

# LM IB pottery

relative chronology and  
regional differences

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

Edited by  
*Thomas M. Brogan*  
& *Erik Hallager*



Monographs of the Danish Institute at Athens, Volume 11, 2















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Volume 11, 2

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Double vase from the Royal Road: North at Knossos



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# LM IB pottery from the rural Villa of Pitsidia: a response to Jeremy Rutter<sup>\*</sup>

*Despina Chatzi-Vallianou*

Professor J. Rutter's presentation of the Late Minoan IB sequence at Kommos raises a host of questions as it leads us towards new conclusions regarding the identification and chronology of LM IB and LM II pottery. Rutter's research is based on the pottery from different levels and deposits at Kommos, especially those from Building T, House X (Rooms 2, 3, 6, 7, and 11) and the House of the Snake Tube. Portions of the Kommos material have been studied by Rutter, Van de Moortel, and Watrous,<sup>1</sup> all of whom draw comparisons with deposits from other sites with LM IB and LM II Early Phases, particularly Hagia Triada, Phaistos, Seli, Tylissos, Nirou Chani and Mochlos.

On the basis of both the forms and decoration of the pottery, the division of the Late Minoan IB period into two phases has previously been proposed: LM IB Early and LM IB Late. Rutter now divides the Late Minoan IB pottery at Kommos into three phases: LM IB Early, LM IB Late and LM IB Final. The description of this final phase is a departure from both his recent publication of 2006 and his presentation at the LM IB pottery conference in 2007; previously he had described this last selection of Kommos pottery as Late Minoan II Early. This is a new and important idea which Rutter drew attention to during the discussion at the Athens Conference, and again in a letter of August 2007 in which he confirms his identification of this third phase. What we call this phase remains a hard nut to crack. He now suggests three options: LM IB Final, LM IC, or LM II Early, opting for the first, LM IB Final.

First, I agree with the view that there is no precise information regarding the duration of the LM IB period, and also with his approach providing a sequential distinction of its early and late phases. I

also should stress that the information provided by recent excavations in the western Mesara does not convince me that some of the material belongs to the LM II period, as originally proposed by Rutter, for reasons I will outline below.

As the main focus of the Conference is the problem of dating the final phase of the LM IB period and the transition to LM II, I will attempt to review Rutter's proposals in connection with my own views, which are based on clearly stratified finds from recent excavations in the Mesara. Specifically, my presentation will focus on the study of stratified material from the Minoan rural Villa of Pitsidia, drawing conclusions through the comparison of this material with other finds from Neopalatial settlements in the western Mesara and other parts of Crete. My goal is to provide a more secure relative chronology for material within the LM IB period.

## The Minoan Villa of Pitsidia: the site and the building

In 1978 extensive Minoan and Hellenistic remains were discovered at Plakes, north of the village of Pitsidia. Located within the "The Great Minoan Triangle"<sup>2</sup> formed by the sites of Hagia Triada, Phaistos and Kommos, the Neopalatial Villa of

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<sup>\*</sup> I would like to thank INSTAP and particularly Prof. P. Betancourt for their support over the past few years, without which I would not have been able to present material from the rural Villa of Pitsidia at this meeting. Drawings are by M. Schumacher and photos by A. Vallianos.

<sup>1</sup> Rutter 2006a; Van de Moortel 1997; and Watrous 1992. See also Shaw & Shaw 2006.

<sup>2</sup> Shaw & Shaw 1985.



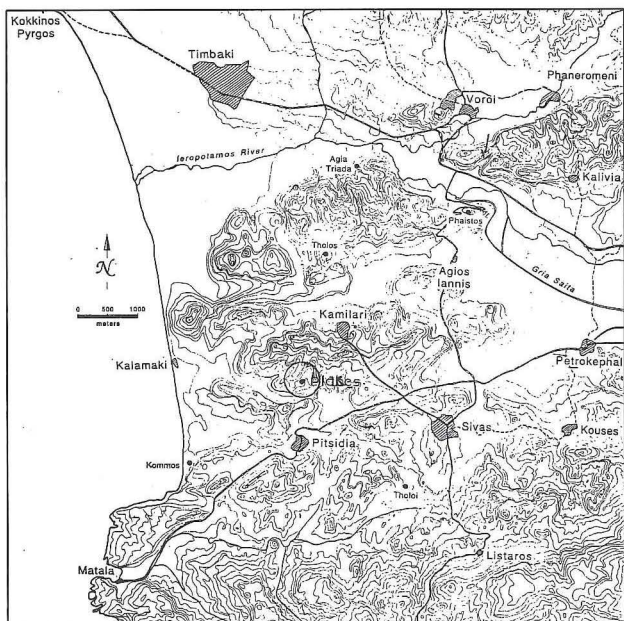


Fig. 1. Map of the western Mesara, showing the location of the Minoan Villa of Pitsidia (Plakes) within the "Great Minoan Triangle" of Phaistos, Hagia Triada and Kommos.



Fig. 2. The Villa of Pitsidia. View from the north.

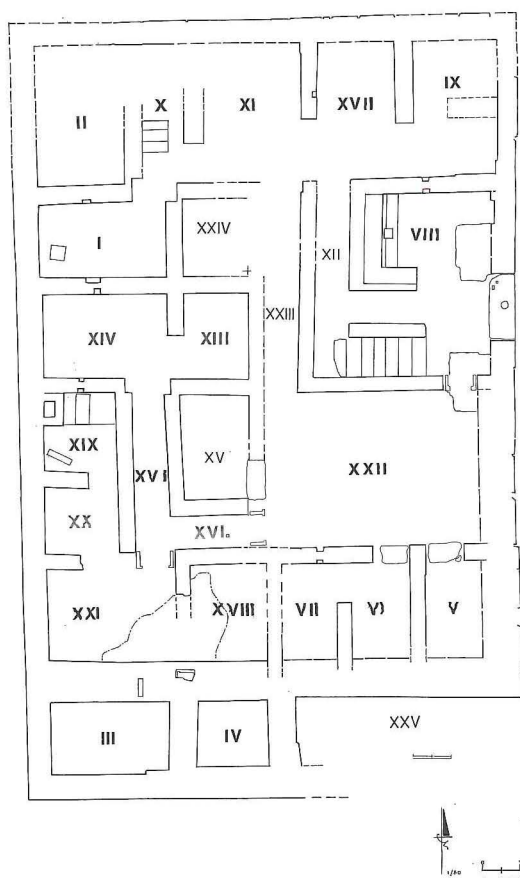


Fig. 3. Plan of the rural Villa of Pitsidia. Scale 1:100.

Pitsidia lay a short distance from Kommos (2500 m), Phaistos (3550 m) and Hagia Triada (4050 m) (Fig. 1). It was also built close to the road to Kalamaki, which possibly served as the second Minoan port of Phaistos. The Villa at Pitsidia was excavated during brief seasons between 1988 and 1992 and again from 1997 to 2000, after what appears to have been repeated illegal excavations at the site.<sup>3</sup>

The Villa exhibits an excellent architectural design and careful construction (Figs. 2–3). Its rooms and storerooms were laid out in zones around a Central Hall (XXII) and separated by corridors, which created various functional areas and provided access and communication between rooms and zones of different activities. Two staircases on the east and north sides led to the upper story, which had collapsed.

The building is located on a small hillside with a slope running up from north to south. The walls of the building are preserved to a height of 1.20–1.40 m on the west side; those on the east side are preserved to a much lower height, if at all. The fill preserved inside the rooms was of a

<sup>3</sup> For preliminary reports, see Chatzi-Vallianou 1987; 1988; 1989; 1990; 1995; 1997a; 1997b; 1998; 1999; 2002.



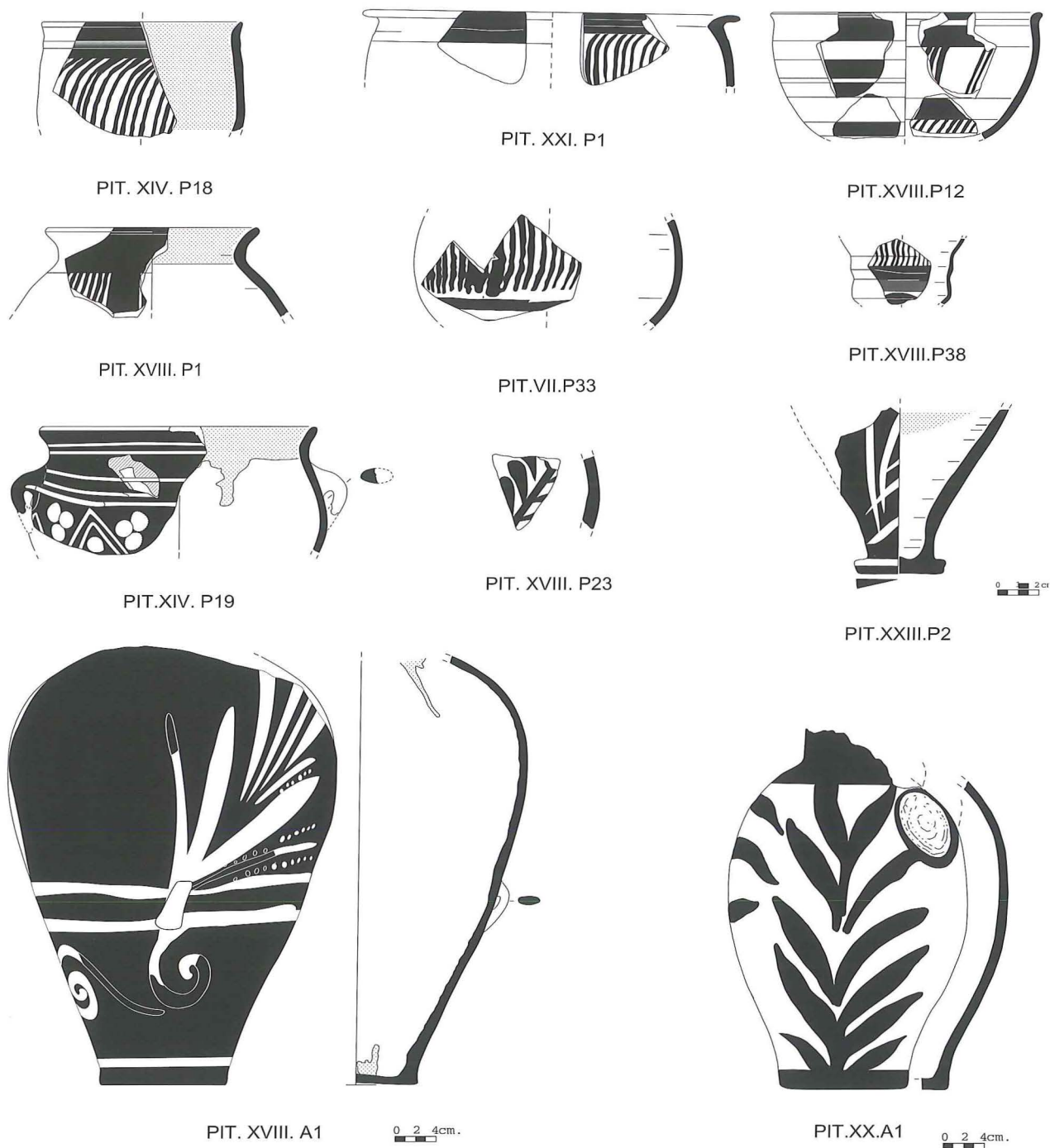


Fig. 4. Pottery from LM IA destruction layers beneath Rooms XVIII-XXI. Scale 1:6.

similar thickness. While the deposition over the rooms was of uniform thickness, careful excavation revealed that the upper and lower story walls collapsed towards the southeast. When combined with the fact that there were few traces of fire, it appears likely that the building was destroyed by

an earthquake as reported at the *Archaeoseismology Congress of Athens*.<sup>4</sup>

Various evidence points to the fact that the Villa

<sup>4</sup> Vallianou 1996.

was built over an earlier construction destroyed in LM IA. One piece of evidence was provided by small test trenches opened beneath various floors (e.g., Room XIX) during the excavations. Another was the deep "trench" sunk during illegal digging under the floors of Rooms XVIII and XXI (Fig. 4), and finally the test trenches dug to the east and west of the Villa for the construction of a shelter. All show that the Villa was built over structures with a destruction layer of LM IA date. The occupants conducted minor repairs to the structure after this LM IA event, but the Villa was again destroyed at the end of the LM IB period and then abandoned. Because the site was never reoccupied (with the exception of a limited habitation in the late Classical-Hellenistic period), the floor deposits were found undisturbed.

The architectural layout and the finds allow us to distinguish clearly the function of the rooms on the ground floor. The Central Hall XXII, south of the entrance and the east staircase, was completely paved, with the exception of a central hearth. It appears to have served as the most important room in the building. Room VIII, to the north of the entrance, was probably used for cult activities. Rooms XIII, XIV, XV, XIX, XX were a series of storerooms and workshops forming the central zone on the western side of the Villa. The rooms south of Central Hall XXII and Corridor XVIa (Rooms V, VI, VII, XVIII, XXI) probably supported reception and dining activities taking place nearby in the Central Hall. Finally, the rooms forming the northern wing (Rooms I, II, IX, XI, XVII, XXIV) were used as storerooms and workshops (e.g., Room XVII was a textile workshop). These spaces may have belonged to the women's apartments, which were probably located upstairs over this part of the Villa and accessible from the north staircase (Room X).

## The pottery

The subject of this paper is the pottery from the last phase of habitation. This material provides the most accurate record for the chronology of the destruction and abandonment of the Villa, and for

the relationship of these events to those observed at other centers in the western Mesara. Due to the brief length of this paper, a full treatment of the pottery will not be possible. Instead, this study considers a selection of vessels from four rooms, which can be dated on the basis of stratigraphy and by comparison with LM IB material from Central Crete, particularly Knossos, and sites in the western Mesara, including Phaistos, Hagia Triada and Kommos. After presenting the pottery from these rooms, the report then addresses a selection of interesting vases from the other rooms in the Villa at Pitsidia.

The presentation focuses on Room VII, the Central Hall XXII, storeroom XIV and the small workshop XIX (Fig. 3). There are several reasons for selecting these contexts. First, they present a broad range of vessel forms, functions and decoration. Equally important, the floor deposits in these spaces are uniform and undisturbed by the later cultivation and illicit excavations. The floor surfaces were easily recognizable by the presence of pavement (XXII, XIX) or the natural limestone, which was covered with clay packing (XIV). These surfaces also ensure that the material under study was actually used in the rooms. Finally, excavation in Room VII revealed different building phases, which were clearly identifiable. These included wall collapse, the floor surface of the final phase, and an earlier LM IA destruction deposit, sealed beneath the floor. Similar stratigraphy was also observed in the trench sunk by looters in neighboring Rooms XVIII and XXI (Fig. 3).

## Room VII

The stratigraphy in Room VII is complex. The first layer included a fill, 1.30 m deep, with stone and earth debris from the collapse of the superstructure. Immediately below lay two thinner layers. The first (Layer 2) was comprised of soft gray earth which covered the projecting foundation of the north wall; the second (Layer 3) was the beaten earth floor, which was 0.10–0.25 m thick. Digging beneath the floor revealed another floor layer (Layer 4), 0.30 m thick, which probably



Fig. 5. Semiglobular cups from Room VII. Drawings and photos (no. VII.A8, no. VII.A15).



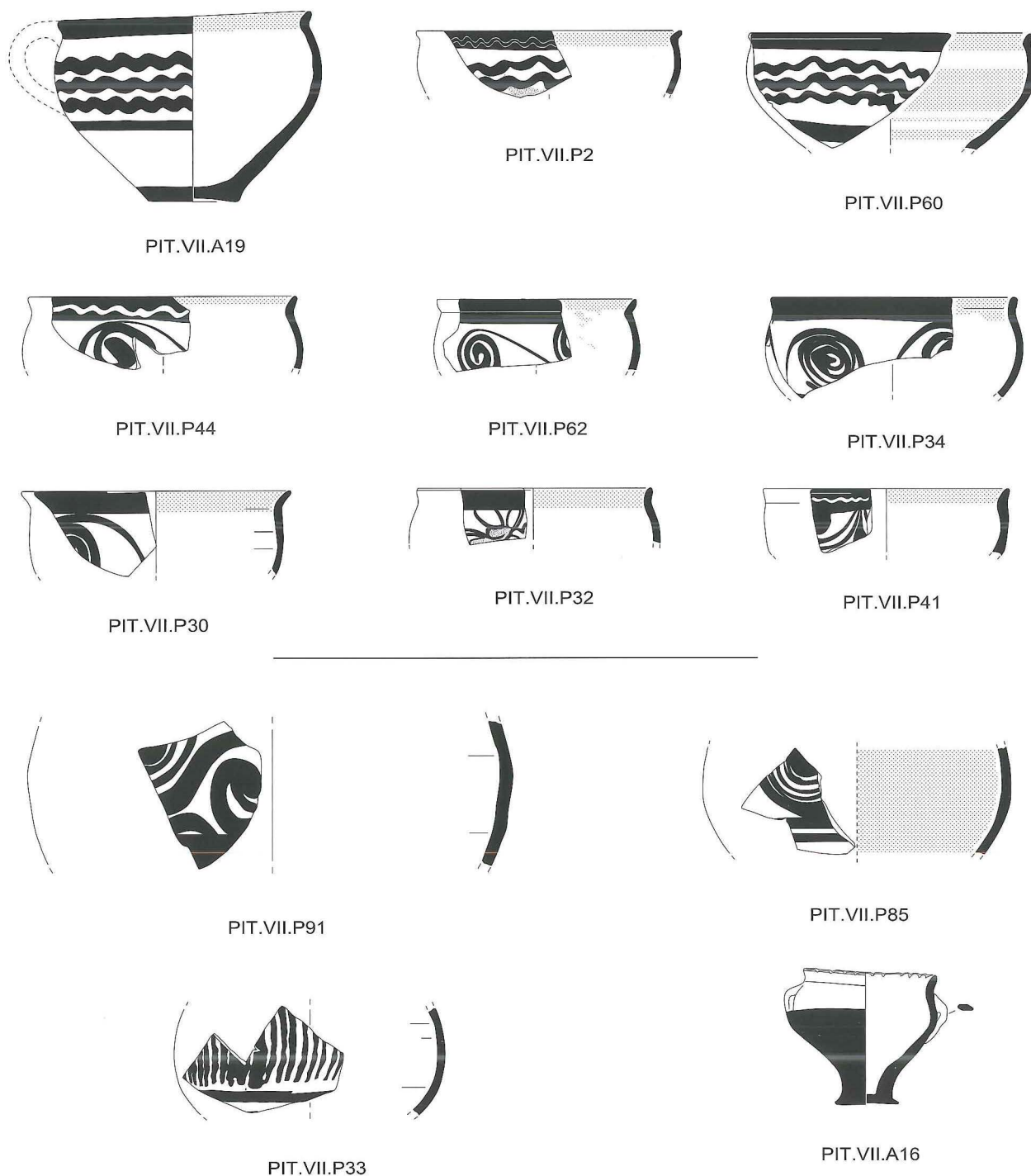


Fig. 6. Semiglobular cups and other decorated vases from Room VII.

sagged down in places over an even lower fill of earlier LM IA destruction material (Layer 5) which had settled unevenly.

The floor deposit produced a series of complete and fragmentary drinking vessels, mostly conical cups but also several decorated semiglobular bowls

and cups (Figs. 5–9). The cups (*kyathoi*), with two exceptions (a monochrome, rim-spouted cup, Fig. 5, VII.A18, and another plain example with a banded base, Fig. 5, VII.P1) were all decorated “teacups” with a semiglobular profile and a single vertical handle or no handle (Figs. 5–6). The

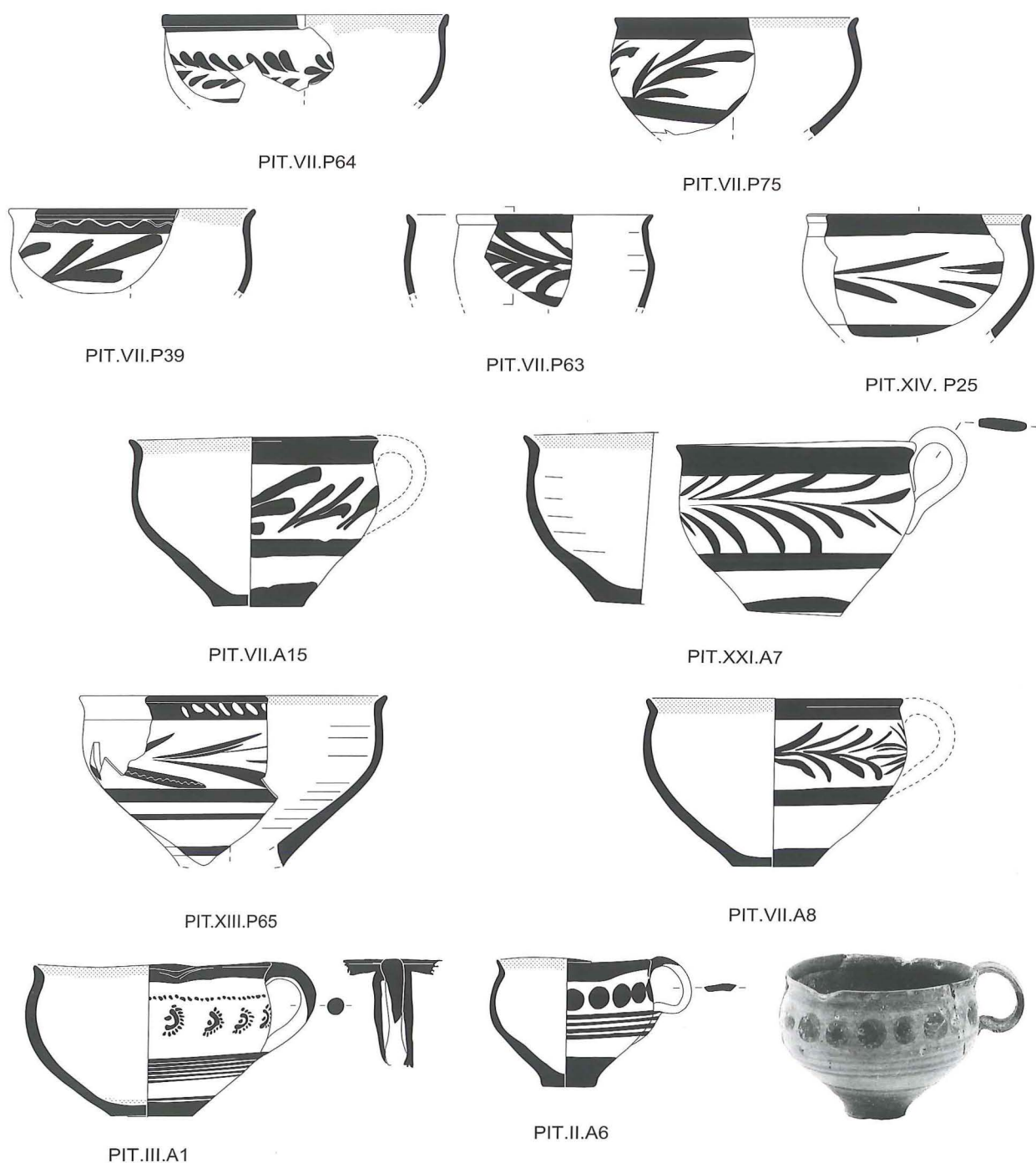


Fig. 7. Decorated cups from Rooms VII and II (no. II.A6 drawing & photo), III, XIII, XXI.

dark-on-light pattern decoration is limited to the shoulder zone between a band on the rim and a pair of bands on the lower body. The painted motifs include vegetal elements like horizontal and diagonal reed, of which the former was particularly popular (e.g., Fig. 5, VII.A8, VII.P63, VII.P64,

VII.P15, VII.P75, VII.P39, and VII.P83) in the West Mesara, as suggested by Rutter.<sup>5</sup> Rutter's

<sup>5</sup> Presented at the July 2007 Conference and in Rutter this volume, figs. 8–9, nos. X2:4/9, X2:5/5, X3:2/2, X2:4/10, dated to LM IB Late. See also Watrous 1992, nos. 83, 86.

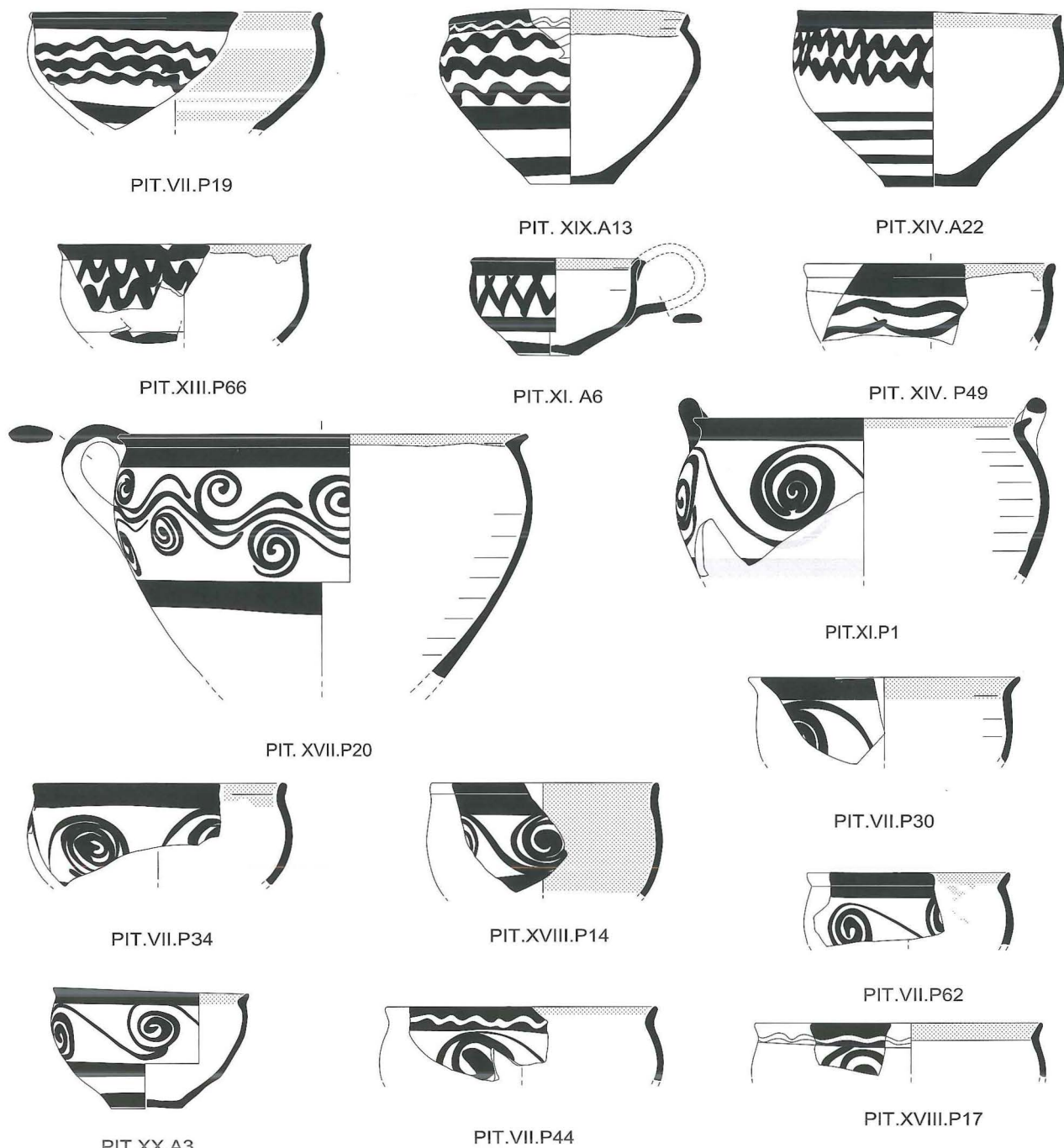


Fig. 8. Decorated semiglobular cups and bowls from Rooms VII, XI, XIII, XIV, XVII, XVIII, XIX, XX.

Floral Paneled Style is also present with festoons (Fig. 5, VII.A17) or floral sprays (Fig. 5, VII.P31).<sup>6</sup> Other motifs include horizontal wavy bands (Fig. 6, VII.A19, VII.P2, and VII.P60)<sup>7</sup> and running spirals (Fig. 6, VII P30, P34, and P62).<sup>8</sup>

The shape and decoration of these cups have many parallels. In addition to the examples from

<sup>6</sup> For Kommos, see Rutter in this volume, nos. C75, C2914, C2919, 258, dated LM IB Early. See also Watrous 1992, nos. 258, 346.

<sup>7</sup> For Kommos, see Rutter this volume, fig. 2, no. 37d/2, 41/1, 37e/6 and 257, semiglobular cups dated to LM IB Early. See also Watrous 1992, 87, 266, 257.

<sup>8</sup> For Kommos, see Rutter this volume, fig. 2, the early LM IB semiglobular cups nos. 37d/1, 40/11, 4012, 259, Watrous 1992, no. 1259.



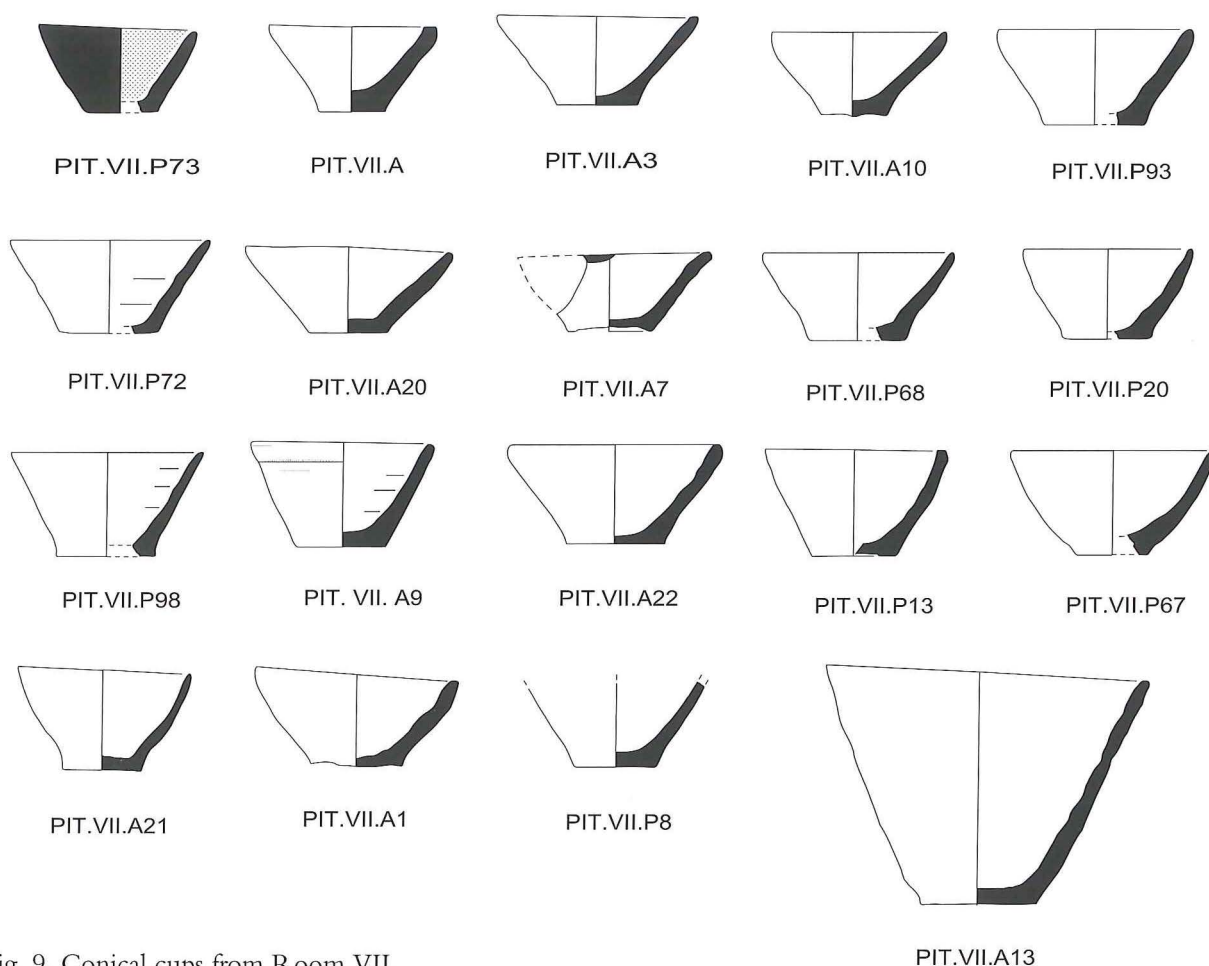


Fig. 9. Conical cups from Room VII.

Kommos mentioned previously,<sup>9</sup> several exist from sites in the western Mesara: Hagia Triada,<sup>10</sup> Phaiastos,<sup>11</sup> Hagia Photeini,<sup>12</sup> Chalará<sup>13</sup> and Seli.<sup>14</sup> They may belong to Rutter's LM IB Late, but I prefer to date them nearer the end of the period, to late LM IB or final LM IB. Watrous' date of LM II for one semiglobular cup from Deposit 16 at Kommos (no. 346) with alternating leaves and arcs and a white line on the rim band probably should be changed; it too belongs to Rutter's LM IB Late or Final.<sup>15</sup> A few semiglobular cups with the same decoration (foliate band, spirals, wavy bands), dated to the LM IB period, have been found at the Knossos South House<sup>16</sup> and Mochlos.<sup>17</sup>

A miniature pithos from the same layer of Room VII (Fig. 6, VIIA16) points to the same date.<sup>18</sup>

Semiglobular cups (*kyathoi*) and a horizontal-handled bowl (*skyphos*) with the same decoration of reeds, spiral and wavy bands were found in the

destruction level of several more rooms (XI, XIII, XIV, XXII, XIX) of the Villa (Figs. 7–8). One

<sup>9</sup> See also Rutter 2006a, for LM IB Early cups: pl. 3.42, nos. 37d/1, 37d/2; pl. 3.44, nos. 39/2, 40/8, 40/11, 40/12; for LM IB Early – Late: pl. 3.46, nos. 41/1, 43/3, 43/4; pl. 3.47, nos. 44b/6, 44b/7, 44b/9, 44b/10, 44b/11; pl. 3.48, no. 45/3; for LM IB Late: pl. 3.50, 46a/3, 47/4, 47/5, 47/8, 47/9; pl. 3.51; 50/2; and Van de Moortel 1997, 997–8, 1012.

<sup>10</sup> Puglisi 2003a, 163–78, figs. 6–8, 10, 12, 13; 2006, nos. 8.9, 8.14, 11.56, 11.62, 11.72, from destruction layers and nos. 36.10, 41.5, 41.6, 42.10, 46.12.

<sup>11</sup> Pernier & Banti 1951, 104; Levi 1967–8, fig. 80.

<sup>12</sup> See Palio 2001b, 252–6, 263–7, figs. 11–7, 23–4.

<sup>13</sup> See Levi 1967–8; Palio 2001a, 380–1, figs. 37–44.

<sup>14</sup> La Rosa & Cucuzza 2001.

<sup>15</sup> See Watrous 1992, 20–1, 119.

<sup>16</sup> Mountjoy 2003, no. 323, 353, 382, figs. 4.21–23.

<sup>17</sup> Barnard & Brogan 2003, fig. 9, no. IB.231 and 222.

<sup>18</sup> Watrous 1992, no. 214; Levi 1967–8, fig. 80.



Fig. 10. The Minoan Villa of Pitsidia. Room XIV, destruction layer.

of the semiglobular cups (Fig. 8, XVII, P20) is decorated with tendril scroll, a motif found in the Mesara and elsewhere in LM IA but also in LM IB layers (e.g., Hagia Photeini at Phaistos,<sup>19</sup> Kannia, and Chalara).<sup>20</sup>

I believe that the cup with solid circles (a dot band) as its principal decoration, which was found in the destruction layer of Room II at Pitsidia (Fig. 7, Pit.II.A6) also belongs to the LM IB destruction horizon. It is very similar to a cup (no. 281) from Deposit 8 of the House of the Snake Tube at Kommos. Watrous notes that this deposit “...lay directly on the packing level for the house and was sealed by Deposit 16.”<sup>21</sup> It should, however, be dated to LM IB rather than LM IB Final, as Rutter suggests for this distinctive decorative motif.<sup>22</sup>

The nine conical cups found in the same destruction layer of Room VII (Fig. 9, VII.A1, A3, A7, A20, P8, and P20–2) have the small size and shape of the LM IB cups at Kommos.<sup>23</sup> The cups found in the pit or floor cavity (Layer 4), by contrast, are slightly larger (Fig. 9, Pit.VII P13, P67–8, P72–3, P93, P98, and A9–10).

We note that the pottery in Room VII was almost exclusively small drinking vessels, conical cups and semiglobular cups, with similar decoration. One is tempted to suggest that some may have formed “ceramic sets” to serve the needs

of the Villa’s residents and, in particular, occasions for “hospitality” (i.e., occasions for drinking and eating) in the Central Hall XXII.<sup>24</sup>

Also from deeper in Layer 4 come a few sherds of semiglobular cups (Fig. 6, VII.P91, VII.P85, VII.P44, VII.P41) with the same decoration mentioned above (spirals) on the shoulder zone, but with an added white wavy band or zigzag on the dark rim band. There are also two sherds with a closed spiral, which finds parallels at other sites in the Mesara dated to the final LM IA period.<sup>25</sup> These sherds indicate the chronological horizon and thus provide a possible date for the reconstruction of the Villa following the destruction of its first phase.<sup>26</sup>

<sup>19</sup> Palio 2001b, 258, fig. 19.

<sup>20</sup> Levi 1967–8, fig. 75.

<sup>21</sup> Watrous 1992, 16, fig. 18, pl. 7; See also cup no. 376, pl. 9, from Deposit 16, which should perhaps be re-examined, and Puglisi 2006, no. 57.1, 59.8, 62.2, 67.2, 68.3.

<sup>22</sup> Rutter this volume.

<sup>23</sup> Rutter 2006a and Van de Moortel 1997.

<sup>24</sup> See Rutter 2004.

<sup>25</sup> La Rosa 1989a; 2002; D’Agata 1989; Puglisi 2003a; Palio 2001a–b; Rutter 2006a.

<sup>26</sup> For Knossos, see Macdonald 1990; Hood 1978; Popham 1984; and Mountjoy 2003.



## Room XIV

The walls of this semi-underground room are preserved to a height of 1.21 m. The floor of the room consisted of the flattened limestone bedrock and earth which filled various natural cavities. A thick layer of collapsed debris covered the room. It consisted of successive layers of earth, clay plaster and a large mass of stones from the superstructure of the two-story building, the roof and the upper story floor. Excavation of these layers down to the floor recovered a mix of fragmentary vessels, including both medium-sized storage jars and smaller decorated shapes. The stratigraphy clearly indicates that the destruction layer contained both a deposit of storage vessels on the ground floor and pots from the collapsed upper story. It should be noted that there were relatively intense traces of fire in the floor deposit, one of the few examples of such burning in the Villa (Fig. 10).

The following vessels were restored from the sherds scattered throughout the destruction layer and the floor deposit:

### A) Six storage vessels

- 1) Two four-handled "conical pithoi" with painted trickle patterns under the vertical handles (Fig. 11, XIV.A26 and XIV.A27), a form found in MM III and LM I deposits<sup>27</sup> in the Mesara and in the LM IB destruction deposit at Chalará.<sup>28</sup>
- 2) One pithoid amphora with a narrow mouth and high collar (Fig. 11, XIV.A1)
- 3) Three conical basins (*kadoi*) (Fig. 11, XIV.A29, XIV.A28 and XIV.A7)

The *kadoi* or basins have two horizontal handles and added bands of rope decoration below the rim and around the base (one band on no. XIV. A29 and two bands on the other pair). *Kados* or basin A29 has diagonal and horizontal lines scored on the interior. The shape is common across Crete from the MM II to LM I periods, continuing sporadically into LM II.<sup>29</sup> Parallels in the Mesara have been found at Phaistos<sup>30</sup> and at Seli in the Sifakis field and the Volakakis house,<sup>31</sup> which are dated to LM IB and LM IA respectively. Similar *kadoi*

or basins from Kommos are dated to LM IA Advanced by Rutter<sup>32</sup> and Van de Moortel,<sup>33</sup> while Watrous placed an example from Deposit 17 (no. 439) in the LM II period.<sup>34</sup> This basin is the latest parallel for this shape at Pitsidia; however, some caution is warranted because Deposit 17 at Kommos was a mixed layer containing "predominately LM II" but also "a few MM III and LM I sherds." In any case, storage vessels enjoy long lives and can "survive" for long periods of time.

