

# 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,<sup>1</sup> 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",<sup>2</sup> 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".<sup>3</sup> 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.<sup>4</sup> 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,<sup>5</sup> MM IIIb late,<sup>6</sup> MM IIIb/LM IA transition,<sup>7</sup> LM IA early<sup>8</sup> and LM IA mature (or LM IA late).<sup>9</sup> These are terms first introduced by Evans and Duncan Mackenzie, and later adopted by John Pendlebury,<sup>10</sup> in their attempts to sort

<sup>1</sup> KNAPPETT and CUNNINGHAM 2003, 173.

<sup>2</sup> EVANS 1928, 286–9.

<sup>3</sup> EVANS 1928, vii.

<sup>4</sup> MARTHARI 1990; NIKOLAKOPOULOU *et al.*, forthcoming.

<sup>5</sup> CATLING *et al.* 1979; WARREN and HANKEY 1989; HOOD 1996.

<sup>6</sup> WARREN and HANKEY 1989.

<sup>7</sup> WARREN 1991; 1999; DRIESSEN and MACDONALD 1997, 17.

<sup>8</sup> POPHAM 1977; WARREN and HANKEY 1989; WARREN 1999.

<sup>9</sup> POPHAM 1977; DRIESSEN and MACDONALD 1997, 16–7.

<sup>10</sup> EVANS 1921, 315; EVANS 1928, 324, 550, 625; 1935, 260–1; PENDLEBURY 1939, 180.

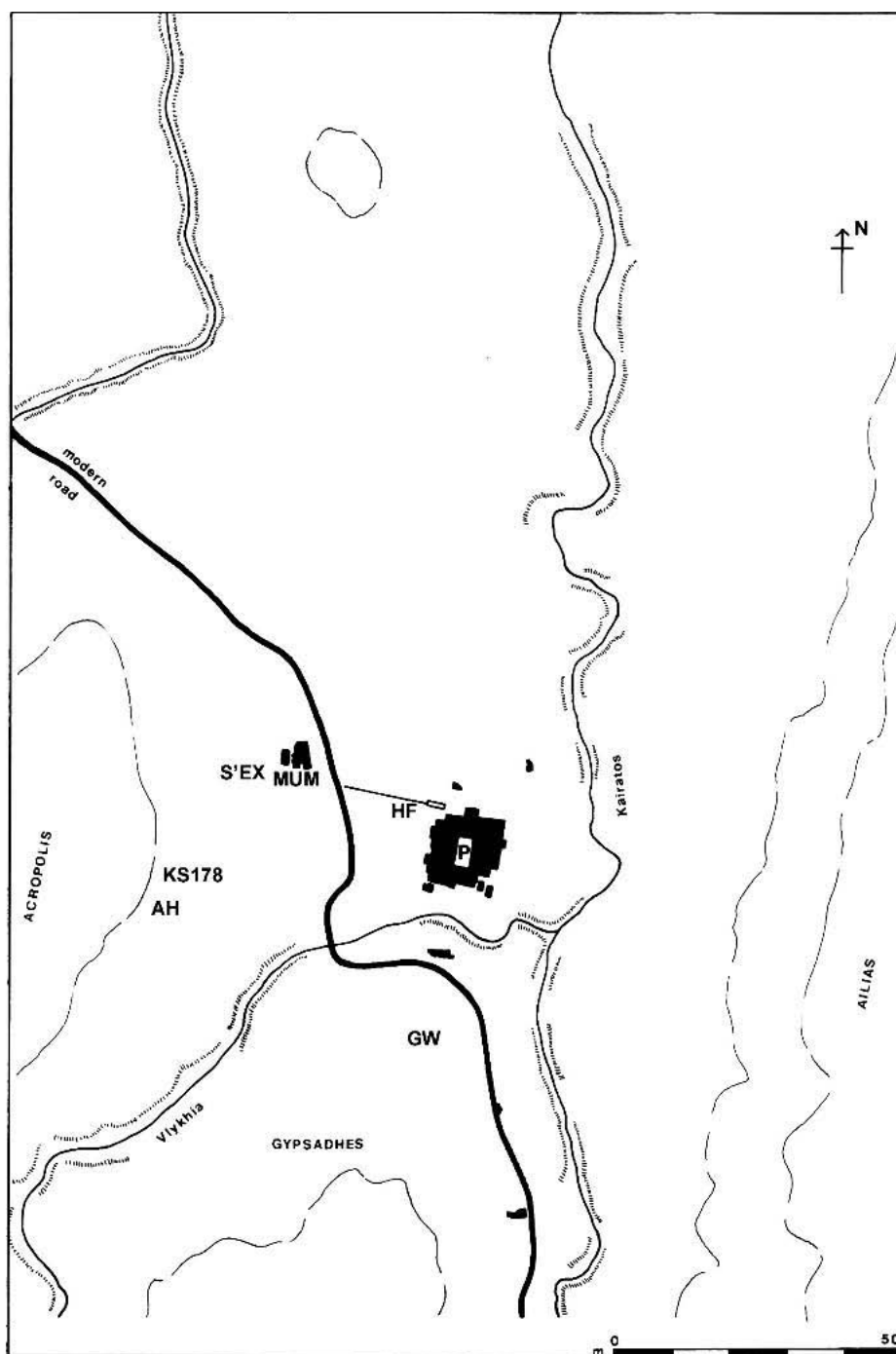


Fig. 1 Map of Knossos showing general location of sites with major deposits assigned to the KS 178 Group (MM IIIB) and the Gypsadhes Well Group (LM IA) (map after POPHAM 1994, 96 fig. 2)

the ceramic sequence for a period where they encountered difficulties in assigning chronological labels to specific deposits, particularly those from the palace.<sup>11</sup>

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

<sup>11</sup> HATZAKI, forthcoming (a).

<i>HOOD 1996</i>	<i>CATLING 1979</i>	<i>MACDONALD 2004</i>	<i>POPHAM 1977, 1984</i>	<i>WARREN and HANKEY 1989</i>	<i>WARREN 1999</i>
<i>MM IIIA</i>	<i>MM III</i>			<i>MM IIIA</i>	
AH Dep A	AH Dep A			AH Dep A	
AH Dep B	AH Dep B			AH Dep B	
AH Dep C					
AH Dep D					
<i>MM IIIB</i>					<i>Late MM IIIB</i>
		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			
<i>MM IIIB and LM IA</i>			<i>MM IIIB-LM IA</i>	<i>MM IIIB/LM IA transition</i>	
	AH Dep E		MUM SC east end		AH Dep C
					AH Dep D
					S'EX Pit IV
<i>LM IA early</i>					
		S'EX lower deposit	Mag of the Tripod	AH Dep E	Mag of the Tripod
	<i>LM IA</i>	<i>LM IA mature</i>			
	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.<sup>12</sup> 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.<sup>13</sup> The use of "type fossils" was anticipated in *The Palace of Minos*<sup>14</sup> but accelerated in the post-Evans era when deposits from the palace and town were studied in detail for the first time.<sup>15</sup>

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-III A), 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.<sup>16</sup> This methodology was dictated by the postexcavation

<sup>12</sup> EVANS 1906.

