" (Mersereau 1991, 86, note 28).

[59] Evans 1928, pl. IXc1–2.

[60] Fiandra 1990, fig. 31. See also Pelagatti 1961–1962, pl. E'.

[61] Van de Moortel 1997, 455–459.

[62] MacGillivray (1998, 38) himself suggests that group H may include pottery from two floors of different dates. Alternatively, the remote location of this complex in the northeast corner of the palace makes it conceivable that it could have been left in ruins and used as a dumping ground in the MM IIB phase.

[63] For a plausible interpretation of the confusing excavation notes, see MacGillivray 1998, 42–44. For methodological problems surrounding this excavation, see Panagiotaki 1993.

[64] It includes a crinkled-rim bowl (no. 926) that is closely related to a barbotine MM IB bowl from Phaistos: MacGillivray 1998, pl. 135; cf. Levi 1976, pl. XIIa; Levi and Carinci 1988, pl. 75a.

[65] MacGillivray 1987, 274, fig. 1a, b, d; 1998, pls. 28–29, 136–140. For a quick overview of the highest-quality MM IIA and IIB Late pottery from Phaistos, see Levi 1976, pls. XX–LXXIV, 41–179; for dates of individual vases, see Levi and Carinci 1988, 311–351. More detailed descriptions are given by Levi and Carinci (1988) and Van de Moortel (1997, 306–348).

[66] Evans 1921, 239–240, 270, figs. 199e, 200.

Again, stratigraphically there is no impediment to a MM IIB date of the closing of the Early Floor beneath the Room of the Olive Press. Its 2 m thick layer of restorable pottery was covered by debris dating to the MM IIB and IIIA phases, which may have included some MM IIIB or early LM IA pottery as well, and by another floor.[67] This pottery fill, according to Mersereau, has joins with the fill covering group H of the Royal Pottery Stores, and is likely to have been laid down at the same time.[68] It seems improbable that this room with restorable pottery located well within the interior of the east wing of the palace building would have been left exposed from the end of the MM IIA phase through the MM IIB phase to then be covered by a MM IIB–IIIA fill during the cleanup after the final destruction of the Old Palace.[69] It is more likely that the room of the Early Olive Press was in use through the MM IIB phase, and that its latest restorable pottery is of that date.

In conclusion, it appears from this overview that the stratigraphic sequence as recorded by Mackenzie and reconstructed by MacGillivray is nowhere tight enough to prevent the downdating of the latest pottery from the Northwest Treasury, the Royal Pottery Stores, and the Early Olive Press from the MM IIA phase to the MM IIB phase. In the absence of sufficient stratigraphic support, MacGillivray's MM IIA dating of the latest pottery of those three areas is based merely on its stylistic differences with pottery dated by him to MM IIB, such as the vases thought to have come from the cement floor and overlying fill of the Loomweight Basement and pottery from the West and South Polychrome deposits.[70] It is proposed here that those stylistic differences may instead represent contemporary variations and that all these contexts were closed at the same time by the final destruction of the Old Palace and subsequent cleaning operations.[71] The MM IIB date of the latest high-quality "Kamares" vases from all these contexts is strongly indicated by close stylistic correspondences with the pottery from the large MM IIB Late destruction horizon at Phaistos, as defined by Levi and Carinci. Levi and Carinci's interpretation of Phaistian Protopalatial pottery chronology is in turn supported over Fiandra's by the newly excavated data from large and well-stratified deposits from civic Building AA at Kommos. [72]

[67] MacGillivray 1998, 43–44. The later fragments are described by Mackenzie as decorated with "large spirals in opaque cream-white on purple black lusterless varnish."

[68] Mersereau 1991, 87–88; see above, note 57.

[69] For the location of the Room of the Olive Press, see Hood and Taylor 1981, no. 78.

[70] MacGillivray 1998, 39–42, 98, fig. 3.1, pls. 25–26, 126–132 (group K); 33–34, pls. 9–21, 61–99 (group E); 46–49, pls. 30, 144–150 (group N).

[71] Cf. MacGillivray (1998, 41–42) who considers the West and South Polychrome deposits to have been laid down during the same cleaning and leveling operations after the destruction of the Old Palace.

[72] Such as the excavations south of the Royal Road (MacGillivray 1998, 51; *AR* 1959–1960, 22–23) and southwest of the palace (MacGillivray 1998, 32; *AR* 1993, 68; see Weingarten 1994, 177–178 for a different dating). Thus it is best to treat the present Protopalatial Knossian pottery sequence with great caution until better stratified data from Knossos are published in the future.

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The Beginnings of the Aegean Middle Bronze Age: A View from East Crete

Carl Knappett

The construction of a chronological sequence in a given region, and of correlations and synchronisms between the sequences of different regions, are means to an end rather than goals in and of themselves. The objective is to set up spatio-temporal frameworks within which continuity and change in past human societies can be understood.[1] The beginning of the Middle Bronze Age (MBA) is of particular significance because of the apparent discrepancies in the nature of developments from region to region. This is the time when palatial societies are emergent on Crete, with a whole host of innovations from writing to monumental architecture. Elsewhere, however, on the mainland and in the Cyclades, few such innovations are witnessed. The handfuls of ceramic imports that allow us to establish some general synchronisms between these areas tell us that the different regions are in contact; and yet they are following quite different trajectories. It would seem that, despite contact, Crete is having little direct impact on its northern neighbors, and vice versa. This situation does of course change in the centuries that follow: it is not too long before Cretan contact does begin to have some very obvious effects on communities right across the southern Aegean. Charting the growth of this process is crucial to our fuller understanding of it, and we need to push our investigations of "Minoanization" right back to the beginning of the MBA.

However, judging by the lengthy debate surrounding the Early Bronze Age (EBA) to MBA transition in the Aegean, establishing synchronisms for the beginning of the MBA has been, and promises to continue being, particularly difficult. Problems arise in the EBA/MBA transition at a number of sites across the Aegean, particularly on the mainland and in the Cyclades (at, e.g., Lerna, Ayia Irini, Phylakopi, and Akrotiri). Further east in the Aegean, matters are not improved by the discrepancies between the Anatolian and Aegean sequences – at a time when Aegeanists are talking in terms of the MBA, Anatolia is still in the EBA (Blum 2003). Although the Cretan sequence is not immune to such problems – with some difficulties at Knossos, for example, as reflected in the earlier use of the term EM III/MM IA[2] – the situation does seem less problematic than elsewhere in the Aegean. What I would like to show in this paper is the following:

1) The Cretan sequence is reasonably robust for the beginning of the MBA, established primarily at Knossos.
2) The sequence does not rely solely on Knossos; when we turn to the east of the island, and to Palaikastro in particular, there are grounds for defining the transition with some precision.
3) The definition of these phases can be useful for wider Aegean synchronisms (which need to take Cretan regionalism into account), not least because Minoan imports are quite readily recognizable, and some key types occurring as imports (e.g., Alternating Floral Style) may actually be diagnostic for particular periods.

MM IA and IB at Knossos

For these phases the contributions of Momigliano and MacGillivray in the forthcoming Knossos Pottery Handbook are fundamental.[3] The methodology employed seeks first to establish pottery groups based on suitable deposits, which are then placed into a series through both stratigraphic and stylistic analysis.[4] Comparisons are sought with deposits from other regions on and off Crete, before the groups are finally fitted to Evans's ceramic phases, wherever possible. For example, the Upper East Well group, the House C/Royal Road South Fill group, and the Early Chamber Beneath the West Court group having been established as falling into a clear sequence, these groups are subsequently shown to correspond respectively to the EM III, MM IA and MM IB of

[1] Warren 1999, 893.
[2] Momigliano 1991, 268.
[3] Momigliano forthcoming.
[4] See Andreou 1978; Cadogan *et al.* 1993.

Evans. This hierarchical process of establishing local groups before proceeding to island-wide terminologies is shown in the Knossos Pottery Handbook to be an invaluable methodological procedure, albeit one that has been far too often overlooked both at Knossos and other sites.

The status of these phases has not always been quite so clear. Earlier work by MacGillivray cast doubt on the status of MM IB at Knossos, his conclusions being subsequently taken up by Momigliano.[5] A meeting of these and other scholars at Knossos in 1992 led to an important publication in the *Annual of the British School at Athens* in which some consensus was reached on the Knossos MM sequence, falling in line, as it happened, with Evans.[6] This contribution helped considerably in clearing up misunderstandings regarding the status of MM IB, a situation consolidated by subsequent work.[7] The continuing consensus is reflected in the Knossos Pottery Handbook, aided by the forthcoming publication of some major pottery deposits from the southwest area of the palace excavated by Colin Macdonald in the late 1980s and early 1990s.[8] These deposits, from D.VII 14 and 16 and S.VII 5, provide a fuller picture of MM IB in ceramic terms than do the palace deposits excavated by Evans, as they include a range of cooking pots and coarse wares. Study of the material has also allowed some reassessment of MM IB deposits from both palace and town, such as the West Magazines I and II, the Olive Press Room, the Vat Room Deposit, the Room of the Jars, Hogarth's Early Heap, the Royal Road South Middle Basement and the Early Paving on the South Front.[9]

Working backward in time, for MM IA there is not quite such a rich range of deposits as for MM IB. Momigliano initially expressed uncertainty and spoke of EM III/MM IA.[10] This position was revised at a subsequent pottery workshop, during which pottery groups representing EM III, early MM IA and late MM IA at Knossos were established.[11] Then MacGillivray, another attendee of the workshop, and hence part of the consensus at that time, chose to refine his position somewhat, again describing deposits as early MM IA and late MM IA, but seemingly in a way different from that used in Cadogan *et al.* 1993.[12] In the forthcoming pottery handbook, Momigliano favors a division between EM III and MM IA, with no early or late MM IA; the deposits cited in Cadogan *et al.* 1993 as definitive of early and late MM IA – the Royal Road South Fill and Lower Basement, respectively – are both placed in MM IA. One of the key features previously thought to be late MM IA – Polychrome Geometric Style, as seen in the Monolithic Pillar Basement[13] – becomes assignable to an undivided MM IA.

Of course, the drawback of Cadogan *et al.* 1993, and indeed of much work since, is that the crucial deposits from Knossos – those from the Royal Road South – remain unpublished. In terms of actual publication of pottery groups, for MM IA we have the invaluable work of Momigliano (1991) but little else. This lack is partly compensated by the substantial deposits of MM IA from the nearby site of Archanes, and from the cemetery of Phourni in particular.[14] Other groups from north-central Crete assignable clearly to MM IA are lacking, although for MM IB there are now secure deposits from both Kastelli[15] and Galatas;[16] interactions between both of these sites and Knossos are discussed in a recent paper by Rethemiotakis and Christakis.[17]

Elsewhere on the island, identifying deposits of EM III, MM IA and MM IB is far from straightforward. Useful comparanda are drawn together in the Knossos Pottery Handbook,[18] which I do not wish to duplicate. However, in summary it is worth emphasizing here that in the Mesara, EM III continues to be difficult to recognize, with little having been identified at either Phaistos or Kommos.[19] MM IA in the Mesara has classically been represented by the material from Patrikies, which may not in fact be typical. However, recent work at Phaistos and Ayia Triada has identified MM IA deposits.[20] Quite what Mesara pottery styles are like during EM III and MM IA remains open to question pending fur-

[5] MacGillivray 1986; Momigliano 1991.
[6] Cadogan *et al.* 1993.
[7] MacGillivray 1998; see also Knappett 1999 for discussion of changing views.
[8] Macdonald and Knappett in press.
[9] Momigliano and Wilson 1996.
[10] Momigliano 1991.
[11] Cadogan *et al.* 1993.
[12] MacGillivray 1998.
[13] MacGillivray 1998, 93–4.
[14] Sakellarakis and Sakellarakis 1997, 396; note also Lachanas 1993.
[15] Rethemiotakis 1997a, 1997b.
[16] Rethemiotakis 2001.
[17] Rethemiotakis and Christakis 2004.
[18] Momigliano forthcoming.
[19] Watrous 2001, 179.
[20] See references in Momigliano forthcoming.

Fig. 1 Plan of Palaikastro

ther publication. In the east of the island, despite the plethora of sites with evidence of occupation during these periods, the ceramic phasing is not much clearer. The problem of the status of EM III in the east in relation to the center is well dealt with by Momigliano (Momigliano forthcoming). Further to this, there are ongoing issues concerning the status of both MM IA and MM IB, as initially identified in detail by Andreou.[21] Andreou's Mochlos House D/Vasiliki House B group seems to span both phases, as does his South Houses group at Malia and Myrtos Pyrgos period II. At Malia further confusion

[21] Andreou 1978.

has arisen with Stürmer's attempt to date some material from the Chrysolakkos cemetery to MM II, material which is clearly earlier and in all likelihood MM IB.[22] Moving further east, recent excavations at Petras have revealed a substantial dump of pottery (the so-called "Lakkos" context) which can be assigned to MM IB.[23]

EM III, MM IA and MM IB at Palaikastro (PK Periods V and VI)

This brings us further east still, to the far east of the island and the site of Palaikastro (Fig. 1). Currently these periods are described in local terms as Palaikastro periods V and VI – the former encompassing EM III and MM IA, and the latter correlating with MM IB. In the course of this paper I shall propose dividing Palaikastro period V into Va and Vb, as there are good grounds for distinguishing two separate phases correlating with EM III and MM IA, respectively (Fig. 2). The earliest excavators of the site, from 1902 through 1906, did not use a local phasing but Evans's scheme based on central Crete; nonetheless, they felt able to differentiate EM III material at Palaikastro from both EM II on the one hand and MM IA on the other. Since then, EM III has been found in both subsequent excavation campaigns, that of 1962–1963 and that of 1986–2003. Stratified EM III comes from a building on top of Kastri,[24] from the Ellenika Ossuary[25] on the west slope of Kastri, from Block Delta room 32 and Block Chi rooms 39 and 59,[26] from a trial in ER 91 (building 5), revealing a burnt deposit

PK Va	EM III
PK Vb	MM IA
PK VI	MM IB

Fig. 2 Chronological chart – local Palaikastro phases

Fig. 3 Pl. IX from *PKU*

of the EM III/MM I period,[27] and from building 7 rooms 2 and 12.[28]

MM IA has also been identified in each phase of work over the past 100 years. Dawkins stated that much MM I had been found in the 1902–1906 campaign,[29] a point reiterated by Sackett and Popham: "Middle Minoan pottery was found in ossuaries and over much of the town site, being especially plentiful in the earlier phases MM IA and B due to a destruction at the end of this period".[30] In *PKU* Dawkins illustrates polychrome vases from both the ossuaries and the town: pl. IXa is a bridge-spouted jug from Block Chi room 18, where a rich deposit was found with many complete vases (Fig. 3).[31] However, its dating is somewhat ambiguous, given that Dawkins mentions that "this stratum brings us to the time of some great changes at Palaikastro, when the ossuaries went out of use, and the town was largely rebuilt"; that this refers to the transition between MM IIB and IIIA is confirmed by his subsequent reference in the same paragraph to "a general catastrophe at the end of Middle Minoan II".[32]

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[22] Stürmer 1993; Poursat 1993.

[23] Haggis 2001; Haggis forthcoming; Tsipopoulou 1999; Tsipopoulou and Wedde 2000.

[24] Kastri: *PK VI*, 250, 269–72, 277–78, pl. 72b–c (building destroyed by earthquake in EM III). No red paint occurs, suggesting a pre–MM IA date (Betancourt 1984, 16).

[25] Ellenika Ossuary: *PK IV*, Dawkins 1904–5: with 41 vases, two shown in figure 5 on p. 271 (this figure is reproduced in *PKU*, fig. 5 p. 8).

[26] Delta 32: *PK III*; Chi 39 and 59: *PK IV*, p. 273, and see also *PKU* fig. 5 and pl. 2d.

[27] Building 5, ER 91: MacGillivray *et al.* 1989, 419, and fig. 2, showing an east Cretan white-on-dark bowl or cup.

[28] Building 7 room 12: MacGillivray *et al.* 1992, fig. 9 (sounding below floor producing EM III). Belonging to the middle phase of east Cretan white-on-dark (see Betancourt 1984). Building 7 room 2: excavated in 2003, unpublished.

[29] *PKU*, 9–10.

[30] *PK VI*, 249.

[31] See *PK IV*, 274.

[32] *PK IV*, 274.

[33] *PK II*, 304.

[34] Dawkins *PK II*, 304.

Fig. 4 Pl. X from *PKU*

Another potential MM I context, described as a "floor deposit", is from B40.[33] There is from these early publications little description of the context and its pottery: Dawkins illustrates a tumbler from B40 in *PKU* pl. X m (Fig. 4), which seems MM I. Dawkins[34] also notes contexts in Gamma 22 and outside the door of Delta 47, describing them as "filling" and "a good deal confused"; and the deposit from G3 presents the character of a regular undisturbed stratum of pottery that must have been formed continuously and have never been moved (see comments below in relation to trench H3). Basically Dawkins cannot clearly separate MM IA from IB – it seems he has a stratified deposit of what could be MM IB in G3, but is he lacking the equivalent for MM IA?

Although the actual quantities of MM IA and IB ceramic finds from the 1902–1906 seasons may be impressive, there appear to be very few truly sound contexts. This circumstance surely contributes to the difficulties in securely separating MM IA from IB, and is a situation in which it might have been helpful initially to look at individual deposits and establish their interrelationships rather than plunge straight into central Cretan terminology. It is, for example, not always clear whether the vases shown are considered representative of MM IA or IB – that of pl. IXa (Fig. 3), for example, could very well be MM IB.[35] MM I sherd material from the town is shown in *PKU* pl. X as "MM I", but few if any of these are likely to be as early as MM IA, at least on stylistic grounds.

Indeed, separating MM IA from the subsequent MM IB phase, and MM IB from MM II for that matter, continues to be difficult. Problems encountered relate to both the lack of stratified deposits (particularly for MM IB), and to the overarching use of EM/MM phases defined in central Crete and at Knossos in particular (which the use of PK periods V and VI is designed to mitigate). The association of particular wares or styles with certain periods, such as white-on-dark with EM III, can also cause problems – when this ware is seen to continue in east Crete into the MM IA phase as defined at Knossos, it is attributed to "cultural lag" or "backwardness", the east somehow failing to keep up with the center.[36]

This paper presents some evidence that goes some small way toward alleviating some of these chronological problems. First, two largely unpublished deposits from the 1962–1963 excavations by Popham and Sackett will be briefly described and discussed. These deposits come from Block Chi room 1 and trench H3 (see Fig. 1): the former is a floor deposit of whole vases, the latter is from an accumulated fill. Following the methodology adopted in the Knossos Pottery Handbook, these deposits are presented and placed in relation to one another in local terms, before questions of how they may fit into the island-wide chronological scheme are considered. Proceeding in this manner, it is argued that the deposits allow for a definition, admittedly imperfect, of Palaikastro periods Va, Vb and VI, associated with EM III, MM IA and MM IB, respectively, in central Cretan terms (Fig. 2). Secondly, this evidence will be considered in the light of supplementary evidence from the most recent season of excavation at the site, conducted in 2003. In the area of building 7, notably in rooms 1 and 2, 5 and 10, important Prepalatial and Protopalatial strata were uncovered. Although the study of this material is ongoing, preliminary indications are that the sequence in room 2 presents MM IA stratified over EM III (perhaps the only instance so far at the site).

Block Chi Room 1

The floor deposit from Block Chi room 1, excavated in 1962 and 1963 by Sackett and Popham, is mentioned initially in the preliminary report, *PK VI*, p. 251. The deposit is described as having been found

[35] See Floyd 1997.

[36] Evans 1921, 108; *PKU*, 9. See also Warren and Hankey (1989, 20), who state that MM IA in east Crete is contemporary with later MM IA in the Knossos region, an argument that does not at present seem to be sustained by the available evidence.

Fig. 5 White-on-dark rounded bowl, Block Chi Room 1

Fig. 6 Polychrome tall tumbler, Block Chi Room 1

Fig. 7 'Eggcup', Block Chi Room 1

Fig. 8 Polychrome rounded cup, Block Chi Room 1

immediately beneath a paved Late Minoan (LM) floor; mention is made of an ivory cylinder seal, and two pots are shown (pl. 72d–e). That of pl. 72d is a rounded bowl in white-on-dark ware (not a Mirabello import), of the type associated with MM IA rather than EM III (Fig. 5).[37] Plate 72e shows a tall tumbler with typical MM IA polychrome decoration (Fig. 6). The other vases in this deposit, of which approximately 40 are catalogued, are not published: these will be presented soon in a publication dedicated to the unpublished MM material from the 1962 and 1963 seasons.[38] The vases from the X1 deposit, mostly tumblers, cups and bridge-spouted jars, constitute an excellent group for defining period Vb at Palaikastro; moreover, as is discussed below, there are both stylistic and technological grounds for believing the deposit to fall in MM IA in central Cretan terms, and even quite late within that phase.

The deposit contains 12 catalogued tumblers, both tall and squat; one tall polychrome example mentioned above (P163, already illustrated in *PK VI*) has red and white bands and rows of discs and dots, with the discs alternating between red and white in sets of three and four. This alternating pattern may presage the fuller development of an alternating motive seen in PK period VI (MM IB) in the form of "Alternating Floral Style" (see below). Another tall tumbler (P147) has simple white-on-dark bands. Both seem handmade and yet have parallel striations under the base, which is left unslipped. Among the

[37] Betancourt 1984, 18–20 ("Late Phase").

[38] *PK VIII*, forthcoming.

Fig. 9 Fragment of a Chamaizi pot (bottom centre); capsules d'algues (bottom right); sherd with metallicising ribbing (centre top); all from Trench H3

Fig. 10 Alternating Floral Style, from Trench H3

squat tumblers, three stand out for their dark-on-light spatter decoration, a type of decoration seen at Petras in MM I[39] and further west at Malia and Myrtos Pyrgos. One other type of handleless cup that is popular at this time in central Crete, the footed goblet or "eggcup", is very much less common in the east of the island; nonetheless there is a single example in this deposit (P148), handmade and with a white band below the rim, fitting very much what one would expect of MM IA at Knossos (Fig. 7).[40]

Among the handled cups there are three basic types – rounded, proto-carinated and straight-sided. Rounded cups have offset disc bases, are handmade and display polychrome or white-on-dark horizontal bands at the upper body (e.g., P154; Fig. 8). Proto-carinated cups have a very similar profile but do have a slight change in angle, akin to those of the later carinated cups albeit much less pronounced. These too are handmade and with polychrome or white-on-dark horizontal bands. Only two straight-sided cups exist in this deposit, a shape that is to become much more common in the Protopalatial period. One is monochrome and the other dark-on-light, and both are handmade (P171, P172).

The bridge-spouted jar is the most common type of pouring vessel in this group from X1. They occur in a variety of wares – plain, monochrome, white-on-dark and polychrome – and are all handmade. One polychrome example (P158) has diagonal red and white lines either side of red and white rosettes, which may begin to hint of period VI (MM IB) (see below).

Taken as a whole, these features clearly put us later than the phase when east Cretan white-on-dark ware is common, namely PK period Va (EM III). We can safely assign Block Chi room 1 to PK period Vb, and link it to MM IA on the basis of the ample polychrome decoration. That there are already hints of the wheel, but nothing as yet really convincingly wheelmade, might suggest that period Vb falls late in the MM IA period,[41] but this proposal lacks further corroboration and so cannot be used to differentiate between early and late MM IA phases. There is no Alternating Floral Style in the polychrome, which we really should expect to see were we a little later (see below, trench H3).

Trench H3

A trial trench in square H3 (and its extension, H3 Ext), just to the north of Block B (Fig. 1), was excavated in 1962 and 1963, revealing an accumulated fill almost 2 m deep of MM I to III pottery. The earliest material does seem clearly distinguishable from that of Block Chi room 1, to the extent that we can assign it to a subsequent phase, i.e., PK period VI. There is much polychrome present, in the Alternating Floral Style, and even a fragment of a Chamaizi vase, so far only rarely found at the site (Fig. 9).[42] There is also some use of the wheel for small vessels, and hence its

[39] Haggis 2001.

[40] See Momigliano 1991.

[41] This depends on the assumption, of course, that the wheel does only begin in MM IB and no earlier, which does seem a largely robust assumption on the basis of the substantial Knossian deposits discussed above.

[42] See *PK II*, 323, fig. 22, 1.

association with MM IB in the original report seems fair.[43] Further study hopefully will confirm that these two deposits do indeed provide us with a relatively clear picture of MM IA and IB at Palaikastro.

Tall tumblers in the H3 deposit are still handmade and with parallel striations, but differ from those of X1 in that their bases are invariably slipped. They continue in polychrome, but now we see more adventurous designs, notably in "Alternating Floral Style" (Fig. 10).[44] Other vases display this polychrome style too, including a kind of tall carinated cup (P371) and a cup with a very low, rather rounded carination (P372). Interestingly, both appear to be handmade.

Another characteristic polychrome style consists of a curving diagonal red band flanked by thinner white bands, dubbed "diagonal red and white style" at Knossos, where it is very much a feature of MM IB.[45] This style is observed particularly in the sherd material on cups (Fig. 11), some of which are carinated and some of which appear to be wheelmade. Note too that horizontal polychrome bands do continue from period Vb (MM IA).

While there are certainly still some handmade vases in this deposit, as already noted above, wheelmade vessels make their first appearance, exhibiting both parallel striations under the base and clear rilling at the inner body. There is very little sign yet of concentric striations. Preliminary study suggests that bevelled cups, carinated cups (some with offset bases) and squat tumblers are the forms that are being wheelmade at this time.

Other rarer features can be linked to MM IB through connections with sites in east-central Crete. There is one example of a kind of dark-on-light decoration (base fragment of a tumbler, handmade, quite possibly local; from level 15) (Fig. 9) that appears to mimic seaweed pods – a style dubbed "capsules d'algues" at Malia, where it appears to be quite common before the main MM II occupation of Quartier Mu.[46] One might also note its appearance in Pyrgos II c–d, again suggestive of a date prior to MM II.[47] Another type commonly seen at Malia and Myrtos Pyrgos is the Chamaizi pot, of which there is just one fragmentary example from H3, again from level 15. It is handmade, in a fine orange fabric that could be local and, strangely, has a slightly streaky dark brown slip (Fig. 9). As mentioned above, one other

Fig. 11 Diagonal red and white style, from Trench H3

Palaikastro example is described by Dawkins, and otherwise they do exist in east Crete, notably at the type site of Chamaizi (which is thought to be MM I). Finally, there are one or two sherds that are slipped and with metallicizing ribbing (Fig. 9), again a feature at Malia that appears to begin in MM IB.[48]

Although the H3 lower material is not a floor deposit, and merges into the MM II material in the levels above, it does provide a stark contrast with the material from Block Chi room 1. That these correspond to MM IA and IB seems relatively clear. Interestingly, there does appear to be some kind of support for this differentiation between MM IA and IB in the early publications, with Dawkins[49] notably referring to some MM IA material in the following way(on p. 10):

> "... To this earliest class belong the vases on pls. IV and V and figs. 6 and 7. Here we have the characteristic cups, tumblers and hole-mouthed jugs, with white or sometimes simple polychrome ornament on a fine black lustrous ground. The workmanship is good: the wheel is in use, but the parallel striations left on the base by the string used to separate the finished vessel from the clay left on the wheel show that it was revolved only slowly; the curved and more or less concentric striations left by the rapidity of the wheel used in MM II times and later are not yet found, still less the ribbed appearance of the interior of the vase which results from the use of a rapid wheel."

Initially one might imagine that Dawkins is mis-

[43] *PK VI*, p. 251.
[44] See Floyd (1997), who notes four examples from Palaikastro, a figure that can certainly be increased.
[45] MacGillivray 1998, 59.
[46] Poursat 1993, 605; contra Stürmer 1993.
[47] Cadogan (pers. comm.).
[48] See also early examples in Myrtos Pyrgos phase II c–d.
[49] *PKU*, 10–12.

Fig. 12 Pl. IV from *PKU*

taking MM IA for MM IB, particularly when he talks of the use of the wheel and the existence of parallel striations; however, we have seen in the Block Chi room 1 deposit that some vases, tumblers in particular, do show parallel striations under the base, but without any convincing wheel rilling marks at the body. There is little reason to put this deposit in MM

Fig. 13 Pl. V from *PKU*

IB, especially given the contrasts with trench H3, and one might be inclined to wonder whether we are dealing here with late MM IA. Moreover, simple polychrome decoration fits well with what we see, especially compared to the later styles of MM IB. Plates IV and V in *PKU* (Figs. 12, 13) are, however, not all MM IA, containing bevelled cups and other forms which must be MM IB or IIA (*PKU* figs. 6, 7) (Figs. 14, 15). Also note that the goblet of *PKU* fig. 6 may appear to be later, and indeed it is from the Kamares cemetery so is hardly securely dated by context.[50] MM IA had to be defined on stylistic rather than stratigraphic grounds, a problem also apparent in Evans's discussion of MM IA and IB, in which he illustrates various east Cretan vases and assigns them to one or the other phase in terms of style and without reference to their context.[51]

Fig. 14 Fig. 6 from *PKU*

Fig. 15 Fig. 7 from *PKU*

[50] Also shown in *PK II*, 303, fig. 2.

[51] Evans 1921, 182–5, figs 133–34.

Fig. 16 Pl. VIII from *PKU*

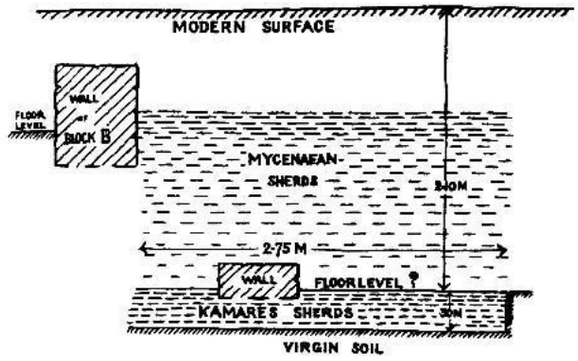

Fig. 17 Section of trench G3, from *PK* II, fig. 6

Nevertheless, despite these difficulties in pinning down MM IA and IB respectively, Dawkins continues:[52]

> "... Though the use of red in addition to the white inherited from the earlier style gives the polychrome Middle Minoan vases shown in Plates VII–XI a more advanced position in the ceramic development, there is no apparent reason for dating them later than the preceding series, that is, to the Middle Minoan, and perhaps in the main to the MM Ia period."

Plate VIII, for example, shows four vases from the ossuaries, and hence hardly well stratified (Fig. 16). Yet there are two examples of Alternating Floral Style, which does seem to be a feature of period VI (MM IB) rather than period Vb (MM IA), and hence perhaps Dawkins's sense of this material being "more advanced" is correct. Dawkins did not go so far as to assign this material to a separate phase (MM IB) but in hindsight he would have been justified in doing so, on stylistic grounds if not stratigraphic.

Although published some twenty years earlier than *PKU*, in *PK II* some of these ideas on phasing the early Middle Minoan (MM) are already apparent. Bosanquet and Dawkins discuss the pottery from a trench in square G3. This is highly relevant because test H3 was made just a little to the northeast of G3. On pp. 288–9, Bosanquet describes G3 as containing "a very compact bed of Kamares shards, of early types", on virgin soil. The section is shown in fig. 6 on p. 289 (Fig. 17). They seem to represent about 30 cm of deposit beneath a later floor, which is in turn beneath a 2 m deposit of "Mycenaean" sherds.

This "Kamares" pottery is further described by Dawkins in the pottery section on pp. 304–6. He suggests that the pottery from the lowest levels of G3 is so far the earliest deposit from the town site, and must be contemporary with the earliest burials.[53] He indicates that tumblers are typical, along with bev-

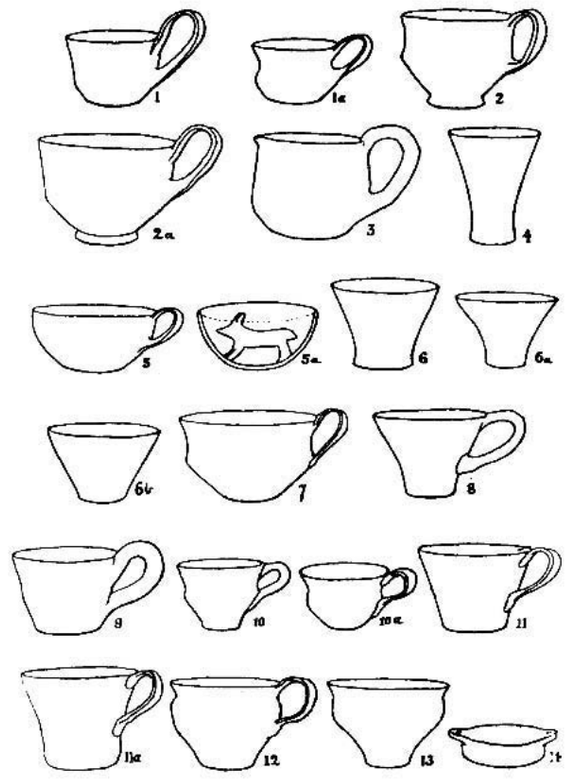

Fig. 18 Pottery types, from *PK* II, fig. 1

[52] *PKU*, 12.

[53] This is of course before the discovery of the EM III burials of Ellenika presented in *PK IV*.

Fig. 19 Pottery from fig. 4, *PK* II

elled cups and carinated cups with offset base (as far as can be discerned from the schematic drawings of fig. 1 on p. 302; see Fig. 18). He also notes the absence of types such as nos. 7–12 on fig. 1, which show carinated, straight-sided and hemispherical cups. Thus he distinguishes two kinds of Kamares, ultimately MM I and MM II. Further examples of MM I Kamares from cemetery contexts are shown in figs. 4 (Fig. 19) and 5. Here we see a tumbler with alternating style, a small bevelled (?) cup also with alternating style, and an early carinated cup with offset base and white-on-dark sweeping festoon with single coil spiral motives. Thus the earliest pottery from G3 seems to tally very well with that from the nearby square H3, "MM Lower". Both can be described as MM IB (or PK period VI).

Building 7 (2003 excavations)

The Prepalatial sequence in room 2 emerged beneath MM IIIB/LM IA levels. The uppermost Prepalatial levels correlate with what is seen in Block Chi room 1, and so may be linked to PK period Vb; indeed, some of the pottery shows strong affinities with north-central Crete, such as the rim fragments of a handmade straight-sided cup with polychrome bands at the rim (no. 8336-7; Fig. 20). A handmade proto-carinated cup also suggests a date immediately prior to MM IB, as do various handmade tumblers, of which one squat example bears an incised cross at the exterior mid-body (SF37). That most of the above-mentioned material is clearly handmade indicates that we are still in the late Prepalatial period (i.e., MM IA in central Cretan terms). There is, however, a little ambiguity, with one tumbler fragment showing parallel striations under its base – this is also seen in the Block Chi room 1 deposit, and may be a sign that we are already late in the MM IA period. Nevertheless, Mirabello imports are also common in this level, for example the fragment of a pithos rim with dark-on-light band (no. 8338): this, as shall be seen below, is a feature that stretches back to period Va (EM III), if not before, when numerous imports from the northern Isthmus/Mirabello Bay area make their way in quite some quantities to

Fig. 20 Rim of straight-sided cup with polychrome bands (top right), from Building 7 Room 2

Fig. 21 East Cretan white-on-dark ware (upper, middle and lower right), from Building 7 Room 2

Palaikastro (and indeed to other sites, such as Malia and Myrtos Pyrgos).

It should be noted that some of these upper levels are slightly contaminated by a pit dug into the north-east corner of the room, apparently in late MM II or MM IIIA. However, it is apparent that only those *zembils* from close to the pit are compromised in this way. Pottery characteristic of period Vb continues to appear in lower strata, with the base of an eggcup, a rare type in east Crete, seemingly a north-central Cretan import of MM IA type. Also in no. 8344 is the rim of a goblet, also presumably footed, with rock-work barbotine at the exterior body. Together with these are examples of the distinctive east Cretan white-on-dark wares (Fig. 21), in a range of shapes (including fragments of a handmade jar with a proto-carination and white-on-dark bands), and almost invariably imports from the Mirabello area. There is a possibility that some of this material from lower levels might be earlier rather than later within period

Fig. 22 Tall flaring tumbler with Alternating Floral style, from Building 7 Room 1

Fig. 23 White-on-dark open-mouthed jug, from Building 7

Vb (MM IA), but there is at present insufficient evidence to lend firm support to this impression. What does need to be accepted is that east Cretan white-on-dark ware, while frequently associated with EM III, can also continue into MM IA.[54] The general absence of this ware as an import in north-central Crete (e.g., at Knossos) has made difficult the dating of late Prepalatial east Cretan pottery groups relative to the "defining" central Crete sequence.

The lowest levels of the sequence, just above virgin soil, contain relatively little pottery (no. 8347-8). However, the soil changes considerably from the strata above, becoming very red and with almost no charcoal or bone. Calcite-tempered ware, generally common in EM, is well represented, and there are a few signs of earlier material, such as EM IIB Vasiliki ware. There is no polychrome at all in these lowest levels, which may thus represent PK period Va, or EM III.

Further supporting evidence from building 7 for the definition of PK periods Vb/VI comes from another stratum close by in room 1. Here, test 1 revealed interesting MM layers (level 6, nos. 8160, 8162-3) in between walls 806, 812 and 815. No. 8160 contained a tall flaring tumbler (7835) with polychrome decoration in the Alternating Floral Style (Fig. 22), as found also in trench H3, and thus assignable to PK period VI (MM IB) (see also Floyd 1997). The fact that this piece is wheelmade certainly points to a date no earlier than MM IB. Another feature from no. 8160 useful for dating is a rim fragment of a straight-sided cup with polychrome diagonal lines, present also in trench H3, and well paralleled in MM IB at Knossos.[55] Still in level 6, and with cross-joins to nos. 8160 and 8162, there is further pottery that seems contemporary, such as a broad tumbler that is plain and wheelmade, and another straight-sided cup rim fragment with polychrome bands. However, there is earlier pottery too, notably a small open-mouthed jug (7834) that is handmade, with extensive vertical paring at the lower body, and with white-on-dark decoration (Fig. 23). It is not exactly the east Cretan white-on-dark ware of EM III, but does seem to be a development thereof, and so this probably belongs more in MM IA.[56] So this evidence suggests that in building 7 there is material from PK period VI (MM IB) too, another phase to go with the late Prepalatial phases in room 2.

Beyond Crete – Synchronisms

Having discussed the status of MM IA and IB on Crete, and the regional differences that exist between the center and the east of the island, it is time now to look beyond Crete and assess the implications for the rest of the Aegean, with particular attention to the island of Aegina. The position of Aegina is such that we need to take into account both Middle Helladic (MH) and Middle Cycladic (MC) synchronisms. The nature of Cretan interaction with the mainland has long been considered of a character different from that with the Cyclades. On the one hand, mainland MH sites such as Lerna used Minoanizing pottery, perhaps manufactured on Kythera, as early as

[54] See Betancourt 1984.
[55] Cf. MacGillivray 1998.
[56] I.e., Betancourt 1984 (late phase of white-on-dark).

MM IA; Lerna also has some imported Minoan pottery at this time, seemingly in much smaller quantities than the Minoanizing, although the proportion of Minoan pottery to Minoanizing pottery remains unclear as the two categories can be hard to differentiate.[57] On the other hand, Cycladic sites show no signs of having used Minoanizing pottery in the early MBA, although they do import some Minoan pottery; Rutter argued that, importantly, such imports only arrived from MM IB onwards.[58] This distinction between the MM IA associations on the mainland and the MM IB associations in the Cyclades was argued by Rutter to signify two quite different processes of interaction: the former as a primarily Prepalatial west Cretan phenomenon (cultural rather than political, presumably), the latter as the result of political developments in central Crete, namely the rise of the first palaces.

Rutter's assertion concerning the absence of MM IA imports in the Cyclades was based largely on the pottery from Phylakopi on Melos, where a single MM IA sherd is known from the old excavations, from a context that is far from secure.[59] Rutter went on to note that the more recent excavations in the 1970s revealed a few more sherds of MM IA style, but found together with MM IB/IIA imports in Phylakopi II contexts: there is no definite Cretan import from a secure level of Phylakopi I-ii/iii, and come Phylakopi II the imports are MM IB/II and more numerous. Despite the paucity of evidence from Phylakopi, Rutter in his 1983 publication sought to link Phylakopi I-ii/iii with the beginning of the MC and MBA generally in the Aegean (hence if any Cretan imports were to exist in Phylakopi I-ii/iii, they ought to be MM IA). The lack of evidence, however, allowed that other interpretations were also sustainable; indeed, Rutter's line of argument ran counter to that proposed by MacGillivray and Barber in their distinction between Early Cycladic (EC) IIIA and IIIB.[60] It is their EC IIIB that Rutter associated with the beginning of MC rather than the end of EC. Given that EC IIIA was being linked by Rutter with the Kastri group of EC IIB, this would result in the "emptying" of the Cyclades in the late EBA, creating an EC III gap.[61]

The picture in the Cyclades has since changed substantially with the recent discovery of well-stratified early MC material at Akrotiri on Thera. The pottery shows strong affinities with Phylakopi I-ii/iii, while also including some Cretan imports that can be linked to MM IA.[62] Among the imports in this MC phase A material is the rim of a goblet with reserved barbotine decoration, a type also found at Aegina, where it is the first MM import at the site of Kolonna.[63] This comes in pottery phase H. From the earlier excavations at Kolonna the first Minoan imports also are MM IA barbotine – admittedly just three fragments, of which two are eggcup rims.[64] This kind of MM IA barbotine is also found in MH I Lerna. There are further connections between Aegina pottery phase H and Akrotiri MC phase A, with some possible Aeginetan imports occurring in the latter.[65] In pottery phase I the Minoan imports at Aegina appear to be MM II (straight-sided cups, white-flecked ware).

Synchronisms with Kea are a little harder to establish – period IV is said in the main publication of the material to correspond to MM IIA in Crete, while probably extending somewhat earlier and later.[66] Interestingly, Overbeck observes that evidence for use of the wheel was not found at all in the earliest phase, IVa. We might then speculate that Kea IVa could be contemporary with MM I on Crete, and perhaps even MM IA; counter to this, however, are comments by Davis, who states that "the earliest period IV deposits at the site are appreciably later than the beginning of the MH period on the Greek mainland".[67]

There clearly are significant differences between the mainland and the Cyclades in the nature of their interactions with Crete, not least with the lack of Minoanizing pottery in the Cyclades in the early MBA. However, the neat distinction made by Rutter concerning the timing of these interactions, MM IA in the case of the former and MM IB for the latter, no

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[57] Zerner 1978; 1986; 1988; 1993; Rutter and Zerner 1984.
[58] Rutter 1983.
[59] Rutter 1983, 72–3; Renfrew 1972, 198 with pl. 13.4; Papagiannopoulou 1991.
[60] See MacGillivray and Barber 1984.
[61] Rutter 1984. However, come 1987, Barber appears to reach partial agreement with Rutter when he says that EC IIIB is contemporary with MM IA, and that the MC early phase is contemporary with "MM IB–II (possibly also late MM IA)" (Barber 1987, 30–1). See also Broodbank 2000, 331–335 for discussion of the EC III gap.
[62] Nikolakopoulou *et al.* in press.
[63] XXVIII–18: Gauss and Smetana, this volume.
[64] Hiller 1993.
[65] Nikolakopoulou, this volume.
[66] Overbeck 1989.
[67] Davis 2001, 28.

longer looks quite so robust. There does appear to be Prepalatial contact in the Cyclades, at Akrotiri at least, during MM IA.[68] Moreover, the frequency of interaction does not increase noticeably in the MM IB or II periods; it is not until MM IIIA and the beginning of the Second Palace period on Crete that the number of Cretan imports to Thera increases dramatically.[69]

How does Aegina fit into this varied picture? It too seems to have a handful of Cretan imports in MM IA, barely increasingly during the MM IB–II period. Moreover, the quantities do increase substantially thereafter, in MM IIB–IIIA (Gauß, pers. comm.). Yet at the same time it feels the impact of the mainland stream of Minoanizing influence, with distinctive Minoanizing polychrome present in pottery phase I.[70] As one might expect from an island in the position of Aegina, it is caught up in both the island and mainland streams of influence (which should be an advantage in terms of the analysis of synchronisms!), the former relatively direct from Crete and the latter very indirect, via Kythera and the Peloponnese.

As something of an aside, we may briefly turn our attention further east, and just consider a small amount of MM I material from Anatolia, Cyprus and Egypt. It is noteworthy that the earliest Cretan imports at the site of Miletus on the west Anatolian coast do appear to be MM IB, with distinctive small handmade straight-sided cups, one with horizontal white-on-dark decoration, and another with diagonal polychrome lines, well known from Knossos in MM IB.[71] On Cyprus, we find the Karmi cup, which can be assigned to MMIB too thanks to close decorative parallels from Knossos.[72] From Egypt the earliest Cretan imports also seem stylistically to be MM IB, including the famous vase from Qubbet el-Hawa and material from Lisht.[73] The former, discovered in an early XII Dynasty context, and showing stylistic parallels with examples from Palaikastro often assigned to MM IA,[74] can thanks to recent work on east Cretan Alternating Floral Style[75] be assigned to MM IB. Taking the evidence from Miletus, Cyprus and Egypt into consideration, it would seem that the idea of a horizon of MM IB interaction, corresponding with the rise of the first palaces, might still have some merit.[76]

Conclusions

Crete displays regionalism, and the regional patterns in material culture change through time. In searching for synchronisms in the detailed Cretan sequence, regionalism needs to be taken into consideration. For example, MM IA at Knossos sees numerous "eggcups", which are almost entirely absent at Palaikastro. Nevertheless, the polychrome bands seen on cups are very similar in central and eastern Crete. MM IB at Knossos does not have much (any?) Alternating Floral Style, no Chamaizi pots, no "capsules d'algues"; but there are diagonal red and white lines. It is a fascinating feature of Cretan ceramic regionalism that there are strong similarities (e.g., carinated cups, hemispherical cups and straight-sided cups are present everywhere in the Protopalatial, albeit in differing proportions), and yet at the same time distinctive differences. And this is not even to mention the question of wheel technology, which appears to find its way into the ceramic repertoire in much the same way simultaneously across the island. Although at times this regionalism can create problems (e.g., "cultural lag"), it might also provide checks and balances that should ultimately prove useful. What is of particular importance is the methodology of presenting pottery deposits in local regional terms in the first instance; if, for example, there were to be disagreement over the use of MM IA and IB at Palaikastro, one can at least fall back on the "Block Chi room 1" and "trench H3" as groups, or on Palaikastro periods Va, Vb and VI.

The usefulness of Cretan parallels in the early MBA of the mainland, the Cyclades and Aegina is limited, given the very small numbers of Cretan imports during this period. However, given what is happening on Crete at this time, it becomes doubly significant to be able to differentiate between MM IA and IB, between Prepalatial and Protopalatial. The political context of Cretan interactions and imports could hardly be more different from one period to the next. Although one might expect there to be a new horizon of regional interaction with the emergence of the palaces in MM IB, and perhaps the beginnings of some of the processes of "Minoanization" that emerge more fully in the later MBA, this does appear

[68] Nikolakopoulou *et al.* in press.
[69] Knappett and Nikolakopoulou 2005.
[70] Gauss and Smetana, this volume.
[71] Raymond 2001, fig. 1b–c.
[72] Stewart 1962; MacDonald and Knappett 2005, pl. 14, n. 68.
[73] MacGillivray 1998, 103–4.
[74] Warren and Hankey 1989, 130.
[75] Floyd 1997, and above.
[76] See Rutter 1983.

to be preempted in MM IA. Taking a longer term perspective it is nevertheless of interest that the pattern set at this time seems to continue unbroken for at least two centuries, albeit at a relatively low level, until the next horizon of change in regional interactions that comes with the advent of the Second Palace period.

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Abbreviations

PK II Bosanquet, R.C. and Dawkins, R.M. 1902–3, "Excavations at Palaikastro II." *BSA* 9: 274–387.

PK III Dawkins, R.M. 1903–4, "Excavations at Palaikastro III." *BSA* 10: 192–231.

PK IV Dawkins, R.M. 1904–5, "Excavations at Palaikastro IV." *BSA* 11: 258–92.

PK VI Popham, M. and Sackett, L.H. 1965, "Excavations at Palaikastro VI." *BSA* 60: 248–315.

PK VIII Knappett, C.J., Sackett, L.H. and Collar, A.C.F., forthc., "Excavations at Palaikastro VIII." *BSA*.

PKU Bosanquet, R.C. and Dawkins, R.M. 1923. *The Unpublished Objects from the Palaikastro Excavations 1902–1906, Part I*. London. BSA Suppl. Paper 1.

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Toward a Definition of the Middle Minoan III Ceramic Sequence in South-Central Crete: Returning to the Traditional MM IIIA and IIIB Division?

Luca Girella[*]

Introduction

This article will discuss *pottery* and *terminology*: its delicate subject and pretext is the Middle Minoan (MM) III period, the period before LM IA on Crete. When dealing with MM III it must be clearly understood that *pottery* and *terminology* are inseparable concepts. Many aspects of the intricate debate about the definition and division of MM III arise from a confusion in applying competing terminologies to pottery. This paper cannot hope to provide a definitive answer to this subject, hence the question mark at the end of the title.

A great deal of attention has been focused over the last few decades on attempts to distinguish MM III ceramics on stratigraphic and stylistic grounds, but difficulties have been encountered in establishing whether any division can be made within the material, and whether there is any chronological distinction between MM III deposits toward the end of the period and deposits from the beginning of LM IA (the so-called MM IIIB/LM IA transitional phase). The background to this question is twofold, as it is concerned with the intersection of a problem of chronological distinction that affects all of Crete and the clarification of a specific ceramic situation within a single region.

The complicated debate about the MM III sequence in Crete can be summed up as follows: most scholars have rejected any substantial division within MM III, while acknowledging the existence of possible stratigraphical distinctions.[1] Others, since the publication of a few deposits from Knossos, have pointed out the existence of one final stage of the period, which has been called MM IIIB/LM IA transitional (or, more recently, "Early LM IA").[2] There has recently been a sense of unease with this transitional phase, and a few scholars have returned to Evans's traditional division into MM IIIA and MM IIIB.[3] All of these chronological uncertainties reflect the fact that the condition, form and status of the palaces and settlements are uncertain in MM III. The debate has, however, focused so far almost exclusively on north-central Crete, largely because of the comparative lack of pertinent published material from the other regions of Crete, in particular the western Mesara. Nevertheless, the western Mesara contains a rich series of MM III deposits, only partly published, and it is one of the few areas of Crete that possesses a complete range of ceramic evidence, since palatial, private and funerary contexts are all represented.

The Value of South-Central Crete: Present Debate and Proposals

The present status of the MM III chronological sequence of the western Mesara is defined by a series of issues concerning the synchronization of the different ceramic assemblages. The stratigraphical

[*] Acknowledgments: I would like to thank Walter Gauß, Rudolfine Smetana and Florens Felten for inviting me to participate in the "Middle Helladic Pottery and Synchronisms" workshop in Salzburg. This article is based on observations made during my work and collaboration with the Italian Archaeological Mission at Phaistos since 1999, during the preparation of my M.A. thesis and my Ph.D. thesis on the MM III pottery. I am profoundly grateful to Vincenzo La Rosa and Filippo Carinci who involved me in the study of MM III Phaistos and Ayia Triada. I have had helpful discussions with V. La Rosa, F. Carinci, C. Macdonald, E. Hatzaki, N. Cucuzza, J. Rutter, A. Van de Moortel and I. Nikolakopoulou. Some of them disagree with some of my conclusions, for which I alone am responsible. V. La Rosa has read a preliminary version of this manuscript and has suggested changes and useful additions. I am grateful to the Italian Archaeological School of Athens for permission to reproduce pottery drawings from Chalara (Phaistos) and Ayia Triada and the unpublished photos from room LXXIII at Phaistos. Pottery from the new excavations at Ayia Triada was drawn by G. Fatuzzo. Inkings were made by him and myself. A special debt of gratitude is owed to the Italian School at Athens for having given me continuous support during the last five years. My warm thanks also go to Michael Metcalfe for correcting the English text.

[1] Levi 1976; Walberg 1976; Carinci 1983; Carinci 1989; Betancourt 1985; Walberg 1992; Stürmer 1992; Van de Moortel 1997.

[2] Popham *et al.* 1984; Warren and Hankey 1989; Warren 1991; Niemeier 1994; Warren 1999. For the use of the term "Early LM IA" see Van de Moortel 1997 and Shaw *et al.* 2001, 89–94.

sequence of Phaistos has been a subject of long debate, ever since Doro Levi produced a new historical sequence that was quite different from that proposed by Arthur Evans for Knossos. The result was the willful creation of a new terminology, which was soon challenged by Levi's diligent collaborator and architect Enrica Fiandra.[4] This complex debate made it very difficult for researchers to compare the material from Phaistos with that from Knossos and the other centres of Crete.[5] Levi presented his "protopalatial phase III"' as a homogeneous building phase both in the palace, where phase III pottery was scarcely attested, and in the settlement. This allowed him to propose a substantial unity in the succession of connected building periods and pottery styles. A complete collection of all the ceramic forms and decorations of his third phase was provided by the extremely rich finds of two tholos tombs not far from the village of Kamilari.[6] Filippo Carinci's papers on MM III pottery deposits of Knossos and Phaistos have stressed the limits of subdivisions of this period, and they also have put phase III in a more clear chronological framework, as the scholar has interpreted phase III as the first stage of Neopalatial period, equivalent with MM III.[7] To similar conclusions arrives Aleydis Van de Moortel, who has offered an useful overview of phase III pottery deposits from Phaistos.[8] Thanks to reexaminations of stratigraphical sequences and results from new excavations Carinci has recently supposed the possible existence of a subdivision within MM III.[9] So far, the 'protopalatial phase III' has been regarded as a single ceramic period equivalent to MM IIIA, and the Kamilari deposits have been considered as candidates for a possible advanced stage of MM III.

Excavations at Ayia Triada and Kommos have greatly expanded the number of MM III deposits: the new cycle of excavations at Ayia Triada, begun by Vincenze La Rosa in 1977, has brought to light a substantial series of MM III deposits that attest the existence of a later stage of MM III,[10] and the excavation program at Kommos has resulted in publication of a great mass of MM III pottery by Philip Betancourt.[11] This work has been recently augmented by Aleydis Van de Moortel. She has again denied the possibility of a distinction being made within MM III and, as a result of recent excavations, she has distinguished three LM IA chronological subphases ("Early", "Advanced", and "Final") and two LM IB subphases ("Early" and "Late").[12]

Preliminary results from the study of MM III material at Phaistos and Ayia Triada suggest that it is possible to distinguish two phases within this period, as well as to understand the transition between MM III and LM IA in this region. A substantial confirmation of this sequence, to be discussed in this paper, comes from Kommos, based for the most part on the evidence of the original publication of the Kommos MM pottery by Betancourt, supplemented by the important stratigraphical observations of James Wright.[13] Van de Moortel and Jeremy Rutter have presented further assessments.[14]

My previous reexamination of the ceramic deposits from Phaistos showed that there are some grounds for defining separate MM IIIA and IIIB phases, though the latter period is scarcely attested.[15] The deposits from Ayia Triada, on which I have also worked, document a clear presence of MM IIIB at this site.[16] At the risk of anticipating my conclusions, I should state in advance that through the combination of stratigraphical and stylistic evidence alone from Phaistos, Ayia Triada, and Kommos we are in a position to propose a sequence that is valid for the entire south-central area of Crete. An important obstacle to our sequence is the *terminology*: after 100 years of excavations and research, we still are not able to propose a single terminology (Fig. 1). But to what extent is the present debate on the MM III terminology a *real* or *unfounded* prob-

[3] Bernini 1995; Hood 1996; La Rosa 2002a; Macdonald 2002; Knappett and Cunningham 2003; Macdonald 2004.

[4] Fiandra 1961–62.

[5] The difficulty of establishing a link between the Levi and Fiandra systems is clearly demonstrated by the recent publication of MacGillivray, where, having accepted that the two systems are not compatible, he opts for the second one as more relevant for the comparative material from Knossos. MacGillivray 1998, 99–100, fig. 3.2.

[6] Levi 1961–62.

[7] Carinci 1983; Carinci 1989.

[8] Van de Moortel 1997, 305, 349–86, 796–813.

[9] Carinci 2001, 222–3. A correlation between phase III and MM IIIA is in La Rosa 1995a.

[10] La Rosa 1977.

[11] Betancourt 1990.

[12] Van de Moortel 1997, 225–74; Shaw *et al.* 2001, 89–94.

[13] Wright 1996.

[14] Van de Moortel 1997; Shaw *et al.* 2001, 25–110; Rutter 2006. I am greatly indebted to J. Rutter for useful discussions on stratigraphic and ceramic issues at Kommos.

[15] Girella 2003a.

[16] Girella 2003b ; Girella 2005.

L. Girella	D. Levi-F. Carinci (1976, 1988)	Ph. Betancourt (1990)	A. Van de Moortel (1997, 2001)
	Phaistos-Ayia Triada	**Kommos**	**Kommos**
MM IIIA MM IIIB	III Protopalatial phase III Protopalatial phase	MM III Transitional MM III/LM IA	MM III Early LM IA

Fig. 1 Proposed synchronization of MM III stages in the western Mesara

lem? In recent works on Kommos, for instance, one might note the problems that arise from combining the traditional chronological division with the different terminology used by the Canadian mission. To my mind, comparison with the Kommos data does not risk a danger of misrepresenting the ceramic composition of the deposits. Moreover, the different terminology used by Van de Moortel and Rutter does not at all compromise the sequence here presented, but rather, on my interpretation, in fact corroborates the "traditional" terminology as identified by Evans at Knossos. On the basis of that interpretation, I propose the following synchronisms for the western Mesara in Fig. 1.

Through this synchronization it will be possible to gain a much deeper understanding of the complex and changing ceramic production and ceramic style of the western Mesara in MM III, as well as to provide a key contribution to the current debate about the phasing of MM III on Crete as a whole. The main goal of this reassessment will be not only to clarify the local sequence in south-central Crete, but also to facilitate comparison with the other centers of the island, as well as those of the north and southeast Aegean in which MM III pottery (as imports or local imitations) has been found.

The Evidence from Phaistos and Ayia Triada: The Stratigraphy

The rich series of Levi's phase III pottery from Phaistos appears to comprise a single horizon of deposits, with the consequence that these have been pulled in earlier or later directions on the basis of different parallels. A brief discussion of the ceramic evidence is necessary to understanding the topographical distribution of the deposits as well as their stratigraphical situation. The following data has been obtained from the preliminary publications of Luigi Pernier and D. Levi. I have also included ceramic and stratigraphical observations on the deposits on which I have worked (Fig. 2).[17]

In the palace, MM III ceramic deposits are scarcely attested. The MM IIIA foundation deposit of room 50 was recovered under the alabaster slabs of the Second Palace. The MM IIIA floor deposit of room 18 was stratified below a previous layer of LM IB; the MM IIIA vases were found on a paved area. From the oldest excavations of the palace two other possible MM IIIA contexts are known: the first is a fill dumped in a lustral basin, below room 70 of the Second Palace. The floor deposit of room XLV-22 was sandwiched stratigraphically between two floors of MM IB–II and LM I. In the northeast area of the palace another complex of buildings was explored by Pernier. Only the central sector (room 103) was modified in LM I, while the eastern and western blocks were in use and abandoned during MM III. The scant stratigraphical information does not allow us to clearly interpret the deposit of room 101 (i.e., floor deposit, collapsed deposit, or fill), while the pottery assemblage from rooms 102 and 104 belongs to a floor deposit. There are no trace of subsequent occupation in these three rooms until LM III.