### B) Decorated vases in fine fabrics

Room XIV contained an ovoid rhyton, fragments of several semiglobular bowls, a horizontal-handled skyphos or bowl, and several closed shapes (amphorae or jugs) all of which provide a secure date for the deposit (Fig. 12). The rhyton XIV. P6 (Fig. 12a-b) was mostly restored from sherds found in Layers 1 to 4, and it obviously fell from the upper floor. The vase was reconstructed by comparison with other parallels, and the neck of a similar rhyton was found in Room VI (Fig. 12, VI. A1). It was made with a fine yellowish pink clay and received a highly burnished surface with dark, almost black decoration. The pattern decoration consists of three zones of scale pattern between triple bands. The rhyton probably comes from a Knossian workshop producing pottery in the so-called LM IB Special Palatial Tradition. The ovoid rhyton itself is one of the new shapes appearing in this period, and examples were often decorated in palatial styles (e.g., the Marine Style rhyta from Pseira and Palaikastro).<sup>35</sup> These same vases use scale pattern occasionally as a filling ornament (e.g., the Ma-

<sup>27</sup> Christakis 2005, 19, fig. 23, form 107.

<sup>28</sup> Levi 1967-8, 69b; Palio 2001a, fig. 47a, no. 283.

<sup>29</sup> Christakis 2005, 19, fig. 23, form 109.

<sup>30</sup> Levi 1961-2, 70, fig. 83.

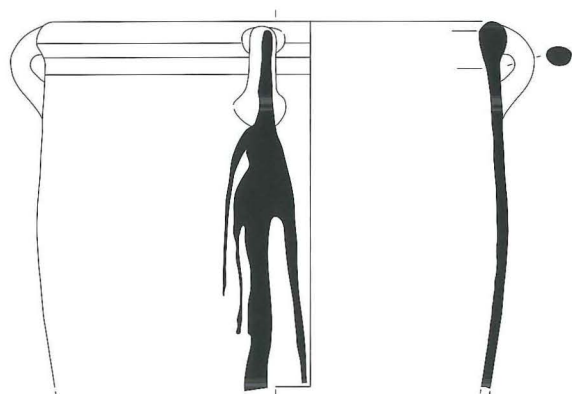
<sup>31</sup> La Rosa & Cucuzza 2001, fig. 132, no. XXVII, 19 and fig. 131, no. XXXI, 2.

<sup>32</sup> Rutter 2006a, 1130, pl. 3.37, no. 26/4.

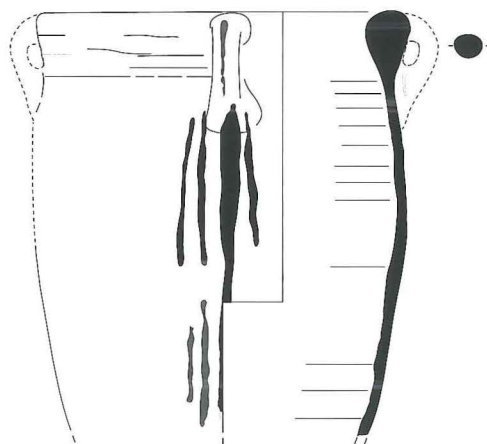
<sup>33</sup> Van de Moortel 1997, fig. 32, no. C10534.

<sup>34</sup> Watrous 1992, 25, fig. 22.

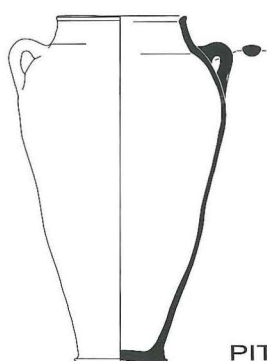
<sup>35</sup> Betancourt 1985, 140, pl. 20 A,B,C.



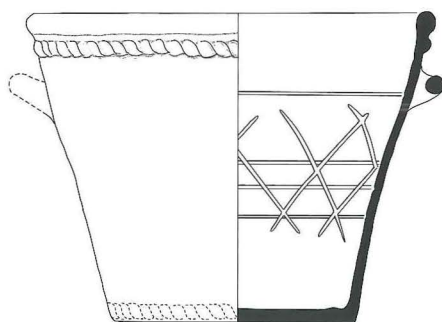
PIT.XIV.A26



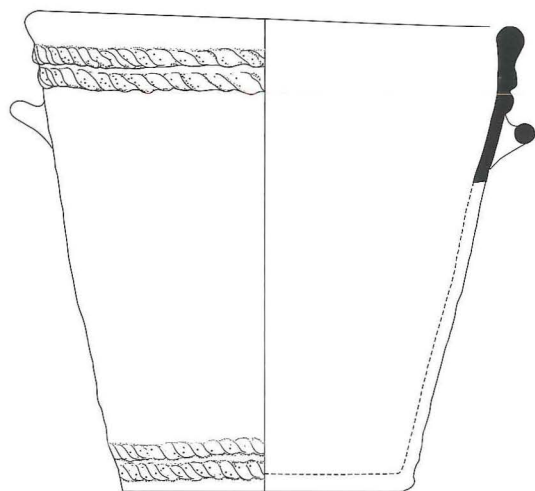
PIT.XIV.A27



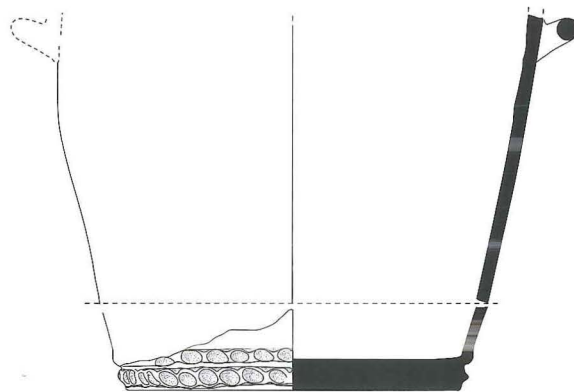
PIT.XIV.A1



PIT.XIV.A29



PIT.XIV.A28



PIT.XIV.A7

Fig. 11. Storage vessels from Room XIV (drawings and photo of no. XIV.A29). Scale ca. 1:9.2.

rine Style alabastron from Phaistos,<sup>36</sup> the ewer from Poros<sup>37</sup> and other Knossian vases),<sup>38</sup> or as the main ornament (as here). Because the ovoid form does not seem to have continued into the LM II

<sup>36</sup> La Rosa & D'Agata 1984, 180, fig. 267.

<sup>37</sup> Dimopoulou 1999, 217–26.

<sup>38</sup> Popham 1967, pl. 81c; Mountjoy 2003, 93, fig. 4.19, no. 251.

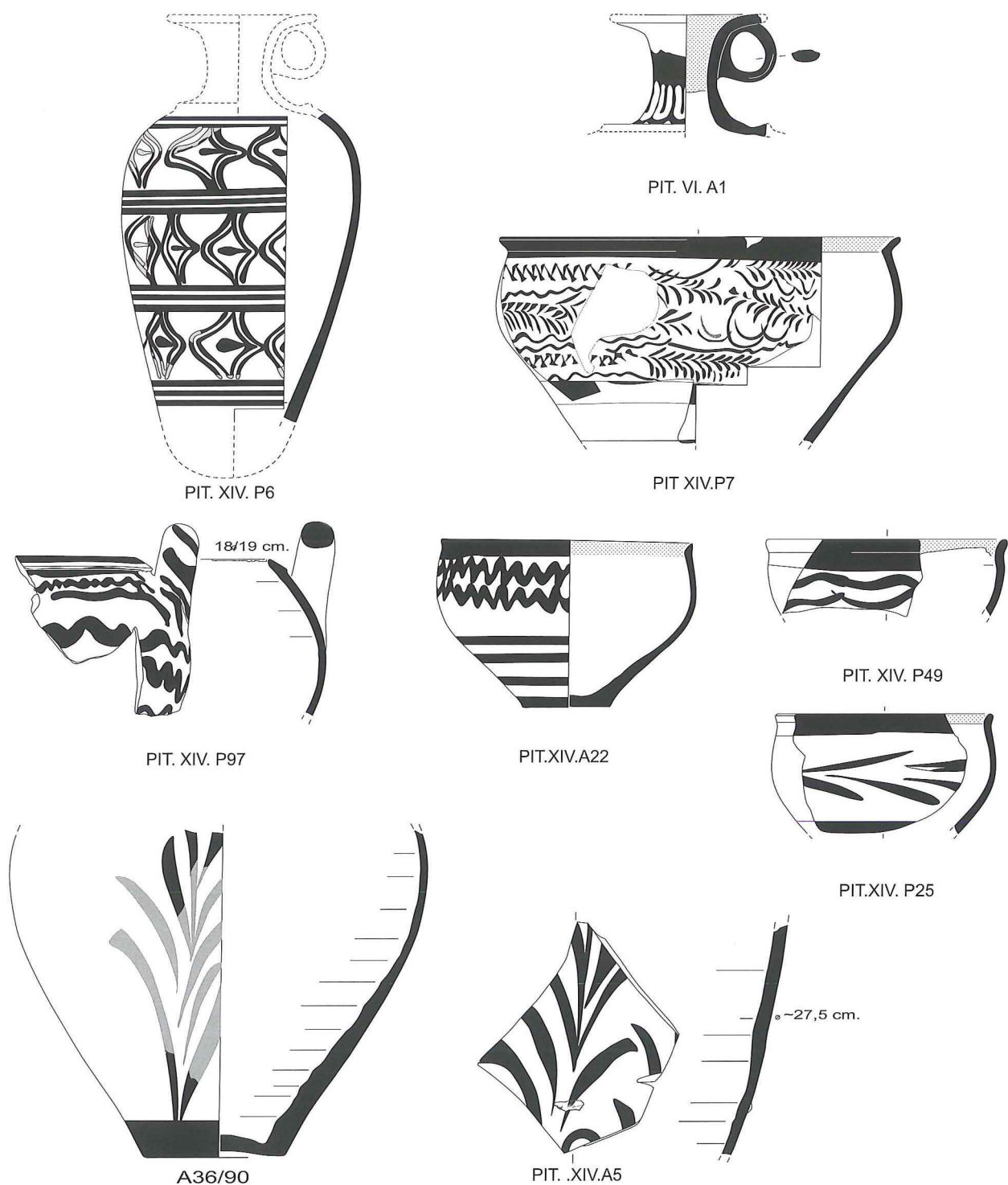


Fig. 12. Rhyta from Rooms XIV (no. XIV.P6) and VI (no. VI.A1), semiglobular bowls and other decorated vases from Room XIV.

period, at least not in the Mesara, the Pitsidia rhyton provides an excellent basis for dating the destruction layer of Room XIV and the Villa in general to the end of the LM IB period.

The same date can be argued for the semiglobular cups, which are decorated with two or more bands of horizontal wavy lines or a horizontal band of reed on the shoulder zone, similar to those found





Fig. 13. Amphorae decorated (a-b) with reeds from Room IX (no. IX.A6) and linked spirals and ogival canopy motif from Room XVII (no. XVII.A9).

in Room VII (Fig. 12, XIV.A22 c-d, XIV.P49, and XIV.P25). The cup XIV.P7 (Fig. 12) was restored with sherds from Layers 2 and 4 and is of particular interest; it was heavily burnished, and the shoulder zone was decorated with a free and complex composition of stylized foliate bands, zigzag lines, wavy bands and semicircles between two thick bands. A cup-rhyton from the Sifakis field at Seli, dated to the end of LM IB, provides a good parallel.<sup>39</sup>

The vertical reed pattern decorating the base and body of the closed vessels is a typical motif on Mesara pottery. The reed usually covers most of the surface of large vases (e.g., the jugs and *kalathoi*

from Kommos,<sup>40</sup> the four-handled amphorae from Chalara, Hagia Photeini in Phaistos,<sup>41</sup> Hagia Triada,<sup>42</sup> Aphratia, and Kamilari<sup>43</sup> and the amphorae and cylindrical jars [*kadoi*] from Nirou Chani, Sklavokampos and Tylissos).<sup>44</sup>

At Pitsidia, in addition to the sherds with reed

<sup>39</sup> See La Rosa & Cucuzza 2001, 114, XCII-1, figs. 147 and 267.

<sup>40</sup> Rutter 2006a; Rutter this volume fig. 5 and no. 265, 37c/8, (LM IB Early) and 44b/4 (LM IB Late).

<sup>41</sup> Levi 1967-8, figs. 70, 73; Palio 2001a, fig. 50.

<sup>42</sup> Puglisi 2006, nos. 5.54, 76.51, 76.52, 76.53, 76.56, 76.65.

<sup>43</sup> Chatzi-Vallianou 1989, 436.

<sup>44</sup> Xanthoudides 1922, fig. 15, pl. 1; Marinatos 1939-41, pl. I, 3-4; Hazzidakis 1912, 204, fig. 8; Hazzidakis 1921, 21, fig. 7.

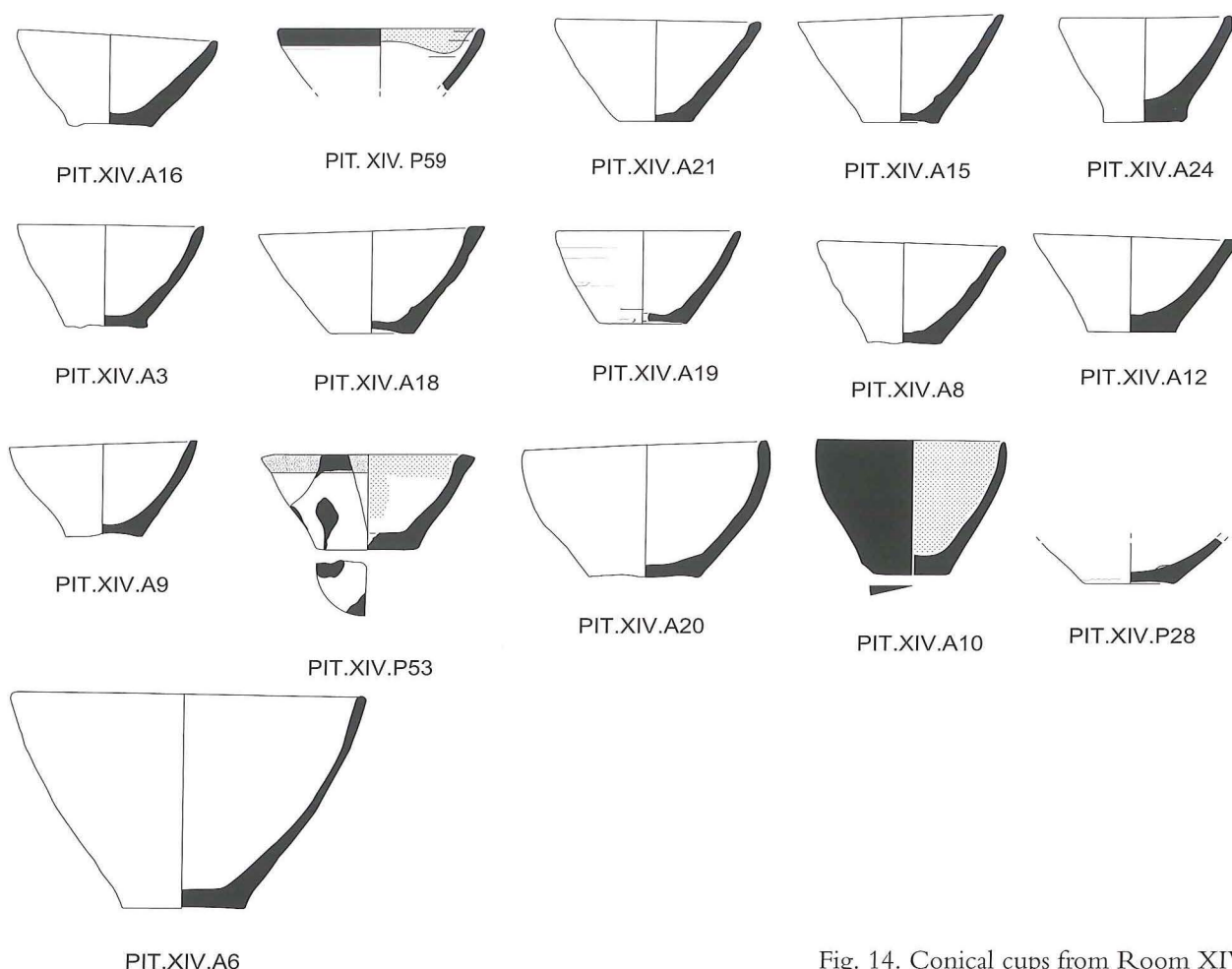


Fig. 14. Conical cups from Room XIV.

(Fig. 12, XIV.A36/90 and XIV.P5), we also have restored an oval-mouthed amphora found in 139 pieces in the floor deposit (Level 5b-c) of Room IX. The vase carries a field of reeds in the main zone (Fig. 13, no. IX.A6) and the shape and decoration are very characteristic of Mesara pottery from the LM IA–LM IB periods. It is worth noting that an ovoid amphora decorated with ogival canopy was found at Chalara in the same destruction layer as ovoid amphorae with reed patterns.<sup>45</sup> At Pitsidia, too, a similar amphora with the ogival canopy motif (perhaps by the same painter) was found in 79 fragments in the destruction (Layers 1–4) of Room XVII (Fig. 13 nos XVII.A9).<sup>46</sup> It was decorated with stylized crocus flowers and curved rows of dots between the handles and a wide band of linked running spirals with solid centers on the shoulder above a register of ogival canopy. This motif was originally thought to originate on

the Greek mainland and to be of LM II date.<sup>47</sup> However, the Pitsidia excavation data points to an earlier date.<sup>48</sup>

Both the floor deposit and the destruction layer of the upper levels produced a series of conical cups (Fig. 14). I also want to note the presence of a few sherds with tortoise shell ripple and running spirals from the floor deposit (Fig. 15, XIV.P27, no. XIV.P19) and upper levels of the destruction layer in Room XIV. These objects and the ewer (Figs. 15 and 20, XIV, A23) found in the lower level of the destruction layer (probably fallen from

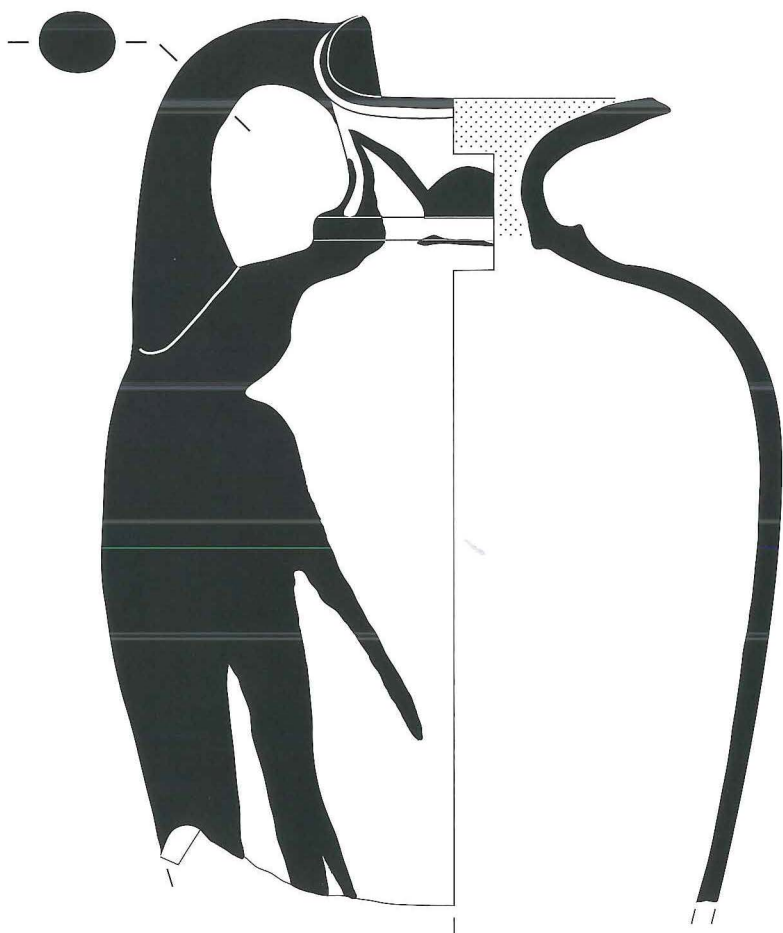
<sup>45</sup> Levi 1967–8, figs. 70a and 71b.

<sup>46</sup> Unfortunately, the restoration and documentation of this vase has not been completed.

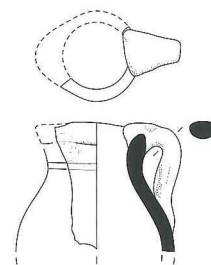
<sup>47</sup> Furumark 1941, 174, fig. 37.

<sup>48</sup> See Palio 2001a, 380–1; Warren 1999, 895; Niemeier 1994, 72.

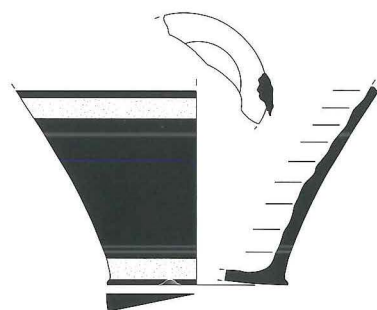




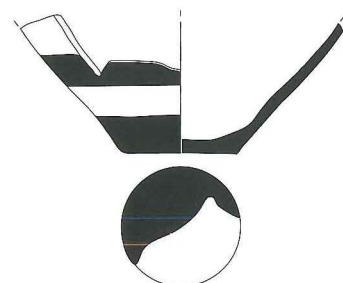
PIT.XIV.A23



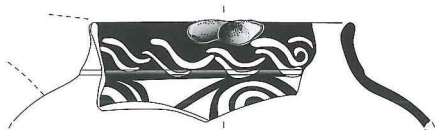
PIT. XIV. A33



PIT. XIV. P20



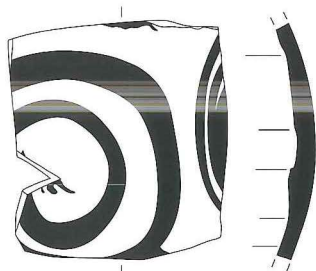
PIT.XIV.P16



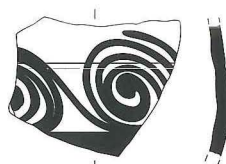
PIT. XIV. P 39



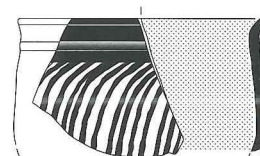
PIT.XIV. P45



PIT. XIV. P20



PIT.XIV.P19



PIT. XIV. P27



PIT. XIV. P23

Fig. 15. Ewer (no. XIV.A23) and other decorated vases from the destruction level of Room XIV.

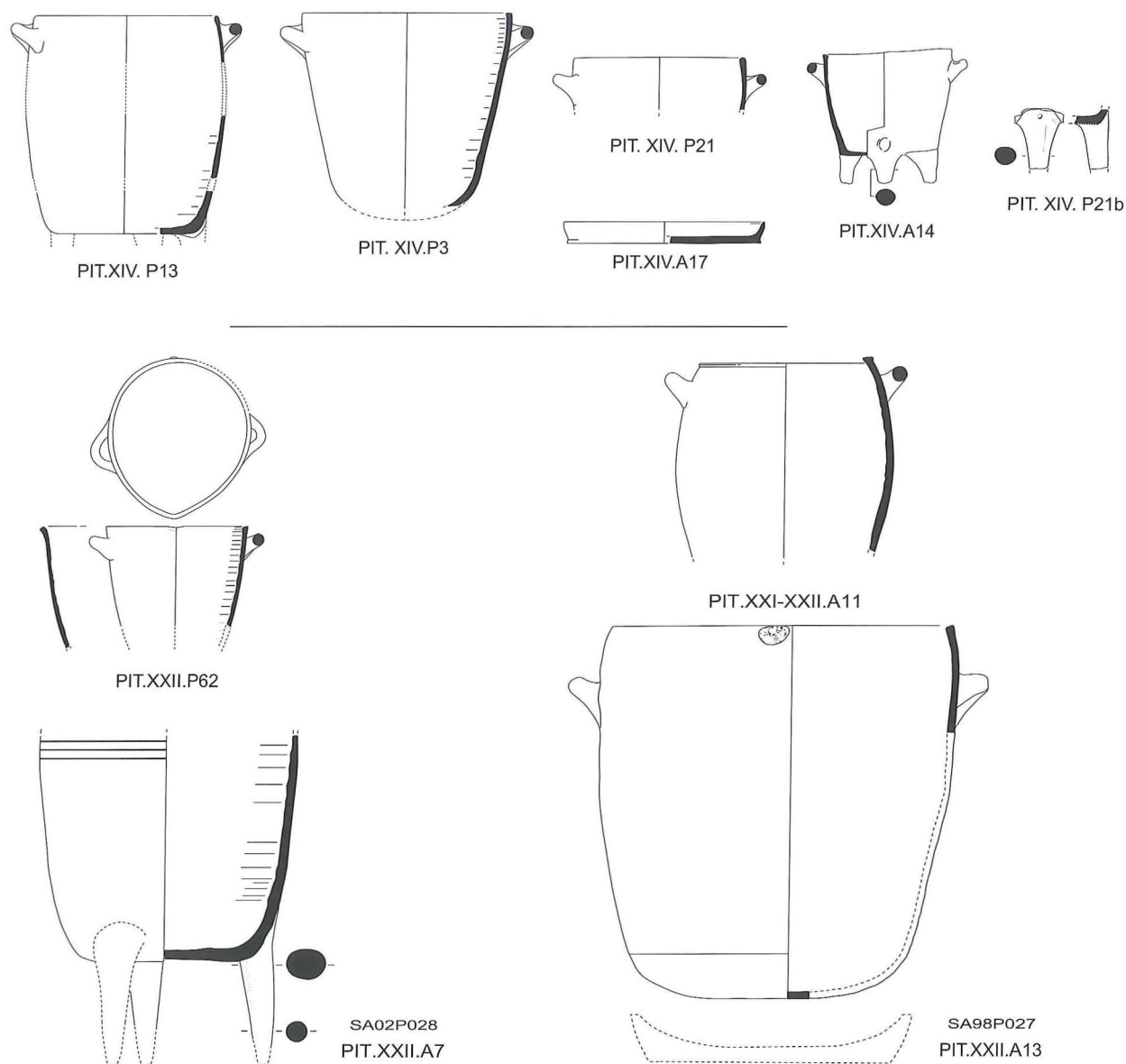


Fig. 16. Cooking pots from Rooms XIV (above line) and XXII (below line). Scale ca. 1:9.2.

the upper story) should be dated to the early LM IB period.

The upper levels of the destruction layer also produced five tripod cooking pots and a cooking tray, currently under study by N. Lokou. The pots find good comparisons in Type B cooking pots from Chalara,<sup>49</sup> Hagia Triada,<sup>50</sup> and Kommos,<sup>51</sup> dated to the early LM IB period (Fig. 16 above, XIV.P13, XIV.P3, XIV.21, XIV.A14, XIV.P21b, and XIV.A17).

## Central Hall XXII

The walls of the Central Hall stand to a height of 0.60–1 m above the paved floor on the south, west

<sup>49</sup> Levi 1967–8, fig. 84.

<sup>50</sup> Puglisi 2006, nos. 5.21, 5.61, 5.62 and nos. 106.23 and 106.29, which are from destruction layers.

<sup>51</sup> Betancourt 1980; Van de Moortel 1997, fig. 77, 1960 and Rutter 2006a, pl. 3.45, Group 40/31, 32, 34.

Fig. 17. Vases from the Central Hall XXII.  
Drawings and photo of no. XXII.A9.



and north sides; the east side was damaged by the original collapse and modern cultivation and is not preserved. The stratigraphy in the room consisted of earth and a mass of large stones from the collapsed superstructure down to the paved floor and the central hearth. In this destruction layer, there were three Type B tripod cooking pots like

those found in Room XIV (Pl. 16, below). One of them (no. XXII.A13) is a sizeable cooking jar, while another (no. XXII.A11) was restored from sherds found in the Central Hall and Room XXI, a fact indicative of the violent destruction. From the same destruction layer came a beak-spouted jug (Fig. 17, no. XXII.A1). The floor deposit



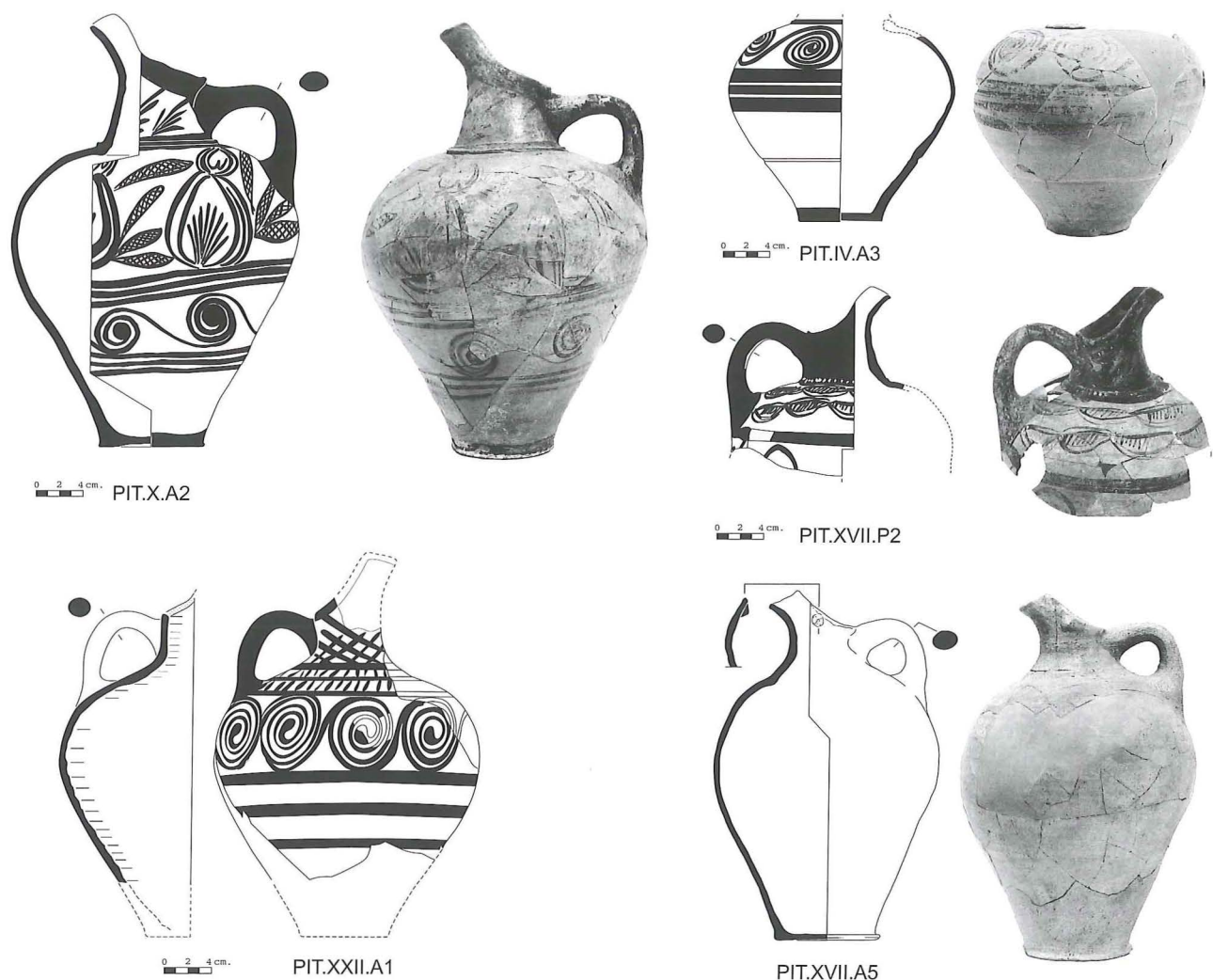


Fig. 18. Jugs from Rooms IV, X, XVII, XXII. Drawings (scale 1:6) and photos.

contained a conical cup (Fig. 17, no. XXII.A6), a firebox (Fig. 17, no. XXII.A5) and a straight-sided jar (Fig. 17 no. XXII.A9), providing the date of the destruction and abandonment of the room.

The elegant straight-sided jar (or small cylindrical kados) is particularly interesting (Fig. 17, no. XXII.A9.) The shape is popular in LM I when it occurs in several Minoan villas in central and eastern Crete. Among the parallels are three exceptional examples of Neopalatial pottery: two vases from Sklavokampos<sup>52</sup> decorated with reeds and a vase in the Marine Style from Nirou Chani, which Xanthoudides called “the most splendid of the pottery vases from the Megaron.”<sup>53</sup> In the Mesara, the closest comparison for the shape and decoration is the cylindrical jar from Chalara

at Phaistos.<sup>54</sup> Another from Hagia Photeini is decorated with diagonal wavy bands and other geometric patterns.<sup>55</sup> The raised rope decoration under the rim and around the base of the Pitsidia jar is reminiscent of a similar LM IA example from Knossos;<sup>56</sup> however, the shape of the Pitsidia vase and the decoration in the main frieze, with running spiral interposed with supplementary secondary elements (rocks or coral?) between dark bands

<sup>52</sup> Marinatos 1948, pl. I, 3–4.

<sup>53</sup> Xanthoudides 1922, 20, fig. 17; Marinatos 1925–6.

<sup>54</sup> Levi 1967–8, fig. 76; Palio 2001a, 399, fig. 48.

<sup>55</sup> Palio 2001b, fig. 5.

<sup>56</sup> Betancourt 1985, pl. 16C; Mountjoy 2003, 63, figs. 4–5, no. 61; Mountjoy 1974a.



PIT. XXII. A4



PIT. XXII-XXIII.A3

Fig. 19. Pithos and ewer from the Central Hall XXII. Scale ca. 1:9.2.

with added white wavy lines, suggests an LM IB date. Additional support for this date is drawn from the straight-sided jar from Knossos painted in the Special Palatial Tradition and the jars from Pseira<sup>57</sup> and Mochlos<sup>58</sup> painted in the Standard Tradition. Finally, the other material on the floor of the Central Hall is LM IB.

The beak-spouted jug (or oinochoe) is another popular shape in central and eastern Crete in LM IB. Five examples were found in the Megaron of Nirou Chani and Tylissos;<sup>59</sup> several more hail from Knossos;<sup>60</sup> and we have good representative LM IB examples from East Crete (e.g., the houses at Mochlos and Pseira).<sup>61</sup> In the Messara, the excavations at Kommos have recovered a few examples;<sup>62</sup> however, Phaistos and Hagia Triada have produced some of the masterpieces of this shape decorated in the Floral Style<sup>63</sup> and Alternating Style.<sup>64</sup> Also there is oinochoe F. 3787 from Chalará.<sup>65</sup> The form and decoration of the jug (Fig. 17, Pit.XXII.A1) from the Central Hall of Pitsidia belongs to the LM IB Standard Tradition. The neck is decorated with net pattern while the upper shoulder carries three bands framing two rows of slashes. The main ornament is a frieze of well executed running spirals on the upper

body; bands probably covered all the lower body, although only three are preserved.

The beak-spouted jug was clearly popular at Pitsidia. Room IV contained the body of a second jug with running spiral (Fig. 18, no. IV.A3). The upper part of a jug with a racket motif was found in Room XVII (Fig. 18, no. XVII. P2) together with a second plain jug decorated with small clay pellets on the spout resembling eyes (Fig. 18, no. XVII.A5). But the most beautiful beak-spouted jug (one of the finest vases in the Villa) was found in Room X, near the north staircase, where it had probably fallen from the women's upper story. The vase is made of light yellow clay with a buff, burnished surface (Fig. 18, no. X.A2). It carries three zones of decoration,

<sup>57</sup> Betancourt 1985, 137–48, pl. 20D, fig. 104A.

<sup>58</sup> Barnard & Brogan 2003, IB.338, IB.339, IB.341.

<sup>59</sup> Xanthoudides 1922, fig. 14.

<sup>60</sup> See Mountjoy 2003, 87–90, fig. 4.16, 4.17; Hazzidakis 1921, fig. 11,30.

<sup>61</sup> See Barnard & Brogan 2003, no. IB.310; Betancourt 1985, fig. 104,I.

<sup>62</sup> Rutter 2006a, Group 44b/4; perhaps no. 36/1.

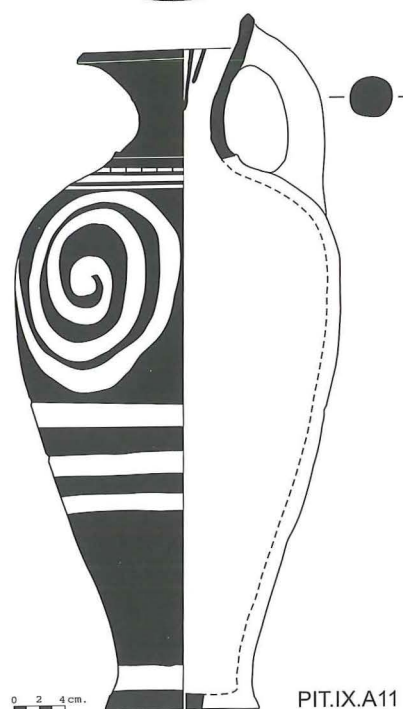
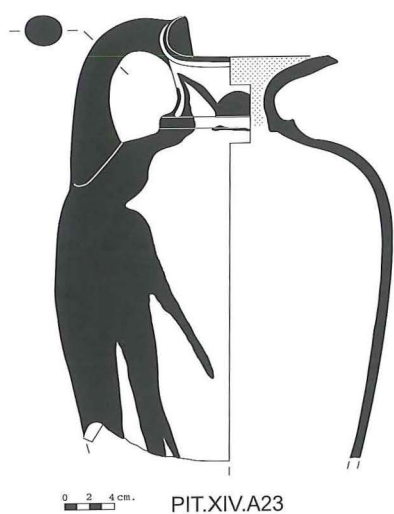
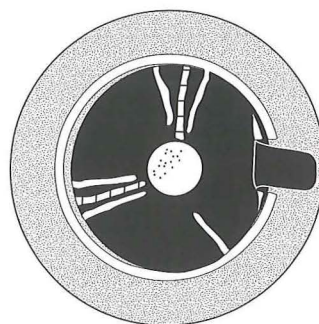
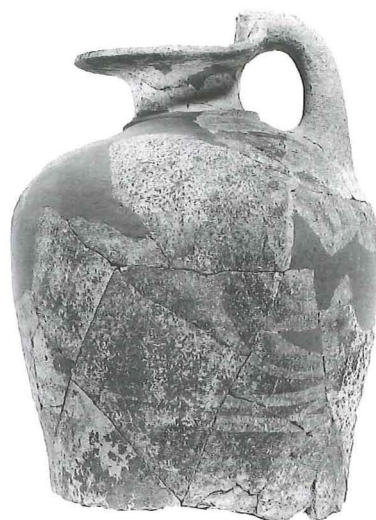
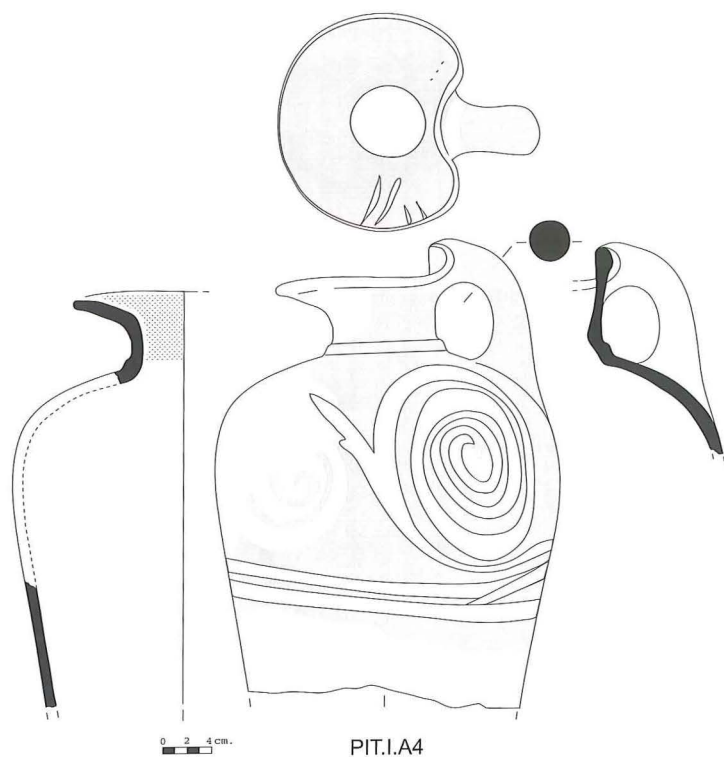
<sup>63</sup> Betancourt 1985, 140, pl. 21A, E.