<sup>13</sup> For a recent discussion see DRIESSEN and MACDONALD 1997, 15-6.

<sup>14</sup> For example, EVANS 1935, 276-7.

<sup>15</sup> POPHAM 1967; 1969; 1970a; 1970b.

<sup>16</sup> POPHAM 1970a.

storage practices of Evans and Mackenzie, in which pottery was on many occasions not kept according to context.<sup>17</sup> 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.<sup>18</sup> 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.<sup>19</sup> 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.<sup>20</sup>

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.<sup>21</sup> For the Neopalatial period, however, there were difficulties in isolating “type fossils” and in assigning period labels to specific deposits.<sup>22</sup> 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”.<sup>23</sup> 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 pro-

duction 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.<sup>24</sup> 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.<sup>25</sup>

#### **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.<sup>26</sup> 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

<sup>17</sup> POPHAM 1970a, 28, 32, 40, 63; MOUNTJOY 2003, 3.

<sup>18</sup> For example the LM II kylix, POPHAM 1984, 165–8.

<sup>19</sup> DRIESSEN and MACDONALD 1997, 16–7.

<sup>20</sup> PENDLEBURY 1939, 180.

<sup>21</sup> POPHAM 1984, 179–80.

<sup>22</sup> POPHAM 1984, 158.

<sup>23</sup> POPHAM 1977, 190.

<sup>24</sup> RENFREW 1972, 53–4.

<sup>25</sup> CADOGAN *et al.* 1993; MOMIGLIANO, forthcoming.

<sup>26</sup> HATZAKI, forthcoming (c).

MUM South Corridor				Ceramic Group
Stratigraphy		Popham's nomenclature	Type of deposit	
West end	East end <sup>a</sup>			
Levels F, E, D (Stage 4) <sup>b</sup>	Levels 17, 39 <sup>c</sup>	Upper levels = latest stage = later deposits	Secondary deposit: dump of broken pottery	Gypsadhes Well
	Level 40 (Stage 3) <sup>d</sup>	Lower levels = earlier stage = earlier deposits	Secondary deposit: dump of broken pottery	KS 178
	Level 44 (Stage 1) <sup>e</sup>	Lower levels	Primary deposit: floor deposit, complete pottery	KS 178
KS 178				
Stratigraphy		Type of deposit		
LM IA 'matre' 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 <sup>f</sup>		Secondary deposit: Pottery thrown down the well		Gypsadhes Well
Lower Deposit <sup>g</sup>		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

<sup>a</sup> POPHAM 1984, pl. 2 section 8.

<sup>b</sup> 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.

<sup>c</sup> 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.

<sup>d</sup> Figs. 3-6; KS 178 Group: POPHAM 1984, pl. 128 a-c, e-1, 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.

<sup>e</sup> 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.

<sup>f</sup> Fig. 7 upper half.

<sup>g</sup> 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,<sup>27</sup> with the result that the sample illustrated cannot be properly contextualized or compared to deposits deriving from different social

<sup>27</sup> 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 TAYLOR 1981
<b>THE KS 178 GROUP</b>				
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	
	Aeropolis 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	
	Aeropolis Houses: Deposit B and E	CATLING, CATLING and SMYTH 1979	KS 174	
	Gypsadhes Well: lower deposit	EVANS 1928	KS 291	
<b>THE GYPSADHES WELL (UPPER DEPOSIT) GROUP</b>				
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	4 <sup>th</sup> Magazine, 2 <sup>nd</sup> 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,<sup>28</sup> and

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

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-

<sup>28</sup> For recent advances in the study of ceramic deposits from Prepalatial Knossos, see DAY and WILSON 2004, with bibliography.

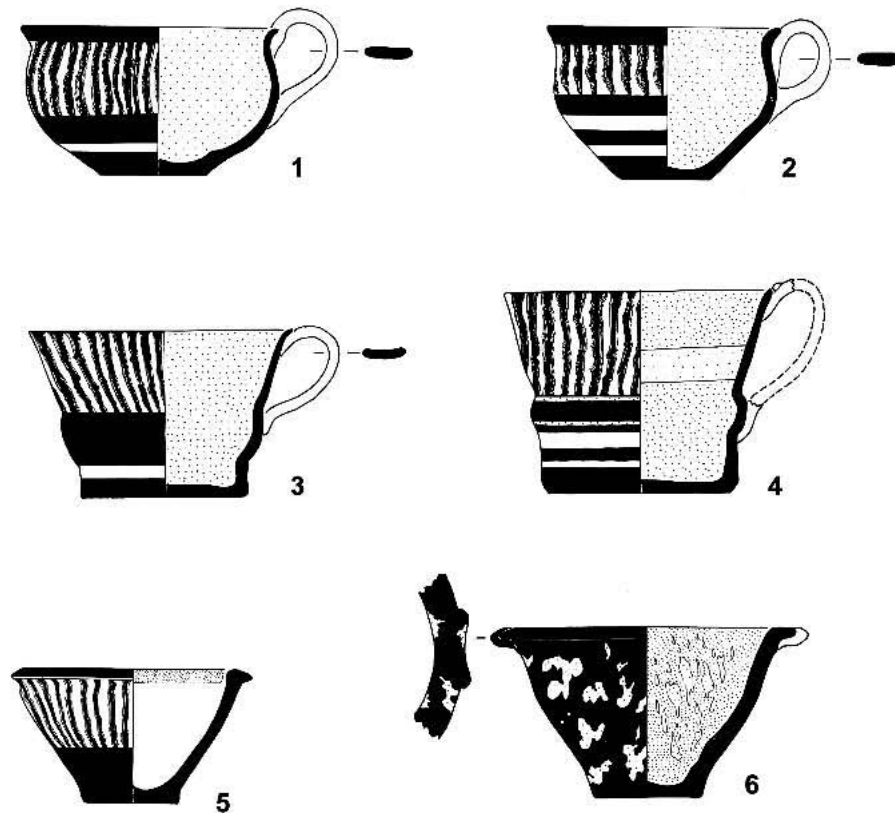


Fig. 2 Unexplored Mansion South Corridor east end level 44:1–4 dark on light lustrous ware, 5 dark on light ware, and 6 light on dark ware (after POPHAM 1984)

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.<sup>29</sup>

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)<sup>30</sup> but earlier than the S'EX North House group (LM IB)<sup>31</sup> (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.<sup>32</sup> The deposit has over 90 fairly com-

<sup>29</sup> RUTTER 2004, 73 table 4.1.

<sup>30</sup> MACGILLIVRAY, forthcoming.

<sup>31</sup> HATZAKI, forthcoming (a).