Two main areas were intensely occupied in the settlement during MM III. The homogeneous deposit from the north room of the *Bastione Ovest* was presumably an original MM IIIA floor that collapsed from an upper level of the building. A little to the south, a MM IIIA floor level was represented in the small room CIV, which is connected with the *Bastione Ovest*. The *Casa a Sud della Rampa* (rooms LXXXVI–XCIII, XCVI), connecting the lower and the upper court, is represented by the basement of a large building, with homogeneous MM IIIA floor deposits covered by stones and slabs that have fallen from upper floors. An almost complete sequence is documented in the southern area. Underneath LM IA or IB floors are the stratified MM IIIB floor deposits

[17] A synthesis of the stratigraphical situation of the main MM III deposits from Phaistos is in Van de Moortel 1997, 340–1.

AREA	*MM IIIA*	*MM IIIB*
Palace	Room 18, floor deposit (Levi 1976, pp. 374–377) (Van de Moortel 1997, 796–797) Room 50, foundation deposit (Levi 1976, 405–406) (Van de Moortel 1997, 796–797) Room XLV–22, floor deposit (Pernier 1935, 121–124) Below room 70, fill (Pernier 1935, 327–331)	
NE Quarter	Room 101, collapsed floor (?) Room 102, floor deposit (Pernier 1935, 353–360) (Pernier–Banti 1951, 392–294) (Van de Moortel 1997, 797–798)	Room 104, floor deposit (Pernier 1935, 367–375) (Pernier–Banti 1951, 399–404) (Van de Moortel 1997, 797–798)
Area West of the Court I	*Bastione Ovest*, collapsed floor (Levi 1976, 341–342) (Van de Moortel 1997, 807–809) Room CIV, floor deposit (Levi 1976, 346–347; La Rosa 2002b, 37, fig. 57)	
Area South of the Court I: *Casa a Sud della Rampa*	Rooms LXXXVI–LXXXVII, collapsed floors (Levi 1976, 490–491; Levi–Carinci 1988, 367; La Rosa 2002b, 638) Rooms LXXXVIII–XCIII, XCVI, floor deposits (Levi 1976, fig. 755, 758, 763–767; Levi–Carinci 1988, 367–369; Van de Moortel 1997, 798–802; Carinci 2001)	
Area South of the Court I	Kouloura III, fill (Levi 1976, 354–358)(Van de Moortel 1997, 798)	
Area West of the Court LXX	Rooms LXXV–LXXVI, floor deposit (Levi 1976, 457–468) (Van de Moortel 1997, 802–804)	Below room CC, floor deposit (Levi 1976, 472–473) North of room CC, floor deposit (Levi 1976, 307–308)
Area South of the Palace	House of the SW slopes, floor deposit (Pernier 1902, 19–20, fig. 5, 43; Pernier 1935, 161–166)	Room LXXI, floor deposit (Levi 1976, 428–431) (Van de Moortel 1997, 804) Room LXXII, fill (Levi 1976, 441–443) (Van de Moortel 1997, 804–806) Room LXXIII, floor deposit (Levi 1976, 432–436) (Van de Moortel 1997, 804–806)
Acropoli Mediana	Trench 1955, fill (MM II–IIIA–IIIB) (Levi 1976, 595–598)	Trench 1966, floor deposit (Levi 1976, 596–597) Trench 1969, floor deposit (Levi 1976, 602–604) (Van de Moortel 1997, 809)
Chalara Nord	Rooms ι, κ, λ, λ', floor deposits (Levi 1976, 675–679; Van de Moortel 1997, 806–807; Girella 2003a)	
Chalara South	Below rooms η'–ε', fill (Levi 1976, 688–693; Van de Moortel 1997, 807; Girella 2003a)	
Seli		Volakakis house, construction and initial use (La Rosa–Cucuzza 2001, 196–197)
Kouses	Previous occupation of the house (Marinatos 1924–25)	Previous occupation of the house (Marinatos 1924–25)
Kamilari tholos tombs	Tholos of Grigori Koriphi (Levi 1961–62; Levi 1976, 703–741) (Van de Moortel 1997, 810–813)	Tholos of Grigori Koriphi (Levi 1961–62; Levi 1976, 703–741) (Van de Moortel 1997, 810–813)
Kamilari tholos tombs		Tholos of Milona Lakko (Levi 1961–62, 107–109; Levi 1976, 742–743) (Van de Moortel 1997, 813)

Fig. 2 MM IIIA and IIIB deposits at Phaistos and neighbouring sites

AREA	*MM IIIA*	*MM IIIB*
Saccello	*Saccello*, below LM I floor, fill (MM IIB–IIIA) (La Rosa 1977, 312–313) Room α, layer III (La Rosa 1979–80, 65, fig. 15 c–d) (Van de Moortel 1997, 748) Room γ, layer IV (La Rosa 1979–80, 77–78, figg. 31–32) (Van de Moortel 1997, 748–749)	
Villa	Corridor 74, foundation deposit (La Rosa 1977, 302, fig. 12) (Van de Moortel 1997, 749) *Bastione*, room South of the *Bastione*, fill (La Rosa 1995b, 526)	Below rooms 62, 65a and 66a, layer VII, fill (La Rosa 1985, 192, pl. I; La Rosa 1989, 82, pl. XVI) (Van de Moortel 1997, 749–750) Below room 14, fill (Halbherr *et al.* 1977, 93; La Rosa 1997, fig. 8)
North Sector		*Edificio Ciclopico*, SW area, layers III–IV, fill (La Rosa 1979–80,145–146, fig. 99) *Edificio Ciclopico*, SW area, central part, fill (La Rosa 1979–80, 142, fig. 96) *Edificio Ciclopico*, NE room, layer III, fill (MM IIIB and LM IA) (La Rosa 1979–80, 123–125) *Edificio Ovest*, room b, below *Casa del Vassoio Tripodato* (La Rosa 1989, 89, pl. XV) Below room Q, *Casa della Soglia Alabastrina*, layer III, destruction deposit (D'Agata 1989) (Van de Moortel 1997, 750–751)
NE Sector		*Complesso della Mazza di Breccia*, Below room a, layer 7, fill (La Rosa 1992–93, figg. 68–70) *Complesso della Mazza di Breccia*, trench M/4, layer 30c–d, f, dump (Carinci 2003, 137; Girella 2003b; Girella 2005)

Fig. 3 MM IIIA and IIIB deposits at Ayia Triada

of rooms LXXI and LXXIII and that below the Geometric room CC. The floor deposit north of this Geometric room was found at the same level, but, in this part, the MM IIIB floor was stratified above a MM IIB level. Likewise, a LM IA fill covered a similar deposit containing MM III vases. Underneath the Geometric level of room AA were two MM IIIA floor deposits (rooms LXXV–LXXVI). The MM IIIB floor deposits of the *Acropoli Mediana*, which were found in 1966 and 1969, were without any stratigraphical indication. The MM IIIA floor deposits of rooms ι, κ, λ–λ', in the northern area of the Chalara quarter, were covered by Geometric and Hellenistic levels. From the southern part, a dump was pushed into a MM IIB–IIIA building for leveling operations during the construction of a LM I mansion, and included a great deal of fine pottery, primarily MM IIB and IIIA.[18]

A re-examination of the stratigraphical sequence of the Levi excavations was carried out during 2000 and 2001 in the *Casa a Sud della Rampa*.[19] The most surprising result was the discovery that the house had already been a large structure in MM IIB, and that during MM IIIA it was simply modified by the addition of more rooms. Observations about the architecture and the stratigraphy now make it possible to distinguish between different architectural phases, all of them *within* MM IIIA. Some of the stratigraphical data are considered useful in understanding the date of the MM IIIA modification of the house.[20] The most important gain is the identifi-

[18] Levi 1967–68; Girella 2003a, 112–209.

[19] Carinci 2001; La Rosa 2002b.

[20] The evidence comes from room LXXXIX, layer 602 (La Rosa 2002b, 645, fig. 60, pl. VIIA), room XCI, foundation deposit (Levi 1976, fig. 760; La Rosa 2002b, 649, pl. VIIA), room XCII, layer 401 (La Rosa 2002b, 652, fig. 105, pl. VIIA), and room XCIII, pit 903, foundation deposit (La Rosa 2002b, 654, figs. 115–7, tav. VIIA).

cation of the layers of preparation and the foundation deposits of four rooms of the house, just after MM IIB (that is, the initial stage of MM IIIA). The well-known groups of pots found on the floors represent the destruction deposit of the house at the end of MM IIIA. After this event, the entire house appears to have been abandoned.

In marked contrast with Phaistos, MM III was represented at Ayia Triada by a much smaller number of discrete deposits (Fig. 3).[21] In the area of *Sacello*, MM IIIA deposits were stratified above MM II (room a: layer IV) and below LM IA (room γ: layer III) deposits. Underneath the LM IA plaster floor of the *Sacello* another MM IIIA deposit was isolated by Luisa Banti. The evidence for the main Villa is represented by two fundamental deposits. The first is a foundation deposit of purely MM IIIA date; it provides the evidence for the Villa's initial use in MM IIIA. The MM IIIB fill below rooms 62, 65 and 66 was associated with a partially preserved structure. This dumped fill is covered by a second layer (VI), containing LM IA ceramic debris. A MM IIIB fill under the slabs of room 14 was found in 1913.[22] In the north sector of the settlement the destruction deposit of the *Casa della Soglia Alabastrina* was associated with use of the room during MM IIIB.[23] The precise interpretation of the fills below the *Edificio Ciclopico* remains at present uncertain. Until a thorough study is undertaken of the pottery and stratigraphy of the fills, there is no objective evidence for determining the date with precision.

In the northeast sector, the recent cycle of excavations has brought to light a series of MM IIIB fills stratified below LM IA (trench M/4) and LM IB layers (room a).[24]

We are now in a better position to return to the question of a possible division within MM III. It is clear that, at Phaistos and Ayia Triada, in no case does there appear to be evidence of a sequence of superimposed floors assignable to MM IIIA and IIIB. This anomaly could be explained as a consequence of the different strategy of reconstruction after the hypothetical earthquake destruction at the end of MM IIIA. None of the MM IIIA floors at Phaistos was modified or repaired after the impressive destruction. Also of significance are the MM IIIB floor deposits and fills followed shortly afterward by a second destruction horizon. More specifically, the series of MM IIIB fills at Ayia Triada show the great magnitude of the event and the new reorganization of the settlement within LM IA.

The Evidence from Kommos: The Stratigraphy

Important evidence for a stratigraphical distinction within MM III comes from Kommos (Fig. 4).[25] Excavations since 1976 have brought to light an exceptional number of MM III deposits. The published data allow us to fill the gap at Phaistos and Ayia Triada. The large collection of collapsed or abandoned floor deposits comes from the four main areas so far explored: the Hilltop, the Central Hillside, the area north of House X and the Civic Centre. The evidence suggests that the MM III site suffered a devastating destruction.[26] Most of these deposits have been assigned to MM III.[27] This date corresponds to MM IIIA as it used for both stratigraphical and ceramic observations in the present article. As argued by both Betancourt and Wright, theren is no evidence for the immediate reoccupation of the majority of the buildings after the earthquake. Nevertheless, some of the rooms (rooms 29, 38, 44, and 51) exhibit evidence of architectural modifications (blocked doorways, raised floor levels) and preserve floor deposits.[28] Aside from the rooms constructed after the earthquake (rooms 7b, 8, and 9, spaces 1A and 33S of the Central Hillside Area, and rooms 23, 24, 28 of Southern Hilltop Area), these secondary

[21] See also Van de Moortel 1997, 279–80. Carinci 2003, 128–9.

[22] Halbherr *et al.* 1977, 92–3; La Rosa 1997, 88, fig. 8. But the mention of one fragment in dark-on-light "reed style" may indicate the mixed nature of the deposit, with some LM IA inclusions.

[23] To the same chronology we assign the pottery that comes from a layer under the floor of the *Casa del Vassoio Tripodato*, under the *Edificio Ovest*: La Rosa 1989, 89, pl. XV. The pottery is currently being studied by D. Puglisi.

[24] Girella 2005.

[25] Most of the considerations included in the text and table are based largely on the Ph.D. dissertation of A. Van de Moortel and the work of J. Rutter: Van de Moortel 1997, 24–9, 225–44, and especially 698–730; Rutter 2006.

[26] Betancourt 1990, 37.

[27] Betancourt 1990, 96–123, 220–31; Shaw and Shaw 1993, 134–6; Wright 1996, 140–99; Van de Moortel 1997, 698–726.

[28] Betancourt 1990, 46–8. Different opinions are reported in Wright 1996, 142–3, 187–9, 238–9; Van de Moortel 1997, 27.

AREA	*MM IIIA*	*MM IIIB*
Northern Hilltop	Space NHT 14–15* (B, 117–121; VDM, 719–721)	
Southern Hilltop	Trench 6A* (B, 96–101; VDM, 718–719)	Room 23 (B, 127–129; VDM, 728–729) Room 24 (B, 124–126; VDM, 729–730) Room 28 (B, 50; VDM, 730)
Central Hillside, North Building	Space 16* (B, 113–116; VDM, 701–702) Rooms 57–59 (VDM, 717–718) Room 15 (B, 131–132; VDM, 700–701) Space 20* (B, 52; VDM, 702)	Space 14 (VDM, 729)
Central Hillside, East Building	Room 28 (B, 132–133; VDM, 707–708) Room 29 (Lower floor) (B, 121–123; VDM, 708) Room 30 (B, 53; VDM, 709) Room 31 (B, 134–135; VDM, 709) Room 38 (Lower floor) (B, 135; VDM, 709)	Space 33S (B, 135) Room 29 (Upper floor) (B, 133–134; VDM, 709) Room 38 (Upper floor) (B, 135–136; VDM, 710)
Central Hillside, South Building	Room 44 (Lower floor) (B, 136; VDM, 711–712) Room 51 (Lower floor)(B, 140; VDM, 715) Room 45 (B, 137; VDM, 713) Room 46 (B, 138; VDM, 713) Room 47 (B, 138; VDM, 714) Room 48 (B, 139; VDM, 714) Room 49 (B, 139–140; VDM, 715) Space 52* Room 23 (B, 132; VDM, 702–703) Room 25 (B, 101–112; VDM, 703–707)	Room 44 (Upper floor) (B, 136–137; VDM, 712) Room 51 (Upper floor) (B, 140–141; VDM, 716) Room 7b (VDM, 726–727) Room 8 (B, 51; VDM, 727) Room 9 (B, 131; VDM, 727–728)
Central Hillside, Rampa del mare		Space 1A (B, 130–131; VDM, 726)
Southern Area	Room north of X2* (VDM, 698–699)	
Southern Area, Building T	Room E (R, Group 1) Room 23, first floor (R, Group 2a) Room 24a, first floor (R, Group 3a; VDM, 724) Room 24b, first floor (R, Group 4a; VDM, 725) South of Building T, south façade* (R, Group 11) South of Building T, south façade* (R, Group13)	Room 23, second floor (R, Group 2b; VDM, 724) Room 24a, second floor (R, Group 3b; VDM, 725) Room 24b, second floor (R, Group 4b; VDM, 725) Room 25a, first and second floor (R, Group 5a–b) Room 19 (R, Group 6; VDM, 723) Room 42 (R, Group 7; VDM, 726) Space 16 (R, Group 8; VDM, 722) South of Building T, south façade* (R, Group 12) Space 36, west end (R, Groups 9 a–b) Space 35, west end (R, Group 10) Building AA and bottom of the South Stoa kiln dump (R, Group 14)

Fig. 4 MM IIIA and IIIB deposits at Kommos (deposits with * are fills)
(B: Betancourt 1990, VDM: Van de Moortel 1997, R: Rutter 2006)

floor deposits represent, in my opinion, a MM IIIB modification of MM IIIA floors, following the earthquake in MM IIIA.[29] New preliminary data from the Civic Centre have been published by Van de Moortel; a complete list of MM III and Early LM IA deposits is now published in details by J. Rutter.[30] We are able

[29] See also Rutter 2006, 385–9. Rutter is uncertain whether to consider the deposits contemporary with the "Early LM IA" period or whether they represent an intermediate phase between "MM III" and "Early LM IA".

[30] Van de Moortel 1997, 26, 721–6. Rutter 2006 (Groups 1–14), 381–8.

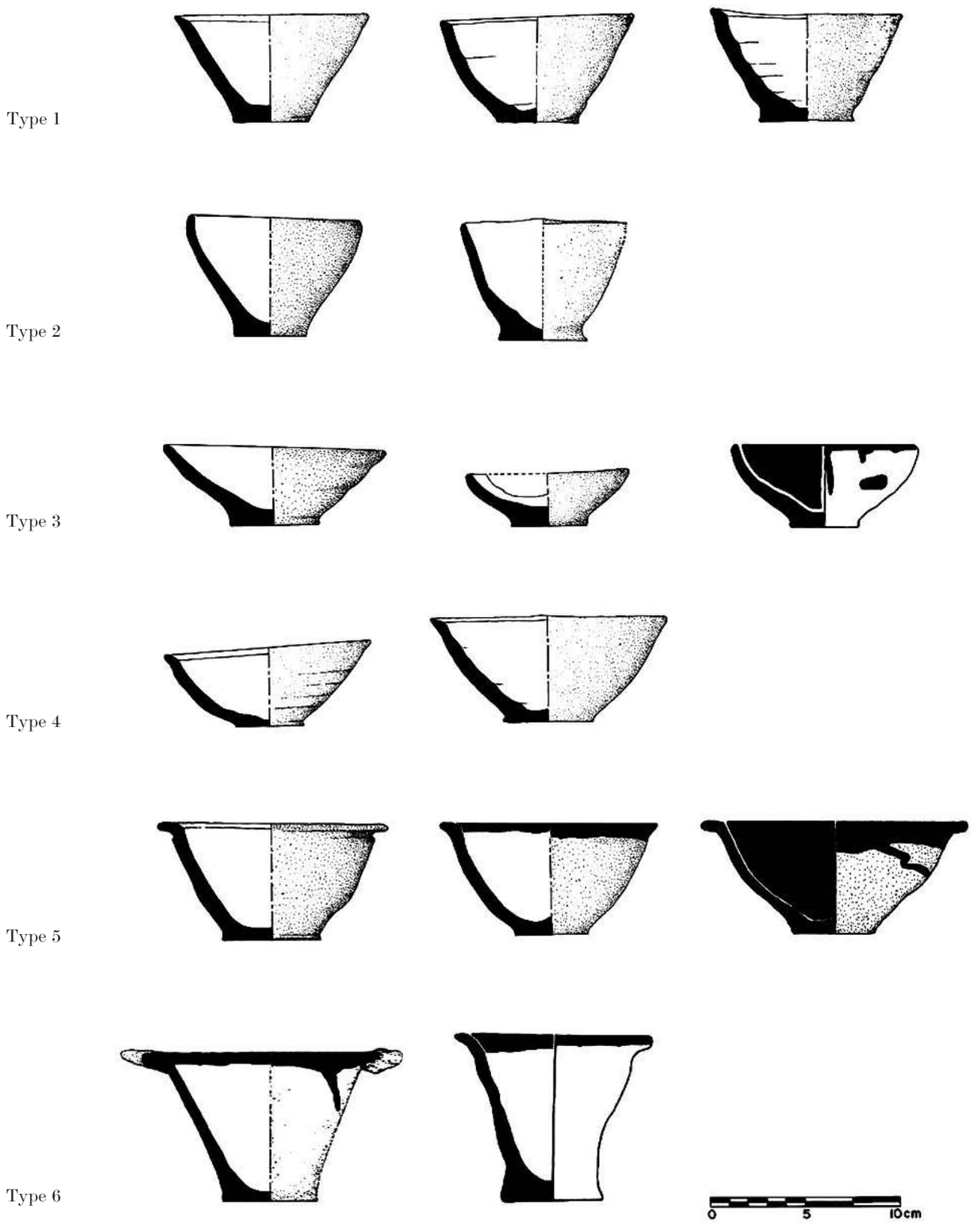

Fig. 5 Typology of MM IIIA handleless cups of South-Central Crete. References: *Type 1:* F 4843b, F 4779c, F 4779a (Levi & Carinci, 1988, pl. 101: r, t, x); *Type 2:* F 4974b, F 714b (Levi & Carinci, 1988, pl. 101: i, l); *Type 3:* F 4972b, F 716a (Levi & Carinci, 1988, pl. 102: n, q); *Type 4:* F 4974c, F 4914a (Levi & Carinci, 1988, pl. 102: r, s); *Type 5:* F 5243, F 4979 (Levi & Carinci, 1988, pl. 103: g, d); *Type 6:* F 5249c (Levi & Carinci, 1988, pl. 103: i); C 4529 (Betancourt 1990, fig. 67) (scale 1:3)

to recognize here the same stratigraphical situation as at the Central Hillside Area, that is, a series of MM IIIA floor deposits and fills stratified underneath others of MM IIIB.[31] These two periodizations are presented in Van de Moortel's publication as MM III and Early LM IA; her entire Early LM IA ceramic assemblage is here considered a MM IIIB phase, well documented at Kommos and with a homogeneous and diagnostic number of stylistic features.

The Evidence from Phaistos, Ayia Triada and Kommos: The MM IIIA Ceramic Perspective

Taking up the second goal of this paper, we arrive at *pottery*, aiming to delineate the main stylistic characteristics that distinguish MM IIIA from IIIB. Morphological, decorative and manufacturing aspects of MM III ceramic production have been extensively discussed by various scholars.[32] The quality and quantity of the ceramic assemblages of the period allow us to identify strong similarities among the assemblages of all three sites. Some of the changes pointed out here have already been discussed by Betancourt and Van de Moortel.[33]

The most notable changes from MM IIB concern the remarkable increase in ordinary vases and the decrease in the variety and quality of high-quality pottery. Whereas morphological changes are less pronounced among the pouring and closed vessels, there is a high variability among the open shapes. The handleless cup production illustrates this variability. Handleless cups are as frequent in MM III as in MM II, but are now badly made, showing an irregular range of shapes, variable wall thickness, diameter, height, and capacity and a number of faults: deformed and irregular walls, mostly small but sometimes medium and large nonplastic inclusions, frequent fingerprints left on the cups, marks from lifting the cup from the hump, sloped bases from uneven cutting of the cups from the hump. Characterization of the evolution and typology is desirable.[34] Six types (1–6) may be distinguished for MM IIIA on the basis of technological criteria and dimensions; another two types (7, 8) represent developments newly introduced in MM IIIB (Fig. 5).[35] One important point must be stressed: we must rid ourselves of the impression that designated types occur in only one ceramic phase. Some MM IIIA types are attested during MM IIIB, but they represent different developments, and other types that occur in MM IIIA show some changes in MM IIIB (Fig. 6).[36]

A second significant criterion for distinguishing MM IIIA and IIIB types is the system of light-on-dark and polychrome decoration, which has so far been considered to be remarkably uniform over a variety of shapes. Among the striking features, in general, is the simplification in the color schemes and motives, as well as the almost total disappearance of impressed decoration on the table ware. The syntactic arrangements are limited to the upper part of the vessels, and include few auxiliary motives. A key pattern of MM IIIA is the thin spirals that usually run on the upper part of straight-sided cups and on the shoulder or belly of the bridge-spouted and open-mouthed jars.[37] Two important MM IIIA key types

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[31] Rutter 2006, 391–5, 402–3. See groups 2a–2b, 3a–3b, 4a–4b, 11–2.

[32] See the basic work of Walberg (1976); also Stürmer 1992; Walberg 1992; Van de Moortel 1997, 642–54.

[33] Betancourt 1990, 37–41; Van de Moortel 1997, 225–35, 379–86, 508–13.

[34] A. Van de Moortel has presented a thorough typology showing various type of cups through MM II, MM III, LM IA, and LM IB phases. Van de Moortel 1997, 32–81, fig. 5–10. Van de Moortel's work has been useful to me as a frame of reference. The present typology is largely based on my own work on the handleless cups from Chalara (Phaistos) and Ayia Triada, and it aims to offer a more simplified typology, as well as to stress the existence of regional variants among the three main sites of the Mesara. As far as the first aspect is concerned, type 1 corresponds to Van de Moortel type B, type 2 comprehends types D, E, F (as these last two are ovoid and semiglobular variants of D), type 3 corresponds to types C and N (the latter is a variant of C), type 4 is A in Van de Moortel's typology, and type 5 comprehends types J and M (the latter is a variant of J). Type 6 is here considered a handleless cup, whereas Van de Moortel describes it as tumbler (Van de Moortel 1997, 117–8). Finally, types 7 and 8 of MM IIIB comprehend respectively types P and V at Kommos.

[35] I prefer to retain the term "handleless cup", even though it is not as widespread as the term "conical cup". The first describes better than the second the whole shapes of the form (conical, semiglobular, ovoid). The present typology takes into consideration previous works that have involved an establishing of the classification of Minoan handleless cups (Fiandra 1973; Betancourt 1986; Gillis 1990; Van de Moortel 1997, figs. 6, 7), but is largely based on my own work on the handleless cups from Chalara (Phaistos) and Ayia Triada.

[36] So, for example, type 8 is attested during MM IIIA at Kommos by two examples, but is more frequent during MM IIIB. At the time of this writing, Kommos is the only site that attests the presence and the evolution of this type.

[37] For Phaistos: Levi 1976, pls. 198d–f; 200m; 206b, h; 207a–i, l; 211n. For Ayia Triada: La Rosa 1977, fig. 19a. For Kommos: Betancourt 1990, figs. 25, 30, 31, 34, 37; pls. 29, 42, 46.

Type 1	Unpainted, with slightly convex or straight-flaring walls, and rounded or flattened rim.	**Type 5**	A convex side cup with outturned rim unpainted or dipped in orange/red/brown paint.
Type 2	Unpainted, with semi ovoid profile, mostly bell shaped.	**Type 6**	Straight rimmed cup, with or without lug handles. The rims are usually dipped in dark paint and a variant has swashes of paint on interior and drips on exterior.
Type 3	Unpainted: a semi-globular cup with convex walls and straight rim.	**Type 7**	Ovoid or semiglobular cup with straight and rounded rim, dark coated inside and outside.
Type 4	Unpainted: a large cup with convex walls, thick and gently outturned or inturned rim, characterized by spiraling finger marks on the interior.	**Type 8**	Ovoid cup with straight rim, dark coated with thick light on dark retorted spirals and white bands on the rim and base.

Fig. 6 Proposed typology of MM III handleless cups

are the straight-sided cups with a series of horizontal grooves cut in the side at regular intervals, and the type with a rounded horizontal bulge in the middle.[38] Both types are very rare in south Crete, but common in Knossos deposits of MM IIB–IIIA, such as the so-called West Polychrome deposit.[39] The first of these types, coated in black with white dots in the rim zone (the so-called "White-Spotted Style"), is one of the main hallmarks of MM IIIA at Knossos.[40] The "White-Spotted Style" in southern Crete is characterized by a spraying of the entire surface of the cup with white paint. Examples from Phaistos suggest that this style begins in MM IIB, when the surface is carelessly sprayed; but, as far as I can see, it also occurs during MM III, and no clear distinction is apparent between the IIIA and IIIB phase.[41]

The main characteristics that I have summarized occur at Phaistos and Kommos, in differing percentages, but not at Ayia Triada, which does not yet show a clear MM IIIA phase. At Phaistos and Kommos, the varied nature of the deposits (fills, dumps, destruction floor deposits, and foundation deposits) allows us to identify on stylistic grounds the initial and final stage of MM IIIA. At Phaistos this first subphase can be recognized primarily from the deposits of the eastern rooms LXXXVI–LXXXVII and from the foundation deposits below rooms XCI and XCIII of the *Casa a Sud della Rampa* (Fig. 7). I would assign the assemblage from the collapsed floor of the West Bastion and the deposits of rooms 18 and 50 in the palace to the same subphase.[42] The key feature of this initial stage is the persistence of the MM IIB light-on-dark pattern tradition, clearly noticeable in the table ware. In north-central Crete the major comparanda for this subphase come from group E at Knossos and from the destruction deposit at Anemospilia/Archanes. In respect to the decorated pottery, the subdivision of the surface into two or three horizontal zones and the use of motives originated during the MM II period are two decisive aspects. The motives are: spiky foliate bands, rows of dots, interlocking S-spirals, crescents, chevrons, solid arcs, quirks, cross-hatchings, rows of arcs, and the heavy open running spirals in which closed spirals resemble crashing waves. This last pat-

[38] Levi 1976, pl. 209p (F 4755); pl. 212s, t (F 3202, 3708).

[39] MacGillivray 1998, 71 (types 11, 12), fig. 2.10, pls. 17, 18, 79, 81, 156. The provenience of the cups from mixed contexts at Knossos (groups E and P) leaves open the chronology between the close of MM IIB and early MM IIIA, but the occurrence of this type from deposit B of the Acropolis Houses indicates that, produced before the end of the MM IIB, it was a key form of MM IIIA (Catling *et al.* 1979, fig. 18.49, 95–8). There is one example of a straight-sided cup with horizontal bulge from Knossos, which is attested in a possible MM IIIA context; see MacGillivray 1998, 72 (type 13), pls. 17, 79.

[40] The type is also attested in large numbers from the Anemospilia/Archanes deposit and, for this reason, is known in the recent literature as the "Archanes Cup". Sakellarakis and Sakellaraki 1997, fig. 383l, m. For a recent discussion of the Anemospilia assemblages, see Girella 2001. Recent considerations of the "Archanes Cup" are in Macdonald 2004, fig. 18.1a, d.

[41] Levi 1976, pl. 210e–m.

[42] For a preliminary definition of this early MM IIIA phase see Carinci 2001; Girella 2001.

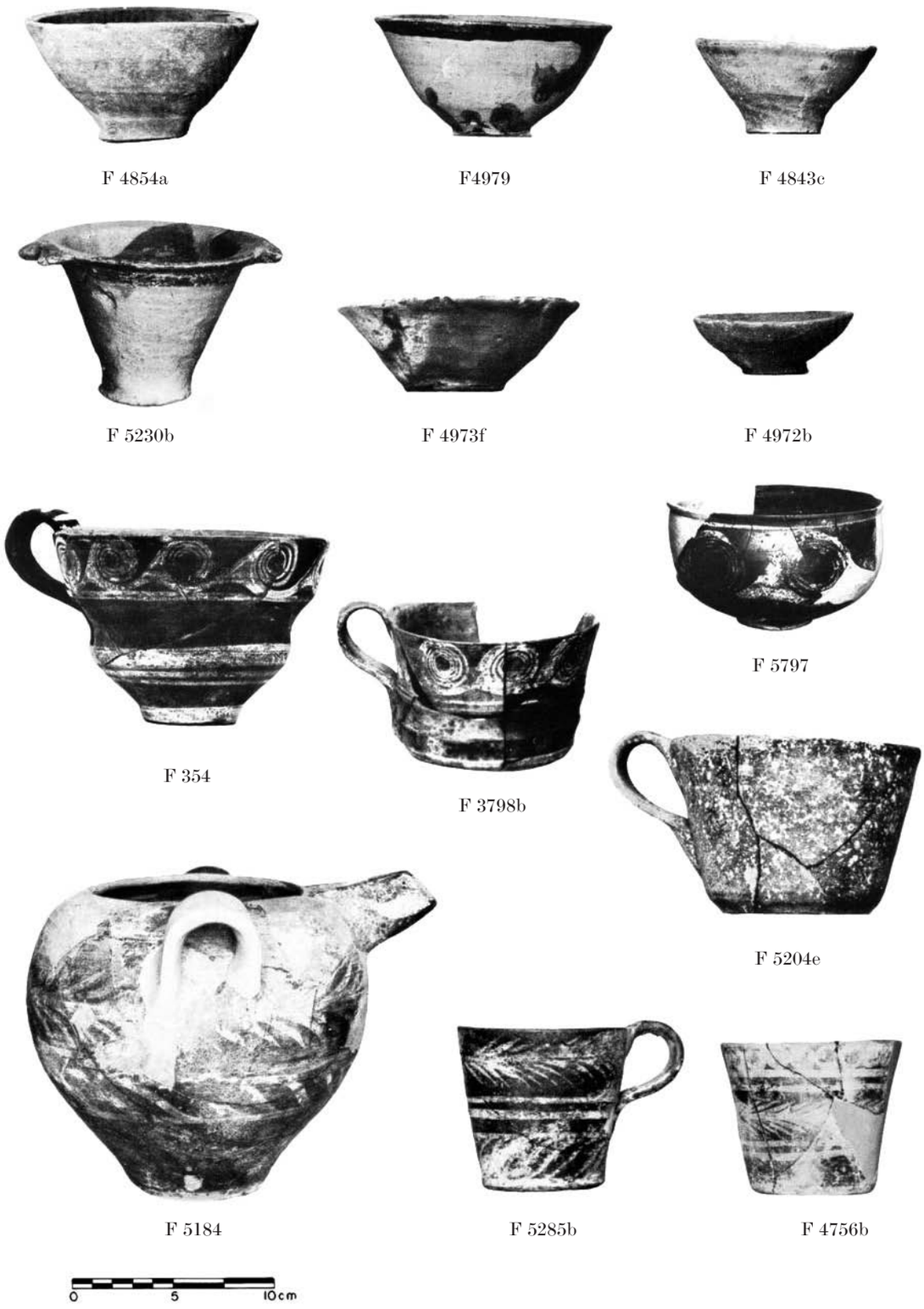

Fig. 7 MM IIIA vessels from *Casa a Sud della Rampa* (Phaistos) (scale 1:3)

tern, which originated in the MM IIB period at Phaistos, appears also in MM IIIA at Phaistos and at Knossos. The assessment of its chronological position is crucial for understanding the date of Minoan and Minoanizing vases outside Crete, such as the small jug from the Troy V cist grave.[43]

The second subphase of MM IIIA is marked by a general horizon of destruction and is recognizable at both Phaistos and Kommos. Three important new patterns, which seem to exemplify a general stylistic trend of MM IIIB, are (1) the thick retorted spirals, (2) the pictorial style, represented by polychrome vegetal motifs presented in naturalistic manner (lilies, crocuses, palm trees) and (3) the "finicky" style, which occurs on serving vessels, represented by conglomerate patterns, dot rosettes, rows of arcs, lozenges, and triangles. The most important evidence for this second subphase is illustrated by the rich floor deposit of room CH 25 at Kommos (the Pithos Room) and those from the *Casa a Sud della Rampa* at Phaistos (Fig. 8).[44] The three new patterns, which appear in the mature stage of MM IIIA, continue during MM IIIB (as the common light-on-dark motives of the period), but they seem to drop out in LM IA.

Apart from the strong similarities between the ceramic assemblages at Phaistos and Kommos, I would point out some internal differences that, far from being purely accidental, could reflect different rhythms of ceramic production. First, the rise in the frequency of ordinary vessels is much more pronounced at Kommos than at Phaistos. This trend is observable, for instance, by the occurrence at Kommos of medium-coarse bridge-spouted jars, which are absent at Phaistos.[45] In addition, I stress the presence of small non-local ceramic fragments decorated with thick tortoise-shell ripple lines, which come from MM IIIA deposits and fills at Kommos.[46] These are the only examples of lustrous dark-on-light patterned designs found in MM IIIA contexts of the western Mesara. I believe that this speaks in favor of a capacity for Kommos to maintain long-distance relationships. At Phaistos we do not have lustrous dark-on-light patterned pottery, and the ribbed Vapheio cup F 5219a with tortoise-shell ripple, from room XCIII of the *Casa a Sud della Rampa*, is the only example of a light-on-dark version of this class.

The Evidence from Phaistos, Ayia Triada and Kommos: The MM IIIB Ceramic Perspective

If we leave behind MM IIIA in order to concentrate on MM IIIB, the apparent lack of evidence may seem awkward. As was mentioned above, the identification of MM IIIB has been seriously obscured by the use of different terminologies. My present opinion is that deposits with the same composition have been labeled with diverse terminologies on the basis of the absence or presence of characteristics considered to be elements of a lower chronology (that is, LM IA), such as the occurrence of the lustrous dark-on-light patterned vases.[47] The significance of the diverse and assymetrical distribution of these characteristics lies in our ability to understand whether the characteristics are contemporary. It is proposed here that the validity of using one single terminology for MM IIIB is supported by the similarities of the three sites, despite some internal differences. The variations in the composition of the deposits are here interpreted as local differences in ceramic production that are much more pronounced in MM IIIB than in MM IIIA. In fact, MM IIIB presents an unstable picture, relative to MM IIIA, in the distribution of ceramic features. The presence or the absence of such characteristics, taken here to reflect crucial changes in ceramic production, also have relevant consequences for distinguishing MM III from LM IA. So, for example, the occurrence of lustrous dark-on-light decorated pottery may not be a reliable criterion for identifying MM IIIB in the western Mesara. This new class is rare and has an unusual fabric that may come from outside the Mesara and may be primarily Knossian.[48]

More useful to our analysis are the changes in production between MM IIIA and IIIB. Here, there are no remarkable differences in manufacturing practices, but noticeable changes in respect to the mor-

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[43] Korfmann 1997, 32–8, pls. 31, 32.

[44] Betancourt 1990, 101–12; Wright 1996, 182–4; Van de Moortel 1997, 703–7; Carinci 2001.

[45] Van de Moortel 1997, 143, figs. 38, 39.

[46] Betancourt 1990, fig. 27 (C 2578), 38 (C 489), 61 (C 2159, C 4929), 62 (C 1285), 63 (C 644); Van de Moortel 1997, fig. 81 (C 9033).

[47] A relevant summary of the problem is in Warren 1999, 895–6. See also Girella forthcoming b.

[48] Otherwise, as Driessen and Macdonald clearly pointed out in a brief, incisive guide to the identification of MM III to LM IB pottery, "It [MM IIIB] is the period *par excellence* of tortoise-shell ripple, and it may be that close study would reveal that certain kinds of tortoise-shell ripple belong here rather than earlier or later" (Driessen and Macdonald 1997, 19). The role of Knossos in the diffusion of lustrous dark-on-light vessels in south Crete at this stage is very important, but is not yet entirely clear in terms of imports and local production. See also Girella forthcoming b.

Fig. 8 MM IIIA vessels from *Casa a Sud della Rampa* (Phaistos) (scale 1:3)

phological and decorative repertoire. For example, in handleless cup production we observe a reduction in size of types 1 and 5 and thinner walls in type 4, and while no changes are apparent for types 2 and 3, the occurrence of monochrome cups with thick retorted spirals (types 7 and 8) is among the striking features of the production in MM IIIB (Fig. 9). As has been argued elsewhere, the new types 7 and 8 could be a replacement for coated straight-sided cups with handles, whose production seems henceforth less common. However, because the strong similarities between the MM IIIB and the subsequent LM IA production do not always allow us to distinguish between the two stages, this criterion is most reliable when applied to large assemblages or in combination with other criteria. There are no obvious morphological changes in vessel types, in spite of the occurrence of several regional differences such as the production at Phaistos of pedestal vases, mostly the bridge-spouted jars, which are rare at Kommos. These vessels now have a more elongated profile, coarse coil handles, narrower spouts and pedestal bases. In contrast, among the handleless cups, the type 8, with thick retorted spiral in white paint, represents a typical Kommian feature, as is indicated by the diffusion of this type during the subsequent stage.[49]

[49] Van de Moortel 1997, 63–5, 73–4; Shaw *et al.* 2001, 43, 66–7.

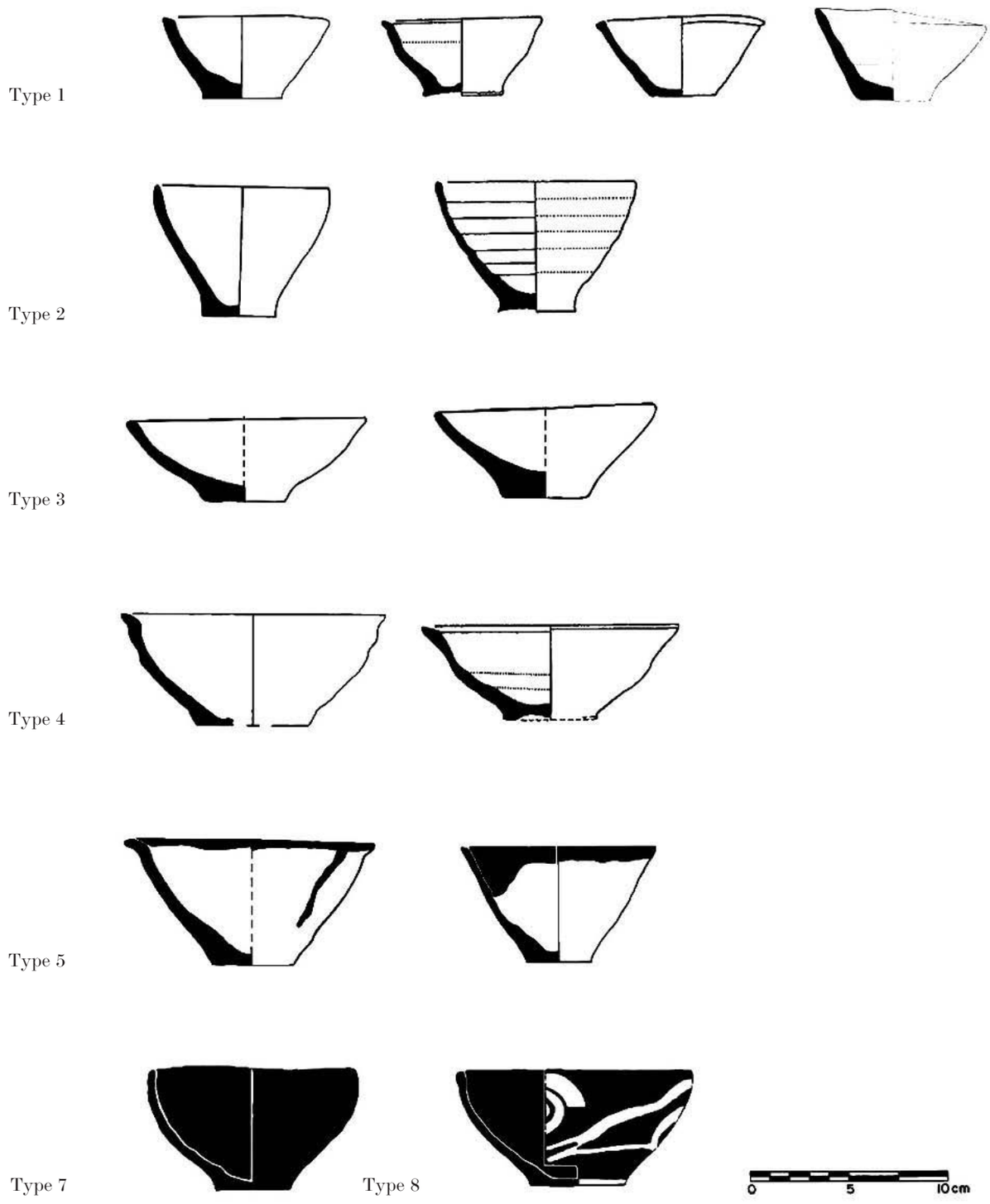

Fig. 9 Typology of MM IIIB handleless cups of South-Central Crete. References: *Type 1:* C 1044 (Betancourt 1990, fig. 40); C 7443, C 6651 (Van de Moortel 1997, fig. 7); HTR 2555 (unpublished); *Type 2:* C 232 (Betancourt 1990, fig. 59); C 7613 (Van de Moortel 1997, fig. 7); *Type 3:* HTR 2554, HTR 2495 (unpublished); *Type 4:* C 6775, C 7746 (Van de Moortel 1997, fig. 27); *Type 5:* HTR 2566 (unpublished); C 6609 (Betancourt 1990, fig. 67); *Type 7:* C 6648 (Rutter 2005, pl. 3.27); *Type 8:* C 168 (Van de Moortel 1997, fig. 7) (scale 1:3)

A general trend in the occurrence of dark-ground painted pottery is observable at the three sites. The monochrome coated vessels are more frequent than before, and are associated with a strikingly simple decorative repertoire. Indeed, the polychromy is reduced to marginal and subsidiary motives and the range of light-on-dark patterns is largely restricted to thick retorted spirals, horizontal or wavy lines, and veining. A possible successor to the MM IIIA pictorial group is the so-called "lyrical floral" style, presently reported from Kommos, Ayia Triada, Phaistos, Kamilari (tholos A), and Kouses, but in uncertain or disturbed contexts between MM III and LM IA.[50] Marked by a high quality of manufacturing, this new style, which is also attested in transport vessels, shows strong links with the vessels in the "finicky" and pictorial style of MM IIIA.

Lustrous dark-on-light patterned vessels are more common in MM IIIB than before. The slight presence of this class at Ayia Triada and Kommos is a notable change of this period; its presence at Phaistos is relatively less than at these two sites.[51] In spite of the asymmetrical composition in the ceramic assemblages at Ayia Triada and Kommos, common motives and techniques can be identified. The decoration consists of tortoise-shell ripple, executed with finer lines and more lustrous dark color than before, but other motives (diagonal and horizontal bands, running spirals, lunettes and solid waves) are represented from this point on. The patterns are restricted to cups, bowls and small pouring vessels. Though we cannot at present identify the centre of production of this new class, Ayia Triada, where the motives show more variety, may be a good candidate. In addition, the non-local fabric of some fragments from Kommos has revealed the existence of imports from north and east Crete.

A number of deposits that illustrate in different combination the characteristics summarized above can be used to define the MM IIIB ceramic phase in south-central Crete, bearing in mind the problems of the quality and composition of each assemblage. These deposits are currently characterized under different terminologies: MM III or "III protopalatial phase" for Phaistos, MM IIIB/LM IA for Ayia Triada, and MM IIIB/LM IA or Early LM IA for Kommos. Likewise, A. Van de Moortel, using the Kommian criteria, has considered the two Phaistian deposits, discussed below, having an Early LM IA rather than MM III date.[52] I propose, nevertheless, that these deposits show the existence of separate MM IIIB and LM IA phases, since their overall character appears to support a MM IIIB date. Most of the vessels that come from the Kamilari tombs could be dated to MM IIIB. The occurrence of monochrome decoration, the limited variety of white patterned vessels (largely limited to thick retorted spirals, veining, vertical reeds and splashes), the frequency of elongated shapes and bridge-spouted jars with pedestal bases are the main indicators for the MM IIIB chronology.[53] These criteria for dating can only be confirmed, however, on the basis of further investigation of their stratigraphical position.

Phaistos

Northeast sector of the palace: room 104. The deposit comes from an unstratified context. Nonetheless, it presents a homogeneous composition that is valuable for our analysis.[54] The deposit comprises mainly table ware, coated in dark brown, red brown and red paint, with one main motive in white paint: the large and thick retorted spirals. The shapes in use include large straight-sided cups, tall and deep hemispherical cups, tall and elongated oval-mouthed amphoras, small jugs with rounded or cutaway neck, and bridge-spouted jars with pedestal bases. Despite the lack of stratigraphical evidence, the deposit may belong to MM IIIB. The main indicators are the

[50] The most famous example is the amphora F 2723 from the Kamilari tholos tomb: Levi 1961–62, 119, fig. 169; Levi 1976, pl. LXXVII, 189 b. On the Lyrical Floral Style see also Van de Moortel 1997, 291–3.

[51] Two neglected lustrous dark-on-light decorated vessels that come from the floor deposit of room LXXIII at Phaistos, cups F 2709 and F 2822, are decorated with horizontal bands on the exterior and tortoise-shell ripple and horizontal bands on the interior (see Fig. 10). At Ayia Triada, in addition to the sherds from the *Casa della Soglia Alabastrina* (D'Agata 1989, pl. XXIe, g; XXII), we mention the unpublished cup HTR 713 from the dump below rooms 62 and 65a of the Villa and the jug HTR 2559 from trench M/4 in the northeast sector. Lustrous dark-on-light vessels of Kommos, which come from stratigraphical contexts, are the askoi C 1045, C 1066 from room 24 of the Southern Hilltop (Betancourt 1990, fig. 40.847, 848), the fragment of closed vessel C 10033 from room 23 of Building T and the stirrup jar C 6654 from room 19 of the same complex (Van de Moortel 1997, 236–7, fig. 81); the latter is considered to be imported from Knossos.

[52] Van de Moortel 1997, 388–9.

[53] Levi 1961–62, figs. 49–53, 55i, 55m, 67, 73a–c, e, f, 74, 79, 82, 84, 95, 100, 102, 109, 113, 154–7.

[54] Pernier 1935, figs. 221–4.

[55] Levi 1961–62, fig. 160; Levi 1976, 432–6.

oversized straight-sided and hemispherical cups; the more elongated form of the closed vessels, in particular that of the oval-mouthed amphoras; the use of the pedestal base with a plastic ring as link; and the markedly high proportion of thick and retorted spiral decoration.

Area south of the palace: room LXXIII. The floor deposit of this room is currently labeled MM III, but it resembles more clearly the composition of the MM IIIB pottery style at Phaistos (Fig. 10).[55] We can distinguish two new types of handleless cups: the low, ledged-rim cup and the large semiglobular cup dark-slipped in and out. Second, the deposit boasts at least two in-and-out bowls: one decorated with bands outside and tortoise-shell ripple inside (F 2822), the second with bands in and out (F 2709). This decoration is one of the main hallmarks of the MM IIIB deposits at Knossos. Other diagnostic features are the elongated outline of the jugs and bridge-spouted jars; the use of the pedestal base in the small jars; the ovoid body of the ewers, with concave flaring neck, sloping rim and a single handle with circular section encompassing the rim. The type was decorated with dark monochrome paint or with light-on-dark thick retorted spirals. The polychromy is rare, and the range of light-on-dark motives is largely restricted to thick retorted spirals, white splashes on dark ground and veining, the last one of which I believe to be a MM IIIB introduction. At Knossos, this motive is found on MM IIIB/LM IA transitional vessels.[56]

Ayia Triada

The material from the first three deposits discussed below has been labeled as MM IIIB/LM IA for many reasons: the first two, by La Rosa, because of the mixed composition of MM IIIB and LM IA pottery, and the third by A. L. D'Agata, after the publication of the Unexplored Mansion by M. Popham. The publication of a large deposit from the Stratigraphical Museum excavations at Knossos by P. Warren assigned all of these deposits to the "MM IIIB/LM IA transitional" phase.

Villa: foundation deposit from corridor 74. The deposit presents a small set of vessels: two bridge-spouted jars, six handleless cups, one saucer and one brazier.[57] I have examined the pottery, with the kind permission of La Rosa, and I am not altogether convinced that it belongs to a later period. On the contrary, it seems clearly assignable to MM IIIA, because of the absence of dark-on-light patterned pottery and, mostly, the close connection with the Phaistian deposits of the same period. The date of the context in any case suggests an important, even if modest, building operation at the site.

Villa: deposit from rooms 62, 65a, 66a. The trench along the northern foundations of the Megaron has revealed several stages in the building of the villa, of which the earliest was a dump containing MM III pottery, mostly handleless cups.[58] The dump consists of about 200 handleless cups, straight-sided cups, saucers, fruit bowls, milk jugs, juglets, small open jars, bridge-spouted jars and a rare shape of alabastron. The dark-on-light patterned pottery is rare, limited to few examples and restricted to dipped rims and tortoise-shell ripple. In contrast, the most frequent monochrome decoration, in conjunction with isolated cases of light-on-dark decoration, shows that we are justified in identifying the deposit as MM IIIB rather than MM IIIB/LM IA. The MM IIIB date is also supported by the handleless cups of the deposit, which are different in shape as well as in size from those of MM IIIA. Type 1 tends to be strictly conical, with narrower base and thick and flattened rims. We note also examples with faintly everted rims and a variant with gently ogival profile. Type 5 with everted and dipped rim is on the average smaller and narrower than the MM IIIA examples. Type 2, with semiovoid profile, is taller than before and the variant with belled outline does not appear.

North sector: burnt destruction level below room Q, Casa della Soglia Alabastrina. This deposit continues to be the subject of discussion.[59] In the preliminary publication, A. L. D'Agata concluded that the deposit does not yet belong to the mature LM IA, but she added that it cannot be defined as typical of MM III at Phaistos. The MM IIIB/LM IA date supported the definition of Warren's transitional phase. The core of the problem lies in the nature of the deposit, a secondary deposit of destruction material used as fill at the beginning of LM IA. If LM IA is the date of its deposition, that dating does not apply

[56] Warren 1991, figs. 8E, F, 9B, C; Popham *et al.* 1984, pls. 142.3, 144.11, 13, 19, 145.3. See also Van de Moortel 1997, 389, note 239.

[57] La Rosa 1977, figs. 10–2.

[58] La Rosa 1985, 191–2, pl. Ib–f; La Rosa 1989, 82–3, pl. XVI.

[59] For a date to the Advanced LM IA see Van de Moortel 1997, 282–5.

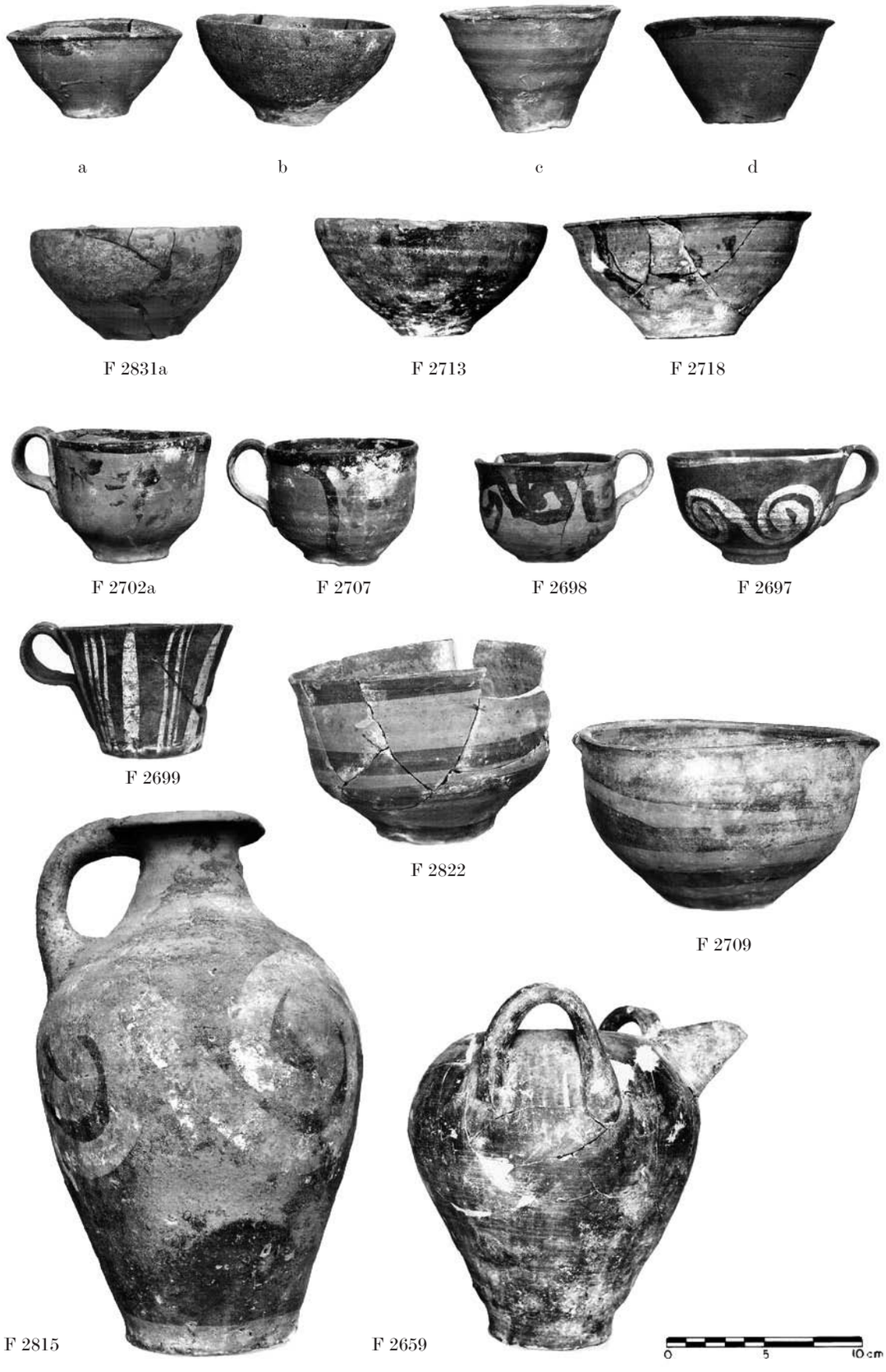

Fig. 10 MM IIIB vessels from the floor deposit of the room LXXIII (Phaistos), a–d, F 2831a, F 2718, F 2659 are unpublished (scale 1:3)

to the overall character of the deposit, which should be considered MM IIIB, even though it exhibits new characteristics.[60]

Light-on-dark patterning is most frequent decoration, followed by monochrome and polychrome decoration. Light-on-dark is found on handleless cups, straight-sided cups, hemispherical cups, bowls, basins, small miniaturistic jars and bridge-spouted jars. The motives are restricted to bands, dots or curvilinear lines. The polychromy consists of white and red bands or rosettes. Dark-on-light patterned pottery is less common, limited to rounded cups, handled globular cups, handled bowls with ledged rim, one Vapheio cup, and bridge-spouted jars. Motives are largely restricted to running spirals and, more frequently, tortoise-shell ripple, the latter quite common on the rounded cups and bowls with everted rims. The composition of the deposit, with its predominance of light-on-dark and monochrome pottery and the narrow range of dark-on-light motifs, best represents the characteristics of the MM IIIB period. I do not want to understate the presence of hints of LM IA, mostly in dark-on-light patterned pottery, but we cannot forget that these features represent the date of the deposition of the material, after MM IIIB.

Northeast sector: trench M/4. The study of this MM IIIB pottery dump, uncovered in 1993 and in 1995, further expands our understanding of this phase at Ayia Triada.[61] The jumbled condition of material, the packing of the vessels, and the semicomplete preservation of large and small vessels indicate the secondary nature of the deposit, which is likely the result of a cleaning operation. The deposit contains small, medium and large-sized vessels; the material yielded at least 470 handleless cups, of which 105 are catalogued (see, in Fig. 8, HTR 2554, 2555, 2495, 2566). Other common shapes in use are straight-sided and hemispherical cups and bridge-spouted and open-mouthed jars. The domestic character of the deposit is corroborated by the presence of large bowl, jugs of various sizes, oval-mouthed amphoras, cooking pots and pithoi.[62] There is a great amount of simple plain pottery, and the dark coating has a dilute appearance and is frequently fired red or dark brown. The main characteristic of the deposit is the enormous frequency of monochrome pottery, with an interesting trend toward simplicity in the dark-ground decorative repertoire, which is restricted to horizontal or diagonal bands and rare thick retorted spirals. Polychromy is largely restricted to auxiliary bands. The range of dark-painted motives is very small, consisting mostly of tortoise-shell ripple, horizontal bands and running spirals, surprisingly on just two vases. My preliminary view is that the deposit could be placed in MM IIIB. The restricted use of dark-on-light patterned pottery, as well as the unusual reduction in light-on-dark decoration, clearly shows that the deposit is antecedent to the LM IA period, but subsequent to MM IIIA production. In addition, I would point out the poor fabric of the vessels; the dilute character of the dark paint; the scarcity of polychromy; the simplicity of light-on-dark motives in comparison to the range of Phaistian deposits; the presence, even though restricted, of dark-on-light patterned pottery; and the presence of few important hallmarks of the phase, such as the low version of the type 1 handleless cup, the semiglobular type dark-coated in and out (type 7), and the plain semiglobular cup with lower and thicker walls (type 2).