<sup>64</sup> La Rosa & D'Agata 1985, 180, fig. 268.

<sup>65</sup> Levi 1967–8, fig. 75.



Fig. 20. Ewers from Rooms I, IX and XIV, drawings (Scale 1:6) and photos.



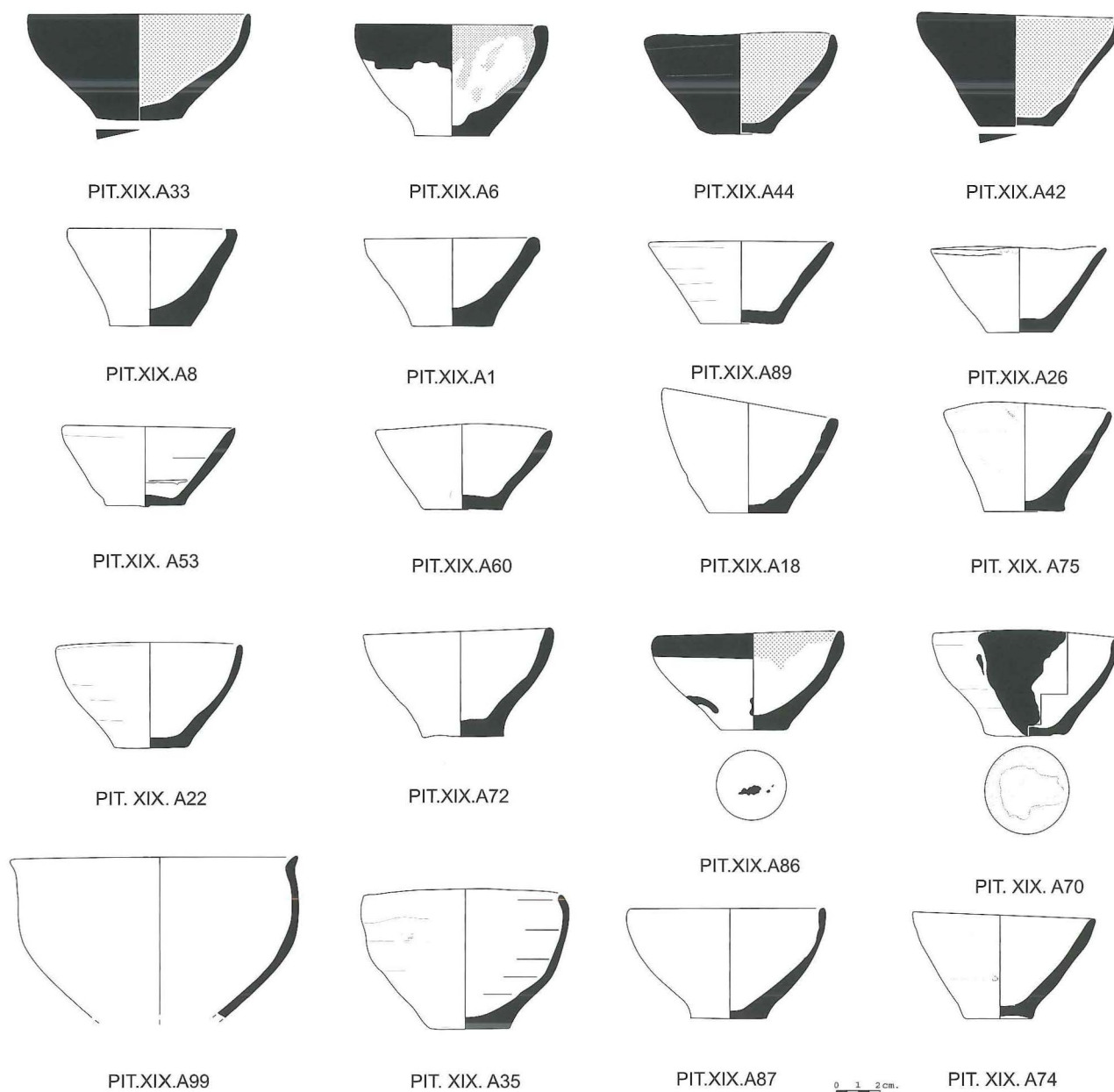


Fig. 21a. Conical cups from Room XIX – the pottery workshop.

ranging from light red to dark brown in color, separated by three rows of dark bands. Oblique reeds fill the zone on the neck, while the large frieze on the upper body contains a row of four figure-of-eight shields alternating with bunches of leaves filled with racket pattern. There is a band of running spirals on the lower body. The shape and the Alternating Style<sup>66</sup> date the vase to the LM IB Late period, while the quality of the clay and the surface treatment (like the vases from Nirou Chani) probably indicate that it was produced in North-central Crete.<sup>67</sup>

From the collapse over the Central Hall XXII comes another fragmentary four-handled ovoid pithos (Fig. 19, no. XXII.A4) decorated with simple trickle patterns and dated to LM IB.<sup>68</sup> The

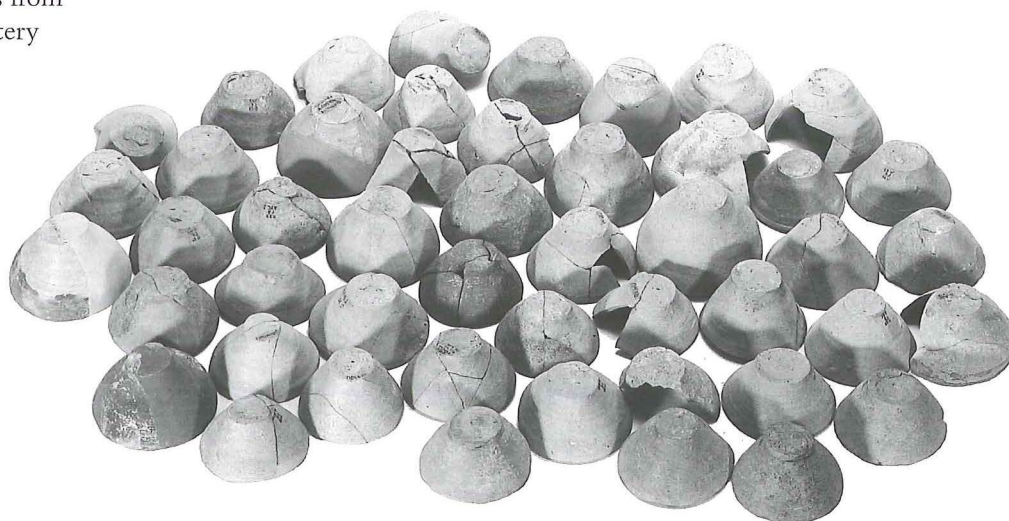
<sup>66</sup> See Rutter this volume, fig. 9 and for the figure-of-eight shield decoration no. X2:5/1 and other LM IB Late Special Palatial Tradition imports to Kommos.

<sup>67</sup> Xanthoudides 1922, 17.

<sup>68</sup> See Christakis 2005, 10, fig. 9, forms 37–40 and Van de Moortel 1997, fig. 69, n. 9704.



Fig. 21b. Conical cups from Room XIX – the pottery workshop.



same layer contained fragments of a ewer restored with sherds from the floor deposit of Corridor XXIII that connected Room XXII to the women's apartment (Fig. 19, no. XXII–XXIII.A3). The upper body of the ewer is decorated with large brown-black spirals on a light beige ground, while horizontal bands cover the neck, handle and rim. This ewer is similar to another, no. XIV. A23, which was recovered in Room XIV (Fig. 15, no. XIV.A23).

Two more ewers were found in Room I (Fig. 20, no. I.A4) and Room IX (Fig. 20, no. IX.A11). This pair carry light-on-dark decoration. The second (no. IX. A11) has a frieze of large spirals between horizontal bands on the upper body and a single band at the base. There are additional drips of red and white on the dark ground of the rim interior, while the join of neck and body is decorated with a raised ridge of clay imitating the seams on metal jugs. The light-on-dark decoration on these vessels may indicate an LM IA date. Their fine shape and decoration certainly look more advanced than the MM III ewers of Knossos from the Temple Repositories<sup>69</sup> or the ewers from Kommos dated to LM IA.<sup>70</sup> The closest parallel in the Mesara comes from Hagia Triada in a context dated LM I A–B<sup>71</sup> and is almost identical to ewer no. IX.A11. These vases with light-on-dark decoration have little in common with the elegant ewers from Knossian and East Cretan workshops decorated with the Special

Palatial Tradition (e.g., from Poros, Palaikastro, and Marseilles), and are probably produced by a conservative local workshop in the LM IB Early period, drawing on the tradition of earlier forms and decoration.<sup>72</sup>

It is certainly remarkable that so many examples of this exquisite vessel, one of the most graceful of the special Minoan shapes,<sup>73</sup> were found in the Villa of Pitsidia. This, combined with the fact that so many of the sherds were found scattered in the collapsed upper levels of the destruction layer, probably fallen from the upper floor, means we must investigate their use in relation to the function of the Villa.

## Room XIX

The walls of this small room are preserved to a height of 1.30 m above the paved floor.<sup>74</sup> In the

<sup>69</sup> Betancourt 1985, pl. 13, J and 14.

<sup>70</sup> Van de Moortel 1997, fig. 49, 1032; Rutter 2006a, pl. 2.28, 6/13. Note also the new ewer from Zominthos, which is presented by Traunmueller in this volume.

<sup>71</sup> La Rosa & D'Agata 1985, 178, fig. 262. See also Puglisi 2006, fig. 7, no. HTR074.

<sup>72</sup> The conservatism of the Zominthos ewer may have to do with the fact that the products of the workshop there were destined for worship at the Idaean Cave every nine years.

<sup>73</sup> Betancourt 1985, 140.

<sup>74</sup> See Chatzi-Vallianou 1995; 1997a.



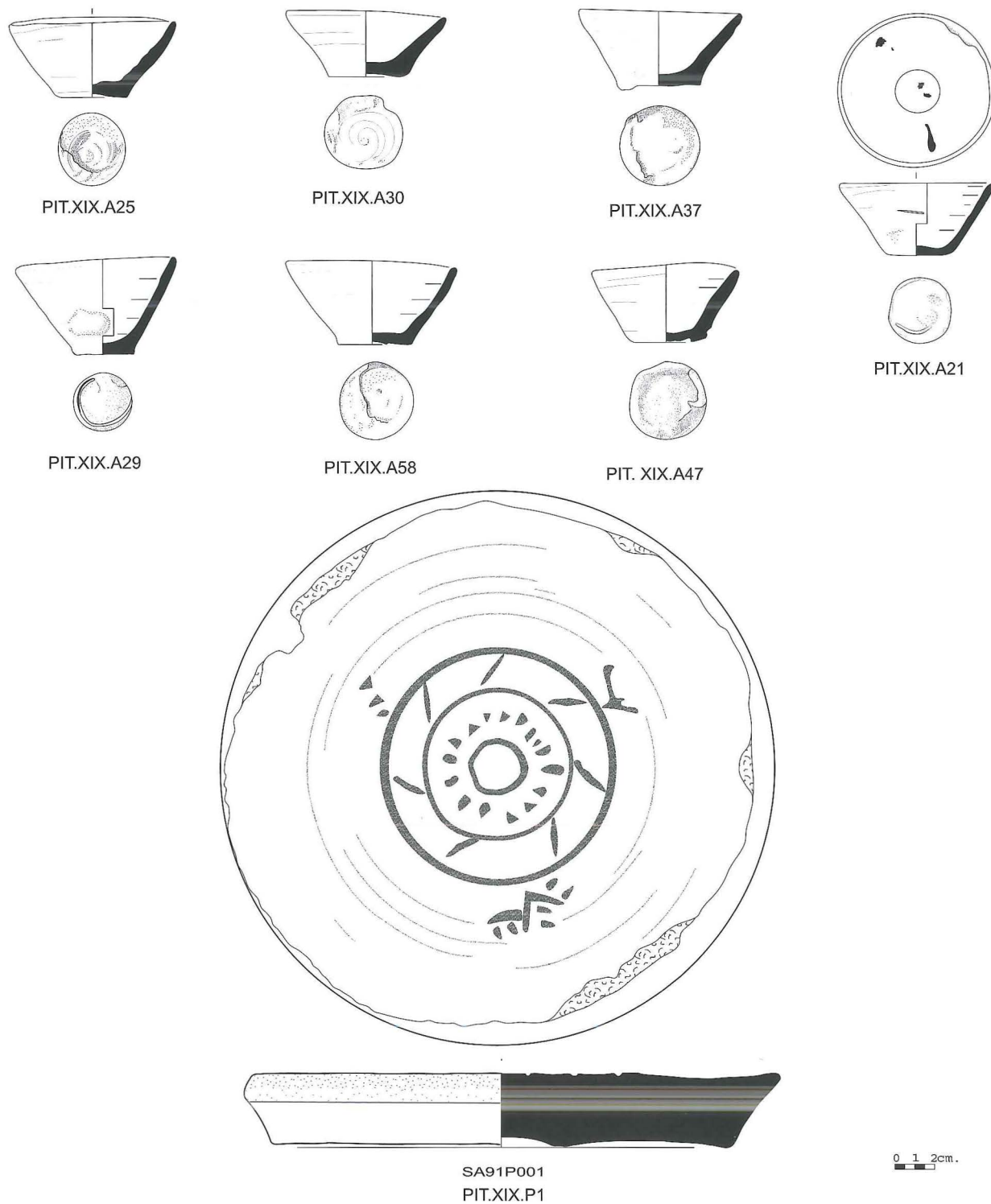


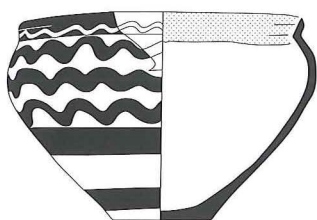
Fig. 22. Above: Conical cups. Below: the potter's wheel from the pottery workshop (Room XIX ).

northeast corner, excavation revealed a small stone chimney-shaped structure which encloses a space of 0.27 x 0.40 m and has a rectangular

opening on the eastern side just above the floor. The purpose of this structure (possibly a hiding-place?) still eludes us, but a similar unexplained

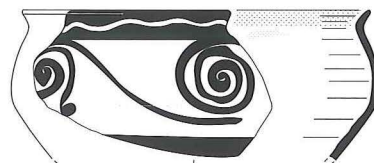


PIT.XIX.A88

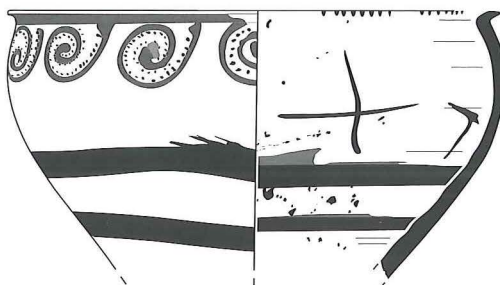
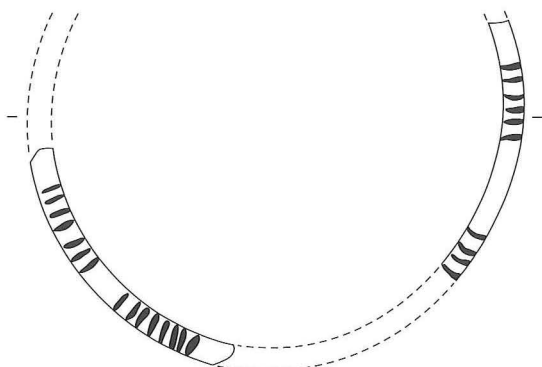


PIT. XIX.A13

0 1 2cm.



PIT.XIX.A82



0 1 2cm.

PIT.XIX.A2

Fig. 23. Decorated pots from Room XIX. Drawings and photo.

feature was found by Italian excavators in Room 107 at Phaistos.<sup>75</sup> Inside we found a deposit of 99 complete and fragmentary conical cups. With two exceptions, all were of small size and with profiles that exhibit considerable variation (Fig. 21a-b). Many of the cups were shaped and cut off the wheel carelessly, leaving rough or distinctive marks on the bases. The cups rarely show signs of use with the exception of a few with traces of fire on the rim (Fig. 22 ).

With the undecorated cups in the upper layer of the fill, there were also three decorated LM IB

<sup>75</sup> See Levi 1976, 604-9.

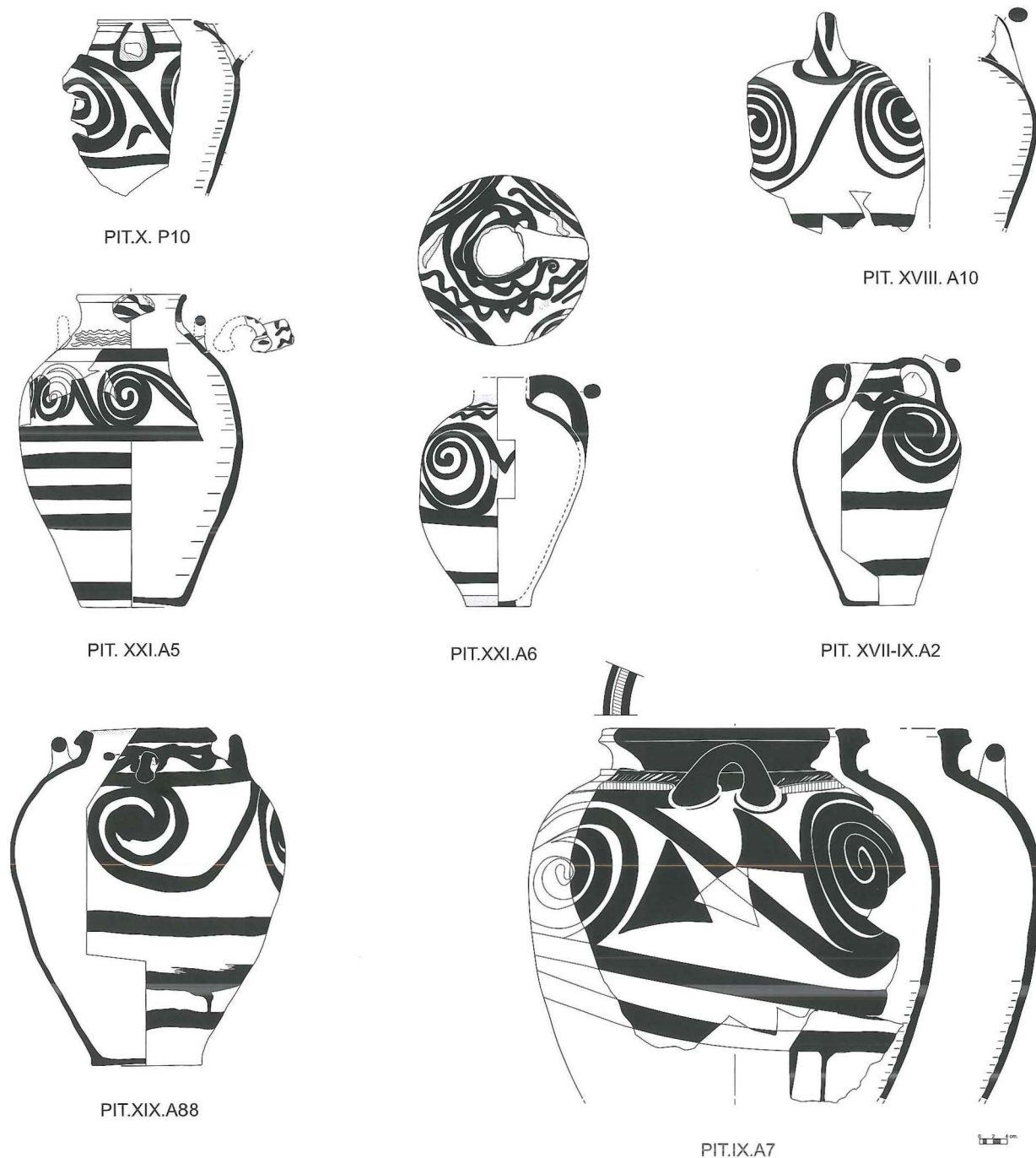


Fig. 24. Decorated amphorae and jugs from Rooms IX, X, XVII, XVIII, XIX, XXI. Scale ca. 1:9.2.

bowls (Fig. 23, nos. Pit.XIX.A2, Pit.XIX.A13, and Pit.XIX.A82). One bowl (XIX.A2) carries a row of pendent stem spirals filled with dot bands between the rim band and a pair of bands on the lower body. The everted rim carries groups of dark slashes while the interior is decorated with careless crosses and drips above two dark bands. The second

bowl (XIX.A13) carries three horizontal wavy lines above a pair of dark bands on the lower body and a single band at the rim over which a thin wavy line of white is added. The third bowl (XIX.A82) has a frieze of spirals between dark bands and a wavy line of white added to the rim band. These bowls find good parallels in the semiglobular cups from Room



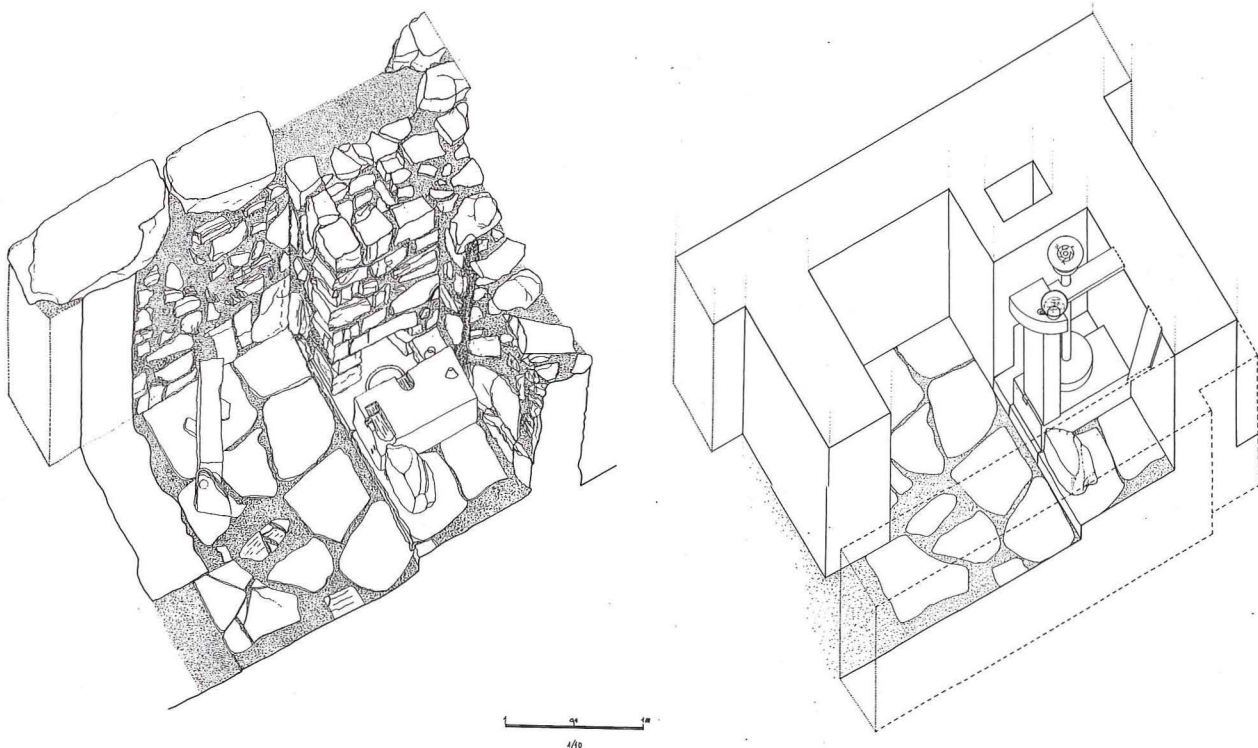


Fig. 25a-b. a) Drawing of Room XIX as it was found during excavation; b) reconstruction of the potter's workshop with a foot-wheel.

VII and other rooms of the Villa. The deposit effectively sealed the hiding-place and provided a *terminus ante quem* of LM IB for the group of cups inside.

The floor deposit in the room contained six conical cups and a decorated pithoid jar or amphora with four horizontal and vertical handles on the shoulder (Fig. 23, no. XIX.A88). The decoration covers the whole vessel, with a main frieze of retorted running spirals around the widest part of the body, three horizontal bands on the lower body and a wavy band between horizontal bands on the shoulder between the handles. A similar jar was found at Flega, Prinias, where it is dated to LM IA.<sup>76</sup>

At Pitsidia there are a series of amphorae, jars, and jugs with similar decoration. They come from the destruction layer or floor deposits of Rooms IX, X, XVII, XVIII, XIX, and XXI and provide clear evidence that vessels with this decoration must be dated to the destruction horizon of the Villa in LM IB (Fig. 24).<sup>77</sup>

The most important find in Room XIX was a

clay potter's wheel found at the north end of the room on the floor with the other conical cups (Fig. 22 below 32, no. XIX.P1). This discovery led us to suspect that the area served as a pottery workshop. The detailed drawing and study of the stone objects found on the floor of the room, in conjunction with modern ethnographic research, allowed us to make a reconstruction (Fig. 25a-b) of a potter's workshop with a foot-wheel that was used to make LM IB fine ware (Fig. 26). This reconstruction was presented at the 7th International Cretological Conference and the 1st International Conference on Ancient Greek Technology in Thessaloniki,<sup>78</sup> while the restoration of the potter's wheel was visible in the room until recently.

<sup>76</sup> Rizza & Rizzo 1984, 235, fig. 439.

<sup>77</sup> For similar vases from Hagia Triada, see Puglisi 2006, nos. B1- HTR 024, B.6- HTR 0321.

<sup>78</sup> Chatzi-Vallianou 1995; 1997a.



Fig. 26. Restoration of the potter's wheel.

## Conclusions

Our preliminary study of the pottery from the Villa at Pitsidia suggests that the material is relatively conservative in character. Much of the material appears to continue earlier Neopalatial styles, specifically LM IA, with very few innovative features. With a few noticeable exceptions, the majority of the vessels come from local workshops, perhaps the pottery workshop of the Villa itself, where small pots were thrown on the foot-wheel.

The latest pottery is dated to LM IB Final (Fig. 23). Nothing more recent has been found. It is worth noting that we have found none of the innovative features of the LM II period, like the short-stemmed kylix or goblet (the "LM II innovation borrowed from the Mycenaeans")<sup>79</sup> or the blob cup. Nor does the material show any intermediate or transitional links between LM IB and LM II. The forms and decoration of the vases, like the architecture of the

Villa, express the particular characteristics of the Neopalatial period, an exceptionally important cultural horizon for Crete. Moreover, I agree with colleagues who hold that, even if certain vases like the bowls with festoon decoration are found in LM IB and LM II layers, this does not mean that there was a change in the cultural environment in LM IB or that a new cultural horizon began at this moment. There are pottery shapes, like cups and horizontal-handled bowls, and decoration, like single rows or a series of festoons, versions of quirk, pendent leaves or scale pattern, and solid circles which serve as the principle ornament, that begin in LM IB and develop and continue in LM II in different compositions, often as free or stylized motifs. Even if some Mycenaeans had already reached the coastal settlements of northern Crete in LM IB, this does not mean there was a major cultural change across the island. I would prefer a definition for the latest LM I pottery (in limited levels) at certain places, like Kommos or Khania, as LM IC but not as LM II, which refers to a new period with new characteristics and a new cultural horizon.

The Villa of Pitsidia was destroyed and abandoned at the end of LM IB Final and never reoccupied. I have suggested,<sup>80</sup> on the basis of the excavation data, that the destruction was caused by an earthquake like that of the earlier final LM IA, which also affected other settlements in the Mesara and Crete as whole. The Palace of Phaistos, the buildings at Chalará and Hagia Photeini, some buildings at Hagia Triada, the house in the Sifakis field at Seli Kamilari, the Villa at Kannia near Gortys – the coastal settlement at Aphratia – Tympaki, the Megaron at Nirou Chani, Knossos, Galatas, Zakros and even the Artisan's Quarter at Mochlos, all appear to have been destroyed at the same time – at the end of the LM IB period.<sup>81</sup> I believe the most probable cause of the destruction and abandonment to be a

<sup>79</sup> Popham 1984, 165.

<sup>80</sup> Vallianou 1996.

<sup>81</sup> See La Rosa & D'Agata 1985; Levi 1959; Marinatos 1925–6 and papers of Hood; Warren; Rethemiotakis & Christakis; Puglisi; Mandalaki; Betancourt; Barnard & Brogan; Tsipopoulou & Alberti; Hemingway, MacGillivray & Sackett; Platon, in this volume and elsewhere.



natural phenomenon, such as an earthquake. It is difficult to accept that the destruction of the Villa at Pitsidia was the result of a Mycenaean attempt to conquer Crete. Niemeier's view attributing these destructions at the end of LM IB to "internecine conflicts between Knossos and the other palaces" would be more acceptable.<sup>82</sup> It is very likely that there was widespread social upheaval at the end of the Neopalatial period, following destructive earthquakes or other forces, which led to the

abandonment of the Minoan palaces and villas that had prospered during LM I. What followed was a new cultural horizon, a new historical period, and a new style of pottery. But this fascinating problem must form the subject of another meeting.

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<sup>82</sup> Niemeier 1994, 88.

# Discussion

**Warren** This extremely useful presentation of the Villa at Plakes shows one interesting point in relation to Hagia Triada – that poorly painted pieces can be found alongside very finely painted pieces in the same destruction of the Villa. They don't have to be chronologically separate. And regarding the main paper of Jerry Rutter, I suppose the first thing is that he, of course, would have to call this destruction early LM II (or LM IB Final), since it contained the cups with the pendent loops from the rim, which he now wishes to assign to the early LM II phase (or LM IB Final), thus bringing Knossos, Tylissos and Nirou Chani into the destruction of this period. But, I would like very briefly to go back to Jerry's own paper. It is always a great pleasure to be given the full Rutter treatment when you come to an international conference. But I noted that Jerry was very careful to say that there was no example in Kommos of what he is defining as a later LM IB phase, stratified above an early LM IB phase. In other words, the entire construct is stylistical, not necessarily wrong, of course, but as a stylistical construct it becomes open to discussion on another level. We are not talking about stratified floors with whole pots on them. And, Jerry might wish to clarify for us whether he also had what he chooses to define as early LM II (or LM IB Final) directly stratified above what he calls early LM IB. He said that he had only two or three fills to define the proposed early LM II (or LM IB Final) phase. So, there again, if there is no stratification and the construct is a stylistic one, then that becomes open to discussion at a stylistic level, where, of course, there might be a very wide range of views.

**Rutter** Yes. I think we should go back and take a look. I think the illustration of the material from the Plakes Villa is a perfect example of the final destruction of the Villa at Hagia Triada. I didn't see anything there that I would like to call LM II Early (or LM IB Final) at all.

**Warren** Room 14.

**Rutter** Let's go back and look at it.

**Warren** There in the middle.

**Rutter** Those are two horizontal wavy bands. They aren't loops. Those are perfectly okay. So, in fact for me, the destruction level here at Plakes illustrates perfectly what we would call LM IB Late. Okay? So what I would like to draw your attention to then is the features that are later. And in fact I can't remember which table it is now, but there is a table that shows where we have these LM II Early (or LM IB Final) deposits as one floor level directly on top of two LM IB Late floors. So, we do have the LM II Early (or LM IB Final) floor directly on top of LM IB Late. What we don't have

is LM IB Late directly on top of LM IB Early. Nobody here seems to want to talk about LM IB Early, however.

**Kanta** I would like to ask Despina Vallianou whether there are any sherds at Pitsidia of the Marine Style.

**Vallianou:** No, we do not have any vases or sherds of pure Marine Style.

**Kanta** Not to say that it is not IB, I am just asking.

**Vallianou** We do have a few vases or sherds with some elements of the Marine Style decoration, but not classical Marine Style.

**Macdonald** Jerry Rutter just said that nobody wanted to talk about LM IB Early, but surely this is all quite simple. This is a methodological and stratigraphical matter, but, at certain sites there are divisions, stratigraphically different phases of IB as we will see particularly at Mochlos when we come to it. Whereas in North-central Crete, none of us have been able to find a different phase or to subdivide LM IB. Therefore, those of us who have mostly worked in North-central Crete will not talk about early LM IB because we haven't got the evidence to support it. But elsewhere in Crete, particularly in the east, Mochlos, for example, has several different levels of LM IB. So that's perfectly alright on a site by site basis. And then it's up to us as this conference progresses to decide the usefulness of these divisions. Whether they are merely stratigraphic at each site, or whether they can really be defined in any useful way to help us in different parts of Crete.

**Sackett** I think that Palaikastro comes up a bit later; we do find two stratified LM IB levels there, but this isn't the time to get into a stylistic discussion.

**Rutter** If I may respond to the point that Colin [Macdonald] just made. I don't want to be mean here, and I am not trying to pick a fight, or something like that, but the situation that I see right now is that ... I don't want to get bogged down in terminological issues either but the horizon that I was describing as LM II Early (or LM IB Final), which I am perfectly happy to call something else, I don't insist upon it being called LM II Early (or LM IB Final). What I do sort of insist upon is that this is a later phase than what Dario [Puglisi] was discussing as the final destruction in the Villa, and it's a later phase than what Despina [Chatzi-Vallianou] just showed us. And both the final destruction of the Villa and Despina's material would qualify in my scheme of things as late LM IB, perhaps not final LM IB, but something very late in LM IB. Here's the situation: you just said you don't have any of this final phase of LM IB, so I am taking the big plunge and calling it LM II Early (or LM IB Final), okay? And you're telling me that you don't have stratified or different phases of LM IB at Knossos or anywhere in North-central Crete right now. I mean, as far as I can see, you don't have any LM IB! What you are calling LM IB Late I would call LM II Early (or LM IB Final), and the earliest phase that you have before that is what you would call LM IA Late, so, excuse me, what happened to LM IB?



**Warren** This is indeed the central question. In a way, what labels we apply are much less important than discovering whether we are talking about synchronous events, or getting as close as we can in different parts of the island. Now, the direct implication of what Jerry is saying is that the destruction which we call final LM IB in North-central Crete (Nirou Chani, Sklavokampos, Tylissos and, indeed, Knossos) and there is enough evidence to say that it must represent a single event in North-central Crete – is it later than the destruction of the Villa at Hagia Triada? My own feeling, certainly up to this stage, is that we are talking about one event at the same time. Obviously, you think that there are chronologically separate events here. I fully agree that this is the central issue, and one which, surely when Wolf [Niemeier] chairs the final discussion, we really will have to discuss in some detail, after of course we've had the evidence from Mochlos and Zakros and other sites in eastern Crete.

**Vlazaki** I am also waiting for the final discussion, but I must remind you that at Khania we too have more than one layer of LM IB. And I have also spoken about the different names for this phase between LM IB and LM II, as Coldstream said IC, for example, which is not to say that I made it up. But just to say that the spread of the final destruction in the Khania settled area has much to do with the beginning of LM II, but the crucial point is that this deposit goes well with the Linear A archives, and so we couldn't say LM II, for example.

**Brogan** We have a couple of questions about paneled cups. We find them. I don't know that we illustrate them in our paper, but we found one of your paneled cups in the olive oil workshop which we think dates to the end of LM IA. You have mentioned them mostly in LM IB Early. I think we had four or five of those cups at Mochlos and they all looked foreign. So, we do have them. The other thing that strikes me when we look at Kommos versus Mochlos is this idea of regional production. There are such differences, and certain shapes and decoration stand out when you compare the two. On the one hand, it's apples and oranges. We get so confused by your wavy-line bowls, which are early LM IB at Kommos, whereas we get that decoration at the very end of LM IB. That's what we would call LM IB Final or LM IB/II. Those are not characteristic of our early LM IB levels and yet they're even found in LM IA Final at Kommos. And then the bridge-spouted jars. Our bridge-spouted jars are from early LM IB, and that is a central point of our paper, to try and define early LM IB at Mochlos. We also get straight-sided jars (bucket jars) that represent a break from LM IA to LM IB, while in Central Crete you get them in both periods. Our bridge-spouted jars go from piriform to bucket-shaped, whereas they stay piriform, from what I can see, in North-central and South-central Crete, particularly South-central Crete, through the end of LM IB. So there are these real differences that sometimes make it difficult to create these links. And so, the piriform bridge-spouted jar really is a factor.

**Hood** Just completing Peter's [Warren] question: did you have the late LM IA stratified over early LM IA?

**Rutter** Do we have final LM IA stratified? Well, we have three phases of LM IA, so, I wouldn't even talk about LM IA. Stratified? In some cases, sure, but I don't think

we have a full sequence of early, advanced and final LM IA. No. We have situations where there is Final over Advanced and situations where there is Advanced over Early. It's all in the publications.

**Cunningham** I am sorry, but this is also about LM IA. You asked about when to end LM IA or start LM IB, and I know that it might not be much use for you and it doesn't matter for us because we use site periods, but would you consider the eruption? I mean ... ash plays an important role in our local site period designations; we have ash everywhere, it's unmistakable whether you are before or after the eruption and that just draws a line for us. It does conveniently match up. Our earliest deposits after the eruption already have what we would consider our local Period XI; Period XII has LM IB ogival cups and a couple of other features, so there's not really any difficulty to it. Or do you want just a stylistic division?

**Rutter** Well, we don't have the ash, so there is nothing we can do there, and that's one of the big questions: is there an LM IA sub-phase after the eruption? I don't know if anyone can answer that question, yet. There is no good evidence for one, I don't think, as yet, but depending on where you put the LM IA/LM IB dividing line, that's going to determine whether there is or isn't one, it seems to me. As long as that dividing line can sort of float, you are going to have this problem of whether or not there is an LM IA phase after the eruption.





# Pottery from the LM IB building at Skinias<sup>\*</sup>

*Stella Mandalaki*

The LM IB building at “Kolokythi” is located on top of a low hill facing the plateau of the village of Skinias, not far from the village of Lagouta (Figs. 1–2). In 1997, the 23rd Ephorate of Heraklion conducted a rescue excavation at this location; extensive looting had partially destroyed the settlement as well as large quantities of pottery stored inside the building. The entire structure was uncovered in order to prevent future looting.<sup>1</sup> In addition to the illegal activity, the southwestern corner of the building was partly destroyed by quarrying, while some walls of the storerooms were destroyed by cultivation. Despite these damages the plan of the building is clear (Fig. 3).

The building occupies approximately 250 m<sup>2</sup>. The exterior north wall is not preserved, but its location is suggested by a few large blocks still *in situ* at the northeastern corner of the excavated area. The main entrance was through a portico located on the south side; a secondary entrance at the southeastern corner provided access to a staircase leading to the upper story rooms. The ground floor rooms included an internal open space, a light well

(Room 7) and five rooms that served as storage areas (Rooms 1, 4, 5, 6 and 8). Traces of the second floor were found in the collapse over Room 1 and the rooms next to the staircase in the southeastern wing.