<sup>32</sup> 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		S'E X	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
<i>Fine buff fabric</i>													
Light on dark	Straight-sided cup, ribbed with white dots	•	•			•				•	•	•	DRIESEN 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 2 <sup>nd</sup> row
Dark on light lustrous													
	S-profile cup (ripple)					•	•		•			•	MACDONALD 2002, pl. 9 bottom right
	Vaphio cup (ripple)			•	•	•	•		•		•	•	
	In-and-out bowl (ripple)		•		•	•			•			•	DRIESEN and MACDONALD 1997, 20 fig. 2.1 c
	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 2 <sup>nd</sup> row
Plain	Straight sided cup plain		•						•	•	•	•	
	Conical cup, shallow		•						•			•	
	Conical cup, shallow ledge rimed	•	•	•			•		•			•	DRIESEN and MACDONALD 1997, 20 fig. 2.1 a, d; MACDONALD 2002, pl. 9 bottom
	Conical cup, tall ledge rimed						•		•			•	
	Tankard/cup	•	•									•	
	'Pitharaki'					•						•	
<i>Coarse fabrics</i>	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

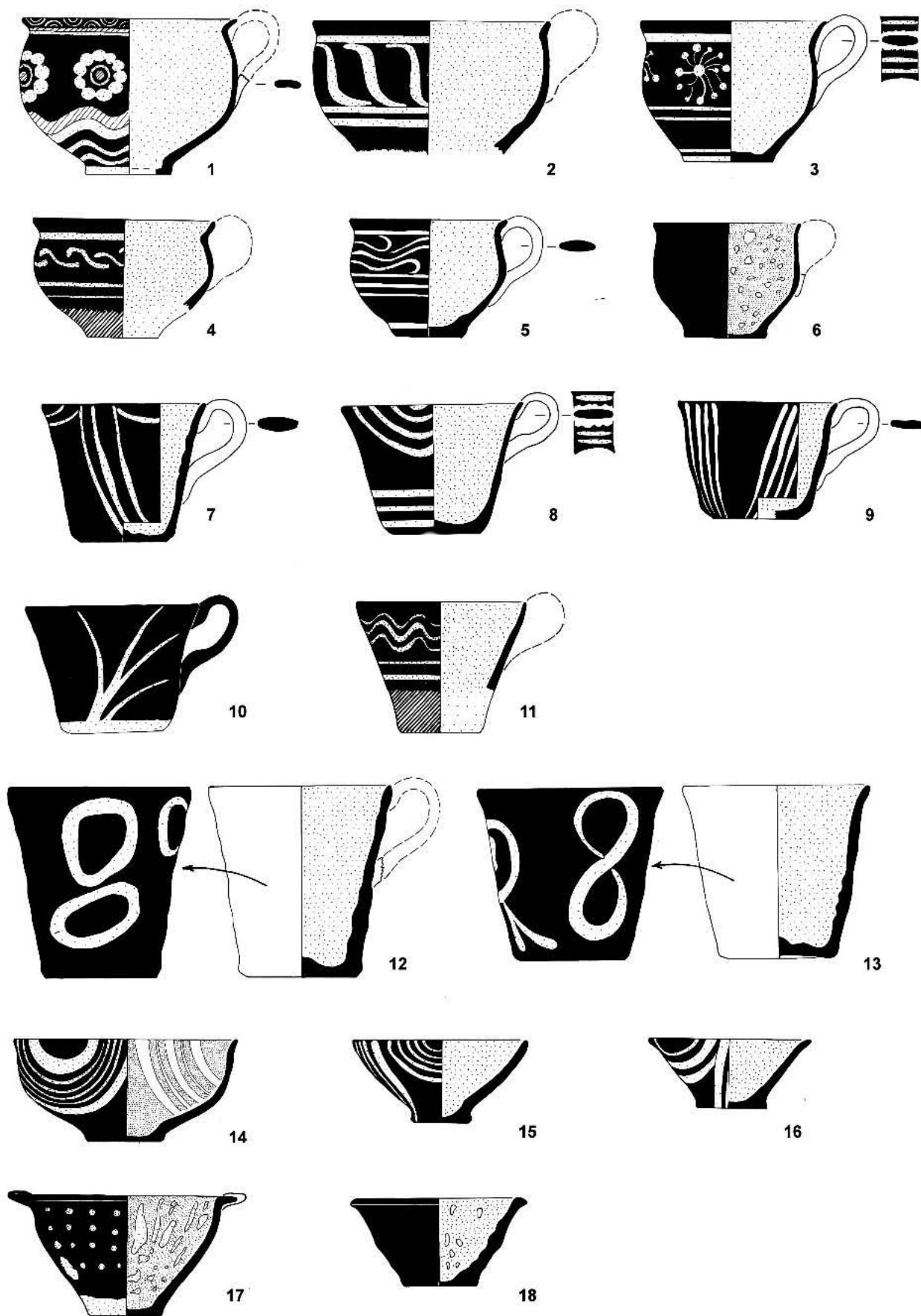


Fig. 3 Unexplored Mansion South Corridor east end level 40, light on dark ware (after POPHAM 1984)