Kommos

Twenty-four MM IIIB deposits have been isolated at Kommos (Fig. 4).[63] Given the homogeneous composition of their assemblages, I shall sum up here the overall ceramic features. Kommos presents for this period, in general, small-sized and primarily fragmentary deposits. While the large percentage of handleless cups and plain table vessels allows the identification of diagnostic features, there are no obvious changes among the pouring and storage vessels. Thanks to the initial characterization by Betancourt and the further review by Van de Moortel, we are now in a position to isolate these principal characteristics:

1) The occurrence of morphological changes in the production of handleless cups similar to that at Phaistos and Ayia Triada, but with a well-documented appearance of two new types of cups (7 and 8) (Fig. 8).

2) A sharp reduction in light-on-dark patterned motives, accompanied by a drastic decrease in polychromy and a reduction in motives to a single motive (thick retorted spirals).

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[60] D'Agata 1989, pls. XXI, XXII.

[61] Preliminary notices are in *ASAtene* LXXI–LXXIII (1998), 418–9, figs. 16, 18, and Girella 2003b; Girella forthcoming b.

[62] Girella forthcoming a.

[63] Betancourt 1990, 41–8; Van de Moortel 1997, 235–44, 721–30. Rutter 2006, 387–8, 409–13.

3) A large diffusion of monochrome decoration among both the open and the closed shapes.
4) A relative abundance of lustrous dark-on-light patterned vessels with a range of motives heralding the LM IA production (tortoise-shell ripple, diagonal and horizontal bands, running spirals, isolated semicircles, lunettes and solid waves), found in fragmentary condition and in a limited range of shapes.
5) The existence of a great quantity of imports, mainly from north Crete, but also from east Crete, Gavdos and Cyprus.[64]

This summary touches on one of the main problems of the MM III chronological sequence. If we assume that the MM IIIB deposits from Phaistos, Ayia Triada and Kommos are contemporary to each other, we have to admit variation in the distribution of dark-on-light patterned pottery and in the proportion of light-on-dark and dark-on-light patterned vessels. The explanation of this lack of uniformity lies in the nature of the deposits themselves and also in the regional character of the pottery production. In the Phaistos assemblages, this regional variation seems wider. The isolated occurrence of dark-on-light patterned pottery, in comparison with the markedly high proportion of the white thick retorted spirals style, rather than being a casual occurrence, seems to indicate a more impressive difference in pottery production between Phaistos and the other two centers.

As we have stressed above, in this stage the three sites develop some characteristics that appear to be unique for any site. Phaistos shows the persistence of the old production, with maintenance of the light-on-dark style and polychromy. It seems impervious to the new ceramic trends, represented by the lustrous dark-on-light vessels. Ayia Triada illustrates an asymmetrical picture, represented at the moment by different deposits that do not at all show the abandonment of the MM IIIA tradition, but which probably present the first local production of lustrous dark-on-light pottery. Finally, the Kommian MM IIIB assemblages illustrate the growth of plain production and the lack of lustrous dark-on-light patterned vases in local fabric. Thus there is enough evidence to propose the existence of two or three different but contemporary pottery productions.

As far as we can observe, the MM IIIB phase is distinguished from MM IIIA by several characteristics. These new features are more subtle than the differences between MM IIB and MM IIIA, suggesting that the time lapse was not very long. A preliminary sketch of these features is presented here:

1) A new dark paint, fired red or brown in color instead of the black that is common in MM IIIA. The paint seems to be more dilute and its varied texture might be related to changes in firing; for example, the diffusion of a red-fired dark paint could be explained by a more oxidizing atmosphere in the pottery kiln.
2) A new range of handleless cups, with the inevitable presence of some MM IIIA vessels and hints of LM IA.
3) Variations in straight-sided cups, with molded base and, in several cases, elimination of the bevel at the base of the wall.
4) Frequency of monochrome decoration.
5) A substantial amount of light-on-dark decoration, continuing the MM IIIA tradition, but with a restricted range of motives: speckles, horizontal bands, thick and retorted spirals, quirks, diagonal bands, wavy lines, semicircles.
6) A restricted use of polychrome decoration, mainly floral stylized motives in red and white on dark ground, occurring on cups and bowls. Simple auxiliary red bands on closed vessels.
7) The first occurrence of lustrous dark-on-light patterned vases, with a non-homogeneous distribution of new motives (tortoise-shell ripple, diagonal and horizontal bands, running spirals, isolated semicircles, lunettes and solid waves). In-and-out bowls with bands, wavy lines and tortoise-shell ripple. Tortoise-shell ripples on cups and bowls. Spirals, some solid-centre, and crescents rarely occur. The vessels with this technique have well-fired clay and are coated with a pinkish, pinkish/yellow slip and with dark or reddish lustrous paint.

[64] For the problem of the imported vessels at Kommos see Betancourt 1990, 191–2. Other imported vessels come from Building T of the Civic Centre: a stirrup jar and a teacup from Knossos, other teacups decorated with dark-on-light spirals from an unknown Minoan production centre, a collar-necked jar from east Crete, a large convex-sided cup from Gavdos, and a jug from Cyprus. Apart from the stirrup jar published in Van de Moortel 1997, fig. 81, the above-mentioned vessels are now published in Rutter 2006, pl.3.29 (8/3), pl. 3.30 (9b/2), pl. 3.28 (8/6).

Concluding Remarks

The assemblages from these three major sites appear to reveal an unstable state of the MM III sequence, although much work remains to be done in order to properly reassess all the deposits. Indications exist for justifying a MM IIIA and IIIB subdivision, and although these are not as substantial as could be desired, the subdivision is supported by stratigraphical and stylistic observations. On the basis of the evidence, the first stage is marked by a great destruction, perhaps a seismic event; this event could be the same as that affecting Knossos, Galatas and Anemospilia in north Crete. A MM IIIA destruction has recently been identified at Palaikastro, in eastern Crete.[65] Furthermore, the overall impression given by the deposits assigned to MM IIIB is that this second stage was marked again by a great destruction. I think that it is reasonable to accept the suggestion that the so-called Great Destruction at Knossos and damage elsewhere in the island was caused by a single earthquake datable to MM IIIB and that this event might be considered contemporary with the seismic destruction on Thera (Early LC I).[66]

As I outlined at the beginning, I believe in the value of the traditional division of MM IIIA and MM IIIB. In spite of regional differences on the island, I have come to the conclusion that these two phases are sufficiently recognizable, bearing in mind the previous and subsequent character of the pottery production of each region, since the impression given by deposits assigned from MM IIIA to LM IA is one of uninterrupted development over a short time span and relative continuity in production showing a narrow range of innovations.

The use of Evans's terminology helps to understand the local sequence of each region and facilitates the establishment of links across the whole island. The synchronisms between the western Mesara and Knossian subdivision needs to be further worked out, but a number of issues can already be raised. The composition of the large deposit from the Stratigraphical Museum at Knossos indicates, to my mind, that the label MM IIIB is preferable to the cumbersome MM IIIB/LM IA transitional stage. Two other deposits outside the palace, as has been recently pointed out by C. Macdonald, could be fitted in the same label: that from the South Corridor of the Unexplored Mansion, and the deposit from the Hellenistic Kilns Area.[67] These three deposits are secondary in the nature of their contexts and they belong to the same destruction horizon that affected the palace at the end of MM IIIB.[68] The same isolation of MM IIIB and LM IA deposits has been recently observed at Palaikastro, where the identification of MM IIIB deposits has been possible on the basis of stratigraphical and stylistic grounds.[69] The MM IIIB deposits from Palaikastro show a correspondence with the MM IIIB at Knossos, and surprisingly even with those from south Crete. They include light-on-dark and dark-on-light patterned pottery. The light-on-dark motives are horizontal bands, retorted and running spirals, and pendant festoons, but also foliate scrolls, which are very rare in central Crete. The polychromy is almost absent and the monochrome decoration is widespread; the dark-

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[65] MacGillivray *et al.* 1998, 254–5; Knappett and Cunningham 2003, 111.

[66] The problem lies in the interpretation of the secondary deposits from Akrotiri, where there appears to be a number of sherds that could date to MM IIIB: Marthari 1984, fig. 7 and Marthari 1990, 66–7. Aside from the possibility of unifying Warren's transitional phase with MM IIIB, the chronology of the seismic destruction level at Akrotiri is still open and the material from that level does not completely satisfy any direct synchronism with MM IIIB in Crete. From the photographs in Marthari's articles it is clear that the dark-on-light sherds decorated with ripple and spiral patterns, as well as the rare light-on-dark spotted ware, correspond with the composition of MM IIIB Knossian deposits, but, as far as we can observe, there is no clear deposit at Akrotiri that is strictly dated to the MM IIIB in Cretan terms that overlies the deposits that contain MM IIIA pottery: I. Nikolakopoulou (pers. comm.). For this reason, it would be wiser to maintain the Cycladic terminology of Early LC I until the synchronisms with the final stage of the MM period can be clarified. For the MM III comparisons at Akrotiri see Knappett and Nikolakopoulou 2005.

[67] For the Unexplored Mansion see Popham *et al.* 1984, 94–7, 158, pls. 141, 142, 144, 145, and Macdonald 2004, 241–2. For the Area of the Hellenistic Kilns see Macdonald 1996, pl. 3A; Macdonald 2002, pl. VIIIe (right), IX; MacDonald 2004, 242, 248, fig. 18.1e, 18.2a, e, 18.3 ii, and Hatzaki in this volume. For the MM IIIB date of the deposits from the palace see Hood 1996 and Macdonald 2002.

[68] For a different approach to the MM IIIB pottery of Knossos, mainly based on the identification of "pottery groups" rather than the "traditional" nomenclature, see the contribution of E. Hatzaki in this volume.

[69] The most recent works on Neopalatial pottery are Bernini 1995 and Knappett and Cunningham 2003. The latter makes some corrections to Bernini's paper and shows stronger arguments for separating the MM IIIB and LM IA phases at Palaikastro.

on-light patterned motives are not very common, and are restricted to dipped rims, tortoise-shell ripple, wavy lines and spirals.

In light of these observations, here necessarily summarized, our present analysis shows that MM IIIB in south-central Crete (variously labeled as MM IIIB/LM IA or Early LM IA) corresponds in date and in ceramic composition to MM IIIB in northern as well as in eastern Crete. These synchronisms suggest close contacts among the diverse areas, as well as imitation within Mesara pottery production, but suggest also sufficient differences to demonstrate that north, south and east Crete belonged to different ceramic traditions.

Reassessing the MM III sequence of south-central Crete is probably the first step that we need to take toward the acceptance of a single terminology for the whole island. Such an effort would help us to build a systematic chronological framework valid for all of the Aegean, although, for the time being, the scrupulous employment of Evans's terminology remains one of the most pressing unsolved problems. As long as ceramic *styles* are equated with ceramic *periods*, the frustrating debate on MM III will continue to be misunderstood. Ceramic styles may continue for some time, but ceramic periods are identified by a restricted number of shapes and decorations that constitute the type fossils. Thus we can find MM IIIB as a style in the LM IA period, and vessels stylistically datable to MM IIIB that possibly were produced in LM IA.

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Kamares or Not Kamares? This is [not] the Question. Southeast Aegean Light-on-Dark (LOD) and Dark-on-Light (DOL) Pottery: Synchronisms, Production Centres, and Distribution[1]

Nicoletta Momigliano (with a contribution by Carl Knappett)

News of discovery of "Kamares" pottery outside Crete always brings a certain excitement to Aegean and non-Aegean archaeologists alike for a number of reasons: this is one of the most easily recognizable prehistoric ceramics of the Mediterranean, it is aesthetically appealing, and it is relatively well defined in chronological terms. Thus, it provides useful evidence for synchronisms and interconnections in the Middle Bronze Age (MBA), as is well illustrated by finds at sites such as Kolonna on Aegina. In the past, the southeast Aegean LOD and DOL wares discussed in this paper, and especially the LOD version, have often been described as "Kamares" or "Kamares imitation", a term that is, in fact, rather misleading, even if a "Kamares" connection does exist, as is explained below. Indeed, rather ironically, the reason why I have become involved in the study of these non-Cretan ceramics is precisely because of the fact that, in 1998, the late Clelia Laviosa invited me to publish the "Kamares" pottery from her and Doro Levi's excavations at Iasos, in southwest Turkey, which turned out to belong to the southeast Aegean LOD and DOL class.[2]

At Iasos, southeast Aegean LOD and DOL wares have been found in large quantities, but they were not manufactured locally. Seraglio on Kos, however, which has yielded probably the largest assemblage of these wares so far, was certainly one of the production centers, as is shown by the presence of kiln wasters, and as is suggested by other evidence discussed below.[3] Thus, while this paper aims to present a brief but up-to-date summary of what is known of southeast Aegean LOD and DOL wares, I am aware that only a systematic restudy and publication of this material from the old and recent excavations at Seraglio (and, of course, from other sites discussed below) will provide a clearer picture of the chronology, production centers, and distribution of this relatively little-known class of Aegean ceramics.

This paper is divided into three sections: the first comprises a brief description of the main characteristics of southeast Aegean LOD and DOL wares; the second is a short discussion of the history of research and relative chronology (including a gazetteer of sites that have yielded examples of this pottery); the third offers some conclusions, and points to further avenues for research.

[1] Acknowledgments: first and foremost I should like to thank Walter Gauss, Rudolfine Smetana and Florens Felten for inviting me to a most enjoyable and interesting workshop in Salzburg, and Walter in particular for "gently persuading" me to write on this topic, clearly in revenge for my comments on his Aeginetan "Kamares tis maimou". Carl Knappett kindly provided a work-in-progress report on the fabrics (see below). Ramazan and Christine Özgan, Ian Jenkins and Deniz Pastutmaz welcomed me at Cnidus and facilitated my search for I. C. Love's "Kamares" pottery in the Bodrum Museum. I am most grateful to the Özgans for allowing me to illustrate some of this material. I thank very warmly Wolf and Barbara Niemeier and various members of their team at Miletus (especially N. Zenzen, Y. Kaiser, and A. Raymond). My warmest thanks also go to Prof. Hayat Erkanal and Vasif Şahoğlu (Çesme) for showing me ceramic finds from their sites. Marta Guzowska (Troy), Gerald Cadogan (Maroni) and Lindy Crewe (Enkomi) very generously provided information on the Troad and Cyprus. Sinclair Hood and the British School at Athens gave me permission to illustrate southeast Aegean sherds from Hood's excavations at Knossos (Momigliano, 2005, pl. LVIIIC:b–c). Jack Davis and A. Papagiannopoulou kindly gave me permission to reproduce illustrations from their articles in *Anatolian Studies*. I was able to see some of the southeast Aegean LOD and DOL pottery from Seraglio in Kos thanks to the kindness of Toula Marketou and Elpida Skerlou, but I should like to make clear that I have not seen the pottery published by Morricone (1975), and had therefore to rely on his descriptions and identifications. I am grateful to the Director of the Italian School at Athens, Prof. E. Greco, and to Dr. A. G. Benvenuti, for permission to reproduce some of Morricone's illustrations published in the *Annuario*. Marika Zeimbeki and R.H.L. also helped with improving this paper. My research at Iasos and elsewhere would not have been possible without the financial support of the Institute for Aegean Prehistory, the British Institute at Ankara, the Istituto di Studi sulle Civiltà dell'Egeo e del Vicino Oriente (C.N.R., Rome), and the University of Bristol (Arts Faculty Research and Conference Funds).

[2] See, e.g., Benzi *et al.* 2000; Momigliano 2000, 2001; Momigliano *et al.* 2001; Momigliano, 2005, 219, 221–2.

[3] Morricone 1975; see also Marthari *et al.* 1990, 171–83, esp. figs. 9, 10, for evidence of local production.

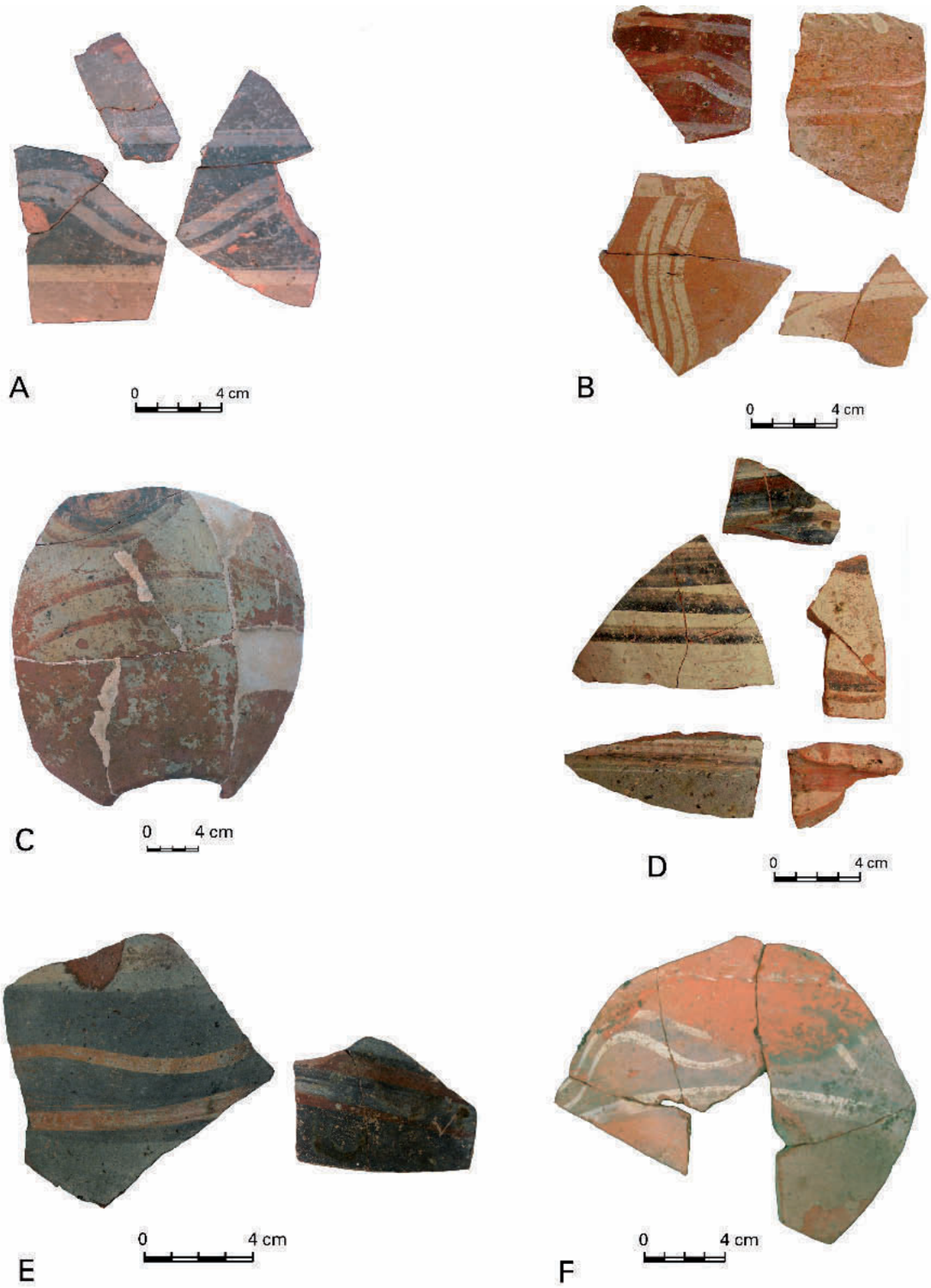

Fig. 1 Iasos: examples of SE Aegean LOD and DOL wares (from various locations and contexts)

1. Summary Description of Southeast Aegean LOD and DOL Wares

These wares, as the name suggests, were produced in the southeast Aegean, i.e., in Kos and possibly in some other Dodecanesian and Anatolian sites, in a phase equivalent to the Neopalatial period in Crete (as explained in more detail in the following section). Perhaps this pottery could be seen as belonging to a much wider "family" of ceramics produced in many regions of the Aegean, from the western shores of Anatolia to mainland Greece, which imitate or at least take some inspiration from Minoan models. As such, they could be studied in the wider context of what was called the phenomenon of the "Minoan Thalassocracy" once upon a time, and is now more commonly referred to as the "Minoanization" of the Aegean, a term that can more easily embrace the variety of processes that contributed to it, i.e., to the presence of Minoan traits in the material culture of several Aegean sites outside Crete.[4]

The main characteristics of the southeast Aegean LOD and DOL wares can be briefly summarized as follows. The decoration is executed in LOD with a white or whitish paint over a matt dark-slipped surface (sometimes a bit thin and runny, and ranging in color from dark grayish to reddish) or in DOL with a brownish-reddish paint over a whitish-slipped surface (Figs. 1, 2). LOD decoration appears to be more common, and sometimes both LOD and DOL techniques coexist on the same vessel.[5] The decorative elements (Fig. 2) tend to be linear and relatively simple: horizontal or diagonal lines, and especially the double wavy line motive, which seems to be the most popular.[6] Spirals and floral/vegetal motives (such as foliate bands composed of crescent-shaped elements, ivy leaf, and stylized flowers) also occur, but more rarely. Sometimes the surface of the vase is divided into horizontal bands covered in a dark blackish slip with white-painted decoration, alternating with horizontal bands covered with a grayish slip, the interface between the gray and black zones usually being marked by a white line (Fig. 1A). Most interestingly, a few sherds from Kos appear to imitate the "white-spotted ware" of Late Protopalatial/Early Neopalatial Crete, thus providing further evidence for the chronology and sources of inspiration of this pottery (Fig. 3).[7] Also intriguing is the presence of some exceptional fragments with "polychrome" decoration, i.e., combining white and reddish pigments on a dark ground as in proper "Kamares" ware (Fig. 1E). Very rarely, however, does this polychrome decoration appear to be deliberate, as it seems to be in the case of an apparently unique fragment from Kos, described as being decorated with a daffodil-like motive, with white petals and orange center.[8] At other times the polychrome effects seem to be more accidental.

The fabrics in which these wares occur tend to be fairly coarse, making them very suitable for petrographic analysis. At a macroscopic level, large flecks of golden mica and clear quartz inclusions are quite noticeable and characteristic of most examples I have seen at Iasos, Miletus, Kos, and Knossos, but there is enough variation in the clay "recipes" to suggest the presence of different workshops.[9] The color of the fabrics can vary from terracotta-orange to pinkish and from reddish-brown to almost purplish-mauve. In the sections, the core is often dark gray, but there are also fragments showing that some vessels were oxidized throughout during firing.

In 1983, Jack Davis and other scholars working at Ayia Irini on Kea published petrographic analyses of two southeast Aegean LOD sherds, describing their fabric as being characterized by pieces of colorless volcanic glass, grains of quartz, and flecks of golden mica, and by smaller quantities of potash, plagioclase feldspar, volcanic rock, and limestone.[10] The

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[4] See Hägg and Marinatos 1984 and compare Broodbank 2004.

[5] See, e.g., Benzi 1993, pl. 35f.

[6] Morricone 1975, 309–26.

[7] Morricone 1975, 307 figs. 286 and 315 ("marmorizzazione"); Papagiannopoulou 1985, 87 fig. 1. For Knossian Middle Minoan (MM) II–IIIB white-spotted ware see MacGillivray 1998, 33, 64–5; Warren 1991, figs. 5f, 8j, 9b and f. For Phaistian MM II–III white-spotted ware see Levi 1976, pls. 105a, 118b, 123a, 127c, 132p, 138f, 178a, 179h (all from Fase 1b and II); see also Levi 1976, pls. 198c, 201b and h, 210g–m (all from Levi's Fase III).

[8] Morricone 1975, 308 fig. 288b, and 316 ("fiore di narciso"): *non vidi*.

[9] Morricone (1975, 297) describes the fabric(s) as coarse, porous, with white and black grits being most common, and micaceous inclusions being "very rare". This remark on the rarity of micaceous inclusions is rather puzzling, for the examples from Kos that I was able to examine in the spring of 2004 seemed to me well provided with them. One of the examples found at Ayia Irini on Kea, however, seems to lack the flecks of golden mica (Davis *et al.* 1983), and the sherd from Cnidus that I examined macroscopically in September 2004 appears to be less micaceous but richer in grayish, blackish and reddish inclusions than the Koan, Iasian, Milesian and Knossian examples I have handled.

[10] Davis *et al.* 1983, 362. Thin sections were obtained from two out of eight fragments assigned to this ware found at Ayia Irini.

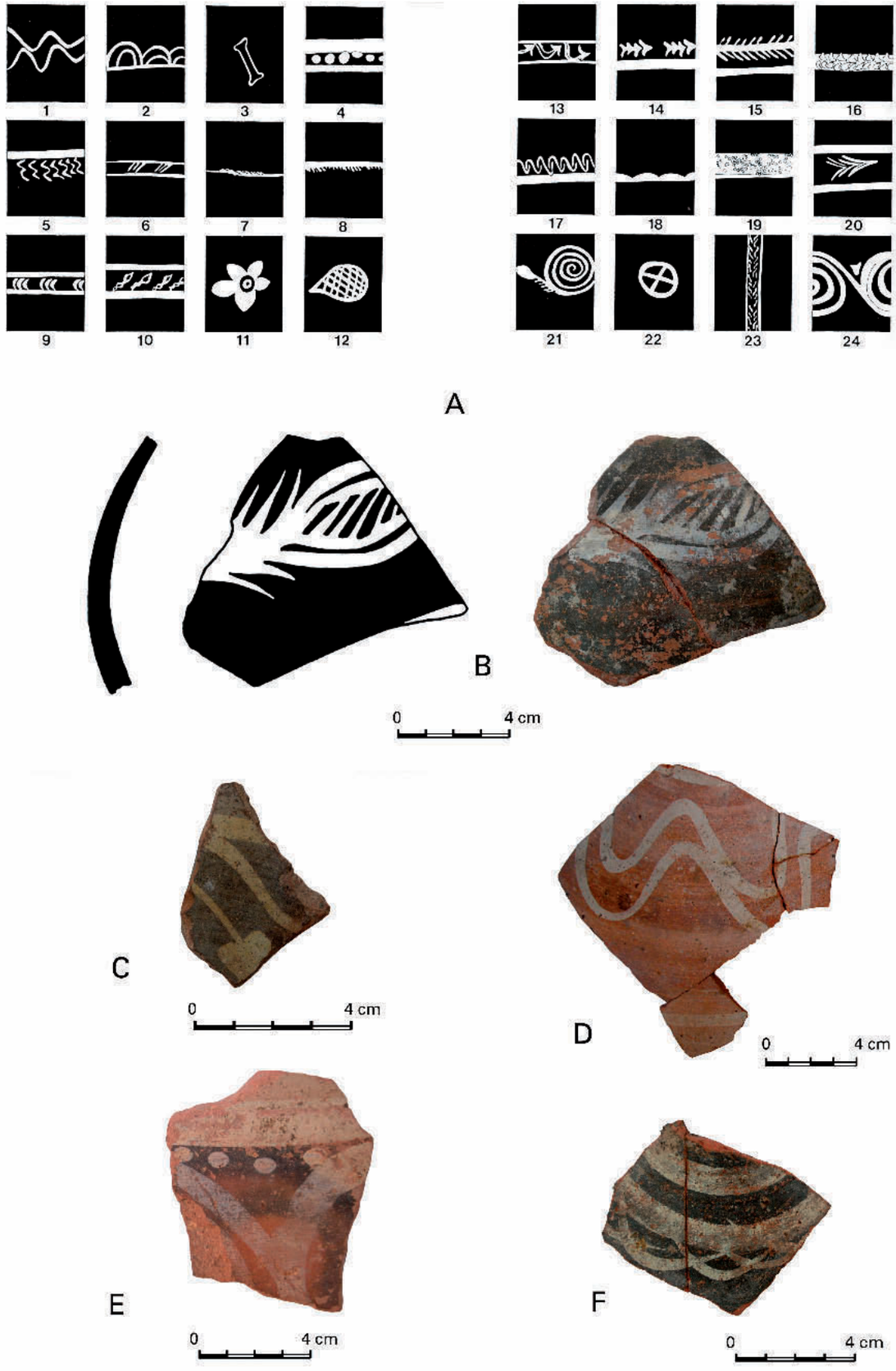

Fig. 2 Decorative motifs on SE Aegean LOD ware;
A: from Seraglio (Kos), Trianda (Rhodes) and and Miletus (after Davis 1982); B–F: from Iasos

presence of volcanic glass and other evidence suggests that the likely origin of these sherds was a volcanic area such as the region comprising the island of Kos and the Bodrum and Cnidus peninsulas. A few years later, Richard Jones carried out chemical analyses of southeast Aegean LOD/DOL sherds from Thera (Akrotiri), Rhodes (Trianda) and Kos (Seraglio) by atomic absorption spectrometry, reaching similar conclusions as to the likely provenance of these sherds.[11] More petrographic analyses of many samples from Iasos and Miletus are being carried out by Carl Knappett, and the preliminary results show similar conclusions. As Knappett reports: "In terms of minerals, quartz, golden mica (biotite) and plagioclase feldspar (some with zoning) are all common. The colourless volcanic glass highlighted by Davis *et al.* (1983) is also variably present in most samples; one might add that it tends to be vesicular, and in some instances exhibits a flow structure. There are also volcanic rock fragments, some of which are trachytic. These features are comparable to those observed by Whitbread in Koan transport amphorae, admittedly from much later periods (4th c. B.C. to 1st c. A.D.).[12] At present, Kos does seem to be the likeliest source for South-East Aegean ware, although the Bodrum and Datça peninsulas on the Turkish mainland cannot be entirely ruled out. It is worth noting Whitbread's comment that Knidian fabrics (i.e., from the Datça peninsula), while similar to those from Kos, appear to contain volcanic inclusions only rarely.[13] However, the Bodrum peninsula, where the site of Myndus is located, is more volcanic in character (although, unfortunately, Whitbread does not analyze material from this area). Until a detailed program of clay sampling is undertaken, the provenance question cannot be fully resolved. Indeed, there may not be a single source, given that there is some variability in the Iasos South-East Aegean samples; this may relate to the presence of more than one workshop on Kos itself, or on both Kos and the Turkish mainland. This variability will be more fully documented in due course, when the petrographic analysis of the Bronze Age pottery from Iasos is fully published".

In terms of shapes, the repertoire seems to be largely restricted to medium- and large-sized containers and pouring vessels, i.e., jars and jugs of various dimensions and shapes. Small drinking vessels seem quite rare. Morricone's publication of the material from Seraglio on Kos still provides the most extensive discussion and illustration of a large southeast Aegean LOD and DOL assemblage. He identified the following shapes: pithoi (Fig. 4A); vat-like jars; oval-mouthed amphorae; ewers with round spouts; jugs with cutaway spouts; large basins or bowls; and bridge-spouted jars.[14] Iasos has yielded a similar repertoire, to which one may add fragments of carinated bowls/spouted jars (Fig. 4E) and a small lid (Fig. 4D), but (yet again) no small drinking vessels. All the published and unpublished material that I have seen up to now also repeats this pattern of almost exclusive production of medium-sized to large storage and pouring vessels, which were clearly employed also for transport. The only exceptions I

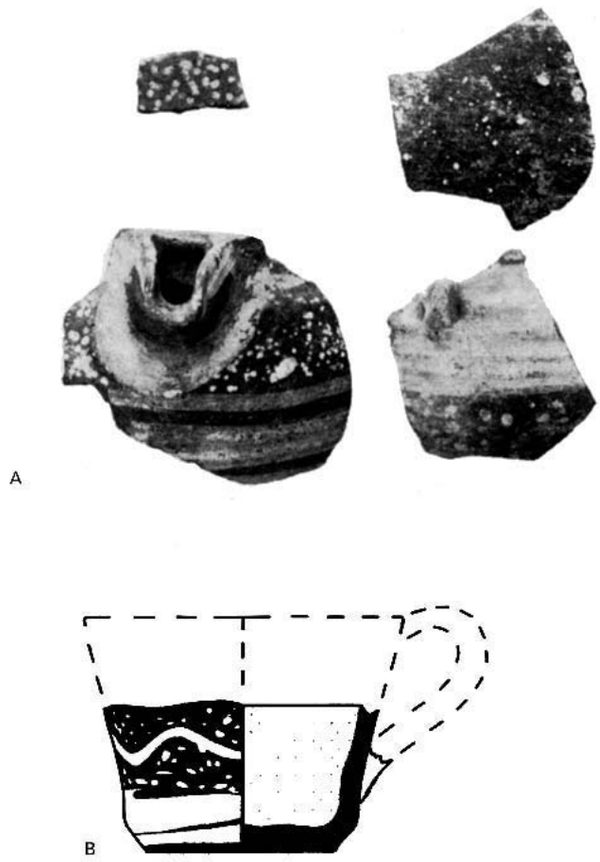

Fig. 3 Examples of SE Aegean LOD showing 'white-spotted' decoration; A: from Seraglio (Kos), after Morricone 1975); B: from Seraglio (Kos), after Papagiannopoulou 1985

[11] Marthari *et al.* 1990, 178–82.
[12] Whitbread 1995, 81–106.
[13] Whitbread 1995, 99.
[14] Morricone 1975, 298–309.

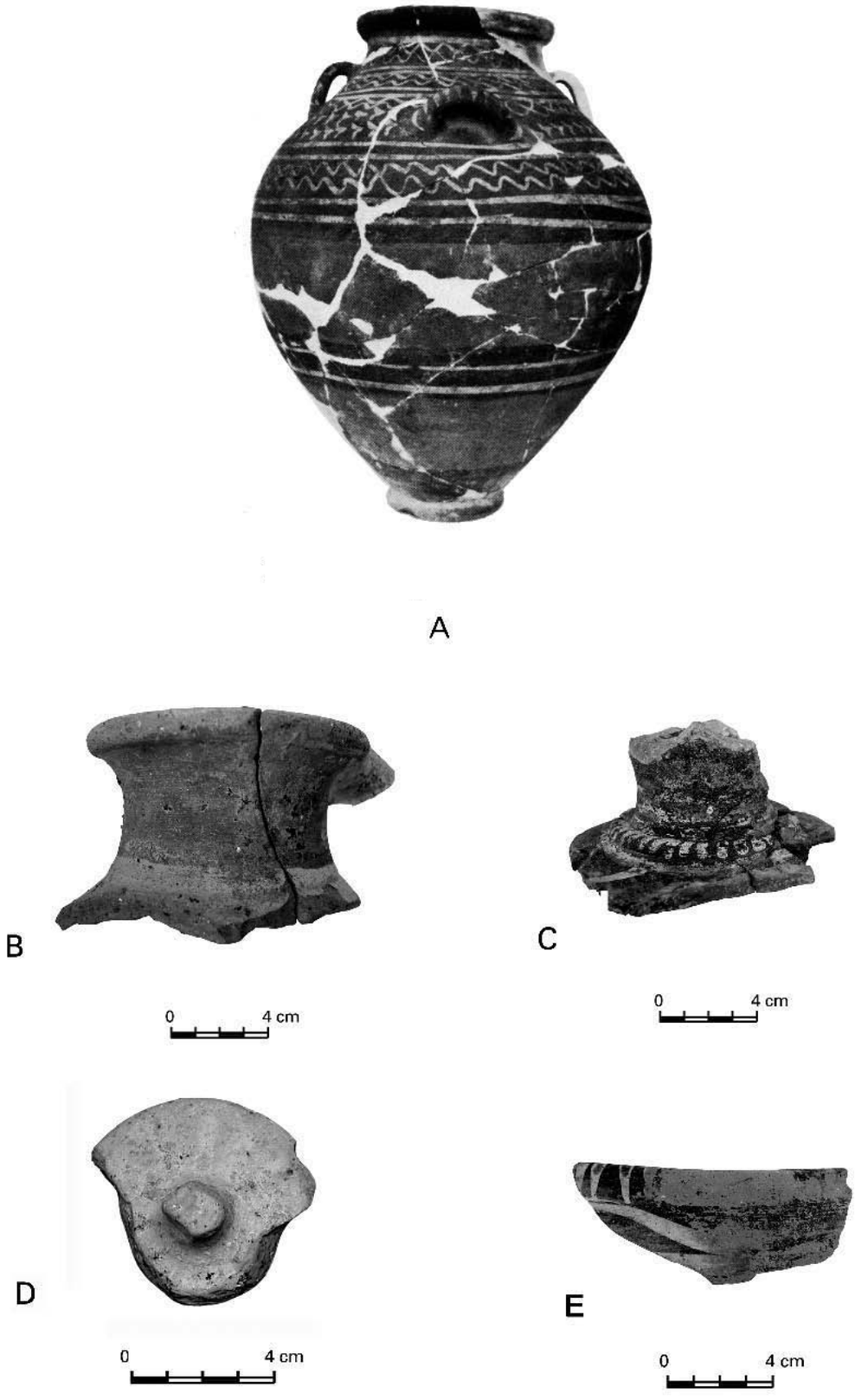

Fig. 4 Examples of forms occurring in SE Aegean LOD and DOL ware; A: pithos from Seraglio (Kos)(after Morricone 1957); B–E: ewer (B), jug with cutaway spout (C), lid (D), and carinated bowl (E) from Iasos

have come across so far are one small goblet-shaped vessel from Trianda on Rhodes and one straight-sided one-handled cup from Seraglio on Kos (the latter illustrated in Fig. 3B).[15] Obviously, further studies and publication of large deposits may alter this picture, but on the basis of the evidence available at present, the southeast Aegean LOD and DOL wares appear to be associated essentially with the production and consumption of medium-sized to large vessels for storage and pouring.

As to manufacturing techniques, some examples of LOD and DOL pottery are handmade while others are wheel-thrown, but it is still unclear whether this has a chronological significance and/or indicates different workshops or individual potters.

2. History of Research and Relative Chronology

When and where were the first examples of this pottery found? I must confess that, so far, I have not been able to ascertain whether some late nineteenth- and early twentieth-century excavations in the Aegean have yielded any such material, although this seems most likely: I suspect that some sherds of southeast Aegean LOD and DOL wares may lurk in the boxes from Evans's excavations now kept in the Stratigraphical Museum at Knossos, but I have not been able to undertake a systematic search to confirm or disprove this. Substantial amounts of these wares, however, came to light during the excavations conducted in the 1920s, 1930s, and early 1940s on the islands of Kalymnos, Rhodes and Kos (especially in the latter) during the Italian occupation of the Dodecanese,[16] while other excavations at several Aegean and western Anatolian sites since the 1930s have brought to light further examples, discussed below.

As mentioned at the beginning of this paper, at first the LOD decoration prompted various archaeologists, including the excavators of Iasos, Doro Levi and Clelia Laviosa, to call this ware "Middle Minoan" or "Kamares" or "Kamares imitation".[17] It is not too difficult to see why the excavators of Iasos and Phaistos, in particular, were reminded of "Kamares" ware, for this latter site, probably more than any other so far, has yielded pottery of the Old Palace period that shows some links with the southeast Aegean LOD ware, especially in the form of a few Protopalatial jugs decorated with wavy lines, even if these parallels are not close ones.[18] This Kamares connection, however, is not a direct one. The southeast Aegean LOD ware reminds one of Kamares ware simply because it was largely inspired by the early Neopalatial pottery from Crete (MM III–LM I), which was characterized by the presence of ceramics decorated in light-on-dark and evolving from the pottery tradition of Protopalatial Crete.[19] For these reasons, the term "Kamares" or "Kamares imitation" for the southeast Aegean LOD ware is misleading, because it suggests chronological synchronisms with the Old Palace period that are not supported by the archaeological contexts in which it is found (nor by the stylistic analysis of its decoration: see below).

After some initial identifications of this pottery as MM or Kamares,[20] Luigi Morricone came closer to a correct dating of this material in his 1975 publication of the 1935–1943 Italian excavations at Seraglio on Kos. In the absence of good stratigraphic evidence, he assigned all the Koan southeast Aegean LOD and DOL wares to "MM III" because of their resemblance to the Minoan pottery of that phase, and because they were found stratified beneath pottery that he dated to Late Minoan (LM) I.[21] Morricone, however, seems to have overlooked the evidence provided by Monaco's 1941 publication of similar material from Trianda in Rhodes and by Furumark's seminal article of 1950 on this site.[22] Although neither Monaco nor Furumark discussed this class of pottery in any detail, they both provid-

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[15] Rhodes: Monaco 1941, fig. 85.8; Kos: Papagiannopoulou 1985, 87 fig. 1.

[16] Monaco 1941; Morricone 1975; Maiuri 1928.

[17] See, e.g., for Kalymnos, Maiuri 1928, 115 (describing this pottery as "Camares"): cf. Benzi 1993, 277–9 fig. 1c, d and pl. 35a–f. For Iasos see, e.g., Laviosa 1973, esp. 183 and 187; see also Laviosa 1978. For Tigani (Samos), see Heidenreich 1936, 173 pl. 49.1, 2 (where likely fragments of southeast Aegean LOD are called "MM"). For Trianda, see Monaco 1941, 92 fig. 39 and n. 2: "Tecnica che riprende quella del Medio Minoico Cretese (Kamares)".

[18] Levi 1976, pls. 82a (F.549), 85c and d (792 and 1034), and 86c (1298), all from Phaistos "fase IB", corresponding roughly to Evans's MM IIA.

[19] See, e.g., Betancourt 1985, figs. 84, 85, and 99.

[20] See n. 17 supra.

[21] Morricone 1975, 384–8.

[22] Monaco 1941, 75 figs. 22.2 (from strato inferiore), 39 (from strato medio), 85.8 (from strato superiore); Furumark 1950; see also Davis 1982, 34, and Papazoglou-Manoudaki 1990, 142.

ed excellent evidence for the dates of the archaeological contexts in which it was found. Most of the LOD pottery from the old excavations at Trianda is associated with Monaco's "strato medio", but there are also finds from Monaco's "strato inferiore" and "strato superiore" (see Table 1). Thus, Monaco's "strato inferiore", datable to LM IA, provided excellent chronological evidence, which was strangely disregarded by Morricone and other Italian archaeologists, such as the excavators of Iasos. How and why Italian archaeologists, in particular, could overlook the evidence provided by Trianda is rather puzzling. I can only offer a few general explanations, such as the observation that archaeologists, in general, show a burning desire to demonstrate the primary status or at least the greater antiquity of their finds (so that dating some features to, e.g., MM III somehow confers more prestige than dating them to LM IA). In the case of Levi and Laviosa, in particular, the overwhelming desire to show not only the great *antiquity* but also the *continuity* of the close relationship between the Aegean civilizations and Caria may have also played a part (for "continuity" is one of the leitmotifs in Levi's writing, especially continuity between Minoan and Early Iron Age Crete).[23] Finally, it is clear from the excavation records, and from the preliminary publications concerning Iasos, that neither Levi nor Laviosa had paid sufficiently close attention to the stratigraphy of the Bronze Age levels and their relative chronology.[24]

Other scholars, however, did not ignore the evidence provided by Trianda and, indeed, by other southeast Aegean sites. Thus, in 1982 Jack Davis presented a reassessment of the archaeological contexts in which the southeast Aegean LOD and DOL wares were found at Trianda, Miletus, Seraglio, and Iasos.[25] This reassessment, combined with a stylistic analysis of the shapes and decorative motives, led Davis to suggest that there was, in fact, "little evidence that ... [the southeast Aegean LOD and DOL wares were] ... produced prior to the beginning of the Late Minoan period",[26] although he did not exclude the possibility that manufacture could have started in the latest phases of the MBA. Three years later, A. Papagiannopoulou reexamined the evidence discussed by Davis and referred to newly discovered material from Kos and Trianda. Her conclusions were similar to Davis's, but she was also able to provide more data suggesting that the production of southeast Aegean LOD and DOL ware could have started in a period equivalent to MM III.[27]

Since Davis's and Papagiannopoulou's publications, more evidence has been accumulating for the chronological synchronisms of this pottery. This evidence, which is discussed below and summarized in Table 1, confirms their general conclusions. The "gazetteer" presented here has no pretense to completeness, as undoubtedly further research will add more sites that have yielded southeast Aegean LOD and DOL to those listed here.

Dodecanese and Other Islands Adjacent Western Turkey

Seraglio, Kos. Morricone's study did not provide much stratigraphic evidence, largely because most of the material he published did not have a proper provenance; his report, however, provides enough information to suggest association of this material with LM I and, possibly, MM III contexts.[28] New excavations conducted by the Greek Archaeological Service found southeast Aegean LOD and DOL pottery (including kiln wasters) in well-stratified contexts dated to LM IA and LM IB.[29]

Trianda, Rhodes. The evidence from the old excavations by the Italians and from more recent excavations by the Greek Archaeological Service suggests that the southeast Aegean LOD and DOL pottery is found in deposits assigned to three different strati-

[23] Cf, e.g., La Rosa 1984, 39 ; 1990.

[24] For example, "Edificio B" was dated in preliminary reports to the "Mycenaean" period (Levi 1972, 474), although its floor deposit, created by a burnt destruction, contained typical LM I conical cups (Levi 1972, fig. 31) together with MBA Anatolian pottery (Benzi *et al.* 2000; Momigliano 2000 and 2001); "Edificio B" is also built directly upon a layer of volcanic ash from the Bronze Age eruption of Santorini, but neither Levi nor his successors had realized this, for this layer was rediscovered and recognized for what it is only in August 2000.

[25] Davis 1982, 33–41.

[26] Davis 1982, 33.

[27] Papagiannopoulou 1985. Her conclusions are sometimes based on stylistic comparisons that are not always very convincing, but there is sufficient stratigraphical evidence from Knossos, Trianda, and Iasos to suggest that a MM III (possibly MM IIIB) date is quite possible (see also below).

[28] Morricone 1975, 139 ff.; Papagiannopoulou 1985, 87–8.

[29] Marthari *et al.* 1990, 175–6.

REGION/SITE	REFERENCES	CONTEXT	CLAY ANALYSIS	OTHER COMMENTS
DODECANESE AND OTHER ISLANDS ADJACENT WESTERN TURKEY				
Kos: Seraglio	Morricone 1975	Contextual information largely lost, but probably LM IA		
	Marthari *et al.* 1990, 175–6	LM IA and LM IB		
Rhodes: Trianda	Monaco 1941 (+Furumark 1950)	Strato Inferiore = LM IA Strato Medio = LM IA/LM IB Strato Superiore = LM IB–LM IIIA1		
	Marketou 1988, 1990 and 1998; Marthari *et al.* 1990, 177; Papazogoglou–Manoudaki (1990)	MM IIIB/Early LB IA/ Early LM IAA Late LM IA LM IB		
Kalymnos: Vathy Cave	Maiuri (1928); Benzi (1993)	Unknown		
? Samos: Tigani	Heidenreich (1936) Buttler (1936)	LM IA		
WESTERN TURKEY				
? Troy	Guzowska (pers. comm.)	Troy VI		
Miletus	Niemeier and Niemeier 1997 (with earlier references)	LM I	Petrography	
Akbük–Teichiussa	Vöigtländer 1986 and 1988	LM I		
Iasos	Momigliano (2005)	LM I (and possibly MM IIIB and LM IB)	Petrography	
Cnidus	Mellink 1978; Love 1984	Not known		One sherd of LOD seen by author in Sept. 2004, possibly reported as 'Kamares' by I.C. Love here illustrated in Fig. 5B
CRETE				
Knossos Sherds from Hood's excavations along the Royal Road (South) and by Hogarth's Houses	Momigliano (2005)	RR/S B/C17 = MM IIIA–LM IB HH H 16 = MM IIIB (or early LM IA?) (Hood, pers. comm.)		

Table 1 Gazetteer of Sites with SE Aegean LOD/DOL wares

REGION/SITE	REFERENCES	CONTEXT	CLAY ANALYSIS	OTHER COMMENTS
CYCLADES				
Keos: Ayia Irini	Davis *et al.* 1983	Keos VI and VII (Late Cycladic I and II)	Petrography	
Thera: Akrotiri	Marthari *et al.* 1990	Late LM IA (Akrotiri Last Period, Phase B)	Chemical analysis by AAS	
? Naxos: Grotta	Hadjianastasiou 1989 and 1993	LM IB/LC II	Petrography	
GREEK MAINLAND AND ADJACENT ISLANDS				
? Tiryns	(W.-D. Niemeier (pers. comm.)			
Aegina: Kolonna	LH I–II W. Gauss (pers.comm.)			
CYPRUS				
? Maroni–Vournes	Cadogan *et al.* 2001, 79 fig. 6	Vournes Ic (Late Cypriot I), roughly correlating to LM IA		
Enkomi	L. Crew (pers. comm.)	Late Cypriot Ia and Ib		

Table 1 continued Gazetteer of Sites with SE Aegean LOD/DOL wares

graphical horizons: 1) the earliest are deposits that have been labeled MM III or MM IIIB or MM IIIB/LM IA transition or Early LM IA by different archaeologists; 2) secondly, in deposits assignable to advanced LM IA and sealed by Santorini tephra; 3) and, finally, in deposits assignable to a phase equivalent to LM IB.[30]

Obviously, it is well beyond the scope of this paper to discuss whether one should call the earliest deposits at Trianda "MM III" or "MM IIIB" or "MM IIIB/LM IA transition" or "Early LM IA". Other contributors to this volume have tried to shed some light on this problem from a Cretan perspective (see especially the papers by E. Hatzaki and L. Girella). The present confusing situation, in which different scholars use different labels for a group of largely contemporary deposits, seems to have been caused by a slack employment and appreciation of Evans's terminology and definition of the Knossian ceramic sequence. Some scholars, in particular, seem to have employed the MM IIIB/ MM IIIB–LM IA/ Early LM IA labels merely as stylistic descriptors, without taking fully into account the chronological consequences, i.e., without properly evaluating the implications that a MM III or LM IA label has for the relative chronology of their deposits within the wider Aegean context. This terminological/chronological conundrum is quite revealing of other important methodological issues ingrained in the system that we inherited from Evans and Mackenzie.[31] Perhaps Aegean archaeologists of the 21st century need to rethink their chronological frameworks and terminologies in a more systematic way, instead of merely tinkering with old schemes and labels that no longer reflect the mentalities and objectives of modern practitioners. What we need is a new pan-Aegean

[30] Monaco 1941; Marketou 1988, esp. 31; 1990, esp. 103; Marthari *et al.* 1990; Papazoglou-Manioudaki 1990, esp. 142–53: one sherd of LOD comes from a stratum dated by Papazoglou-Manioudaki to MM III, but most sherds, e.g., those on pl. 67, have been found in contexts spanning the MM III–LH IIIA:1 phases. The MM III date is accepted by Papagiannopoulou (1985, 85), but it should be borne in mind that other archaeologists would call this level MM IIIB/LM IA or Early LM IA.

[31] See Momigliano, in press.

chronological scheme, with purely chronological labels such as Early/Middle/Late Bronze Age, in which the deposits and stratigraphic sequences of individual sites might be correlated in a less confusing and more satisfactory way.

Vathy Cave, Kalymnos. This site, excavated in 1922, has yielded a large assemblage of southeast Aegean LOD and DOL pottery, but the surviving information on the excavations is not sufficient to shed any light on its chronological context(s).[32]

Tigani, Samos. In the 1930s, German excavators claimed to have discovered MM or Middle Cycladic (MC) pottery, which could, in fact, belong to the southeast Aegean LOD and DOL class, given that it was found in "bothroi" in association with LM IA pottery.[33] Obviously, new macroscopic and petrographic analyses are needed to confirm or reject this plausible suggestion.

Western Turkey

Troy. Marta Guzowska kindly showed me photographs of three possible sherds of southeast Aegean LOD from contexts assignable to Troy VI.[34] One may be tentatively assigned to this ware, although better macroscopic and petrographic analyses are needed confirm this. The slightly polished/burnished surface and the decorative motives on the other two sherds, however, do not seem to conform to the usual southeast Aegean products, but resemble some ceramic fragments from Çesme illustrated by V. Şahoğlu, which might be Cycladic, or material from Samothrace.[35]

Miletus. Plenty of examples of southeast Aegean LOD and DOL pottery have been found in the old and recent excavations at Miletus, in association with LM I pottery.[36] Nicolas Zenzen is now studying this class of material, and Carl Knappett has worked on the petrography of a number of samples.[37] Interestingly, in August 2004, Zenzen kindly showed me a fragment of what could be a local production/imitation of southeast Aegean LOD ware, made in the unmistakable Milesian clay, which raises the intriguing possibility of Milesian potters imitating imitations of Minoan wares.

Akbük-Teichiussa (Kömüradasi). There is not much stratigraphy to speak of concerning the Bronze Age finds from the little island/promontory of Kömüradasi, largely because of erosion and change in the water table, but the published material suggests an association between southeast Aegean LOD pottery and LM IA.[38]

Iasos. In spite of shortcomings in the excavation and recording techniques employed by Levi and Laviosa (e.g., digging by means of artificial "spits" and no recording of proper archaeological sections), I have been able to reconstruct some kind of stratigraphic sequence for the Bronze Age levels discovered in the area of the later Roman Agora. Starting from the top, we have:

1) level(s) associated with LH III pottery, largely removed and/or seriously damaged by later occupation/activities;
2) level stratified above the floor deposit of Building B (see level 3, below), datable to a phase possibly equivalent to LM IB;
3) floor deposit caused by a fire destruction in Building B, and stratified directly beneath level 2 and above level 4; the pottery from this floor deposit is not particularly diagnostic in chronological terms (for it consists mostly of conical cups), but can be generically assigned a to period equivalent to LM I (probably LM IB);
4) layer of Santorini tephra, mixed with pottery,

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[32] Maiuri 1928, 104–17, at 115 described as "Camares"; Benzi 1993, 277–9, fig. 1c, d and pl. 35a–f.

[33] Cf. Davis 1982, 38; Heidenreich 1936, 125–83, at 173 pl. 49.1, 2; Buttler 1936, esp. pls. 68–70.

[34] Marta Guzowska (pers. comm.), whom I thank very warmly for useful discussions on Trojan and Iasian "imports" and for showing me photographs of this material.

[35] As recently illustrated by D. Matsas in a paper delivered at the *Minoan Seminar Colloquium: Minoans in the Central, Eastern and Northern Aegean* (Athens, 22–23 January 2005).

[36] For the southeast Aegean LOD and DOL wares from the earlier excavations see Davis 1982, 34, with further references, and Mee 1978, 134; see also Niemeier and Niemeier 1997, esp. 193. For Minoan pottery associated with southeast Aegean wares see also Niemeier 1998a, 1998b; Neimeier and Niemeier 1999.

[37] For preliminary results of petrographic analyses of Milesian samples of southeast Aegean LOD/DOL wares and other classes of pottery see Knappett 2003.

[38] Voigtländer 1986, esp. 621 ff. and pls. 21, 28–31; 1988, esp. 603 ff. and pl. 607.2; 2004, esp. pl. 65.1, 2 and also pls. 66, 67.

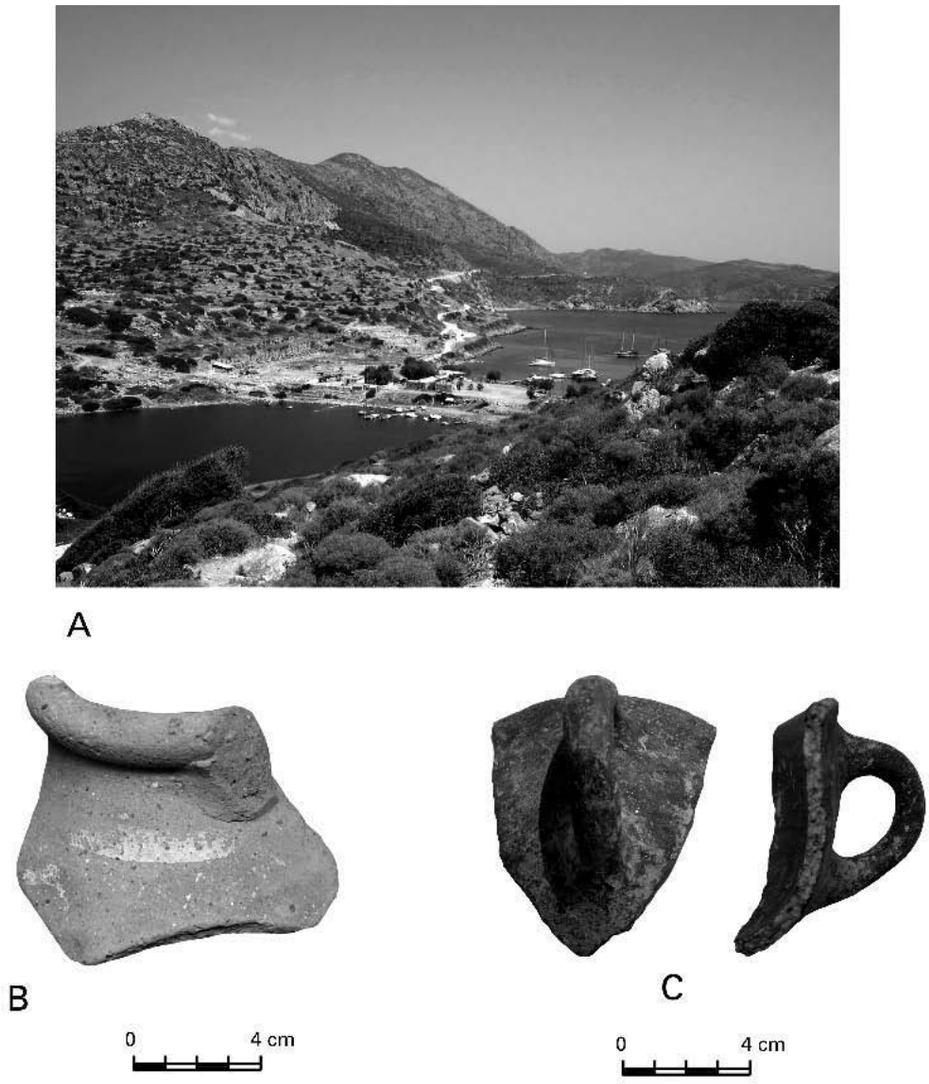

Fig. 5 Cnidus (cape Krio). A: view of the two harbours; B: fragmentary jug/ewer in SE Aegean LOD ware from Love's excavations; C: fragmentary EBA red-polished (two-?) handled cup from Love's excavations

probably swept immediately after the deposition of wind-blown tephra from the LM IA eruption;[39]

5) pure deposit of Santorini tephra (advanced LM IA);
6) fill deposits stratified beneath Santorini tephra in Building B and Saggio Gamma; material found above the latest floor of Building F (LM IA) and other fill deposits in other areas of the site with LM IA imported material;
7) layer sandwiched between the latest and middle floor of Building F (MM IIIB? LM IA?);
8) layer beneath the middle floor of Building F (MM IIIB? LM IA?);
9) Chalcolithic/Early Bronze Age strata.

With the exception of Level 9, southeast Aegean LOD and DOL pottery at Iasos has been found in all the contexts listed above, and even in much later ones. The uncertainty in the dating of levels 7 and 8 is due to the facts that the pottery is small in quantity and its study has not been completed (not to mention the terminological/chronological conundrum referred to above).

[39] On the mixed and pure tephra layers see Huber *et al.* 2003, 83–105.

Cnidus (Cape Krio). In the late 1970s, Iris C. Love reported the discovery of Minoan pottery ranging in date from MM I–LM I in trial trenches to the north and east of the Trireme (or northern) harbor (Fig. 5A).[40] No further stratigraphic information was reported and, to my knowledge, no illustrations of this material have ever been published, although slides were shown at a conference in the mid 1980s. In the summer of 2004 I tried to locate and examine this pottery in the Italian Tower of the Bodrum Museum (where the finds from Love's excavations are kept) but was able to find only two sherds of prehistoric date: a sherd of southeast Aegean LOD ware (Fig. 5B) and a fragmentary EBA II/III red-polished cup (Fig. 5 C).