The walls were built with earth and rubble, and only a single course is preserved (Fig. 4). The external walls measure approximately 0.95 m in width; those on the interior are 0.55–0.60 m wide. The floors of the five storage rooms were of packed earth. Different layers of soil were used to fill in and smooth natural cavities in the bedrock. The floor

<sup>\*</sup> First, I would like to express my thanks to the organizers for inviting me to the conference, even though I am not a specialist in LM IB ceramics. I am also grateful to INSTAP for its financial support and to Don Evelyn who facilitated the conservation of the pottery at the Stratigraphical Museum at Knossos. Many thanks also go to conservators Tassos and Irini Karousou, photographer John Papadakis, draftswomen Keti Astrinaki and Penelope Stefanaki, and finally to my colleagues Giorgos Rethemiotakis, Eleni Hatzaki and Keti Archontaki for their remarks.

<sup>1</sup> For a preliminary presentation of the excavation, see Mandalaki 1998.

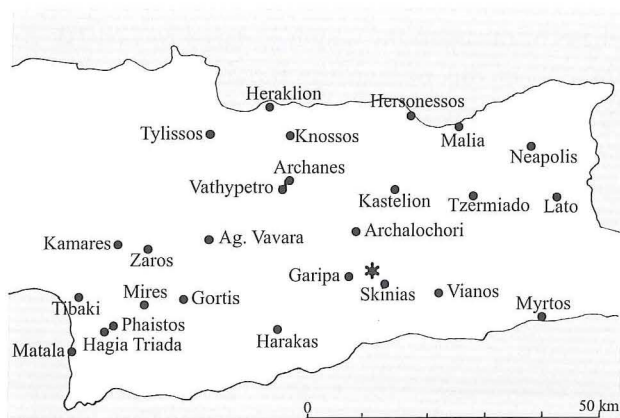


Fig. 1. The site of the settlement northwest of Skinias.



Fig. 2. The low hill where the settlement is located.

Fig. 3. The plan of the building.

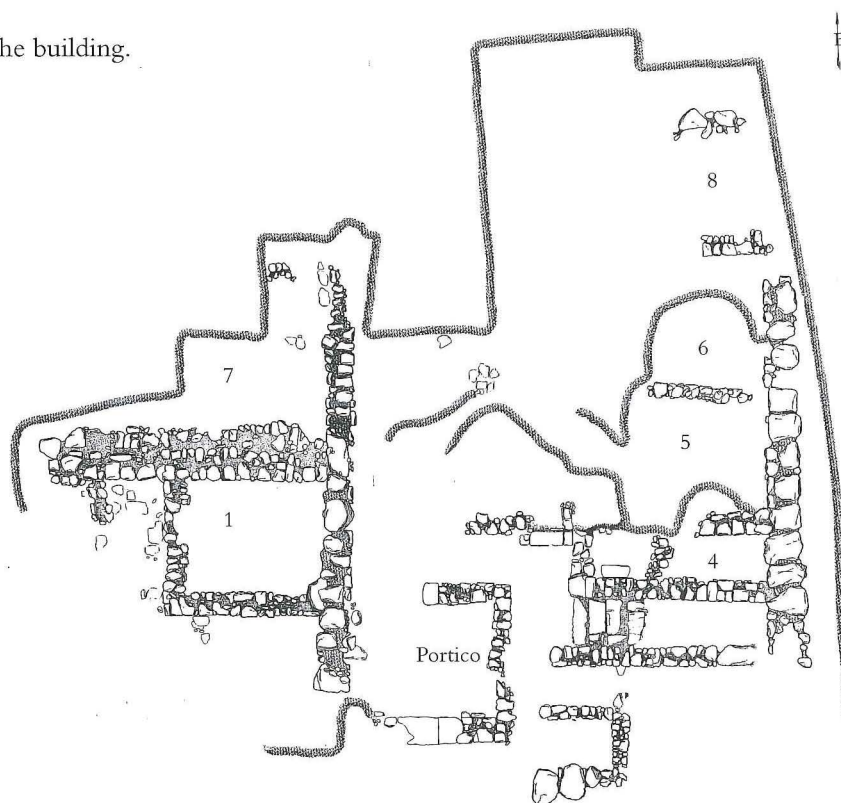


Fig. 4. The building from the southeast.



Fig. 5. Storerooms 4, 5, 6.

of the internal open court was paved with rough stones, three of which are still visible; however, the majority of the paving is not preserved.

Over 900 vases were carefully stored in these rooms (Fig. 5). Of these, roughly 650 were conical cups. It is noteworthy that individual shapes were typically stored together with one vessel inside the other. The conservation of the pottery (with the financial support of INSTAP) is nearly complete, while the study of the material is still at a preliminary stage. According to the excavation data, the pottery recovered from the storerooms all belongs to a single

phase of occupation, which is dated to LM IB. At the end of this period, the building was destroyed by an extensive fire which sealed the context. This paper presents the most characteristic pottery from each room. Discussion of the different fabrics is not included here, since petrographic analysis is still in progress.<sup>2</sup>

<sup>2</sup> Petrographic analysis is being conducted by Eleni Nodarou at the INSTAP Study Center for East Crete.





Fig. 6. Room 1. Spouted jar with two parallel semicircles.

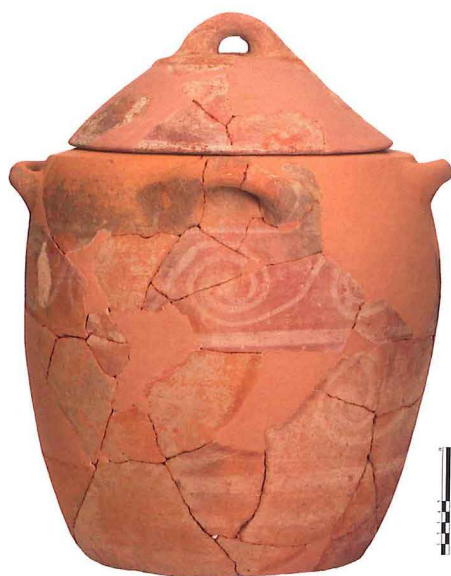


Fig. 7. Room 1. Large jar with running spiral.



Fig. 8. Room 1. Pithoid amphora with dark painted trickle.

### Room 1

Room 1 is a later addition to the west side of the original building (note in particular that the west facade of the original plan forms the east side of Room 1). This room measures 2.80 x 2.80 m and its floor level is subterranean. The north side of the room is bounded by a double wall, which likely supported an upper floor. Remains from an upper story wall, including large plinths, small stones and plaster were found; unfortunately, the looters had plundered some of this material, also disturbing the vessels on the ground floor of the room. Below the fallen wall debris, 11 vessels lay on the floor, and many others were restored from the large quantity of broken pottery (37 vases in total). These include several large pithoid jars, spouted jugs, and small pithoi, but also smaller vessels like two-handled oval-mouthed amphorae, a stirrup jar, a squat alabastron and conical cups.

Characteristic examples include a large cylindrical spouted jar with an everted rim, three handles and a slightly curving profile (Fig. 6), decorated with two dark pendent semicircles on each side. A similar, but more globular, cylindrical jar of reddish orange clay was fitted with a tall conical lid (Fig. 7). It has two bands of running spirals in white paint framed by a thin white band above, one thick line between and three thick bands below. Another row

of running spirals framed by thin white bands is found on the conical lid. Good parallels for this decoration are found on a cylindrical jar from the South House at Knossos dated to LM IA<sup>3</sup> and a smaller jar from Archanes dated to LM IB.<sup>4</sup> These parallels, however, are decorated in the dark-on-light technique, while the jar from Skinias carries light motifs on a dark background. White paint was still used in LM IA, especially in East Crete, where it can be found together with dark-on-light decoration; it also occurred occasionally in LM IB in secondary motifs, or even the main pattern.<sup>5</sup> The jar from Skinias may reflect a conservative style, perhaps an East Cretan influence, or represent a vessel which should be dated earlier than the other vases in Room 1.

A pithoid amphora with piriform body was

<sup>3</sup> Mountjoy 2003, 65 fig. 4.6.

<sup>4</sup> Sakellarakis & Sakellarakis 1997, 438 fig. 415. Another jar with similar decoration was recovered from the Villa at Pitsidia and presented by Dr. Vallianou at the LM IB pottery conference in Athens in 2007.

<sup>5</sup> Examples include a large spouted jar from Palaikastro (Sackett & Popham 1970, 226 fig. 16 NP68) and numerous decorated fine jars, jugs and alabastra from the Mirabello region (Barnard & Brogan 2003, 99–100). A ewer with light-on-dark decoration from the LM IB Villa at Pitsidia was shown by Dr. Chatzi-Vallianou at the conference.





Fig. 9. Room 1. Pithos with open mouth.



Fig. 10. Room 1. Pithos with narrow mouth.

decorated with dark trickle (Fig. 8). Trickle or drip decoration appears at Skinias in many varieties (e.g., both circular and linear, and often with crossing lines), typically on amphorae and collar-necked jugs. The same decoration was found on a bridge-spouted jug and a pithos with a conical profile, wide mouth, and out-turned, square lip (Fig. 9).<sup>6</sup> Another pithos from the room exhibits an ovoid profile, narrow mouth, and out-turned rim (Fig. 10).<sup>7</sup>

Among the fine ware vessels is a squat alabastron with pale green clay and dark paint that flakes off easily (Fig. 11). The vessel has an angular profile and is decorated with motifs in several zones. The shoulder is filled with stylized ivy leaves with one rosette, while wavy lines fill the free space around the leaves. The ivy leaves are of the filled type with volutes,<sup>8</sup> a typical LM IB motif, especially in a horizontal arrangement. The zone on the body contains a row of poorly preserved quirks framed by a pair of thin bands above and a single band below. The underside of the base is decorated with crossing lines. The flaring rim and three handles are also painted. The shape of the vessel resembles LH IIA Mycenaean examples<sup>9</sup> and thus is contemporary

with LM IB. It differs, however, from Mycenaean LH IIA parallels in the profile, which is more similar to the angular-cylindrical shapes of LH IIB.<sup>10</sup> A close parallel was found in Room 31 of House A at Kea (in an LM IB/LH II context).<sup>11</sup> Although the vase at Kea is larger and decorated with rock pattern, it appears to be of the same fabric as the Skinias alabastron.<sup>12</sup> Because the alabastron from Kea is considered to be a Mycenaean import, it is likely that the vessel from Skinias also comes from the mainland.

Room 1 also contained a globular stirrup jar (Fig. 12). The upper half of the vessel is decorated with a net of concentric semicircles, while four

<sup>6</sup> See Christakis 2005, fig. 23, forms 106–7.

<sup>7</sup> For a similar, though not identical type, see Christakis 2005, fig. 9, forms 35 and 37.

<sup>8</sup> Furumark 1972, 270, figs. 35j and 4.

<sup>9</sup> Furumark 1972, 43, fig. 21 no. 91.

<sup>10</sup> Furumark 1972, 44, fig. 12 no. 92.

<sup>11</sup> Cummer & Schofield 1984, 125, pl. 85 no. 1550. I would like to thank Dr. Mountjoy for the suggestion to look for parallels in the ceramic material from Kea.

<sup>12</sup> It is made of fine buff clay.



Fig. 11. Room 1. Squat alabastron with ivy leaves.



Fig. 12. Room 1. Stirrup jar with concentric semicircles.



Fig. 13. Light-well (Room 7). Oval-mouthed amphora with running spiral.

thick bands fill the lower half. The narrow frieze between the upper bands is filled with a stylized iris or flying ivy motif. The artist(s) also used the same motif three times to fill a gap below the last row of semicircles on one side. The shape of this vase is typical for LM IB,<sup>13</sup> and flying ivy is a common LM IB motif, particularly on rounded cups.<sup>14</sup> The final vase worth noting from the room is a fragment of a beaked jug with a piriform profile, decorated at the neck with a foliate band between solid bands on the body and spout.

In addition to the pottery, the room contained a utilitarian bronze axe, a large number of stone tools for grinding produce, and roughly 20 spherical loomweights.<sup>15</sup> Many of the weights were found in the nearby bushes, where they had been thrown by the looters.

The entrance to Room 1 was on the west side, via a paved stone hall; the room had no direct communication with the main part of the building to the east, nor does it appear to have provided access to the two small rooms at the south. This pair of rooms was badly destroyed by the looters and the modern quarry. Finds from this area included three undecorated ewers and a stone axe. Thus it appears that the three rooms in the southwest part of the building were used primarily for the storage of large vessels and tools.

### *The light well*

The open space (Room 7) to the north of Room 1 probably functioned as a light-well. Five small, badly broken vessels were discovered in this space. Their condition suggests that they had fallen from the first floor. The most interesting of these is a two handled oval-mouthed amphora (Fig. 13) decorated on the shoulder with running spirals below two parallel wavy lines of red paint; the lower half of the vessel carries three thick bands. A close parallel from Archanes is dated to LM IA; it has the same decoration but a more elongated profile.<sup>16</sup> Pithoi with running spirals are also known from the LM IB house at Chalara Phaistos,<sup>17</sup> and two stirrup jars and two pithoi from the LM II levels of the Unexplored Mansion carry similar spirals.<sup>18</sup>

### *The main entrance*

The main entrance to the building at Skinias was through a two-columned portico on the south side

<sup>13</sup> Compare examples from Archanes (Sakellarakis & Sakellarakis 1997, 436, fig. 411) and Zakros (Betancourt 1985, pl. 20H).

<sup>14</sup> See, for example, Mountjoy 2003, figs. 4.15, 4.21, 4.23.

<sup>15</sup> For parallels, see Mountjoy 2003, fig. 8.1, n.1, 9.

<sup>16</sup> Sakellarakis & Sakellarakis 1997, 431, fig. 407.

<sup>17</sup> Palio 2001a, fig. 47 f-g.

<sup>18</sup> Popham 1984, pls. 73 a-b, 75 c-d.





Fig. 14. Internal open space. Large tripod cooking pot (H. 0.47 m).



Fig. 15. Room 4. Jug with two handles (h. 0.22 m).



Fig. 16. Room 4. Tall alabastron with scale pattern.

measuring 2.60 x 3.60 m. Its monumental threshold consists of a large worked rectangular stone (1.50 m long and 0.64 m wide). A concentration of 35 conical cups was found inside the portico. In a later architectural phase, the portico was reorganized by incorporating the two columns into a wall which enclosed the north side of the space. This small room contained large pithoi. One of them, restored from many fragments, has an ovoid profile with wide mouth and is decorated with the rope decoration characteristic of LM IB.<sup>19</sup>

### *Internal open space*

The portico provides access to an internal open space measuring 7.0 x 7.50 m. The presence of five stone slabs suggests that the entire space was originally paved. It appears that the builders created a level surface beneath the slabs by filling in natural cavities in the bedrock with layers of yellow soil. A large tripod cooking pot (Fig. 14) with eleven small vessels inside, mostly conical cups, was found broken in many pieces on the floor of the courtyard, near the east wall of Room 1. This cooking vessel with the deep, cylindrical body, had probably fallen from the upper story above Room 1. A similar tripod cooking pot dated to LM IB is mentioned from Nirou Chani.<sup>20</sup>

## The storerooms

### *Room 4*

The storerooms in the eastern wing of the building were accessible through the east side of the court. Unfortunately, the west wall of these rooms was destroyed by cultivation. However, a row of rough stones indicates the initial direction of the wall. The small Room 4, which measures 2.30 x 1.15 m, contained 30 vessels of various shapes, including small cooking pots, jugs, ogival cups, a stone bird's nest bowl, a tall alabastron, and a cylindrical jar with two handles. Remains of carbonized beans were found inside one of the cooking pots, while a conical cup held an unusual crystal material.

A selection of the most characteristic vessels is presented here. The first is a coarse jug with a piriform body, low neck, one vertical handle at the shoulder and a smaller horizontal one above the flat base (Fig. 15). Examples of this type are known

<sup>19</sup> See Christakis 2005, fig. 5, form 13. Fragments of similar pithoi from Galatas were illustrated by Rethemiotakis and Christakis at the LM IB pottery conference.

<sup>20</sup> Xanthoudides 1922, 22 fig. 19.





Fig. 17. Room 4. Jar.



Fig. 18. Room 4. Ogival cups.



Fig. 19. Room 4. Cups with solid discs of red paint.



Fig. 20. Room 4. Horizontal-handled bowl with solid discs of black paint. (h. 0.11 m; rim d.: 0.18 m).

from LM IA,<sup>21</sup> LM II,<sup>22</sup> and LM IIIA.<sup>23</sup> A fine tall alabastron from Room 4 was decorated with net or scale pattern in reddish-brown paint (Fig. 16). The free space inside the motif was filled with black paint, which is preserved mostly in shadow. A linear pattern also decorates the upper surface of the flaring rim. The shape and decoration of the alabastron are both typical of LM IB, with the latter often found on fine drinking cups;<sup>24</sup> this decoration also occurs on a bridge-spouted jug from Nirou Chani.<sup>25</sup> These examples, however, employ a single line for the scales, while a double line is used on several LM II cups and amphorae.<sup>26</sup> A third shape found in Room 4 is the two-handled cylindrical jar, which is decorated with stylized vertical plants (perhaps reeds) above three dark bands of red paint (Fig. 17). The shape is typical of LM I<sup>27</sup> and the leaves of the motif recall the volute petals of certain lilies from this same period.

The room also contained several ogival cups, two of which were dipped with black paint on the interior and exterior rim (Fig. 18). This vessel type and decoration are known from MM III through LM III. LM IB parallels can be found at Palaikastro,<sup>28</sup> Mochlos,<sup>29</sup> and Kommos,<sup>30</sup> while LM II examples are known from the Unexplored Mansion.<sup>31</sup> Another pair of cups was decorated with solid discs of red paint covering the entire body (Fig. 19). Similar blob decoration is known from the Unexplored Mansion, Mochlos, and Chalará Phaistos.<sup>32</sup> A similar vessel from the same room is a horizontal-handled bowl with hemispherical body (Fig. 20), which is decorated with solid discs of

<sup>21</sup> Betancourt 1985, fig. 94Z.

<sup>22</sup> Popham 1984, pl. 86a–b (The Unexplored Mansion).

<sup>23</sup> Platon 1997c, 367, fig. 8 (Kephali Chondrou). The use of this form in different periods should not be surprising, however, because domestic utilitarian shapes often changed very slowly.

<sup>24</sup> For example, a cup from Archanes (Sakellarakis & Sakellarakis 1997, fig. 423) and cups from the South House (Mountjoy 2003, fig. 4.21 no. 328; fig. 4.22 nos. 349 and 356).

<sup>25</sup> Xanthoudides 1922, 19 fig. 16.

<sup>26</sup> For examples from the Knossos South House, see Mountjoy 2003, fig. 4.26 no. 421; fig. 4.34 nos. 577 and 578); for Kommos, see Watrous 1992, fig. 20 no. 384). Similar fragments from Hagia Triada and Pitsidia were also illustrated at the LM IB pottery conference.

<sup>27</sup> An example from Nirou Chani (Xanthoudides 1922, 21, fig. 18, left side of the upper row).

<sup>28</sup> Sackett & Popham 1970, fig. 13.

<sup>29</sup> Barnard & Brogan 2003, fig. 4 IB.164 and 173.

<sup>30</sup> Watrous 1992, fig. 17 no. 253; fig. 18, no. 279.

<sup>31</sup> Popham 1984, pls. 79–80.

<sup>32</sup> Popham 1984, pls. 79b–d and 80 top row; Barnard & Brogan 2003, fig. 6, IB.206; Palio 2001a, fig. 51e.

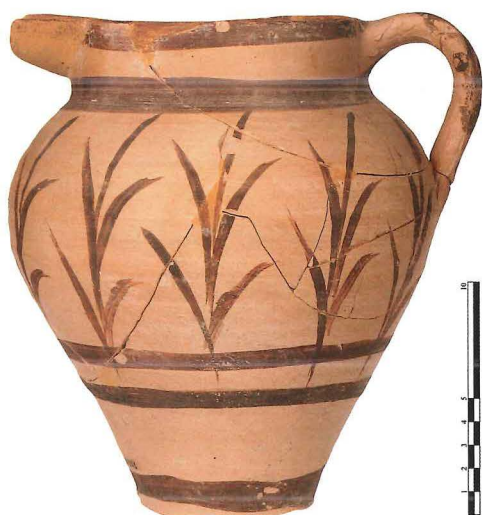


Fig. 21. Room 5. Collar-necked jug with reeds.



Fig. 24. Room 5. Bridge-spouted jug with spirals.



Fig. 22. Room 5. Bridge-spouted jug with reeds.



Fig. 25. Room 5. Collar-necked jug with trickle.



Fig. 23. Room 5. Bridge-spouted jug with reeds.



Fig. 26. Room 6. Rounded cup with undulating rim (h. 0.09 m; rim d. 0.156 m).



black paint on both sides. This shape has been found in LM IB deposits at Nirou Chani,<sup>33</sup> the South House at Knossos,<sup>34</sup> Kommos,<sup>35</sup> and Mochlos.<sup>36</sup> The decoration, however, recalls more closely the LM II cups from the Unexplored Mansion.<sup>37</sup> The diameter of the rim (18 cm) is also much closer to the large LM II bowls from the Unexplored Mansion and the South House.<sup>38</sup> Room 4 also contained a small tripod cooking pot, with LM I parallels from Archanes<sup>39</sup> and Nirou Chani,<sup>40</sup> and a beaked jug with piriform body and plastic ring at the join of the neck and body, which is typical of LM IB jugs; the entire surface of the beaked jug is painted red.

### Room 5

Room 5 (2.70 x 3 m) was used almost exclusively as a storage space for jugs. More than 100 examples, the majority of which were bridge-spouted and collar-necked jugs, were stored here in natural bedrock cavities, often stacked one inside the other. Thus far, 10 complete bridge-spouted and 38 collar-necked jugs have been restored from the room. The total number may ultimately increase as numerous vessels were broken and damaged by the looters and later cultivation. The only other vessels in the room were a small number of conical cups, which likely were used for serving liquid, and four spouted basins.

Most of the jugs are plain; those with decoration have reed and dark trickle motifs. Characteristic vessels include a collar-necked jug with vertical, stylized reeds in dark brown paint (Fig. 21), two bridge-spouted jugs with reeds in red paint (Figs. 22–3), and a third bridge-spouted jug with ovoid body and narrow collar neck and reeds painted in poorly preserved black paint. On these examples, the reed decoration is placed on the upper half of the vessel, while the lower part is painted with dark bands in a pattern typical of LM IA and LM IB.<sup>41</sup> Another bridge-spouted jug is painted with a row of running spirals above four thick bands in dark brown paint (Fig. 24). Similar LM IB vessels are known from Nirou Chani<sup>42</sup> and Palaikastro.<sup>43</sup> The final example is a collar-necked jug decorated with dark trickle (Fig. 25), which is very popular at Skinias.

### Room 6

Room 6 measures 3.30 x 2.80 m and was also used to store a specific shape, in this instance, conical cups. More than 550 complete cups were found in a natural cavity in the bedrock; however, it is estimated that at least 700 vases were originally stored in this room. The final total will not be known until the study has been completed. Several other open shapes including 10 kalathoi and 12 handleless cups with undulating rims were found on the floor to the east of the natural cavity (Fig. 26). The cups with undulating rims probably belong to an LM IA tradition, as Popham has suggested for similar vessels found in the Unexplored Mansion.<sup>44</sup> The only closed shape in this part of the room was an amphora with an ovoid body, four handles, a narrow neck and everted rim, decorated with red trickle. Similar vessels were recovered from the Unexplored Mansion.<sup>45</sup>

### Room 8

Room 8 lies at the northern end of the rooms on the eastern side and measures 2.25 x 2.80 m. It is not well preserved but appears to have been used exclusively for the storage of stone vases. A nearly complete pedestalled lamp was restored, together with fragments of a second example, as well as other large stone vases.

A secondary entrance was uncovered on the

<sup>33</sup> Xanthoudides 1922, 22, fig. 19.

<sup>34</sup> Mountjoy 2003, fig. 4.23 nos. 385–9.

<sup>35</sup> Watrous 1992, fig. 16 no. 181.

<sup>36</sup> Barnard & Brogan 2003, fig. 9, IB.235 and 237.

<sup>37</sup> Popham 1984, pls. 52–3 for the form and pls. 79–80 for the decoration.

<sup>38</sup> Mountjoy 2003, fig. 4.31.

<sup>39</sup> Sakellarakis & Sakellarakis 1997, fig. 405.

<sup>40</sup> Xanthoudides 1922, 22, fig. 19.

<sup>41</sup> There are many parallels from North and South-central Crete, including Mountjoy 2003, figs. 4.8 nos. 80 and 82; 4.10 nos. 133–5; 4.13; 4.20 nos. 264–7 and 280 (Knossos); Xanthoudides 1922, 21, fig. 18 (Nirou Chani); and Palio 2001a, fig. 50 (Chalara Phaistos).

<sup>42</sup> Xanthoudides 1922, 21 fig. 18.

<sup>43</sup> Sackett & Popham 1970, fig. 11 NP26.

<sup>44</sup> Popham 1984, 164, pls. 102d and 163 nos. 7–8.

<sup>45</sup> Popham 1984, pl. 76.





Fig. 27. Staircase. Spouted rounded cup with flying ivy.



Fig. 28. Staircase. Spouted rounded cup of the "Olive Spray Group".

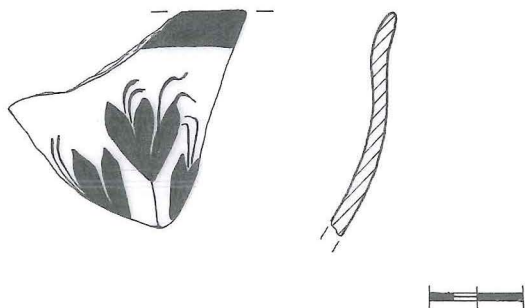


Fig. 29. Staircase. Sherd from a spouted rounded cup with crocus. Not to scale.

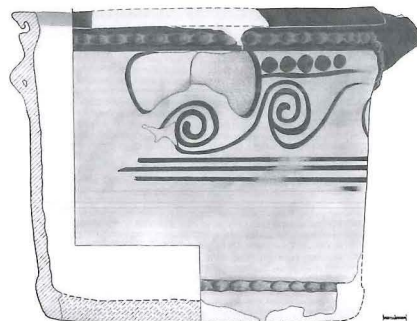


Fig. 30. Section of the staircase. Spouted jar with dot band, spirals and plastic rope decoration. Not to scale.



Fig. 31. Section of the staircase. Jar with stylized lilies or ivy.

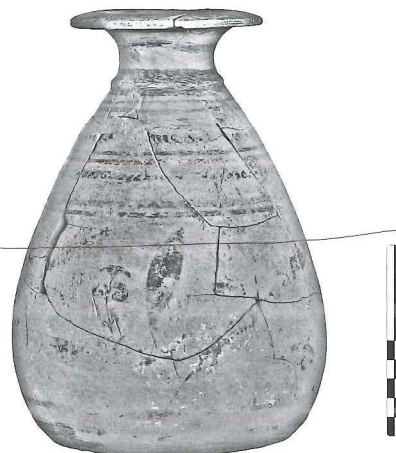


Fig. 32. Section of the staircase. Tall alabastron of the "Olive Spray Group".



Fig. 33. Section of the staircase. Spouted rounded cup with double foliate band.

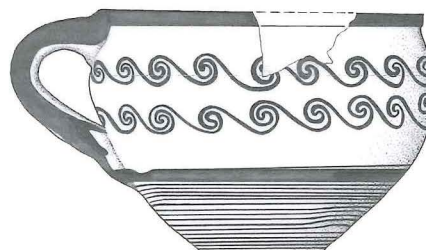


Fig. 34. Section of the staircase. Spouted rounded cup with running spiral. Not to scale.

south side of the staircase, in the southeastern corner of the building. A corridor provides access to this staircase or the internal open court, where the floor surface is nearly 40 cm above that of the corridor. Large plinths, which had fallen from the walls of the upper story, were discovered on top of the four remaining steps. Eight rounded cups were found upside down on or near the north wall of the staircase, where they appear to have fallen from the upper story. Two of the cups were decorated with flying ivy, a pattern typical of LM IB (Fig. 27), and two close parallels have been found in the South House.<sup>46</sup> Another cup belongs to the “Olive Spray Group” (Fig. 28), which is also typical of LM IB. Products of this workshop are known from Knossos, Palaikastro, Zakros, Galatas, and Kastelli Pediada.<sup>47</sup> Another sherd, decorated with a lively crocus in red paint, probably comes from a smaller cup (Fig. 29), and a close LM IA parallel was recovered from the South House.<sup>48</sup> Four additional rounded cups were painted monochrome or decorated with dark trickle; these cups are slightly smaller than those with motifs.

In addition to the material mentioned above, all of the other vessels found on top of the corridor walls and in the fill above the small room to the south appear to have fallen from the upper story. Approximately 33 vessels, mostly small in size, were collected from this area. These include a cylindrical spouted jar with straight sides, three handles, and an everted rim (Fig. 30). The whole surface of the vessel was covered with red paint, which is poorly preserved. The decoration includes two zones, the upper filled with running spirals below a dot band in faded black paint. A band of plastic rope decoration was applied above the base and below the rim of the vessel. The decoration of this jar is similar to that on the jar from Room 1 with white spirals on a reddish background, proving that both the light-on-dark and dark-on-light styles were in use during the period before the site’s LM IB destruction. This use of two colors, one for the surface and one for the motifs, has been reported elsewhere on Crete during this period.<sup>49</sup> The central zone of another jar, in this case with a cylindrical profile and everted rim, was decorated with a band of stylized lilies or ivy (Fig. 31). This decoration

was placed beneath a thick band at the level of the handles and above three more bands on the lower body. A similar jar of LM I date is reported from Archanes;<sup>50</sup> however, the vessel from Skinias has a more conical form. Another example from Nirou Chani offers a closer parallel for the shape of the Skinias jar,<sup>51</sup> while a horizontal-handled bowl from the South House,<sup>52</sup> dated to LM IB, has the same horizontal band of ivy. One of the most impressive vases from the assemblage is a tall alabastron with poorly preserved red paint, which – like the cup previously mentioned – belongs to the “Olive Spray Group” (Fig. 32). Two rounded cups from the same area contain characteristic LM IB decoration: the first has a double foliate band (Fig. 33) and the second two rows of running spirals (Fig. 34). Two additional vessels are worthy of mention. The first is a small ewer decorated with scale pattern on the shoulder and four thick bands on the lower body (Fig. 35). The second vessel is a beaked jug with reed decoration (Fig. 36), which has a close LM IB parallel at Nirou Chani.<sup>53</sup> The final vase from this area is a conical rhyton decorated with bands from the rim to the base (Fig. 37). Although the bottom section is heavily restored, the shape is certain and is characteristic of LM IB. Banded vessels in this period are known from Palaikastro,<sup>54</sup> Nirou Chani,<sup>55</sup> and Mochlos.<sup>56</sup> The presence of the rhyton, alabastron, and rounded cups with olive spray decoration, ivy, and foliate bands, suggests a ritual character for the vessels stored in the rooms on the upper story over the southeastern entrance.

<sup>46</sup> Mountjoy 2003, figs. 4.21 nos. 302 and 303; fig. 4.23 no. 386.

<sup>47</sup> For the “Olive Spray Group”, see Popham 1967, 341–2 and Rethemiotakis 2002, 66–7. Also see Rethemiotakis & Christakis in this volume.

<sup>48</sup> Mountjoy 2003, fig. 4.9 no. 108.

<sup>49</sup> For example, a large spouted jar from Palaikastro, decorated with white spirals on a brown background (Sackett & Popham 1970, 226, fig. 16 NP68). See also note 5.

<sup>50</sup> Sakellarakis & Sakellarakis 1997, fig. 409.

<sup>51</sup> Xanthoudides 1922, 21, fig. 18.

<sup>52</sup> Mountjoy 2003, fig. 4.23 no. 385.

<sup>53</sup> Xanthoudides 1922, 17, fig. 14.

<sup>54</sup> Sackett & Popham 1970, 225, fig. 15.

<sup>55</sup> Xanthoudides 1922, 21, fig. 18.

<sup>56</sup> Barnard & Brogan 2003, fig. 9 IB.225 and 237; fig. 18 IB.299.



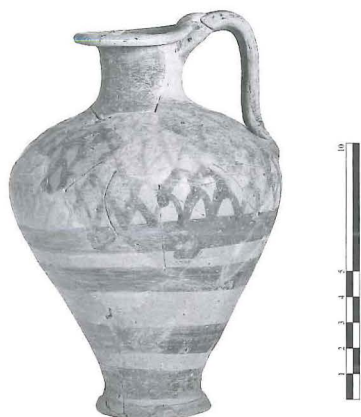


Fig. 35. Section of the staircase.  
Jug with scale pattern.

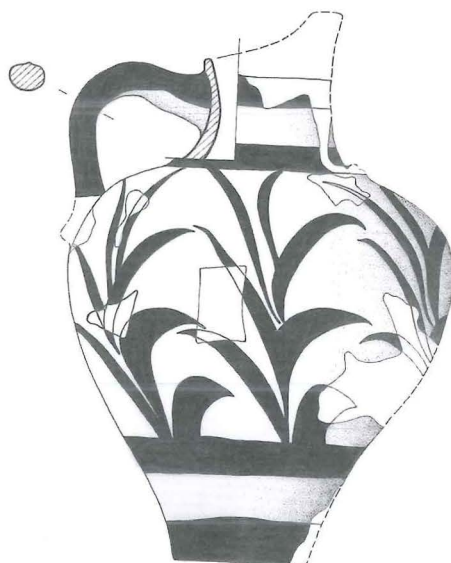


Fig. 36. Section of the staircase.  
Beaked jug with reeds. Not to scale.



Fig. 37. Section of the staircase.  
Conical rhyton with bands.

Finally, the rectangular room behind the staircase, which was entered at the southeast corner, was used as a workshop. The small bench attached to the north wall of the staircase may have served a similar purpose.

## Discussion

The building at Skinias appears to have been constructed in LM IB and destroyed by an extensive fire at the end of the same period. Only one destruction level was recovered during excavation; however, there is clear evidence of changes made to the original architectural plan within the LM IB period. The best indication of such a change is found in Room 1, which represents a later addition to the west side of the building. Apart from this, alterations are visible in the portico, where two columns were later incorporated into a wall to create a small room for storage. These changes do not appear to have been stimulated by an earlier destruction but instead indicate increasing demands for storage space. The enormous quantities of pottery stored in each room all point to this conclusion. The final destruction, however, does not appear to have been expected, since all the contexts were found intact.

The inhabitants left the site with the storerooms full of household implements and never returned to retrieve them.

All of the excavation data supports the hypothesis that the destruction level represents a closed context which can be placed securely in the LM IB period on the basis of the pottery. The alabastron and the rounded cup of the "Olive Spray Group" provide secure anchors in LM IB, while the rounded cups decorated with flying ivy, running spirals, foliate bands or dark trickle also fit well in this period. The elongated piriform shape of the pithoid amphorae, the refined form of the beaked jugs imitating metallic prototypes, and the forms of the collar-necked and bridge-spouted jugs with reed pattern also find good parallels within the LM IB horizon. Similar contexts are reported from Nirou Chani, the Knossos South House, and the LM IB house from Phaistos Chalará.

There are, however, a small number of vessels like the squat alabastron with ivy pattern (Fig. 11), the horizontal-handled bowl decorated with solid discs of black paint (Fig. 20), and the hemispherical cups with solid discs of red paint (Fig. 19) that exhibit forms or decoration more typical of the LM II period. The form of the Mycenaean squat alabastron is more angular than the example from



Mochlos,<sup>57</sup> and thus suggests an LH IIB rather than LH IIA date for the Skinias example.<sup>58</sup> Similarly, the solid discs and the wide rim diameter (18 cm) of the bowl from Skinias also recall the LM II examples from the Unexplored Mansion.<sup>59</sup>

Although these vessels represent a tiny portion of the assemblage (e.g., no other complete open bowls were found at the site), their coexistence with the mature LM IB material raises a problem. At the same time, it should be noted that obvious, new LM II shapes, like the goblet and the low alabastron, are absent from the Skinias material. Analogous assemblages, where clear LM IB forms have been found with early LM II features, are now reported from Hagia Triada, Pitsidia, Kommos, Mochlos, Pseira, and Khania.<sup>60</sup> In some cases, these contexts have been confirmed stratigraphically, differentiated from earlier LM IB or LM II layers; this suggests that they represent a specific phase of LM IB, obviously the final one. Unfortunately, this stratigraphic distinction has not been recovered at Skinias (there is, in fact, just one destruction level). The distinction of early LM II features in the LM IB ceramic material, however, leads us to suggest that Skinias must also be dated to this final phase of LM IB, which is associated with the site's destruction by fire. Subsequent study of the pottery from various closed LM IB contexts on Crete, paying close attention to the stratigraphy and the main LM IB destruction level at each location, may soon offer an answer to questions regarding the nature of these destructions (i.e., whether they occurred simultaneously across the entire island or successively over a period of time).

It may also be beneficial to mention features that are missing at Skinias in LM IB. First, no Marine Style has been found at the site, where reed motifs are particularly popular on all types of jugs. Different hands or workshops can be distinguished

which continue an LM IA tradition. Rounded or ogival cups never show reed motifs, but they are instead decorated with flying ivy, foliate bands, rows of spirals, solid discs and dark trickle. These patterns are generally well designed and indicate a certain degree of technical skill. The presence of the "Olive Spray Group" and the fragment with crocus decoration also attest to the local demand for high quality ceramics at the site. The pithoid amphorae and most of the collar-necked jugs, on the other hand, are primarily decorated with dark trickle and splatters, while spirals are preferred on the cylindrical jars. In spite of the North and South-central orientation of the pottery forms and decoration (similarities mainly with Nirou Chani, Knossos and Phaistos), the large quantity of fine ware suggests local pottery production, although imports from the Knossos area or East Crete are expected. The results of ongoing petrographic analyses will shed further light on this subject. For now, it should be noted that the same clay used for the squat alabastron was also used for several other vessels at the site (perhaps as much as 5% of the material).

Finally, the relationship of Skinias with the LM IB settlement at Galatas and the neighboring Palace at Damantri remains an important topic for future study pending the publication of additional material from both sites.

<sup>57</sup> Barnard & Brogan 2003, fig. 19 IB.305.

<sup>58</sup> See above notes 9–11.

<sup>59</sup> Popham 1984, pls. 52, 53 (for the form), 79, 80 (for the decoration). See also, above notes 34–9.

<sup>60</sup> To judge from the ceramic material shown at the LM IB pottery conference.



# Time, place and practice in the East Mesara: the case of Skinias. A response to Stella Mandalaki

Carl Knappett

Stella Mandalaki is to be congratulated for her clear exposition of the evidence from the site of Skinias (Monophatsiou), particularly as its remains were uncovered through rescue excavations in the wake of looting. It is difficult to disagree with her identification of the site as a small Minoan settlement with a single phase of occupation, destroyed at the end of LM IB (precisely which sub-phase I shall leave for others to discuss). This relatively straightforward picture allows me to focus instead on a few more general points concerning our approaches to the LM IB period and what we are hoping to achieve in such studies. I shall comment briefly on *regional identity*, *time-depth* and *technological practices*.

## Regional identity

Given the fact that the site of Skinias is located on the edge of the East Mesara and in the modern prefecture of Heraklion, the conference organizers quite understandably placed this talk in the schedule along with other presentations on “South-central” Crete, such as Kommos and Hagia Triada. Although straight line measurements are of course potentially very misleading, there is nonetheless a tendency to use “absolute” space as a kind of general guide in these matters. Nevertheless, these western Mesara sites are further from Skinias “as the crow flies” than is Knossos. Stella Mandalaki does chart various stylistic connections with sites to the north, including Galatas and Knossos, more so than with the Mesara. But what about links with sites to the east, such as Viannos, Kato Symi or Myrtos Pyrgos? Are these sites to be labelled East Cretan, or East-central Cretan? Evidently, close relations are not

necessarily consistent with physical distance. But the problem remains of where to “place” the East Mesara.