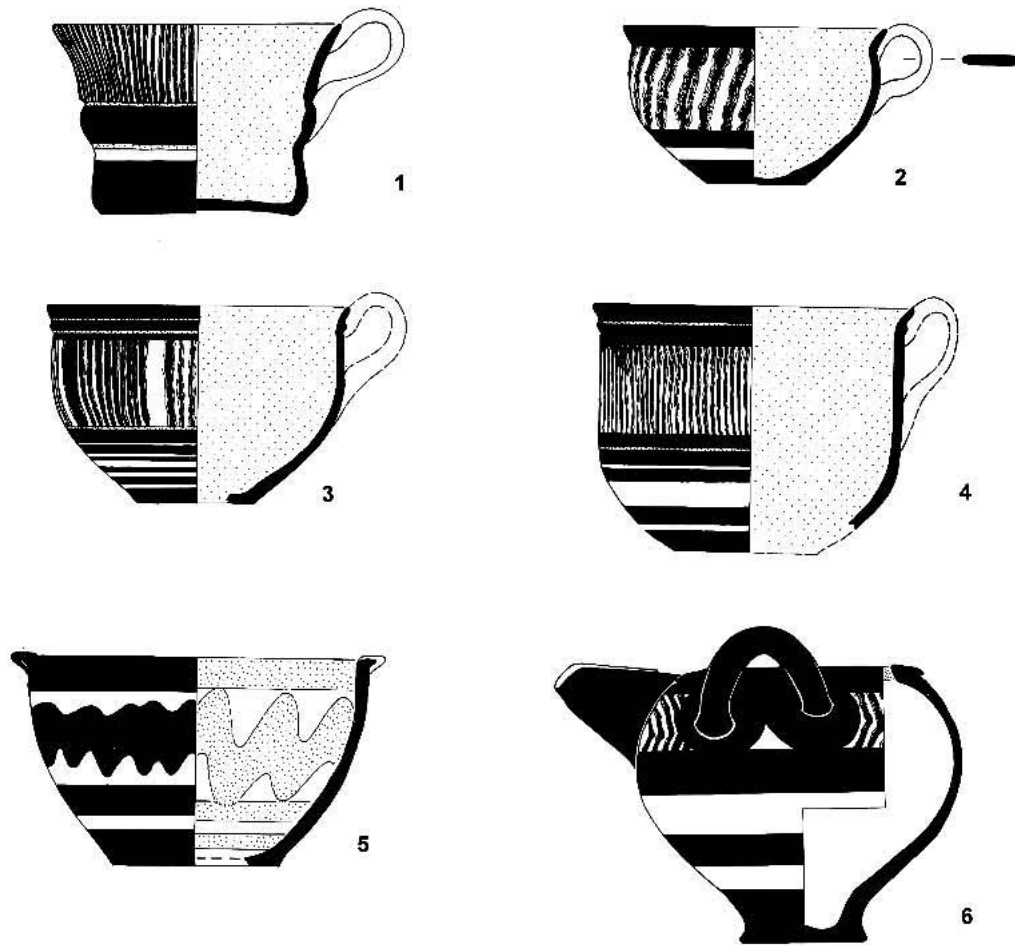


Fig. 4 Unexplored Mansion South Corridor east end level 40, dark on light lustrous ware (after POPHAM 1984)

plete vessels of fine, coarse, open and closed forms in light-on-dark, dark-on-light lustrous,<sup>33</sup> 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.<sup>34</sup> 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),<sup>35</sup> a primary deposit that ran under a rubble wall that predates the foundation of the Unexplored Mansion.<sup>36</sup> 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).<sup>37</sup> Deposits A, C and D from the architecturally earliest of the Acropolis houses are pri-

<sup>33</sup> 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.

<sup>34</sup> 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.

<sup>35</sup> In the plates volume of the Unexplored Mansion publication, pottery deriving from the east end of the South Cor-

ridor, 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.

<sup>36</sup> POPHAM 1984, 95–6, pl. 14 (section 8, level 6).

<sup>37</sup> 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.

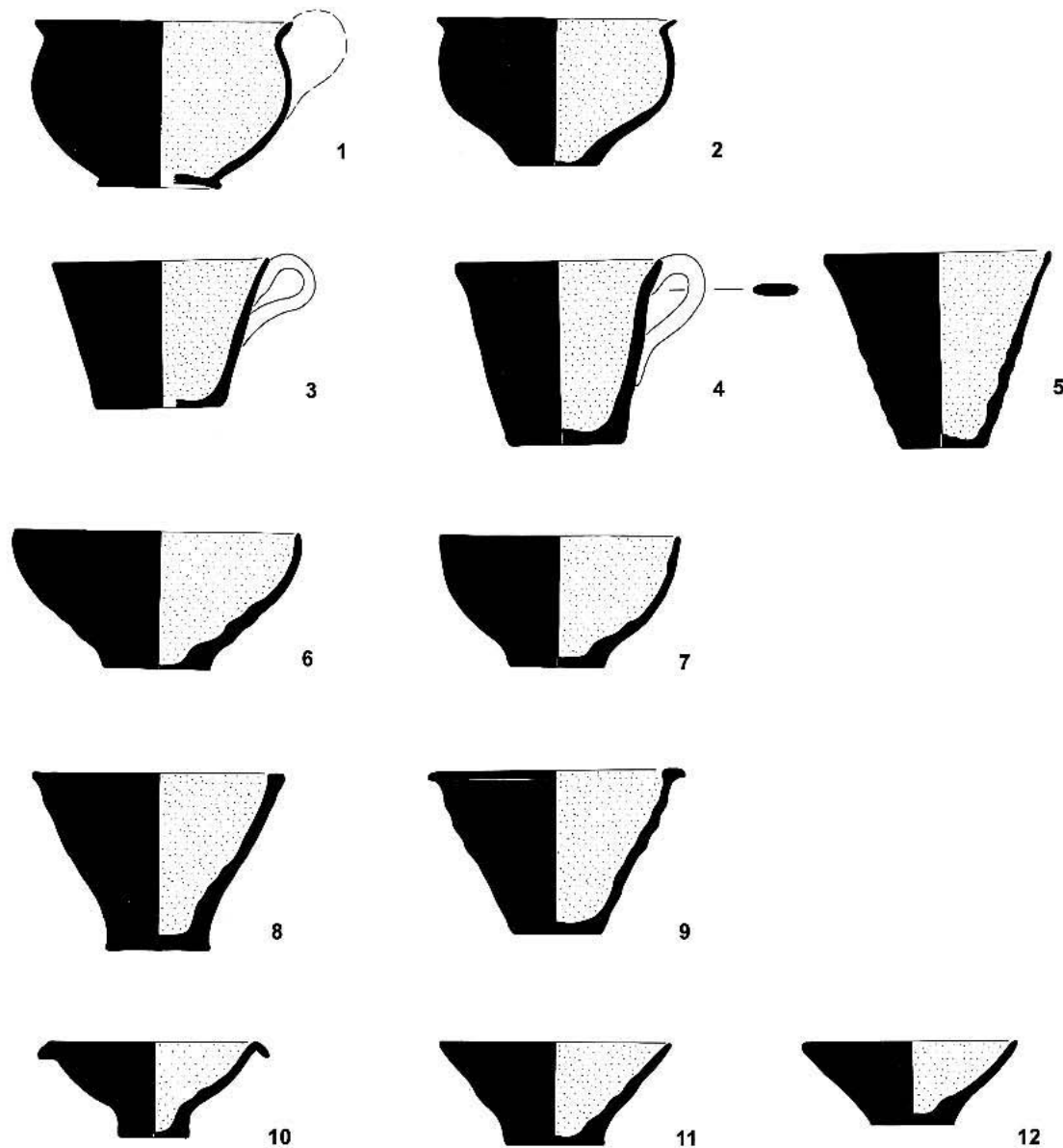


Fig. 5 Unexplored Mansion South Corridor east end level 40, monochrome ware

mary and may also be assigned to the KS 178 group.<sup>38</sup> 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).<sup>39</sup> 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.<sup>40</sup> The secondary deposits B and E also belong to the KS 178

<sup>38</sup> 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.

<sup>39</sup> CATLING *et al.* 1979, 24 fig. 17.21–46, 33 fig. 21.142–89.

<sup>40</sup> 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.