Crete

Knossos. Sinclair Hood found a few sherds of southeast Aegean LOD during his excavations at Knossos along the Royal Road and by Hogarth's Houses. According to the excavator's records, the Royal Road context contained pottery datable from MM IIIA–LM IB, while the Hogarth's Houses context could be dated to MM IIIB.[41]

Cyclades

Ayia Irini, Keos. Eight sherds of southeast Aegean LOD and DOL have been illustrated by Jack Davis and his colleagues: these were found in contexts datable from Late Cycladic (LC) I to III, but mostly in Keos periods VI and VII (LC I and II).[42]

Akrotiri, Thera. Several complete vases were found in the latest phase of Akrotiri, i.e., in advanced LM IA contexts; it is, of course, possible that finds of southeast Aegean LOD and DOL pottery may turn up in earlier strata, once these are studied more systematically.[43]

Grotta, Naxos. The settlement of Grotta has produced a fragmentary jug that could belong to the southeast Aegean LOD class, but apparently the petrographic analyses were inconclusive.[44]

Greek Mainland, Kythera, and Aegina

Tiryns. Unpublished sherds seen by Wolf Niemeier (pers. comm.).

Kolonna, Aegina. Walter Gauss's keen eye seems to have spotted at least one sherd of this ware in the excavations at Kolonna carried out under the aegis of the SCIEM 2000 project, in a context dating to LH I–II (pers. comm.).

Cyprus and the Levant

To my knowledge, pottery of this class has not been reported from Syria, Palestine or Egypt, but one or possibly two sites in Cyprus have yielded a few fragments.

Maroni. The identification of one fragment as southeast Aegean LOD ware by Gerald Cadogan is most likely, but not certain; its context is dated to Late Cypriot I.[45]

Enkomi. In the case of this site, the identification of a few sherds (even if only macroscopic) appears more secure, and the context in which these have been found (fills datable to Late Cypriot IA and IB) fits very well with the evidence reviewed so far.[46]

3) Conclusions

I should like to sum up and conclude with a few remarks on the chronology, production centers and distribution of the southeast Aegean LOD and DOL wares.

As far as chronological synchronisms are concerned, it seems clear that most of the southeast Aegean LOD and DOL wares have been found in contexts datable to the LM IA and LM IB phases in Cretan terms. There is some stratigraphic evidence, however, from Knossos, Trianda, and perhaps Iasos suggesting that production may have started in a phase equivalent to what some scholars would call MM IIIB. There is also some stylistic evidence suggesting that production may have started before the end of the Bronze Age, namely sherds from Kos imi-

[40] Mellink 1978, 321 (reporting Iris Love's discovery of "Middle Minoan" sherds); Love 1984, 251.
[41] Momigliano, 2005, pl. LVIIIC:b–c.
[42] Davis *et al.* 1983.
[43] Marthari *et al.* 1990.
[44] Hadjianastasiou 1989, 211 no. 5, pl. 40a, from the Demetrokalli plot. See also Hadjianastasiou 1993, 259 and n. 12, for comments on petrographic analyses of this piece.
[45] Cadogan *et al.* 2001, 79 fig. 6.
[46] Sherds from one or two vessels (Lindy Crewe, pers. comm.).

tating Minoan white-spotted ware, which is already fairly common in Crete in MM IIB but is more typical of the MM IIIA and IIIB ceramic phases.

As to production centers, Seraglio on Kos was undoubtedly one: it has yielded the largest assemblage discovered so far and kiln wasters; moreover, fabric analyses also support this conclusion. Stylistic, macroscopic, petrographic and chemical analyses, however, also suggest the presence of different clay "recipes", which could be indicative of different workshops, although still located within the area of Kos, Bodrum and Cnidus because of the presence of volcanic glass inclusions.

As to the distribution of the southeast Aegean LOD and DOL wares, this covers quite a wide area, from Cyprus to Miletus and, perhaps, Troy, and from Miletus to Aegina, but at presents it looks as if relatively small quantities reached sites outside the Dodecanese and the Carian-Ionian coast, where we find the largest assemblages. This in itself is an interesting piece of information, for it allows us to make inferences on patterns of trade and other issues. It is clear, however, that much more quantitative and analytical work is still needed. Although more samples have been analyzed since the 1980s, mostly for provenance analyses, there is clearly scope for a more systematic study of the southeast Aegean LOD and DOL wares, which could combine contextual, stylistic and different types of clay analyses, not only to shed light on the origin and distribution of these wares, but also on their contents, which is probably what prompted their circulation in the first place. Such a study would help us to understand better not only the chronological synchronisms of the southeast Aegean LOD and DOL wares, but also networks and exchange patterns, trade routes, and the different roles played by certain settlements. In other words, it would help to elucidate existing models and interpretations, from "directional trade" to "small worlds", and the apparent concentration of evidence for exchange and cultural contacts at particular Aegean sites.[47] Middle Helladic Kolonna on Aegina is clearly one of the focal points where certain routes seem to converge, but Seraglio on Kos may well turn out to be another, at least for the early Neopalatial period.

[47] Davis and Gorogianni, in press; Sherratt and Sherratt 1998, esp. 334 ff.; Momigliano, 2005, 223–4.

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Ceramic Groups of Early Neopalatial Knossos in the Context of Crete and the South Aegean

Eleni Hatzaki

The real break between the Middle and Late Bronze Age exemplified by the earthquake at Knossos actually comes within the borders of what has always been called M.M.IIIb. No doubt if the original excavators had been gifted with prophetic knowledge of what they were going to find, they would have labelled the post-seismic M.M.IIIb pottery L.M.Ia, and put the division between Middle and Late Minoan at that point. It would be however absurd to alter the terminology which has served for so many years, and in the following pages M.M.IIIb will still be used to describe the objects which fall within this short period with the concession to logic of expanding it to transitional M.M.IIIb–L.M.Ia.

Pendlebury 1939, 180

Introduction

The Neopalatial period in Crete is associated with dramatic changes in its political, economic and social structures, a period when the island's trajectories are closely linked to the role of its palatial centers. In addition, natural catastrophes may have acted as catalysts, sometime triggering change. Beyond Crete, Minoan expansionism reaches its peak. Within this framework the pottery production of a palatial center such as Knossos remains of crucial importance. The current shift in regional studies has on the one hand emphasized the inadequacy of a pan-island ceramic development (as Arthur Evans had envisaged it) for understanding regional ceramic production but at the same time has highlighted the need for cross-island synchronisms. In this context Knossos should be viewed as a rather insular but major production center that could shift from mass to small-scale production depending on its needs. Although we are constantly reminded that chronological accuracy is simply a tool,[1] it nevertheless remains a necessary medium for proceeding accurately in discussion of social, political and economic developments.

The early part of the Neopalatial period at Knossos is paradoxical. While it is one of the richest periods in terms of ceramic deposits (Fig. 1), it remains one of the least well defined when it comes to an agreed ceramic sequence and nomenclature (see Table 1).

The period under discussion is marked by two geological "events" that left their imprint on the archaeological record. The first is the seismic horizon called by Evans the "Great Earthquake",[2] which had a severe impact on the palace and town and resulted in an array of primary and secondary deposits. The latter were formed in the process of the subsequent massive building operation aptly termed by Evans the "New Era".[3] These involved the construction of parts of the palace, such as the Domestic Quarter, and elite buildings such as the South House and the Temple Tomb. The second geological "event" is also well known, the seismic horizon – broadly speaking – contemporary with the eruption of Thera.[4] It, too, caused extensive destruction and left in the palace a good number of primary deposits, such as those at the northwest angle of the Southeast Insula, and secondary deposits such as the Temple Repositories. The town was equally affected; severely damaged and beyond reuse, the House of Frescoes and the South House are typical examples.

A brief survey of the currently available literature could suggest the existence of a succession of up to five ceramic phases from the end of the Middle Bronze to the beginning of the Late Bronze Age at Knossos. These are familiar as MM IIIB,[5] MM IIIB late,[6] MM IIIB/LM IA transition,[7] LM IA early[8] and LM IA mature (or LM IA late).[9] These are terms first introduced by Evans and Duncan Mackenzie, and later adopted by John Pendlebury,[10] in their attempts to sort

[1] Knappett and Cunningham 2003, 173.
[2] Evans 1928, 286–9.
[3] Evans 1928, vii.
[4] Marthari 1990; Nikolakopoulou *et al.*, forthcoming.
[5] Catling *et al.* 1979; Warren and Hankey 1989; Hood 1996.
[6] Warren and Hankey 1989.
[7] Warren 1991; 1999; Driessen and MacDonald 1997, 17.
[8] Popham 1977; Warren and Hankey 1989; Warren 1999.
[9] Popham 1977; Driessen and MacDonald 1997, 16–7.
[10] Evans 1921, 315; Evans 1928, 324, 550, 625; 1935, 260–1; Pendlebury 1939, 180.

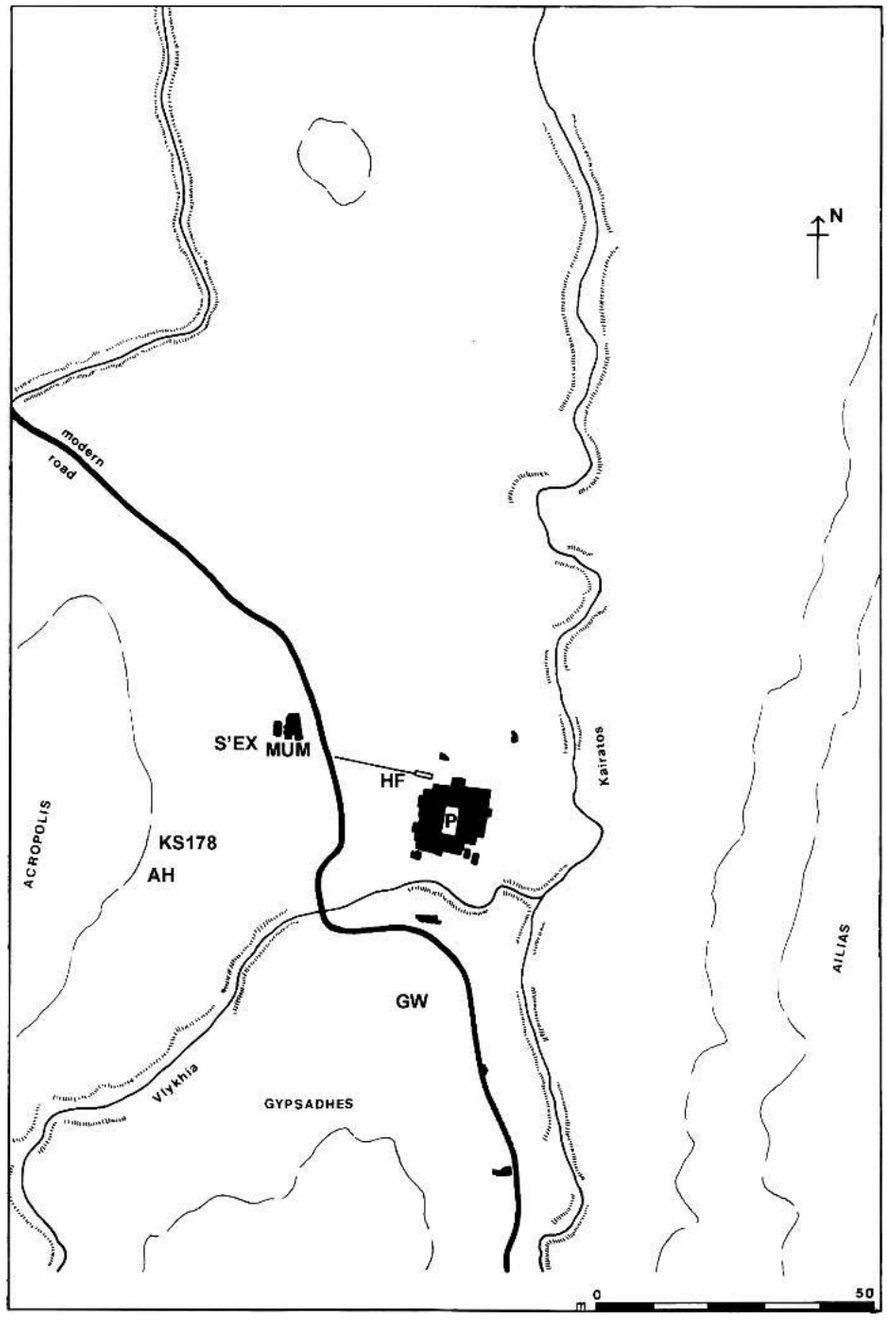

Fig. 1 Map of Knossos showing general location of sites with major deposits assigned to the KS 178 Group (MM IIIB) and the Gypsadhes Well Group (LM IA) (map after Popham 1994, 96 fig. 2)

the ceramic sequence for a period where they encountered difficulties in assigning chronological labels to specific deposits, particularly those from the palace.[11]

The purpose of this paper is to discuss the ceramic phasing of Knossos broadly marked by these two geological "events" and to suggest an appropriate ceramic sequence and nomenclature. A closer look at the current sequence reveals, however, considerable discrepancies in assigning dates and in agreeing on terminology for deposits that could be described in

[11] Hatzaki, forthcoming (a).

Hood 1996	*Catling 1979*	*MacDonald 2004*	*Popham 1977; 1984*	*Warren and Hankey 1989*	*Warren 1999*
MM IIIA	***MM III***			***MM IIIA***	
AH Dep A	AH Dep A			AH Dep A	
AH Dep B	AH Dep B			AH Dep B	
AH Dep C					
AH Dep D					
		MM IIIB			***Late MM IIIB***
		AH Dep A			AH Dep A
		AH Dep B			AH Dep B
	AH Dep C	AH Dep C		AH Dep C	
	AH Dep D	AH Dep D		AH Dep D	
		GW lower deposit		GW lower deposit	
		N. E. Mag: Mag of the Tripod			
S'EX Pit IV		S'EX Pit IV			
		MUM SC east end			
MM IIIB and LM IA			***MM IIIB–LM IA***	***MM IIIB/LM IA transition***	
	AH Dep E		MUM SC east end		AH Dep C
					AH Dep D
					S'EX Pit IV
			LM IA early		
		S'EX lower deposit	Mag of the Tripod	AH Dep E	Mag of the Tripod
	LM IA		***LM IA mature***		
	AH Dep F	S'EX upper deposit	MUM SC west end		S'EX upper deposit
		GW upper deposit	GW upper deposit		S'EX lower deposit
		E.-W. Stairs	E.-W. Stairs		E.-W. Stairs
		MUM SC west end			MUM SC west end

Table 1 The ceramic sequence of Knossos for the early part of the Neopalatial period according to different authors

ceramic terms as contemporary. In part, the problem in defining a ceramic sequence for Knossos is methodological and its origins have to be traced back to Evans and Mackenzie's work.

Methodological Approaches to the Definition of Ceramic Periods at Knossos

Evans's tripartite division and subphases of Bronze Age Knossos entirely equate stylistic pottery phases with chronological periods.[12] One of the problems in obtaining an agreed-upon ceramic sequence derives from the overlap in the terminology used for ceramics and chronology on a pan-island scale, which does not take into account regionalism in ceramic production or different historical trajectories within Crete. In addition the definition of a succession of ceramic phases ever since the beginning of the excavations at Knossos has been primarily based on the identification of "type fossils", that is, ceramic forms and decorative motives that are exclusive to one particular ceramic phase.[13] The use of "type fossils" was anticipated in *The Palace of Minos*[14] but accelerated in the post-Evans era when deposits from the palace and town were studied in detail for the first time.[15]

The highly selected nature of the retained pottery from Evans's excavations sometimes has reduced ceramic deposits to a mere collection of a limited repertoire of shapes, decorated and plain. This is particularly true for ceramic assemblages of the Final Palatial period (LM II–IIIA), which were the first to be studied systematically in the 1960s when ceramic periods were defined primarily on the basis of selecting pottery by stylistic criteria.[16] This methodology was dictated by the postexcavation

[12] Evans 1906.

[13] For a recent discussion see Driessen and MacDonald 1997, 15–6.

[14] For example, Evans 1935, 276–7.

[15] Popham 1967; 1969; 1970a; 1970b.

[16] Popham 1970a.

storage practices of Evans and Mackenzie, in which pottery was on many occasions not kept according to context.[17] Subsequently, the identification of "type fossils" on the basis of stylistic changes among pottery from contexts that had been mixed was the only means of defining ceramic periods from Evans's excavations at Knossos. Indeed, for certain ceramic periods, and especially for the early part of the Final Palatial period, "type fossils" certainly exist and can be particularly helpful.[18] Their adoption, however, implied that a wholesale change in ceramic style, and thus production, was to be expected between ceramic phases. Conveniently, these apparent changes in ceramic production have been linked to major architectural phases and stratigraphical levels.[19] As a result, a new architectural phase or a different stratigraphical level was expected to be associated with a new ceramic phase, style, and a new set of "type fossils".

To assume, or to expect, that ceramic production has to change the day after an earthquake or human fire destruction is methodologically unsound, to say the least. The excerpt from *The Archaeology of Crete* quoted at the beginning of this article is a classic example of such an approach, and is a reflection of the methodological problems arising from a chronological system that thoroughly equates stylistic labels with chronological labels.[20]

The 1960–70s excavation at the Unexplored Mansion confirmed the established ceramic sequence and highlighted the apparent usefulness of "type fossils", particularly for the early phases of the Final Palatial period.[21] For the Neopalatial period, however, there were difficulties in isolating "type fossils" and in assigning period labels to specific deposits.[22] To remedy this problem, a series of deposits from the palace was studied by Mervyn Popham in order to understand Evans's period labels for the end of the Middle and beginning of the Late Bronze Age at Knossos. These were characterized as unhelpful in defining the difference between the two chronological phases, because of a considerable "overlap in styles".[23] For multiperiod sites such as Knossos, where deposition happens rather faster than the formation of characteristic "type fossils", ceramic production is a continuum, and deposits will always reflect ceramic production and consumption in "transition". Besides, ceramic periods have to be defined on the basis of a series of deposits that share a set of common characteristics in fabrics, wares and forms, features that by themselves can be assigned to more than one ceramic period, rather than by isolating a series of "type fossils".

The answer is to adopt a methodology that, first, clusters ceramic deposits into groups that share common characteristics in terms of fabric, ware and form. Subsequently, these groups should be placed in sequence on stylistic or stratigraphic criteria and each group should be named after its most characteristic deposit. It is only then that the ceramic groups should be linked to Evans's stylistic and chronological framework. Finally, the relative sequence of these ceramic groups should be compared to deposits and sequences from other parts of Crete and the Aegean in order to establish a relative chronology. The methodology described here is not new.[24] For Knossos it was already suggested in the 1990s for the study of Early and Middle Minoan pottery, and it forms the basis of a forthcoming publication on the ceramic phasing of Knossos from the Neolithic to the Late Bronze Age.[25]

Knossos: The MM IIIB to LM IA Sequence Reconsidered

A large number of the deposits under discussion are published or at least adequately illustrated and most have been extensively discussed by various authors in the context of sorting the MM IIIB to LM IA sequence at Knossos (Table 1). There are, however, several limitations in the study. Deposits deriving from excavations conducted over the past 100 years in the Knossos valley have been subject to very diverse recovery and recording protocols.[26] Some material from Evans's excavations is still not properly published (e.g., the Gypsadhes Well deposits) and is often inadequately illustrated (e.g., the Northeast Magazines), and very little of the material has well-documented stratigraphical sequences that relate to earlier and later ceramic groups.

Even from recent excavations, only a proportion of what was originally excavated has been kept, predominantly fine fabrics. In their current preselected

[17] Popham 1970a, 28, 32, 40, 63; Mountjoy 2003, 3.
[18] For example the LM II kylix, Popham 1984, 165–8.
[19] Driessen and MacDonald 1997, 16–7.
[20] Pendlebury 1939, 180.
[21] Popham 1984, 179–80.
[22] Popham 1984, 158.
[23] Popham 1977, 190.
[24] Renfrew 1972, 53–4.
[25] Cadogan *et al.* 1993; Momigliano, forthcoming.
[26] Hatzaki, forthcoming (c).

MUM South Corridor				Ceramic Group
Stratigraphy		*Popham's nomenclature*	*Type of deposit*	
West end	*East end*[a]			
Levels F, E, D (Stage 4)[b]	Levels 17, 39[c]	Upper levels = latest stage = later deposits	Secondary deposit: dump of broken pottery	Gypsadhes Well
	Level 40 (Stage 3)[d]	Lower levels = earlier stage = earlier deposits	Secondary deposit: dump of broken pottery	KS 178
	Level 44 (Stage 1)[e]	Lower levels	Primary deposit: floor deposit, complete pottery	KS 178
KS 178				
Stratigraphy			*Type of deposit*	
LM IA 'mature' level			Level associated with fragmentary pottery	Gypsadhes Well
Pottery deposited in stone built compartment			Secondary deposit: pottery deposited within stone compartment	KS 178
Gypsadhes Well				
Upper Deposit[f]			Secondary deposit: Pottery thrown down the well	Gypsadhes Well
Lower Deposit[g]			Secondary deposit: pottery thrown down the well	KS 178

Table 2 Schematic representation of stratigraphy and relevant ceramic units at the MUM South Corridor, KS 178, and Gypsadhes Well and their associations with the Knossos ceramic groups

[a] Popham 1984, pl. 2 section 8.

[b] Fig. 9; ' This latest stage is stylistically clearest in the deposits to the W., …, which may have accumulated after the passage way had been blocked and levelled (Stage 4). Several levels were distinguished during excavation in what was clearly accumulated debris. Unfortunately the earliest (F) and the latest LM IA levels (C) contained little pottery. Only the intermediate deposits were large enough to be of value and they appeared to be stylistic homogeneous. So, again, they have been put together and treated as a unit, though distinction between them has been retained in illustration – levels F, E and D in chronological sequence' Popham 1984, 155, pl. 134 a–b, 135–6, 143.1–15.

[c] Fig. 8; 'During study, the LM I levels at the E. end above these earlier deposits were found to have sufficient cross joins to invalidate any distinction, so they have been amalgamated (called levels 17 and 39). It remains a possibility that they include an intermediate stage as well as a considerable amount of the latest stage' Popham 1984, 155 pl. 133 b–d.

[d] Figs. 3–6; KS 178 Group: Popham 1984, pl. 128 a–c, e–l, 129, 132 a–c, 141.1–7, 141.9, 141.11–16, 142.1–11, 142.14, 144.1, 144.3–22; Gypsadhes Well Group: Popham 1984, 133 a.

[e] Fig. 2; 'The earliest, in the E. part of the Corridor, consists of a small deposit above the rock, which … contained a few whole vases and ran under this wall (Stage 1). It may be a destruction or abandonment deposit but, apart from the vases, it is too small to be definable and, in practice, turned out to be similar to the contents of the fill above … it has been left possible for the reader to isolate the vases of the earliest Stage 1, which are referred to in illustration and catalogue as belonging to level 44, the original digging level' Popham 1984, 154–5; pl. 2 section 8, 14 section 8.6, pl. 132 b and 141.10, 128 d and 141.8, pl. 128 a and 141.13, 142.12, 144.23, pl. 128 e, 144.2, 153.

[f] Fig.7 upper half.

[g] Fig. 7 lower half.

state it is very difficult to conduct statistical analysis of the different fabrics, wares and forms that is aimed toward understanding workshop production and consumer consumption practices. Usually a selection of forms considered by the excavator as the most representative of the deposit has been illustrated, with a strong bias in favor of decorated pottery. Visual presentations of deposits are on the whole not supplemented by statistical analysis of the different fabrics, wares and forms,[27] with the result that the sample illustrated cannot be properly contextualized or compared to deposits deriving from different social

[27] Exceptions are the statistical analysis of forms and decorative motives in Catling *et al.* 1979, 67–78, and Warren 1991, 321–2.

Type of deposit	*Nomenclature*	*References*		
		General	*Hood and Smyth 1981*	*Hood and Taylour 1981*
THE KS 178 GROUP				
Palace, primary	Room of the Tripod Vases	Popham 1977	KS 219	C 213
	N. E. Magazines and N. E. Hall	Popham 1977; 1981	KS 219	C 181, C 184
Town, primary	MUM: South Corridor east end level 44	Popham 1984	KS 186	
	Acropolis Houses: Deposit A, C and D	Catling, Catling and Smyth 1979	KS 174	
Town, secondary	MUM: South Corridor east end level 40	Popham 1984	KS 186	
	S'EX: Pit IV, Trench D	Warren 1991	KS 188	
	KS 178 stone built compartment deposit	Macdonald 1996; 2000; 2002; Driessen and Macdonald 1997	KS 178	
	Acropolis Houses: Deposit B and E	Catling, Catling and Smyth 1979	KS 174	
	Gypsadhes Well: lower deposit	Evans 1928	KS 291	
THE GYPSADHES WELL (UPPER DEPOSIT) GROUP				
Palace, primary	N.W. angle of S. E. Insula including Magazines of the Lily Jars and the False Spout Jars.	Evans 1921	KS 219	D 266–7
Palace, secondary	4th Magazine. 2nd cist	Popham 1977	KS 219	A 57
	E.-W. Stairs of Domestic Quarters	Popham 1977	KS 219	D 221
Town, primary	S'EX – lower and upper LM IA deposit	Warren 1999	KS 188	
	House of the Frescoes	Evans 1928; Popham 1969	KS 212	
Town, secondary	Gypsadhes well, upper deposit	Evans 1928; Popham 1967	KS 291	
	MUM: South Corridor east end levels 17 and 39		KS 186	
	MUM: South Corridor west end levels A–F	Popham 1984	KS 186	

Table 3 Ceramic groups and associated deposits for the early and middle part of the Neopalatial period at Knossos

contexts (e.g., palace, core elite, nonelite high/low density areas within the urban sector, cemeteries). Details regarding the state of preservation of the pottery, which can provide a window toward depositional practices, are often missing. Pre- or postdepositional wear – such as on rims, handles or bases, or sharp or worn edges on "old" breaks – are rarely mentioned. Consequently, the "biography of objects" before and after their discarding and their deposition can rarely be reconstructed through the published accounts.

The active role played by pottery – of different fabrics, wares and forms – in varied social contexts has yet to be explored systematically for palatial Knossos, including the role of different fine wares as a social rather than a chronological marker,[28] and seeking to fine-tune the definition of ceramic phases through the presence or absence of specific ceramic forms (usually decorated), without acknowledging the active involvement of such pottery in the cre-

CERAMIC GROUP	EVANS'S TERMINOLOGY
West and South Polychrome Deposits	MM IIIA
KS 178	MM IIIB
Gypsadhes Well (upper deposit)	LM IA
S'EX North House	LM IB

Table 4 Ceramic groups of the end of the Protopalatial period and the Neopalatial period, and their relation to Evans's terminology

[28] For recent advances in the study of ceramic deposits from Prepalatial Knossos, see Day and Wilson 2004, with bibliography.

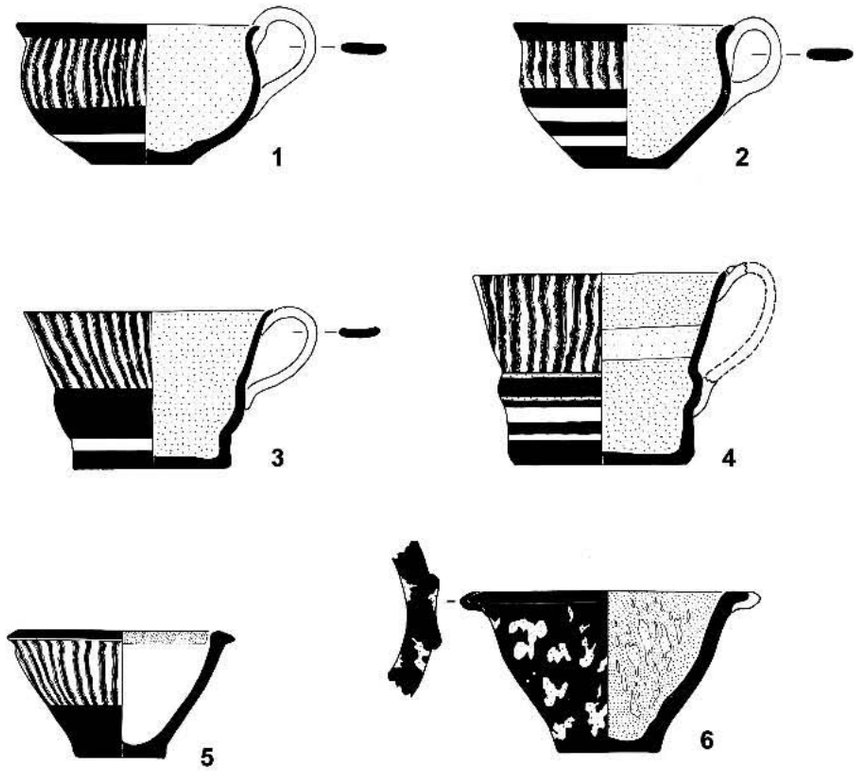

Fig. 2 Unexplored Mansion South Corridor east end level 44:1–4 dark on light lustrous ware, 5 dark on light ware, and 6 light on dark ware (after Popham 1984)

ation and maintenance of diverse social contexts, may well lead instead to the creation of an apparent succession of ceramic phases. In the case of Neopalatial Knossos, only a handful of deposits come from contexts with secure stratigraphic sequences (Fig. 3). For these reasons, for the time being, no attempt has been made to fine-tune the ceramic sequence of Knossos following the methodology applied at Kommos, where datasets come from recently excavated and well-stratified contexts and allow sequential changes in ceramic production to be traced at a macroscopic level.[29]

Notwithstanding the present vogue for multiple (micro-)phases in the Neopalatial period that I have been describing, a strict reexamination of various Neopalatial deposits from Knossos, based on the currently available stratigraphy (Table 2) and published data, allows for only two successive ceramic groups. These are presented in Table 3. These groups are later than the West and South Polychrome deposits group (MM IIIA)[30] but earlier than the S'EX North House group (LM IB)[31] (Table 4). The stratigraphy that supports the notion of only two successive ceramic groups – i.e., the KS 178 and the Gypsadhes Well groups – is summarized in Table 2.

The KS 178 Group (MM IIIB)

(Figs. 1–6, 7 lower half; Tables 2–5)

The earlier of the two groups comprises ceramic deposits previously assigned to three separate (ceramic) phases, which have been labeled "MM IIIB", "MM IIIB/LM IA transition" and "LM IA early". The deposits under these categories are now considered as being in broad terms ceramically contemporary, and can be called "the KS 178 group" after a deposit of fairly intact pottery that filled a small stone compartment in a building near the so-called Acropolis houses.[32] The deposit has over 90 fairly com-

[29] Rutter 2004, 73 table 4.1.
[30] MacGillivray, forthcoming.
[31] Hatzaki, forthcoming (a).
[32] Driessen and MacDonald 1997, 161; MacDonald 2004, 242–8. MacDonald considered this material secondary deposition, the result of some form of cleaning up of a primary destruction deposit, which was not associated with fire.

Fabric and Ware	Shape	Site											
		AH (Deposits)				GW	MUM		SYX	POROS–KATSAMBAS		KS 178	
		A	B	C	D	Lower deposit	SC east end level 44	SC east end level 40	Pit IV	1967 pit lower level	1967 pit upper level	Stone built compartment	References
Fine buff fabric													
Light on dark	Straight–sided cup, ribbed with white dots	•	•		•	•				•	•	•	DRIESSEN and MACDONALD 1997, 20 fig. 2.1 *b*; MACDONALD 2002, pl. 9 bottom
	Straight–sided cup							•	•	•	•	•	
	S–profile cup		•					•	•			•	
	Bowl, straight or incurving rim		•		•			•	•		•	•	MACDONALD 2002, pl. 9 bottom right 2nd row
Dark on light lustrous													
	S–profile cup (ripple)					•	•	•	•			•	MACDONALD 2002, pl. 9 bottom right
	Vaphcio cup (ripple)			•	•	•	•	•	•		•	•	
	In–and–out bowl (ripple)		•		•	•		•	•			•	DRIESSEN and MACDONALD 1997, 20 fig. 2.1 e
	Jar fine (with added white)											•	MACDONALD 2002, pl. 9 top left
Dark on light	Bell cup (dipped–rim)	•						•	•			•	
Monochrome	Straight–sided cup	•	•		•	•				•	•	•	
	Straight sided cup mono		•					•	•	•	•	•	
	Bowl, straight or incurving rim		•		•			•	•		•	•	MACDONALD 2002, pl. 9 bottom right 2nd row
Plain	Straight sided cup plain		•					•	•	•	•	•	
	Conical cup, shallow		•					•				•	
	Conical cup, shallow ledge rimed	•	•	•			•	•	•			•	DRIESSEN and MACDONALD 1997, 20 fig. 2.1 *a*, *d*; MACDONALD 2002, pl. 9 bottom
	Conical cup, tall ledge rimed						•	•	•			•	
	Tankard/cup	•	•									•	
	'Pitharaki'					•						•	
Coarse fabrics	Oval mouthed amphora								•			•	
	Hydria (ewer)	•		•					•			•	MACDONALD 2002, pl. 8 *d*, 9 middle row left
	Jug, plain											•	MACDONALD 2002, pl. 8 *e*
	Tripod cooking pot with lug handles			•								•	

Table 5 Overlap of forms in the KS 178 (stone built compartment) deposit with other deposits from Knossos

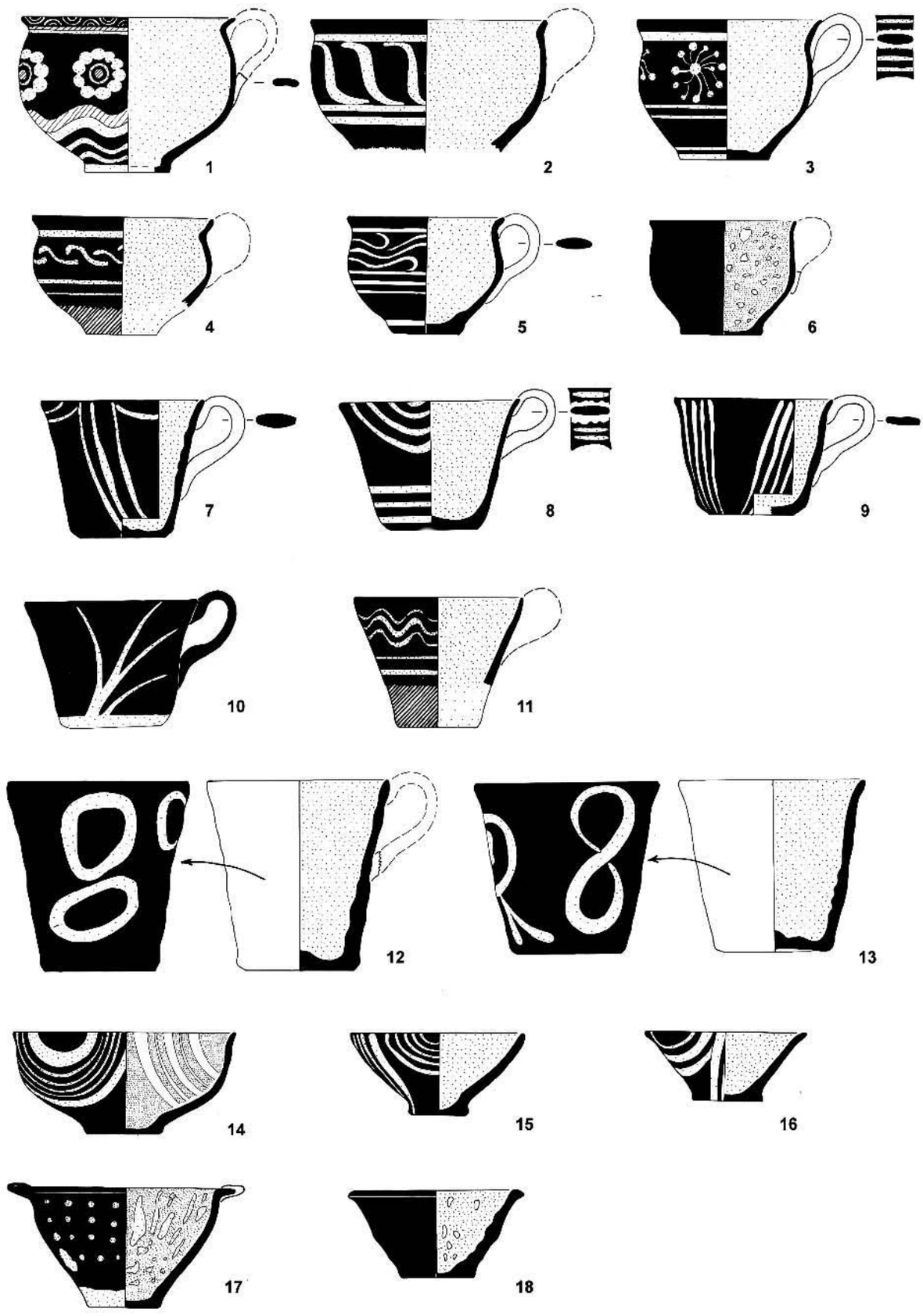

Fig. 3 Unexplored Mansion South Corridor east end level 40, light on dark ware (after Popham 1984)

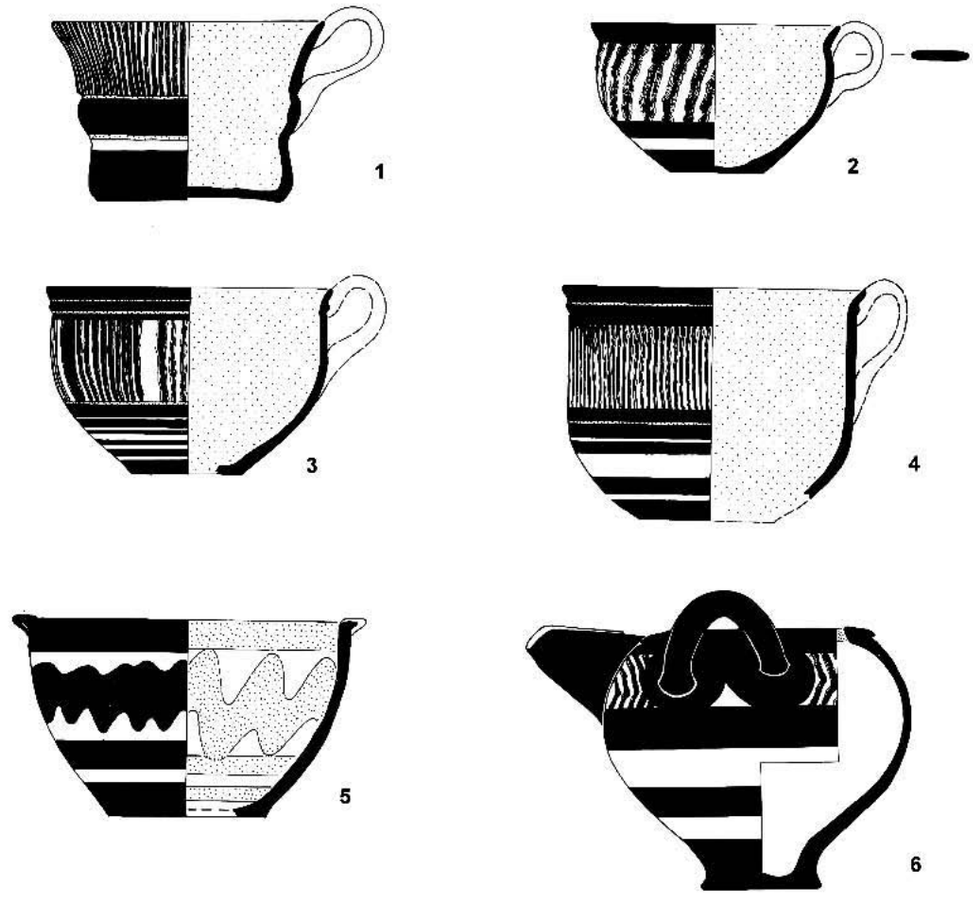

Fig. 4 Unexplored Mansion South Corridor east end level 40, dark on light lustrous ware (after Popham 1984)

plete vessels of fine, coarse, open and closed forms in light-on-dark, dark-on-light lustrous,[33] dark-on-light, monochrome, and plain wares. Highlights include a jug inscribed with Linear A; low ledge-rimmed (conical) cups in light-on-dark, monochrome and plain; large dark-on-light lustrous two-handled bowls (in-and-out bowls); S-profile cups with ripple decoration in dark-on-light lustrous ware; white-spotted straight-sided cups; and a small four-handled jar with white retorted spirals considered an import from the Mesara.[34] Because of the extensive repertoire of forms and wares, this deposit provides a useful link to an array of other deposits from Knossos (see Table 5).

Contemporary is the Unexplored Mansion South Corridor east end level 44 (see Table 2),[35] a primary deposit that ran under a rubble wall that predates the foundation of the Unexplored Mansion.[36] It has ripple-decorated S-profile cups, Vapheio cups in dark-on-light lustrous ware, and shallow ledge-rimmed conical cups in light-on-dark and dark-on-light (Fig. 2).[37] Deposits A, C and D from the architecturally earliest of the Acropolis houses are pri-

[33] The term "lustrous" is used here to describe the finished appearance of a vessel's surface. For the KS 178 group, dark-on-light lustrous ware (and with added white as a variant) is defined by pottery whose surface looks and feels lustrous, the result of some form of surface treatment (either polishing or burnishing) on the vessel's surface.

[34] MacDonald 1996, pl. 3a; Driessen and MacDonald 1997, 20 fig. 2.1; MacDonald 2000, 64 fig. 39; MacDonald 2002, pls. 8d, e and 9; MacDonald 2004, 243–5 figs. 18.1e, 18.2a, e, 18.3i.

[35] In the plates volume of the Unexplored Mansion publication, pottery deriving from the east end of the South Corridor, level 44 (= stage 1) and level 40 (= stage 3), were considered contemporary in ceramic terms, illustrated together and referred to as the "early stage" pottery or "lower deposit" even though deriving from two distinct stratigraphical contexts; Popham 1984, 94–5, 154–5. The stratigraphic and ceramic sequence (with references) has been reconstructed in Figure 5.

[36] Popham 1984, 95–6, pl. 14 (section 8, level 6).

[37] Figure 7.4 has added white paint; Popham 1984, pls. 132b and 141.10; 128d and 141.8; 128a and 141.13, 142.12, 144.23; 128e and 144.2, 153.

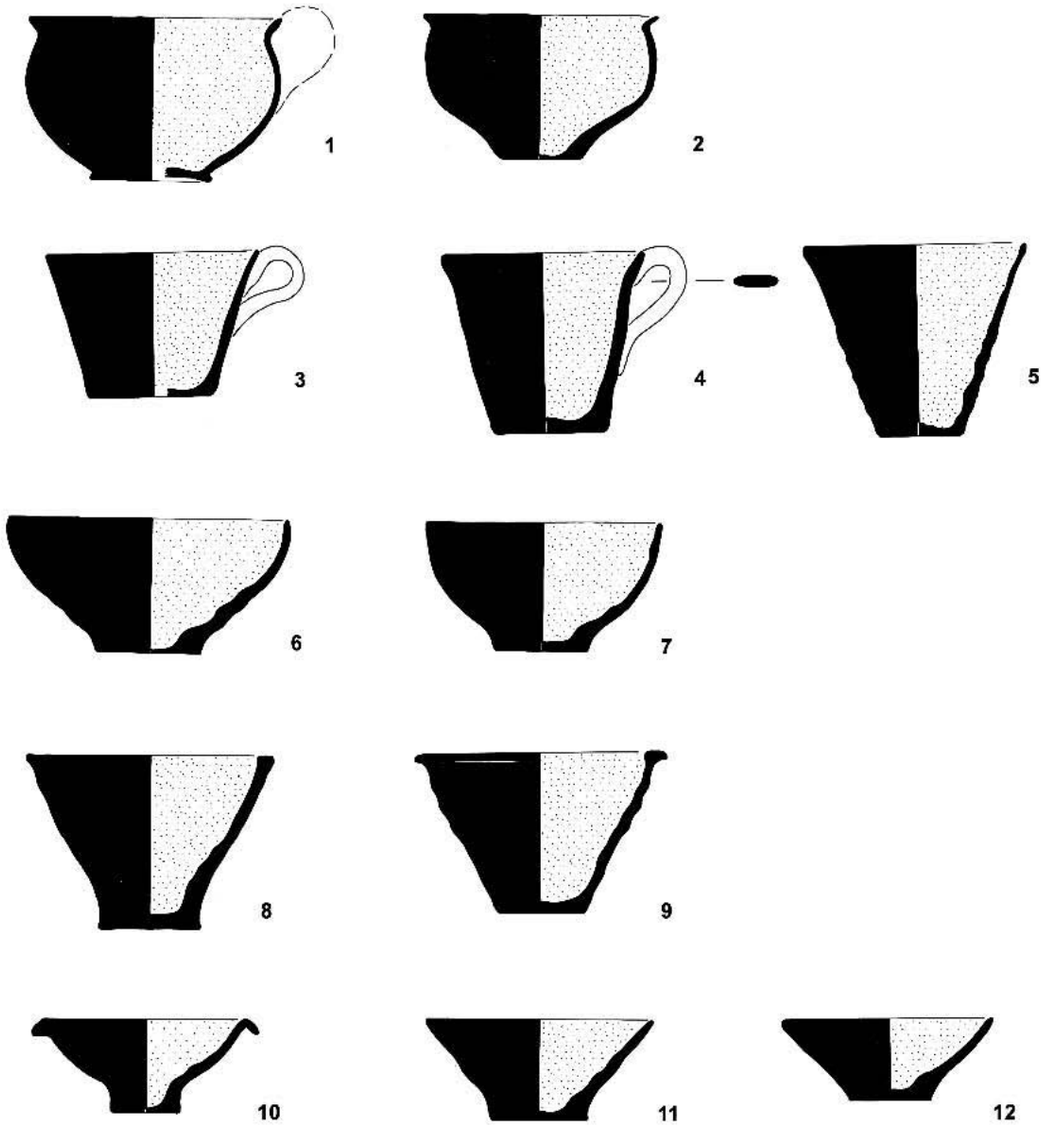

Fig. 5 Unexplored Mansion South Corridor east end level 40, monochrome ware

mary and may also be assigned to the KS 178 group.[38] In this case a counterargument would be that certain forms, such as the shallow deeply grooved conical cups of deposits A and B, also occur in the preceding West and South Polychrome Deposits group (MM IIIA).[39] The building would then, however, make no sense architecturally or stratigraphically. I propose that deposits A, C and D are contemporary and belong to the same building, on architectural and stratigraphical grounds, and can be assigned to the KS 178 group.[40] The secondary deposits B and E also belong to the KS 178

[38] Deposit A (basement room, in situ floor deposit), Catling *et al.* 1979, 22 fig. 16; 24 fig. 17; pl. 3a–i. Deposit C, Catling *et al.* 1979, 35–38, figs. 23–6, pls. 5j, 6, 7, 8a, c, e, f, h. Deposit D (upper floor collapse in West Room), Catling *et al.* 1979, 40 fig. 27 (recorded in situ), 41 fig. 28 (reconstructed on strewing tables), pl. 8b, d, g.

[39] Catling *et al.* 1979, 24 fig. 17.21–46, 33 fig. 21.142–89.

[40] The "MM III West Room" (containing deposits C and D) and the "MM IIIB Basement Room" (containing deposit A) are treated as part of the same architectural unit, Catling *et al.* 1979, 4–6 figs. 3, 4; contra the schematic plan at bottom right of Catling *et al.* 1979, 4 fig. 3; see also Carinci 1983.

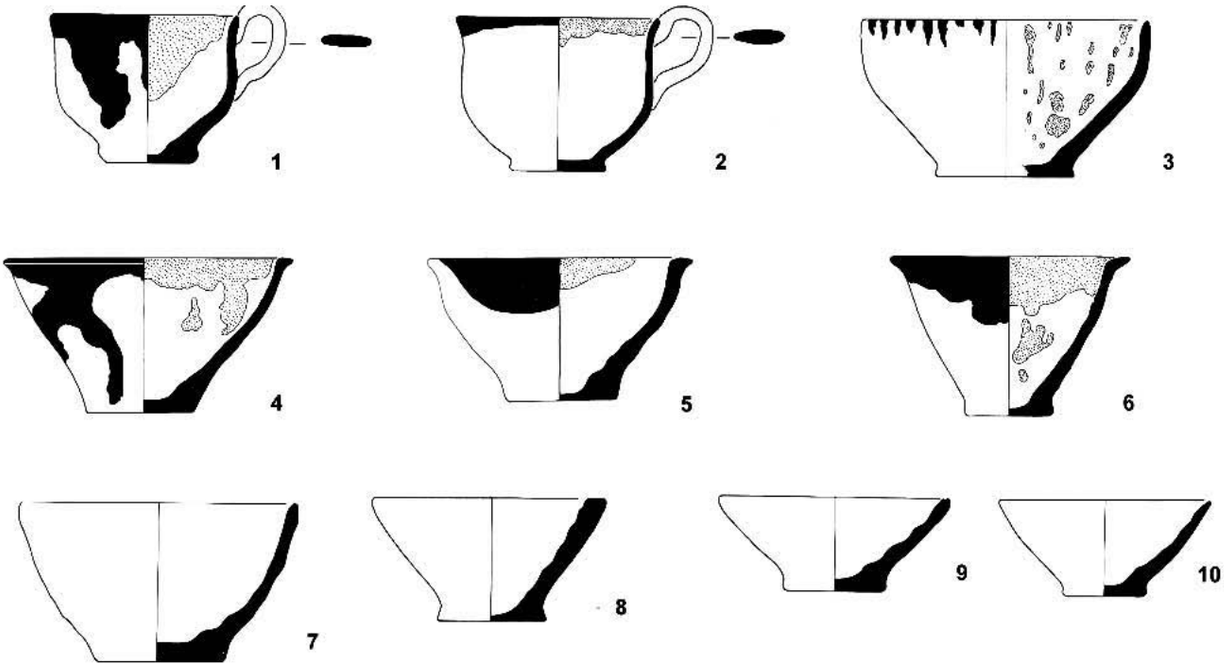

Fig. 6 Unexplored Mansion South Corridor east end level 40, dark on light, and plain wares

group; the former is stratified above deposit A, and the latter above deposit D.[41]

Other deposits that form part of the KS 178 group are the Unexplored Mansion South Corridor east end level 40 (Table 2, Figs. 3–6),[42] the Stratigraphical Museum extension site trench D pit IV,[43] and the lower deposit of the Gypsadhes Well (Table 2; Fig. 7, lower half).[44] All three are considered to be secondary deposits, the result of extensive site clearances. The Unexplored Mansion South Corridor east end level 40, which was found stratified above level 44, contains a fair amount of complete pottery. The small number of fine decorated sherds that clearly date to the succeeding Gypsadhes Well group (LM IA) do not undermine the date suggested here, since this is not a "closed primary deposit".[45] Useful contemporary assemblages from funerary contexts in the Knossos valley and environs include ceramic material from the Poros-Katsambas tomb Π 1967.[46]

So far, a deterrent in the study of palace deposits has been the notorious paucity of fine decorated wares in comparison to deposits from the town. For this reason it has been suggested that the deposits from the palace had to be earlier than deposits from the town that now have been clustered as part of the KS 178 group.[47] The pottery from the Room of the Tripod Vases[48] may be assigned to this group but for further attributions a reexamination of various key deposits is necessary.

The ceramic material from the Northeast Magazines and Northeast Hall remains one of the most extensive in situ deposits of the Neopalatial period, with large amounts of plain, fine and coarse wares.[49] For this reason, ever since their discovery, a cluster of vessels in dark-on-light lustrous ware including Vapheio cups with added white paint and ripple decoration, and two globular one-handled jugs decorated with network (or cross-hatched ripple), has been

[41] Deposit B (basement room fill stratified above deposit A), Catling *et al.* 1979, 26, 29, 31, 33–4, figs. 18–22, pls. 3j, 4, 5a–i; deposit E (a massive fill representing a construction level; stratified above deposit D but contemporary in ceramic terms), Catling *et al.* 1979, 43–4, figs. 29, 30.

[42] See n. 31; Popham 1984, pls. 141, 142, 144, 145.

[43] Warren 1991, 324–9, figs. 5–10, pls. 76b, c, 77–80.

[44] Evans 1928, 549 fig. 349 (lower half of photograph).

[45] Popham 1984, pl. 133a; decorated sherds include reed, floral spray, and "Jackson Pollock style"; for the latter, see Warren 1996.

[46] Pottery from the lower level in the pit, Muhly 1992, 115 pl. 1.

[47] Hood 1996.

[48] Popham 1977, 192–3, 187 fig. 1; pl. 29a.

[49] Evans 1921, 569 fig. 414; 000 fig. 416c; Popham 1977, 193–4, 187 fig. 1b; pl. 29b–f; Popham 1981, 329–30 pl. 57.

Fig. 7 Pottery from the Gypsadhes Well, lower (KS 178 Group, MM IIIB) and upper deposit (Gypsadhes Well Group, LM IA) (after Evans 1928, 549 fig. 349)

the focus of discussion of the date of these deposits.[50] On several occasions the cluster of Vapheio cups has been assigned to a ceramic phase later than the bulk of the plain and coarse pottery, just because it is decorated. These ripple-decorated vessels have thus formed the basis of an argument in support of a ceramic phase later than the pottery now clustered under the KS 178 group but earlier than that of the Gypsadhes Well group. This purported ceramic phase has been characterized by the predominance of ripple-decorated vessels, and termed "LM IA early".[51] But, to date, the deposit under discussion remains the only one attributed to this supposed ripple-dominated ceramic phase.

A brief study of the relevant architecture suggests that the cluster of Vapheio cups was found in a corridorlike space that communicates directly with the Northeast Magazines, which connect in turn, via a narrow corridor, to the rooms west of the Northeast Hall.[52] There is no sound reason to separate stratigraphically the Vapheio cups from the pottery of the other spaces nearby – although a new comprehensive study of the stratigraphy, architecture and pottery is

Fig. 8 Unexplored Mansion South Corridor east end levels 17+39, including Vapheio cup with 'little spiral painter' (after Popham 1984, pl. 133 c top left)

[50] Popham 1977, 187 fig. 1b, pl. 29b–f; Popham 1981, pl. 57.
[51] Popham 1977, 193–4; Warren 1999.
[52] Hood and Taylour 1981, C 181 and C 184.

Fig. 9 Unexplored Mansion South Corridor west end levels D–F:1–4 level D, 5–7 level E, 8–9 levels D and E, 10–12 level F

still essential. From the small amount of pottery illustrated, I propose that these deposits date to the KS 178 group on the basis of the ripple-decorated pottery, which is typical for this ceramic phase. As for the predominance of one particular decorative motive (in this case ripple) an explanation should be sought in different storage practices, consumption preferences and their relationship to feasting practices within the context of the palace, rather than different chronologies. The absence of fine decorated wares from the palace is indeed intriguing but the explanation of such deposits as belonging to an earlier ceramic period – based, for open vessels suitable for use in drinking, on a linear evolutionary scheme from plain and coarse wares to fine decorated wares – is highly problematic. Indeed, the role that pottery played in social structures in different sectors of early Neopalatial urban Knossos has to be examined. It could provide an intriguing insight into social strategies of the period, but this is a topic beyond the scope of this paper.[53]

The Gypsadhes Well (Upper Deposit) Group (LM IA)

(Figs. 7 upper half, 8, 9; Tables 2, 3)

The second cluster of deposits is ceramically and stratigraphically later than the KS 178 group but earlier than the S'EX North House group (LM IB). Previously, deposits of this cluster were assigned to two separate ceramic phases termed "LM IA early" and "LM IA mature". I propose that this cluster of deposits be named the Gypsadhes Well group after the well-known Gypsadhes Well upper deposit (Table 2; Fig. 7, upper half), a secondary deposit found stratified above a smaller ceramic assemblage of the KS 178 group (Table 2; Fig. 7, lower half). It includes all the classic shapes and decorative motives for this ceramic phase, such as straight-sided reed cups, a Vapheio cup with the "little spiral painter" motive,[54] which is perhaps the only "type fossil" for this ceramic phase (see Fig. 8), rounded cups with retorted spirals, a rounded cup with network pattern (or cross-hatched ripple), two fruit stands, a coarse spouted jug with reed decoration and various closed-shape vessels decorated predominantly with running or retorted spirals.[55]

Other well-known deposits from the town that are ceramically contemporary include the Stratigraphical Museum extension site – lower and upper "LM IA" deposits[56] – and pottery from the House of Frescoes.[57] The Unexplored Mansion South Corridor east end levels 17+39 is a secondary deposit stratified above levels 40 and 44 of the KS 178 group (Table 2; Fig. 8).[58] From the west end of the South Corridor (levels D–F) comes another secondary deposit (Fig. 9).[59] Ceramic deposits from the cemeteries of Knossos include the Poros-Katsambas tomb Π 1967,[60] the pottery from the rock-cut tomb at the 14th Primary School extension plot,[61] the intriguing deposits from the Temple Tomb,[62] and Mavro Spelio Tombs V and IX.[63] A series of primary and secondary deposits from the Palace can also be assigned to the Gypsadhes Well group, including the fill in the second cist of the 4th Magazine,[64] the northwest angle of the Southeast Insula that includes the Magazine of the Lily Jars and the False Spout Jars.[65] The secondary deposit from the East–West Stairs of the Domestic Quarter is considered the most typical LM IA deposit from the palace.[66] Although it consists predominantly of pottery assigned to the Gypsadhes Well group it also includes vessels that can be assigned to the subsequent S'EX North House group (LM IB).[67] Consequently, it is either a mixed deposit or dates to the S'EX North House group.

So far, I have argued for the existence of two ceramic groups – namely, the KS 178 group, succeeded by the Gypsadhes Well group – but have left aside the issue of assigning ceramic period labels following Evans's tripartite system. For clarity and continuity,

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[53] Hatzaki, in preparation.

[54] Evans 1928, 549 fig. 349l; Popham 1967, pl. 76e.

[55] Evans 1928, 549 fig. 349 (top row); Popham 1967, pl. 76a–g.

[56] Lower LM IA deposit, Warren 1999, pl. CCVI; from fill above lower LM IA deposit, Warren 1999, pl. CCVII (P2311); from upper LM IA deposit, Warren 1999, pl. CCVII (P2300, P2306–7); from deposit(s) at same level as upper LM IA deposit, Warren 1999, pl. CVII (P444, P794, P796, P817, P442–3, P816, U23, P1848, P1193–4).

[57] Evans 1928, 436–7 figs. 253–4; Popham 1969, 339, pl. 76g.

[58] Popham 1984, 155 pl. 133d.

[59] Popham 1984, pls. 130, 143.1–15. On Figure 14, pottery is grouped in sequence according to levels D–F.

[60] Pottery from the chamber, area around pit, Muhly 1992, 115 pl. 4.

[61] Dimopoulou 1988, 325–7 pl. 9.

[62] Evans 1935, 988–92; Hatzaki, forthcoming (b).

[63] Tomb V, including an LH IIA import, Forsdyke 1927, 258 fig. 11; Tomb IX, Forsdyke 1927, 268 fig. 21, 269 fig. 23.

[64] Popham 1977, 192 pl. 28.

[65] Evans 1921, 575–84 fig. 419.

[66] Popham 1977, 194–5, 187 fig. 1e, f, pls. 30–1.

[67] Two cup rhyta, Evans 1930, 278 fig. 186; Popham 1977, 187 fig. 1e, f; a rounded cup with interlocking S-decoration, Popham 1977, pl. 30a (bottom row, second from right); the ogival cup in a "green" fabric with fugitive decoration of rows of dots, Popham 1977, pl. 30b (second row, first from left).

I shall follow Evans's terminology and associate the KS 178 group with MM IIIB and the Gypsadhes Well group with LM IA. The establishment of these two successive ceramic groups makes all other period labels such as "MM IIIB late", "MM IIIB/LM IA transition", '"LM IA early" and "LM IA mature" obsolete and misleading.