The regional location of Skinias is extremely interesting – the East Mesara is not entirely *terra incognita*,<sup>1</sup> but it is surely one of the least researched and understood areas of Central Crete. Contrast, for example, the detailed surveys conducted to the north and west in recent years.<sup>2</sup> How are we to better understand this region?

My argument here is that in Minoan archaeology, as is common with archaeology in other areas, we “sublimate” space in order to locate change in the temporal axis.<sup>3</sup> This allows for more straightforward evolutionary sequences, charting the rise and fall of civilizations, states, and societies. The motor mechanisms for change and thus patterns of variability reside in the temporal and not the spatial axis, according to this view. By the same token, it is similarity that we are after in the spatial axis. This is taken to its logical conclusion when we seek to make Crete into one homogeneous whole. The obvious way in which this is consistently achieved is by linking sites to “the center” as much as possible, and the center is always North-central Crete, and notably Knossos. Although it is generally acknowledged that there is a tendency towards regionalism as well (with the Mesara, North-central Crete, East Crete and West Crete each having their own identities), to some extent this regional picture is in opposition to a powerful push to seek island-wide

<sup>1</sup> Warren 2004.

<sup>2</sup> For the Pediada region, see Panagiotakis 2003. For the West Mesara, Watrous, Hadzi-Vallianou & Blitzer 2004.

<sup>3</sup> Smith 2003; see also comments by Soja in Blake 2002, 141–2.



similarity wherever possible. It is thus no accident that Knossos, with its long continuous sequence, holds sway in our understanding of Cretan regionalism. Time-depth is critical in our elaborations of regional identity.<sup>4</sup>

This tendency toward spatial homogenization, achieved through drawing stylistic connections with Knossos, is seen, for example, in the paper by Warren mentioned above.<sup>5</sup> He draws the East Mesara, including both Skinias and the “Palace” nearby at Protoria-Damantri, into the orbit of Knossos:

The large building at Protoria-Damantri could be seen as under Knossian control, resembling Galatas as it does in its mason’s marks and possibly even in size, and commanding the route through the Eastern Mesara and the Anapodharis river to the south coast and the sites at its mouth. Lagouta-Kolokythi to the east has an LM IB destruction with pottery of Knossian type or origin.<sup>6</sup>

Warren also sees evidence of Knossian power further afield, notably to the east, at sites like Pseira (Building AC shrine, “with its superb relief frescoes of Knossian type”), and the Palace of Zakros, which was not built until LM IB. Warren is thus in opposition to the views of those who see considerable regionalism in LM IB.<sup>7</sup>

The argument for regional variation has, however, recently found further support, and specifically in the area of ceramics:

The expectation of a koine of ceramic form across the island is an assumption based on the supposition of strong palatial influence. The role of regional tradition, particularly in LM IB, is probably under appreciated. The published and, to some extent, the excavated sample of LM IB ceramics from Central Crete is surprisingly small.<sup>8</sup>

This lack of Central Cretan comparanda is starkly underlined by Hatzaki.<sup>9</sup> While both the Royal Road:North and the Stratigraphical Museum Extension revealed LM IB destruction deposits with vases, Hatzaki notes (cf. this volume) that the only fully published deposit from Knossos comes

from the Acropolis Houses (and this was initially published as LM IA).<sup>10</sup> Of course this is to some extent mitigated by the publication of the current volume (see contributions by Hood, Warren). Hatzaki also makes a similar point to Barnard and Brogan on the problems of making regional comparisons, criticizing in particular the tendency to seek such comparisons only in a very limited range of forms, principally open and closed vessels in a fine buff fabric and decorated with Marine or Alternating Style:

The overwhelming emphasis placed on such vessels, which goes back to the early 1900s, has overshadowed the strong ceramic regionalism of LM IB...<sup>11</sup>

This strong ceramic regionalism is nowhere more apparent than at Palaikastro, where the LM IB pottery contrasts strikingly with that seen at sites in Central Crete.<sup>12</sup> In particular, the ogival cup is an innovation in this period at Palaikastro; it is a common East Cretan type, witnessed also at Mochlos and Zakros, and absent from Central Cretan sites such as Knossos.

## Time depth

The identification of the ogival cup as an LM IB innovation at Palaikastro requires an understanding of the ceramic sequence at the site. Like many Cretan sites, and indeed nearly all of those discussed in this volume, Palaikastro has a number of discernible occupation phases. Thus we are able to consider LM IB at Palaikastro in light of what is known from earlier Neopalatial phases, such as LM

<sup>4</sup> See Day, Relaki & Faber 2006.

<sup>5</sup> Warren 2004.

<sup>6</sup> Warren 2004, 163.

<sup>7</sup> E.g., Driessen & Macdonald 1997; Schoep 1999.

<sup>8</sup> Barnard & Brogan 2003, 107.

<sup>9</sup> Hatzaki 2007.

<sup>10</sup> Catling, Catling & Smyth 1979.

<sup>11</sup> Hatzaki 2007a, 193.

<sup>12</sup> MacGillivray, Sackett & Driessen 2007; and this volume Hemingway, MacGillivray & Sackett.

IA, MM IIIB, and MM IIIA; the recently published Wells volume illustrates the identified sequence for subsequent periods as well.<sup>13</sup> It is through local site sequences of this type that we come to understand regional traditions. For example, at Palaikastro white-on-dark straight-sided cups with flanged bases are not unusual in LM IA, as this type commonly occurred since MM IIIA. If these were found in LM IA at Knossos, we would of course be thrown off; not only do straight-sided cups there never have flanged bases, but white-on-dark decoration barely continues into LM IA. This point explains the continuing confusion with the Zakros Pits material, as it has been examined by archaeologists thinking and working in Central Cretan terms.<sup>14</sup> Other ceramic features peculiar to Palaikastro (and presumably East Crete) are the predominance of ledge-rim bowls over conical cups in MM III and the prevalence of floral patterns in dark-on-light during LM IA, such as the foliate scroll. Such piecing together of detailed site and regional sequences has been of central importance in the recognition of ceramic regionalism and the resistance to Knosso-centrism, which is perhaps more pronounced in LM IB ceramic studies than many other periods.

Crucially, the site of Skinias does not have this time depth. It has just one phase. Nor are there other sites in the East Mesara which might provide us with more information in terms of other phases of occupation. Without this time depth the East Mesara is “lost in space”. It is thus vulnerable to scholarly attempts to drag it regionally towards whichever site does have the weapon of time. And this is usually Knossos. The East Mesara can offer very little resistance when a Knossian cavalry decides to ride roughshod over it. It cannot say, “but this is a local East Mesara affair, look, it’s here in LM IA and even earlier too”. So I think that Skinias provides a very nice microcosm of the problem we constantly face when trying to work out this tension between island-wide and local tendencies, which is essentially a conflict between similarity and difference.

One very apposite example is the “Olive Spray” Style. Stella Mandalaki provides us with good examples from Skinias – a spouted rounded cup

(Fig. 28) and a tall alabastron (Fig. 32). This style also occurs at Knossos, as underlined by Popham 40 years ago (see also Hood this volume, an alabastron with olive spray from RRN), who also included an example from Palaikastro.<sup>15</sup> But there are as many examples from Skinias as from Knossos or Palaikastro, and the “olive spray” has also recently been identified at both Galatas and Kastelli.<sup>16</sup> The decorative similarities are sufficiently close to tempt various observers into attributing all examples to a single “workshop”, although this has not yet been done systematically.<sup>17</sup> There is certainly a temptation to assume that any such workshop would have been located at Knossos, as Warren seems to do in his 2004 comment that Skinias has pottery of “Knossian type or origin.” However, this straightforward interpretation is complicated somewhat by Rethemiotakis’ observation that the fabrics of the Galatas and Kastelli examples – a cup-rhyton and a conical rhyton at the former, and two cups at the latter site – do not look Knossian; he avoids this complication by suggesting, instead, that they are products of an itinerant potter trained in a Knossian workshop. Although fabric studies on the Skinias pottery by Eleni Nodarou of INSTAP-EC are pending, Stella Mandalaki appears to suggest that the Skinias olive spray pieces are also in local fabrics. Might these then be interpreted in the same way, as products of travelling Knossian potters or painters? Or might a less intricate interpretation also be forthcoming – that these vessels are locally produced by local artisans capable of mimicking what is after all a fairly straightforward design? The truth is that we really have very little idea until a systematic comparison is made of both the stylistic and technological features of the vessels in question. The point I wish to emphasize is that we can be very hasty in our efforts to establish patterns of similarity; and this process is part and parcel of

<sup>13</sup> MacGillivray, Sackett & Driessen 2007.

<sup>14</sup> Popham 1967.

<sup>15</sup> Popham 1967, 341, pl. 79c, d.

<sup>16</sup> Rethemiotakis 2002, 66–7.

<sup>17</sup> For the dangers of this procedure with Bronze Age cases, see Cherry 1992.



the “sublimation” of space in which we implicitly engage, all the better to find temporal variability.

## Technological practices

We should therefore be suspicious of hasty attempts to draw similarities. It is hard to resist the challenge when the slides come up on the screen to find parallels. Certainly some see central Cretan connections in the Olive Spray Style. Stella Mandalaki has quite properly sought and found parallels in material from a wide range of sites, including Knossos, Archanes, Nirou Chani, Galatas, Kommos and Palaikastro, and she anticipates identifying still more connections once the material from Damantri and Galatas is further published. But when we attempt to compare the Skinias material specifically with Knossian assemblages, we immediately face the fairly major obstacle that in fact Knossos is not quite as rich in published LM IB pottery as one might have imagined (see comments above). When one looks at the relevant contributions in this volume, there are some general formal similarities with what is seen at Skinias, but they are not overwhelming by any means. Certain features at Skinias do not necessarily look any more Knossian than from anywhere else, such as the reed painted bridge-spouted jars (see Chalara in the Mesara, for example). And of course many other Knossian features are absent from Skinias, though naturally we must be constantly aware of functional differences between assemblages.

In my opinion, it is difficult to proceed with these kinds of stylistic assessments without more *technological* information – clay pastes, forming techniques, surface treatments and even firing technologies. It is these kinds of practices – socially embedded and difficult to learn and transmit in some cases – that should be more indicative as far as regional identity is concerned.<sup>18</sup> *Yet there was very little mention at any point during the conference about fabrics and technologies.* This is perhaps partly due to the focus of the conference on chronology, but it might also stem from a lack of such work being done for these periods (and we at Palaikastro are guilty too!). So I look forward very much to the results of the fabric studies at Skinias; I would also like to know more about the conical cups, as they conceal much useful technological information, and more generally the forming techniques of all the vases. It is technological practices – which are, after all, social practices – that “create place.” This type of information will help us understand this potentially key “bridging” region of the East Mesara. So I would like to thank Stella once again for her pioneering work in this under-researched area, and for providing a view into this fascinating region, about which one only wants to know more.

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<sup>18</sup> See Day, Relaki & Faber 2006; Gosselain 2000.



# Discussion

**Cadogan** Many congratulations on the splendid presentation of the finds at Skinias, thank you very much. I think, in trying to think about them, and this is following up on Carl's comment, one does look at its position at the eastern end of the Mesara, looking at the consumption end of this pottery rather than the production; for a start the distance of drawing lines, with all respect to Carl [Knappett], on the map saying 45 kilometers to Phaistos and 30 to Knossos was, I think, something which Pendlebury destroyed in 1939 and is of no use in Crete. It is far easier to go along the Mesara to the site that way than even going through the rolling hills as I did quite frequently in a southeasterly direction out of Knossos. Related to that, and the business of where we can put this on the map, it is worth remembering that, quite apart from all the other attractions of the good agriculture of the Mesara and so on, you are on one of the main ways, if not the main route in ancient times, by land to the Isthmus of Ierapetra and thereby up to the Bay of Mirabello. Going through Malia and Vrachasi was a lot tougher in those times than it was going around through Viannos. This immediately gives you the enormously important site of Skinias, and one can go from there into the hills and eventually get down to the sea and Myrtos-Pyrgos. I think this is relevant. And it is, to pick up what Kostis [Christakis] was saying this morning, talking about possible boundaries in LM I, and you mentioned too, Carl, the regionality of Pyrgos, but it is actually on a border. One does observe its varying positions from late Prepalatial through Protopalatial, even down into Neopalatial when you get a very strong link with Knossos, which would have to have passed through Skinias. I also like very much the idea of competition and I am quite sure that this has got something to do with that. Talking about contextualizing Skinias, I think it helps us very much, but most of all many congratulations on a splendid presentation.

**Warren** I asked Tom [Brogan] if he would leave Carl's slide on the screen because it is very useful in this context. I think here there is an opportunity to take, as it were, a more art historical approach to the question because in the case of the olive spray, now do we say workshop or do we say painter? It seems to me in old-fashioned attribution studies that these examples of the "Olive Spray Painter", and there may be others, are exceptionally close from one vase to another, so close that I could believe without much difficulty that we are looking at the work of a single painter here at these sites making these vessels. Now if it is the case, as Giorgos Rethemiotakis stated, that the Galatas pieces are from local clay, and thus are locally made pots, and if we have, hypothetically, the same painter then we can have a very simple model of a traveling painter, nothing too surprising about that. Just as Renaissance princes asked someone to come from a main center and decorate their rural villa, so too we can have a local person in charge of Stella's [Mandalaki] very nice example of a country house, country villa or whatever, who has someone come and paint one or two vases there.

And likewise at Galatas. And that perhaps would have some chronological interest because we would be talking biographically about the life of a single person, a single painter who by definition can't have had a working life of more than a few decades and that would provide a chronological link between these sites to enable us perhaps to begin to tie them together. Whether we call it final LM IB or something else is another matter, because there are one or two vases that Stella drew attention to that have a sort of LM II look about them; I am sure Jerry [Rutter] noted those very carefully, but that's perhaps less important than the fact that we are on the verge of some biographical information for the model of a traveling painter, which provides us with a useful chronological tie-up.

**Van de Moortel** I actually have a follow up to this comment. This is not just a single piece, but there are several pieces executed in the same way that I have seen myself. It is a very precise execution of the motif, but I don't think it was done by just one painter, because I see a time depth here, as Carl was mentioning. I think that there are earlier examples of this precise style in light-on-dark dating back as early as the beginning of LM IA. There is a fragment of a straight-sided cup, which comes from an LM IB context at Kommos. It is cup C9601 from the second LM IB Late floor of House X; the cup may date stylistically to LM IA Advanced or Final (Van de Moortel 1997, 111–2, fig. 82). But actually we also have vases at Kommos – not vases, partial vases – from LM IA contexts. They do not have exactly the same motif as these but the same kind of execution and they are always imports, they are not local. They all have the same, unusual fabric. These vases belong to Betancourt's "lyrical floral" group, and are dated by me to LM IA Early to Late: Van de Moortel 1997, 111–2, 391–3, 604, 649). And I think they are related to an amphora from the Kamilari tomb (Levi 1976, 730, pls. LXXVII, 189b), and one from Stou Kouse near Kommos, both decorated with precisely executed olive sprays in a polychrome scheme on a dark ground (Marinatos 1924–5, 61, 64, fig. 5A); I have dated both these amphorae to LM IA Early. So [these olive spray vases appear to belong to] some [long-lived] local workshop somewhere that distributed its products in other parts of Crete. [An amphora similar to the ones from Kamilari and Stou Kouse has been found in the Temple Repositories at Knossos, redated by Warren to a mature stage of LM IA (Marinatos 1924–5, 61, fig. 5B; Warren & Hankey 1989, 73–4). A teacup fragment with similarly precisely executed white-painted olive spray decoration on a dark ground has been found at Knossos and was dated by Evans to MM IIIB (1928, 475, fig. 282a). Finally, a teacup and perhaps a closed vase with different motifs but painted in the same style and showing similar manufacturing practices have been found in mature LM IA contexts at Malia (Pelon 1970, 90–1, pl. 41.8–9)].

**Cunningham** Peter, were you suggesting just a traveling painter who would come and paint pots that were made for him at local sites or someone who would actually make the pots also?

**Warren** These pots were being made locally; assuming this is correct from the fabric analysis, then it would be perfectly possible to invite a painter who had his own particular style, after all there are different shapes, including interestingly, the alabastron, rhyton, cups and so forth. I accept what Aleydis [Van de Moortel] has said but there are certain differences between the white-on-dark form and these, there could be some



tradition there, it is the particular closeness of these pieces. And easily one man or woman could have traveled and made these paintings on the vessels, which were themselves locally made. But yes, Tim, the painting would obviously be part of the manufacturing process.

**Mandalaki** Sorry, about this I want to add something. The execution of the alabastron is a little different from that of the rounded cup. And the motif is on a smaller scale than the rest. I don't have the drawing of the alabastron, which shows the difference, the scale of the pattern is a little bit different, it is not exactly the same as the rounded cup. I don't know if they are different hands but it's a different execution.

**Cunningham** I just want to add that I have no problem generally with the identification of individual hands or workshops, but with a case like this where it's something that might be worth imitating, I can't imagine anyone thinking it would be impossible to fool us or anyone else. People today can fake any painter you want and fool any expert, there is just no way that someone couldn't create something that you could not tell apart.

**Van de Moortel** Sorry, on the same subject. I think one should not just look at the decoration, I think one should look at the entire vase. We have two vases there, two teacups side by side, one from Kolokythi and one from Knossos, and, if you look at those cups, to me (and Stella [Mandalaki] may be able to judge this), they look identical, made the same way. And here I would say that one shouldn't just rely on fabric analysis because often these vases are made out of fine clay, and they are all marine clays. One should look at the actual details of formation, like how the rim is formed, how the body itself is formed, the handle attached, where the band is located below the main decoration, that sort of thing. To me they look identical.

**Mandalaki** Yes, these are identical. Yes. For me too.

**Hatzaki** Following up on what Aleydis mentioned. What is very characteristic about the Olive Spray Group is that they are all North-central Cretan shapes. So, we have to take that into consideration. The shape, that cup for example, is not manufactured at Palaikastro in LM IB. So it is not, if you want to continue with the argument that the painter goes to Palaikastro, only a painter that goes to Palaikastro. Also if we move into a different temporal and spatial context, the recent work by Vangelio Kyriatzi presented at the "Mesohelladika conference" has shown that there is the potential of moving potters that actually select the same clay sources. This is for a different part of the Aegean, of course. If I am allowed to move beyond this particular discussion, following from the Mesara material that we saw, what is striking about the assemblage at Kolokythi is that, on the one hand, if you look at the fine table ware, and particularly the vessels suitable for drinking, to me they look very North-central Cretan. Whereas, if you look at the other table ware, pouring vessels, bridge-spouted jars (maybe I am a bit running spiral overdosed here) they look more familiar to the Mesara material. Perhaps Jerry could comment on this? It strikes me as something very interesting.

**Mandalaki** I would agree with you. As I said, the huge quantity of reed motifs could only be found, I think, at Chalara.



- Kanta** Considering the time length that Carl [Knappett] mentioned, I would like to draw attention to the angular squat alabastron that you found, which is very, very similar to the one we found and published from the Villa at Nerokourou (Kanta & Rocchetti 1989, 261, 262, no:543). So, although one is at one end of Crete and the other at the other end, it gives us a good time scale for when these destructions took place, and, if we consider what the rest of the material at Nerokourou looks like, then perhaps we should be a little bit more wary before we characterize deposits as IA or IB or advanced or whatever.
- Mountjoy** The alabastron. It doesn't have to be LH IIB to begin with. There is an awful lot of variety in LH IIA alabaster, so you would be okay with a IIA date. But, having said that, I think you are right to put it at the end of IB because, don't forget that on Kea, Hagia Eirene, the period VIIIB destruction deposit, which is a IB/IIA destruction, has Ephraean goblets. They are just beginning, so we are all in about the same time phase.
- Rethemiotakis** Congratulations, Stella, for this very interesting and fascinating material to which you refer. I wanted to touch a little bit on the issue of the taphonomic conditions regarding Kolokythi in comparison to Galatas, which is the nearest site you mentioned and has so many features in common in terms of pottery decoration. What puzzles me a little about both sites, I also refer to the buildings I excavated at Galatas, is the absence of valuable items, especially metal objects and other artifacts which one would expect to find, as also happens in other Cretan sites destroyed at this period. My question, my *aporia*, is what happens to them? Is there a possibility of looting before or after destruction? Maybe it is possible that these destructions were not caused by earthquake; is it possible that there is an involvement of human agency?
- Mandalaki** The earthquake is just a hypothesis because the walls, as you saw, were just one row of stones, so we can't be very definite about that. The removal of some huge blocks influenced this suggestion. The destruction from fire, of course, is clear. As for the precious objects, I don't think that anything was removed from the place because all the pottery was found so well-organized and so well-packed, that I think, if you were asked now to put the pottery back inside, that you wouldn't be able to fit it in as it was before; especially in the small Room 4, which was only one meter and fifty centimeters wide.
- Rutter** Peter [Warren] is absolutely right. I saw a lot of friendly LM II Early-looking pots there, but I just want to draw attention to the fact that the angular alabastron, I think, is very likely to be a Mycenaean import and it's an interesting location for that. That jug that you showed with the horizontal handle below the vertical handle was plain and dark; this is the kind of thing that I would identify as Anatolian-looking material.
- Mandalaki** As I said, I knew some parallels, even from LM IIIA.
- Rutter** But they begin in exactly this period of LM II at Kommos.

# Pottery at Pseira in LM IB

*Philip P. Betancourt*

Pseira was first excavated by Richard Seager in 1906 and 1907.<sup>1</sup> He uncovered parts of approximately 40 of the over 60 structures on the site, but little was published from this campaign. A recent project reinvestigated the site beginning in 1984, cleaning the architecture found by Seager and excavating several new buildings. The new publications resulting from this project describe both the buildings and tombs uncovered by Seager as well as those excavated more recently.<sup>2</sup> The site is now the most thoroughly excavated and studied Minoan town, and it is also one of the best preserved. For description and publication purposes, each structure was given a sequential set of two letters (Buildings AA, AB, AC, and so forth), and rooms within a building were numbered (Room AA 1, Room AA 2, Room AA 3, etc.).

The LM IB pottery of Pseira can be clearly documented both in terms of style and in terms of stratigraphy. Several different buildings in the town provide deposits from the period, and some of the LM IB assemblages are of substantial size. Two stages of LM IB exist at Pseira. The first phase, which follows immediately after LM IA, ends with a violent destruction. The evidence for this destruction suggests that the town was partly looted before it was destroyed by fire, and because of this selective removal of objects by those who attacked the site, the destruction that ended the phase buried large numbers of complete vases in some deposits and only sherds, broken objects, and artifacts with little intrinsic value (such as stone tools) in other parts of the town. In Block AF, some of the stone architecture was only damaged, but not destroyed, by the fire that raged through the settlement, and the partly ruined rooms were almost immediately re-occupied by people using a different assemblage of

vases; the phase immediately after the destruction is regarded here as LM IB Final.

LM IB at Pseira can be best understood by putting it within its chronological context. Although Pseiran stratigraphy is fairly clear from MM IIB to LM IB Final, the site still poses problems for our understanding of some of the local ceramics, particularly for MM III. This phase is very poorly represented at the site, and it is likely that few residents were actually living here after the very extensive destructions at the end of MM IIB.

Pseira most likely produced no pottery of its own (the small islet has no clay deposits). The majority of its ceramics were imported from the nearby coast of Crete and show affinities in particular with the ceramics of Gournia.<sup>3</sup> Other pieces come from farther away, and Knossos is well represented among the Pseiran ceramics of LM IB (though not in earlier or later periods). A summary of the phases before LM IB helps explain the situation during the second part of LM I.

## MM IIB

Middle Minoan IIB ended with a violent destruction. The pottery from this phase can be understood from a number of deposits, some of them uncovered by Seager and others excavated by the modern project. The destruction that ended this phase marked a major social break in the settle-

<sup>1</sup> Seager 1910.

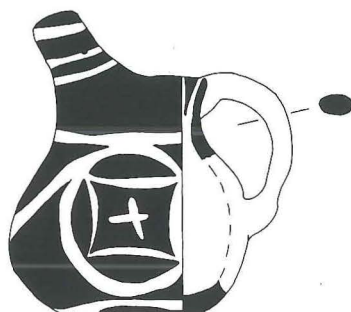
<sup>2</sup> Betancourt & Davaras 1995; 1998b; 1999; 2001; 2002; 2003; 2004; 2005; Floyd 1998.

<sup>3</sup> For the pottery from Gournia, see Hawes *et al.* 1908; Betancourt & Silverman 1991.

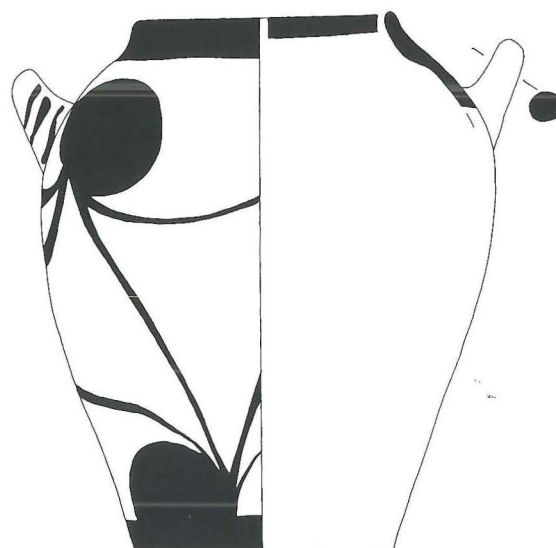




Cemetery, no. 4.61



Under Building BT, no. BT 43



Under Building BT, no. BT 44

Fig. 1. Characteristic pottery of MM II at Pseira.

ment, especially visible in the new arrangement of the street system in the following period and in the complete abandonment of the Pseiran cemetery.<sup>4</sup>

The period can be characterized by pottery like that shown in Figure 1. The carinated cup (Fig. 1, no. 4.61), either with a plain upper part or with horizontal grooves made on the potter's wheel, is very distinctive. This example comes from a MM IIB terrace constructed outside the entrance to Tomb 4 and probably was used for ceremonies associated with this small grave. Light-on-dark ornament was present (Fig. 1, no. BT 43), and a regional style using dark paint on the bare surface of the vessel was also used (Fig. 1, no. BT 4). The latter two examples come from a MM IIB habitation level under the floor of Building BT.<sup>5</sup>

The pottery of this MM IIB phase is part of a regional consumption pattern that extends from Malia to the Gulf of Mirabello. It is characterized by several specific vessel forms decorated in various ways. Among those found at Pseira are the following:

- Monochrome carinated cups with grooves on the upper section
- Scoops with interior handles and three-dimensional marine decoration on the rims
- Oval-mouthed amphorae with tall piriform shapes

- Piriform jugs with small raised spouts and simple dark-on-light ornament
- Bridge-spouted jugs with low spouts and carinations at the upper shoulder.

These vases come from a series of sites that were destroyed at the end of MM IIB. The assemblage is known from the town and Palace at Malia,<sup>6</sup> Period III at Myrtos Pyrgos,<sup>7</sup> House A at Vasiliki,<sup>8</sup> the Early Town phase at Gournia,<sup>9</sup> the latest pottery from the Trapeza cave in Lasithi,<sup>10</sup> and the refuge site of Katalimata.<sup>11</sup> These deposits demonstrate several aspects about the Minoan use of pottery in this area of Crete. They are important because they establish features that still existed during LM IB.

Pottery from several production centers circulated freely in this part of Crete. The clay vases filled

<sup>4</sup> For the cemetery, see Betancourt & Davaras 2002; 2003.

<sup>5</sup> Seager 1910, 18; see also Betancourt & Davaras 1999, 177–83.

<sup>6</sup> For Quartier Mu, see Poursat & Knappett 2005; for elsewhere at the site, see Van Effenterre & Van Effenterre 1969, pl. 48; 1976, 81–2; Pelon 1970, 20–1, nos. 1–3.

<sup>7</sup> Cadogan 1978.

<sup>8</sup> Seager 1907, 123–6.

<sup>9</sup> Hawes *et al.* 1908, pl. 6.

<sup>10</sup> Pendlebury, Pendlebury & Money-Coutts 1935–6.

<sup>11</sup> Nowicki 2002.



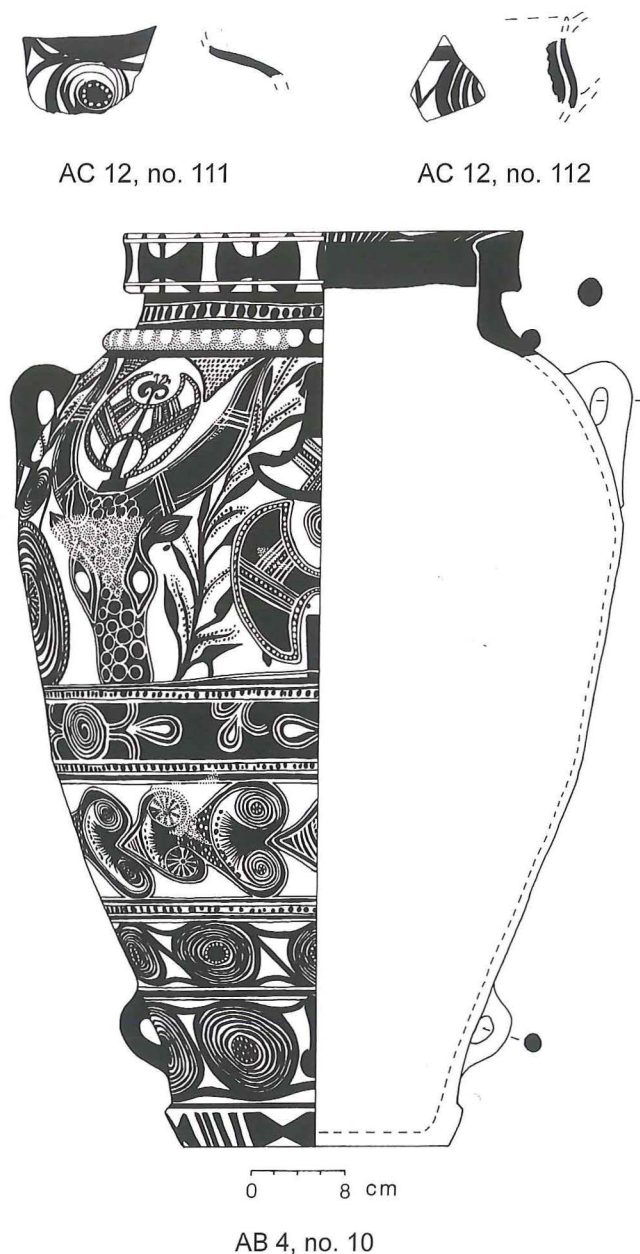


Fig. 2. LM IA pottery from Pseira. Scale 1:3 except as noted.

specific needs, including storage, cooking, serving, drinking, and display at ceremonies. The vessels found in specific deposits include enough parallels to allow the sites to be clearly related to one another, but the distribution pattern was so informal that no one deposit contained every class that was in general use. Because Pseira did not make any of its own pottery, it had to depend on the nearby regional productions for this commodity.

## MM III

Pseira was only sparsely occupied during MM III. The pottery phase that preceded LM IA in this part of Crete is rare from the islet, and the phase is known only from a few sherds identified stylistically. The FN–MM II cemetery<sup>12</sup> was no longer used during this phase, and when the town was rebuilt on a new plan, the residents were buried elsewhere (the new cemetery has not been found).

## LM IA

Only a few deposits immediately beneath the floors of the LM IB town provide information on the LM IA styles used on the island. Figure 2 illustrates examples from LM IA deposits in the town. Nos. AC 111 and AC 112 come from below the LM IB surface in the road south of the “Shrine” (Building AC).<sup>13</sup> They illustrate a class of spiral with a wide outer ring, thin strokes for the spiral itself, and a large central dot with added white dots. This spiral-type is typical of the pottery from Gournia<sup>14</sup> in the period before the eruption of the Thera volcano. Most of the Pseiran pottery from this phase seems to have been coarse and undecorated or ornamented with drips and other simple patterns. Finds of both Thera ash and Thera pumice in Pseiran LM IA deposits leave no doubt that the period persisted until after the eruption of the volcano.<sup>15</sup>

## LM IB

Late Minoan IB, the main period of the surviving town, has two phases. The first phase ended with a destruction that buried many deposits of both complete vases and sherds. Because of its many deposits, Pseira is a very useful site for establishing the style of the pottery produced in the regional

<sup>12</sup> Betancourt & Davaras 2002; 2003.

<sup>13</sup> Banou 1998, 25.

<sup>14</sup> Hawes *et al.* 1908.

<sup>15</sup> Vitaliano & Vitaliano 1998.



Fig. 3. LM IB vases in the Special Palatial Tradition found in Room BQ 1 at Pseira.  
Not to scale.

centers at this time, especially Gournia.<sup>16</sup> The LM IB pottery can be assigned to its proper phase on the basis of its stratigraphy as well as its style. Deposits of vases and fragments that were present in the community immediately after the rebuilding of the town following the earthquakes associated with the Theran eruption serve to characterize the first LM IB phase. These vessels were used until the LM IB destruction that ruined most of the town. In this paper, they are first analyzed statistically to determine the style as a whole, and that style is then used as a test for individual pieces that could be heirlooms from earlier than LM IB.

Descriptions of the deposits from the excavations of Seager are incomplete because he only published the more attractive vessels from the period.<sup>17</sup> One gets a skewed picture of Pseiran pottery from his publication because of its emphasis on fine pieces, particularly the imported ones. Seager's methodology, which was the norm for his period, consisted of choosing a few vessels to illustrate both the finest art of the period and any aspect that the author considered characteristic or interesting. An examination of a deposit that he described more fully than most illustrates his system.

### *Deposit in Room BQ 1*

Seager worked on Pseira for three days in 1906, and he uncovered a deposit in a room to the north of the Grand Staircase, fronting on the tiny Pseiran

beach. Today, this block of rooms is named Building BQ, and the room is BQ 1. The pottery was only partly published, and very few pieces from the deposit can now be identified in the Archaeological Museum in Herakleion, the Archaeological Museum in Siteia, and the University of Pennsylvania Museum of Archaeology and Anthropology in Philadelphia.<sup>18</sup> The pieces he mentioned include the following:

- 5 conical and piriform rhyta (including HM 5408, Penn MS 4207)
- 1 rhyton in the form of a basket (HM 5407)
- 1 cylindrical jar (HM 5406)
- 1 lid (Siteia 7141)
- 1 bull-shaped vessel (HM 5412)

Several of these vases can be assigned to the Special Palatial Tradition of Knossos (Fig. 3), a palatial production that used Marine Style, Floral Style, Abstract and Geometric Style, and Alternating Style ornament and other elaborate motifs in creative ways.<sup>19</sup> This production, which did not develop until after the eruption of the Theran volcano, has

<sup>16</sup> The LM IB pottery production of Gournia is well known. The main publications are Hawes *et al.* 1908 and Betancourt & Silverman 1991.

<sup>17</sup> Seager 1910.

<sup>18</sup> For bibliography and parallels, see Betancourt & Banou 1999, 134–5.

<sup>19</sup> Müller 1997.



often been regarded as a hallmark of LM IB, but it is only one of several styles that developed after the end of LM IA. Seager's description leaves unanswered questions on the relative frequency of this beautiful pottery, on where else it was present at the site, and how it related to other classes of ceramics used at Pseira. A picture of the pottery from this period as a whole cannot be gained from the practice of selective publication with only limited information.

### *The modern methodology*

In order to understand the way the pottery from Pseira was published from the more recent excavations, a few words of introduction on the methodology are necessary. At Pseira, all excavated soil was dry-sieved, and all pottery was saved. During several study seasons, the excavated deposits were examined carefully by the architect, the director, and several pottery specialists, and units were assembled into deposits based on their stratigraphy. The pottery within these deposits was physically sorted for statistical analysis based on the following criteria:

1. Fabric group
2. Date
3. Vessel shape and class
4. Position on the vessel (complete or restorable vessel, rim sherd, handle sherd, base sherd, spout sherd, leg sherd, body sherd).

All of these characteristics were recorded for every sherd, and the resulting statistics were published for many deposits along with totals for all the sherds in each category and the percentages of the class within that context. To complement the statistics, selected pieces were chosen to illustrate particular classes, and they were published as full catalog entries with descriptions and parallels along with profile drawings and photographs. These cataloged examples were used to illustrate the various ceramic classes recorded in the statistical tables.

The statistics from Pseira can be used in several ways. Because they illustrate the surviving part of the vessels, they show whether the deposit consisted of whole vessels, sherds, or both, and they show

exactly which pieces were complete at the time the vases were buried. Such knowledge is necessary for information on room function, because it distinguishes the vases in use at the time of destruction from the casual broken fragments present nearby but no longer in use. Because the numbers clearly isolate the rare pieces from the common ones, they help demonstrate the presence or absence of heirlooms, which is important for understanding the character of the deposit and the conditions of burial. Furthermore, they illustrate the relative numbers of different vessels that were discarded when the deposit was formed, which can be a key to the popularity of specific classes of vases. Because the statistics present a full range of what was present, they contribute information on the minimum number of vessels present in each category, on the relative popularity of different sources of imports, on the relation between imports and domestic production, and on many other aspects that can contribute to the history and development of a site.

### *Deposit in Building AC: the kasella in Space AC 10*

One of the LM IB deposits uncovered by the modern excavations was found on a small ledge to the east of Building AC (the Shrine).<sup>20</sup> The small deposit of 608 sherds was found on the terrace both inside a box-like *kasella* and around a bench or altar built of stone blocks. This deposit, buried at the end of LM IB when the town was destroyed, gives a good picture of the ceramics in use at Pseira at the end of its LM IB phase. Vessels in fine fabrics (279 of 608 pieces) make up 49% of the deposit. Among the vases made of coarse fabrics, cooking vessels tempered with phyllite fragments constitute 25%, while cooking vessels tempered with granodiorite/diorite total only 0.2% of the pottery. The small amount of ceramics tempered with granodiorite/diorite, which is a Middle Minoan to LM IA fabric at Pseira, demonstrates that this deposit comes almost entirely from the end of the period, with few heirlooms, so it is a good indication of what was being used during LM IB.

<sup>20</sup> Banou 1998.



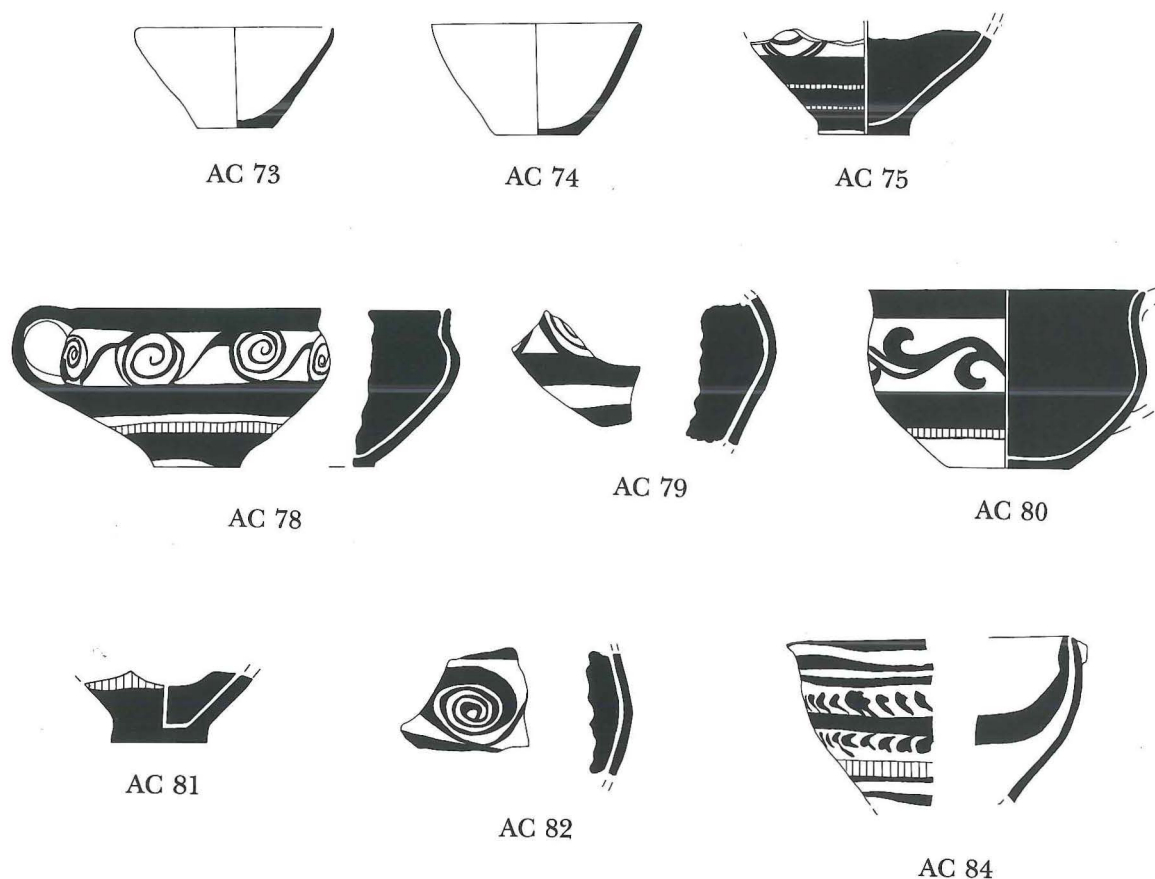


Fig. 4. LM IB pottery from the *kasella* in Space AC 10 at Pseira.