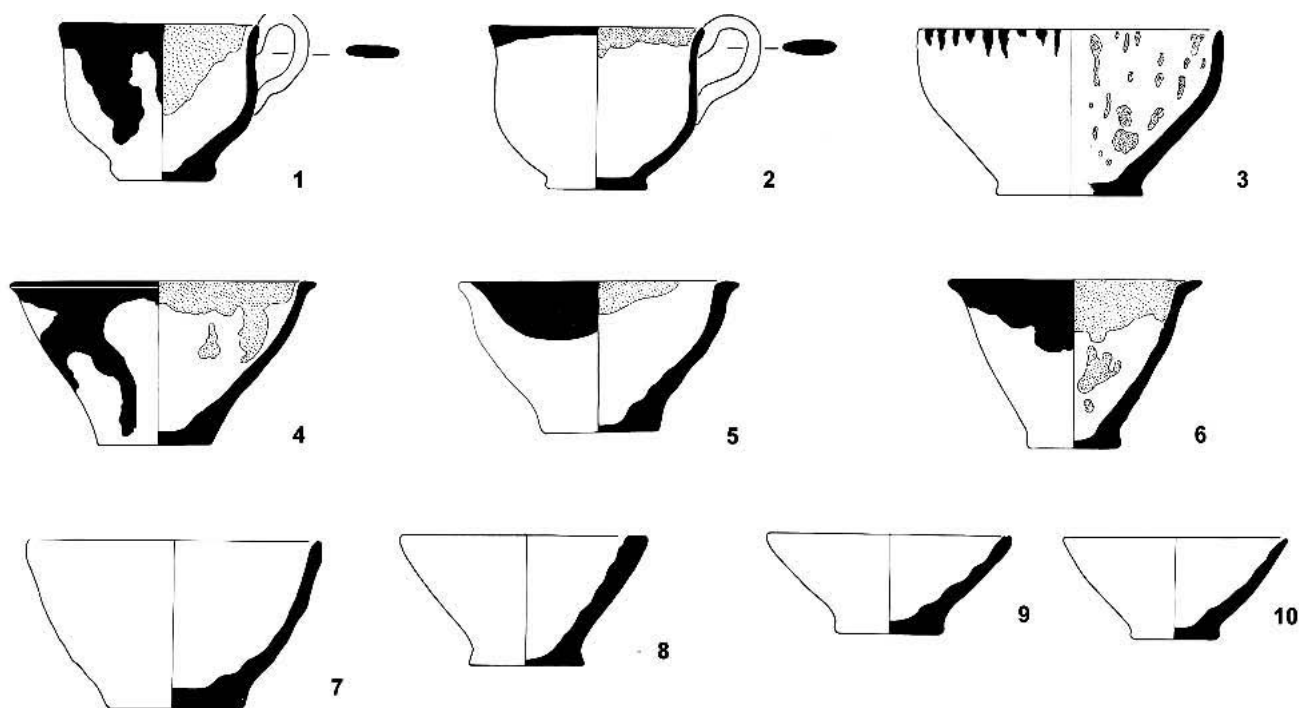


Fig. 6 Unexplored Mansion South Corridor east end level 40, dark on light, and plain wares

group; the former is stratified above deposit A, and the latter above deposit D.<sup>41</sup>

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),<sup>42</sup> the Stratigraphical Museum extension site trench D pit IV,<sup>43</sup> and the lower deposit of the Gypsadhes Well (Table 2; Fig. 7, lower half).<sup>44</sup> 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”.<sup>45</sup> Useful contemporary assemblages from funerary contexts in the Knossos valley and environs include ceramic material from the Poros-Katsambas tomb Π 1967.<sup>46</sup>

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.<sup>47</sup> The pottery from the Room of the Tripod Vases<sup>48</sup> 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.<sup>49</sup> 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-handed jugs decorated with network (or cross-hatched ripple), has been

<sup>41</sup> 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.

<sup>42</sup> See n. 31; POPHAM 1984, pls. 141, 142, 144, 145.

<sup>43</sup> WARREN 1991, 324–9, figs. 5–10, pls. 76b, c, 77–80.

<sup>44</sup> EVANS 1928, 549 fig. 349 (lower half of photograph).

<sup>45</sup> POPHAM 1984, pl. 133a; decorated sherds include reed, flo-

ral spray, and “Jackson Pollock style”; for the latter, see WARREN 1996.

<sup>46</sup> Pottery from the lower level in the pit, MUHLY 1992, 115 pl. 1.

<sup>47</sup> HOOD 1996.

<sup>48</sup> POPHAM 1977, 192–3, 187 fig. 1; pl. 29a.

<sup>49</sup> 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.<sup>50</sup> 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”.<sup>51</sup> 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



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)

Hall.<sup>52</sup> 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

<sup>50</sup> POPHAM 1977, 187 fig. 1b, pl. 29b–f; POPHAM 1981, pl. 57.

<sup>51</sup> POPHAM 1977, 193–4; WARREN 1999.

<sup>52</sup> 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.<sup>53</sup>

#### **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,<sup>54</sup> 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.<sup>55</sup>

Other well-known deposits from the town that are ceramically contemporary include the Stratigraphical Museum extension site – lower and upper “LM IA” deposits<sup>56</sup> – and pottery from the House of Frescoes.<sup>57</sup> 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).<sup>58</sup> From the west end of the South Corridor (levels D–F) comes another secondary deposit (Fig. 9).<sup>59</sup> Ceramic deposits from the cemeteries of Knossos include the Poros-Katsambas tomb Π 1967,<sup>60</sup> the pottery from the rock-cut tomb at the 14<sup>th</sup> Primary School extension plot,<sup>61</sup> the intriguing deposits from the Temple Tomb,<sup>62</sup> and Mavro Spelio Tombs V and IX.<sup>63</sup> 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,<sup>64</sup> the northwest angle of the Southeast Insula that includes the Magazine of the Lily Jars and the False Spout Jars.<sup>65</sup> The secondary deposit from the East–West Stairs of the Domestic Quarter is considered the most typical LM IA deposit from the palace.<sup>66</sup> 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).<sup>67</sup> 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,

<sup>53</sup> HATZAKI, in preparation.

<sup>54</sup> EVANS 1928, 549 fig. 349l; POPHAM 1967, pl. 76e.

<sup>55</sup> EVANS 1928, 549 fig. 349 (top row); POPHAM 1967, pl. 76a–g.

<sup>56</sup> 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).

<sup>57</sup> EVANS 1928, 436–7 figs. 253–4; POPHAM 1969, 339, pl. 76g.

<sup>58</sup> POPHAM 1984, 155 pl. 133d.

<sup>59</sup> POPHAM 1984, pls. 130, 143.1–15. On Figure 14, pottery is grouped in sequence according to levels D–F.

<sup>60</sup> Pottery from the chamber, area around pit, MUHLY 1992, 115 pl. 4.

<sup>61</sup> DIMOPOULOU 1988, 325–7 pl. 9.

<sup>62</sup> EVANS 1935, 988–92; HATZAKI, forthcoming (b).

<sup>63</sup> Tomb V, including an LH IIA import, FORSDYKE 1927, 258 fig. 11; Tomb IX, FORSDYKE 1927, 268 fig. 21, 269 fig. 23.

<sup>64</sup> POPHAM 1977, 192 pl. 28.

<sup>65</sup> EVANS 1921, 575–84 fig. 419.

<sup>66</sup> POPHAM 1977, 194–5, 187 fig. 1e, f, pls. 30–1.

<sup>67</sup> 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,<sup>68</sup> 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.<sup>69</sup> 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".<sup>70</sup>

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.<sup>71</sup> 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.<sup>72</sup> 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.<sup>73</sup> 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.<sup>74</sup> 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.<sup>75</sup>

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-

<sup>68</sup> WHITELAW 2001, 28–9 fig. 2.9, 10; 2004.