Beyond Knossos: Ceramic Synchronisms within Crete and the South Aegean

Knossos is by far the largest Neopalatial urban center on Crete,[68] a factor that undoubtedly affected the scale and character of its ceramic production and consumption. Further analytical work is, however, necessary for establishing what constitutes its local ceramic production, especially among coarse wares. Knossos is neither a port town like Poros-Katsambas or Kommos, nor a small island-based urban center such as Kolonna on Aegina, Kastri on Kythera, Ayia Irini on Kea, Phylakopi on Melos, and Akrotiri on Thera, so a different consumption pattern of imports from Crete and overseas should be anticipated. In addition the distribution of imports is not likely to be the same among deposits within the urban sector – such as in the palace and in elite, and nonelite, buildings – as well as beyond the urban zone, in cemeteries or nearby farmsteads. Furthermore, importing and exporting fine and coarse wares, and open or closed shapes, are related to different economic and social requirements. To date, the study of Neopalatial deposits has largely focused on establishing the stylistic criteria of local production of fine wares, decorated and plain, especially among open shapes, as these are rightly considered more sensitive to stylistic variation from one ceramic period to the next. Within this framework, establishing ceramic synchronisms within Crete is primarily based on identifying comparable ceramic styles rather than actual imports. For the latter, more work on the strewing tables supplemented with analytical work is necessary.

The KS 178 Group (MM IIIB)

So far no other site on Crete has produced a large number of ceramic deposits comparable to Knossos that are contemporary with the KS 178 group. To judge from the ambitious building program that followed, it seems that Evans's "Great Earthquake" was a more or less localized seismic "event". Beyond Knossos, the palace at Galatas has produced comparable evidence for tracing, at least in ceramic terms, the extent and impact of a contemporary seismic horizon.[69] Without undermining Peter Warren's argument in favor of a seismic horizon which in ceramic terms can be broadly traced throughout Crete and parts of the Cyclades, it would be wrong to assume that destructions in the south Aegean occurred as a result of a single seismic "event".[70]

A growing number of ceramic synchronisms can be established through the publication of contemporary deposits, particularly from central and east Crete. The region that shows the closest stylistic similarities to the ceramic production of Knossos is south-central Crete.[71] Further work is necessary in order to attempt to fine-tune the ceramic sequence of Knossos in a fashion comparable to that defined by Aleydis Van de Moortel and Jeremy Rutter for Kommos.[72] Thus for the time being the reader should note that certain ceramic phases as distinguished in the Kommian sequence have been placed together under the KS 178 or Gypsadhes Well groups of Knossos (Table 6). In north-central Crete, parallels in terms of a seismic "event" are best established with sites in the Pediada region, even if the local production centers seem to have closer stylistic similarities to Malia rather than Knossos.[73] The extensive deposits from the east wing of the palace at Galatas are crucial as these were left behind as a result of an earthquake destruction that severely damaged the palace.[74] From the east end of the island the newly published deposits from Palaikastro termed "MM IIIB" offer for the first time sound synchronisms with the KS 178 group of Knossos as well as a parallel chronological labeling. [75]

For establishing ceramic synchronisms through imports to and from the south Aegean, the published data from Knossos will not offer any breakthrough discoveries. The role of the Cyclades, Kythera and sites in the south Peloponnese is cru-

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[68] Whitelaw 2001, 28–9 fig. 2.9, 10; 2004.

[69] Rethemiotakis 1999.

[70] Warren 1991, 339–40; see also Guidoboni 1996; Stiros 1996.

[71] Betancourt 1990, 41–8, 124–9, 183–90, figs. 65–70, pls. 94–104; Van de Moortel 1998; 2002.

[72] Van de Moortel 2001, 93 table 9; Rutter 2004, 73 table 4.1.

[73] Rethemiotakis 1997, 305; Rethemiotakis 2003; Rethemiotakis and Christakis 2004.

[74] Rethemiotakis 1999, pls. 18–21a.

[75] Building 6 R1/3, Knappett and Cunningham 2003, 117–22, 125–9, 132–9, 142, figs. 6–24; EP 87, Knappett and Cunningham 2003, 149–60 figs. 30–9.

KNOSSOS CERAMIC GROUPS	KOMMOS CERAMIC PHASES (after Van de Moortel 2001; Rutter 2004)
KS 178 (MM IIIB)	MM III
	LM IA Early
	LM IA Advanced
Gypsadhes Well (LM IA)	LM IA Final

Table 6 Correlation of ceramic groups for Knossos with the ceramic phases at Kommos

cial in establishing synchronisms in terms of Cretan imports and, more importantly – through Minoanizing[76] – locally produced pottery. Variation in the production and consumption of Minoanizing pottery among different centers in the Cyclades, and the degree of influence from specific Cretan production centers such as Knossos, are questions that need to be addressed.

At Akrotiri, recently completed tests to the level of bedrock, in the preparation of the new shelters at the site, have produced further evidence for ceramic synchronisms between the KS 178 group at Knossos and the "seismic destruction level", which in the local sequence is assigned "well into LC I".[77] Deposit *e* at Kastri Kythera[78] and Ayios Stephanos phase III[79] are also broadly contemporary to the KS 178 group, whereas period V at Kea is probably earlier.[80] Pottery is only one feature in support of the close contacts between Crete, Kythera, Messenia and Laconia during this period. The role of Kythera, as the intermediary for the introduction first in Laconia, and to a lesser extent in Messenia, of locally produced dark-on-light lustrous ware, and for its subsequent diffusion to other parts of the mainland, is widely acknowledged.[81]

The introduction of dark-on-light lustrous ware seems to be the predominant factor for dating deposits to LH I instead of the end of MH III, as other wares continue without change.[82] Initially, dark-on-light lustrous pottery occurs on the mainland in small quantities in comparison to the continuing MH wares[83] and, as in Crete, it predominates on vessels suitable for drinking. Thus the social context(s) in which dark-on-light lustrous ware first occurs on the mainland might be the determining factor for its presence or absence, rather than a – strictly speaking – chronological difference among deposits. In such a context, associating the KS 178 group with Evans's MM IIIB label, which in effect implies in strictly ceramic terms that the beginning of LH on the mainland and the Cyclades is contemporary with the end of MM at Knossos as defined here, is not a problem.

The Gypsadhes Well (Upper Deposit) Group (LM IA)

The adoption of just two ceramic groups for Knossos somehow diminishes the problem of synchronizing different ceramic terminologies with other parts of the island. In this case, the pottery from the kiln and kiln dump at Kommos, which is referred to in the publication as "LM IA early", is broadly contemporary with deposits of the Gypsadhes Well group (Table 6).[84] In general, establishing sound cross-island synchronisms for the Gypsadhes Well group becomes perhaps an easier task, thanks to the large number of deposits that are the result of a widespread series of destructions usually associated with earthquake. Ceramically speaking, this destruction horizon is contemporary with the eruption of Thera. In south-central Crete the destruction and abandonment deposits from the Volakakis House at Seli offer much comparable material from a production center that has much in common with Knossos.[85] Contemporary east Cretan deposits have been found at Gournia House Cm[86] and House D,[87] Kato Syme West Room,[88] Mochlos Building C,[89] the Myrtos-Pyrgos Tomb,[90] Palaikastro Building 2 room 2,[91] Priniatikos

[76] Even before the heyday of "Minoan Thalassocracy", the currently popular term "Minoanizing" was used extensively by Rutter and Rutter (1976, 64) and subsequently Rutter and Zerner (1984, 79 n. 20); see also Davis 2001, 27.

[77] Nikolakopoulou *et al.*, forthcoming.

[78] Coldstream and Huxley 1972, fig. 38, pls. 23–5.

[79] Rutter and Rutter 1976, 32–46.

[80] Davis 1986, 1–2.

[81] Dickinson 1974, 120; Rutter and Rutter 1976, 63–5; Jones 1986, 420–4; Mountjoy 1993, 31; Mountjoy 1999, 19.

[82] Mountjoy 1993, 31–8.

[83] Mountjoy 1999, 19.

[84] Van de Moortel 2001, 93 table 9; pers. comm.

[85] Destruction and abandonment levels, La Rosa and Cucuzza 2001, 94–110, figs. 96–7, 99, 101, 103–5, 109, 111, 116, 118–20, 122, 124–130, 135–141, 145–6, 149–51, 234–7, 239, 242–6, 251, 256–8, 260, 263–5, 271–2, 274–5, 277.

[86] Deposit in room 58, Boyd *et al.* 1908, 24, 39–40, pl. 7.25–41.

[87] Room 29, Boyd *et al.* 1908, 24, pls. 6.35, 8.19.

[88] West room, lower deposit, Lebessi 1973, 193 pl. 197 *?–d*.

[89] Soles and Davaras 1992, 438 fig. 14, pl. 100c, d.

[90] Cadogan 1972, pl. 589b; Cadogan 1978, 73; Hankey 1986.

[91] Knappett and Cunningham 2003, 164–70 figs. 41–6.

[92] Betancourt 1978, 383 fig. 1, 385 fig. 2.

Pyrgos[92] and, last but not least, the so-called Zakros pits[93] and the extensive deposits in houses leveled off for the construction of what was in many respects a "Knossian" palace at Zakros.[94]

Thanks to the eruption of Thera and its associated seismic horizon, a plethora of deposits contemporary to the Gypsadhes Well group can be identified. At Knossos only a handful of imports from the Cyclades have been published, from the upper deposit of the Gypsadhes Well. Kea has been suggested as the provenance of the coarse jar with added white decoration from the secondary deposit from the second cist in the 4th Magazine.[95] The so-called 'Lily jars' from the eponymous magazine in the palace at Knossos are also probably imports.[96] Their fabric and surface treatment are not comparable to Knossian ceramic production, whereas their decoration is virtually identical to examples from Akrotiri,[97] although their shape and surface treatment do not suggest such a provenance. The apparent concentration of imported pottery in the palace compared with the relative paucity of comparable material from the town is intriguing and raises questions regarding the different roles of palace and town.

Of Knossian vessels at Akrotiri, the "little spiral painter" Vapheio cup is perhaps the best-known import, which provides a network of sound synchronisms with various deposits from Knossos.[98] Despite the absence of reeds the decorated pottery from the sealed deposit from Kea period VI House A room 18 fits better with the Gypsadhes Well group than with the KS 178 group, through the presence of running spirals with solid centers and foliate band.[99] At Kastri, deposits ξ[100] and η[101] are also comparable to the Gypsadhes Well group, despite the lack of reeds. Macroscopic examination of the Kastri material suggests a strong local tradition rather than a passive adoption of Knossian ceramic styles.[102] With the exception of Akrotiri, the reed style typical of Knossian and central Cretan production in general is rare among published contemporary deposits in the Aegean. Such inconsistencies further strengthen the argument for the establishment of synchronisms on the basis of imports and exports, using analytical techniques, rather than on the basis of comparable stylistic trends.

Conclusions

The current trend in ceramic studies for Bronze Age Crete focuses on the establishment of local ceramic sequences, a necessary prerequisite for accurately defining synchronisms between different production centers. This is particularly welcome, as the creation of a pan-island ceramic sequence based on Knossos has led to serious methodological problems and mistakes in dating ceramic deposits accurately. Within this framework and without diminishing the role of Knossos as a primary center, its ceramic production may now be viewed as one among many. Yet Knossos is undoubtedly the largest settlement on the island, a factor that impacts on all aspects of its material culture. Within this framework, its prolific ceramic production may have more to offer by comparing and contrasting it to other contemporary production and consumption centers, rather than assuming or expecting these simply to follow Knossos for various political, economic or social reasons.

Despite his awareness of regional trajectories, Evans's universal chronological scheme, which he created with the Knossian sequence as the model, is extensively used despite its obvious inadequacy for handling varied local sequences and indeed different chronological labels from region to region. The adoption of ceramic groups at Knossos as the main terminology for developing local ceramic sequences (Tables 2–4) and for discussing synchronisms within Crete and beyond will, I hope, solve many of the chronological inaccuracies that have impeded our understanding of what social, economic and political realities were developing on Crete during the early part of the Neopalatial period.

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[93] Hogarth 1901, 123–9; Hogarth 1902, 333–8 pl. 12.1, 3; Dawkins 1903, 248–00 figs. 1–19; Bosanquet and Dawkins 1923, 25–9 pl. 15f–j; Forsdyke 1925, A 579–80; Popham 1967, 339 pl. 78a–c.

[94] Platon 1999, 675–80 pl. CXLIVc–g; 2002; 2004.

[95] Popham 1977, 191 pl. 28a, b.

[96] Evans 1921, 577 fig. 421.

[97] Marinatos 1968, pl. 95a; 1969, pl. 225a, b; 1970, pls. 262a, b, 282a, b.

[98] Marthari 1990, 61 fig. 4b; Evans 1928, 549 fig. 349l; Popham 1969, pl. 76e.

[99] Cummer and Schofield 1984, pls. 61–5.

[100] Coldstream and Huxley 1972, figs. 39–40, pls. 25–8.

[101] Coldstream and Huxley 1972, fig. 40, pls. 29–30.

[102] Coldstream 1979, 392.

Figure	Number	Reference in POPHAM 1984	Figure	Number	Reference in POPHAM 1984	Figure	Number	Reference in POPHAM 1984	Figure	Number	Reference in POPHAM 1984
2	1	pl. 141.8		15	pl. 144.13		11	pl. 144.12	8		pl. 133 *c* top left
	2	pl. 141.10		16	pl. 144.11		12	pl. 144.8	9	1	pl. 143.3
	3	pl. 142.12		17	pl. 144.7	6	1	pl. 141.15		2	pl. 143.6
	4	pl. 142.13		18	pl. 144.1		2	pl. 141.16		3	pl. 143.4
	5	pl. 144.2	4	1	pl. 142.14		3	pl. 144.20		4	pl. 143.14
	6	pl. 144.23		2	pl. 141.9		4	pl. 144.4		5	pl. 143.1
3	1	pl. 141.1		3	pl. 141.11		5	pl. 144.3		6	pl. 143.7
	2	pl. 141.4		4	pl. 141.13		6	pl. 144.6		7	pl. 143.5
	3	pl. 141.3		5	pl. 145.4		7	pl. 144.21		8	pl. 143.2
	4	pl. 141.6		6	pl. 145.1		8	pl. 144.15		9	pl. 143.8
	5	pl. 141.5	5	1	pl. 141.2		9	pl. 144.10		10	pl. 143.10
	6	pl. 141.14		2	pl. 141.5		10	pl. 144.9		11	pl. 143.11
	7	pl. 142.2		3	pl. 142.4					12	pl. 143.13
	8	pl. 142.5		4	pl. 142.8						
	9	pl. 142.3		5	pl. 142.7						
	10	pl. 142.1		6	pl. 144.18						
	11	pl. 142.9		7	pl. 144.17						
	12	pl. 142.11		8	pl. 144.16						
	13	pl. 142.10		9	pl. 144.5						
	14	pl. 144.19		10	pl. 144.14						

Table 7 References for pottery illustrated in Figures 2–6, 8–9

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Abbreviations for Tables

AH = Acropolis Houses
Dep = Deposit
GW = Gypsadhes well
HF = House of the Frescoes
Mag = Magazine
MUM = Minoan Unexplored Mansion
P = Palace
S'EX = Stratigraphical Museum extension site
SC = South Corridor

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What Can Troia Tell Us about the Middle Helladic Period in the Southern Aegean?

Peter Pavúk

This paper summarizes the results of the current work at Troia[1] that are of relevance for this conference. The character and scope of the paper do not, however, allow for an in-depth discussion of all problems outlined here. Such information will be available in the present author's final publication of the pottery from the levels of early and middle Troia VI.

The general significance of the so-called Anatolian Grey Ware (AGW) will be discussed first, followed by a new definition of early Troia VI and its dating. Finally, we will move on to absolute chronology and the new ^{14}C dates from Troia.

Anatolian Grey Ware

For many years Aegean archaeology was dominated by labels such as Grey Minyan, Yellow Minyan and matt-painted ware. We know now that such all-embracing labels led to a lot of confusion and that the spectrum of wares common on the Greek mainland was more complex than this.[2]

We should also approach western Anatolia with this in mind. Here, a fine wheel-made burnished grey ware exists in the Middle Bronze Age (MBA) and Late Bronze Age (LBA), covering quite a large triangle stretching from Troia in the north to Izmir in the south and to Iznik Lake in the east.[3] The ware used to be known chiefly from Troia and gradually became associated with the Grey Minyan Ware (GMW) known from central Greece and the Argolid.[4] However, archaeological knowledge accumulated over the past 30 years has shown that such an equation is not without problems. People working in Anatolia now tend to call it "Anatolian Grey Ware". The most vocal supporter of such a name has been Susan Heuck Allen, but she was not the first. There is nothing political behind this name change, as has been hinted by others. In fact, it seems that the first to use the expression "AGW" was Vassos Karageorghis.[5] There was simply a need to separate the grey ware in the western Aegean from the grey ware in the eastern Aegean, which in the LBA occurs also on Cyprus and in the Levant. Using the word "Anatolian" in the name is not as neutral as one may wish, but we decided not to introduce yet another name for the same ware, which in the very beginning was even called "Lydian".[6] Let me here stress some important points about this ware and explain the differences and similarities with Grey Minyan.[7]

1. One cannot compare AGW with Grey Minyan *en bloc*, since AGW does not present a unified appearance and range of shapes over the entire area of its occurrence. This is also the case with Grey Minyan in Greece. There seems to be one group of AGW around Iznik Lake, which may possibly be the oldest group, but it is not yet very well understood. The second group encompasses the Troad, and yet another group

[1] I would like to thank the late Prof. Manfred O. Korfmann for supporting my research at Troia. I am likewise grateful to all participants of the conference for the stimulating discussions but most of all to Barbara Horejs for sharing with me her knowledge of central Macedonian material. Maureen Basedow has kindly corrected the English of the text. The work was completed with the aid of the Slovak Grant Agency VEGA, Project 1/1211/04.

[2] Zerner 1993, 39–40.

[3] Crucial articles for understanding the distribution of AGW in Anatolia are French 1967; 1969; 1974. The major part of the related bibliography is summarized in Bayne 1963 (2000) and Allen 1990; 1991. Later contributions include Schachner 1994/95; Günel 1999a; 1999b; Pavúk 2002a; 2002b.

[4] The first to call Trojan Grey Ware "Grey Minyan" were possibly Wace and Thompson (1912, 251–2) and Forsdyke (1914, 126–56) in response to them. Blegen only followed up, and popularized the expression for many years to come (e.g., 1953, 15). Dörpfeld and Schmidt noticed the similarity between the two, but never used the term "Grey Minyan" for the Trojan Grey Ware (Allen 1990, 8–15).

[5] Allen 1991, 151; 1994, n. 4; Karageorghis and Demas 1985, 268. For a good overview of the nomenclature problem see also Schachner's contribution in Bayne 1963 (2000), 300–1, 305–6.

[6] Allen 1990, 8–9, Schliemann 1881, 587.

[7] Some of these arguments were already presented in German in Pavúk 2002b. The same holds true for some of the illustrations but since the volume *Brückenland Anatolien* is not readily accessible in prehistoric libraries, it was considered convenient to reprint them here.

covers roughly the region from Classical Pergamon down to Izmir.

Admittedly, the production technique of AGW is not dissimilar from that of Grey Minyan. And, indeed, the early grey ware from Troia is in particular reminiscent of the best variety of Grey Minyan Ware on the Greek mainland, namely Carol Zerner's "True Grey Minyan".[8] However, the ware itself does not offer enough for a meaningful comparison. One has to turn instead to the shapes and the dating of AGW.

2. Concerning the shapes, one has to differentiate between the coastal region and the inland. The potters working inland were more conservative and the shapes evolved at a very slow pace. Typical are carinated bowls, either with a bead rim or with a ridged shoulder. Both of these, being very Anatolian shapes, are entirely unrelated to anything known from the Greek mainland.[9] The coast, on the other hand, is more progressive and the shapes change approximately every 100 years. The coastal shapes comprise the carinated bowls just mentioned but Aegean shapes, such as the well-known Lianokladhi goblet, are also present.[10] But only on the coast!

3. Chronology. The inland finds cannot be any more closely dated by themselves. No imports have been recognized and, at any rate, our knowledge derives mostly from surveys. The coastal finds are datable only on grounds of the associated Aegean imports or imitated Aegean shapes. In this respect, there are only three sites with available information: Troia in the Troad, with Panaztepe and Liman Tepe near Izmir. Nearby Smyrna is promising, but not enough is published to be of use in this discussion. The earliest AGW at Liman Tepe is associated with MH II matt-painted pottery but it is only during MH III that it comes into full bloom. The sole Aegean shape published is the Lianokladhi goblet.[11] At Troia, AGW starts possibly a bit later, in MH III.[12] The shapes will be described below. In both cases, the first occurrence of AGW is much later than that of Grey Minyan in Greece, by at least 300 years. A major difference is also the fact that AGW does not die out during LH I or IIA, as is the case with Grey Minyan,[13] but continues and develops almost uninterrupted down to the Archaic period, when it is known as Aeolian Bucchero.[14]

The Earliest Anatolian Grey Ware at Troia

Let us move on to Troia as a case study. At Troia the first occurrence of AGW marks the beginning of Troia VI. At least, this is what Blegen claimed.[15] Despite the fact that this seemed reasonable to us, the current team at Troia has wondered whether the first occurrence of AGW might have taken place during the preceding Troia V period. Another open issue has been the question of whether and how the grey ware of Troia VI (AGW) is related to the EBA grey ware described by Blegen in his Troia V levels. The current answers are as follows.

1. Recent excavations have shown that the EBA grey ware of Troia V is almost nonexistent. We have, in fact, no idea what Blegen (and for that matter also David French and James Mellaart, who saw the Blegen material) termed as "Troia V Grey Ware".[16] The new excavations have brought to light only a few, but quite nice, Troia V deposits[17] and none of the wares can be associated with Blegen's description. The only grey pieces turned out to be either Red Coated Ware fired grey or a common EBA Trojan ware called Quartz-Tempered Fine Ware, again fired grey.

2. Concerning the occurrence of AGW in Troia V levels, we can tell that early to middle Troia V levels definitely have no AGW in them. Later Troy V levels possibly have no AGW as well. Then, at a certain point and in very low percentages, AGW starts to appear. At first, it is accompanied by an almost unchanged Troia V assortment but the hallmarks of Troia V – Red Cross Bowls and volute handles – are absent.[18] Unfortunately, we have nowhere a continuous sequence from

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[8] Zerner 1993, 43, 47.

[9] The shapes are discussed in Pavúk 2002a, 40, 44; they are Blegen shapes A56 and A61. See also Driehaus 1957, fig. 7 and Bayne 1963 (2000), 23–5.

[10] Pavúk 2002a, 47–8; Blegen shape A64.

[11] Panaztepe: Günel 1999a, 118–120, lev. 146:3, 4. Liman Tepe: Günel 1999b, 54–6 figs. 15–6.

[12] Pavúk 2007.

[13] Rutter 1983; Dickinson 1977, 19–23; Dietz 1991, 199–205.

[14] The best summary of Iron Age grey ware remains Bayne 1963 (2000).

[15] Blegen 1953, 3–38.

[16] Blegen 1953, 34; 1951, 118 and 235; Mellaart 1958, 16 n. 97; French 1967, 61–4 (where it is not clear whether he is quoting Mellaart or saw the pottery himself).

[17] The most prominent is the trench in quadrant A5/6, meticulously excavated by Magda Pieniazek-Sikora. For a preliminary report see Korfmann 2001, 10–3 figs. 9–11; 2002, 7–9 figs. 6, 7. Troia V pottery is currently being studied by Stephan Blum.

[18] The volute handles present a separate problem. Not only are there no volute handles in early Troia VI but the current excavations have so far found no volute handles at all, not even from Troia V deposits. Nonetheless, Blegen defi-

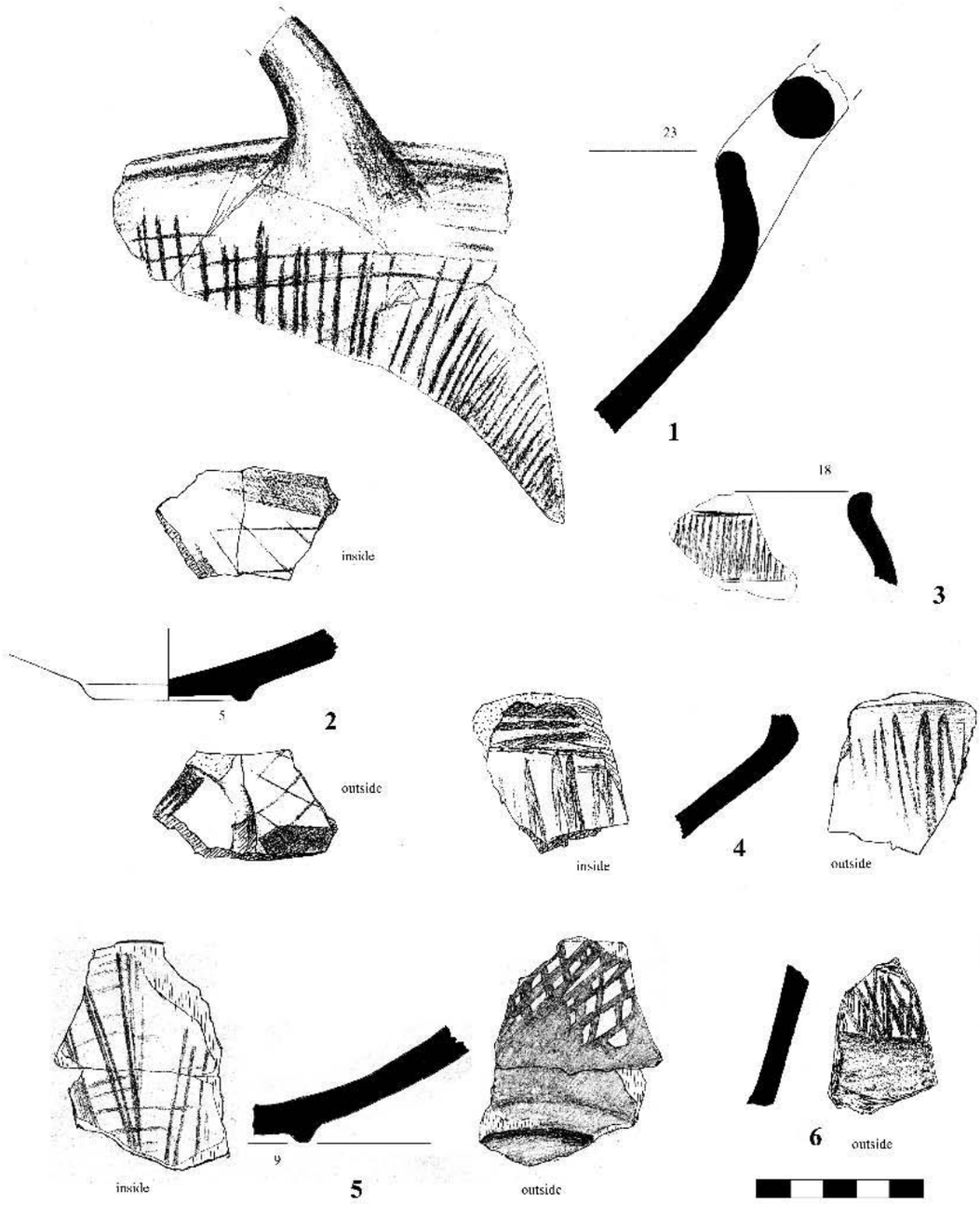

Fig. 1 Pattern Burnished Grey Ware of the First ceramic phase of Troia VI. Scale 1:2.
References: 1) K8.113.1+K8.104.1 9 2) K8.744.1 3) K/L 16/17.1167.27 4) K8.742.2 5) K8.260.5 6) K8.704.6

Troia V down to Troia VI but the deposits immediately overlying those that contain the first examples of AGW are definitely Troia VI. Hence, we can either term the phase "terminal Troia V" or "incipient Troia VI" – it is literally transitional. We call it Troia VI, as Blegen would also have done.

This first ceramic phase of Troia VI seems to have stratigraphically (architecturally) two subphases.

nitely excavated and published a number of them (Blegen 1951, 249 figs. 248.15, 249.1–3). This presents an even more problematic situation, given the fact that the volute handles had been widely used in previous scholarship for chronological correlations between Troia V, Poliochni, Beycesultan and other sites.

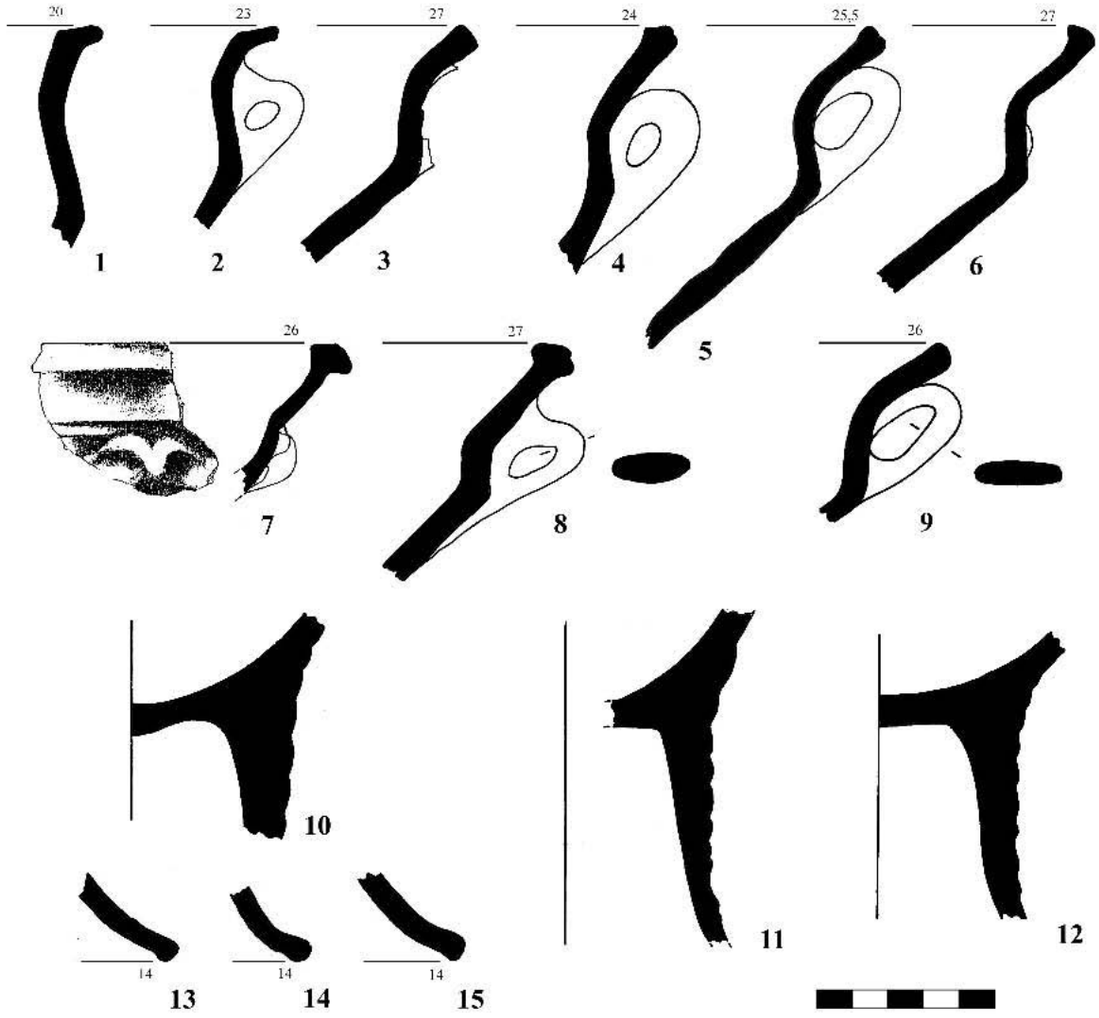

Fig. 2 Anatolian Grey Ware. Lianokladhi goblets from the First ceramic phase of Troia VI. Scale 1:2. References: 1) K/L 16/17.683.36 2) K/L 16/17.603.18 3) K/L 16/17.683.41+77 4) K/L 16/17.687.5+24 5) K/L 16/17.1189.16 6) K/L 16/17.614.21 7) K/L 16/17.792.14 8) D10.69.2 9) K/L 16/17.1189.7 10) K/L 16/17.1182.26 11) K17.1132.22 12) K/L 16/17.1189.9+15 13) K/L 16/17.1197.4 14) K17.1132.6 15) K/L 16/17.816.2

These are especially well documented in areas K8 and KL 16/17.[19] Within the phase the pottery does not change significantly. Grey ware simply becomes more nummerous (but not constituting more than 10% of the fine wares) and the range of Troia V shapes in red wares becomes narrower. In Blegen's terms, both of these subphases would represent his architectural phase VIa or possibly even Vd. Some deposits of Blegen's final phase of Troia V, itself very poorly documented, can possibly well fit into this transitional phase. He had some grey ware sherds in those deposits, but considered them a later contamination and did not publish them.[20]

However, it is this transitional phase in which another type of grey ware occurs at Troia. It is possibly handmade, less regularly burnished than the standard AGW, often with a dark grey surface and a typical sandwich effect on the break. Most produced were bead-rim bowls decorated with pattern-burnishing (Figure 1). This could perhaps be Blegen's

[19] For a preliminary analysis of pottery from K8 see Easton-Weninger 1992. However, our understanding of the stratigraphy and the pottery of that trench has subsequently changed and has led to somewhat different conclusions, which are beyond the scope of this paper. For K/L 16/17 see Korfmann 1998, 49–57; 1999, 19–22; 2000, 28–9.

[20] Blegen 1951, 283–90, 295–7.

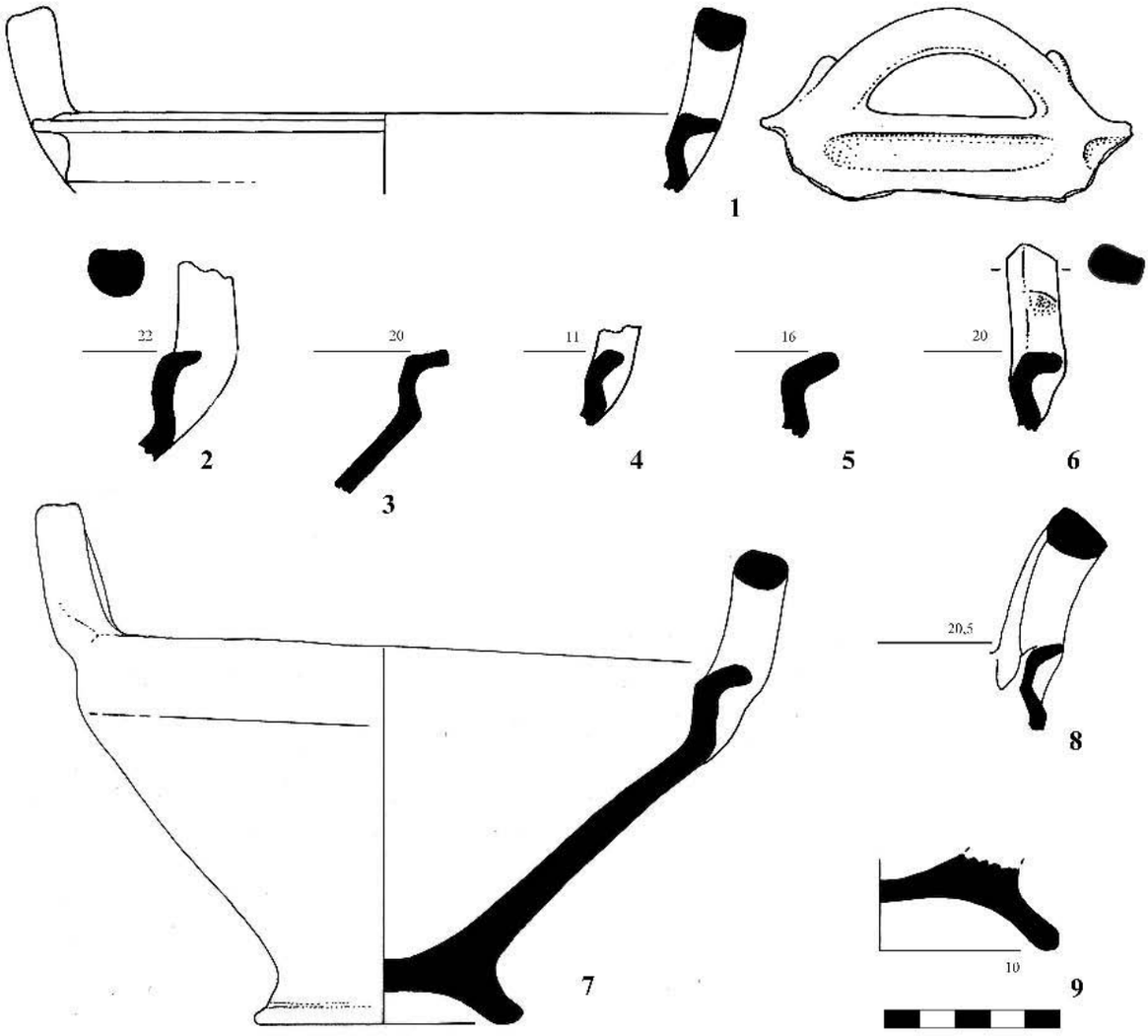

Fig. 3 Anatolian Grey Ware. Pteleon goblets from the First ceramic phase of Troia VI. Scale 1:2. References: 1) K8.298.2 2) K/L 16/17.813.21 3) K/L 16/17.1189.29 4) K/L 16/17.687.28 5) K/L 16/17.1182.32 6) K/L 16/17.687.25 7) A7.1213.7 8) F8/9.T42/53.35 (Blegen Excavations) 9) K/L 16/17.1175.3+5

Troia V Grey Ware.[21] At the same time it is our only candidate for David French's Inegöl Grey Ware at Troia,[22] which will be discussed below. The pattern-burnishing on these examples is indeed reminiscent of the Inegöl Grey Ware but not their shapes. I would rather dissociate them.

What is probably more interesting for Aegean archaeology is the fact that out of five or six shapes in which AGW first occurs at Troia, the majority comes from mainland Greece. These are the Lianokladhi goblet (Figure 2), the Pteleon goblet (Figure 3), semiglobular cups (Figure 4) and possibly also the kantharos.[23] The last of these is ambiguous, for it also exists in western Anatolia in later EBA. These Aegean shapes are accompanied by a variety of bead-rim bowls and some isolated small open shapes with-

[21] Pavúk 2002b, 102–3; Blegen 1953, 34 figs. 312.33-114, 356.1–8.

[22] French 1967, 62 fig. 4.

[23] The shapes are discussed in Pavúk 2002a, where parallels are listed. The most recent stratigraphical analyses have shown that there are possibly no AGW kantharoi at all in the first Troia VI phase and that they start only in the second phase, VIb/c.

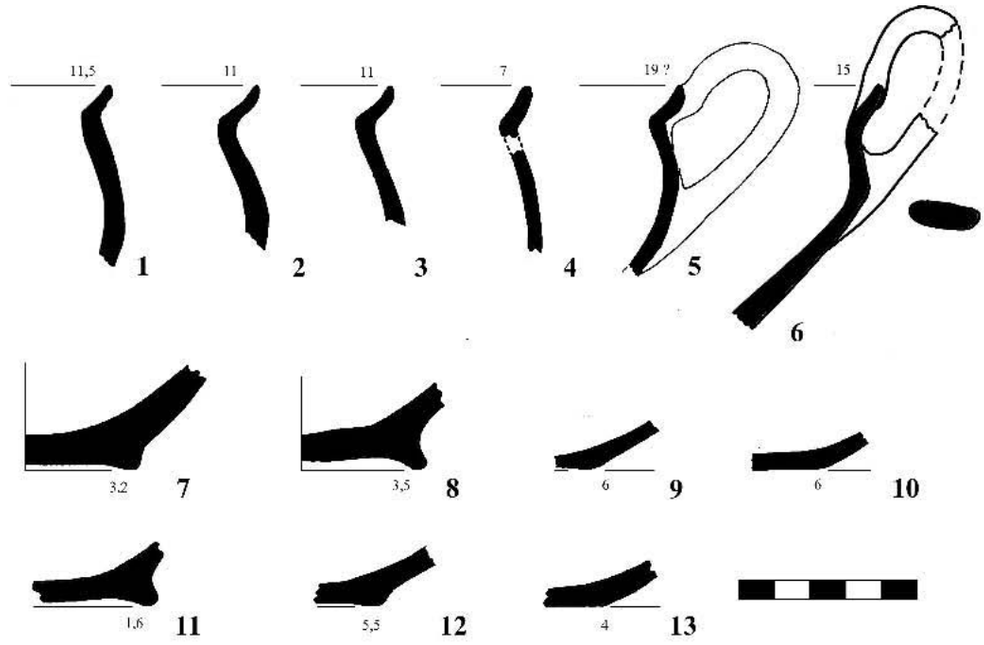

Fig. 4 Anatolian Grey Ware. Semiglobular cups from the First ceramic phase of Troia VI. Scale 1:2. References: 1) K8.733.1 2) K8.254.1 3) K/L 16/17.810.12 4) K/L 16/17.1182.32 5) A7.1469.7 6) A7.1396.3+4 and A7.1385.4+15 (Kantharos?) 7) K/L 16/17.1182.20 8) K/L 16/17.687.27+37 9) K/L 16/17.687.50 10) K/L 16/17.1182.19 11) K/L 16/17.818.8 12) K17.1123.26 13) K/L 16/17.687.40

out parallels. It seems that the potters first attempted to produce a wider range of shapes, and that only some of these became standardized.

Dating of the First Ceramic Phase of Troia VI

Kantharoi aside, the rest of the Aegean shapes at Troia are quite popular also on the Greek mainland and are relatively precisely datable. We have both the early type of Lianokladhi goblet, which would be suitable for MH II, as well as a variety of the later MH III/LH I examples with a longer lip (Figure 2).[24] We have several types of what I term a Pteleon goblet,[25] an expression complementing the Lianokladhi goblet.

The development of the Pteleon goblet is not as clear as that of the Lianokladhi. It is present in Keos IV but seems practically absent from Keos V.[26] Keos is, however, probably not the best comparandum in this respect, because the amount of Grey Minyan diminishes in Keos V. The situation is similar on Aegina, where several complete examples of Pteleon goblets have been produced from the new excavations (phase I = Stadt IX) but the type seems to disappear afterward.[27] Lerna IV is still largely unpublished and the later MH levels are not so well preserved.[28] A complete example from Mycenae in Dark Burnished (Argive Minyan) Ware was republished by Dietz as MH IIIB.[29] The only other published stratified sites are Pefkakia in southern Thessaly and Kiapha Thiti in Attica, the latter being only semistratified. At Pefkakia, the Pteleon goblet starts at the beginning of the MBA, in Pefkakia phase 5. Whereas the early examples have a very long lip, later examples have it shorter as do also the Trojan ones (Figure 3). The later variant at Pefkakia occurs approximately from MH II down to LH I.[30] The last Aegean shape at Troia is the semiglobular cup with hollowed rim (Fig-

[24] For a classification of Lianokladhi goblets see Maran 1992a, 85–7, 209–15 fig. 3.

[25] The name of the goblet is derived from the complete vessels excavated at Pteleon (Verdelis 1952, 139–40, pls. 9, 10), republished by Maran (1992a, 280–1, pl. 148.1–3). Blegen knew of them as well (Blegen 1953, 46, 129).

[26] Overbeck 1989, pls. 48.X46, 56.AO22, 67.BD41; Davis 1986, pl. 28.U76.

[27] Felten and Hiller 1996, pl. 17.1. See also Gauss and Smetana in this volume.

[28] Carol Zerner kindly circulated a new unpublished version of pottery charts for area D from Lerna among the participants of the conference (Zerner 2004). Two examples of the Pteleon goblet are illustrated, P475 from Lerna V:4 (early MH II) and P550 from a mixed area with graves, Lerna V:5 or V:6 (later MH II, early MH III).

[29] Dietz 1991, 205 fig. 63.CB-2.

[30] Maran 1992a, 86, where illustrations are listed. For Kiapha Thiti see Maran 1992b, 121 pl. 8.276.

ure 4). According to Davis and others, this should be one of the few secure hallmarks of LH I in Grey Minyan Ware.[31]

Using this information, one can possibly conclude that the first phase of Troia VI covers MH II, MH III and LH I. The problem is that all of the mentioned shapes and variants occur together from the very beginning. We cannot account for this circumstance as a result of redeposited material, for as I have said before, AGW starts at a certain point and the material that can be identified as redeposited includes, at most, some of the red-burnished sherds from Troia V. All in all, I take MH III as the most probable dating of this phase. The only shape that does not fit is the semiglobular cup.[32] However, in the discussion following the oral presentation of this paper, Jeremy Rutter pointed out that the type of base that we associate with the semiglobular cups in Troia (Figure 4) is not the concave ring/torus-base typical of the LH I examples in the southern Aegean.[33]

What other evidence for dating do we have? Four inhumation graves seem to be of importance. The first is a cist grave and was found in 1996 below a Troia V house (presumably late V) and contains an imported Minoan or Minoanizing jug in creamy bordered style.[34] The experts disagree about the relative date but it is either late MM II or early MM IIIA, which would be around 1750 on high Aegean chronology or 1700–1650 on traditional. That is, Troia VI should start afterward. There is now a ^{14}C date from the bones of the little girl buried in the grave. On 2σ probability it is 1980–1730 BC.[35] It is not a very precise date but for what it is worth, it seems quite high, especially if we consider that the jug needed some time to get to Troia, to be used (it is quite worn) and to be deposited into the grave. Within the discussion on high versus traditional chronology, it would probably better fit the high Aegean chronology of Sturt Manning.[36]

In 2001 a further two graves were found nearby in front of the later southwestern gate of the late Troia VI citadel fortification wall.[37] Both of them are pit graves and contained a crouched inhumation. They cut a possible house floor, with an almost complete Pteleon goblet and a bead-rim bowl on the floor. The levels above them are of mixed character and cannot contribute to their dating. Ther are no offerings in the graves except for a bronze dagger and a simple needle in one of them.[38] There is, however, a lot of broken pottery in the fill, almost as if deposited deliberately. This pottery, mostly of finer category, dates clearly to our first phase of Troia VI. Blegen uncovered yet another grave to the east of the two just mentioned, in which a child was placed in a burial urn.[39] Both the urn and another jar, which could be mended from sherds lying around it, date also to the first phase of Troia VI.

The graves from current excavations were also sampled for ^{14}C but the dates on collagen from the bones were quite surprising to us. The combined date on 1σ was 1850–1770 BC and stretched at most to 1740 on 2σ, which is still too early, especially if we consider that the graves cut a deposit belonging to the first phase and cannot therefore be placed at the very beginning of Troia VI, not to mention the fact that the ^{14}C date overlaps with the Troia V date from the cist grave. Even more problematic is the fact that ^{14}C dates from charcoal in yet another Troia V grave in area D20 yielded the same combined date as the two Troia VI graves.[40]

A possible solution may lie in a systematic bias hidden in ^{14}C dates made on collagen samples. There is currently an interesting investigation underway in Slovakia,[41] which suggests that such dates tend to be somewhat older than their real date, by approximately 50 to 100 years. Such a discrepancy would already be helpful for our present problem.

Anatolian Grey Ware versus Grey Minyan Ware versus İnegöl Grey Ware

Let us come back to the similarities and differences between Grey Minyan and Anatolian Grey Ware. How are these to be explained?[42]

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[31] Davis 1979, 255; Maran 1992b, 120–1; Graziadio 1988, 356 n. 65; Dietz 1991, 201.

[32] The evidence from Olynthos/Ayios Mamas presented by B. Horejs at this conference showed a similar chronological discrepancy, so that it is possible that semiglobular cups of this type started earlier in the northern Aegean.

[33] For example Maran 1992a, pl. 124.2–4 or Dietz 1991, fig. 61.BA-5, 5a.

[34] Korfmann 1997, 32–8, figs. 28–32.

[35] The full information on the new ^{14}C dates from all of the graves mentioned here will be published in *Studia Troica*.

[36] For example, Manning 1999.

[37] Korfmann 2002, 18–9 fig. 16.

[38] Korfmann 2002, 18–9 fig. 15.5, 6.

[39] Blegen 1953, 164–6 fig. 325.36-1177, 326.36-721.

[40] Korfmann 1994, 31–4 figs. 36–9; Korfmann *et al.* 2003, fig. 5.

[41] This study is being conducted by Peter Bárta and will be published in *Prähistorische Zeitschrift*.

[42] The opinions expressed in this chapter are based on autopsy of almost all of the types of pottery mentioned.

There is, to begin with, no doubt that Grey Minyan developed in central Greece and that it has nothing to do with the so-called İnegöl Grey Ware (İGW) from around İznik Lake as has been suggested by Mellaart. It has likewise nothing to do with the other early second-millennium grey wares in the inland Kütahya region, most notably from the tell settlements of Tavşanlı and Köprüören, which was Mellaart's alternative suggestion.[43] The İGW *does* have the famous soapy touch as the best Grey Minyan, but the range of shapes is quite limited – shallow bowls and plates – and is entirely different from the Grey Minyan range.[44] These early west Anatolian grey wares are all hard to date but some may go back as early as EB3. If not late third millennium, they should certainly be early second millennium, but at present the evidence is not very clear. Outside of Troia, there is no clear evidence for the close of the third and beginning of the second millennium for the entire area between the Dardanelles and Eskişehir, on the threshold of the central Anatolian plateau. For these areas we have mostly survey finds, few pits and no proper stratigraphy.[45]

Nevertheless, the date of the İGW should be corrected here. Ever since Kurt Bittel, in his publication in *Kleinasiatische Studien*, described the stratigraphy of Cuma Tepe (İnegöl I),[46] the ware has been typologically associated with Troia V and therefore with the end of EBA, ergo the end of the third millennium. That view used to be the predominating one on the relative and absolute date of Troia V, as visualized in D. French's chronological chart.[47] However, since Troia V has subsequently been definitely moved to the beginning of the second millennium BC[48] and since the only Trojan ware possibly related to İGW dates even later, to Troia VIa (the pattern-burnished grey ware discussed above), it seems recommended to move also the majority, if not the whole, of İGW also to the early second millennium. The possibility that the beginning of the İGW does indeed go back to the late third millennium cannot, however, be excluded.[49]

So, what then is AGW? David French, a sort of father figure in the study of this ware, used to call it simply a Troia VI Grey Ware – which again is not the most objective name because it implies that the ware either originates or is being produced mostly at Troia, neither of which implications is true. In his final article on the topic, back in 1973 – and nothing much of importance on the topic has since been published – he stated of AGW that "although there are demonstrable connections with MH groups from the Greek mainland (e.g. the Lianokladhi goblets at Troia), in shape and surface treatment it remains essentially one of the varieties of Western-Anatolian second-millennium pottery."[50] Little can be added today. As I stated above, there are the inland sites and the coastal sites. If we had only the inland sites, there would be almost no doubt that the two wares are not related. Inland, the AGW is accompanied by similar burnished wares, either plain beige or with a red wash or slip.[51] It is the coast, with the MH shapes, that makes the issue so problematic. In a way, it is logical that the coastal regions around the entire Aegean Sea communicated in some way. What is intriguing is the fact that, when AGW appears for the first time on the coast, it appears together with the MH shapes. Is this a mere coincidence? Or are we still to call the coastal grey ware "Grey Minyan" and refer only to the inland variety as "AGW"? That wouldn't work. Moreover, in the next ceramic phase at Troia, Blegen's VIb/c, which we tentatively date to LH I, all of the Aegean shapes disappear and are replaced by an entirely new range of Anatolian types of bowls. If there was, then, a direct contact, it lasted only for the first phase of Troia VI, a period of two or three generations. This observation applies also for Liman Tepe.

Petrographic analysis of the early AGW from both Troia and Panaztepe has shown that the examples are local,[52] which leads to the conclusion that even the Aegean shapes were produced locally and were not ready-imported. However, only a selection

[43] Mellaart 1955, 61–4; 1958, 15–8. A similar view is expressed also in Bayne 1963 (2000), 15–20, 119–20.

[44] French 1967, 61–4, e.g., figs. 8.8–21; 10.39–45; 12.39–45; 15.18–22, 41, 42; 19.33–6; 20.20–8, 51–5, 57, 58, 80–4. Thissen 1989–90, 93–4, 107, 110–1 fig. 18.3–6.

[45] See for example Efe 1994.

[46] Bittel 1942, 159–62.

[47] French 1967, fig. 5.

[48] Korfmann *et al.* 2003, 48 fig. 5. The new evidence is summarized in Pavúk 2007.

[49] In one of the pits from Ilıpınar III IGW occurs along with a Depas Amphikypelon base (Thissen 1989–90, 107 fig. 18.8). There may be more stages in the development of IGW, but it is possible that the depas base is simply intrusive.

[50] French 1974, 51–2.

[51] These are quite well represented, for example in surveys evaluated by D. French (1967, 64–5; 1967, 68–72). See also Özdoğan 1993.

[52] Knacke and Loy 1994, 100–7; Günel 1999a, 193.

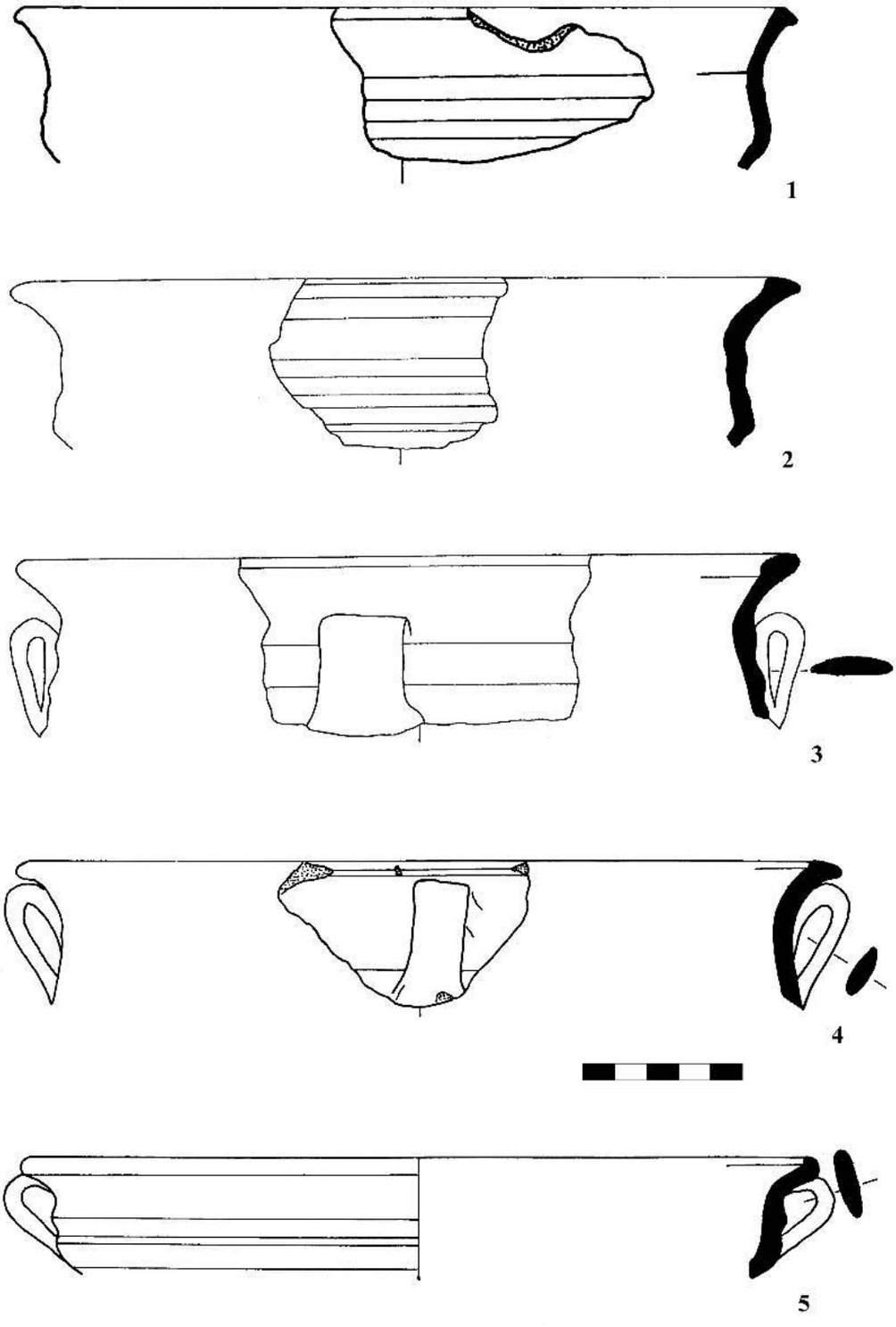

Fig. 5 Anatolian Grey Ware. Lianokladhi goblets from Panaztepe (1, 4, 5) and Liman Tepe (2, 3). Scale 1:2. References: Günel 1999a, Abb. 144:6, 146:3–4; Günel 1999b, Abb. 16:30–31.

of sherds has been sampled, so we cannot exclude the possibility that some grey vessels were indeed imported from mainland Greece.

The grey ware that existed further inland seems to betray no interest in the coastal developments and maintained the indigenous style of bowls with bead rim and ridged shoulder. Both the coastal and inland grey ware continued to be produced for many more centuries, regardless of the sad fate of Grey Minyan on the Greek mainland. And this, in my opinion, would not have been the case if the grey ware in Anatolia had not been locally developed, possessing its own tradition and context.

The logical next step is to ask who was the mediator of such a contact. For this we should probably start with the existing regional differences along the west Anatolian coast. Admittedly, archaeological exploration in the area is of uneven quality and quantity, but I would still like to stress the following points.

A. Whereas at Troia we have more MH shapes in grey ware than are presented around İzmir, they have MH matt-painted pottery and we do not.[53] The matt-painted sherds from Troia published by Blegen are of unknown provenance and are mostly LH IIA in date.[54]

B. Whereas there are Lianokladhi goblets from Liman Tepe and Panaztepe (Figure 5), the matt-painted has only been published from Liman Tepe.[55] On the other hand, Old Smyrna (Bayraklı), situated between these two sites, yielded neither Lianokladhi goblets nor matt-painted ware.[56] That is also the case with the nearby Larisa on Hermos, which can still be considered a coastal site. However, Larisa is not a completely lost case in this respect, for some of the ribbed hollow feet published from the site as Archaic could just as well belong to Lianokladhi goblets.[57] But Larisa and Smyrna are probably not the most representative sample, for the Bronze Age excavations on the respective sites were carried out on only a very small scale.[58]

C. Whereas the Trojan early grey ware resembles the Boeotian Grey Minyan, the grey ware from Pergamon and from other sites in the Balikesir region is more related to other local wares common in that period and region.[59] The grey ware from Liman Tepe falls somewhere in between these two.

D. When we move to the littoral islands, we reach yet another world with its own culture. There is no, or almost no, MBA grey ware but there are matt-painted imports from Koukonisi on Lemnos.[60] However, whereas the matt-painted sherds from Liman Tepe are possibly from Aegina, because of the presence of gold mica and the type of decoration, the matt-painted jars from Koukonisi are from an entirely different source. They look very similar to finds from Pefkakia 6, which Joseph Maran ascribed to one of his matt-painted wares, now called "Magnesia Polychrome Class", which in turn may be related to David French's Polychrome White Slip type, noted by French in Boeotia, Euboea and Thessaly.[61] This shows quite nicely how complex the cross-Aegean contacts might have been.