The vessels in fine fabrics are typical of LM IB at Pseira. Closed vessels make up 26% of this class (72 out of 279 sherds). Recognizable shapes include the jug, the bridge-spouted jar, and the straight-sided jar. The remaining vessels are open. Of these open vessels, 27% are conical cups; almost all are undecorated (Fig. 4, nos. AC 73, AC 74), and a rare rim band is the only ornament. Semiglobular cups are the next largest group, at 13%. Straight-sided cups account for 1%, and two bell cups are present. Other pieces include a scoop with painted decoration (Fig. 4, no. AC 84) and a single bowl (a sherd from an in-and-out bowl that is an heirloom from LM IA). The remaining sherds are mostly small body fragments that cannot be assigned to a specific open shape; the statistics suggest that probably a majority of these tiny fragments are from semiglobular cups.

Among the decorated open vessels (i.e., excluding conical cups), the semiglobular cup is the main

drinking vessel. A selection is shown in Figure 4, nos. AC 75 to 82. All of the cups are painted inside, and their surface is hard and slightly lustrous. The rim diameters vary from 9.1 to 11 cm. Decoration is always on a single horizontal band that extends from below the widest part of the vase to just below the rim. Spirals and foliate decoration are common. Red paint is added for bands. Comparing the hastily drawn spirals of LM IB with the more carefully executed LM IA versions demonstrates an important characteristic of the LM IB style in this region: vases are decorated more quickly, and volume of output has become a greater concern than careful attention to detail.

#### *Deposit in Building BS/BV: Space BV 2*

Space BV 2 was a narrow corridor between Building BS/BV and its neighbor to the north. The narrow space did not exist until Building BS/BV was

# POTTERY TABLE No. 38:

## Pottery Statistics for Space BV 2, Context 4 (LM IB)

### Unit BV 2-2

SHAPE AND CATALOGED EXAMPLES	R	H	B	S	L	BOD	TOT	%
<i>Fine Fabrics</i>								
MM								
Semiglobular cup	1						1	.1
LM I/LM IB								
Conical cup	9		8			10	27	4.0
Semiglobular cup	5		15				20	2.9
Bell cup	6						6	.9
Rounded cup	1						1	.1
Straight-sided cup	1	3	2				6	.9
Cup	20	16	22			159	217	31.6
Open vessel			2				2	.3
Bridge-spouted jar, painted	2		1	1			4	.6
Bridge-spouted jug		1					1	.1
Cup-rhyton (201)			1				1	.1
Closed vessel, painted		4	1	4		35	44	6.4
Closed vessel, unpainted			2			38	40	5.9
Undiagnostic							5	.7
<i>Coarse Fabrics</i>								
Cup	4	3	6			11	24	3.5
Closed vessel, painted	1	1				11	13	1.9
Closed vessel, unpainted	1	2				92	95	13.8
<i>Mirabello Fabric, Cooking Class</i>								
Cooking pot		1				3	4	.6
<i>Phyllite Fabrics</i>								
Conical cup	4		7				11	1.6
Cup	3		2			11	16	2.3
Closed vessel (large), unpainted	3	2	4			43	52	7.6
Closed vessel (medium), unpainted	1					24	25	3.6
Cooking dish	4						4	.6
Cooking pot	4	5	6		3	50	68	9.9

Fig. 5. Pottery table showing statistics for the pottery in Space BV 2, just north of the Plateia Building, as compiled by Cheryl Floyd (after Floyd 1998, 268).

constructed early in LM IB, and it was too narrow to have any use except to allow the builders of this house to reach the wall they were constructing and set its beams in place for the roof. After the house was finished, the narrow space was used only as a place for casual debris and trash, including sherds of broken pottery (Fig. 5). The deposit is fairly "clean" in that it does not include much from before LM IB, but many of the sherds are small, so they cannot be distinguished stylistically from LM IA pottery. The deposit is useful for its statistics, which provide good information on the relative frequency of various classes of ceramics used nearby in LM IB. The pottery table is shown in Figure 5.<sup>21</sup>

The relative frequency of the fabrics is very simi-

lar to the situation observed in the deposit from Space AC 10. Sherds in fine fabric total 55% (375 out of 687 sherds), while the sherds from coarsely tempered vessels total 45%. Comparing the fabrics of the cooking vessels, including cooking dishes and cooking pots, is again a good indication of the relative frequency of heirlooms. Of the 76 sherds from cooking vessels, 4 sherds contained the granodiorite/diorite that was popular in Middle Minoan and LM IA, and 68 sherds (89%) contained the phyllite that was popular in LM IB, so we may expect only a small percentage of earlier pieces within the body of material that cannot be distinguished stylistically.

<sup>21</sup> Taken from Floyd 1998, 268.



The fine cups are an important aspect of the assemblage. Of the 375 sherds of fine-textured pottery, 60 sherds were assigned to a particular shape with certainty by the person studying the pottery (Cheryl Floyd). An additional 217 could be assigned to cups, but without distinguishing the shape of the cup (bell cups and semiglobular cups can not always be separated based on tiny sherds). No bowls were present.

Among the 60 identifiable cups, 45% (27 out of 60) were conical cups. Conical cups, almost always undecorated, are again the most common class of vessel. They come from two different productions, one using untempered clay and the other using clay with fine-grained phyllite. Among the other cups, 33.3% were semiglobular cups, 10% were bell cups, 10% were straight-sided cups, and less than 1% were rounded cups. Clearly, undecorated conical cups and painted semiglobular cups were the most common classes during LM IB in this deposit.

## Discussion of LM IB

By using both the statistics that provide an overall picture of the ceramics in use at Pseira and the examples chosen to illustrate that body of material, one can arrive at a series of conclusions on the character of the pottery from the site. Because Pseira seems to have made no pottery of its own, these conclusions are of regional relevance, and they are not an indicator of a specific workshop production. Most Pseiran pottery comes from the coastal communities of this part of Northeast Crete. Numerous parallels exist with Gournia, Vasiliki, and other nearby sites, and in some cases the well-dated examples from Pseira shed light on pieces found without good stratigraphic contexts elsewhere.

In regard to the Knossian Special Palatial Tradition, Pseira has yielded over 25 vases and sherds decorated with the Marine Style, the Floral Style, and the other elegant Knossian motifs published so eloquently by a series of scholars, most recently Walter Müller.<sup>22</sup> This is a large number in comparison with nearby settlements in the Mirabello region, but it is still a tiny fraction of the Pseiran pottery, amounting to well under 0.01% of the ce-

ramics known from the site. Single examples come from various places, but two-thirds of the pieces come from only two contexts: Room BQ 1 and Block AF. These styles do not establish the chronology; they are simply one part of the picture of what was in use at Pseira at the time of the town's destruction.

The main phase of LM IB at Pseira can be described as follows:

1. Pseira imported most of its pottery from workshops operating in the Gulf of Mirabello region. Gournia is the most likely source for much of the pottery.
2. The pottery is rather evenly divided between vessels of fine fabrics used for serving, eating, drinking, and display and vases made in coarse fabrics and used for cooking, storage, industrial functions, among other uses. However, these functional categories are never exact: fine vessels can be used for storage, and coarse vessels can be used for drinking.
3. Pseira also used a small amount of pottery from farther away, including other parts of Crete, the Cyclades, Cyprus, and the eastern Mediterranean coast. Much of the pottery from outside the region is concentrated in a limited number of deposits of special character, but occasional sherds show up everywhere.
4. A few groups of non-regional sources have been identified by a combination of analysis by ceramic petrography and by their unique style. The Knossian Special Palatial Tradition falls in this class.

### *Vessel Types*

1. The conical cup is the most common vessel. It is rare during the Middle Bronze Age, but by LM IB it is the most common shape in almost every deposit. Two separate productions account for this cup at Pseira, and they are easily recognizable by their use of different clays. This is the only fine-fabric vase in the main LM IB phase at Pseira that is usually not decorated.

<sup>22</sup> Müller 1997.



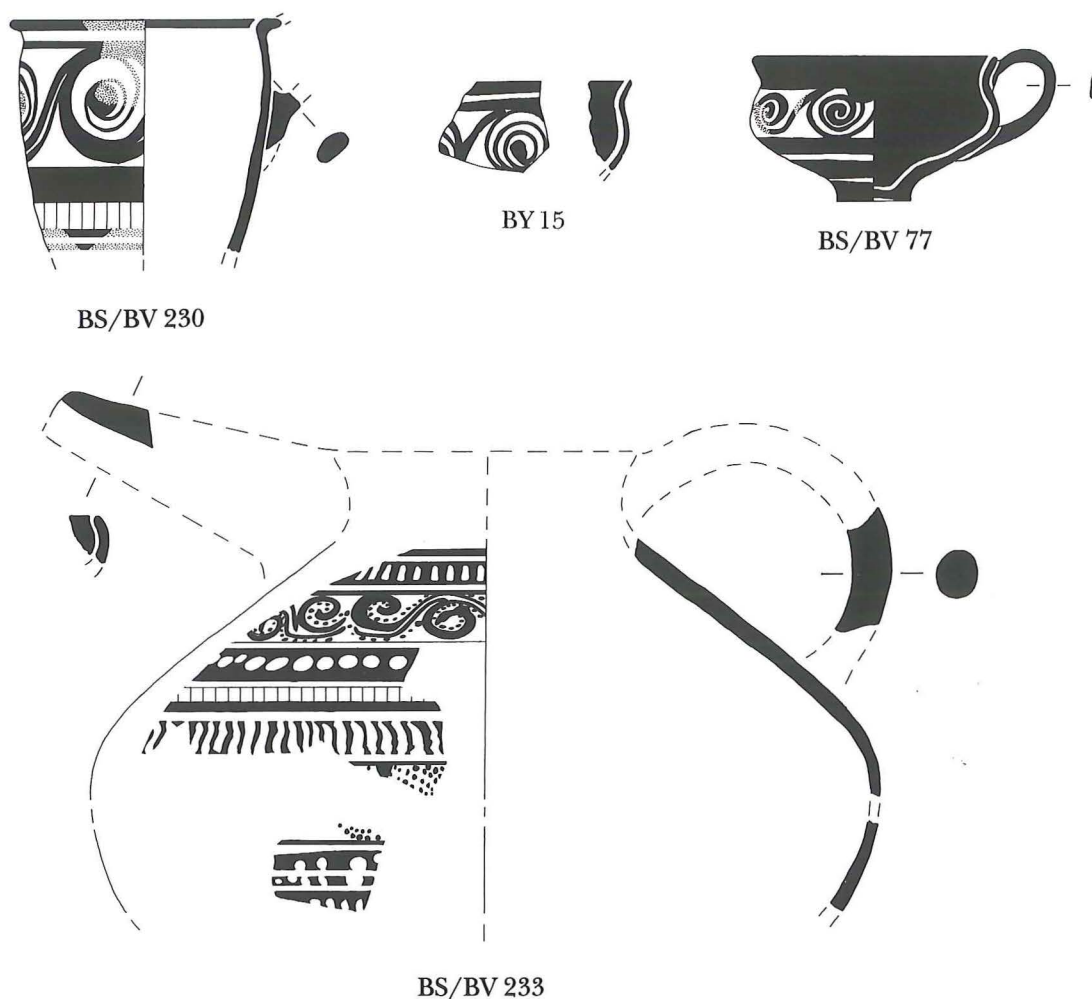


Fig. 6. Spirals and other motifs on LM IB pottery from the destruction level in Buildings BS/BV and BY.

2. The next most common cup is the semiglobular cup. Its rim diameter varies from 9 to 12 cm, and it is always lustrous, hard, and well-fired. It is always decorated in lustrous, dark-on-light technique. Motifs in common use include spirals, foliate bands, dot bands, and many other elements.
3. The in-and-out bowl of LM IA is no longer being imported, and no small LM IB bowls are present in these deposits.
4. Closed vessels in fine fabrics are almost always decorated. Closed vessels include the jug, the bridge-spouted jar, and other jars. Many other shapes, none of them very common, also occur in small numbers.

### *Decorative Techniques*

1. The regional style primarily uses dark-on-light, but light-on-dark is often used on the same vase for accents, bands, dots (especially dot bands), or small friezes of ornament (Fig. 6, no. BS/BV 233; Fig. 7, no. BS/BV 197).
2. Added red paint (non-lustrous) is used for accents and bands (Fig. 6, nos. BS/BV 230, BS/BV 233; Fig. 7, nos. BS/BV 161, BS/BV 197).
3. *Horror vacui* is a constant aspect of the style. Vases never have a motif on an otherwise empty field.
4. The main place for ornament is most commonly a horizontal frieze that extends upward from just below the widest part of the vase to across the shoulder.
5. The lower part of the vase is minimized (sometimes banded).

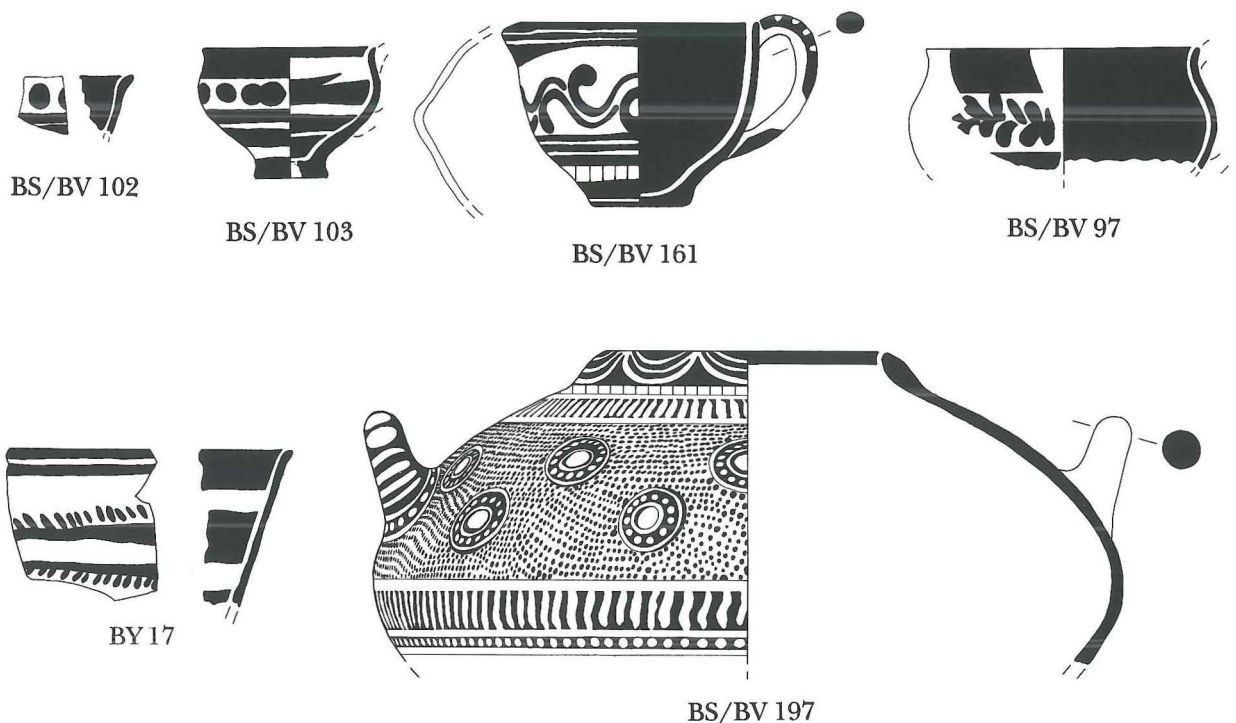


Fig. 7. LM IB pottery from the destruction level in Buildings BS/BV and BY.

6. Open vessels are covered with slip on the interior, but not on the bottom of the base.

### *Motifs*

1. Spirals, often hastily applied (Fig. 6, top row)
2. Dot bands (Fig. 7, nos. BS/BV 102, BS/BV 103)
3. Many floral and foliate motifs, with great creativity (Fig. 6, no. BS/BV 233; Fig. 7, nos. BS/BV 161)
4. Foliate bands, sometimes hastily applied with the central stem missing (Fig. 7, nos. BS/BV 97, BY 17)
5. Vertical dark lines in imitation of tortoise-shell ripple (Fig. 6, no. BS/BV 233; Fig. 7, no. BS/BV 197)
6. Conglomerate motif (Fig. 7, no. BS/BV 197)
7. Many additional motifs, including lobes, petaloid loops, crescents, scale pattern, and others.

## LM IB Final

The ceramic phase that follows the LM IB destruction of the town shows some continuity with the earlier LM IB style, but it is very different in several ways. A few sherds excavated by Seager, the contexts of which are not known, belong to this phase, but the best evidence comes from the modern stratigraphic excavations in Block AF, at the tip of the Pseiran peninsula. Building AF North, also called the House of the Rhyta, was damaged by fire and partly ruined when the rest of the town was destroyed in LM IB. Pottery from this destruction level is typical of the main LM IB phase. Several rhyta, including pieces in the Marine Style, were found in this building. The new LM IB Final residents lived in the ruins of the building. They cleaned out some of the rubble from the northwest corner where the main entrance had been, and they used Room AF 6 as a kitchen, preparing food in a cooking pot with all three legs broken off. They used a simple hearth at the southwest of the room. The stratigraphy in Room AF 6 was clear, with two successive LM IB floors and a higher third floor with mixed

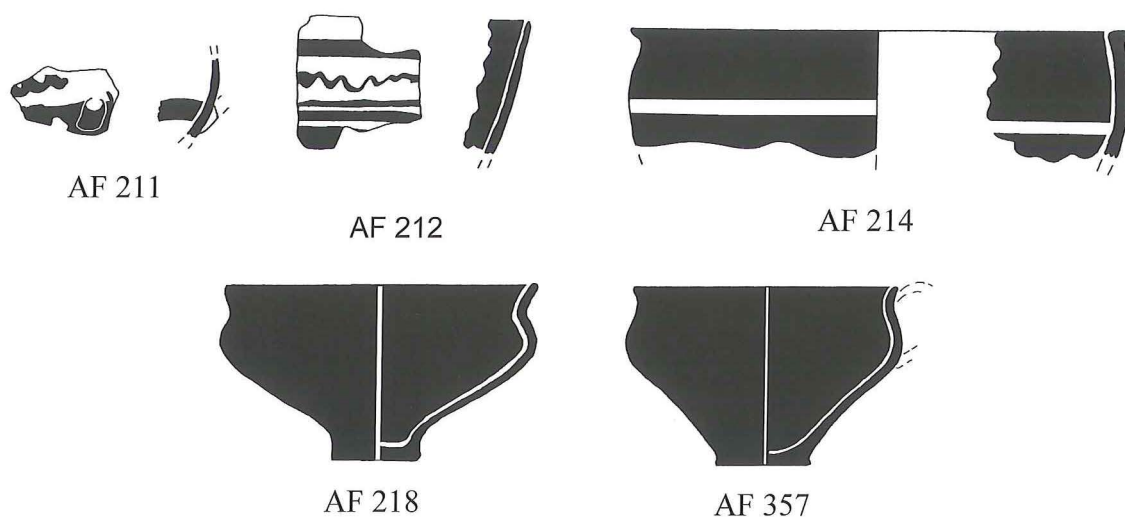


Fig. 8. LM IB Final pottery from Block AF, Building AF North.

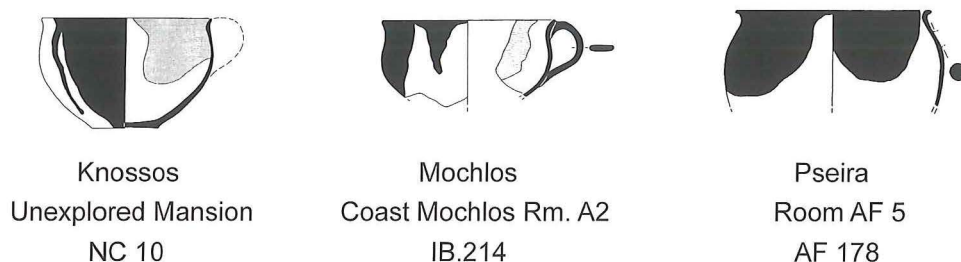


Fig. 9. Comparison of blob decorations from Knossos, Mochlos, and the LM IB Final period at Pseira. Scale 1:6.

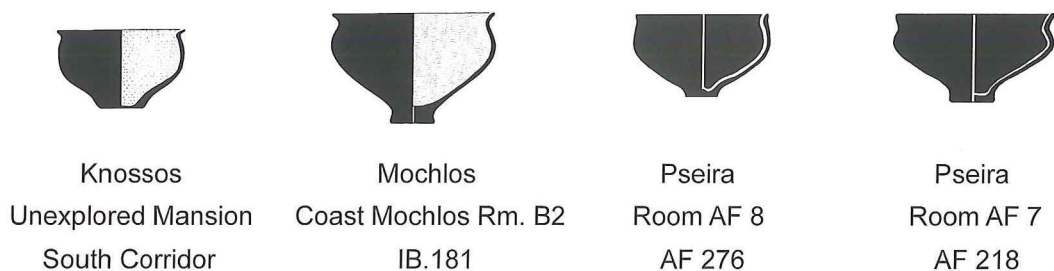


Fig. 10. Comparison of monochrome ogival cups from Knossos, Mochlos, and the LM IB Final period at Pseira. Scale 1:6.

LM IB and LM IB Final fragments on it. Sherds from the LM IB Final floor are shown in Figure 8, nos. AF 211, 212, and 214.

The pottery from the LM IB Final phase is very different from the pottery of the preceding period. It includes ogival cups (Fig. 8, no. AF 218), bowls with two horizontal handles (Fig. 8, no. AF 214), and a few other shapes. Decorations include horizontal wavy lines (Fig. 8, nos. AF 211 and 212) and other simple motifs. All of these characteristics are

typical of the LM IB Final levels at Mochlos.<sup>23</sup> It is likely that most or all of this LM IB Final pottery found at Pseira was produced in the Artisans' Quarter at Mochlos. It is also possible that this phase in East Crete was contemporary with the beginning of LM II at Knossos. Both the "blob cup" (Fig. 9) and the monochrome ogival cup (Fig. 10) were excavated from the Unexplored Mansion at Knossos

<sup>23</sup> Barnard & Brogan 2003.



(LM II)<sup>24</sup> as well as the LM IB Final phase at Pseira and Mochlos.

Differences between this phase and the main LM IB destruction stratum's pottery at Pseira include the following features:

1. New shapes, like the bowl with horizontal handles
2. Increased percentage of shapes introduced earlier at other sites, especially the ogival cup
3. More plain pottery
4. Monochrome vases, especially the ogival cup
5. More empty space on decorated pottery
6. Increased popularity of cursory motifs, especially the horizontal wavy line.

That this new phase represents a social and cultural break is demonstrated by the following characteristics:

1. Most of the town of Pseira lies in ruins and is no longer occupied.
2. New drinking shapes appear, including the drinking bowl with horizontal handles and the ogival cup.

3. The lustrous, well-burnished pottery of Gournia is no longer the dominant fine pottery.
4. The new residents at Pseira live in the partly burned-out ruins of the earlier Building AF North, amid much LM IB rubble, in a building that is only partly roofed.
5. An interior hearth on the ground floor appears at the town for the first time (in AF 6).

These characteristics are sufficient to indicate that the end of the main LM IB phase represents a major historical break at Pseira. Much of the ceramics in the main LM IB phase can be compared closely with the ceramics from Gournia. The pottery of the next period was imported into the island from a different production center, which can almost certainly be identified as the Artisans' Quarter at Mochlos.

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<sup>24</sup> Popham 1984.

# Response to Philip P. Betancourt\*

Penelope Mountjoy

I was asked in my response to P. Betancourt to refer especially to the Marine Style, but when I read his paper I saw that an important part of it is the post LM IB destruction deposit with a mixture of LM IB and LM II, called by Betancourt, I think quite rightly, LM IB Final or early LM II. Also, the abstracts for this workshop show that similar deposits to Betancourt's have now been isolated elsewhere but have been given different names and different dates: at Hagia Triada there is a post-LM IB destruction deposit<sup>1</sup> and at Kommos a first phase of LM II,<sup>2</sup> whereas at Palaikastro a second LM IB destruction deposit is called contemporary with LM II,<sup>3</sup> as also the published destruction deposits from the Chalinomouri farmstead and the Artisans' Quarter at Mochlos.<sup>4</sup> So it seems a good idea to look at four types of palatial vases and local copies in final LM IB deposits in order to define them correctly within these deposits and then to consider the same types in LM II deposits. Such an examination might provide information on the ceramic development from LM IB to LM II.

## 1. Marine Style octopus and argonaut Type C

The Type C octopus and argonaut is the type with suckers omitted or reduced to blobs.<sup>5</sup> This type appears against a crowded Marine Style background. From the early excavations at Pseira there is a pear-shaped rhyton (Fig. 1.1) decorated with argonaut Type C set against a background of rockwork and weed. There is a very close parallel (Fig. 1.2) from the LM IB destruction at Palaikastro from Block Delta Room 4, the rhyton pantry. From the Psei-

\* I would like to thank Dr. E. Papazoglou for permission to study the vases from Palaiochori and Dr. A. Van der Moortel for useful discussion of Sub-LM IA from Phylakopi.

<sup>1</sup> Puglisi 2003a.

<sup>2</sup> Rutter *infra*.

<sup>3</sup> MacGillivray *infra*.

<sup>4</sup> Barnard & Brogan 2003.

<sup>5</sup> Mountjoy 1974a, 177–80.



Fig. 1. Octopus and argonaut Type C: crowded field (not to scale)

1) Mountjoy 1976b, 83

fig. 1;

2) after Bosanquet & Dawkins 1923, pl. 21;

3) after Betancourt 2001, pl. XXXV. PS3659;

4) after Bosanquet & Dawkins 1923, pl. 19a.

Not to scale.

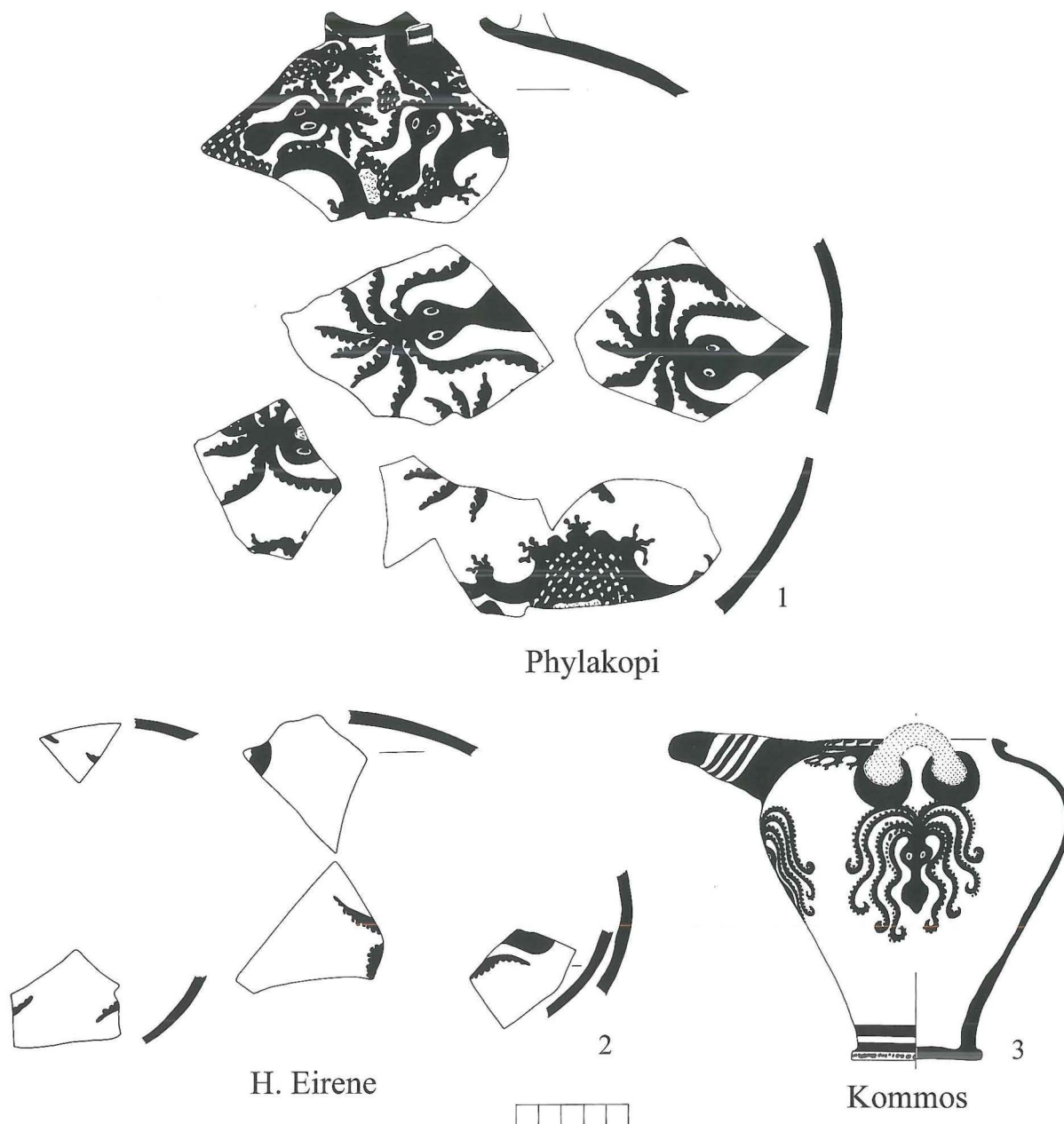


Fig. 2. Octopus Type C: crowded and open field. 1) Mountjoy 1999, Melos no. 26; 2) Mountjoy 2009, 453. fig. 9.10; 3) after Watrous 1992, Deposit 3 mixed fig. 14.124.

ran LM IB destruction, a conical rhyton (Fig. 1.3) from the rhyton hoard in Building AF,<sup>6</sup> decorated with similar rockwork and weed, also has a parallel (Fig. 1.4) from the same Palaikastro pantry, but the latter vase has tritons amid the rockwork and at the top on the left, an octopus of Type C. All four of these rhyta with crowded Marine Style background were probably exported from Knossos and should be contemporary.

Octopus and argonaut Type C also appear

against an open background. Thirty-five years ago when working on the Marine Style, I thought that this was a later development.<sup>7</sup> I distinguished two phases of Marine Style (not three, as stated in the Mochlos IB volume<sup>8</sup>); octopus and argonaut Types A and B are contemporary.

<sup>6</sup> Betancourt 2001, 145.

<sup>7</sup> Mountjoy 1974a, 179.

<sup>8</sup> Barnard & Brogan 2003, 108.



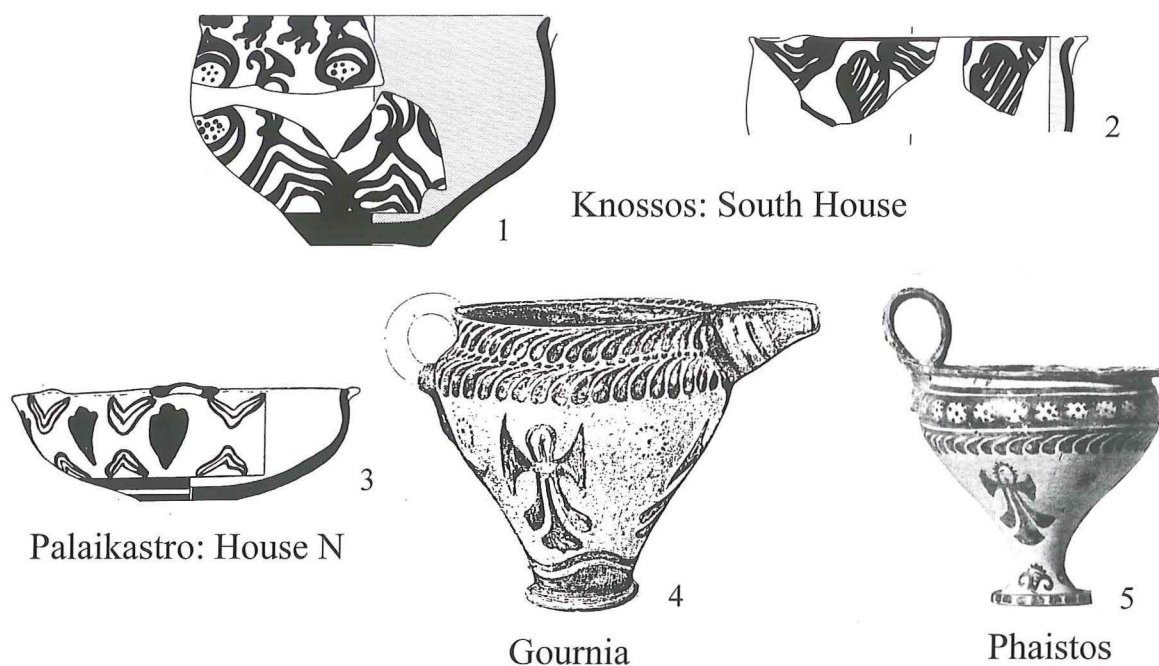


Fig. 3 Alternating Style: 1–3 crowded and 4–5 open ground. 1) Mountjoy 2003, fig. 4.22.346; 2) Mountjoy 2003, fig. 4.23.369; 3) after Sackett & Popham 1970, 218, fig. 9 NP 53; 4) after Boyd Hawes *et al.* 1908, pl. G (not to scale); 5) after Betancourt 1985, pl. 22F (not to scale).

I still think Type C evolved from Types A and B and its appearance against an open ground instead of a crowded one may have happened a bit later, but, nevertheless, it is now clear that Type C against an open background circulated at the same time as Type C against a crowded background. A stirrup jar (Fig. 2.1) from Phylakopi on Melos has the Type C octopus set against a full marine background at the top of the vase and against an open background on the body, thus demonstrating that the two types of decorative scheme are contemporary. There is a similar fragmentary vase from Hagia Eirene on Kea (Fig. 2.2).<sup>9</sup> The octopus Type C is very close to that on the Palaikastro rhyton (Fig. 1.4). So, although Type C octopus and argonaut are found against an open ground on vases in late LM IB deposits, as, for example, on a hole-mouthed jar from Kommos (Fig. 2.3) thought to be a Knossian import,<sup>10</sup> they may well yet be contemporary with vases decorated in the full Marine Style.

## 2. The Alternating Style

This style also appears against a crowded (Fig. 3.1–3) and an open (Fig. 3.4–5) ground. The open ground type is particularly found at Khania Kastelli and Kastri on Kythera. I have suggested elsewhere that this type is a West Cretan-Kytheran regional development.<sup>11</sup> As this type is rare in Central and East Cretan LM IB destruction deposits, the excavators of Kastri thought that it was later than the crowded type, which does appear in these deposits, and that the Kastri LM IB abandonment, and by implication the Kastelli LM IB destruction, was later than the other LM IB destructions.<sup>12</sup> However, there are a few examples of this type in the Central and East

<sup>9</sup> Mountjoy 2009, 453. fig. 9.10.

<sup>10</sup> Watrous 1992, 8.

<sup>11</sup> Mountjoy & Ponting 2000, 181–4; Mountjoy 2004, 399–402.

<sup>12</sup> Coldstream & Huxley 1972, 302–3; for opposing views, see Warren 1973b, 321–3; Popham 1974, 320–1.

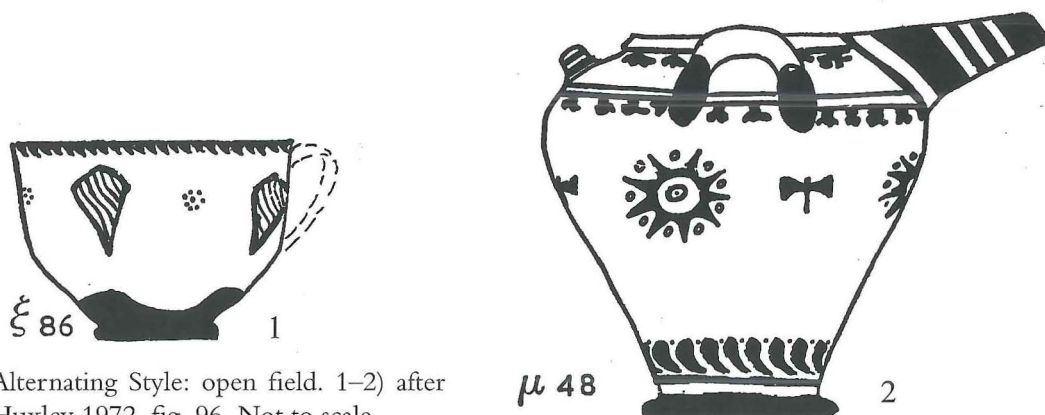


Fig. 4. Kastri Alternating Style: open field. 1-2) after Coldstream & Huxley 1972, fig. 96. Not to scale.

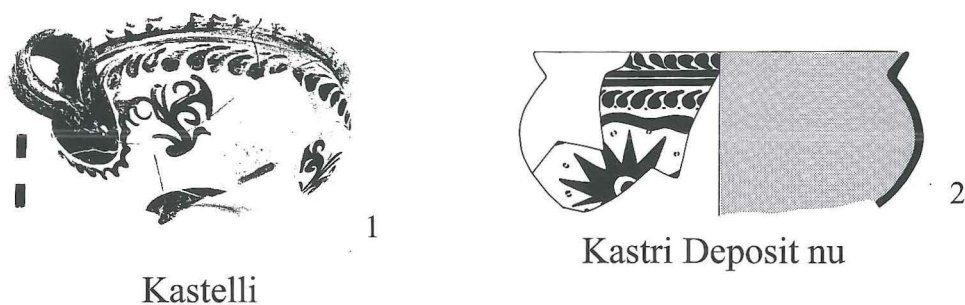


Fig. 5. Cups with everted rim: Palatial.

1) after Andreadaki-Vlazaki

2002, pl. LIa (not to scale);

2) Mountjoy 1984, 187, fig. 15

Kastri no. 24;

3) Mountjoy 2003, fig. 4.22.356;

4) Mountjoy 2003, fig. 4.22.355;

5) after Sapouna-Sakellarakis

1988-9, pl. 24, fig. 32 (not to

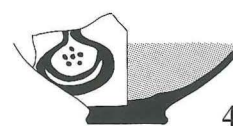
scale);

6) after Betancourt 1985, pl.22G

(not to scale).