<sup>69</sup> RETHEMIOTAKIS 1999.

<sup>70</sup> WARREN 1991, 339–40; see also GUIDOBONI 1996; STIROS 1996.

<sup>71</sup> BETANCOURT 1990, 41–8, 124–9, 183–90, figs. 65–70, pls. 94–104; VAN DE MOORTELT 1998; 2002.

<sup>72</sup> VAN DE MOORTELT 2001, 93 table 9; RUTTER 2004, 73 table 4.1.

<sup>73</sup> RETHEMIOTAKIS 1997, 305; RETHEMIOTAKIS 2003; RETHEMIOTAKIS and CHRISTAKIS 2004.

<sup>74</sup> RETHEMIOTAKIS 1999, pls. 18–21a.

<sup>75</sup> 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 MOORTELT 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<sup>76</sup> – 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”.<sup>77</sup> Deposit *e* at Kastro Kythera<sup>78</sup> and Ayios Stephanos phase III<sup>79</sup> are also broadly contemporary to the KS 178 group, whereas period V at Kea is probably earlier.<sup>80</sup> 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.<sup>81</sup>

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.<sup>82</sup> Initially, dark-on-light lustrous pottery occurs on the mainland in small quantities in comparison to the continuing MH wares<sup>83</sup> 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).<sup>84</sup> 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.<sup>85</sup> Contemporary east Cretan deposits have been found at Gourinia House Cm<sup>86</sup> and House D,<sup>87</sup> Kato Syme West Room,<sup>88</sup> Mochlos Building C,<sup>89</sup> the Myrtos-Pyrgos Tomb,<sup>90</sup> Palaikastro Building 2 room 2,<sup>91</sup> Priniatikos

<sup>76</sup> 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.

<sup>77</sup> NIKOLAKOPOULOU *et al.*, forthcoming.

<sup>78</sup> COLDSTREAM and HUXLEY 1972, fig. 38, pls. 23–5.

<sup>79</sup> RUTTER and RUTTER 1976, 32–46.

<sup>80</sup> DAVIS 1986, 1–2.

<sup>81</sup> DICKINSON 1974, 120; RUTTER and RUTTER 1976, 63–5;

JONES 1986, 420–4; MOUNTJOY 1993, 31; MOUNTJOY 1999, 19.

<sup>82</sup> MOUNTJOY 1993, 31–8.

<sup>83</sup> MOUNTJOY 1999, 19.

<sup>84</sup> VAN DE MOORTELT 2001, 93 table 9; pers. comm.

<sup>85</sup> 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.

<sup>86</sup> Deposit in room 58, BOYD *et al.* 1908, 24, 39–40, pl. 7.25–41.

<sup>87</sup> Room 29, BOYD *et al.* 1908, 24, pls. 6.35, 8.19.

<sup>88</sup> West room, lower deposit, LEBESSI 1973, 193 pl. 197 ?–d.

<sup>89</sup> SOLES and DAVARAS 1992, 438 fig. 14, pl. 100c, d.

<sup>90</sup> CADOGAN 1972, pl. 589b; CADOGAN 1978, 73; HANKEY 1986.

<sup>91</sup> KNAPPETT and CUNNINGHAM 2003, 164–70 figs. 41–6.

<sup>92</sup> BETANCOURT 1978, 383 fig. 1, 385 fig. 2.

Pyrgos<sup>92</sup> and, last but not least, the so-called Zakros pits<sup>93</sup> and the extensive deposits in houses leveled off for the construction of what was in many respects a “Knossian” palace at Zakros.<sup>94</sup>

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.<sup>95</sup> The so-called ‘Lily jars’ from the eponymous magazine in the palace at Knossos are also probably imports.<sup>96</sup> Their fabric and surface treatment are not comparable to Knossian ceramic production, whereas their decoration is virtually identical to examples from Akrotiri,<sup>97</sup> 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.<sup>98</sup> 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.<sup>99</sup> At Kastri, deposits  $\xi$ <sup>100</sup> and  $\eta$ <sup>101</sup> 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.<sup>102</sup> 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.

## Acknowledgments

This paper is based on work compiled in 2004 (while Assistant Director for the British School at Athens) for the purposes of the *Knossos Pottery Handbook* edited

<sup>93</sup> 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.

<sup>94</sup> PLATON 1999, 675–80 pl. CXLIVc–g; 2002; 2004.

<sup>95</sup> POPHAM 1977, 191 pl. 28a, b.

<sup>96</sup> EVANS 1921, 577 fig. 421.

<sup>97</sup> MARINATOS 1968, pl. 95a; 1969, pl. 225a, b; 1970, pls. 262a, b, 282a, b.

<sup>98</sup> MARTHARI 1990, 61 fig. 4b; EVANS 1928, 549 fig. 349l; POPHAM 1969, pl. 76e.

<sup>99</sup> CUMMER and SCHOFIELD 1984, pls. 61–5.

<sup>100</sup> COLDSTREAM and HUXLEY 1972, figs. 39–40, pls. 25–8.

<sup>101</sup> COLDSTREAM and HUXLEY 1972, fig. 40, pls. 29–30.

<sup>102</sup> 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

by Nicoletta Momigliano, whom I would like to thank for “converting” me into using ceramic groups. Special thanks are due to the British School at Athens for permission to reproduce illustrations from the Unexplored Mansion (POPHAM 1984); Sue Sherratt and the Keepers at the Ashmolean Museum for permission to reproduce the photograph of pottery from the Gyp-

sadhes Well in the Evans Archive. Lucia Alberti, Gerald Cadogan, Kostas Christakis, Evangelia Kiriati, Aleydis Van de Moortel and David Wilson are warmly thanked for reading this paper and for their constructive comments. Although he is not always in agreement, I should particularly like to thank Peter Warren for fruitful discussions on this paper.