Zerner described two trade networks in the southern and central Aegean, related to distribution of Lustrous Decorated and Aeginetan Gold Mica wares.[62] Maybe it is now possible to add a kind of third, northern, network connecting Boeotia, southern Thessaly, Chalkidiki and the northeastern Aegean – not only because of the matt-painted imports on Lemnos, but also because of the finds of high quality Grey Minyan in Chalkidiki (see below) and the striking resemblance of the earliest AGW in Troia VI with the Boeotian True Grey Minyan. However, such a communication in the northern Aegean must have been less intense than in the central or southern Aegean. For this, see also the interaction spheres model, discussed at the end of this paper.

Conclusions

Without entering into complicated discussions of ethnicity, let us conclude with the following observa-

[53] Günel 1999b, 56–8 figs. 17–8; Günel 2004.

[54] Blegen 1953, 38 and passim, fig. 382. The ware, together with a new photograph of the best-preserved vessel from Blegen's excavations, 37-1092, is also discussed in Pavúk 2005.

[55] Supra n. 10.

[56] Akurgal 1950, 54–8, 000 VIII; Bayne 1963 (2000), 61–80 figs. 7–19.

[57] Boehlau and Schefold 1942, 13–22 pls. 2, 3; Bayne 1963 (2000), 82–9 figs. 21, 22. For possible MBA ribbed hollow feet see Boehlau and Schefold 1942, pl. 48.35, 36.

[58] For a general review of the stratigraphy see Kull 1988, 52–3.

[59] Radt 1992, 172–6; French 1969, 67–72.

[60] Boulotis 1997, pl. 26.

[61] Maran in this volume; Maran 1992a, 162–9; French 1972, 36.

[62] Zerner 1993, 49–50; for a summary, see Rutter 2001, 125–7 fig. 12.

tions. The end of MH II and especially MH III is the time not only when AGW occurs for the first time – and with Aegean shapes – on the Anatolian coast, but is also the time when Grey Minyan first occurs in Chalkidiki.[63] Are the two occurrences possibly part of the same phenomenon?

In Chalkidiki the grey ware shows the standard range of Grey Minyan shapes with little or no local peculiarities, and remains restricted to a few coastal sites, namely Olynthos/Ayios Mamas, Molyvopyrgo, Ormylia, Sikia, Veria and Torone. The rest of the Macedonian sites, originally plotted by David French as having Grey Minyan, yielded in fact yet another type of wheel-made grey ware, occurring in the area in LH IIIC or even later.[64] In western Anatolia, on the other hand, the local grey ware shows a much narrower range of Minyan shapes[65] and is complemented by Anatolian shapes. The Minyan shapes, just as in Chalkidiki, are restricted to the coast. However, the grey ware as such occurs also for two or three hundred kilometers further inland, albeit in Anatolian shapes.

In Chalkidiki, Barbara Horejs observed one important fact: the wheel-made Grey Minyan comes first and is later replaced by the handmade imitation, as if the local people forgot how to use a potter's wheel but still wanted to produce something in Minyan fashion. This change in Chalkidiki suggests that whoever was supporting the wheel-made pottery industry there was no longer a factor either from a technical (i.e., resident) or economic (i.e., trade visitor) viewpoint.

Again, it is probably not just a mere coincidence that the change from the wheel-made to handmade version of Grey Minyan in Chalkidiki came about at the same time, when, at Troia, a new ceramic phase VIb, with mostly non-Aegean shapes, replaces the VIa phase with all the MH goblets and semiglobular cups. The bringers of the MH Minyan "style" to both locations were perhaps themselves no longer visiting and/or occasionally residing in the area. The decline and disappearance of the MH shapes in northern Greece and on the Anatolian coast may therefore be interpreted as a barometer of the rise and decline of MH interest/contact with these areas.

Let me outline one possible model: The mysterious *agent* bringing Minyan shapes and Minyan grey ware to Chalkidiki must have encountered a local population using entirely different handmade burnished pottery. Possibly as a result of this, the agent did not manage to penetrate further inland and the tradition died out after a couple of generations.

Imagine now the same agent coming to western Anatolia, with the slight difference that the length of coast from Troia to Liman Tepe is almost 300 km. There, he was also confronted with a local population, but this time the pottery was wheel-made, and had been so for at least 500 years, and its surface was of grey color. One should therefore expect that the agent arrived here under more favorable circumstances. Nonetheless, the agent seems to have had a bad day in western Anatolia as well, for similarly to the occurrence in Chalkidiki, the Minyan shapes remained restricted to the coast and died out after a couple of generations. But what if the whole enterprise was not about inland penetration at all, but instead focused only on the coast?

At this point, one more possible model should be mentioned. It was originally developed by L. Binford and later applied by Joseph Maran to the Lefkandi I period in the Aegean. They speak about *interaction spheres*, which may crosscut both traditions and culture areas. In this model, certain culture traits (such as symbols, objects or habits) suddenly grow out their own cultural area and gain a wider territorial utilization. However, in accepting such foreign elements, the neighboring "infected" cultures retain and further maintain their specific character. The acceptance of these new elements does not lead to a transformation of the whole culture.[66] Does this model possibly provide the answer to some of our questions?

Postscript

Further evaluation of the Trojan finds and stratigraphy in winter 2004 and summer 2005 revealed, that the stratigraphical dating of the grave with the Minoan/Minoanizing jug inside is unfortunately far from clear. The grave is stratigraphically (vertically) sandwiched between two houses and its date within

[63] Horejs, this volume; French 1966, 109–10 fig. 3.

[64] Prof. Andreou kindly allowed me to inspect the sherds in the study collection of the Thessaloniki University. For this later type of grey ware see the discussion in Jung 2002, 198–214.

[65] The word "Minyan" is used here to mean typical of the True Grey Minyan Ware.

[66] Binford 1965, 208; Maran 1998, 417.

the Trojan sequence largely depends on the dating of those houses. It cannot be dated based on its own contents, for neither the single other offering (a miniature vessel), nor the grave typology are specific enough to allow for a closer date. Since both the lower and the upper house were dated by the excavator to Troia V, it was logical to conclude that grave should be of the same date.

A renewed inspection of the ceramic material from the fills of two houses by Stephan Blum and myself surprisingly revealed that both of the supposed Troia V houses are themselves basically *undatable*. Whereas the upper one can just as well be Troia VIa (a much later date is unlikely), the lower house can be anything from Troia III to Troia V. That means that the "window" offered by the two houses is far too large for any closer dating of the grave. *The grave therefore remains either somewhere at the end of Troia V or moves to the very beginning of Troia VI.*

Nevertheless, the impact on the overall chronology and the character of the Trojan phases should not be a dramatic one. Moving the grave to early Troia VI would in fact make more sense, since we also have other Minoan/Minoanizing finds form the earliest Troia VI levels but basically none from Troy V. This in turn would give us more maneuvering space for pinpointing of the beginning of Troia VI, which now easily accommodates the whole of MM III and can even be stretched to the end of MM II, in order to fit some of the C14 dates. However, in absolute terms, the beginning of Troia VI should not be much earlier than 1750 B.C. on high Aegean chronology.

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Çeşme-Bağlararası: A New Excavation in Western Anatolia

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Aegean prehistory became a research subject in the 19th century through the work of both travelers and archaeologists and has increasingly continued to draw the attention of archaeologists. Research on mainland Greece, Crete and in the Cyclades has enabled the definition of cultural areas that developed independently but with continuous contact with each other. Archaeological work in these areas has enabled the definition of Helladic, Minoan and Cycladic cultures in mainland Greece, Crete and the Cyclades, respectively.[1] The western coast of Anatolia, on the other hand, has long been ignored in the field of prehistoric research, hindering the development of an equivalent terminology that, in other areas of the Aegean, defines culturally distinct phenomena.[2]

Archaeological research carried out in the past 20 years on the coastline of western Anatolia has shed light on the prehistoric periods in this area and has enabled the definition of a continuous chronology for the area[3] which can now also be correlated with the rest of the Aegean.[4] Troy, Kumtepe and Yenibademlihöyük in the north, Liman Tepe, Bakla Tepe, Panaztepe, Kocabaş Tepe, Ulucak, Bademgediği and most recently Çeşme in the İzmir region and the more southern sites of Ephesos, Miletus and Iasos have started to shed light on the prehistory of the region from the Neolithic period through the end of the Late Bronze Age (LBA).

The Neolithic culture of the region is being defined through the excavations at Ulucak,[5] while the Chalcolithic period has been investigated at Bakla Tepe[6] and Kumtepe.[7] The Early Bronze Age (EBA) has been investigated and interpreted on a regional scale at settlements such as Liman Tepe,[8] Bakla Tepe, Troy,[9] Yenibademlihöyük,[10] Iasos[11] and Ephesos,[12] and the interregional relationships of the western Anatolian coast are being defined.[13] The cultures of the western Anatolian coastline during the second millennium BC continue to be investigated at Troy,[14] Panaztepe,[15] Liman Tepe,[16] Bademgediği,[17] Miletus[18] and Iasos.[19]

The settlement at Çeşme-Bağlararası, where excavations began in 2002, has also started to provide important new data concerning both the sociopolitical structure of prehistoric cultures of the western Aegean littoral and interregional contacts, especially during the first half of the second millennium BC.

The site, close to the modern Çeşme harbor, was discovered in 2001 by chance when foundation trenches were being dug for a new apartment block. The Directorate of Çeşme Museum quickly intervened and further destruction was halted. Excavations at the site are continuing in collaboration with Çeşme Museum under the scientific direction of Prof. Hayat Erkanal[20] within the framework of the Izmir Region Excavations and Research Project

[*] Ankara University.

[1] Fitton 1995.

[2] Kouka 2000.

[3] Manning 1995; Günel 1999a; Şahoğlu 2002, pl. 116; Aykurt 2004, table 1.

[4] See Warren and Hankey 1989; Maran 1998; Manning 1999; Cullen 2001.

[5] Derin *et al.* 2002; Derin *et al.* 2004; Çilingiroğlu *et al.* 2004.

[6] Erkanal and Özkan 1997, 1998, 1999, 2000.

[7] Korfmann *et al.* 1995.

[8] Erkanal 1996, 1999; Şahoğlu 2002.

[9] Blegen *et al.* 1950a, 1950b; Blegen *et al.* 1951; Korfmann and Kromer 1993; Korfmann 2001.

[10] Hüryılmaz 2001, 2002, 2004.

[11] Pacorella 1984.

[12] Evren 1996, 1999.

[13] Kouka 2002.

[14] Korfmann 1992, 1993, 1995; Jablonka 1994; Mountjoy 1997a, 1997b; Pavúk 2002.

[15] For the most recent report on Panaztepe see Erkanal and Öktü 2004; see also Günel 1999a.

[16] For the most recent report on Liman Tepe see Erkanal *et al.* 2004; see also Günel 1999b, 2004.

[17] Meriç and Mountjoy 2002, 2003; Meriç *et al.* 2004, 296.

[18] Niemeier and Niemeier 1997; von Graeve and Niemeier 2002.

[19] Momigliano 2000, 2001, 2002, 2003; Benzi *et al.* 2000; Momigliano *et al.* 2001; Momigliano *et al.* 2002.

[20] I would like to express my gratitude to Prof. Dr. Hayat Erkanal for his support and the permission to study and publish the material from Çeşme-Bağlararası. I am also thankful to various members of IRERP for their assistance in the field and additional cooperation.

(IRERP).[21] The third season of excavation has just been completed and, despite being a relatively new excavation, Çeşme-Bağlararası has started to contribute new information to many aspects of Anatolian prehistory.

Especially toward the middle of the second millennium BC, Cretan traders who were active in the southern Aegean were also extending their influence northward, enabling the spread of Minoan culture through the northern Aegean as well.[22] Settlements that could be termed "Minoan colonies, were formed in the southwestern Aegean, the Cyclades and on the western Anatolian coastline to control the trade networks of the Aegean.[23]

The most northerly settlement displaying intensive Minoan influence on the western Anatolian littoral was, until recently, Miletus.[24] Çeşme-Bağlararası is an important harbor town inhabited during the Middle Minoan (MM) III to Late Minoan (LM) IA periods when Minoan activity was at its peak in the wider Aegean world,[25] and is located farther north than Miletus.

Although the levels that have so far been investigated at Çeşme-Bağlararası date to this relatively short time span, there is evidence that earlier and later levels are extant in the vicinity. Approximately 30 m northwest of the excavation area, levels dating to late EBA II were encountered in trial trenches dug by the Çeşme Archaeological Museum.[26] These levels, contemporary with level V of Liman Tepe,[27] also display close affinities with the pottery tradition of Liman Tepe. Along with dark-faced burnished wares of the western Anatolian coastline, a red-slipped two-handled cup suggests that this settlement was an active participant in the "Early Bronze Age Anatolian Trade Network.[28]

The latest material from the excavated area northwest of the main excavation derives from a pit that contains material contemporary with the Late Helladic (LH) IIIA:2–IIIB:1 periods. This pit, which is dug into the Middle Bronze Age (MBA) levels, contains local buff-slipped pottery along with imported painted Mycenaean ceramics. Kylikes, stirrup jars, bowls, and spouted bowls are among the pottery forms found in this pit. These finds indicate the existence of a LBA settlement in the vicinity. Due to intensive modern habitation in the area no traces of this settlement have yet been encountered.

In the main excavation area three architectural phases were investigated, contemporary with the MM III–LM IA periods.

Current Stratigraphy at Çeşme-Bağlararası (ÇB)

pit	LH IIIA:2–IIB:1
gap	
ÇB 1	LM IA
ÇB 2a	MM III
earthquake	
ÇB 2b	MM III
gap	
nearby settlement	late EBA II

I. Phase 2b: Architecture

ÇB 2b is so far the earliest phase of the settlement and was founded on sterile soil in most areas. The settlement has a well-organized plan with big house groups separated by streets (Fig. 1). Phase 2b consists mainly of buildings with single rooms in which internal architectural features and their relative positions are almost standardized. The buildings were constructed of mud brick on stone foundations. Locally available limestone slabs were used in the construction of the foundations. Some of the walls are preserved, up to 1.5 m high, but so far there is no indication of multistoried buildings. One of the most striking features of the buildings is the plastered surface of the inner faces of the walls. This plaster covers both the mud brick and the stone foundations.

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[21] The Izmir Region Excavations and Research Project is generously supported by the Ministry of Tourism and Culture, Turkey; Ankara University Scientific Research Fund Project No. 2002-0901010; TÜBITAK, Project No. SBB-2013; INSTAP Ankara University, Faculty of Letters; INSTAP-SCEC; the Urla Municipality; and the Turkish Historical Society. For brief information on IRERP see www.geocities.com/irerp_tr.

[22] See Davis 2001, 29 for Ayia Irini, Keos and Matsas 1991, 1995 and this volume for Mikro Vouni, Samothrace.

[23] See Branigan 1983; Niemeier and Niemeier 1997, 241–4; Rehak and Younger 2001, 426 with n. 302; Davis and Gorogianni, forthcoming.

[24] Niemeier and Niemeier 1997, 229–40 with figs. 54–80.

[25] For further finds dating to these periods see Guzowska 2002 for Troy; Meriç and Mountjoy 2003 for Bademgediği Tepesi (Puranda) in the Izmir region.

[26] Systematic excavation of the EBA settlement is planned for 2005 within the framework of IRERP.

[27] Şahoğlu 2002, pl. 116 (chronology chart).

[28] Şahoğlu 2004.

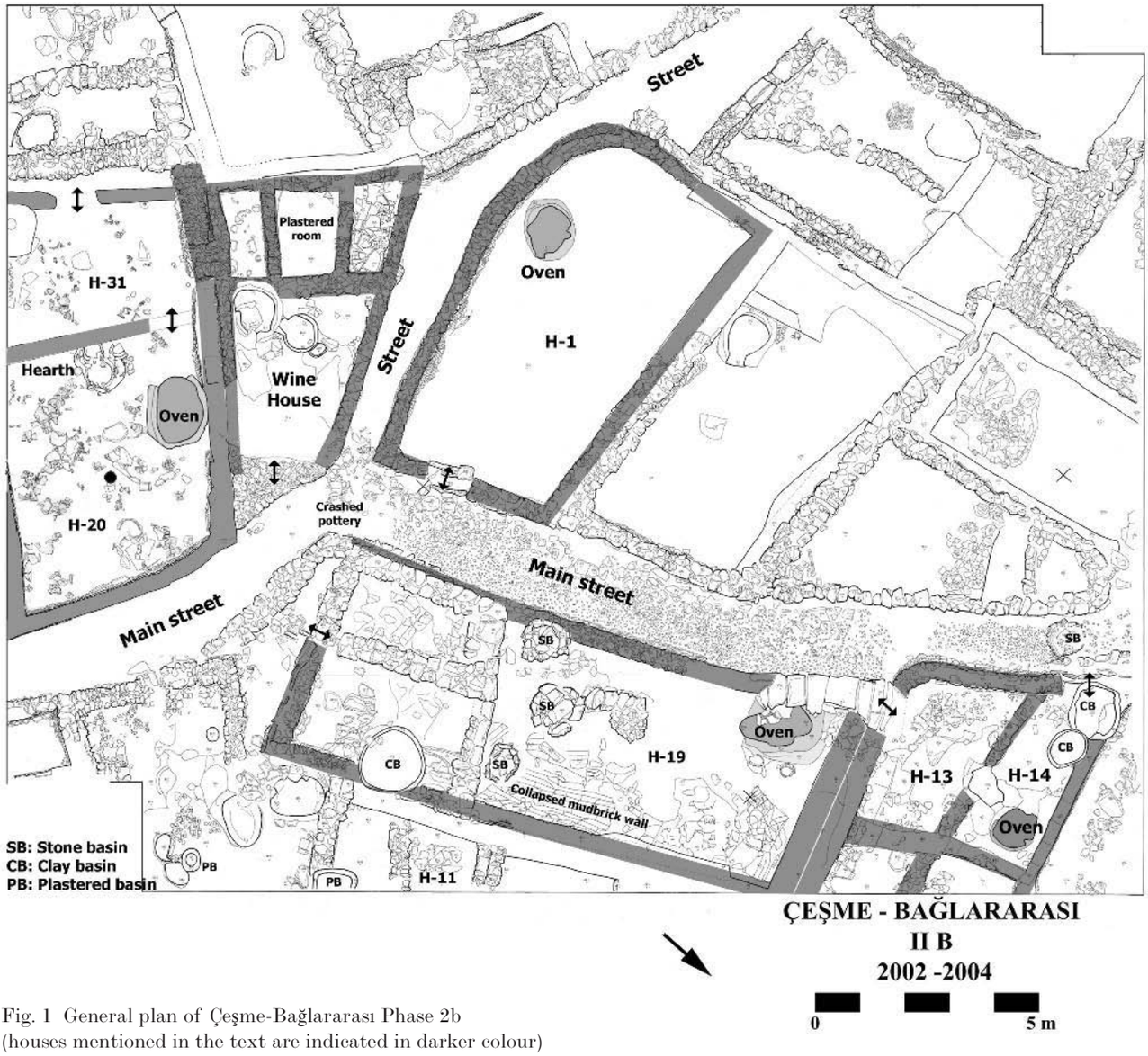

Fig. 1 General plan of Çeşme-Bağlararası Phase 2b (houses mentioned in the text are indicated in darker colour)

Another feature of the architecture is double walls. Although the buildings are tightly clustered within the settlement, neighboring houses were constructed independently of each other and almost every house has its own walls (Fig. 2).

All but a few of the investigated structures belong to domestic units. Beyond the entrance doorway of each building, an oven is located in the far left interior corner. These ovens possess a domed superstructure. In addition, one or two in situ jars were present in almost every house, some of these in secondary use and sunk into the ground. In some houses, a hearth was located next to the oven. Plastered platforms that were used for food preparation were also found beside these areas.

Phase 2b, dated to within the MM III period, ended with a strong earthquake that affected the entire settlement. The effects of this earthquake could be observed in almost every structure. Mudbrick walls collapsed, mainly into the houses, in some cases covering a relatively large area and sealing it until today (Fig. 1). The exceptionally well-preserved condition of the collapsed mudbrick walls suggest an immediate recovery and new building or reconstruction activities that quickly followed the substantial natural disaster.

House 19

House 19 is the largest building so far unearthed at Çeşme-Bağlararası (Figures 1, 2). It is a rectangular structure consisting of one room measuring 11.0 x 4.3 m. The walls of the building are of mudbrick on

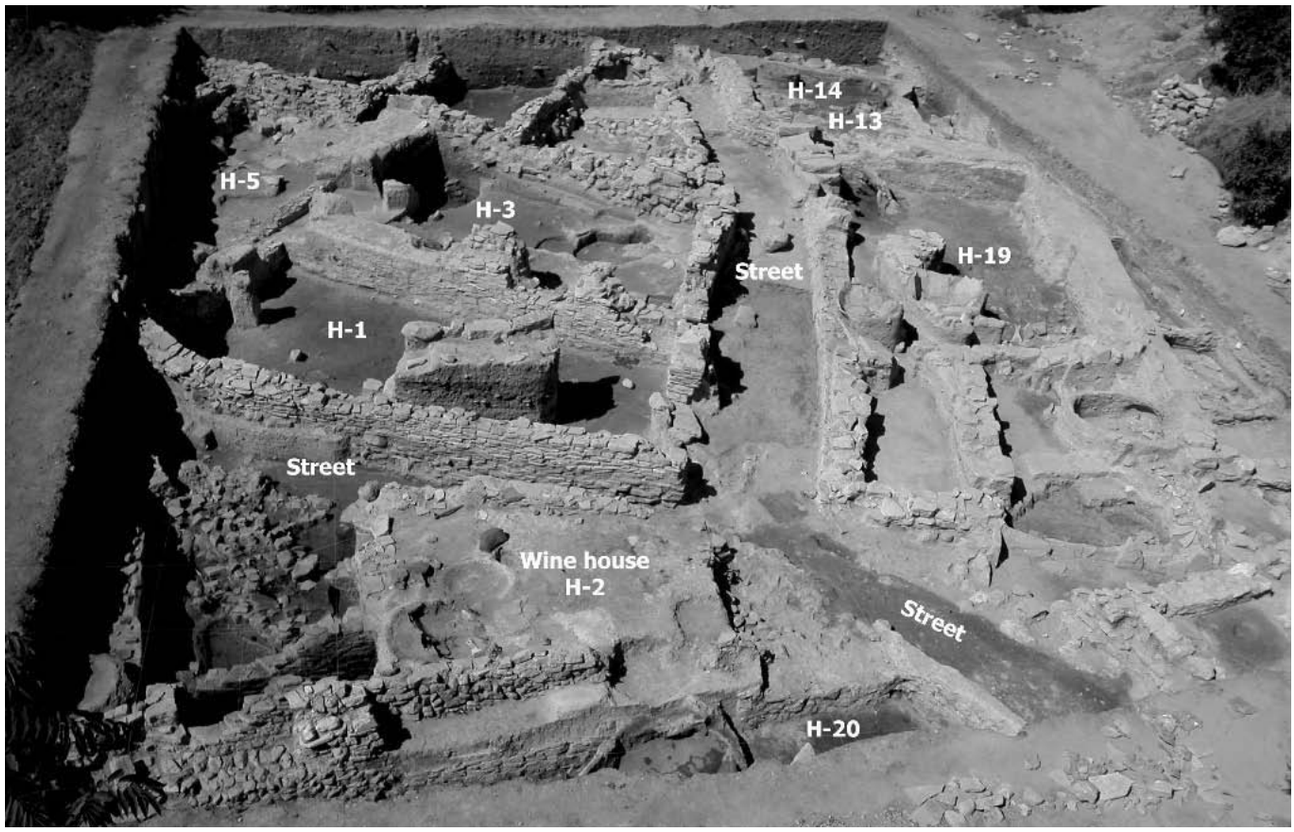

Fig. 2 Aerial view of Çeşme-Bağlararası

stone foundations and were plastered on their inner faces. House 19 is entered from the adjacent street, and inside, a domed oven is located at the far left corner of the building. Close by, two in situ jars, in secondary use, were present. These jars were intentionally buried in the ground next to the oven, most probably for storage purposes. Besides the two jars, various weights and spindle whorls made of stone and clay, associated with textile production, were found.

The northeastern wall of the building had collapsed into the building during the earthquake. After the excavation of this 3.5 m long mudbrick wall, the plaster found beneath the collapse (Fig. 1) was cleaned by a team from INSTAP-SCEC in 2003 and was later lifted by experts sent by the same institution in 2004.[29] At the time of its excavation, a thin layer of red pigment found beneath the plaster was thought to have been paint. Upon further investigation, the identification was rejected.

After the strong earthquake that marked the end of phase 2b, House 19 was abandoned and no longer used. Some better-preserved wall remains might have been reused in the subsequent phase 2a but this cannot be established on the basis of the surviving data. The doorway of the building was blocked with vertically placed slab stones (Fig. 2), an arrangement that can be observed in almost all of the structures that were destroyed in the earthquake. No conclusions can yet be made as to why these doorways were blocked.

Houses 13 and 14

Another group of buildings consists of Houses 13 and 14 located to the north of House 19 (Fig. 1). Both of these houses are relatively small and possess doorways facing the street (Fig. 2). The main street

[29] We would like to express our gratitude to the Managing Committee of INSTAP as well as the Director of INSTAP-SCEC, Tom Brogan, and conservators Ephtichia Papadopoulou, Argyris Konitsidiotis, Kostis and Myron Nikakis for their valuable efforts.

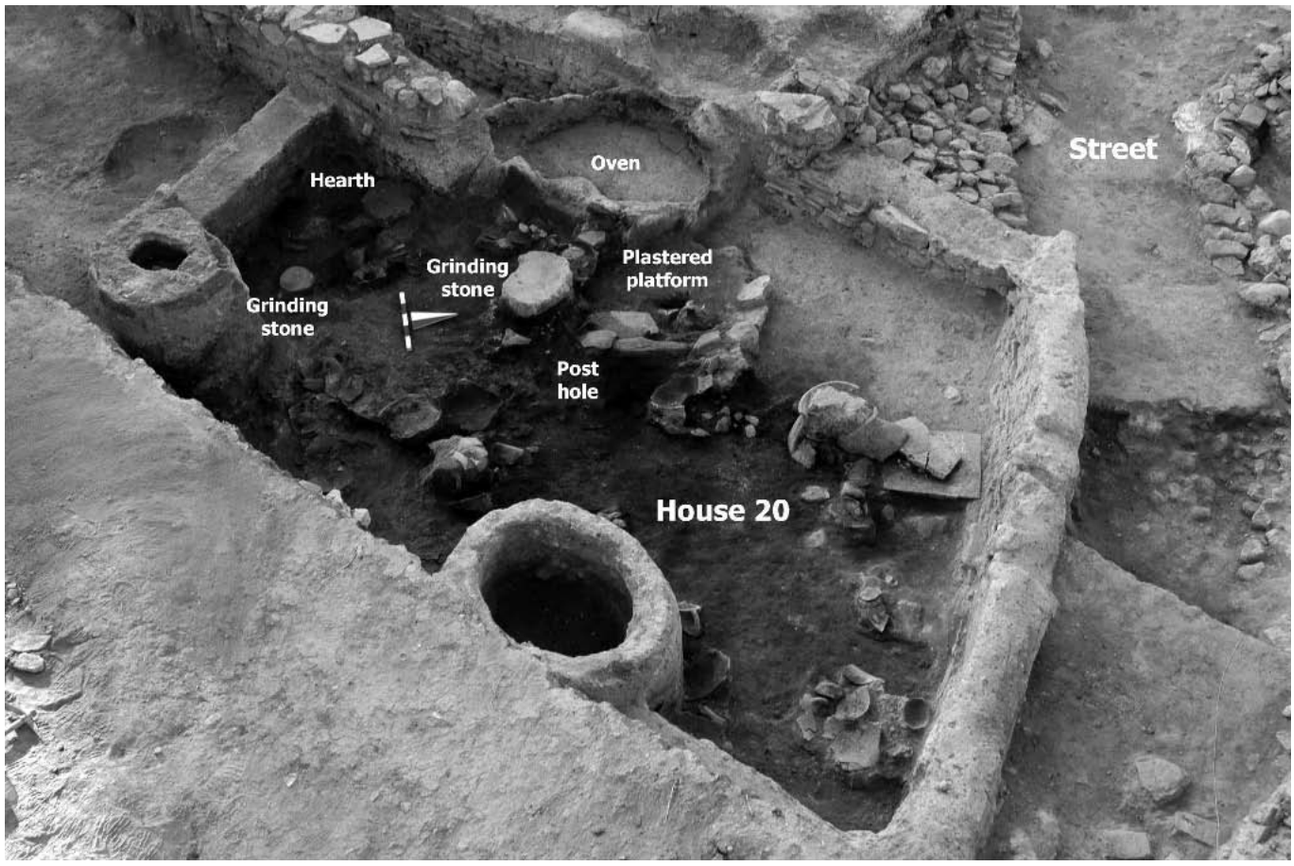

Fig. 3 Çeşme Bağlararası Phase 2b: Finds in situ from H-20

appears to be making a turn toward the north of these houses, and its orientation will be further clarified in future seasons. As in most other houses, an oven is located in the far left corner of House 14, relative to the entranceway. The walls are white-plastered. The earthquake resulted in a fire within this house. There is evidence that these buildings were reused subsequent to the earthquake after undergoing some alterations. For example, the wall that had separated the rooms was demolished and an oven was constructed on top of it during the 2b phase, while the doorways of the buildings were blocked with vertically placed stones.

House 20

Another domestic structure belonging to this phase is House 20 (Fig. 1). A small part of this building was excavated in 2003, and it was unearthed in its entirety in 2004 (Fig. 3). This structure, which is farther down the main street, adjacent to the wine house, was completely destroyed during the earthquake and its mudbrick walls were discovered collapsed into the building.

This building consists of two square rooms, H-20 and H-31 (Fig. 1). While some of its walls had stone foundations, some were built of mudbrick alone. The first room upon entering (H-31) contained an assortment of kitchen vessels, while some large rounded flintstones ca. 0.10 m in diameter were found next to the doorway that leads into the second room.

The second room, possibly to be identified as a kitchen, is the only room found so far at Çeşme-Bağlararası that is entirely undisturbed (Fig. 3). On the left side of the room, a domed oven was found. Farther along, a hearth was located abutting the wall that separates the two rooms (Figures 1, 3). Finds from within and around the oven suggest that the inventory of the room was in situ. Two rounded flintstones ca. 0.10 m in diameter, found at the mouth of the oven, may have served to light the fire for the oven. Beside the oven were located a large grinding-stone and a grinder (Fig. 3). Between the oven and the grinding-stone was a jar that probably served to collect the processed grain (flour) from the grinding-stone. Adjacent to these was a plastered platform that probably served as a working area (Fig. 3). Within this room was a pottery assemblage consisting of over 20 separate vessels. These included large storage

Fig. 4 Çeşme Bağlararası Phase 2b: Trefoil mouthed jugs from the "Wine House"

Fig. 5 Çeşme Bağlararası Phase 2b: Hemispherical cups from the "Wine House"

vessels, smaller trefoil jugs, vases with lids, kitchen vessels and bowls. The only imported example within this assemblage is a small cup, which has a soft yellow fabric and worn black slip. Spindle whorls, pointing to textile production, were also discovered in this room. These finds were unearthed in 2004 and their restoration and conservation is underway.

Wine House (House 2)

House 2, belonging also to phase 2b, reflects an industrial character (Figures 1, 2). The building was a wine production facility, one of the earliest examples indicating wine production and storage in the eastern Aegean.[30] The structure is trapezoidal, consisting of a room at the front with three small subterranean storage areas at the back. In the front room, located at a higher level than the storage areas, a complex of features thought to be associated with wine production was uncovered, including a circular plastered basin linked to a smaller plastered pit.[31] The larger

[30] Erkanal and Karaturgut 2004, 156–7, 000 11–2.
[31] Erkanal and Karaturgut 2004, 157, 000 11–2.

Fig. 6 Çeşme Bağlararası Phase 2b: Face pots from the "crashed pottery deposit" in the main street

feature must have served as the press, while the smaller one was where the juice was collected.[32]

The storage rooms at the back of House 2 also contribute to the interpretation of this building's function. The southernmost of these storage rooms contained bowls and jars, as well as a lid. Within this room were botanical finds of grape and olive seeds as well as almonds. Fish bones were also abundant. The floor and the four walls of the central room were plastered. This feature probably enabled the storage of liquids inside and the room probably served as a cistern where wine was kept. The northernmost room, on the other hand, was paved with stone slabs and contained numerous trefoil and straight-mouthed jugs as well as semiglobular bowls. The entire assemblage of the building suggests that this was indeed a "wine house", and served as the area where the grapes were pressed, made into wine, stored and consumed, and possibly some of the wine was transported elsewhere. Thanks to the strong earthquake that destroyed the city at Çeşme-Bağlararası, the architectural features as well as the associated in situ pottery and small finds enable us to better interpret the character of the settlement and the function of this building.

II. Phase 2b: Pottery

The majority of the ceramics discovered in phase 2b are local. The second largest group, after buff-slipped and red-slipped vessels of high quality, are coarseware vessels, serving as daily cooking pots. In this early phase, there are not many imported ceramics.

An important assemblage was unearthed in the wine house. Most of the vessels from this context are trefoil jugs (Fig. 4). These are buff- or red-slipped and form the characteristic pottery group known from Liman Tepe,[33] Panaztepe[34] and Kocabaş Tepe[35] in the Izmir region. The semiglobular cups found in the same context were probably used as drinking vessels (Fig. 5). This form, found in large numbers, should be

[32] See Kopaka 1993 with parallels and bibliography; see also Hamilakis 1999 for another construction for wine production at Vathypetro in Crete.

[33] Günel 1999b, 53, fig. 14.16–7, pl. 12.2.

[34] Günel 1999a, 52, 000 106, 162.

[35] Aykurt 2004.

Fig. 7 Çeşme Bağlararası Phase 2b: Imported footed jar from the "crashed pottery deposit" in the main street

interpreted as the functional equivalent on the western Anatolian coastline of the Minoan conical cups.

A group of in situ ceramics discovered in the street adjacent to the wine house probably originates from this building and was deposited in its present location during the earthquake when the house tumbled in this direction (Fig. 1). This group consists of an important repertory of shapes, including face-pots. Two face-pots from the area have quite large dimensions and were probably used as storage vessels within the wine house (Fig. 6). In addition to these, large trefoil-mouthed jugs, various bowls, a pyxis, a jar and an imported footed vessel (Fig. 7) were also recovered. The local ceramics of Çeşme-Bağlararası display strong central Anatolian influences, paralleled at nearby Liman Tepe.[36] Other important finds from this level include lids for incense burners, most of these from House 19.

The imported pottery from this earliest phase of the settlement contemporary with the MM III period is yellowish and has a soft fabric. The mottled black slip of the footed vessel that was found together with the face-pots is severely worn (Fig. 7). This vessel has

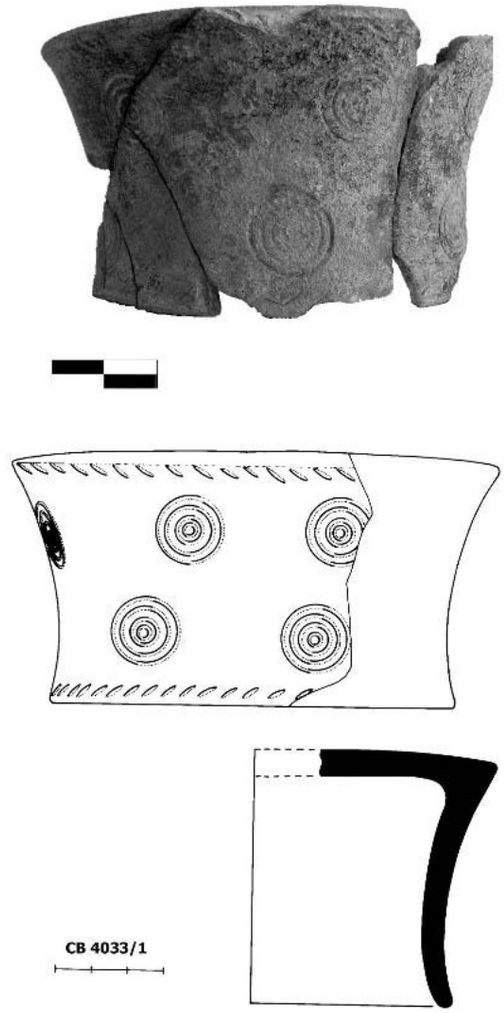

Fig. 8 Çeşme Bağararası Phase 2b: Imported dark phased incised and impressed pyxis lid from H-11

the same fabric as some other sherds belonging to smaller vessels found in this deposit. These examples also bear a similar thin, red/black mottled slip. The other two imported examples are a cup from House 20, excavated in 2004, and a jug from the wine house.

Another find that can be classified as an import and which is probably of Theran origin belongs to the group of "dark-faced incised pottery". This example is a dark-slipped lid (Fig. 8).[37] The top of the lid is decorated with impressed concentric circles and incised lines. Sherds of similar lids belonging to the same ware group were discovered in various other

[36] See Günel 1999b for an account of the second-millennium pottery from Liman Tepe.

[37] For similar examples from Thera (Akrotiri) and Ayios Nikolaos (near Anavyssos in Attica) dating to the end of EBA III see Rambach 2004, 1237–8 with ns. 217–8, pl. 10c.

parts of the settlement. A lid found at Liman Tepe can also be included in this ware group.[38]

Phase 2b, the earliest phase of Çeşme-Bağlararası, ended with a strong earthquake, which resulted in widespread destruction throughout the settlement. The mudbrick walls of the houses usually collapsed into the buildings. Such an earthquake must also have been felt in other settlements in the region.[39] There is, however, evidence that the people of Çeşme quickly recovered and resumed their lives.

Çeşme-Bağlararası Phase 2a

This new architectural phase provides evidence that the remaining parts of houses that suffered destruction were reused, while their doorways were blocked with vertically placed stones. Besides a small room, constructed during this phase, many stone (SB), plastered (PB) and clay basins (CB) and hearths belong to this phase (Fig. 1). These finds point to the arrangement of facilities for food preparation, production and, mainly, storage during this phase of the settlement. Phase 2a, which must have been short-lived, represents the continuation of the cultural traits of the previous phase 2b. Phase 2a represents a restructuring phase after the catastrophic earthquake, rather than one in which new developments are evidenced.

In terms of pottery, there are no radical changes. The popularity of the local buff-slipped pottery of western Anatolia continues and no new shapes are introduced. The small number of imported pottery vessels of this phase have the same characteristics as the greyish yellow wares of the previous phase.

The small finds include a cylindrical ivory stamp seal that bears decoration on both of the circular ends.

Although no important metal finds were present in the previous period, phase 2a provides evidence for metal production. A mold for a dagger is important in this respect. A dagger, found within the same context, provides more evidence for the metallurgical activities within the settlement. If phase 2a is considered to have been a continuation of phase 2b, these finds could also be considered to have been salvaged and reused in the later phase.

So far, there is no evidence suggesting the reasons for the demise of phase 2a. A building destroyed by fire, uncovered in 2004, may provide a clue to the end of the phase. It is still too early, however, to conclude that there was another general catastrophe.

Çeşme-Bağlararasi Phase 1

Level 1 of phase 1, which lies very close to the surface, preserves only fragments of walls and many pits. Despite the lack of architectural units, the finds, contemporary with LM IA on Crete, from the many pits in this level have provided important evidence for the overseas contacts of Çeşme-Bağlararası.

Another discovery that probably dates to this level was an intramural jar burial. This burial partly destroyed a wall of phase 2a and contained a skeleton in a contracted position. The only grave goods recovered were fragments of bronze.

Many fragments of imported pottery demonstrate the importance of the settlement as a harbor town with extensive overseas contacts and suggest that it was also within the sphere of Minoan influence. These finds also indicate that in western Anatolia, Çeşme-Bağlararası is, so far, the northernmost settlement with such intensive Minoan contacts.

The majority of the ceramics from the pits consist of the characteristic western Anatolian buff-slipped wares. The most common shape is the bead-rim bowl. Anatolian Grey Wares are more common than in previous phases S-profile, cups with flat bases, also characteristic of ÇB 1, are abundant (Fig. 9). These cups replaced the semiglobular cups of the previous phase and must have served the same function.

Incense burners form another important group from the pits.[40] Very similar forms are known from the Theran wall paintings.[41] A lid with many perforations, from phase 2b at Çeşme-Bağlararası, may have been used with such an incense burner.

The imports from ÇB 1 display a wide variety of forms and fabrics. Minoan imports form a small group and include examples distinguished by their high quality. A jug, a cup and some sherds in ripple ware[42] (Fig. 10) belong to this group. Some of these examples may have been produced in central Crete.

Cycladic and southeastern Aegean "Minoanizing, wares dating to the LM IA period form the largest

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[38] Erkanal and Günel 1995, 265; Günel 1999b, fig. 20.51, pl. 14.4.

[39] Cf. Niemeier and Niemeier 1997, 231–2; Greaves 2003, 71 for a probable contemporary earthquake in Miletus.

[40] Erkanal and Karaturgut 2004, 155, 000 6; for similar examples in Crete cf. Kanta and Rocchetti 1989, 267, fig. 83, nos. 590, 591.

[41] Doumas 1994, fig. 113.

[42] Erkanal and Karaturgut 2004, 155, 000 5, and n. 11 for similar examples in Crete.

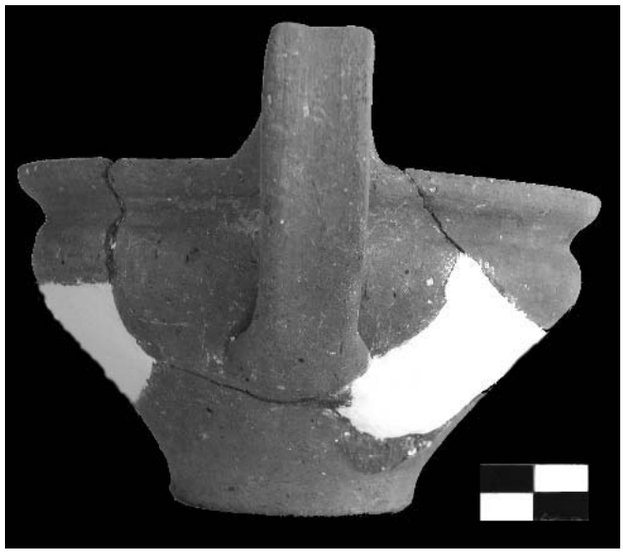

Fig. 9 Çeşme Bağlararası Phase 1:
One handled cup with S-profile

Fig. 10 Çeşme Bağlararası Phase 1:
Imported Minoan pottery of ripple ware

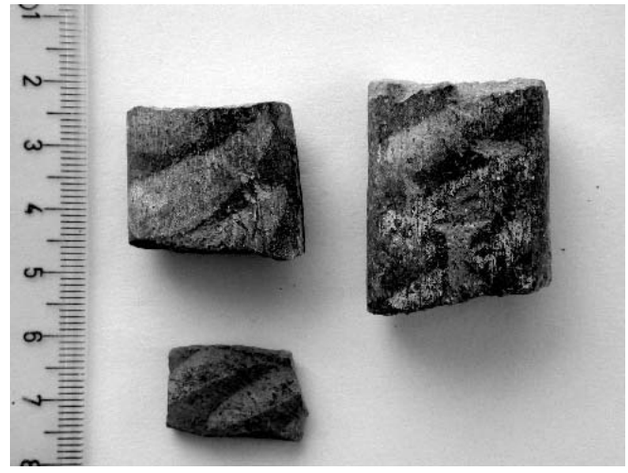

Fig. 11 Çeşme Bağlararası Phase 1:
Imported Light on dark (red) handle fragments

imported pottery group at Çeşme-Bağlararası. Dark-on-light wares are in abundance but some light-on-dark examples also occur (Fig. 11). There are monochrome wares as well as bichrome examples (Fig. 12).

Among the imported pottery are some sherds that are thought to have a Theran origin. These are fine wheel-made examples with brown decoration on a beige slip. There are also some sherds that might be related to the Aeginetan wares. These sherds have a greenish yellow fabric with inclusions. A Cycladic white-slipped jug, bearing geometric motives, is a unique find in this part of the Aegean.[43] The evidence of imported pottery, which displays a large variety of forms and fabrics, suggests that the harbor settlement at Çeşme-Bağlararası did not trade with a single area or center but had strong links with an extensive trade network that included many settlements and areas.

Small finds also provide evidence for the international character of the settlement. Loomweights of Minoan type were found in pits dating to the final occupation phase of the site.[44] A faience bead, a glass bead, an ivory inlay and a gold wire are among other notable finds of this phase.

Çeşme-Bağlararası was abandoned after level 1, which is contemporary with the earlier part of the LM IA period. So far there is no evidence to suggest reasons for the demise of the settlement.

Geomorphological investigations undertaken by Eduard Reinhardt and Beverly Goodman from McMaster University, Canada aim to clarify the changes in the coastline and its relationship to the settlement's history. Although still in its initial stages, this research has begun to produce interesting results. A geomorphological core taken about 20 m northeast of the excavation area revealed the presence of tephra. We cannot yet comment on the relationship of this discovery to the stratigraphy of the site nor can we suggest a relationship with the

[43] Erkanal and Karaturgut 2004, 156, 000 7.

[44] Erkanal and Karaturgut 2004, 156, 000 8.

Fig. 12 Çeşme Bağlararası Phase 1: Imported Cycladic-Minoanizing dark on light painted cup from Pit 2

eruption of Thera. The results of the analysis of the tephra did not match any of the known sources (Beverly Goodman, personal communication). Future work at the site is hoped to shed further light on this phenomenon.

Conclusion

The recently discovered settlement at Çeşme-Bağlararası clearly reflects a western Anatolian character with close relations to the central Anatolian and Minoan cultures, in both its architecture and small finds. Due to the lack of settlement data from the first half of the second millennium BC on the western Anatolian coast, the architectural organization of this settlement is, so far, unique. Moreover, it should be noted that, although plastering of the walls is a traditional architectural feature in Anatolian archaeology as early as the Neolithic period,[45] Çeşme-Bağlararası and Miletus are the only sites in western Anatolia found so far that present this feature at the end of the MBA. Therefore, the application of lime plaster on the house walls of these two settlements could be interpreted as influenced by Minoan architecture. Regarding the ceramics it should be noted that more than 90% of the pottery consists of local wares and shapes reflecting the western Anatolian character of the settlement. In addition to these, imported pottery from the southeastern Aegean, the Cyclades and Minoan Crete, as well as locally produced pottery with decoration inspired by the Minoan and Minoanizing pottery, are present. Finally, the use of loomweights of Minoan type among local types indicates the contacts of the Izmir region with the Minoan world.

Çeşme-Bağlararası was a flourishing harbor site during the period in which Minoan power reached its peak and expanded its influence northward. It is the northernmost settlement on the western Anatolian coast in which contacts to the Minoan world can be traced in architecture, pottery and small finds during the MM III–LM IA periods. The site displays a some-

[45] Derin *et al.* 2004, 242–3.

what different character from nearby Liman Tepe in terms of Minoan relations of the site.[46] Çeşme-Bağlararası has a stronger link with the Minoan world.

New data from Çeşme-Bağlararası is also helping to clarify the complex dynamics of cultural, political, social and economic interactions within the Izmir region in particular and the wider Aegean world in general. Future work at the site is expected to further clarify the comparative chronologies of Anatolia and the Aegean during the second millennium BC.[47]

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[46] Recent investigations have clearly shown that various settlements throughout the Aegean reflect variability in terms of their character and play a different role within the sphere of the so-called "Minoan Thalassocracy,. For a recent overview of this phenomenon see Broodbank 2004.

[47] I would like to express my warmest thanks to my friends and colleagues Rıza Tuncel and Ourania Kouka for their valuable comments and Ash Rennie for his comments as well as his help on the English text. Michel Roggenbuche (INSTAP-SCEC) restored the vessels in Figs. 4–9 and Douglas Faulmann (INSTAP-SCEC) did the drawings in Figs. 8 and 12.

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The Middle Bronze Age Pottery Sequence in the Northern Aegean Islands: The Evidence of Poliochni, Lemnos

Massimo Cultraro[*]

1. Introduction

The end of the Early Bronze Age (EBA) and the transition to the Middle Bronze Age (MBA) in the North Aegean is a problematic topic and remains an intriguing, difficult issue. Nothing appears more confusing than MBA ceramic terminology, and not only in the north Aegean district.[1]

The major problems in MBA ceramic terminology are the result of several shortcomings. First, the classification is based on superficial criteria: its terms are too general and, in many cases, they cannot apply to groupings of sites. Secondly the persistent use, or abuse, of diverging regional chronologies to provide an effective framework of synchronization. Third is the scarcity of long-term stratigraphical sequences and, even when these are available, the archaeological record is incomplete and dependent on limited publications of artifacts. Fourth and finally is the strong influence of the Trojan classificatory system: confusion over the dating of Troy IV and Troy V has arisen partly because of the tendency to use Blegen's classification.[2] However, recent progress in the study of the Trojan pottery offers a new, valid means of investigating the system of correlations between the islands of the North Aegean and western Anatolia.[3]

The main goal of setting up regional projects is to find methods and ways to define the individual relative chronologies, i.e., to identify the macroscopic and subtle changes of regional material cultures. The aim of this paper is to focus on the evidence recorded on the island of Lemnos, with specific reference to the site at Poliochni, which provides a long-term stratigraphical sequence where the pottery seriation can be strongly fixed to the architectural levels. Recent developments in our studies, together with a general reassessment of the pottery classification from the MBA levels, or "Periodo Bruno" (Brown Period) in the Italian terminology, provide a solid foundation for re-examining the chronology of the MBA in the north Aegean district.

2. MBA Poliochni Research Program

The prehistoric settlement at Poliochni is located on a hill close to the eastern coast of the island of Lemnos. The site covers 8 hectares, with an almost uninterrupted sequence of occupation beginning in the Late Chalcolithic Period when a well-planned and fortified settlement was built (Fig. 1).[4]

Excavations at the site were carried out by the Italian Archaeological School in 1930–1936, but Poliochni's importance to the studies of the EBA/MBA periods became clear only in 1952–1956, when extensive news works, under the direction of Luigi Bernabò Brea, provided a detailed chronological sequence.[5]

Since 1992, new excavation activity has been carried out by the Italian Archaeological School at Athens, focusing on the hill north of the area investigated in 1930–1936, the so-called acropolis, where the first Italian archaeologists had identified a large building (Fig. 1.4).[6] Although no remains of this supposed "palace" have subsequently been found, the exploration of the northern hill at Poliochni has given us a remarkable recompense. The systematic investigation has allowed the identification of architectural levels of the MBA that appear to be similar to the sequences identified by the Italian archaeologists in other parts of the settlement in 1930.[7]

The identification of a detailed stratigraphical sequence prompted a general reassessment of the MBA at Poliochni. When Bernabò Brea published the

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[1] For a general view see Manning 1995, 86–8.

[2] For Blegen's classification system see Pavúk 2002a.

[3] Summaries of the new results from Troy VI and VIIa are presented in Korfmann 2001.

[4] Cultraro 2004, 19–34.

[5] Bernabò Brea 1964, 1976.

[6] For a synthesis of the recent excavations see Tiné 1997, 13–22.

[7] Bernabò Brea 1976, 335–9.

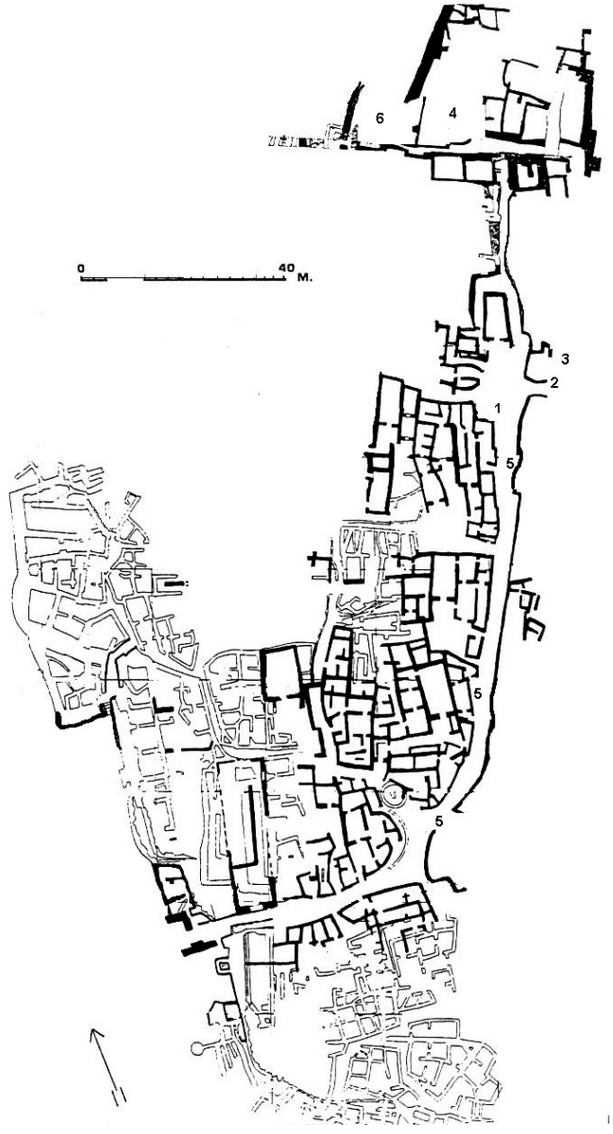

Fig. 1 Plan of Poliochni showing the location of the MBA deposits

two volumes dedicated to the oldest Italian excavations at Poliochni, his goal was to complete his work in a third book, focusing on the MBA period. In 1956, Brea ceased his activity on Lemnos and the third volume, then underway, was reduced to the final chapter of *Poliochni II*, published in 1976.[8]

The main limitation of the old research is that the pottery assemblage recorded in Bernabò Brea's book came from the archaeological deposits, where the stratigraphy was not always discernible. The recent exploration provides a very detailed stratigraphical sequence and establishes an important chronological classification for defining MBA at Poliochni.

The aim of my research project is the publication of the MBA to Late Bronze Age (LBA) I–II stratigraphy and pottery. The mass of pottery coming from stratified contexts made it necessary from the very beginning of my work to divide the material according to chronological criteria. My research on the MBA at Poliochni therefore concentrates on the following aspects:

Internal Chronology

a) Definition of the main archaeological indicators, with a main focus on the stratified levels in order to establish an internal sequence.
b) Correlation of that sequence with the already existing chronological articulation.
c) Definition of the transitional period versus the gap between EBA III (or the "Yellow Period") and MBA (the "Brown Period").

Local Pottery Production

a) Characterization of the locally made pottery.
b) Definition of specific shapes, their dating and related problems.
c) Establishing of technical features.
d) Definition of the origin of individual shapes, including whether some shapes were derived from the earliest Yellow Period repertoire.

Imports

Range, origin, and chronological distribution of the nonlocal pottery.

External Chronology and Interconnections

a) Establishing the interconnections with other MBA sites of the north Aegean – especially Chios, Lesbos and Samos – according to recent developments in Aegean archaeology.
b) Defining the correlation between Poliochni of the Brown Period and Troy V–VI according to the renewed excavations under M. Korfmann.[9]

3. The Internal Chronology: The MBA Stratigraphic Seriation

The main deposits concerning the stratigraphy of the Brown Period include four wide archaeological complexes. The first is the built well located in square

[8] Bernabò Brea 1976, , 335–9.

[9] See supra n. 3.

106, in the northern area of the settlement (Fig. 1.1).[10] The filling sequence of the well is very instructive for reconstructing the development of the MBA period at the site. Three different stratified levels can be distinguished: the first from the top contains pottery of the LBA including some sherds of LH I–II,[11] while the middle level represents the temporary abandonment of the structure due to the presence of sand and mud. The lowest level includes mud deposits with charcoal and wooden remains, and can be dated to the MBA period.

The second deposit is the complex of rooms explored in the area to the east of square 106 (Fig. 1.2). In 1953, Bernabò Brea investigated a group of three small rooms (rooms 327–328): each room has different floor levels and the pottery found in each pavement shows typological peculiarities.[12] The results of this excavation have never been published. However, in 1994 I had the opportunity to carry out a stratigraphical test in order to clarify the chronology of these structures (Fig. 1.3). At the same time I was able to reassess the pottery assemblage found in this area and concluded that two different architectural levels can be related to two different phases of the Brown Period.[13] As I will clarify below, the stratigraphical sequence identified in the area east of square 106 represents a solid basis for reconstructing the inner articulation of the Brown Period at Poliochni.

The third main deposit was found in street 105, an important road that connected square 106 with square 103, where a large private building (megaron 605) was located in the Yellow Period (Fig. 1.5).[14] The recent investigations have supported the conclusion that street 105 was in use from the earliest phases of the EBA until the LBA. On the northern side of street 105 the Italian excavations in 1930 identified some architectural remains that have now disappeared. I have recently identified the pottery of these excavations in the storerooms of the Archaeological Museum at Myrina.[15] Unfortunately the references on provenance are missing and the available material is without stratigraphical context.

The fourth and final deposit to be discussed here, located in the northwestern area of the settlement, was identified in the H/West sounding (1993–1995) (Fig. 1.4).[16] Structure 25 is the most important building identified in this area (Fig. 1.6). This building can be interpreted as the foundation of an impressive *emplecton* defensive wall. The upper part of the stone foundation consisted of mud bricks, remains of which were identified in the area close to the structure. It is dated to the Brown Period on the basis of the material found in the wall. The stone foundation of structure 25 is of particular importance and establishes the fact that the settlement at Poliochni during the Brown Period was protected by an impressive fortification comparable with similar structures explored at Troy V–VI[17] and at Palamari on the island of Skyros.[18]

The reassessment of the stratigraphical sequence challenges the traditional opinion that Poliochni was definitely abandoned after the earthquake that destroyed the settlement of the Yellow Period.[19] In fact, according to Bernabò Brea's reconstruction, the Brown Period should be correlated to a late stage of the MBA. The current developments in research in the field lead us to conclude that there was no gap between the Yellow and the Brown periods. Confirmation of this reconstruction is provided by the analysis of the pottery assemblage.

4. Pottery Classification and Type Seriation

Having clarified the "horizontal stratigraphy" of the deposits, let us now turn to the classification of the pottery assemblage and its typological development. Most of the examples of the Brown Period pottery assemblage at Poliochni consist of larger and smaller fragments, and a study of comparable pottery from the contemporary Troy V–VI was required in order to determine the definite forms and the total number of existing variations.

At first glance, the system of classification developed for the pottery from Poliochni's Brown Period relies on two essentially independent series of classificatory groupings. The only significant difference between the two pottery assemblages is that the classes are unambiguously defined according to the main distinctions in decorative treatment (painted and unpainted), fabric (coarse, medium coarse and fine), surface treatment (burnished and unburnished) and color (red or red-brown, orange). The

[10] Cultraro 2001, 215–8 fig. 3.
[11] Cultraro 2005, 239–42, pls. LXI–LXIII.
[12] Bernabò Brea 1976, 82–3.
[13] Cultraro 2001, 218–20 fig. 2.
[14] Bernabò Brea 1976, 58–9.
[15] Data available in Cultraro 2001, 220–2.
[16] Cultraro 1997b, 686–7.
[17] Korfmann 2001, 395 fig. 440.
[18] Theochari and Parlama 1997, 344–56, i.sp. 345–347, fig. 2.
[19] Bernabò Brea 1964, 39.