3



4

Knossos: South House



5

Archanes



6

Mochlos

Cretan LM IB destruction deposits, for example at Gournia (Fig. 3.4) and at Phaistos (Fig. 3.5); moreover, the Kastri final LM IB deposits (Deposits mu, nu, and xi) have crowded<sup>13</sup> and open ground (Fig. 4) Alternating Style together with normal, classic Knossian LM IB types, such as Reed Style,<sup>14</sup> spirals with arcades<sup>15</sup> and classic Marine Style,<sup>16</sup> as well as the open style small Type C argonauts.<sup>17</sup> All this suggests that the LM IB abandonment of Kastri and the LM IB destruction at Kastelli should be con-

temporary with the LM IB destructions on Crete and not later. Thus the reason the open ground Alternating Style is rare in the rest of Crete is not because it was a later development, but because it was

<sup>13</sup> For example, Coldstream & Huxley 1972, Deposit mu pl. 33.3-11, 20, 22, Deposit xi pl. 38.18-19, 23, pl.39.78-79, 81.

<sup>14</sup> Coldstream & Huxley 1972, Deposit xi pl. 38.1-4, 8-9.

<sup>15</sup> Coldstream & Huxley 1972, Deposit mu pls. 33.1, 34.43.

<sup>16</sup> Mountjoy 1984, 199, fig. 20, Deposit mu Kastri no. 35.

<sup>17</sup> Mountjoy 1984, 187, fig. 15, Kastri no. 23.



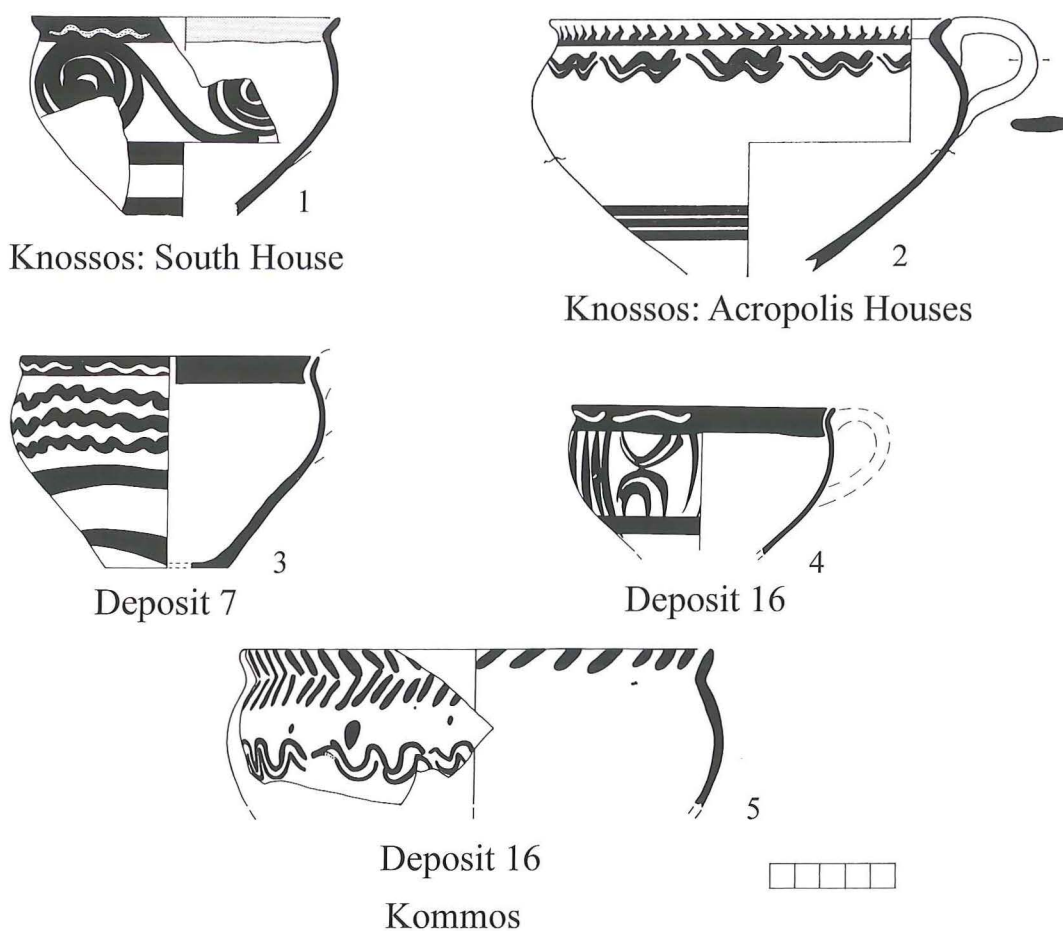


Fig. 6. Cups with everted rim: Sub-LM IA/Standard Tradition. 1) Mountjoy 2003, fig. 4.22.353; 2) after Catling, Catling & Smyth 1979, 52, fig. 37.257; 3) after Watrous 1992, fig. 17.257; 4) after Watrous 1992, fig. 18.346; 5) after Watrous 1992, fig. 19.383.

a regional West Cretan type which was imported to the rest of Crete and possibly copied there.<sup>18</sup>

### 3. The cup with everted rim

Another feature in the final LM IB deposits at Kastri and Kastelli is the presence of cups with an everted rim (Fig. 5.1–2) instead of the usual flaring rim (Fig. 3.1–2). The shape has a strap handle instead of the usual round one, a conical lower body and a discoid base. There is usually decoration on the rim. This shape, too, was taken by the excavators of Kastri to be a sign that the final LM IB deposits at Kastri and Kastelli were later than Central and East Cretan ones.<sup>19</sup> However, there are cups with everted rims in LM IB deposits at Archanes, Mochlos and Knossos (Fig. 5.3–6), again

suggesting that all these deposits are contemporary. They too have decorated rims, conical lower bodies, and discoid bases. Moreover, these cups do not only appear in the Palatial Tradition; there are also Sub-LM IA or Standard Tradition examples from Knossos (Fig. 6.1–2).<sup>20</sup> The rims are decorated, the handle strap and the lower body conical. There is a parallel to the South House vase (Fig. 6.1) from Kommos from the LM IB Deposit 7 (Fig. 6.3) and another from the LM II Deposit 16 (Fig. 6.4); the

<sup>18</sup> See Mountjoy & Ponting 2000, 181–4 for an extended discussion.

<sup>19</sup> Coldstream 1978, 398.

<sup>20</sup> Fig. 6.2 is from Deposit G, a disturbed deposit with material similar to that of Deposit F, Catling, Catling & Smyth 1979, 17. For discussion on redating the Acropolis Houses Deposit F from LM IA to LM IB, see Warren & Hankey 1989, 112 n. 32.



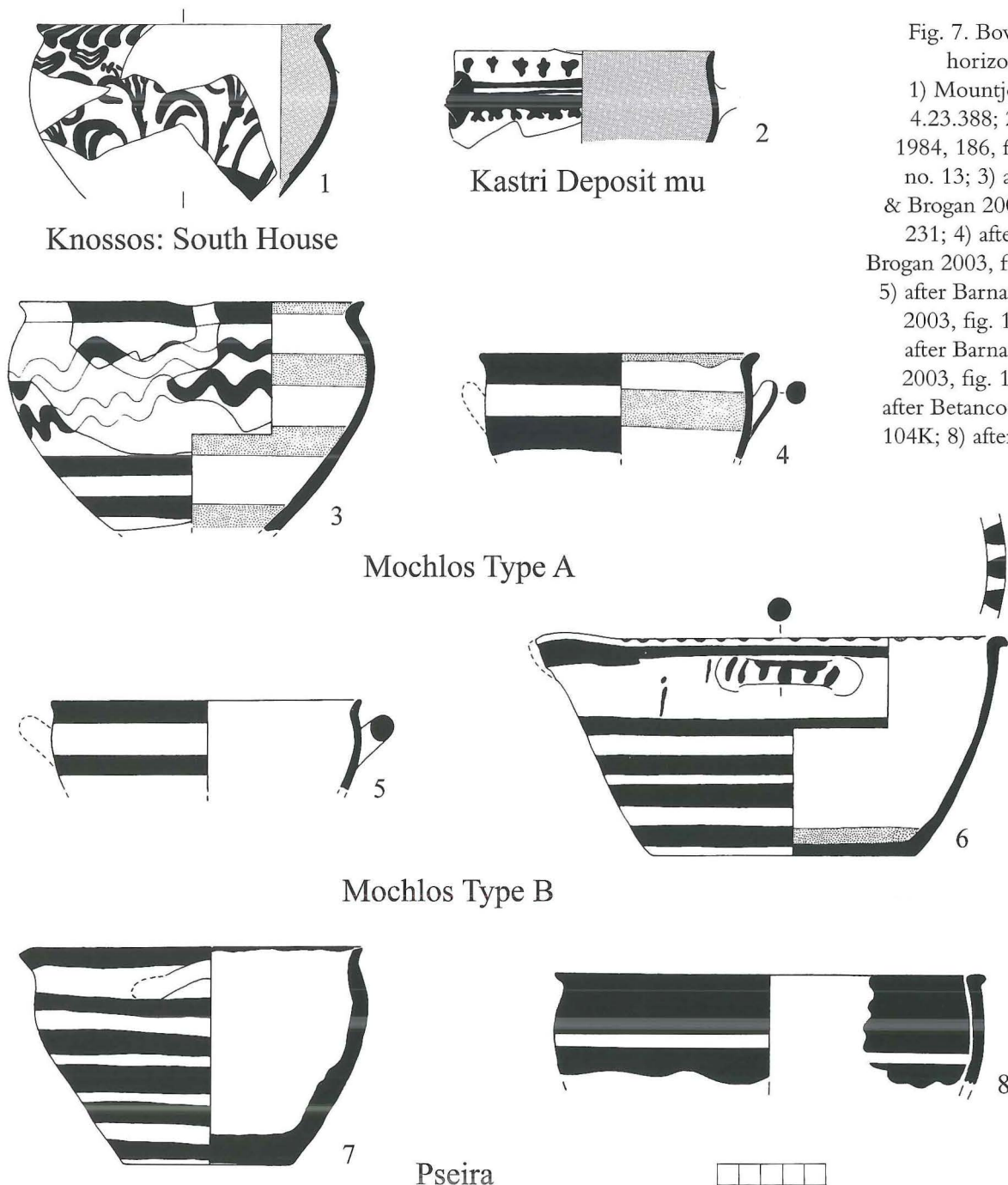


Fig. 7. Bowls with two horizontal handles.  
 1) Mountjoy 2003, fig. 4.23.388; 2) Mountjoy 1984, 186, fig. 14 Kastri no. 13; 3) after Barnard & Brogan 2003, fig. 9 IB. 231; 4) after Barnard & Brogan 2003, fig. 9 IB.233; 5) after Barnard & Brogan 2003, fig. 10 IB.236; 6) after Barnard & Brogan 2003, fig. 10 IB 241; 7) after Betancourt 1985, pl. 104K; 8) after Betancourt *infra*.

latter deposit is discussed by Rutter<sup>21</sup> and assigned to his early LM II phase (now called LM IB Final in this volume). Both Kommos vases have a slightly everted rim, a broken wavy line in added white paint on the rim similar to that on the South House example, and a conical lower body, but the base of the LM IB example is flat not discoid. The other cups in the LM II Deposit 16 are semiglobular with a flat base and a linear rim, but the rim is everted.<sup>22</sup>

This would fit well with an early LM II date for this deposit. The rim decoration and the main decoration on the Acropolis Houses vase (Fig. 6.2) also have parallels from Kommos on a bowl from the LM II Deposit 16 (Fig. 6.5).<sup>23</sup>

<sup>21</sup> Rutter *infra*.

<sup>22</sup> Watrous 1992, fig. 19.348–51.

<sup>23</sup> See Rutter *infra* for evidence that the shape is a bowl, not a goblet as published.

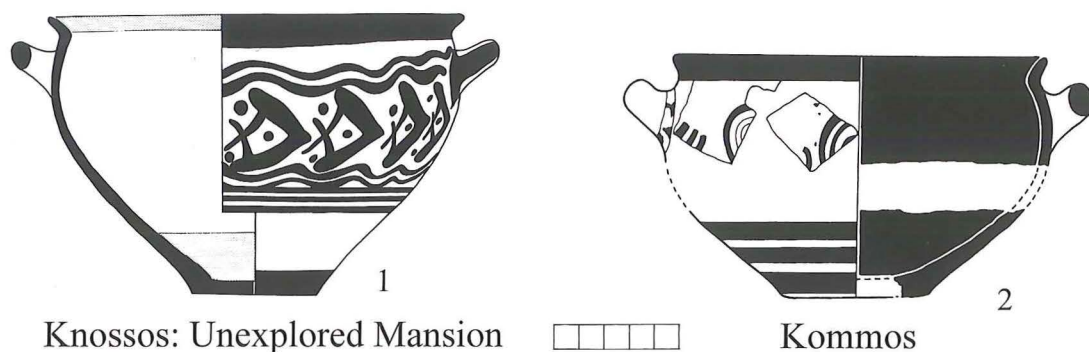


Fig. 8. Bowls with two horizontal handles: Central Crete LM II. 1) after Popham 1984, pl. 156.3; 2) after Rutter & Van de Moortel 2006, pl. 3.48.45/4.



Fig. 9. Cups with everted rim: 1) Phaklaris 1990, 64 a)6272; 2) Phaklaris 1990, 64 b)6271; 3) Phaklaris 1990, 64 c)6275.

#### 4. The bowl with two horizontal handles

There are Palatial and Sub-LM IA/Standard Tradition examples. The South House LM IB Palatial example (Fig. 7.1) demonstrates that this bowl can have a similar shape to the cup with everted rim (Fig. 3.1); the handles are not preserved, but the ring around the horizontal handle is present at the base of the rim sherd at the break. The Mochlos Sub-LM IA vessels are referred to as Type A;<sup>24</sup> Fig. 7.3 is spouted, but otherwise its shape is a good parallel to the South House vase; Fig. 7.4 has a straighter upper body closer to that of the vessel from Kastri (Fig. 7.2). A second type at Mochlos (Fig. 7.5–6), which may also be spouted, is called Type B, and has parallels from Pseira (Fig. 7.7–8); Fig. 7.8 is the new bowl from Pseira from the post LM IB deposit.<sup>25</sup> Type B is taken by the excavators of Mochlos as LM II in Central Cretan terms. The Mochlos Type B bowls differ considerably from the LM II Central Cretan examples (Fig. 8) in proportions and in having an everted rim and a narrow

base. Also, LM II Central Cretan bowls are not spouted. It may be that the bowls from Pseira and Mochlos are an earlier version, whereas the Central Cretan Knossian ones from the Unexplored Mansion may belong to a later phase of LM II, but so far there are no bowls from Knossos which would fit into an early phase of LM II.

The geographical spread of the four types discussed here is also relevant. Although none of them is common in LM IB destruction deposits, except in West Crete and at Kastri (and at Kastri the bowl with two horizontal handles (Fig. 7.2) seems to be rare),<sup>26</sup> the LM IB destruction deposits in the Cyclades at Hagia Eirene on Kea and Phylakopi on Melos also have the first three features, that is, the cup with everted rim (Fig. 10.4),<sup>27</sup> the open ground Alternating Style<sup>28</sup> and Marine Style octopus and ar-

<sup>24</sup> Barnard & Brogan 2003, 50–2.

<sup>25</sup> Betancourt *infra*.

<sup>26</sup> For the base, not on Fig. 7.2, see Coldstream & Huxley 1972, pl. 33 Deposit mu 18.

<sup>27</sup> Cummer & Schofield 1984, pl. 67.998.

<sup>28</sup> Cummer & Schofield 1984, pl. 77.1221; Mountjoy 1984, Phylakopi no.10.



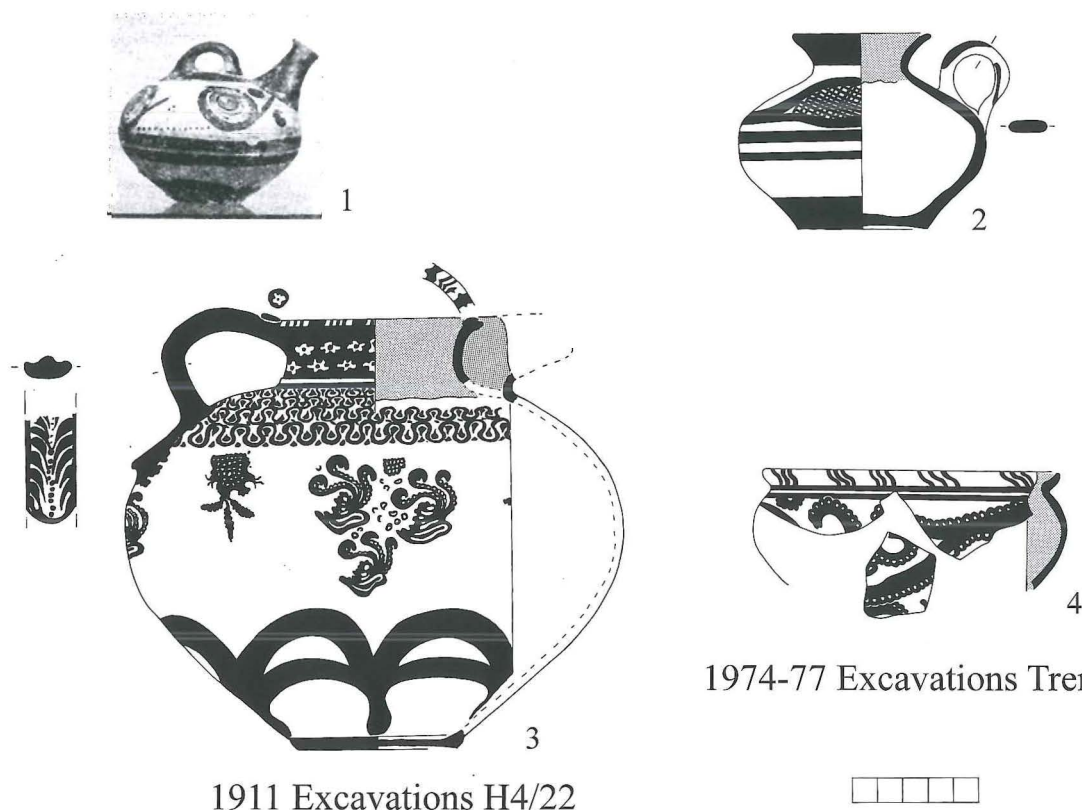


Fig. 10. Phylakopi LM IB destruction deposit. 1) Dawkins & Droop 1910–1, fig. 2.96; 2) Dawkins & Droop 1910–1, fig. 2.82; 3) Dawkins & Droop 1910–1, pl. XI.140; 4) Mountjoy 1984, 187 fig. 15 Phylakopi no. 32.

gonaut Type C against an open ground.<sup>29</sup> However, it should be noted that clay analysis of pottery from Kea and Melos has shown that most of the seeming-LM IB pottery is in fact the LH IIA pseudo-Minoan class of pottery, that is, exact copies of LM IB vases made on the mainland.<sup>30</sup> I have suggested elsewhere<sup>31</sup> that this situation may result from the LM IA destruction of the busy trading port of Akrotiri on Thera, the first staging post on the trade route from Central Crete to the Cyclades. The northern route over Thera would have been affected; the unaffected western route via Kythera to the southern Peloponnese would have been much busier. Since the originals were no longer easily obtainable, the production of the pseudo-Minoan class took place at various mainland centers, possibly spreading from the South Peloponnese and perhaps made by itinerant Minoan potters working on the mainland after the Theran destruction and the seismic destructions on Crete. The local Kastelli-Kastri everted rim cups, Alternating Style vases, and open ground Marine

Style pottery was exported to the Peloponnese and copied there. Good examples are the everted rim cups decorated in the Alternating Style and open ground Marine Style from Palaiochori in Arcadia (Fig. 9). Their fabric looks Mycenaean. The mainland manufacture of Alternating Style vessels in the Argolid from Kokla<sup>32</sup> and Prosymna<sup>33</sup> has been confirmed by chemical analysis using Atomic Absorption.<sup>34</sup> Chemical analysis of the Palaiochori vessels would be useful.

<sup>29</sup> Mountjoy 1984, Hagia Eirene no. 24, argonaut Type C, Phylakopi no. 5, octopus Type C, the latter very similar to that on the Kommos vase (Fig. 2.3).

<sup>30</sup> Mountjoy & Ponting 2000, *passim*; see Mountjoy 1999, 21–2 for the pseudo-Minoan class.

<sup>31</sup> Mountjoy & Ponting 2000, 180; Mountjoy 2004, 402.

<sup>32</sup> Demakopoulou 1993, pl. 7.25 NM19144, pl. 8.27 NM19196.

<sup>33</sup> Demakopoulou 1993, NM12271; illustration Mountjoy 1999, Argolid no. 58.

<sup>34</sup> Jones 1993, 76–80.





1911 Excavations H4/25-26

Fig. 11. Phylakopi LM IB destruction deposit. 1) Dawkins & Droop 1910-1, pl. III.142; 2) Dawkins & Droop 1910-1, pl. X.138; 3) Dawkins & Droop 1910-1, pl. X.141; 4) Dawkins & Droop 1910-1, pl. X.143; 5) Dawkins & Droop 1910-1, pl. XI.163; 6) Dawkins & Droop 1910-1, pl. XI.137.

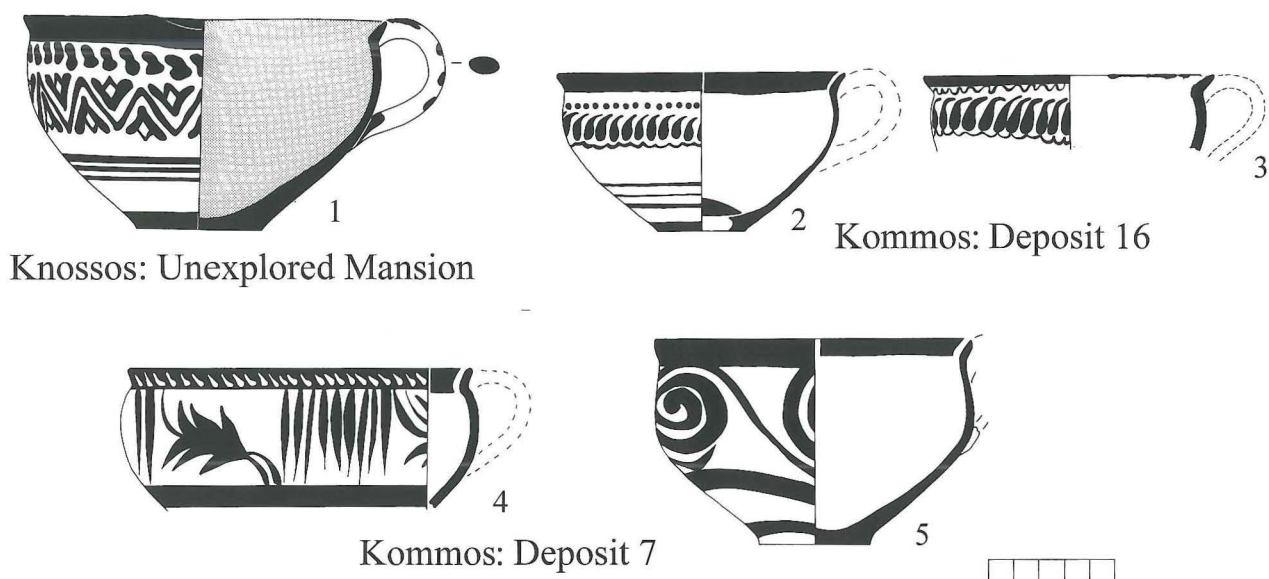


Fig. 12. Cups with everted rim. 1) after Popham 1984, pl. 156.1; 2) after Watrous 1992, fig. 19.349; 3) after Watrous 1992, fig. 19.355; 4) after Watrous 1992, fig. 17.258; 5) after Watrous 1992, fig. 17.259.

The LM IB destruction deposit from the Phylakopi 1911 excavations<sup>35</sup> (Figs. 10–1) provides a good illustration of the export of these three pottery types from Kastri or from the mainland to the Cyclades. There is a pseudo-Minoan or Minoan bridge-spouted jug (Fig. 10.3) from H4/22 decorated in the open ground Alternating Style with marine motifs and found with a typical LH IIA askos and squat jug (Fig. 10.1–2); the argonaut is Type B not Type C (Fig. 2.1 shows octopus Type C from Phylakopi against an open ground); from a similar deposit in H4/25–6 comes a pseudo-Minoan or Minoan squat alabastron (Fig. 11.6) decorated in the full Marine Style. There are also Cycladic imitations of Sub-LM IA cups. For example one cup (Fig. 11.3) has the LM IB shape and the typical LM IB filling motif of rock pattern between retorted spirals (the base is pierced so this cup is actually a rhyton); another cup (Fig. 11.4) has the Sub-LM IA version of the foliate band.<sup>36</sup> Fig. 11.2 is a one-handled bowl with a quirk motif; Fig. 11.1 a typical Cycladic jug. The cup with everted rim (Fig. 10.4) is from the recent excavations.<sup>37</sup> The Phylakopi deposits again show that full Marine Style was contemporary with open ground Marine and Alternating Style.

As far as continuity into LM II is concerned,

the most important of the four features discussed here is perhaps the cup with everted rim and strap handle, as it is the best represented and, therefore, most susceptible to analysis. It continues into LM II, as examples from the Unexplored Mansion illustrate (Fig. 12.1), taking over from the LM IB cup with flaring rim and round handle. It should be possible in early LM II deposits to see the development from the late LM IB version into the Unexplored Mansion version. Statistics of everted rim cups versus flaring rim cups from these deposits would also illustrate this point. For example the LM II Kommos Deposit 16 assigned by Rutter to his earlier LM II phase<sup>38</sup> has everted rim cups (Fig. 12.2–3), whereas the LM IB Deposit 7 has some cups, such as Fig. 12.4, already with an everted rim, while others, such as Fig. 12.5 still have a flaring rim.

The bowl with horizontal handles also continues, as is well illustrated by Kommos Deposit 16 (Fig. 13.1–2), where it is moving towards the LM II Unexplored Mansion shape (Fig. 13.3).

<sup>35</sup> Barber 1974, 14–6.

<sup>36</sup> See Mountjoy 2003, fig. 4.21.324 for a parallel.

<sup>37</sup> Mountjoy 2007, 318 fig. 8.9.180.

<sup>38</sup> Rutter *infra*.

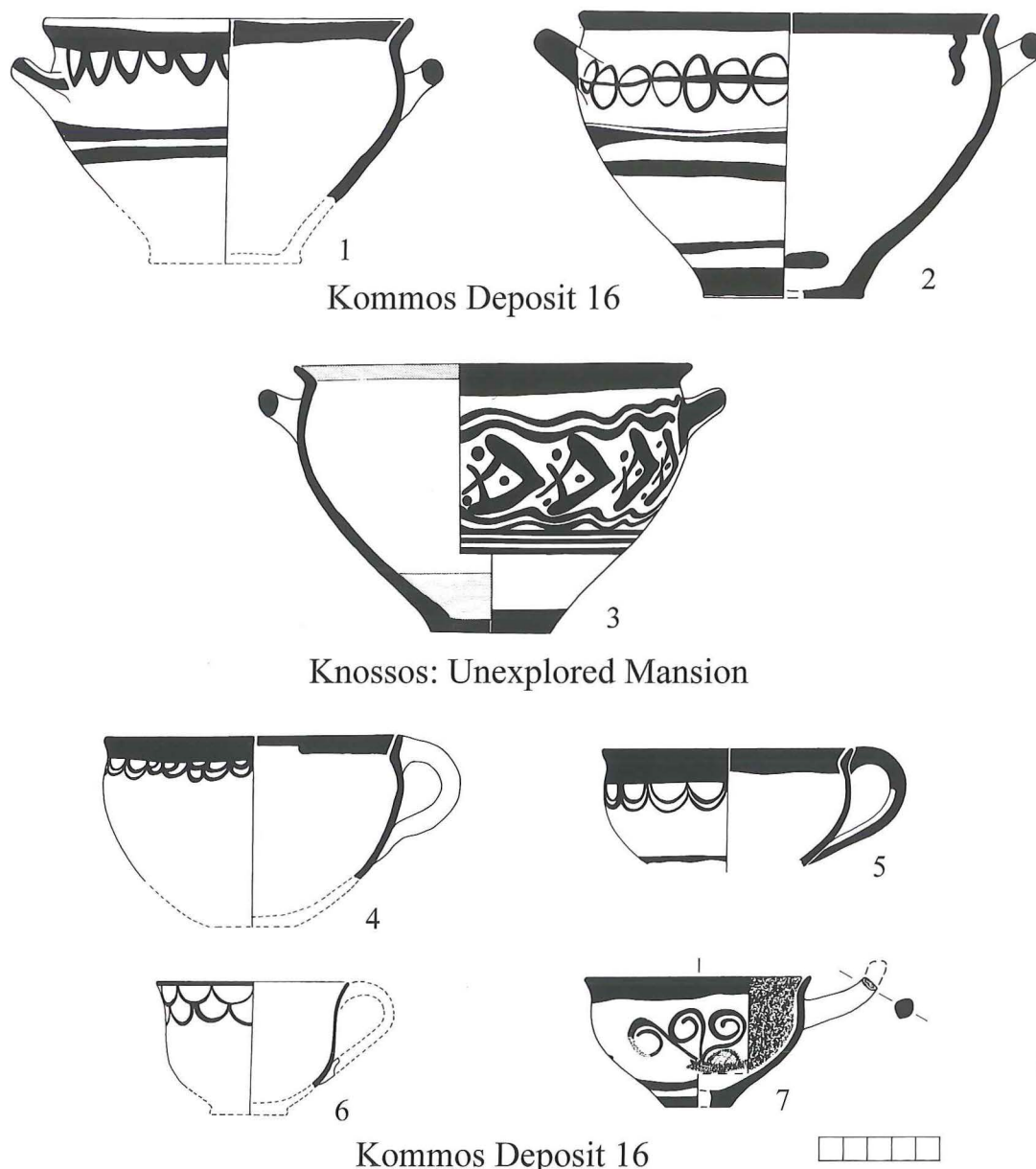


Fig. 13. Bowls with horizontal handles 1–3, cups with open ground decoration 4–7. 1) after Watrous 1992, fig. 20.390; 2) after Watrous 1992, fig. 20.391; 3) after Popham 1984, pl. 156.3; 4) after Watrous 1992, fig. 19.353; 5) after Watrous 1992, fig. 19.356; 6) after Watrous 1992, fig. 18.347; 7) after Watrous 1992, fig. 19.358.

The Alternating Style is no longer found in the Unexplored Mansion deposits, but might be found in early LM II deposits, especially open ground examples of the style, since, as Betancourt has noted for his LM IB Final or early LM II Pseira deposit,<sup>39</sup> open ground decoration generally becomes more popular in LM II, as on the cups (Fig. 13.4–6) from Kommos Deposit 16.

The Marine Style continues into LM II with all types of octopus and argonaut, especially on Palace

Style Jars, but again a one-handled bowl (Fig. 13.7) from Kommos Deposit 16 shows what might be a typical early LM II example. It has stipple decoration on the interior.

To conclude: these four types by their presence or absence and in their variations in shape and decoration might be useful in contributing to a definition of late LM IB and early LM II deposits.

<sup>39</sup> Betancourt *infra*.



# Discussion

**Soles** I would just like to congratulate the ancient Pseirans for putting up such a stout resistance that the fate that befell them did not befall Mochlos for another ten or twenty years. At least, that is the conclusion to be drawn from your talk, because our destruction occurs at the time of your House AF. And so, I guess I have two questions for you. One, does your pottery from AF come from the Artisans' Quarter at Mochlos rather than Gournia? And two, is it possible, given the extensive excavation of Richard Seager, and the really fragmentary nature of your earlier IB pottery, that other pottery with the same date as AF was not to be found at Pseira more widely?

**Betancourt** To your first question, I would answer yes. I believe that the late phase in AF is pottery that was made at Mochlos. And if I were speculating I would say that perhaps Mochlos fishermen stopped in the ruins for a few years, or maybe some shepherds decided to take advantage of grass that was growing there and brought their sheep over. It is not a complete domestic assemblage in that there is practically nothing that is storage shaped. There are a couple of vessels that could have been used for short term storage, but it is not a full range of the pottery. So, my impression is that it was a series of temporary visits rather than a full-fledged habitation. And, yes. I think they were made at the potter's workshop at Mochlos. For the second question, the answer is yes.

When we excavated Block AF and found this material, we then went back through the bags and looked at as many of the earlier deposits as we could in one month during the summer, and we found an occasional small sherd or two, especially in Byzantine levels, here and there on the site. So, yes, there probably was some other activity. I should also mention that in Philadelphia there are preserved LM III vases from Pseira. So, Seager did have later material that he either did not recognize or did not mention. But this was very early in the pottery study. So, yes, I think there probably was some other deposit or two, but we did not find it.

**Brogan** This is really a question for Penelope [Mountjoy]. I am glad you highlighted the bowls. At Mochlos we divided the bowls into Type A and Type B, with Type A being the taller, conical bowl that I think is more relevant to what you are talking about. It was the Type A bowl that we compared to the Unexplored Mansion bowls. But, in both cases we thought the Mochlos bowls were earlier. We didn't think they were LM II. So we came to the same conclusion.

**Mountjoy** Oh good.

**Brogan** We will show you more in our talk. We subsequently have found additional examples. My other question concerns those Type C marine elements. You didn't show our

“tripus”, and I wonder if you have seen this vase from the Artisans’ Quarter? It has an octopus with only three legs, so we jokingly refer to it as the “tripus”. But, in any case, the point I wanted to make was that it again is one of these isolated elements. And then there is our Marine Style. Pseira had about twenty-five pieces of the Special Palatial Tradition; Mochlos has ten fragments of Marine Style. The difference is the Mochlos Marine Style vases are fragmentary, apart from the “tripus”, which is a complete vessel.

**Mountjoy** Is that the stirrup jar?

**Brogan** Yes. I wondered what you thought of that.

**Mountjoy** I thought it was a local funny.

**Brogan** It’s imported, it’s not local.

**Mountjoy** Where is it from?

**Brogan** We don’t know. We were going to ask you.

**Mountjoy** Maybe it’s from Kommos.

**Van de Moortel** I have two questions for you, Phil. One question is, I may have missed it, but could you give us an idea of the quantities of the material from your post-destruction LM IB Final? And the second question is actually not related but is about the possibility of shifting affinities of pottery use; I think, if I understood it right, that you said that after the beginning of LM IA you have very few granodiorite fabrics anymore, so my question is, does this mean a shift of the pottery production location (where the Pseirans get their pottery) and, if so, where did they get it from?

**Betancourt** The amount of pottery in this late phase is very small. We are not talking about a lot of sherds; maybe twenty to twenty-five, something like this. So, it is not a large quantity and it occurs mixed with a great deal of LM IB and earlier that was evidently still in the building. In terms of the shifting of affinities, yes, there is a shift in the source of pottery production at this time. We don’t know for certain where the phyllite is coming from, whether Gournia also shifts at this time or not. We don’t know. And most recently, there has now been the suggestion that perhaps some of this granodiorite pottery was not made at Gournia but at Priniatikos Pyrgos, which is further down the coast to the west.

**Vlazaki** We are waiting also in Khania to find Marine Style in a debased version, in the final phase. And, of course, we have from LM II Khania a bridge-spouted jar with argonauts, but this is what I was saying about the Marine Style, the full, classical Marine Style, because the stirrup jar and the flask are in layers before the final, final destruction. Thus we think that this final destruction happened later in Khania than in Central Crete.

- Mountjoy** Could I just say, I think we decided in conversation that in your very latest LM IB, although you haven't found them, you would expect to find the tiny reduced argonauts that we have at Kastri, the little ones.
- Betancourt** We have so little pottery from our late phase that we just do not have anything like this, and it is probably not being produced at Mochlos. We feel that all or most of our pottery is being imported at that time from the Mochlos workshop.
- Platon** I wish to give information about the argonaut type C variant. We have a squat alabastron from the Palace which is safely contemporary with the other Marine Style of this type, and I agree with Penelope that this type is safely contemporary with the other ones.
- Warren** Just a small observation. Phil's reply to Jeff [Soles] regarding the quantity of this last phase was very interesting. About twenty-five sherds, mixed in with a great deal of LM IB from the earlier moment. Now, of course, we wait to hear in a minute or two about Mochlos, so maybe one should suspend much discussion about that until we see the nature of this material. But, Phil posed at the end and very reasonably left open the very interesting question of how much later, while certainly this must represent a later moment on Pseira (there surely can't be any question about that), and therefore what this "how much later" represents in terms of the rest of Crete. If we only had your material, I would have thought the shepherd or the fisherman could have arrived one day later, practically. In other words, the difference in time, actual, real time, was absolutely minimal between the two, given the very, very small quantity of admittedly new types of pottery to which you have drawn our attention. But, I'm sure Mochlos will have much more to say about that.
- Betancourt** Well, I would say it is certainly not days because some architectural modification occurs. There was a rather poorly constructed wall built on the north side of the building and then a fill of rubble was placed between it and the earlier wall, presumably to buttress up the potential collapse of the north part of the building. There was some work, probably shoveling out partly burned fragments of perhaps ten-twelve pithoi into a large dump outside the building. And perhaps some clearing of the other rubble inside so that they could actually live in it, or stay overnight in it, or whatever. And then the material accumulates and there is some deposition in there over a period of time, and the building apparently stays open, in fact, probably into LM III. So, there is some constant or periodic habitation there. I agree with you that we do not know the exact length of time.



# Pottery of the late Neopalatial periods at Mochlos

*Kellee A. Barnard & Thomas M. Brogan*

## Introduction

The recent excavations at Mochlos by Jeffrey Soles and Costis Davaras have greatly expanded the number of known deposits from the LM I period.<sup>1</sup> Three phases of ceramic development are currently distinguished from the period immediately before the Thera volcanic eruption through the final destruction of the town at the end of the LM IB period. To define these phases (final pre-eruption LM IA, early LM IB, and final LM IB), the authors focus on the Block C houses from the island (Fig. 1) and the Artisans' Quarter behind the modern village of Mochlos. After summarizing the contexts of the deposits in each phase, this paper outlines the range of shapes, fabrics, surface treatments and decoration that serve to define each stage in the Mochlos LM I ceramic sequence. This evidence provides a new basis for exploring the two themes of the conference in relation to Mochlos: the criteria for LM IB sub-phases at the site and the features that characterize both the local ceramic production at Mochlos and that of the broader Mirabello region.<sup>2</sup>

## Phase 1 (final pre-eruption LM IA)

### *Nature of the final LM IA deposits*

In the wake of the severe destruction at Mochlos caused by the Thera volcanic eruption, the local inhabitants immediately began rebuilding the town.<sup>3</sup> This extensive reconstruction of the settlement obscured or eradicated much of the earlier Neopalatial remains, and as a result, the final

LM IA phase (pre-eruption) is only represented by a small number of deposits. This paper concentrates on three of the six recognized LM IA deposits from the houses in Block C of the town: the foundation deposit beneath the layer of Santorini tephra in House C.1, the LM IA floor preserved below the LM IB remains in Room 2.3 of House C.3, and the construction fill beneath Rooms 1 and 2 of House C.2 (Fig. 1).

Any discussion of earlier Neopalatial ceramics and the historical changes brought about at Mochlos by the Santorini eruption must begin with House C.1. Excavation of the large room with a column base revealed two clear strata. The lower contained a small deposit of LM IA pottery found beneath a thick layer of Santorini tephra used as fill in the post-eruption reconstruction of the house. The upper layer was the floor above this tephra, which preserved one of the final LM IB destruction deposits. The best preserved LM IA remains were found below the layer of Santorini ash in a small pit which perhaps served as a foundation deposit connected with the post-eruption rebuilding of House C.1.<sup>4</sup> The stratigraphy provided by the ash layer makes this the most securely datable LM IA deposit at Mochlos contemporary with or

<sup>1</sup> The authors would like to thank the excavation directors for permission to publish this selection of pottery from the recent excavations.

<sup>2</sup> The pottery from Block C has been illustrated briefly in three preliminary reports for the excavations from 1989–93 (Soles & Davaras 1992; 1994; 1996); the final publications for Houses C.1–C.7 are currently in preparation. For the Artisans' Quarter, see Barnard & Brogan 2003).

<sup>3</sup> Soles 2009.

<sup>4</sup> Soles & Davaras 1992, 434–8, figs. 8 and 13–4, pl. 100; Soles 2009.