### 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

## Bibliography

- BETANCOURT, P.P.  
1978 "LM IA pottery from Priniatikos Pyrgos." In: *Thera and the Aegean World I*, edited by C. DOUMAS, 381–7. London.
- BOSANQUET, R.C., and DAWKINS, R.M.  
1923 *The Unpublished Objects from the Palaikastro Excavations 1902–1906*. BSA Suppl.1. London.
- BOYD-HAWS, H. *et al.*  
1908 *Gournia, Vasiliki, and Other Prehistoric Sites on the Isthmus of Hierapetra, Crete*. Philadelphia.
- CADOGAN, G.  
1977 "Myrtos." *ArchDelt* 27B'2, 1972:629–30.  
1978 "Pyrgos, Crete, 1970–77." *AR* 24:70–84.
- CADOGAN *et al.*  
1993 "Early Minoan and Middle Minoan pottery groups at Knossos." *BSA* 88:21–8.
- CADOGAN, G. *et al.* (eds.)  
2004 *Knossos: Palace, City, State*. British School at Athens Studies 12. London.
- CARINCI, F.  
1983 "Sulle suddivisioni del Medio Minoico III. Alcune osservazioni su un saggio di scavo a Cnosso." *ArchCl* 35:119–37.
- CATLING, E.A. *et al.*  
1979 "Knossos 1975: Middle Minoan III and Late Minoan I houses by the Acropolis." *BSA* 74:1–80.
- COLDSTREAM, J.N.  
1979 "Kythera and the southern Peloponnese in the LM I period." In: *Thera and the Aegean World I*, edited by C. DOUMAS, 389–401. London.
- COLDSTREAM, J.N. and HUXLEY, G.L. (eds.)  
1972 *Kythera: Excavations and Studies Conducted by the University of Pennsylvania Museum and the British School at Athens*. London.
- CUMMER, W.W. and SCHOFIELD, E.  
1984 *Keos 3. Ayia Irini: House A*. Mainz.
- DAY, P.M. and WILSON, D.E.  
2004 "Ceramic change and the practice of eating and drinking in Early Bronze Age Crete." In: *Food, Cuisine and Society in Prehistoric Greece*, edited by P. HALSTEAD and J.C. BARRETT, 45–62. Sheffield Studies in Aegean Archaeology. Oxford.
- DAVIS, J.L.  
1986 *Keos 5. Ayia Irini: Period V*. Mainz.  
2001 "Review of Aegean Prehistory I: The Islands of the Aegean." In: *Aegean Prehistory. A Review*, edited by T. CULLEN, 19–76. American Journal of Archaeology Supplement 1. Boston.
- DAWKINS, R.M.  
1903 "Pottery from Zakro." *JHS* 23:248–60.
- DICKINSON, O.T.P.K.  
1974 "The definition of Late Helladic I." *BSA* 69:109–20.
- DIMOPOULOU, N.  
1988 "Πόρος Ηρακλείου." *Κρητική Εστία* 2:325–7.
- DRIESSEN, J. and MACDONALD, C.F.  
1997 *The Troubled Island. Minoan Crete before and after the Santorini Eruption*. *Aegaeum* 17.
- DRIESSEN, J. *et al.* (eds.)  
2002 *Monuments of Minos: Rethinking the Minoan Palaces*. *Aegaeum* 23.
- EVANS, A.J.  
1906 *Essai de classification des Epoques de la civilisation Minoenne*. London.  
1921 *The Palace of Minos at Knossos* 1. London.  
1928 *The Palace of Minos at Knossos* 2. London.  
1930 *The Palace of Minos at Knossos* 3. London.  
1935 *The Palace of Minos at Knossos* 4. London.
- EVELY, D. *et al.* (eds.)  
1996 *Minotaur and Centaur. Studies in the Archaeology of Crete and Euboea presented to Mervyn Popham*. BAR IS 638. Oxford.
- FORSDYKE, E.J.  
1925 *Catalogue of the Greek and Etruscan Vases in the British Museum I. 1. Prehistoric Aegean Pottery*. London.  
1927 "The Mavro Spelio Cemetery at Knossos." *BSA* 28:243–96.
- GUIDOBIONI, E.  
1996 "Archaeology and historical seismology: the need for collaboration in the Mediterranean area." In: *Archaeo-seismology*, edited by S. STIROS and R. E. JONES, 7–13. British School at Athens Fitch Laboratory Occasional Paper 7. Athens.
- JONES, R.E.  
1986 *Greek and Cypriot Pottery. A Review of Scientific Studies*. British School at Athens Fitch Laboratory Occasional Paper 1. Athens.
- HANKEY, V.  
1986 "Pyrgos. The communal tomb in Pyrgos IV (Late Minoan I)." *BICS* 33:135–7.
- HATZAKI, E.  
forthc. a "The Neopalatial Period (MM IIIB–LM IB)" In: MOMIGLIANO forthcoming.  
forthc. b *Knossos: the Temple Tomb*. BSA Suppl. London.  
forthc. c "Περιορισμοί και προοπτικές της έρευνας στην μελέτη της κεραμικής της Ύστερης Εποχής του Χαλκού. Η περίπτωση της Κνωσού." In: *Η Προϊστορία του Αιγαίου στις αρχές του 21<sup>ου</sup> αιώνα (Διημερίδα Πανεπιστημίου Κρήτης, Νοέμβριος 2003)*, edited by K. ΚΟΡΑΚΑ, Πανεπιστημιακές Εκδόσεις Κρήτης.  
in preparation "Social strategies, ceramic production and consumption: the case of Late Bronze Age Knossos, Crete".