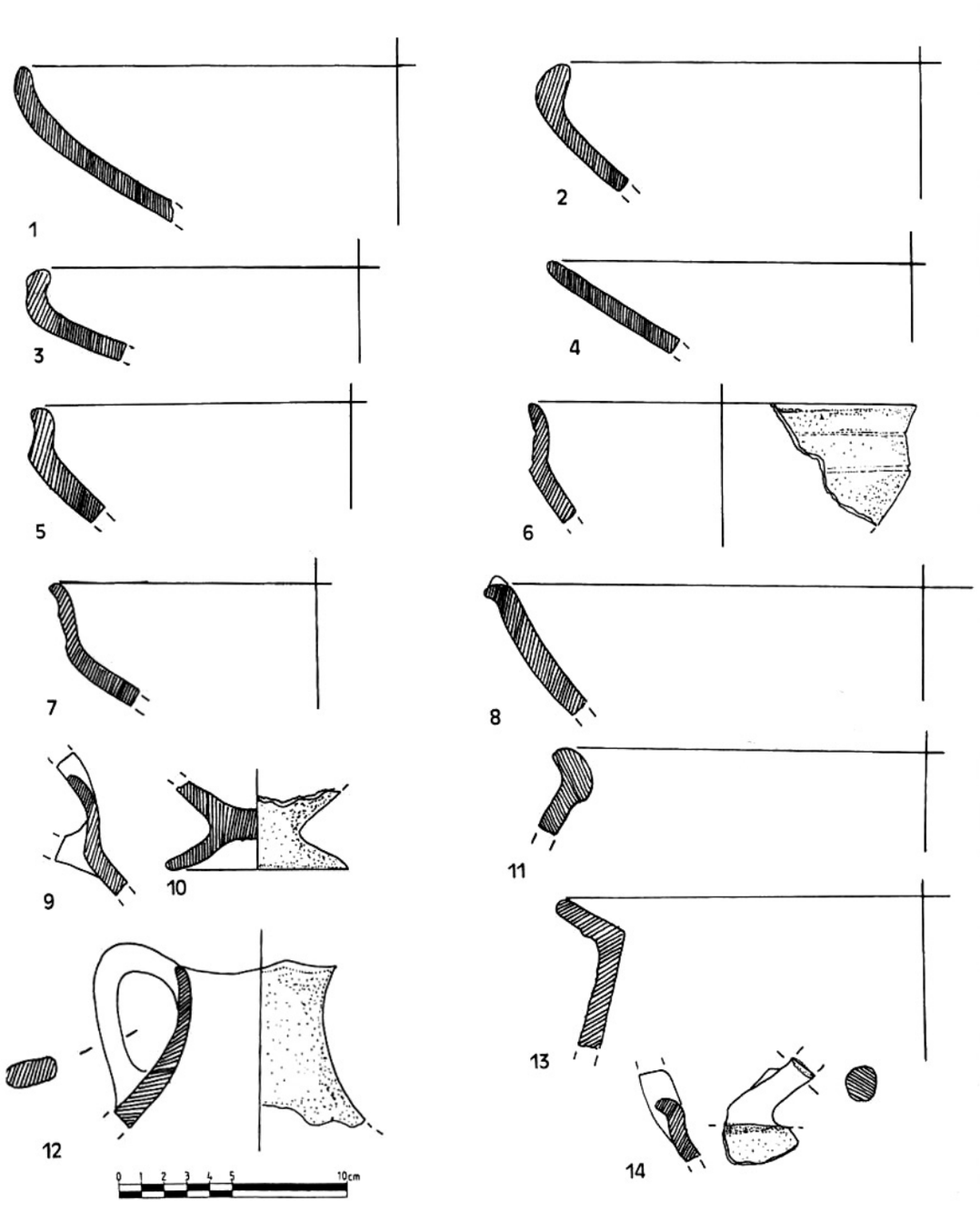

Fig. 2 Poliochni: pottery assemblage of the Brown Period Phase 1 (after Cultraro 2001)

choice of this specific classificatory system was made out of a concern for simplicity and ready intelligibility. The main question, however, is to correlate this specific classificatory system to a solid stratigraphic sequence and, where possible, to architectural elements.

The stratigraphic sequence for reconstructing the internal seriation of the MBA pottery assemblage is based on the evidence of the habitation levels explored to the east of square 106 (Fig. 1.2, 3). As I have mentioned above, the stratigraphy is clearly discernible: after the destruction of the house dated to the late Yellow Period, a new structure was built, with a different orientation and planning articulation. In the earliest occupation level, which we call "phase 1", a large body of pottery was found. The pottery assemblage includes three main categories according to the fabric: red-slipped or washed ware, grey ware and coarse ware. It is worth noting that a large number of examples of red-slipped ware, which

represents the highest percentage (65%), is handmade, while the grey ware (20%) is wheel-made.[20]

Among the red-slipped or washed ware, the most popular shape is the open bowl with straight or slightly curving side (Fig. 2.1–4). About a dozen rims, handmade, that are attributed to this category can be identified as a shape originated from the pottery assemblage of EBA III, the Yellow Period at Poliochni.[21] Of interest are some wheel-made shallow bowls, with marks of manufacture on a fast wheel both inside and out.

Another common shape is the one- or two-handled carinated bowl (Fig. 2.5–7). This category appears to come from handmade as well as from wheel-made shapes, and there seems to be nothing from the Yellow Period pottery assemblage that closely corresponds to this type of rim.[22] Carinated bowls are made in grey ware fabric as well as in red-slipped ware. A pedestal foot of grey ware fabric can be attributed to an open bowl with curving side, and it can be compared with the carinated one-handled cup of A 96 type in the Trojan classification (Fig. 2.10).[23]

A distinctive shape is the shallow bowl with more or less well-marked bead rim (Fig. 2.3). Such bowls, most of them wheel-made, occur in large quantity during the Brown Period 1 and are not common in the previous Yellow Period.[24] A fragment of rim and handle can be related to a kantharos of grey ware fabric that shows closest parallels among the western Anatolian pottery from Troy V–VI (Fig. 2.9).[25]

Coarse ware includes large storage vessels with wide neck and everted rim (Fig. 2.11, 13).[26] No other shape of vase in cooking ware from the levels of phase 1 could be wholly reconstructed. The most common shape is the tripod cooking pot that belongs to the local tradition, well documented beginning from the EBA 1.[27]

The reconstruction of the floor of the house located to the east of square 106 corresponds to phase 2 of the Brown Period at Poliochni.

The pottery assemblage found in the phase 2 levels shows some remarkable differences from the typology of the earliest deposits. Regarding the fabrics, of particular interest is the considerable decrease in the number of examples of red-slipped ware. In contrast, we recognize a clear increase in the grey ware, especially the production of fine table ware that in some cases replaces the traditional shapes of the red-slipped ware, i.e., open bowls and carinated cups.

Within the category of plain bowls with curving side, the main shape is the large bowl with inward-leaning rim and high shoulders (Fig. 3.1–3).[28] There is no evidence of the large variety of shapes found in phase 1. The implication is that in phase 2 the plain bowl with curving profile becomes a standardized shape, probably due to the extensive use of the fast wheel. Another significant typological feature is the ring foot, which could probably be related to large open bowls (Fig. 3.12).[29] I would like to stress that the ring-type feet appear for the first time in phase 2 and become a diagnostic feature for reconstructing the relative chronology.

The most popular shape in grey ware is the two–handled carinated bowl (Fig. 3.4–6).[30] This category encompasses several variants, of which the most well-attested is that with everted rim. It is uncertain whether the fragments of this category can be interpreted as one-handled carinated cups or belong to the kantharos of Anatolian tradition.[31]

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[20] Cultraro 2001, 224.

[21] Bernabò Brea 1976, 260–1, pls. CCIV–CCVa–e (Yellow Period). It is worth mentioning that the first evidence of an open bowl with curving side can be attributed to the Red Period, correlating to Troy II early; it confirms the long-time presence of such a shape among the pottery assemblage at Poliochni: Bernabò Brea 1964, 634–5, pl. CXXXVII.

[22] Cultraro 2001, 224 fig. 4.5–7. For parallels from the pottery assemblage of square 106: Bernabò Brea 1976, 318–9, pls. CCLXVI:6, 7, 9, 11; CCLXVIIa–f.

[23] Examples in Pavúk 2002a, 53 fig. 12.

[24] Cultraro 2001, 224.

[25] Cultraro 2001, 224 fig. 4.9. For the comparison with the Troy V pottery assemblage: Blegen *et al.* 1951, 126 fig. 160 (37.882, 37.1126).

[26] Cultraro 2001, 225 fig. 4.11, 13. Of interest is the evidence of a large closed storage vase found among the pottery assemblage from square 106, which can be compared to the amphora B 25 from Troy VI early–middle: Blegen *et al.* 1953, 187 fig. 432.1.

[27] Examples in Bernabò Brea 1976, 274–5, pl. CCXIX. For the typological classification: Cultraro 1997a, 244–6. The rounded tripod pot, in same cases with vertical handle, shows closest parallels with shape D38 from Troy VI: Blegen *et al.* 1953, 72 fig. 329 (37.1171).

[28] Bernabò Brea 1976, 329, pl. CCLXXVIIm–o; Cultraro 2001, 225 fig. 5.1–3.

[29] Cultraro 2001, 226 fig. 5.12.

[30] Cultraro 2001, 226 fig. 5.4–6, especially examples from room 328.

[31] Pavúk 2002a, 51–2 fig. 11 (kantharos A94 and carinated one-handled cup A95).

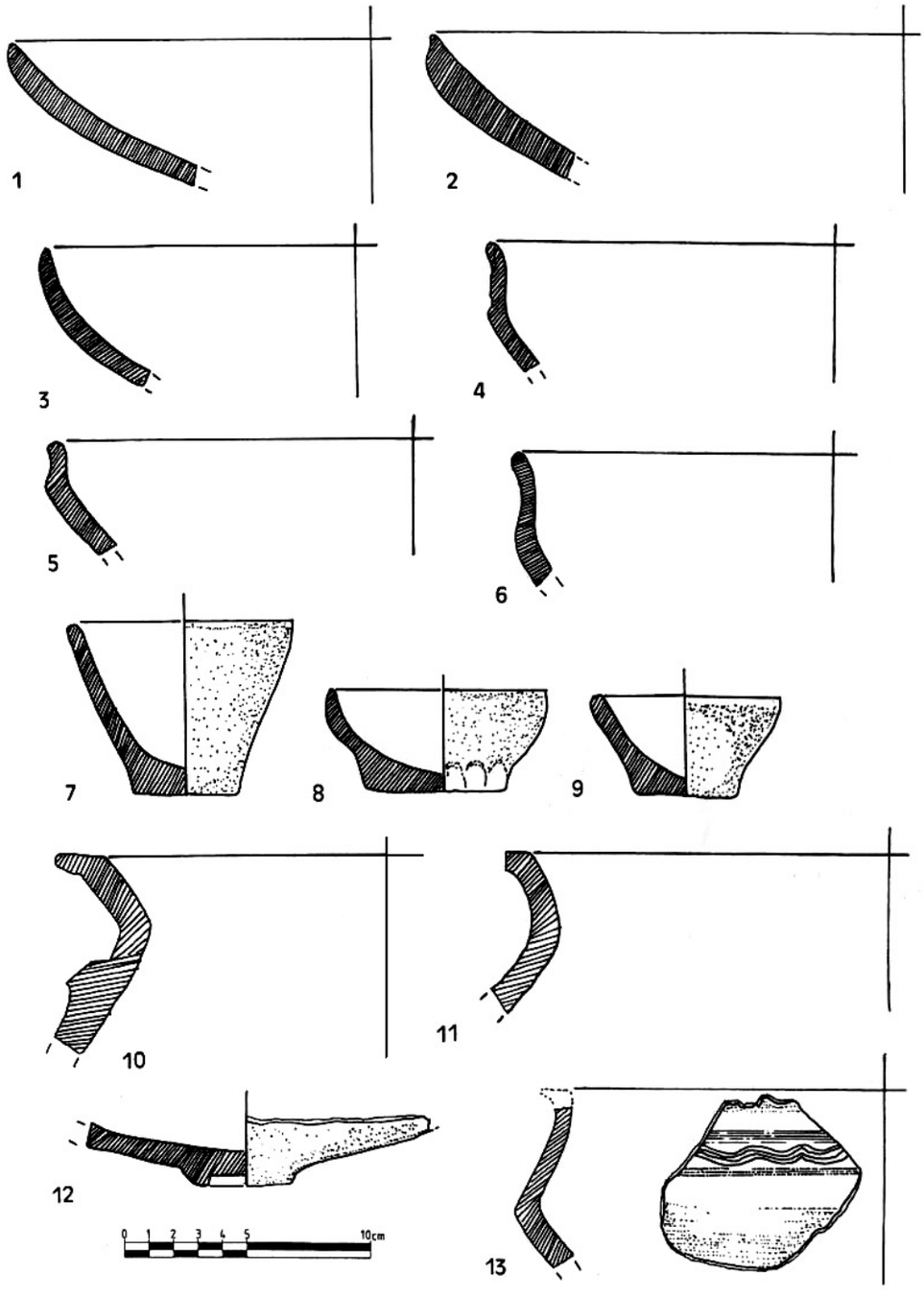

Fig. 3 Poliochni: pottery assemblage of the Brown Period Phase 2 (after Cultraro 2001)

The most distinctive shape of the Brown Period phase 2 is the category of plain handleless cups (Fig. 3.7–9).[32] Three main varieties can be distinguished: tall with straight sides; tall with curving sides; and low with curving sides. Many examples show string marks on the base where the vessel was cut from the potter's wheel while the wheel was still rotating. On the basis of the fabric, it is possible to distinguish two

[32] Cultraro 2001, 226 figs. 5, 7–9, pl. I.6–11. A small quantity of plain handleless cups comes from well 106 (5.65–8.25 m): Bernabò Brea 1976, 338, pls. CCLXXXIIg–i; CCLXXXIVo, p.

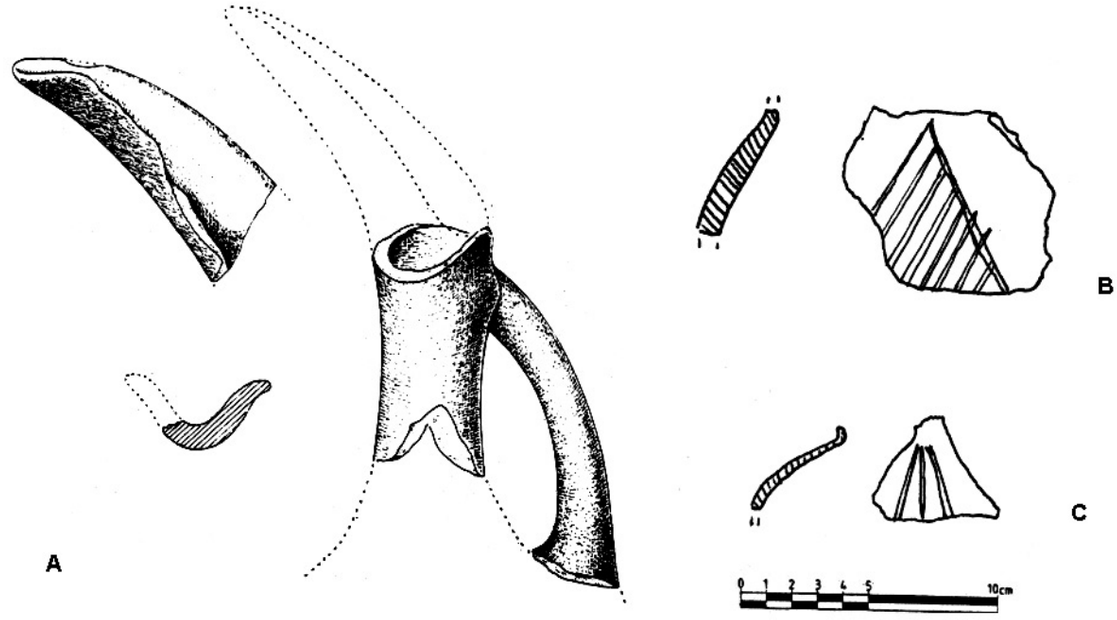

Fig. 4 Poliochni: a) Red Coated Beaked Jug (after Bernabò Brea 1976, pl. 275);
b–c) Fragmentary small close vases with incised decoration and white colour filled (after Bernabò Brea 1976, pl. 280)

different groups: plain ware and tan ware, the latter very similar to fabric reported from Troy V and VI.[33] In the broader perspective of relative chronology, it is worth noting that the category of handleless cups was reported only from levels of phase 2 of the Brown Period.

A large number of pithoi and other storage vessels were found on the floor of the house of phase 2 of the Brown Period (Fig. 3.10, 11). Characteristic is the short and wide neck. In some examples, pithoi are decorated with a series of horizontal channeled ribs.[34] Of particular interest is a fragment belonging to a large carinated jar or krater with everted rim made in grey ware (Fig. 3.13); the incised waves decoration and shape suggest comparison with the shape of similar vessels reported from Troy VI early.[35]

The Poliochni Pottery Sequence and the Trojan Parallels

In order to verify the validity of the internal sequence proposed for the MBA period at Poliochni, specific attention should be directed to the connection between Lemnian shape types and the typological series of Troy IV–V.

The pottery assemblage from phase 1 of the Brown Period shows remarkable parallels with the ware group of Troy III and IV early. The synchronisms are closely based on the evidence of a large number of shapes present at both sites. The rounded bowl with high rim rising almost vertically from a slight angle can be compared with shape A18–20 from Troy III late or Troy IV early.[36] It also can be attributed to the same ceramic category as the variety with angular or carinated profile, which is connected to the introduction of the new type during a transitional stage from the Yellow Period to the Brown Period.

The pottery group from the phase 2 levels can be correlated to Troy V and, in some cases, to Troy VI early. The correlation is based on the similarities of specific shapes, i.e., the shallow bowl A21.[37] Although there is evidence of similar examples at Troy IV, the angular profile topped by broad flat or convex rim and the decorative system (pairs of grooves under the rim) are characteristic features of the pottery

[33] Blegen *et al.* 1953, 50, 280, fig. 313 (37.957, 37.1054; shape A76); Mountjoy 1997, 290 fig. 10.32.

[34] Examples in Cultraro 2001, 226 fig. 5.10, 11.

[35] Cultraro 2001, 226 fig. 5.13. Examples from Troy VI: Blegen *et al.* 1953, 77 fig. 327 (37.1039 and 37.1060).

[36] Blegen *et al.* 1951, 25 fig. 66 (Troy III), 124–5 fig. 177 (Troy IV). These shapes (A12, A6, A18–20) comprise various bowls, the majority of them produced in plain ware and in red-coated, which is very similar to the orange ware documented at Poliochni. For the type see Pavúk 2002a, 39.

[37] Blegen *et al.* 1951, 241–2.

Troy	Poliochni Brown Period	Well Square 106	House East to Square 106	Street 105	H/W Trench (1995–1998)
Troy III late–Troy IV	Phase 1	?			?
Troy V–VI early	Phase 2				
Troy VI early–middle	Phase 3 (Violet Period)				

Fig. 5 Proposal of synchronism between the Brown Period at Poliochni and the Trojan stratigraphic sequence

assemblage at Troy V.[38] Another peculiarity of Troy V that occurs in bowls of this type is the plastic decoration in the form of knobs or spirals springing from the junction of handle and rim.[39]

Finally, the carinated or angular cups can be compared to shape A19 from Troy V.[40] It is worth mentioning that at Poliochni in the Brown Period and at Troy V a large quantity of examples are wheel-made. Moreover, a predilection for grooved rims associated with this type seems to be a diagnostic element of the pottery production of Troy VI early.[41]

Such a picture of comparisons leads to the conclusion that the Brown Period at Poliochni can be distinguished into two different stages, according to the pottery seriation and to its correlation with the stratigraphic sequence reported from the northern area of the settlement. The first stage, or phase 1, can be synchronized with Troy IV, and phase 2 can be compared with Troy V and Troy VI early (Fig. 5).

According to the evidence of well 106, it is possible to identify a third stratum, corresponding to the last phase of the Brown Period. The current excavations confirm the presence of this horizon, which seems to be immediately later than the destruction of house 327–328 located in square 106. However, it is not yet possible to establish whether this stratum can be related to the Violet Period or represents the latest stage of the Brown Period and should thus be considered separately from the succeeding Violet Period.[42] The question is not only a matter of terminology, but involves a more specific evaluation of the horizon of variability including the typological series and the stratigraphic evidence. The available data does not yet permit an answer, but the development of these typological series have the potential of being a very sophisticated tool for relative dating. The more such typological groups can be identified, the more reliable the definition of relative chronology will be.

At present the basis of the relative chronology for dating the final stratum at Poliochni is the evidence of LH I–II imports from mainland Greece. In particular, a fragment of a squat jug (FS 87) and the flat base of a Vapheio cup (FS 224), both probably of Thessalian fabric, provide a more solid dating of the final stratum at Poliochni around the mid-16th century BC.[43]

Local pottery and Imported Wares

Concerning the distinguishing of locally made and imported pottery at Poliochni, it should be stressed that at the present time, petrographic and chemical analyses are not available. The distinction between the two categories is currently based mainly on visual observation.

The local pottery includes two different categories: the fine table class, which encompasses the classes of red-slipped ware and grey ware, and the coarse pottery. Both show a generally soft clay, not hard-fired. Moreover, the presence of volcanic inclusions, another feature of Poliochni's pottery, represents a characteristic aspect of the local production beginning as early as the EBA.

Considering these production aspects, it is possible to identify some of the sherds as imported ware. The most important example from the levels of phase 1 is

[38] Blegen *et al.* 1951, 125 (Troy IV), 241–2 (Troy V).
[39] Blegen *et al.* 1951, 241 fig. 251.19–23.
[40] Blegen *et al.* 1951, 241 fig. 252.4, 5.
[41] Blegen *et al.* 1953, 42. Grooved decoration is well known at Troy in the pottery assemblage of the Third City, but from Troy V to early VI it is much better organized and more effectively used in the decorative system (ibid., 35–6).
[42] For the Violet Period at Poliochni see Bernabò Brea 1976, 335–9.
[43] Cultraro 2005, 239, pls. LXIb.1, LXII.1.

a fragment of a beaked jug found in the area east of street 105 (Fig. 4a).[44] The red-washed fabric and the morphology are two specific features of the group of beaked jugs B20 reported from Troy IV.[45] A provenance from Troy or from a site of northwest Anatolia is very likely.

Two fragments of rim, both related to small closed vases, with incised decoration and traces of white fill color, were found in the building complex of square 106 (Fig. 4b, c).[46] Some of the technical features, such as the soft fabric, surface treatment and decorative system, show close parallels with a similar pottery class attested at Emporio, on the island of Chios, in a stratum dated to the late MBA.[47] A solid comparison with Emporio is also supported by the evidence of large numbers of handleless conical cups that suggest a close synchronism between the Brown Period 2 at Poliochni and the late MBA/early LBA at Chios.[48]

Conclusions

Poliochni is one of the very few long-term sites in the north Aegean at which the stratigraphical material provides a solid framework for reconstructing the MBA period in this district. The identification of several habitation levels and groups of pottery with clear stratigraphical attribution and the close correlation between pottery assemblages and stratigraphy offers the opportunity to divide the Brown Period into three main phases. The pottery of each phase shows specific typological and quantitative features, and the development of these features over time can be clearly demonstrated.

The reassessment of the archaeological record of the Brown Period enables us to examine the architectural transformation of the settlement during the transition from the EBA to the MBA. The most significant evidence of the Brown Period is located in the middle and northern sections of the plateau (Figure 1). The lack of extensive exploration prevents us from defining the boundaries of the settlement that seems to occupy a small part of the oldest settlement of the Yellow Period. The impressive fortification wall in the northwest section of the hill reflects changes in the city's perceived defensive needs. More generally, a measure of continuity with the previous settlement can be seen in the successive expansion of street 105 and in the spatial organization of houses lining the road grid. This evidence clearly suggests that the planning of the Brown Period village differed little from that of the oldest settlement of the Yellow Period.[49]

The assemblage of the Poliochni Brown Period presents several features that seem to be a continuation from the EBA, but most of the shapes are entirely new and their origin should be located in western Anatolia. It is likely that these types, i.e., carinated bowls and one-handled kantharoi, originated in the Trojan district. However, the identification of this pottery assemblage with a specific group from a defined geographic location is not supported on present evidence.

Possibly the carriers of the new styles came into two separate waves, one from the Trojan coastal plain and the other from north Thessaly and central Macedonia. This latter district can be identified through the presence of some shapes, i.e., the large carinated bowls with vertical handle that can be compared with the pottery assemblage from layers 15–14 at Ayios Mamas on the Chalcidike peninsula.[50] It is worth noting that a group of matt-painted sherds found in well 106 can be compared with the MBA "Δ1ß" dark-on-light class from Thessaly and east Boeotia.[51] Moreover, a similar category of vases is attested in the village of Koukonisi, in the Gulf of Moudros, about 2 km west of Poliochni, where the pottery is claimed to have been imported from Thessaly.[52] At both Lemnian sites, the clay fabric and the decorative system of the matt-painted pottery are very similar to those of the ceramic assemblage from Pefkakia Magoula and Lianokladi.[53] It is likely that these vases were produced in a workshop located in the Gulf of Pagasae.

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[44] Bernabò Brea 1976, 324, pl. CCLXXVa.

[45] Blegen *et al.* 1951, 129 fig. 161 (F8–9.149).

[46] Bernabò Brea 1976, 324, 327, pl. CCLXXXe, g.

[47] Hood 1982, 563 fig. 2581, pl. 102. The sherd from Poliochni is probably from the neck of a globular jar. It is of particular interest that the examples from Emporio belong to storage and transport vessels. On the basis of this comparison, the imported vase found at Poliochni could be interpreted as a storage jar. This evidence introduces the question about the circulation of specialized shapes in the north Aegean MBA and the identification of their contents.

[48] Hood 1982, 599–600 fig. 269, pl. 123.2805, 2807.

[49] For the planning and architecture of the Brown Period settlement: Bernabò Brea 1964, 39; 1976, 335–6; Cultraro 2001, 229–30.

[50] See the paper of B. Horejs in the proceedings of this workshop.

[51] Cultraro 2005, 240, pl. LXIIIa.

[52] Boulotis 1997, 264 figs. 12, 26.

[53] Maran 1992, 174–80, with references.

In general, the Brown Period at Poliochni shows the broader expansion of the Trojan culture toward the neighboring islands of the north Aegean, where the Anatolian elements interlaced with different foreign components coming from mainland Greece.

Changes at Poliochni in the MBA involve not only the pottery assemblage, but also, and primarily, the production technique. In the transitional stage from the EBA to MBA, the fast wheel and controlled reduction firing represent the most significant transformation of the pottery production. Together with these two aspects there emerged the introduction of wheel-made pottery and the contemporary production of fine Anatolian Grey Ware vases. Whether or not the grey ware of the Brown Period is the product of specialized craftsmen coming from western Anatolia,[54] this category shows close parallels with the contemporary material culture of Troy V and reveals the wide interregional connections between Lemnos and other areas of the north Aegean in the MBA.

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[54] For the question of the origin of Anatolian Grey Ware see Pavúk 2002b, 99–110.

Exchange in Period IV at Ayia Irini on Kea

Donna May Crego[1]

In the earliest identifiable phase of the Middle Bronze Age (MBA), prior to the foundation of Ayia Irini IV, fine ceramic wares, aside from Minoan imports at Lerna and several other coastal Peloponnesian sites,[2] do not seem to have traveled in quantity outside of their respective regions.

It has previously been argued that Ayia Irini IV was founded as a commercial settlement, for the express purpose of transshipping goods among the Helladic, Cycladic, and Minoan regions.[3] The foundation of Ayia Irini IV and its subsequent trade activity coincides with the first comprehensive linking of the Helladic, Cycladic, and Minoan exchange networks.

Keian Wares Found Abroad

The picture of trade discernible at Ayia Irini IV is one of imbalance. With the exception of Kolonna VIII and IX on Aegina,[4] there is only limited evidence for ceramic exports from Ayia Irini. Presumably Keian ceramics at Kolonna went directly over the sea from Ayia Irini.

Lerna has produced one Keian red Burnished goblet and one small undecorated yellow-slipped barrel jar[5] that seems to be Keian, although the lack of decoration on this shape has no parallel at Ayia Irini.[6] Ceramics from Ayia Irini most likely arrived at Lerna by one of three routes: via Phylakopi on Melos, via Kolonna, or directly. En route to Lerna, Keian ceramics may have shared cargo space with Lerna's Cycladic White Ware.[7] If Cycladic White, whether it originated on Melos or on Thera, was shipped from Phylakopi, the Keian products may first have traveled to Phylakopi and been shipped from there to Lerna. Or Cycladic White may have passed through Ayia Irini and from there to Lerna, with or without passing through Kolonna. Since there are no other indications of connections between Ayia Irini and Lerna at this time, the Keian ceramics might well have reached Lerna via Kolonna, where a significant amount of Lerna's ceramics originated.[8] On Aegina there seems to be little pottery from the Cyclades except that from Ayia Irini and some Cycladic White Ware,[9] which again could well have arrived there together.

Four likely imports from Ayia Irini have been identified at Phylakopi,[10] and two at Paroikia on Paros.[11] These items probably traveled via an intra-Cycladic system.

In Central Greece at Mitrou Jeremy Rutter has identified the rim of a Keian Yellow-slipped barrel jar.[12] Rutter has also identified Keian Yellow-slipped ware including at least one barrel jar at Male Mesi near Tanagra, recovered during the Skourta Plain Survey.[13] See below for likely routes between Ayia Irini and central Greece.

At Kiapha Thiti in Attica several items have been identified as Keian.[14] Also in Attica, at the Athenian Agora there are three Keian Yellow-slipped items: a small barrel jar, a deep basin and a jar of uncertain shape.[15] These probably traveled from Ayia Irini either via Kolonna or via Laurion, where the people of Ayia Irini are known to have obtained ore.[16] Apart

[1] I wish to thank the Organizing Committee for the opportunity to participate in this workshop and for all their generosity and kind assistance. I also thank John C. Overbeck, my husband and mentor. His willingness to discuss ideas concerning the Aegean Bronze Age is matched only by his encyclopedic knowledge of the same.

[2] Rutter and Zerner 1984, 77.

[3] Overbeck and Crego, forthcoming.

[4] See Overbeck, this volume.

[5] Buck 1964, shape C1.

[6] Overbeck 1982, 41.

[7] For Cycladic White at Lerna see Zerner 1993, 42 ("Melian White Matt Painted").

[8] Zerner 1993, 48–50.

[9] Kilian-Dirlmeier 1997, T. 4–13.

[10] Overbeck 1982, 39 and n. 13.

[11] Overbeck 1989b, items 61, 109.

[12] Jeremy Rutter (pers. comm.). I warmly thank Aleydis Van de Moortel, Eleni Zahou, and Jeremy Rutter for allowing me to use this unpublished information.

[13] Jeremy Rutter (pers. comm.). I am very grateful to him and to Mark Munn for permission to mention these finds.

[14] Maran 1992, items 375, 552, 900 and most of fabric C7 (see pp. 177–8). I am grateful to Joseph Maran for making me aware of these finds.

[15] Immerwahr 1971, items 320–2.

from the possibility that some Cycladic exports reached the Argolid without first passing through Ayia Irini, it would appear that Cycladic connections with the mainland did not as a rule bypass Ayia Irini.[17]

All told, this is a very small body of export for a site that received as much pottery from outside as Ayia Irini in period IV. However, due to the apparent complexity of Aegean Bronze Age patterns of exchange we should not necessarily expect to find a strictly reciprocal scenario at Ayia Irini.

Imports at Kea

Many imported ceramic wares are noted at Ayia Irini: Gray Minyan, Middle Helladic (MH) matt-painted (Aeginetan or otherwise), Cycladic White, a small amount of Melian slipped and burnished, Pink-Orange Ware, true Minoan wares, and Minoanizing wares including Lustrous Decorated.[18] Of these the Cycladic White and Melian wares probably traveled to Kea via an intra-Cycladic system. In addition to the ceramics, ore from Laurion was processed at Ayia Irini, probably as early as IVa, the first phase of occupation in the MBA.[19]

Gray Minyan of the Mature Phase appears initially at about the same time as the foundation of Ayia Irini IV, where there is abundant Mature Gray Minyan, both "True" Minyan and a variety of nonstandard fabrics, all made on the wheel, far more than seems reasonable for local needs. No earlier Minyan has been identified in the Cyclades, but Mature Minyan becomes popular at Phylakopi,[20] small amounts occur at Paroikia[21] and at Mikre Vigla on Naxos,[22] and fragments are visible on the surface at Akroterion Ourion on Tinos.[23] Likely routes for Minyan to travel from its probable central Greek homeland to Ayia Irini[24] are: by sea via the Gulf of Euboea, with or without a stop at Laurion, which is plausible in light of the Laurion ore processing at Ayia Irini; or to the northern side of the Corinthian Gulf, across the waters of the gulf to the isthmus, across the isthmus, and across the water with or without a stop at Kolonna. The most straightforward route is via the Euboean Gulf but, in view of Ayia Irini's close connections with Kolonna,[25] the alternative is also likely. All else being equal, if the pottery did not pass through intermediary hands, and it may have, it would have been desirable to minimize loading and unloading of boats and awkward overland journeys, but we cannot know all the factors involved in choosing a route for a particular journey, and both routes may well have been in use. Whatever route Gray Minyan took to Kea, it seems very likely that Ayia Irini acted as a regional distribution center for that ware to other locations in the Cyclades.

Ayia Irini's nonstandard Gray Minyan, that is, other than "True" Minyan, includes some with "a soft brownish biscuit with a gray slip . . . or it may have any one of several core effects – a pink core or pink and gray layering being very common".[26] Some of this matches some Minyan at Eutresis[27] and at Thebes,[28] suggesting a homeland in the same general region as that of True Gray Minyan. Some Minyan at Phylakopi[29] and some at Paroikia (item 117) also matches some of the nonstandard Minyan at Ayia Irini, and both may have been supplied via Ayia Irini.

Turning to MH matt-painted, barrel jars dominate at Ayia Irini in phase IVa, but throughout the period, along with mostly coarser, larger vessels, there are small amounts of fine matt-painted. Any Aeginetan matt-painted presumably traveled directly from Kolonna.

MH matt-painted fine wares, apart from one or two fragments at Paroikia,[30] do not seem to have traveled beyond Kea to other locations in the Cyclades. These wares may be regarded as parallel to Cycladic White Ware, and it is possible that the popularity of Cycladic White on its home turf kept the competing wares from ever gaining a foothold in the Cyclades beyond Ayia Irini.

The earliest known barrel jars predate the foundation of Ayia Irini IV. The earliest examples at Phylakopi[31] and at Kolonna,[32] which probably were pro-

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[16] Gale and Stos-Gale 1984, 258 and fig. 2.
[17] See also Maran 1992, 212.
[18] Overbeck 1989a, 8–12. All general statements in this paper concerning the pottery at Ayia Irini in period IV derive from this passage.
[19] Overbeck 1989a, group BD.
[20] Dawkins and Droop 1910–1911, 16–7.
[21] Overbeck 1989b, items 113–24.
[22] Barber and Hadjianastasiou 1989, items 448–51.
[23] Scholes 1956, 13; John C. Overbeck (pers. comm.).
[24] See also Overbeck 1982, 44–5.
[25] See Overbeck, this volume.
[26] Overbeck 1989a, 11.
[27] Goldman 1931, 135.
[28] Dimakopoulou and Konsola 1975, 66.
[29] Dawkins and Droop 1910–1911, 16–7.
[30] Overbeck 1989b, items 185, 186.
[31] Atkinson *et al.* 1904, 96, 99, pls. VII.1, VIII.4; Barber 1974, items 65, 183, MM145, MM158.
[32] Siedentopf 1991, items 1–3, fig. 1.

Fig. 1

duced at their respective sites, do not consistently display as a regular package of features the ledge-lip design of: ledge lip, string-holes, and a flange encircling the inner lip (Fig. 1). Although personal inspection at the National Archaeological Museum in Athens revealed string-holes and flanges on two from Phylakopi,[33] two others lack the flange,[34] and two more lack both flange and sring-holes.[35] Siedentopf reports that among early barrel jars at Kolonna, string-holes are rare.[36]

The barrel jar is an awkward shape to move over long distances, yet clearly these jars were shipped, with 16 MH matt-painted barrel jars identified at Ayia Irini. The shape was popular there: over 200 *local* examples have been found, some small and fine, the majority large (Fig. 2). Although the ceramics at Ayia Irini are for the most part very fragmentary, barrel jars in all wares with large portions of the rim preserved regularly display the ledge-lip design.

It seems fussy and unnecessary to make as standard features string-holes and a flange for securing a lid in place on these jars unless the jars were to serve as shipping containers, even if they were expected to function that way only once: on the journey to their intended destination. In a storeroom a ceramic or stone lid, even if not tied down, would be too heavy for rodents to dislodge. Sixteen of Paroikia's 19 barrel jars, not closely datable but all apparently of local production,[37] preserve the rim, but only one (153) has a flange and definite string-holes.[38] If these were all made on Paros for local use, it makes sense that they lack the flanges and string-holes so necessary for barrel jars intended to be shipped abroad with contents.

It does not seem reasonable to suppose that large ceramic vessels were transported empty over long distances in the MBA. Carol Zerner has independently observed that some of the larger Aeginetan vessels found at Lerna "may have been used to transport goods, or even to transport smaller vessels".[39] It is here proposed that the MH barrel jars found at Ayia Irini were manufactured incorporating the ledge-lip

PHASE	IVa	IVa/b	IVb	IVb/c	IVc*
Local Small	15	14	23	14	7 (2 reliable)
Local Large	32	27	55	13	26 (4 reliable)
MH M-P All Large	6	3	2	2	3 (not reliable)
Pink-Orange		1 (small); 1 (size not determinable)			
Melian					1 large (reliable)

* Only two small and five large barrel jars in Phase IVc are from reliably IVc strata; all others are from find groups containing unusually large amounts of earlier material, most of it dating to Phase IVb.

Fig. 2 Barrel jars at Ayia Irini IV

[33] Atkinson *et al.* 1904, pls. VII.1, VIII.4 (NM inv. nos. 5842, 5827).
[34] Barber 1974, MM145, MM158.
[35] Barber 1974, items 65, 183.
[36] Siedentopf 1991, 14.
[37] Overbeck 1989b, items 82, 83, 143–59.
[38] John C. Overbeck, unpublished notes.
[39] Zerner 1993, n. 62.

PHASE	IVa	IVa/b	IVb	IVb/c	IVc*
Barrel Jars	38	30	57	15	29 (5 reliable)
Gray Minyan as a % of All Wares	19.4%	10.2%	12.2%	12.7%	7.9%
* Only five large barrel jars from Phase IVc are from reliably IVc strata; all others are from find groups containing unusually large amounts of earlier material, most of it dating to Phase IVb.					

Fig. 3 Large barrel jars in all wares and Gray Minyan at Ayia Irini IV

design with shipping in mind as one of their primary purposes, whatever other uses may have been envisioned for them: even a barrel jar exported for its own sake rather than for its contents would have been designed to serve as a shipping container on its export voyage.

The foundation of Ayia Irini IV coincides roughly with the initial appearance of Mature Minyan and MH matt-painted fine wares. The impressive number of large barrel jars at the site, and indeed of barrel jars in all sizes, leads one to ask whether the increased volume of goods moving regularly over distances, in which it is here argued that Ayia Irini IV played an important part, may have necessitated a degree of standardization in the design of the barrel jar at this time, so that for the first time the ledge lip, flange, and string-holes became standard features.

There was large-scale shipment of Gray Minyan to Ayia Irini, both for use on that site and probably for distribution to further points. The frequency of Minyan at Ayia Irini correlates with that of large barrel jars in all wares at the same site (Fig. 3). Later in period IV barrel jars in all wares are phased out, and there is a concurrent and significant drop in imports of Gray Minyan. Elsewhere barrel jars continue.[40]

Minyan is a luxury item and must be shipped well-packed to ensure its safe arrival. It seems likely that any fine ceramic wares or other commodities traveling together with a barrel jar would have been shipped as one package. This does not imply that the two wares, Minyan and MH matt-painted, were produced at the same location, merely that they may have been shipped together to their destination: a barrel jar packed with smaller, finer Gray Minyan vessels. Certainly woven baskets would be lighter than ceramic barrel jars, but they lack the rigidity that may have been felt necessary for this use. Sawdust, straw, or some other cushioning material could have been used within the jars to keep both contents and container from breaking in transit.

Very few Keian barrel jars have been identified outside Kea. If the people of Ayia Irini IV were traveling abroad at least part of the time as their own agents in trade, rather than exclusively operating an emporium at Ayia Irini, and if they *were* using the barrel jar as a shipping container, the scarcity of Keian barrel jars outside Ayia Irini might have resulted from a regular practice of reusing their own shipping containers.

Barrel jars were diminishing in number already by the end of phase IVb, and by the end of IVc, when virtually a quarter of all pottery at the site was Minoan, there were few if any at Ayia Irini (Fig. 4). It should not be mere coincidence that the phasing out of barrel jars at Ayia Irini in period IV comes about at the same time as Ayia Irini's increasing integration into another, different trade network, a Minoan or Minoan-oriented network. The conditions and nature of exchange probably would have been different, and barrel jars may no longer have functioned as shipping containers. What may have replaced the barrel jar as a shipping container is not yet clear.[41]

Ayia Irini IV has quite a bit of Minoan and Minoanizing pottery, increasing in quantity as the period progresses. Due to the close relationship between Ayia Irini and Kolonna in this period, it is reasonable to ask whether some of this pottery may have reached Ayia Irini via Kolonna, which itself has a substantial amount[42] and which clearly was a major center for trade. Phylakopi, on the Western String

[40] See Caskey 1955, 28, pl. 12b for a barrel jar dated to a late phase of Lerna V. See also Siedentopf 1991, item 96.

[41] I am grateful to Jeremy Rutter and Peter Warren for pointing out to me the need to look further into this question.

[42] Hiller 1993, 197–9.

PHASE	IVa	IVa/b	IVb	IVb/c	IVc*
All Local Wares	62.0%	59.8%	61.7%	46.6%	54.3%
Gray Minyan	19.4%	10.2%	12.2%	12.7%	7.9%
MH M-P	3.0%	3.0%	3.0%	3.6%	3.1%
Minoan and Minoanizing*	7.5%	20.0%	14.0%	26.0%	24.0%
Cyc. White	5.8%	4.4%	5.9%	6.9%	7.0%
Pink-Orange	2.2%	0.8%	1.3%	0.4%	0.8%
Other	0.1%	1.8%	1.9%	3.8%	2.9%

* "Minoanizing" here describes ceramic imports that imitate true Minoan pottery, both stylistically and technically. This category does not include any items that are merely influenced by Minoan but easily recognized as something different.

Fig. 4 Wares at Ayia Irini Period IV

Route, probably received even more Minoan ceramic imports than Ayia Irini at this time,[43] which leads one to suspect that Ayia Irini may have been supplied by both routes, with any proportion supplied via Kolonna likely declining over the duration of period IV as Ayia Irini became more Minoanized.

Further study may reveal Ayia Irini in phase IVc as a distribution center for Minoan and Minoanizing wares to part of the mainland, just as earlier in period IV the site seems to have acted as a distribution center for Minyan to other locations in the Cyclades.

In sum, while Kolonna in this period was a major nexus of trade, Ayia Irini acted as a smaller pivot linking the Helladic, Cycladic, and Minoan systems.

[43] Atkinson *et al.* 1904, 148–51.

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The Middle Bronze Age Sequences of Kea and Aegina

John C. Overbeck[1]

The fourth period of occupation at Ayia Irini on Kea represents the first resettlement of the site after a considerable gap that embraces both the end of the Early Bronze Age (EBA) elsewhere and the beginning of the Middle Bronze Age (MBA). The pottery repertory of Ayia Irini IV parallels that of cities VIII and IX at the Kolonna site on Aegina.[2] Kolonna VII, which follows immediately on the Early Helladic (EH) III phase represented by Kolonna VI, also is of Middle Helladic (MH) date, but the overall character of the pottery appears earlier than that of Ayia Irini IV. Pottery groups *(Fundgruppen)* XXIX and XXX are firmly dated to Kolonna VIII, and groups XXXI through XXXVII are assigned to Kolonna IX, although not all the latter groups are stratigraphically fixed and there is no distinction of phases within Kolonna IX. Groups XXXVIII through XL place Kolonna X in the time of Ayia Irini V, the final period of Middle Cycladic (MC). Walter and Felten allow a conventional century for Kolonna VIII and one and a half centuries for the ninth settlement.[3] If this is correct it may be too long for Ayia Irini IV, and perhaps Kolonna VIII begins a little earlier than Ayia Irini IV, as suggested by a few vessels from group XXX, while Kolonna IX could overlap a bit with Ayia Irini V.

Group XXIX from Kolonna VIII consists of four MH matt-painted (MHMP) kantharoi (409–12) that appear to be a matched set. Although none of the decorative schemes is attested among Ayia Irini's rather slim repertory of MHMP fine ware these pieces would look right at home there. In group XXX the MHMP pieces again correspond in a general way to pottery found in Ayia Iirni IV. The shape of 413 is similar to that of many examples from Ayia Irini, in both local wares and Cycladic White (e.g., Fig. 1: S-30, AQ-11, AQ-29, AT-34, CB-5, CN-4).

But it is Kolonna IX, with its ample collection of pottery, that most emphatically corresponds to Ayia Irini IV, as documented by groups XXXI through XXXVII. The first group consists of a single fine MHMP cup (423), which is not paralleled at Ayia Irini but which – again – would not look at all out of place in period IV. Of the three MHMP pieces that comprise group XXXII the decoration on 425 has approximate parallels in Ayia Irini IV (Fig. 1: CE-55, White-on-red; CE-90, Pink-orange). The barrel jar 426 has general parallels at Ayia Irini, but the vertical linking of the circles is not matched in the preserved material.

In Walter and Felten's group XXXIII, 429 is the handle of a great bulbous jar, one of many *Bogenrippenamphoren* occurring at Kolonna. This is a very distinctive shape that is found at several sites (for which see the individual catalog items 124–55 in Siedentopf 1991). The best-known example is the magnificent vessel from Eutresis.[4] Ayia Irini has produced substantial fragments of one bulbous jar and single sherds from three others – all in the local yellow-slipped ware. One handle attachment (Fig. 2: DG-11) is unstratified, but all the others (Fig. 2: AO-11, CM-7, and one unpublished, not illustrated) date fairly early within period IV. Siedentopf observes[5] that at Kolonna this shape begins early and does not continue late, and indeed nearly all of his pieces are assigned to Kolonna VII or VIII, but the dating of Walter and Felten's 429 to Kolonna IX is also entirely satisfactory in relation to Ayia Irini IV.

In group XXXV the red Burnished goblet 435 (which should be restored with a taller stem) is

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[1] I am grateful to my wife, Donna May Crego, for her constant support and inspiration in the composition of this paper. Thanks are due also to the organizers of this excellent conference for their support and their unfailing hospitality, and individually to Florens Felten and Walter Gauss for their hospitality at their excavation on Aegina.

[2] The sequence of settlements at Kolonna and their respective find groups are detailed in Walter and Felten 1981. Aegina inventory numbers of vases cited in the following text refer to their catalog; when Siedentopf 1991 is cited *his* numbers are used. Catalog numbers cited for Ayia Irini refer to Overbeck 1989 for period IV and to Davis 1986 for period V.

[3] Walter and Felten 1981, 10.

[4] Goldman 1931, 146, pl. 13.

[5] Siedentopf 1991, 21.

described as having "feiner ziegelroter Ton"[6] and, therefore, according to Walter and Felten, the vessel cannot be genuine Cycladic but is undoubtedly of local manufacture.[7] However, even though the clay used at Ayia Irini is not normally refined, it can be and sometimes is, and even though *any* uniform color of the biscuit is not usual it does occur. My examination of the goblet on two different occasions has convinced me that it is an example of Keian Middle Cycladic Burnished ware, for which compare, among many others, CE-47 (Fig. 2).

The Gray Minyan kantharos 436 from group XXXV is not especially similar to any of the more than 91 examples at Ayia Irini, but all five of the ring-stemmed goblets, of Mature Minyan style, are matched exactly on Kea, where ring-stemmed goblets belong mostly to the first half of the period – as do red Burnished goblets. Thus group XXXV should date well before the end of Kolonna IX. The goblets 437–9 display the familiar "Trojan" handles, perched on the rim. Although in Ayia Irini IV no full profile of *any* of the more than 295 Gray Minyan goblets is preserved, there are several of these distinctive handles (Fig. 2: BD-41, BD-47). Kolonna 441, from group XXXVI, is the classic Lianokladhi goblet, paralleled by abundant examples at Ayia Irini (e.g., Fig. 2: J-20, K-14, S-51, X-40; Fig. 3: BD-38, CE-104, CE-108).

Groups XXXVIII, XXXIX and XL have parallels with Ayia Irini V, which equates with Middle Minoan (MM) III and Phylakopi II,3 and marks the end of Middle Cycladic. Compare Kolonna 451, 452 with P-5 in Ayia Irini V (Fig. 3). Most strikingly, group XL consists of one Melian jug of the Black-and-red style, for which see similar pieces from Ayia Irini V (Fig. 3: C-18, AF-5). A similar sherd has recently been found at Kolonna.[8]

In Siedentopf's presentation of the matt-painted ware from the Kolonna site[9] it is his Ripe Style, which he equates with Kolonna IX, that best corresponds with both the MHMP found at Ayia Irini and the locally made Yellow-slipped ware that derives from it. In both wares the commonest shape at Ayia Irini is the barrel jar, which disappears from all wares about the end of period IV; in MHMP it already begins in IVb to be replaced by the globular jar. Siedentopf's 15 most closely resembles Ayia Irini's barrel jars; his Early Style jars (equated with Kolonna VII and VIII),[10] such as his 3 and 4, are rather different in shape, and the decoration, in horizontal bands, has little in common with any jars from Ayia Irini. The mature form of decorative syntax, with vertical zones, seen on Siedentopf's Ripe Style 15, is typical of barrel jars at Ayia Irini; but the form of that vessel's circles – with flanked spokes – occurs only on the local Keian Yellow-slipped ware. The MHMP pieces at Ayia Irini have the double circles with no spokes, like those on the more advanced Siedentopf 81 at Kolonna (but occurring also in find groups of Kolonna IX). Compare BS-2 (Fig. 4), which dates to the second half of Ayia Irini IV. The checkerboard pattern on Siedentopf 46–63 is found on one Keian Yellow-slipped barrel jar, AQ-22 (Fig. 4) . The extra handle suspended from the lip of Siedentopf 81 is a relatively late feature at Kolonna not found at all on Kea. The late barrel jar Siedentopf 96, extraordinarily careless in its painted decoration, has a rim profile and a handle that do not occur at Ayia Irini.

Siedentopf's figure 1 illustrates the progression of rim profiles on barrel jars: the first one to match the profile of any barrel jar at Ayia Irini is, again, 15 of the Ripe Style. Note the contrast with 96, again, which has a swelling at the edge of the lip – apparently a common feature in Siedentopf's Late Style, but not found at Ayia Irini.

Kilian-Dirlmeier[11] illustrates fragments of Keian red Burnished (small) barrel jars at Kolonna, from the old excavations and therefore without recorded context, which can be compared with examples from Ayia Irini IVb (especially grave 3-1; Fig. 4). There are also at Kolonna more fragments of Keian red Burnished goblets[12] and of Keian Light-on-dark patterned ware.[13] Thus Keian imports at Kolonna are significant, as at no other known site, and new finds from ongoing excavation continue to add material. In the opposite direction, Lindblom attributes to Aegina Ayia Irini's best-preserved MHMP barrel jar (Fig. 4: BS-2), as well as several other pieces,[14] and he believes that substantially more Aeginetan pottery remains to be identified in Ayia Irini IV.[15] Thus it

[6] Walter and Felten 1981, 175.
[7] Walter and Felten 1981, 133.
[8] W. Gauss (pers. comm.).
[9] Siedentopf 1991, 45–6.
[10] Siedentopf 1991, 44.
[11] Kilian-Dirlmeier 1997, pls. 7, 11.
[12] Kilian-Dirlmeier 1997, pls. 4, 5 (along with other shapes).
[13] Kilian-Dirlmeier 1997, pls. 8–11.
[14] Lindblom 2001, 43.
[15] M. Lindblom (pers. comm.).

seems more and more likely that a good deal of Aeginetan pottery did reach Ayia Irini at this time.

In 1989, describing the MHMP imports to Ayia Irini IV, I wrote that "the barrel jars and most other MH pieces from earlier groups have a chalky surface, a chartreuse cast and dead black paint".[16] In examining matt-painted sherds in the Kolonna workroom, as late as April of 2004, I did not see any pieces that fit that description, although I noted that the fabric of the Aeginetan MHMP *did* resemble that of imports in *later* Ayia Irini IV: unlike the earlier MHMP at Ayia Irini, both of these groups display a fairly hard and smooth, buff surface, with brownish paint.[17] The popularity of Polychrome style in Ayia Irini's Yellow-slipped ware led me to speculate in 1982 that the inspiration for this local style had come from central Greece and thus, perhaps, along with it the actual imports of MHMP vases.[18] The increasingly evident prominence of Aegina in the MBA and the growing evidence of its exchange relationship with Kea now make this seem unlikely, although I still consider the origin of Ayia Irini's earliest MHMP an open question.

Turning to the architectural sequence: Kolonna V, of EH III date, is a new layout that displays no similarity to, or continuity with, its predecessors.[19] It is the only one of all the successive Bronze Age settlements that displays a Cycladic tendency in its layout of blocks of houses sharing party walls – in this respect resembling Phylakopi[20] more than Ayia Irini.[21] Kolonna V also is the first settlement on its site to exhibit a fortification wall, which with its rounded towers bears considerable resemblance not only to the EBA systems of Kastri on Syros[22] and Lerna III[23] but also to the Middle Cycladic fortification of Ayia Irini IV, which was equipped with at least one rounded tower.[24] Certainly the last-named site is too late to have any direct connection with Kolonna V, but on Aegina the use of at least one rounded tower continues into Kolonna VI and VII,[25] where it now belongs to a *Vormauer* (a preliminary wall intended to impede a direct assault on the main wall) that parallels the exterior face of a much more substantial principal wall. Even Kolonna VII, though already MH in date, cannot be as late as Ayia Irini IV, but this same distinctive Vormauer – although without the rounded tower – continues into Kolonna VIII,[26] which must equate mostly, if not entirely, with Ayia Irini IV.

Thus continuity with the earlier fortifications is still strong and, notwithstanding the substantial reworking of the defensive systems of Kolonna VI, VII, VIII and IX, there is no general destruction of the settlement after that which ended Kolonna V.[27] Because of this continuity it seems to me credible that the far more modest defensive system erected immediately on the refounding of Ayia Irini at the beginning of period IV was inspired by the long-standing tradition of Aegina. It has previously been argued[28] that Ayia Irini IV was founded from the Greek mainland out of commercial motives; but Bronze Age Aegina is virtually an extension of the Helladic mainland, and Kolonna – in light of its apparent interest in the outside world and its proximity to Kea – could just as easily have played some part in this enterprise. In any case Kolonna might have contributed engineers who set about designing and building the defenses of Ayia Irini immediately upon arrival of the new settlers.

Whereas the defenses of Kolonna X, the final stage of MH, represent no more than yet another modification of the existing system,[29] the onset of the contemporary Ayia Irini V is emphatically marked – following an interval (phase IVc) during which the site was unfortified[30] – by the erection of the "Great Fortifications",[31] an entirely new, widely extended and far stronger defensive system. But even this defensive work pales beside Kolonna's massive bulwark, which has no parallel in Middle Helladic or Middle Cycladic Greece and which must have compellingly projected the might and prestige of Aegina.

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[16] Overbeck 1989, 11.
[17] Overbeck 1989, 11; Siedentopf 1991, 11–2.
[18] Overbeck 1982, 43; see also Overbeck and Crego, forthcoming.
[19] Walter and Felten 1981, 28–42.
[20] Atkinson *et al.* 1904, pl. I.
[21] Overbeck 1989, pl. 2.
[22] Tsountas 1899, 117–8; Bossert 1967, 56.
[23] Wiencke 2000, plans 5–7.
[24] Overbeck 1989, pls. 3, 5.
[25] Walter and Felten 1981, figs. 34, 35, 40, 41.
[26] Walter and Felten 1981, figs. 46, 47.
[27] Walter and Felten 1981, 28, 42.
[28] Overbeck and Crego, forthcoming.
[29] Walter and Felten 1981, 83.
[30] Overbeck 1989, 1.
[31] Davis 1986, chap. 2.

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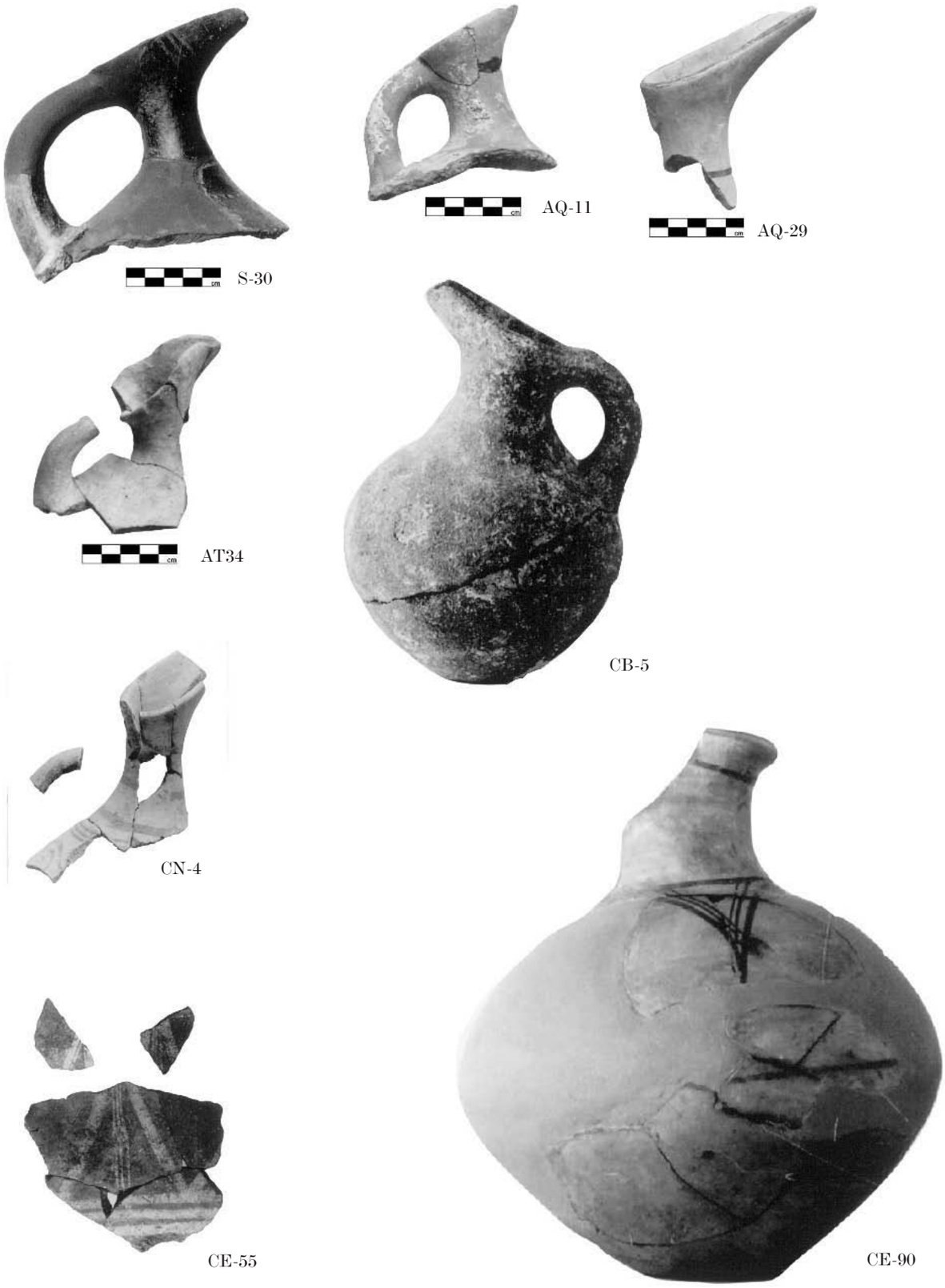

Fig. 1 Beaked jugs in varous wares, from Ayia Irini IV
(CE-55 is from a White-on-Red jar; CE-90 is a Pink-orange jug with cutaway spout)

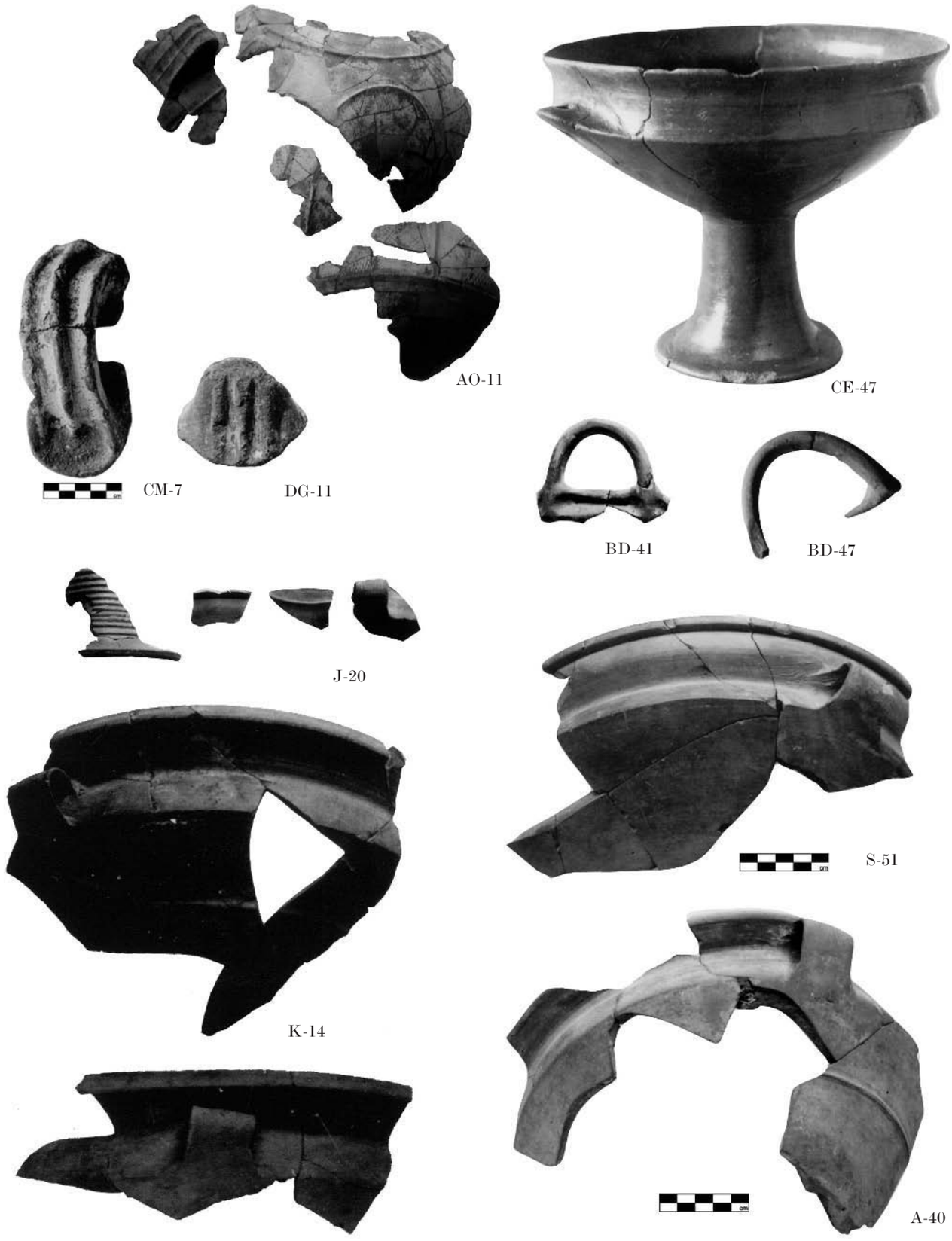

Fig. 2 Yellow-slipped ware (AO-11, CM-7, DG-11); red Burnished ware (CE-47); and Gray Minyan ware, all from Ayia Irini IV

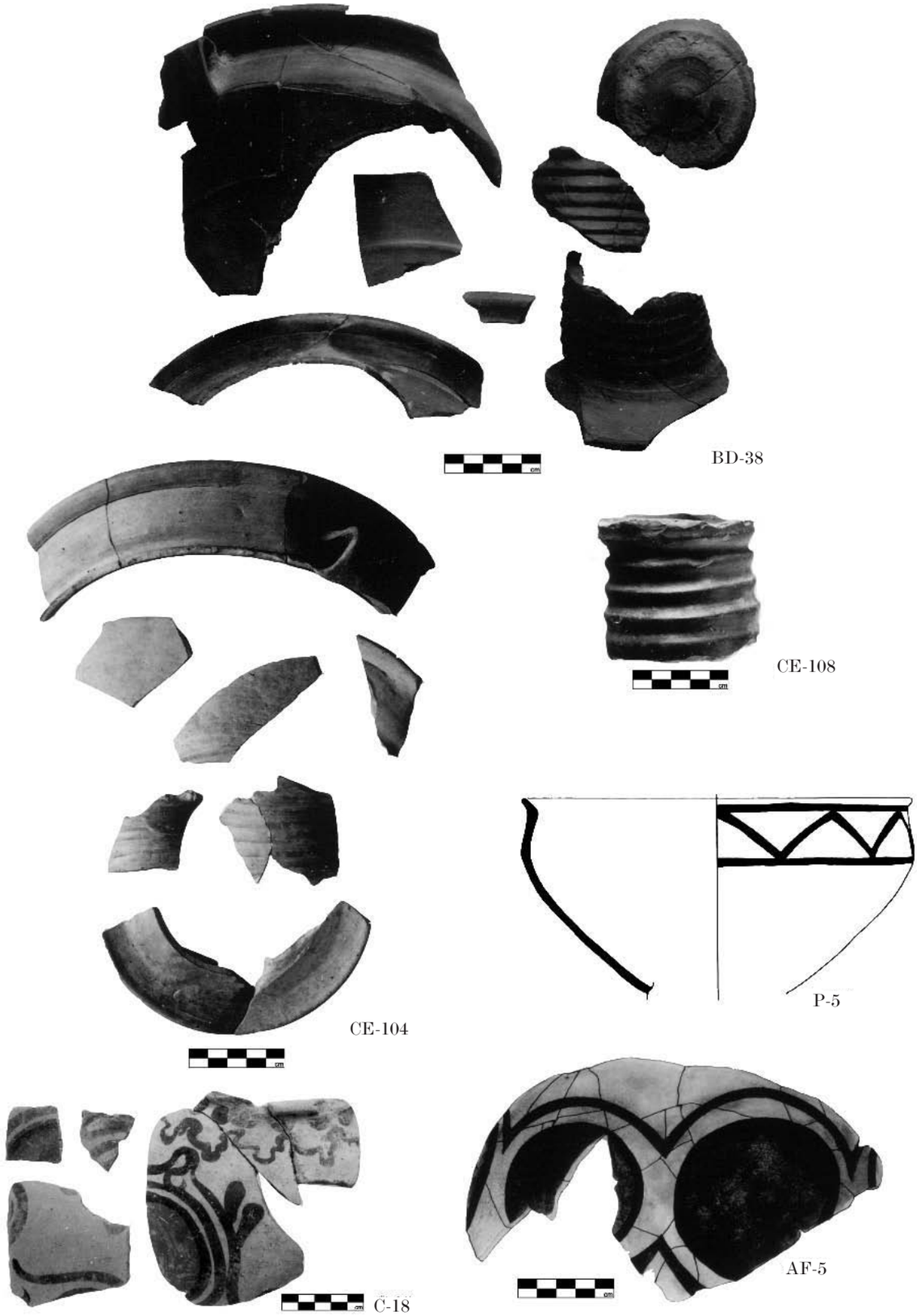

Fig. 3 Gray Minyan ware from Ayia Irini IV (BD-35, CE-104, CE-108); MH Matt-painted ware (P-5) and Cycladic White ware (Black-and-Red style)(C-18, AF-5), all from Ayia irini V

Fig. 4 Yellow-slipped Polychrome ware (AQ-22); red Burnished ware (Grave 3-1); MH Matt-painted ware (BS-2), all from Ayia Irini IV

Aspects of Interaction between the Cyclades and the Mainland in the Middle Bronze Age

Irene Nikolakopoulou[*]

I. Introduction

The Middle Bronze Age period is characterized by a marked divergence in cultural traits, as attested in areas of the southern Aegean and the Greek mainland. Especially for the Cyclades, Crete and the mainland, the differences are particularly evident in fields such as the level of sociopolitical organization, material culture production and consumption and burial customs. Moreover, there is great variety in both the nature and degree of interaction between these areas. This paper focuses on aspects of interaction between the Cyclades and the Mainland in the Middle Bronze Age (MBA) based on pottery evidence. The role of Aegina is also examined. After a brief review of the nature and distribution of Cycladic wares at mainland sites and on Aegina, the main discussion will focus on mainland ceramic evidence found at Akrotiri, Ayia Irini, Phylakopi and Paroikia.

Even from the Early Bronze Age (EBA) period, Cycladic pottery, mainly of incised ware, appears to have been widely distributed in mainland sites.[1] Equally wide is the distribution of Middle Cycladic (MC) pottery on the Mainland,[2] the most prominent imports being the matt-painted paneled cups and the bird jugs. Both types are considered as imported from Melos or Thera, while in some cases it has been possible to attribute the exact provenance of vases to one or the other of the two islands based on stylistic and ware observations.[3] Evidence from stratified deposits at Akrotiri suggests that the bichrome and polychrome bird jugs and the matt-painted paneled cups were produced in the advanced MC period, but it seems that only the variety of bird jugs with swallows continued to be produced in the early Late Cycladic (LC) I period. Another popular ware, slipped and burnished, which appears mostly in types of bowls, is common in both the Thera/Melos and Aeginetan production; the imported specimens at mainland sites can usually be attributed to their place of origin as the fabrics are distinct in macroscopic and analytical terms.[4] Most of the matt-painted imported specimens at mainland sites appear to originate on Aegina, with a few exceptions identified as Cycladic. Imports from Kea are rarely mentioned[5] and no reference has yet been made to Naxos or Paros.

At the site of Kolonna, Aegina, Cycladic imports start already in the Early Cycladic (EC) period.[6] MC imports include vessels of different wares, such as bichrome (a closed vessel, possibly a jug, from Stadt X context);[7] matt-painted dark-on-light (jugs, wide shallow bowl, spouted vessel); slipped and burnished, mainly red (bowls, goblets) and with white decoration (bowls, a closed vessel, possibly a jug); light-on-dark (mainly closed coarse vessels); and white-and-black on red ground.[8] Suggested provenances include the islands of Kea and Melos.[9]

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[*] I am very grateful to Professor Emeritus Christos Doumas, Director of the Excavations at Akrotiri, Thera, for entrusting me with the study and publication of the Middle Bronze Age pottery from the recent excavations at the site (1999–2001). My sincere thanks are due to the colleagues and friends who have excavated the material and worked on the sorting of the pottery for their support and fruitful discussions, D. Sakatzis for taking the photographs, and J. Rutter, J. Maran and W. Gauss for comments on various aspects of the material.

[1] Cycladic imports and imitations in the local production have been identified at sites in Attica, south Euboea, Boeotia, Corinth, the Argolid and Messenia (Asea, Asine, Attica, Eleusis, Manika, Eutresis, Kirrha, Korakou, Lerna, Voidokoilia).

[2] Cited in Papagiannopoulou 1991, 297–303, with references: Aspis, Athens, Brauron, Eleusis, Euboea, Eutresis, Kirrha, Korakou, Marathon, Mycenae (Grave Circle B), Pefkakia, Thorikos, Tiryns, Lerna. For bird jugs in bichrome ware on Crete see MacGillivray 1984.

[3] Cf. Marthari 1993b, 250–3, pl. 32a, b, on the Theran jugs from Mycenae, Grave Circle B, and Lerna.

[4] Cf. Kilikoglou *et al.* 1990; Kilian-Dirlmeier 1997, 123.

[5] E.g., for Lerna see Zerner 1993, 40–2, 50 and n. 69; for Aegina see Kilian-Dirlmeier 1997, 134–5.

[6] Welter 1938, 10.

[7] With parallels at Phylakopi (Atkinson *et al.* 1904, pl. XX.5), Mycenae, Grave Circle B (Mylonas 1972/3, pl. 127, no. 2), Ayia Irini V (Davis 1986, pl. 64, AF-5).

[8] Kilian-Dirlmeier 1997, 123–36, pls. 4–13.

[9] Ibid. 123–36.

a)

b)

c)

Fig. 1 a) Carinated bowls b) Carinated bowl c) Carinated cups

Recent advances in research promote the classification of fabrics/wares in close relation to the results of petrographic and chemical analyses.[10] Scientific provenance attributions and technological observations are of particular relevance to the discussion of a number of issues concerning the Helladic-Cycladic relations in all Bronze Age periods. Aspects of particular interest involve the character of the Cycladic influence on the material culture of coastal mainland and Cretan sites in the EB II period, especially the study of imitated Cycladic ceramic types and actual imports,[11] the production, distribution and imitations of Grey Minyan ware,[12] as well as the origins and distribution of matt-painted and polychrome wares.[13] Along these lines, the provenance attribution of MC matt-painted and bichrome pottery to Melos or Thera is of great importance for the understanding of trade routes and exchange patterns in the MBA Aegean.[14]

II. Mainland Ceramic Evidence at Cycladic Sites

Akrotiri, Thera

Excavations conducted as part of the roof replacement program at Akrotiri from 1999 to 2001 have revealed an extensive ceramic sequence covering phases of the settlement from the Neolithic period to the volcanic destruction in LC I/Late Minoan (LM) IA.[15] Mainland imports retrieved during earlier excavations and material from the recent excavations of the stratigraphical trenches are presented below in order to examine the chronological correlations between the two areas.

Pottery imported from the Mainland is present in most phases at Akrotiri from the EC to the LC I period. In the local sequence, the EC Kastri group phase is followed by four ceramic phases, which broadly correspond to the MBA horizon.[16] In the phase that marks the beginning of MBA at Akrotiri (phase A) matt-painted vases with geometric designs in a zonal system are found, local and imported, in types such as the carinated bowls (Fig. 1a, b), carinated cups (Fig. 1c), barrel jars (Fig. 2) and a few closed vessels. In stylistic terms, the zonal geometric decorative system is common at mainland sites and Aegina, but at Akrotiri it was soon replaced by the matt-painted naturalistic/pictorial style, which marks the MC ceramic production of Akrotiri and Phylakopi. The vase types cited above are found also at Aegina and other sites in the Cyclades in the same phase;[17] however, their production in the course of the MBA follows different routes and adds to the marked divergence attested in MBA pottery assemblages. Not much can be said at the present stage about the nature and quantities of matt-painted and plain wares imported to Akrotiri from mainland sites and Aegina in the course of the MBA; it is hoped that petrographic analysis will allow some progress.

Very few sherds of imported Grey Minyan ware have been identified in MC levels at Akrotiri. The rarity of the ware has been noticed in earlier publications; only four Grey Minyan sherds have been published from unstratified contexts.[18] From the recent excavations only a few more sherds have been added to the previously known material. These are seven rim/body sherds from bowls/goblets (two carinated), four body sherds from open vessels, two fragments from kylix ring stems, one kylix foot sherd and two base/body sherds, possibly from bowls (Fig. 3). With the exception of four sherds that come either from LC I or mixed contexts, the rest come from stratified deposits of the MC period.

With reference to the chronological context, it is interesting to note that Grey Minyan vases begin to be imported at Akrotiri in a ceramic phase which in the local sequence follows the EC Kastri group material and marks the beginning of the MBA. The local pottery types and wares have parallels with the Phylakopi Iii-iii material. The deposits also include Middle Minoan (MM) I imports. Grey Minyan ware con-

[10] E.g., for Lerna see Zerner 1986; 1993; for Eleusis see Cosmopoulos *et al.* 1999; on Aspis see Kilikoglou *et al.* 2003.

[11] Cf. Day *et al.* 1998 on the assemblage of Ayia Photia, Siteia.

[12] Cf. Rutter 1993 on the Early Helladic (EH) III predecessor and Zerner 1993 on central Greece, True Minyan ware, Aegina.

[13] Cf. Buck 1964, on the origins of Middle Helladic (MH) matt-painted from the Cyclades; Zerner 1993, on the production of mainland polychrome ware in central Greece.

[14] Kilikoglou *et al.* 1990.

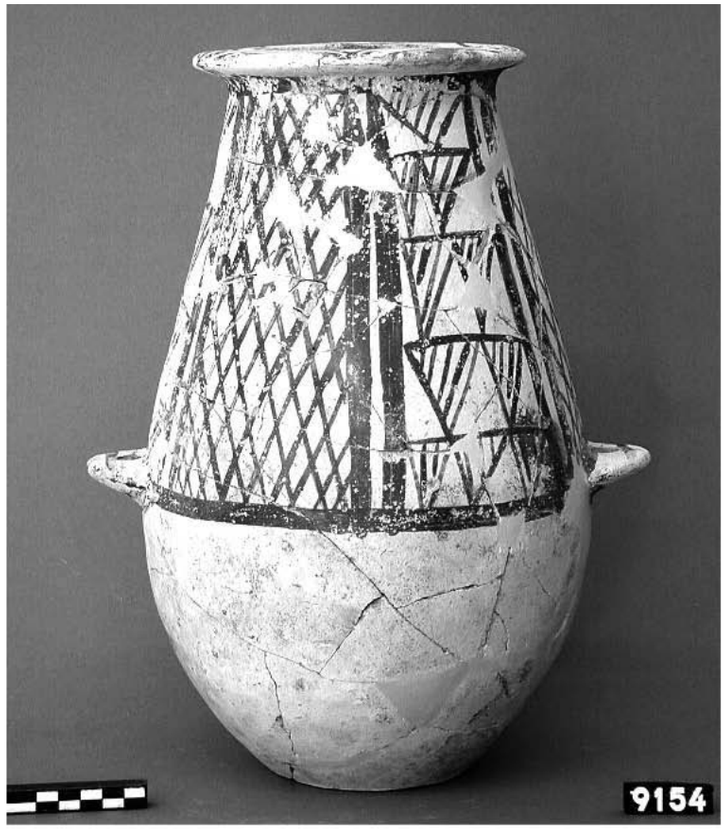
[15] Doumas 1999 (2002), 155–202; Petrakos 2000; 2001; 2002.

[16] Nikolakopoulou *et al.*, forthcoming.

[17] Selected examples cited here (N.B. the variations in shape, ware and decoration at different sites). Bowls and one-handled carinated cups: Aegina: Siedentopf 1991, pl. 80; Phylakopi: Atkinson *et al.* 1904, pls. XI.7–10, XXXIII.3–5. Barrel jars: Aegina: Siedentopf 1991, cat. nos. 2, 3; Phylakopi: Barber 1974, cat. nos. 65, 168 ; Atkinson *et al.* 1904, pl. VIII.4; Paroikia: Overbeck 1989b, cat. no. 82; Kea: Overbeck 1989a, AQ-17a–g.

[18] Grey Minyan sherds from Akrotiri have been published in Papagiannopoulou 1987, 59, 352, pl. 24, cat. nos. 269–72.

a)



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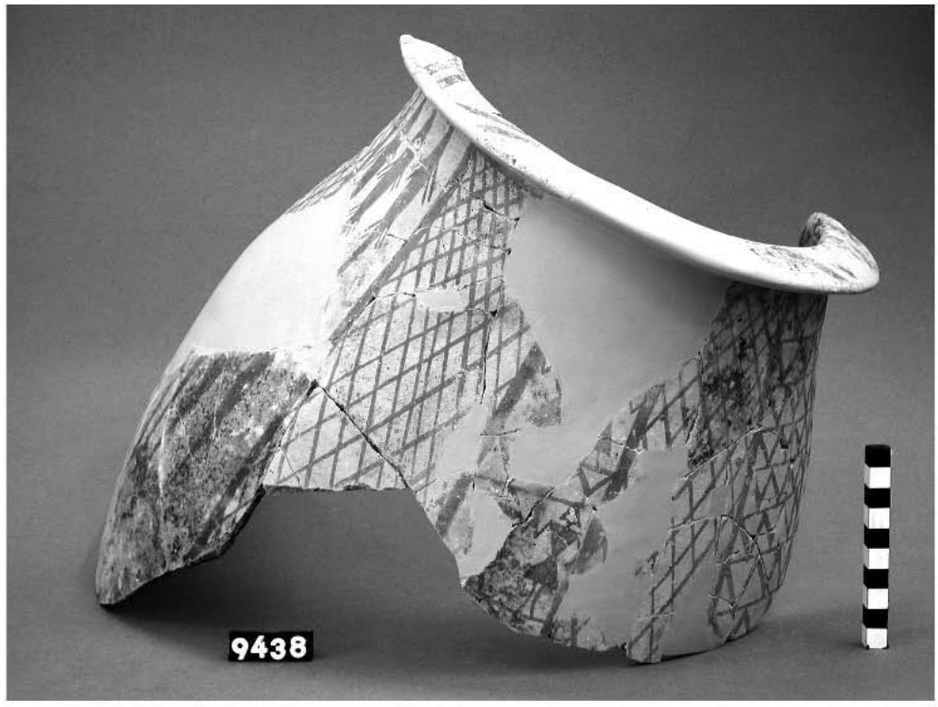


Fig. 2 Barrel jars

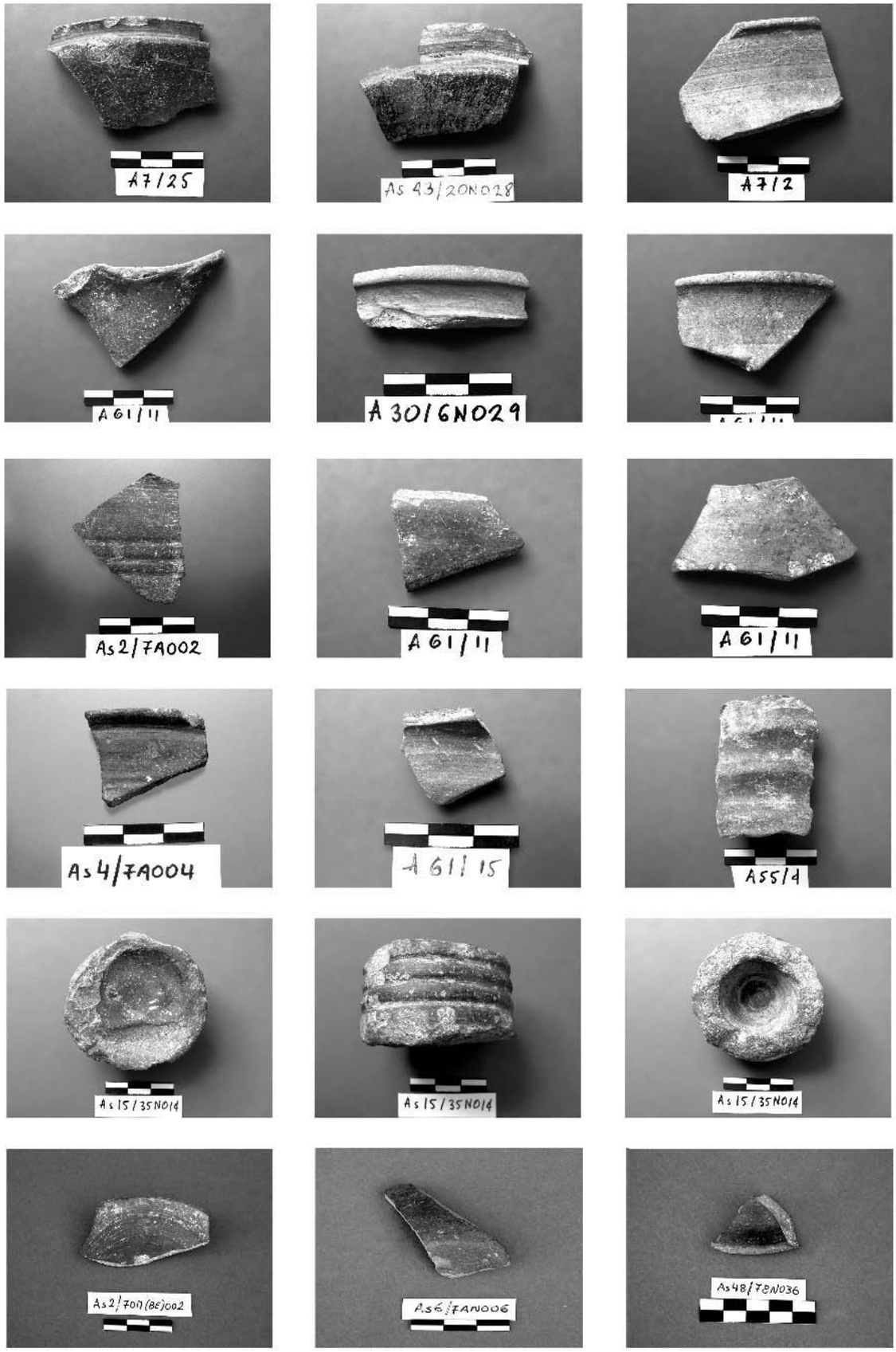


Fig. 3 Minyan sherds

Fig. 4 a) Pithoid Jar b) One-handled cup

tinues to be imported throughout the MC period at Akrotiri; sherds are found in deposits characterized by local matt-painted and plain wares and deposits of an advanced stage which include the local bichrome and slipped and burnished wares, as well as MM IIIA imports. Only a few sherds have been found in early LC I contexts and no Grey Minyan vases have been found in LC I houses. It is possible that by the beginning of the Late Bronze Age (LBA), preference shifted to the wares of "MH tradition"[19] described below. In quantitative terms, the mere handful of Grey Minyan sherds identified among thousands of local and imported MBA sherds is indeed striking.

Mainland ceramic imports found in LC I contexts at Akrotiri have been published by M. Marthari (pottery of "MH tradition")[20] and Y. Lolos (Late Helladic [LH] I pottery).[21]

Vases of "MH tradition" belong to the following wares: matt-painted on matt surface (three hydrias and a pithoid jar), bichrome matt-painted on matt surface or "Aegina type Polychrome" (two amphoras, a pithoid jar, two bridge-spouted kraters and a bridge-spouted jar), bichrome matt-painted on burnished surface or "Mainland type Polychrome" (three beaked jugs and three paneled cups) and plain ware with matt surface (two pithoid jars).

New finds from the recent excavations include:

A two-handled ovoid pithoid jar with cylindrical neck (inv. no. 8682), matt-painted on burnished surface (H. 0.52 m) (Fig. 4a). Parallels for the shape are found at Mycenae, Shaft Grave B.[22]

A hemispherical cup of the S-profile type (inv. no. 10018), bichrome matt-painted on burnished surface (H. 0.145 m) (Fig. 4b). Parallels for the shape can be found in different wares, e.g., at Ayia Irini, period VI[23] (LC I date) and at Eleusis, West Cemetery[24] (late MH date); however, it seems that an exact parallel in ware and decoration is hard to locate.

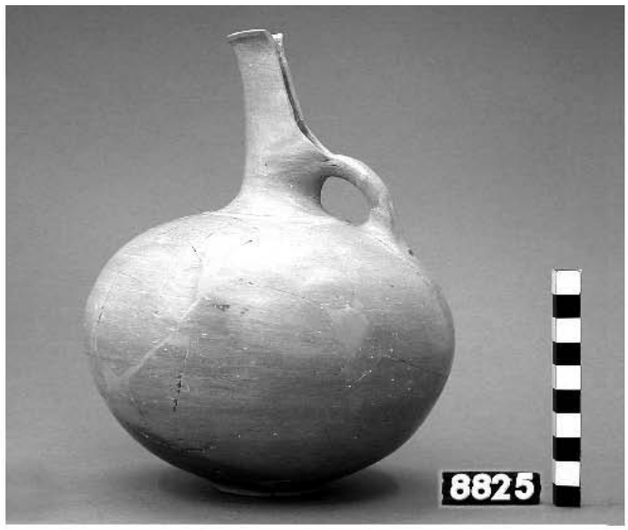
An oval-mouthed jar, bichrome matt-painted on matt surface. The vase has not been restored yet; the decoration consists of a series of schematic birds, a variation of the motif depicted mainly on jugs.[25]

A beaked jug (inv. no. 8825), burnished (H. 0.20 m) (Fig. 5a).

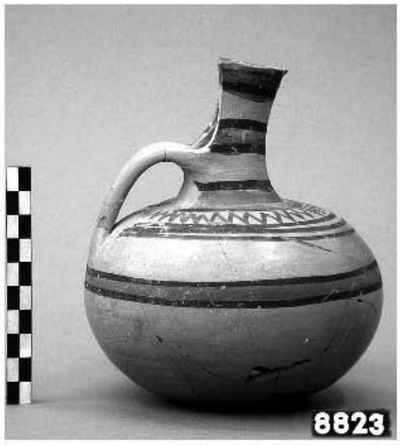
Two beaked jugs (inv. nos. 8823, 8824), bichrome matt-painted on burnished surface (H. 0.15 m and 0.154 m) (Fig. 5b, c). The beaked jugs are similar in shape to the one published by M. Marthari;[26] the ware and decoration of the bichrome jugs do not find exact parallels. Of particular interest is a red-burnished jug with tall neck and funnel mouth, which could be a mainland import to Akrotiri. However, no exact parallels for the neck and mouth formation can be found in the published material of mainland sites.

[19] See Zerner 1993, n. 41, on the terms "LH I wares" and "wares in the MH tradition".
[20] Marthari 1980; 1993.
[21] Lolos 1990.
[22] Mylonas 1972/3, pl. 77a, b.
[23] Cummer and Schofield 1984, pl. 64, cat. nos. 838, 839.
[24] Mylonas 1975, pl. 101, no. 619.
[25] Cf., from Akrotiri, Marthari 1980; 1993; from Mycenae, Mylonas 1972/3.
[26] Marthari 1980, 194, no. 3726, pl. 71b.

a)



b)



c)

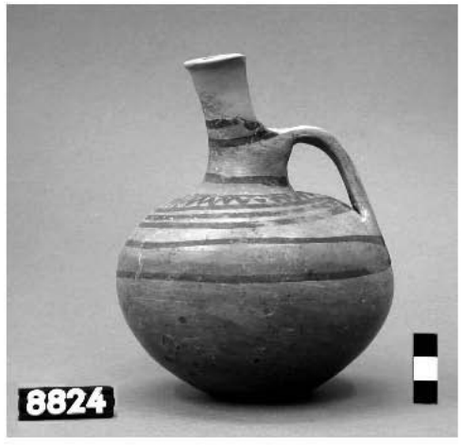


Fig. 5 Beaked jugs

All the above cited vases were found in LC I contexts; the majority of them come from rooms of LC I buildings. Some were found in groups (e.g., in room 6 of the West House and in a room of building Theta) and the context suggests that they were probably temporarily stored in clusters together with other goods for protection during reorganization after earthquake destruction that hit the settlement soon before the volcanic eruption. It is worth noting that no similar vases of the wares described as "of MH tradition" have been identified in MC contexts at Akrotiri, not even in rooms of houses from which numerous local and imported vases have been restored. However, there still remains the possibility that the vases were kept as "heirlooms" from the previous phase, as they are few in number and might have been considered as valuable items. The ongoing study of the abundant MC sherd material may shed light on this issue in the future. It has been suggested that the polychrome wares were produced in LH I alongside the LH I style,[27] whereas hydrias and stamnoi decorated with double circles and plain-

[27] Cf. discussion in Davis 1979, 256–8, on the LH I date of mainland polychrome ware. It seems that mainland polychrome appears at most mainland sites in LH I, e.g., at Lerna in period VI (Zerner 1993, 48).

ware types were produced continuously from the end of MH to LH IIIA1.[28] The lack of exact parallels for some specimens found at Akrotiri, especially in the polychrome wares, may also be attributed to the limited information that exists from stratified domestic LH I contexts.

Mainland imports at Akrotiri of classic LH I styles consist mainly of Keftiu cups of the low broad variety and hemispherical cups.[29] The imports in general constitute no more than 10–15% of all Akrotiri pottery and Helladic vases constitute in turn approximately 13% of the imported pottery, being third in order of preference after imports from Crete and other Cycladic islands.[30] More cups of both types have been found in LC I contexts during the recent excavations. The majority of the LH I imports at Akrotiri are attributed to the mature or classic phase of LH I. Characteristic elements of the latest Peloponnesian LH I are absent (e.g., funnel Keftiu cups with ripple), a circumstance that may be taken to indicate that the destruction of the settlement occurred before the closing stage of Peloponnesian LH I.[31]

Ayia Irini, Kea

At Ayia Irini, imports from the Mainland appear in EBA levels. In period II contexts (EB II late) the imported wares include Urfirnis and yellow mottled.[32] Pottery with an "Urfirnis" finish an ubiquitous feature of the Mainland in EH II, it was also found in EC wares, such as those imported at Ayia Irini, most of which appear to be of western Cycladic origin.[33] Mainly sauceboats occur in yellow mottled ware at Ayia Irini, while a variety of shapes is attested in the Mainland. The scarcity of this ware in the Cyclades does not rule out an island origin for at least some of the Ayia Irini examples, although a mainland origin would seem more probable.[34] In period III contexts (EB II end) the numbers of Urfirnis sauceboats drop by at least half, while the occurrence of yellow mottled sauceboats also falls.[35] A pinkish buff ware, which was attested in a variety of shapes, could possibly originate in Euboea.[36]

In the earlier part of the MBA, in period IV contexts, Grey Minyan ware occurs in great quantity in the following shapes (cited in order of abundance): goblets (rim/body fragments, ring stems), kantharoi (some with hollow lip), bowls (rounded, with horizontal lip, with spreading lip and grooved shoulder), a flat lid, a cylindrical pyxis, a miniature jar and a straight-sided vessel.[37] In period IVb the rounded bowl with horizontal grooves is introduced. In the course of the period, goblet ring stems are gradually replaced by smooth ones. A couple of pieces made of micaceous clay probably are local products. Grey Minyan ware loses its popularity at the end of period IV, but does not disappear completely. Goblet types in local burnished ware exhibit "a pronounced 'Minyanization'"[38] in shape characteristics.

All matt-painted wares at Ayia Irini are imported.[39] Those from the Mainland appear to be much less common than Cycladic specimens. The barrel jar is the favorite shape in period IVa, but during period IVb it is replaced by the globular jar. During this period, a local version of polychrome ware is produced.[40]

In the later part of the MBA, in period V contexts, Grey Minyan ware appears in lesser quantities than in period IV, in shapes such as goblets, bowls, fragments of goblets/bowls, a few kantharoi, small closed vessels and an open vessel.[41] There are sherds from goblets with grooved shoulders, most of which probably had strap handles. One sherd has a loop handle of a type more common in period IV. Goblets and bowls with this type of loop handle usually have a shorter lip and shoulder than those with strap handles.[42] Only a few ring stems have been found. Kantharoi appear with high-swung handle and grooves on the shoulder. The mainland imports of period V are typical of later MBA deposits found on mainland sites. The shapes have their closest parallels in phases 6 and 7 of Lerna V.[43] The characteristic carinated

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[28] Davis 1979; Marthari 1993.
[29] Lolos 1990; Marthari 1990, 63–4; 1993.
[30] Marthari 1980, 208; 1993.
[31] Lolos 1990, 55–6; see however Marthari's remarks (1990, 64) on a possible Helladic import, a bridge-spouted jug with double axes.
[32] Wilson 1999, 72, 76–7, and general discussion 231–9.
[33] Ibid. 72.
[34] Ibid. 76–7.
[35] Ibid. 134, and general discussion 231–9.
[36] Ibid. 141.
[37] Overbeck 1989a, 11.
[38] Ibid. 9.
[39] Ibid. 10–1. The matt-painted ware category in the Kea period IV publication (Overbeck 1989a) includes Helladic, Cycladic and imports of unknown provenance. See Overbeck, this volume, for Aeginetan imports, which apparently constitute a considerable percentage of the matt-painted specimens of unknown provenance.
[40] Ibid. 10.
[41] Davis 1986, 6, 84–5.
[42] Found also at Phylakopi (Dawkins and Droop 1910/11, pl. XIV, nos. 49, 50) and Paroikia (Overbeck 1989b, 000).
[43] Davis 1986, 85.

shapes of Mature Minyan begin to lose popularity in period V, yet the most common features of LH I, such as the abundance of Yellow Minyan and shapes with more rounded profiles, are not yet present.[44] In the local pottery production, burnished stemmed goblets of period IV type go out of fashion; goblets have grooved shoulders, while ring stems are rare. The widespread imitation of Minoan styles is the most characteristic feature of the local pottery of period V.[45]

Matt-painted pottery imported from the Mainland is not as common in period V as in period IV.[46] Also a ware of uncertain provenance (similar to the pink-orange ware of period IV) may have originated from the Mainland,[47] while "Mainland Polychrome" ware appears only in period VI (LC I).[48]

Phylakopi, Melos

Dawkins and Droop named pottery with a coating of reddish brown slightly lustrous paint "Urfirnis" Ware.[49] They considered it an early link with similar wares on the Mainland but they suggested that the Melian pieces may well be of Cycladic origin. The sherds were found on the bedrock; the excavators were unwilling to assign a date very early in the First City. Similar sherds had been uncovered in the first excavation season at Phylakopi in EBA levels.[50]

Grey Minyan ware was first published in the 1904 report.[51] Dawkins and Droop discuss the Minyan ware in more detail (again using the name for the first time).[52] The majority of the pieces are fragments of goblets with ring stem on a spreading foot, conical body, and sharp angle at the shoulder, from which a broad flat upright handle rises to about the level of the widely splayed lip. One or two raised bands often run round the body of the vase. They were copied at Phylakopi in the local burnished ware, both red and black, one with decoration in white paint.[53] In some rooms it was noted that Grey Minyan ware was more abundant than either painted or burnished ware. Of the entire quantity, about 73% was found in deposits in which the native geometric and Cretan Kamares ware predominated (early and middle stages of City II), while of the remaining 27% about half was found with pre-Mycenaean Melian (City II) and the rest with LM I and native "Red and Black" imitations of LM I (early City III).[54] The long duration of Grey Minyan ware production was noticed at Phylakopi, at a time when it had not yet been observed at mainland sites.[55] A few sherds of black Argive Minyan were also identified.[56]

Matt-painted ware was also published in the first report of the Phylakopi excavations,[57] with some specimens resembling the Akrotiri carinated shapes with geometric designs.[58] The use of matt black paint was considered of mainland/Aeginetan derivation, as it was absent from Crete.[59]

Paroikia, Paros

The main phase of the site is dated by Overbeck to early MC, a stage contemporary to Phylakopi I-iii and the beginning of Ayia Irini period IV.[60] Pottery groups and vases dating to a later stage have also been identified.

Vases and fragments in Grey Minyan ware include: a bowl with ridged shoulders, a small bowl with spreading (hollow) lip and two grooves on the shoulder, a carinated bowl with flattened lip, two large rim fragments, probably from goblets, two ring stems from goblets, and seven rim fragments from kantharoi.[61] Imitations of Grey Minyan shapes include one complete dark red goblet, fragments of stemmed goblets in slipped and burnished ware or plain ware. Some of these specimens are imported to Paroikia,

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[44] Ibid. 85.
[45] Ibid. 85.
[46] Ibid. 6.
[47] Ibid. 6.
[48] Cummer and Schofield 1984, 46–7.
[49] Dawkins and Droop 1910/11, 16.
[50] It is possible that some of the sherds described in Atkinson *et al.* 1904, section 3, "Some other Early wares", belong to Urfirnis ware, but the provenance is uncertain.
[51] First mentioned in Atkinson *et al.* 1904, 153–4, section 18, "Odds and ends" (fragments of wheel-made goblets).
[52] Dawkins and Droop 1910/11, 16–8, pl. VII, no. 27 and fragments.
[53] Ibid. pl. VII, nos. 4, 201.
[54] Dawkins and Droop 1910/11, 17–8.
[55] Dawkins and Droop 1910/11, 18.
[56] Ibid. 18.
[57] Cf. fragments of some vases in Atkinson *et al.* 1904, section 9, "Pottery of the Early Mycenaean style with designs in matt black".
[58] According to Edgar (in Atkinson *et al.* 1904, 118, on nos. 17, 22–5, pl. XVIII) these fragments stand apart as a group because of the distinct character of the ornamentation ("sparse and petty patterns") and the sharpness of the curves of the vessels. It is possible that the differences reflect a chronological or provenance deviation from the main group discussed in that section.
[59] Atkinson *et al.* 1904, 253.
[60] Overbeck 1989b, 1–4, 20–5.
[61] Ibid. 14–5, 21–2, cat. nos. 113–24.

probably from other island sites.[62] The bulk of Grey Minyan ware is of classic Minyan type, and thus dates after the beginning of MH on the Greek mainland. The complete goblet in local burnished ware "lacks both the distinctively Minyan profiles of some pieces from Phylakopi and the elegant shape of the best examples from Ayia Irini".[63]

MH matt-painted imports include: a cup or bowl, in greenish buff fabric, decorated in brown on the edge and the interior of the lip, a body fragment from an open shape, and a carinated bowl in pink/orange fabric.[64]

The pottery dated later than the main group (late MC or early LC I?) includes a local paneled cup in mainland style[65] and imitations of polychrome matt-painted ware (two deep bowls and two fragments of other types).[66]

III. Correlations and Aspects of Interaction between the Mainland and the Cyclades in the MBA

Putting the pieces of evidence together might prove to be a difficult task at the present stage, mainly because of the limited amount of published mainland imports from stratified contexts at Cycladic sites (with the exception of Kea) and the distinct character of trends and choices in the local ceramic production at MBA sites. The discussion has to focus on the material from Akrotiri and Ayia Irini; it is hoped that the forthcoming publication of the stratigraphical excavations at Phylakopi will further the study of correlations. The following remarks concern the most distinctive, but apparently also most commonly identified wares, Grey Minyan and MH matt-painted.

From the evidence presented above it appears that Grey Minyan and MH matt-painted wares appear together in the earliest MBA phases at Akrotiri and Ayia Irini. At Akrotiri, the ceramic assemblages attributed to the earliest MBA phase are the next identifiable distinct ceramic phase after EC Kastri group assemblages. In ceramic terms, the closest parallels are with Phylakopi I-ii and I-iii material. It is possible that this early MBA phase partially overlaps with Ayia Irini period IV; at Ayia Irini no such ceramic material has been identified as a distinct assemblage between period III (Kastri group material) and period IV (well into the MC period). It is in this phase that local wares and fabrics at Akrotiri display the technological attributes that we associate with MC ceramic production, while imports from Minoan Crete include characteristic specimens of MM I date. If MH matt-painted wares appear in most mainland assemblages at a later stage than Grey Minyan ware, the coexistence of Grey Minyan and MH matt-painted material in Akrotiri early MC levels leads us to correlations with a stage well into the MH period. The simultaneous appearance of Grey Minyan and MH wares is also attested at Paroikia in the main phase, dated to the early MBA, but unfortunately there is no clear stratigraphical information on the preceding and subsequent phases. It is not clear whether Grey Minyan material published from Phylakopi belongs to City II-ii or II-iii levels; however, it is noted that "it was during the earlier part of this *(i.e. MC)* period that the *(Mainland)* importations into Melos were especially frequent".[67]

The most comprehensive picture of the next phase of interaction is presented in the material published from Ayia Irini period V. It is noted that Grey Minyan ware appears in lesser quantities than in period IV. The mainland pottery of period V is typical of later MBA deposits on the Mainland, but again it is not as common as in period IV. This could be the case also for Akrotiri in the advanced MC period, but the limited amount of Grey Minyan does not allow for further precise remarks. However, it is worth noting that in floor deposits of advanced MC date, from which numerous whole local and Minoan vases have been reconstructed, no Grey Minyan or MH matt-painted vases have been identified. On the other hand, future petrographic and chemical analysis may help us to distinguish matt-painted and plain wares from the Mainland and Aegina among the numerous quantities of sherd material.

It is only in contexts of the early stages of the LBA at Akrotiri and Ayia Irini (period VI) that mainland polychrome ware is found. Further study of the sherd material at Akrotiri is expected to confirm whether this is exclusively the case in chronological terms.

In only a limited number of cases has an exact provenance been identified for mainland imports at

[62] Ibid. 10, cat. nos. 63–5.
[63] Ibid. 22 and n. 15.
[64] Ibid. 19, cat. nos. 185–7.
[65] Ibid. 6, cat. no. 18.
[66] Ibid. 6, cat. nos. 20, 21.
[67] Dawkins and Droop 1910/11, 18.

Cycladic sites. In the Ayia Irini publication, the matt-painted ware apparently includes imports from various areas including Aegina; in only some cases are the specimens identified as of exclusively mainland origin.[68] A ware characterized by a pink/orange fabric is suggested to be imported from Euboea.[69] Grey Minyan ware was apparently produced in different areas of the Mainland, while, according to C. Zerner, a variety labeled True Grey Minyan, which exhibits a high technological level in its manufacture and is wheel-made, may have been produced in central Greece, in the Orchomenos area.[70] Some of the Grey Minyan sherds found at Akrotiri could belong to this True Grey Minyan ware variety. For the matt-painted and polychrome vases imported at Akrotiri, Marthari suggests a provenance from the northeastern Peloponnese, while west Attica and Aegina are proposed as possible candidates.[71] The northeastern Peloponnese and the area of Messenia have been suggested as possible sources for the hemispherical and Vapheio cups of LH I style on stylistic grounds and on the basis of macroscopic examination of the fabric.[72]

The strong Aeginetan presence at sites in Attica and the Argolid definitely outweighs imports from the Cycladic islands. It is not yet possible to assess statistically imports from Thera, Melos and Kea, but the broad distribution of Cycladic bichrome and matt-painted in the Argolid, Boeotia and Attica may show that Melian and Theran buff clays and naturalistic styles were particularly appreciated.

Apart from imports, we can comment on aspects of interaction between the two areas, and especially the degree of influence, if any, on the local production of each site and the development of related pottery wares. A first impression from the evidence presented suggests a largely varied picture in the number of actual imports in the three best-known MC sites (Akrotiri, Phylakopi and Ayia Irini), with Ayia Irini receiving the greatest number of mainland imports. Phylakopi has fewer, while at Akrotiri the handful of Grey Minyan sherds identified among thousands of sherds is indeed striking in its paucity. Grey Minyan vase shapes are commonly copied in the local production at Ayia Irini in both periods IV and V and the same, though to a lesser degree, appears to apply at Phylakopi and Paroikia. The imitations are made in local wares, most prominent being the burnished and slipped and burnished varieties, but apparently not using the same technology, particularly in terms of wheel use and possibly also firing practices. At Akrotiri there does not appear to be any impact on local production; no rim sherds or goblet stems have been identified in local fabrics, unless they are represented in nondiagnostic body sherds of goblets and kantharoi in the local slipped and burnished ware. This is in contrast to the other two sites, which exhibit whole vases in local imitations as well as interisland exchange of locally produced imitations of Grey Minyan types. By the beginning of the LBA, however, the interaction networks operate along different lines, as the Minoan impact has reached its maximum effect on the local production of all island sites.

The wider context of interaction between the Mainland and the Cyclades, with particular reference to the early MBA, involves sociopolitical changes attested at island sites. It appears that the time of the "international spirit" of the EB II period ended in the Cyclades with the Kastri group phase; in some places, e.g., Ayia Irini, a disruption followed. Leaving aside matters of terminology for the phase that follows, Akrotiri and Phylakopi, and slightly later Ayia Irini, all enter the MBA period as nucleated settlements, being the largest aggregated centers on the respective islands, as opposed to the more dispersed settlement patterns attested on the islands in the EB II period. This change in intra-island sociopolitical structure may have had some effects on the nature of the external relations of each Cycladic centre. It is in this context that the marked differences in the quantities of mainland imports at each site could be considered.

It seems from the evidence presented above that some shared traits, especially in vase types and decorative styles, occur widely at the island sites, and also on Aegina, at the beginning of the MBA (e.g., red-burnished bowls, ouzo cups, matt-painted barrel jars, carinated cups, cooking pots). Aegina could indeed have played an important role in the Helladic-Cycladic pottery exchange at this stage. The presence of mainland pottery and its influence on the local production differs from island to island, but as a general rule it appears to be stronger in the earlier phas-

[68] See supra n. 39.
[69] See supra n. 36.
[70] Zerner 1993, 47 and ns. 44–8.
[71] Marthari 1980; 1993.
[72] Lolos 1990, 54.

es of the MBA rather than the later. At Ayia Irini both fineware and coarseware imports are attested in Grey Minyan and matt-painted wares, while the picture of the function of the imported vases is not so clear yet at Phylakopi and Akrotiri. In the later stages of the MBA the mainland factor is less conspicuous, judging mainly by the site with the closest of such ties, Ayia Irini, while Cycladic imports at mainland sites have been found in limited quantities up to now and have been identified as items with assigned value, imported *per se*, e.g., the bird jugs.

From the above, the following tentative conclusions can be put forward: first, it appears that Aegina must have had a significant role as a regulator of the quantity and possibly the quality of imports to mainland sites from the Cyclades and from its own local production. Second, the nature of contacts of the Cycladic sites with areas of the Mainland and the influence attested on the local production in the MBA is different in each case, but altogether seems more conspicuous in the earlier stages. Proximity models do not necessarily offer a comprehensive explanation for the differences attested, as is also the case with the nature and degree of the Minoan influence at each island centre during the later stages of the MBA.

This paper has focused on pottery as an important aspect of trade and interaction between the two areas. Future work may involve a more extended approach of other aspects of interaction, such as burial habits and secular architecture, to provide a more comprehensive picture of the relations between island and mainland sites in the early stages of interaction.

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General Discussion

Peter M. Warren

We have enjoyed a highly successful and most hospitable conference, with 21 papers and a memorable lecture from Professor Felten on the full history and culture of Aegina. We all offer our warmest thanks to our organizers, Professor Felten himself, Dr. Walter Gauss and Dr. Rudolfine Smetana, as well as to the brilliantly efficient members of the SCIEM 2000 team. For this general discussion we find ourselves in the unusual position of having a chairman considerably less qualified in most of the areas we are discussing than each of you is, but one who can at least offer a – more or less – neutral standpoint.

Perhaps the most interesting theme to have emerged for the Middle Bronze Age (MBA) of the Aegean is regionalism. But how is regionalism to be defined or understood? Definition is likely to encompass different scales, from macro- to microregions, even, with Jerry Rutter, to the individual site and its territory. A region is also likely to have distinct forms – geographical, political, economic, societal, centripetal religious sites, assemblages of closely similar material culture (cf. G. Childe) or burial customs. A directly related and equally important matter is boundaries and the question of equifinality: there is no *a priori* reason for the boundaries of the different kinds of region just enumerated to be coterminous. May any of these different regional dimensions have been operational in the Aegean MBA? Boeotia, for example, was argued to be the core area for Grey Minyan pottery in its fullest morphological and typological range (i.e., closely similar material culture), but was it a region in any of the other forms? Could tumulus burials define a region in any sense compatible with the other forms? How widespread was the social phenomenon, and the implied social structures, of so-called feasting assemblages?

If regions may be definable in any of the forms stated, or any combination of them, are we not thereby enabled to look more effectively at interactions with places outside a "region"? This promotes further questions. Which were the major *exporting* centers? Aegina, Kea, Seraglio (Kos) and a Thessalian center for the Magnesia polychrome class (J. Maran) seem obvious, but were there others and what was the diachronicity of their exporting power? Trade relations seem to have been complex and often asymmetrical – that is, with no visible surviving imports to balance the scale of exports. Unless exports now invisible provided a balance, how is the asymmetry to be explained? The economic power of even a major center such as Aegina would presumably have wanted something in exchange for its magnificent fine decorated pottery or its functionally top-of-the-range cooking pots. Sometimes what was sought in return can be guessed at with a degree of plausibility. The still to me quite extraordinary phenomenon of some kind of Minoan administrative system in place at MBA Mikro Vouni, Samothrace (D. Matsas)[1] is reasonably explicable as part of an organized search or even established route for metals, as too may have been the case behind a degree of Minoan presence at Çesme (V. Şahoğlu) and Miletos on the west Anatolian coast, though perhaps not before Late Bronze I at the former site.

If we move beyond exports in the economic sense, does not the obvious appreciation of Aeginetan matt-painted ware at many mainland sites suggest export of social and symbolic capital also? And does not selective acquisition of goods from outside a region create status and power differentials among the local recipients, as perhaps is seen in the grave goods of the Messenian tumuli at Ellenika (Kastroulia) or the most unusual and "special" Middle Minoan (MM) IIB or IIIA polychrome jug in the Troy V cist grave?

Beyond acquisition of "foreign" goods is a phenomenon even more interesting, and widespread in the Aegean MBA, namely, if not too hideously, "izings", local imitation (i.e., local production) and modification – for example, Minoanizing and Minyanizing pottery, at numerous places. The production of southeast Aegean white-on-dark-on-buff ware seems so loosely connected to Minoan proto-

[1] Unfortunately it was not possible to get the paper of Dimitris Matsas on time.

types as to be beyond an "izing" and virtually independent. This phenomenon cries out for comment.

There are also two more down-to-earth matters requiring further discussion in the first case, and at least brief summary in the second, namely, precise synchronisms and first appearances, to enable secure linkages for relative chronology from region to region, and, second, absolute chronology. One example, among many, of a synchronism is the MM jug in Troy V just mentioned. For absolute chronology we have the relevant MBA radiocarbon dates from Troy and Mikro Vouni, Samothrace, rather high in relation to the chronology derived from Minoan cross-links to Cyprus and Egypt, *if* the radiocarbon dates are taken at face value.

There is, then, abundant material here, arising directly from the conference papers, to promote expansion of the already intensive discussions held after each paper.

N.B.
speakers mentioned in this summary:
J.B. Rutter (35–44 in this volume)
J. Maran (167–182 in this volume)
D. Matsas (paper not included in this volume)
V. Şahoğlu (309–322 in this volume)

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Programme of the International Workshop "Middle Helladic Pottery and Synchronisms"

Sunday 31.10.

9:30 to 11:00 Registration
Fachbereich Altertumswissenschaften/Klassische und Frühägäische Archäologie
Abguss-Sammlung
Residenzplatz 1, A-5020 Salzburg

GENERAL/AEGINA:
(Chair: A.Philippa-Touchais/M.Lindblom)

11:00 Jeremy Rutter
Reconceptualizing the Middle Helladic „Type Site" from a Ceramic Perspective: Is „Bigger" Really „Better"?

11:45 Wolfgang Wohlmayr
Aegina Kolonna MH III–SH I: The Ceramic Phases of an Aegean Trading-Domain

12:30 Walter Gauss/Rudolfine Smetana
Aegina Kolonna, the Ceramic Sequence of the SCIEM 2000 project

13:15 to 15:00 LUNCH BREAK

PELOPONNESE:
(Chair: J.Maran)

15:00 Gilles Touchais
Coarse Ware at Middle Helladic Aspis, Argos: Local Production and Imports

15:45 Anna Philippa-Touchais
Matt Painted Aeginetan pottery at Middle Helladic Aspis, Argos

16:30 Michael Lindblom
An Early Mycenaean feasting assemblage at Lerna VI with special emphasis on its Aeginetan component

17:15 Jörg Rambach
The excavation of two MH I-burial mounds at the site of Kastroulia near Ellinika (ancient Thouria) in Messenia

18:30 Evening Lecture by Florens Felten
Aegina Kolonna – the History of a Greek Acropolis

RECEPTION BY FB ALTERTUMSWISSENSCHAFTEN KLASSISCHE UND FRÜHÄGÄISCHE ARCHÄOLOGIE

Monday 01.11.

BOEOTIA/NORTHERN GREECE:
(Chair: G.Touchais)

09:00 Kalliope Sarri
Aeginetan matt-painted Pottery in Boeotia

09:45 Joseph Maran
Emulation of Outside Traditions in the Middle Bronze Age Mattpainted Pottery of Costal Thessaly

10:30 Barbara Horejs
Transition from MBA to LBA in Macedonia and its Synchronism with the „Helladic World"

11:15 to 13:15
Guided tour through the historic city of Salzburg

13:15 to 15:00 LUNCH BREAK

CRETE/SOUTHEAST AEGEAN:
(Chair: J.B.Rutter)

15:00 Aleydis Van de Moortel
Middle Minoan Pottery Chronology and Regional Diversity in Central Crete

15:45 Carl Knappett
Middle Minoan I–II pottery in central and east Crete

16:30 Luca Girella
Toward a definition of Middle Minoan III ceramic sequence in South-Central Crete: returning to MM IIIA and IIIB traditional division?

Coffee Break

17:30 Nicoletta Momigliano
Kamares or not Kamares? This is the question…SE Aegean Light-on-Dark and Dark-on-Light wares of the early neopalatial period

18:15 Eleni Hatzaki
The MM IIIB to LM IA Sequence at Knossos in the Context of Crete and the South Aegean

EVENING FOR INDIVIDUAL ACTIVITIES

Tuesday 02.11.

NORTHEAST AEGEAN / ANATOLIA:
(Chair: A. v.d.Moortel)

9:00 Peter Pavúk
What can Troy tell us about the MH Period in the southern Aegean?

9:45 Vasif Şahoğlu
Çeşme-Bağlararası: A New Settlement in Western Anatolia

10:30 Massimo Cultraro
MBA on the islands of the Northern Aegean and the synchronisms with Mainland Greece

11:15 Dimitri Matsas
Middle Bronze Age Pottery from Samothrace

12:00 to 13:45 LUNCH BREAK

CYCLADES:
(Chair: J. Rambach)

13:45 John Overbeck / Donna May Crego
Kea and Aegina in the Middle Bronze Age

14:30 Irini Nikolakopoulou
The Cyclades, Aegina and the Mainland in the Middle Bronze Age

Around 15:30 to 17:30
General Discussion *(Chairman P.Warren)*

19:30 DINNER

UNTERSUCHUNGEN DER ZWEIGSTELLE KAIRO DES ÖSTERREICHISCHEN ARCHÄOLOGISCHEN INSTITUTS

Herausgegeben in Verbindung mit der Kommission für Ägypten und Levante der Österreichischen Akademie der Wissenschaften von Manfred Bietak

Band I Manfred Bietak, *Tell el-Dabᶜa II. Der Fundort im Rahmen einer archäologisch-geographischen Untersuchung über das ägyptische Ostdelta*. Wien 1975.

Band II Labib Habachi, *Tell el-Dabᶜa and Qantir I. The Site and its Connection with Avaris and Piramesse*. Aus dem Nachlaß herausgegeben von Eva Maria Engel. Unter Mitarbeit von Peter Jánosi und Christa Mlinar. Wien 2001.

Band III Joachim Boessneck, *Tell el-Dabᶜa III. Die Tierknochenfunde 1966–1969*. Wien 1976.

Band IV Manfred Bietak und Elfriede Reiser-Haslauer, *Das Grab des ᶜAnch-Hor, Obersthofmeister der Gottesgemahlin Nitokris* (mit einem Beitrag von Erhart Graefe). Wien 1978.

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