- HOGARTH, D.G.  
 1901 “Excavations at Zakro, Crete.” *BSA* 7:121–49.  
 1902 “Bronze Age vases from Zakro.” *Journal of Hellenic Studies* 22:333–8.
- HOOD, S.  
 1996 “Back to basics with Middle Minoan IIIB.” In: EVELY *et al.* 1996:10–6.
- HOOD, S. and SMYTH, D.  
 1981 *Archaeological Survey of the Knossos Area*. BSA Suppl.14. London.
- HOOD, S. and TAYLOR, W.  
 1981 *The Bronze Age Palace at Knossos: Plan and Sections*. BSA Suppl.13.
- KNAPPETT, C., and CUNNINGHAM, T.F.  
 2003 “Three Neopalatial deposits from Palaikastro, East Crete.” *BSA* 98:107–87.
- LA ROSA, V., and CUCUZZA, N.  
 2001 *L'insediamento di Selì di Kamilari ne territorio di Fes-tòs*. Studi di Archeologia Cretese. Padova.
- LEBESSI, A.  
 1973 “Ἱερό Ερμού και Αφροδίτης εις Σύ μη Βιάννου.” *Prakt*:188–99.
- MACDONALD, C.F.  
 1996 “Notes on some Late Minoan IA contexts from the Palace of Minos and its immediate vicinity.” In: EVELY *et al.* 1996:17–26.  
 2000 “Knossos: present and future.” In: *Cretan Quests: British Explorers, Excavators and Historia*, edited by D. HUXLEY, 151–61. London.  
 2002 “The Neopalatial palaces of Knossos.” In: DRIESSEN *et al.* 2002:35–54.  
 2004 “Ceramic and contextual confusion in the Old and New Palace periods.” In: CADOGAN *et al.* 2004:239–51.
- MACGILLIVRAY, J.A.M.,  
 forthe. “The Protopalatial Period (MM IIA–MM IIIA).” In: MOMIGLIANO (forthcoming).
- MARINATOS, S.  
 1968 “Ανασκαφή Θήρας II.” *Prakt*:87–138.  
 1969 “Ανασκαφή Θήρας III” *Prakt*:147–92.  
 1970 “Ανασκαφή Θήρας IIIV.” *Prakt*:156–204.
- MARTHARI, M.  
 1990 “The Chronology of the last phases of occupation at Akrotiri.” In: *Thera and the Aegean World 3.3. Chronology*, edited by D. A. HARDY and A. C. RENFREW, 57–70. London.
- MOMIGLIANO, N. (ed.)  
 forthe. *Knossos Pottery Handbook Volume 1: Neolithic and Minoan*. BSA Studies. London.
- MOUNTJOY, P.A.,  
 1993 *Mycenaean Pottery: an Introduction*. Oxford University Committee for Archaeology Monograph. Oxford.
- 1999 *Regional Mycenaean Decorated Pottery*. Rahden/Westf.  
 2003 *Knossos: the South House*. BSA Suppl. 34.
- MUHLY, P.  
 1992 *Μινωικός λαξευτός τάφος στον Πόρο Ηρακλείου*. Βιβ-  
 λιοθήκη της εν Αθήναις Αρχαιολογικής Εταιρείας  
 129. Athens.
- NIKOLAKOPOULOU, I. *et al.*  
 forthe. “Trapped in the middle: new stratigraphical and  
 ceramic evidence from Akrotiri, Thera” In: *Orizon. A  
 Colloquium on the Prehistory of the Cyclades*. McDonald  
 Institute Monographs, edited by C. RENFREW *et al.*  
 Cambridge.
- PENDLEBURY, J.D.S.  
 1939 *The Archaeology of Crete: an Introduction*. London.
- PLATON, L.  
 1999 “New evidence for the occupation at Zakros before  
 the LM I palace.” In: *Meletemata. Studies in Aegean  
 Archaeology presented to Malcolm H. Wiener as he enters  
 his 65<sup>th</sup> year*, edited by P.P. BETANCOURT, V. KAR-  
 GEORGHIS, R. LAFFINEUR AND W.-D. NIEMEIER,  
 671–81. *Aegaeum* 20.  
 2002 “The political and cultural influence of the Zakros  
 Palace.” In: DRIESSEN *et al.* 2002:145–55.  
 2004 “Το Υστερομινωικό ανάκτορο της Ζάκρου, μια  
 “Κνωσός” έξω από την Κνωσό.” In: CADOGAN *et al.*  
 2004:381–92.
- POPHAM, M.R.  
 1967 “Late Minoan Pottery, a summary.” *BSA* 62:337–51.  
 1969 “The Late Minoan goblet and kylix.” *BSA* 64:299–304.  
 1970a *The Destruction of the Palace at Knossos. Pottery of the  
 Late Minoan III A Period*. SIMA 12. Lund.  
 1970b “Late Minoan III B pottery from Knossos.” *BSA*  
 65:195–202.  
 1977 “Notes From Knossos, Part I.” *BSA* 72:185–95.  
 1981 “Notes from Knossos, Part III.” *BSA* 76:329–33.  
 1984 *The Minoan Unexplored Mansion at Knossos*. BSA  
 Suppl. 17.  
 1994 “Late Minoan II to the end of the Bronze Age.” In:  
*Knossos: a Labyrinth of History. Papers Presented in  
 Honour of Sinclair Hood*, edited by EVELY *et al.*,  
 89–104. London.
- RENFREW, C.  
 1972 *The Emergence of Civilisation. The Cyclades and the  
 Aegean in the Third Millennium B.C.* London.
- RETHEMIOTAKIS, G.  
 1997 “Late Minoan III pottery from Kastelli Pediada.” In:  
*Late Minoan III Pottery. Chronology and Terminology*,  
 edited by E. HALLAGER E. and B. P. HALLAGER,  
 305–26. Monographs of the Danish Institute at  
 Athens I. Athens.  
 1999 “Social rank and political power. The evidence from  
 the Minoan palace at Galatas.” In: *Eliten in Der Bron-  
 zezeit*, edited by R. HABELT, 9–26. Monographien des  
 Römisch-Germanischen Zentralmuseums 43. Mainz.

- 2003 "Evidence on social and economic changes at Galatas and Pediada in the New-palace period." In: DRIESSEN *et al.* 2002:55–68.
- RETHEMIOTAKIS, G., and CHRISTAKIS, K.S.
- 2004 "Cultural interaction between Knossos and Pediada: the evidence from the Middle Minoan IB pottery", In CADOGAN *et al.* 2004:169–75.
- RUTTER, J.B.
- 2004 "Ceramic sets in context: one dimension of food preparation and consumption in a Minoan palatial setting." In: *Food, Cuisine and Society in Prehistoric Greece*, edited by P. HALSTEAD and J.C. BARRETT, 61–89. Sheffield Studies in Aegean Archaeology. Oxford.
- RUTTER, S.H. and RUTTER, J.B.
- 1976 *The Transition to Mycenaean: a Stratified Middle Helladic II to Late Helladic IIA Pottery Sequence from Ayios Stephanos in Lakonia*. Monumenta Archaeologica 4. Los Angeles.
- RUTTER, J.B. and ZERNER, C.W.
- 1984 "Early Hellado-Minoan contacts." In: *The Minoan Thalassocracy. Myth and Reality*, edited by R. HÄGG and N. MARINATOS, 75–83. Skrifter Utgivna av Svenska Institutet i Athen 4<sup>o</sup> 32. Stockholm.
- SOLES, J.S. and DAVARAS, C.
- 1992 "Excavations at Mochlos, 1989." *Hesperia* 61:413–45.
- STIROS, S.C.
- 1996 "Identification of earthquakes from archaeological data: methodology, criteria and limitations." In: *Archaeoseismology*, edited by S. STIROS and R. E. JONES, 129–52. British School at Athens Fitch Laboratory Occasional Paper 7. Athens.
- VAN DE MOORTEL, A.
- 1998 *The Transition from the Protopalatial to the Neopalatial Society in South-Central Crete: a Ceramic Perspective*. PhD diss., Bryn Mawr College.
- 2001 "The Area around the kiln and the pottery from the kiln and the kiln dump." In: J. W. SHAW *et al.* *A LM IA Ceramic Kiln in Southern-Central Crete. Function and Pottery Production*, 25–110. Hesperia Suppl. 30.
- 2002 "Pottery as a barometer of economic change: from the protopalatial to the neopalatial society on central Crete." In: *Labyrinth Revisited. Rethinking 'Minoan' Archaeology*, edited by Y. HAMILAKIS, 189–211. Oxford.
- WARREN, P.M.
- 1991 "A new Minoan deposit from Knossos, c.1600 BC and its wider relations." *BSA* 86:319–40.
- 1996 "A new Minoan decoration – the Jackson Pollock Style – and its place in Minoan art." In: EVELY *et al.* 1996:46–50.
- 1999 "LM IA Knossos, Thera, Gournia." In: *Meletemata. Studies in Aegean Archaeology presented to Malcolm H. Wiener as he enters his 65<sup>th</sup> year*, 893–903. *Aegaeum* 20.
- WARREN, P.M. and V. HANKEY
- 1989 *Aegean Bronze Age Chronology*. Bristol.
- WHITELAW, T.
- 2001 "From sites to communities: defining the human dimensions of Minoan urbanism." In: *Urbanism in the Aegean*, edited by K. BRANIGAN, 15–37. Sheffield Studies in Aegean Archaeology 4. Sheffield.
- 2004 "Estimating the population of Neopalatial Knossos." In: CADOGAN *et al.* 2004:147–58.