Fig. 1. Plan of the Late Minoan I settlement on the island of Mochlos (drawing by D. Faulmann).



immediately subsequent to the volcano's eruption. It also allows us to date other deposits with comparable pottery shapes and styles to the same horizon/event. A good example is the deposit from an earlier Neopalatial floor in Room 2.3 of House C.3 – the only floor deposit of this date in the building – which was preserved beneath the subsequent floor levels that are dated to the major LM IB reconstruction of the house.<sup>5</sup>

The third deposit examined here comes from House C.2 (which sits between Houses C.1 and C.3).<sup>6</sup> The house does not preserve any LM IA floors with restorable vessels, but excavation of its foundations in 2004 and 2005 indicated that substantial construction fills of this date lay beneath the LM IB floors of the house. In Rooms 1, 2 and 6, it appears that the builders dug down to earlier EM

II destruction levels (part of a much wider pattern across the site) in order to lay the foundations for House C.2. In the south-facing, basement Rooms 1 and 2, a deep earth fill of 0.20–0.70 m was then introduced to create a level floor of packed earth. The pottery from these fills is fairly homogenous and provides an important *terminus post quem* (final LM IA) for the construction of House C.2; several cross-joins were found in the fills beneath Rooms 1 and 2 that confirm that this is a single horizon, and further joins were made with fragments from the LM IA levels of the plateia/street immediately south of House C.2 (Fig. 1).<sup>7</sup>

<sup>5</sup> Soles & Davaras 1996, 181.

<sup>6</sup> Soles & Davaras 1992, 429–34, figs. 8–11, pls. 95–6.

<sup>7</sup> Barnard 2001.



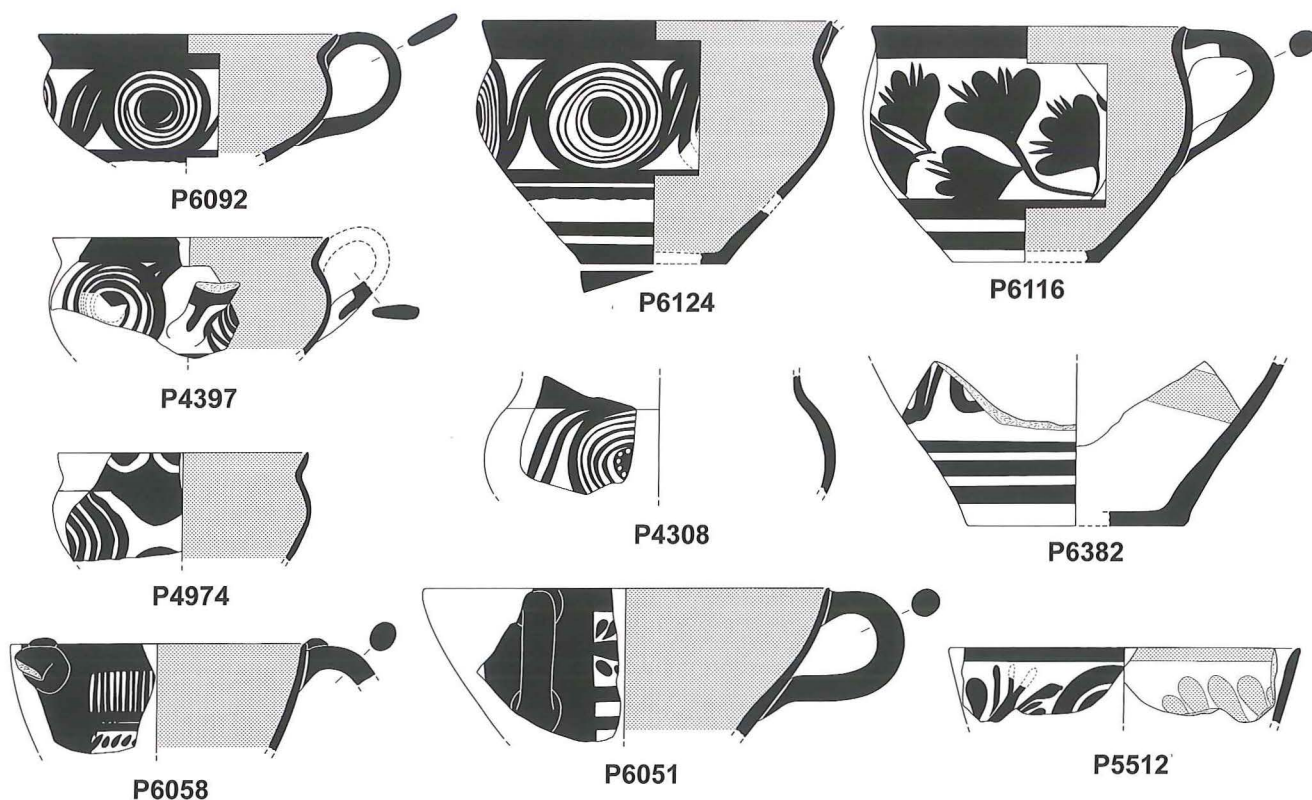


Fig. 2. Decorated cups from the LM IA phase before the Thera volcanic eruption (drawings by D. Faulmann).

All three of these final LM IA deposits are likely connected with damage and/or destruction which occurred around the time of the Thera volcanic eruption and the reconstruction efforts that took place immediately afterwards.

#### *Characteristics of final LM IA ceramics at Mochlos*

The most recognizable ceramic element in all of these LM IA deposits is the small, thin-walled, one-handled, rounded cup (frequently termed “semiglobular”, “hemispherical”, or “teacup”) with a tall everted rim, which is most commonly decorated with a well-burnished motif of running spirals with closed centers and embellished with added white dots (Figs. 2 and 3). These cups are found in all three deposits (Fig. 2, P4397 from Room 2.3 of House C.3 and P4974 from the construction fill under House C.2). An excellent example (Fig. 3, P15) comes from the foundation deposit beneath the Santorini tephra in House

C.1, which also included a beak-spouted jug (Fig. 3, P21) with tendril scroll motif embellished with added white and red accents. Both find close parallels with the pottery in use at Gournia and Akrotiri before the eruption.<sup>8</sup>

Mochlos’ LM IA deposits are also always marked by another ubiquitous cup shape that appears to be particularly popular at both the site and the surrounding area (the authors have observed examples from recent excavations of LM IA levels at Quartier P at Malia and Priniatikos Pyrgos, but they are otherwise not well represented in the published record).<sup>9</sup> This local vessel is a large, handled conical cup, often constructed in a gritty brown fabric and simply decorated with a dark band on the exterior rim and dark monochrome interior over which white arcs are often painted at

<sup>8</sup> Hawes *et al.* 1908, pl. VII.29–32 (Gournia); Marinatos 1999a, pl. 87a; 1999b, pl. 50 (Akrotiri).

<sup>9</sup> Betancourt & Silverman 1991, no. 558 provides one published example from Gournia.





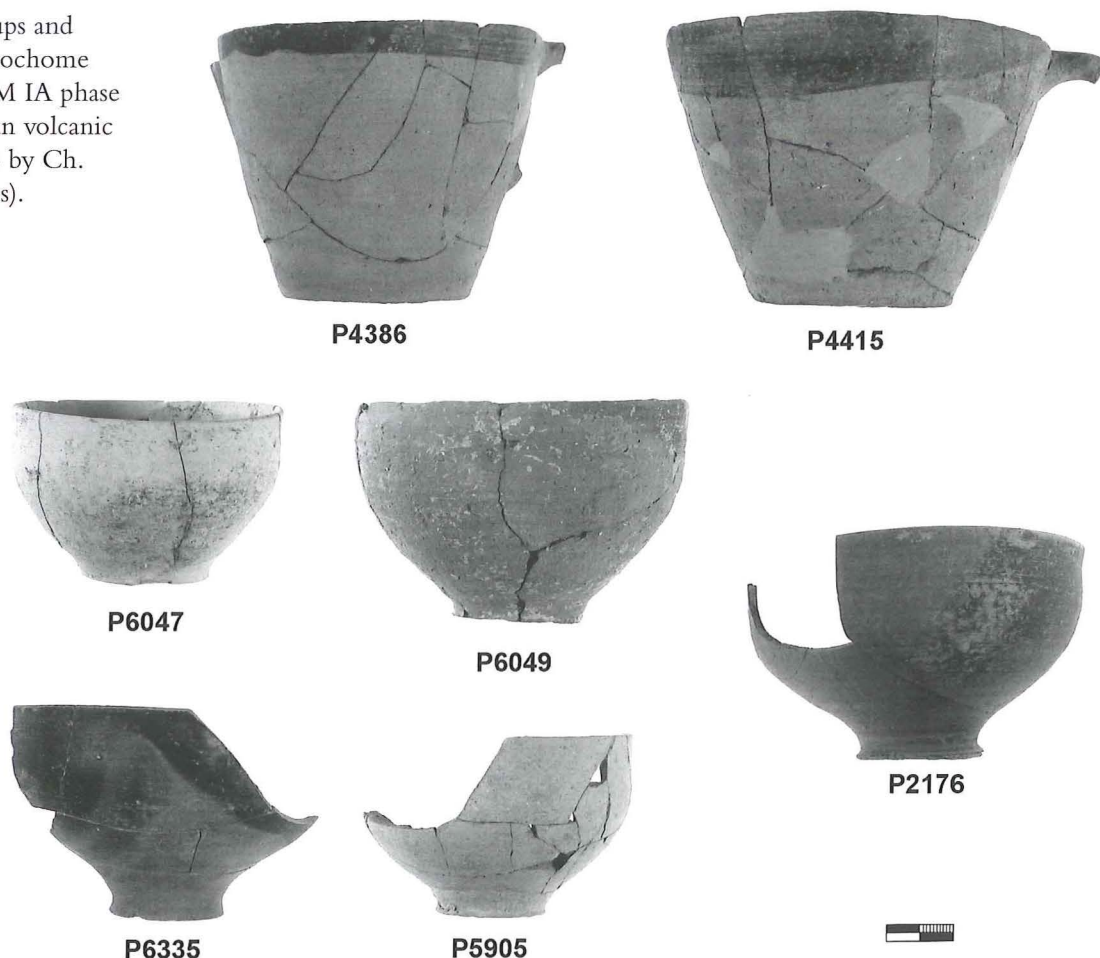
Fig. 3. Decorated cups, jugs, a strainer and miscellaneous closed vessel sherds from the LM IA phase before the Theran volcanic eruption (photos by Ch. Papanikolopoulos).

the rim. In her dissertation on Mochlos Neopalatial ceramics, Barnard used the decorative scheme to label them as “tall interior monochrome (“t.i.m.”) conical cups.”<sup>10</sup> From the LM IA floor in Room 2.3 of House C.3 come two unusually large versions of this cup with rim diameters of 14–15 cm (Fig. 4, P4386, P4415), along with more typical examples with average rim diameters of 8–10 cm. The latter

are found in all the LM IA deposits under discussion here (e.g., Fig. 5, P7507 from the fill beneath House C.2). At Mochlos tall interior monochrome conical cups are frequently found together with

<sup>10</sup> Barnard 2001, 323–4. This cup is first noted at Mochlos in Barnard’s Level 12 (MM IIIA) and appears to reach its peak of popularity in LM IA.

Fig. 4. Ogival cups and tall interior monochrome cups from the LM IA phase before the Theran volcanic eruption (photos by Ch. Papanikolopoulos).



the one-handled, rounded cups discussed above as well as with other shapes decorated with closed-centered spirals with added white dots (Fig. 2, P4308), straight-sided cups decorated with dark-on-light motifs (Fig. 2, P5512), piriform bridge-spouted jars and in-and-out bowls – all well-known LM IA shapes and styles.

The ogival cup is considered by many to be a hallmark of the LM IB period, especially at Mochlos and other East Cretan sites; it has never been published as part of an LM IA assemblage. However, the well-stratified remains at Mochlos demonstrate that the shape first begins to appear, in very small numbers and with a clumsy form, in the LM IA deposits associated with the rebuilding after the Santorini eruption. One such example (Fig. 4, P2176) was recovered in the foundation deposit under the volcanic ash in House C.1. It has a dumpy profile and a nearly straight, unverted rim.

Another characteristic feature of the LM IA deposits at Mochlos is the variety of plain, usually handleless, conical cups. By the end of the LM IB period, the Type A conical cup is essentially the only type produced and used at the site (Fig. 15, P884). In sharp contrast, the LM IA production exhibits much greater variety in the cup shape, dimensions, and clay recipe. In the final LM IA levels, the most common Neopalatial conical cup shape is the Type A version (Fig. 5, P424, P5777, P7557), but there are at least two other common plain, handleless cup types – a conical version with a slightly outturned rim (conical Type B – Fig. 5, P5779, P6134) and the shallow saucer (Fig. 5, P5774, P5775, P5778, P7516). Two additional plain cup types found in the LM IA levels include a bell-shaped cup, which is usually handleless (Fig. 5, P7508) but may occasionally have a handle, and a plain straight-sided cup which usually, but not always, has a handle (Fig. 5, P5802,



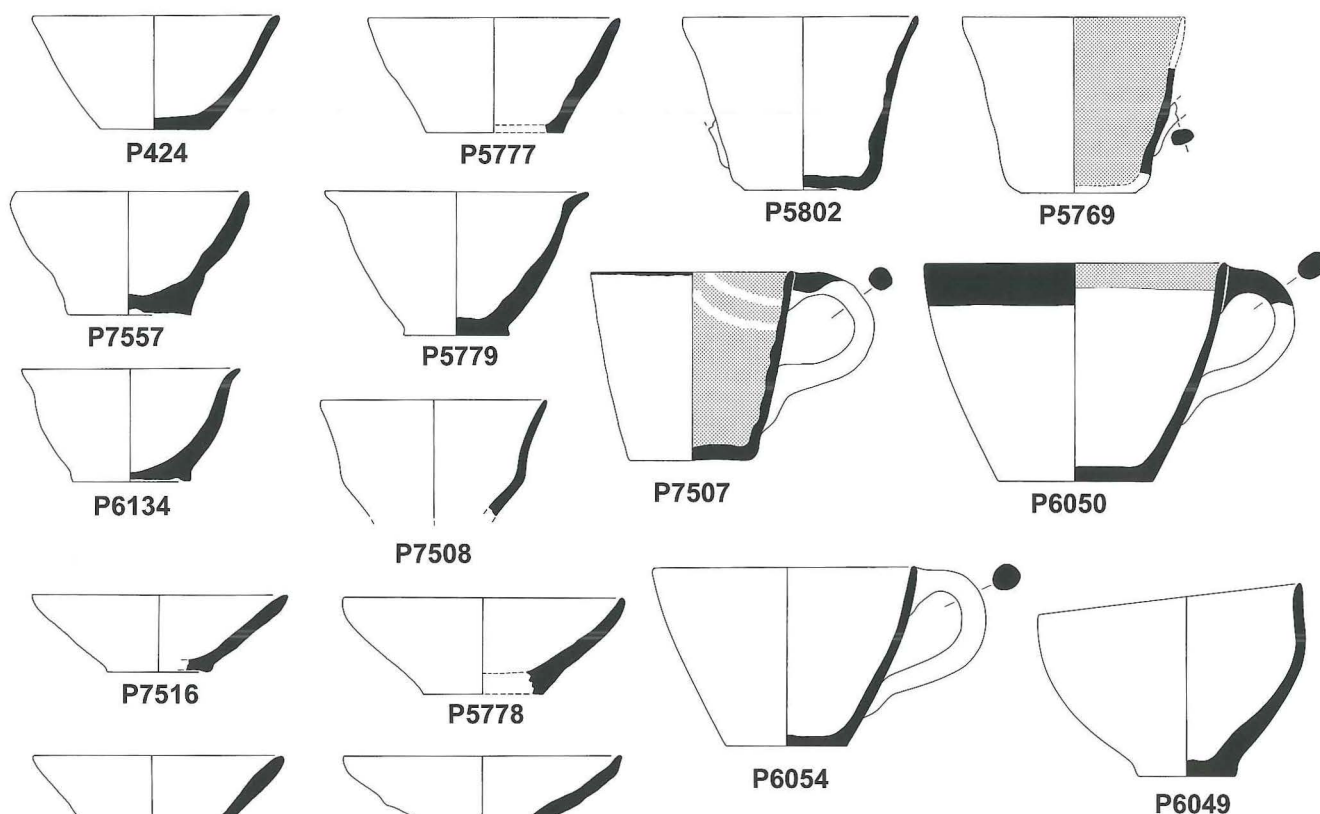


Fig. 5. Conical, bell-shaped, straight-sided and ogival cups from the LM IA phase before the Theran volcanic eruption (drawings by D. Faulmann).

P5769).<sup>11</sup> The bell-shaped cups at Mochlos are often buff-slipped and occasionally provided with a rim band through dipping, while the plain straight-sided cups are either undecorated or given a rim band or monochrome treatment, also through dipping. The fabric of these cups varies considerably from fine to very coarse, the clay from a buff marl color to red, while the dimensions and exact profile of individual vessel types show only modest regularity. This variety in the types of plain cup shapes, the fabric, the dimensions and construction techniques is a clear indicator of earlier Neopalatial pottery production at Mochlos, providing a sharp contrast with the much more consistent local production in LM IB.

Another pottery style that consistently marks this phase at Mochlos is Betancourt's Type B tripod cooking pot.<sup>12</sup> The fragmentary cooking pots from the LM IA levels of the deposits have thick walls, straight-to-slightly rounded body profiles, and in-

curving, unverted lips (Fig. 6, P4286, P4338, P4391, P7509). This particular type of cooking pot is later replaced by Betancourt's Type A in LM IB. The profiles of the cooking dishes (Fig. 6, P4972) demonstrate the same diachronic change over the course of the Neopalatial period; they have a much higher-walled profile in LM IA than in the subsequent LM IB phases.

In these LM IA deposits, dark pattern motifs are painted with a slip that usually fires orange to red and is highly burnished, unlike the brown-black color of dark pattern motifs in LM IB, which

<sup>11</sup> Barnard 2001, 300–23 traces the popularity of the handleless cup types through the Neopalatial period. She concludes that all are seen as early as MM IIIA, with the plain straight-sided cup, in particular, being more popular in MM III than LM IA. The conical Type B, the bell-shaped cups, and the saucers are particularly popular in MM IIIB before gradually declining in number during the LM IA period.

<sup>12</sup> Betancourt 1980.



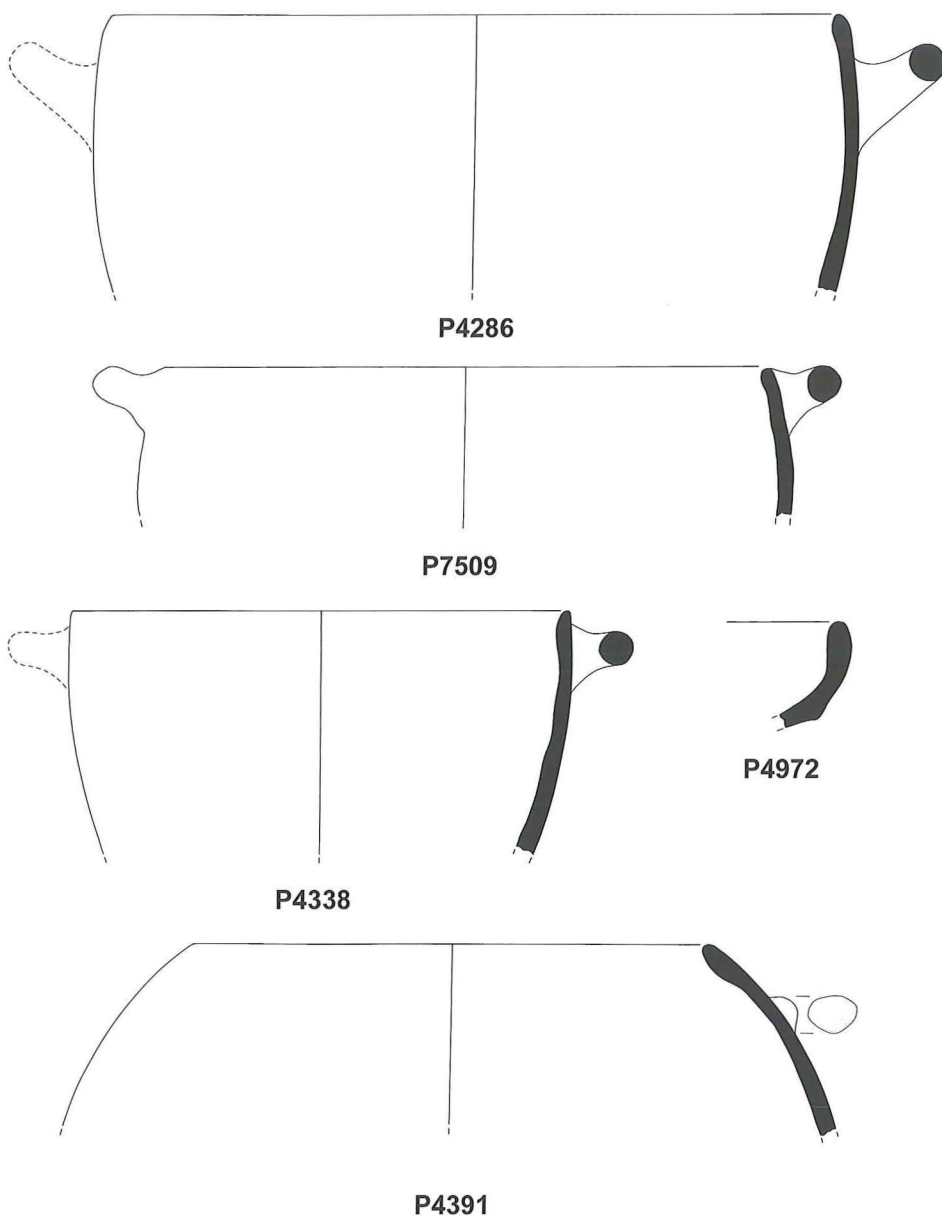


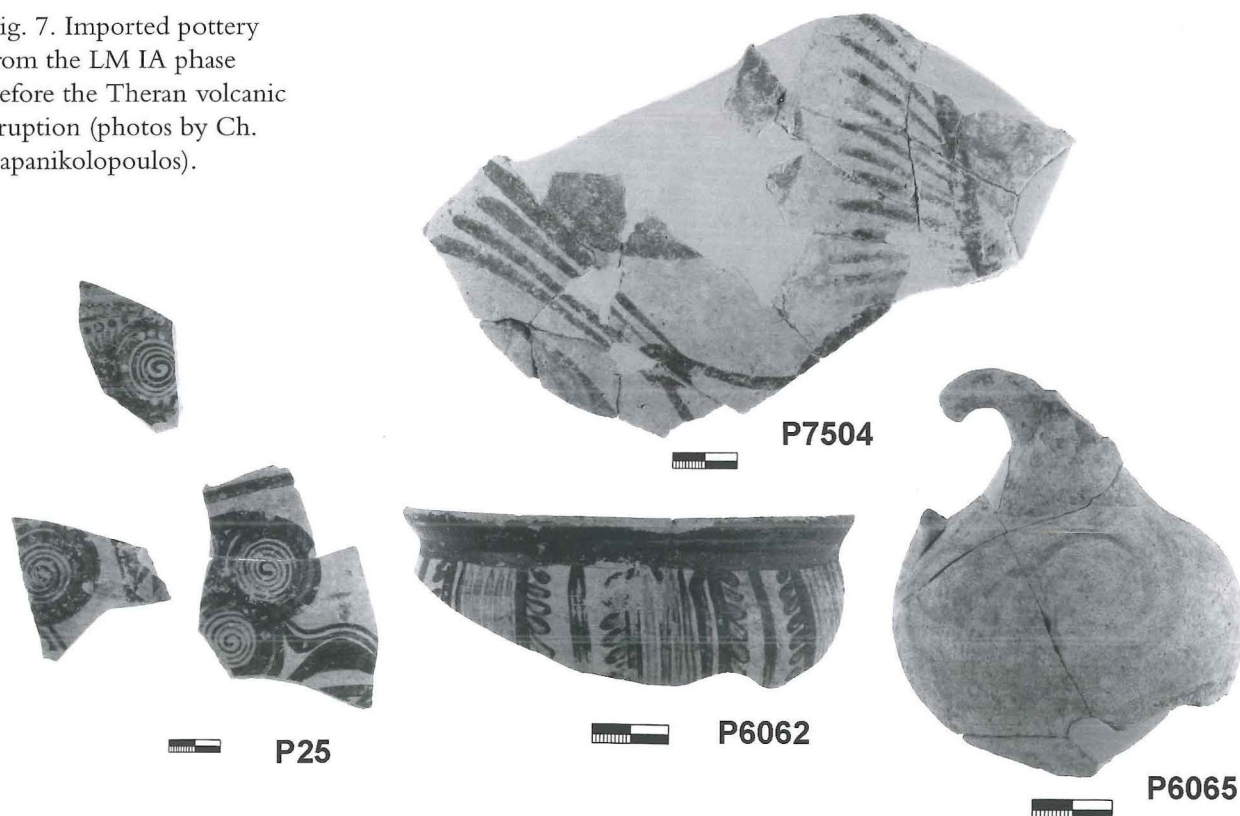
Fig. 6. Tripod cooking pots and cooking dish from the LM IA phase before the Theran volcanic eruption (drawings by D. Faulmann).

also exhibit much less burnishing. Even simply decorated monochrome or horizontal-banded vessels, such as the collared jug (Fig. 3, P2175) from the LM IA foundation deposit under House C.1, often receive a burnished surface. Popular LM IA motifs at Mochlos include ivy chains and spirals, and the use of added red for bands and accents (Fig. 3, P15, P21, P26) is common. We would also note that tortoise shell ripple (TSR) appears to have gone out of fashion at Mochlos by the end of LM IA. It is almost never found in the early LM IB deposits at Mochlos – a situation that sharply contrasts with

that at Kommos where ripple decoration appears in both final LM IA and early IB.<sup>13</sup> Indeed, while a number of examples (e.g., Fig. 3, P7515) are preserved from the LM IA construction fill below Rooms 1 and 2 of House C.2, actual final LM IA floor levels, such as in Room 2.3 of House C.3, yield little to none, indicating that the motif at Mochlos belongs only to the earliest Neopalatial phases. It is also worth noting that while the LM IA

<sup>13</sup> For TSR in final LM IA and early LM IB deposits, see Rutter 2006, 435, 442, and 473.

Fig. 7. Imported pottery from the LM IA phase before the Theraan volcanic eruption (photos by Ch. Papanikolopoulos).



construction fill also contains an impressive number of imported vases, including a vessel decorated with curve-stemmed ivy (Fig. 7, P25) possibly from Malia and a jar decorated with swallows from Santorini (Fig. 7, P7504), most of the other LM IA deposits held little recognizable pottery imported from beyond the Mirabello Bay region.

#### *Transitional final LM IA to early LM IB deposit from House C.7 Room 2.12*

Before moving on to the nature of the LM IB ceramic phases at Mochlos, an additional earlier Neopalatial deposit from House C.7 should be discussed here. House C.7 is a large building (located behind the modern church of St. Nikolaos and just across a north-south alley running beside House C.3) that appears to have been built in MM IIIB to serve as an industrial center.<sup>14</sup> Large sections of the eastern facade appear to have suffered structural damage (perhaps as a result of earthquakes in LM IA), and parts of the building were abandoned by the end of LM IA.<sup>15</sup> The western half and the southern suite

of rooms appear to have been remodeled late in LM IA or early in LM IB, but these changes were often cosmetic and did not involve the massive rebuilding from the foundation level like that in the Block C houses further south.

Room 2.12 of House C.7 yielded one of the most detailed and informative LM I sequences from the entire site. It was first used as a kitchen and later as a storage magazine.<sup>16</sup> The ceramics from the lowest of the four successive floor levels of this room straddle the final LM IA and earliest LM IB periods, containing a mix of materials seen in the LM IA deposits discussed above and some later styles that foreshadow or are typical of early LM IB, but lacking many that typify the pure LM IB deposits at Mochlos. Stylistically, vases similar to those from the LM IA levels seen above include cups decorated with running spirals with closed centers (Fig. 2, P6092, P6124) or ivy motifs (Fig. 3, P6145) and an

<sup>14</sup> Brogan & Koh 2008.

<sup>15</sup> Soles 2009.

<sup>16</sup> Brogan & Barnard, forthcoming.

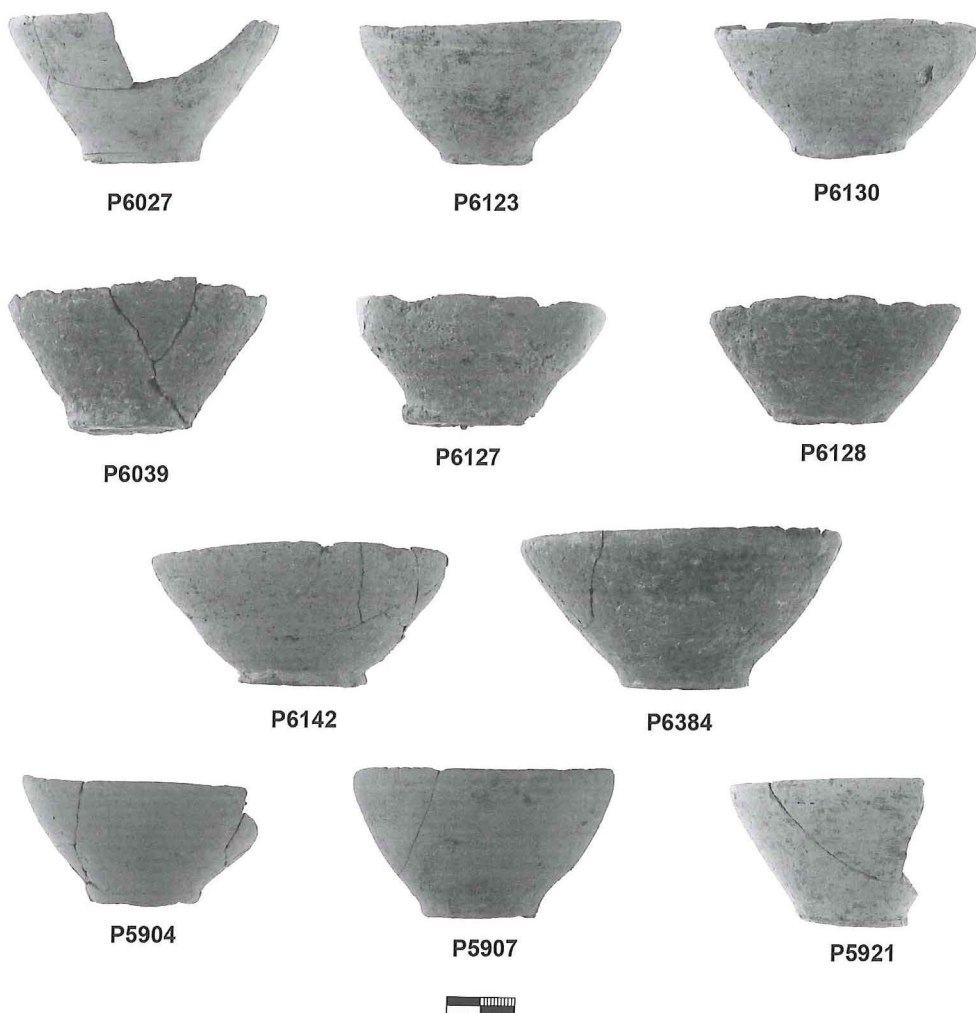


Fig. 8. Conical cups from the LM IA Phase before the Theran volcanic eruption (photos by Ch. Papanikolopoulos).

in-and-out bowl (Fig. 2, P6382), all extremely well burnished. The tall monochrome interior conical cups seen in the LM IA levels mentioned above are also present in substantial numbers. However, while many are decorated with monochrome interiors, the added white arcs typical of MM III and LM IA are no longer common and quite a few are simply rim-banded or even undecorated (Fig. 5, P6050, P6054) – foreshadowing a type that becomes more frequent in the LM IB period.

The plain, handleless cups also show transitional characteristics: the earlier LM IA variety of cup types is largely absent, and examples are mostly fragmentary. The only plain/handleless type in the deposit is the conical Type A cup, a hallmark of Mochlos – and Crete in general – throughout the LM IB period. However, the regular conical Type

A cups from later LM IB phases show a remarkable standardization in both shape and size and typically are all constructed in a light buff-to-peach colored, well-levigated fabric. The same type of cup from the transitional phase, on the other hand, lacks this regularity and appears in a wide variety of fabrics. These include a small number with a medium, very pale, greenish fabric (Fig. 8, row 1), numerous coarse, red earthenware ones (Fig. 8, rows 2–3), and only a moderate percentage in the fine, buff, well-levigated fabric typical of LM IB (Fig. 8, row 4).

The ogival cups from the lowest level again point to the transitional nature of the deposit. This LM IB shape, well-known in eastern Crete, consistently makes up 8% of the remains from the final destruction levels of that period at Mochlos.





Fig. 9a-b. Rounded cup from the LM IA phase before the Theran volcanic eruption (photo by Ch. Papanikolopoulos, drawing by D. Faulmann).

On the lowest floor from Room 2.12 of House C.7, ogival cups make up less than half the total number of cups, but that represents a much greater percentage than we find in any of the pure final LM IA deposits of Houses C.1 (e.g., Fig. 4, P2176), C.2 or C.3. Also, most of the examples here exhibit a less globular profile with a nearly straight, unverted rim (Fig. 4, P5905, P6047, P6049, P6335) – typical of the earliest examples of the type which first appear around the time of the Theran eruption. Like the smaller, plainer conical cups, these early ogival cups are also produced in a variety of fabrics rather than the standard fine buff clay typical of final LM IB, including many examples in a very coarse red clay that is never seen in the later LM IB period. Among the cooking vessels from this kitchen, one again observes the beginnings of a transition – from Betancourt's Type B (typical of LM IA) to the Type A globular tripod cooking pot typical of LM IB. While both types are evident in the floor level, the later (LM IB) Type A outnumbers the earlier (LM IA) Type B.

As for other good, datable motifs and cup shapes, the straight-sided cup commonly seen in LM IA is present only in fragments. And a further series of highly decorated vessels would suggest a final date for the deposit early in LM IB based on stylistic grounds. These include a miniature strainer with slanted foliate spray (Fig. 3, P6108), decorated large conical cups with multi-stemmed ivy (Fig. 3, P6145) or foliate bands (Fig. 2, P6051, P6058 and Fig. 3, P6334), and a rounded cup with crocuses (Fig. 2, P6116).<sup>17</sup> Another rounded

cup is an import, probably from further east in Crete. It is wheel-made gray fabric with glossy black slip (Fig. 9, P6378), has good parallels in the later LM IB deposits, and may be one of our earliest examples of this enigmatic ware that has frequently been considered an import to the island.<sup>18</sup> Two other imported vessels, a cup with vertical foliate bands separated by panels (Fig. 7, P6062), perhaps from the mainland, and a jug (Fig. 7, P6065), most likely from the Cyclades, round out the rich deposit.

## Phase 2 (early LM IB)

### *Nature of the early LM IB deposits*

The previous discussion has dealt with nearly half of the LM IA levels excavated from the settlement to date. The vast majority of the Neopalatial remains dated, however, to the LM IB period and reused, obscured or obliterated the earlier Neopalatial town. The large extent, clear stratigraphy and extremely good preservation of the LM IB site provides invaluable evidence for this rich period, which must have been long considering that most rooms in the houses of the island settlement yielded at least two distinct LM IB floor levels superimposed one above the other. One of the central goals of this paper is to use this stratigraphic evidence to define both an earlier and later LM IB ceramic sub-phase at Mochlos.

Early LM IB material is generally represented stratigraphically on all the lower or lowest levels of successive LM IB floors found in rooms of the Block C houses on the island settlement, and in particular in some of the kitchens which have three or four superimposed floor layers, like Room 6 of House C.2 which appears to have served as a

<sup>17</sup> For pre-eruption versions of the Cretan cups with crocus imported to Akrotiri, see Marinatos 1999b, pl. 50.

<sup>18</sup> Tsipopoulou & Vagnetti 1994; Barnard & Brogan 2003; Rutter 2006b, 678–80. Rutter has presented a solid case for a Cretan source for this ware, and several papers at the conference showed that it is distributed in small numbers across the island. To these sites, we should also now add the LM IB houses at Papadiokampos and Chryssi.

kitchen/pantry.<sup>19</sup> Excavation in this room revealed four different floor surfaces with a wealth of cups, bowls and cooking material, of which the lowest two floors (1 and 2) contain the earliest LM IB remains, while the two higher floors (3 and 4) correspond well to the final Neopalatial destruction deposits throughout the site and can be assigned to the final LM IB phase.

Room 1 of House C.7 yielded a very similar situation. The first floor has already been discussed above as a deposit bridging the final LM IA and early LM IB periods, while the second floor level belongs to the early LM IB phase and the final two floor levels (floors 3 and 4) are final LM IB in date. Room 1.4 of House C.3 provides yet another kitchen, one of the many added to preexisting Neopalatial houses during the LM IB period.<sup>20</sup> Excavations there discovered two superimposed LM IB floors, one stylistically early LM IB and the other final LM IB, resting on top of a mixed construction fill of MM III/LM IA date.

Kitchens are by no means the only rooms in the Neopalatial houses that demonstrate multiple floor levels. Indeed, the majority of living and storage rooms have two LM IB floor layers. In many such rooms (e.g., the basement level of House C.2, especially Rooms 1 and 2 that sat above the LM IA construction fill already discussed), the earlier LM IB floor layer of packed earth provided few datable remains, probably because this earlier level was destroyed by later LM IB remodeling. Moreover, because most of the houses from the Mochlos settlement are multi-storied and built into the sloping hill of the island, the ground floor rooms on the south-facing slope of most buildings (e.g., Rooms 1 and 2 of House C.2 and Room 1.12 of House C.7) also had a layer of upper story collapse.<sup>21</sup> However, the upper story rooms rarely yielded substantial finds apart from some occasional storage vessels and small cups.

### *Characteristics of early LM IB ceramics at Mochlos*

From these lower floor deposits of the LM IB houses on the island, we can characterize the early LM IB ceramic styles at Mochlos in the following

way. With the plain, handleless cups, there is a clear preference for the Type A conical cup, a trend already seen in the final LM IA and the transitional final LM IA – early LM IB levels, but which is even more obvious in the pure early LM IB deposits at Mochlos. The other shapes common in LM IA (e.g., the Type B conical cup, the saucer, the bell-shaped cup, and plain straight-sided cup) are not part of the early LM IB repertoire. For example, the conical Type A cup (e.g., Fig. 10, P169) is the only plain, handleless cup type found on the lower LM IB floors of Rooms 1 and 2 of House C.2 – a sharp contrast with the wide variety of shapes seen in the LM IA fill below these levels. Room 6 of the same house presents a similar pattern. A single fragment of an earlier LM IA saucer from this kitchen preserves a complete profile; otherwise, fragments of these various types of plain cups make up only 3% of the assemblage, while Type A conical cups make up 22% of the material on this floor level. The fabric, dimensions and profiles of the early LM IB Type A conical cups still show a degree of variation, which distinguishes them from the final LM IB version of the shape. This may, in fact, be an indication that the Artisans' Quarter was not yet established south of the town.<sup>22</sup>

The ogival cup is a regular part of the early LM IB assemblage, in comparison to its rare appearance in the late or final LM IA deposits. Examples include both a mix of the earlier, relatively straight-rimmed precursors and the more globular form, which is first seen in this early LM IB phase and becomes the standard in later LM IB. While the shape represents a significant part of the early LM IB ceramic repertoire – perhaps replacing the tall LM IA interior monochrome, handled conical cup which now begins to disappear – the ogival shape is not yet as popular as it will become by the end of the LM IB period. These trends in the development and popularity of the ogival cup are clearly seen

<sup>19</sup> Brogan & Barnard, forthcoming.

<sup>20</sup> Brogan & Barnard, forthcoming.

<sup>21</sup> A good example is provided by the section and architectural reconstruction of House C.3 at Mochlos in Soles & Davaras 1996, fig. 12.

<sup>22</sup> Barnard & Brogan 2003, 35–6.



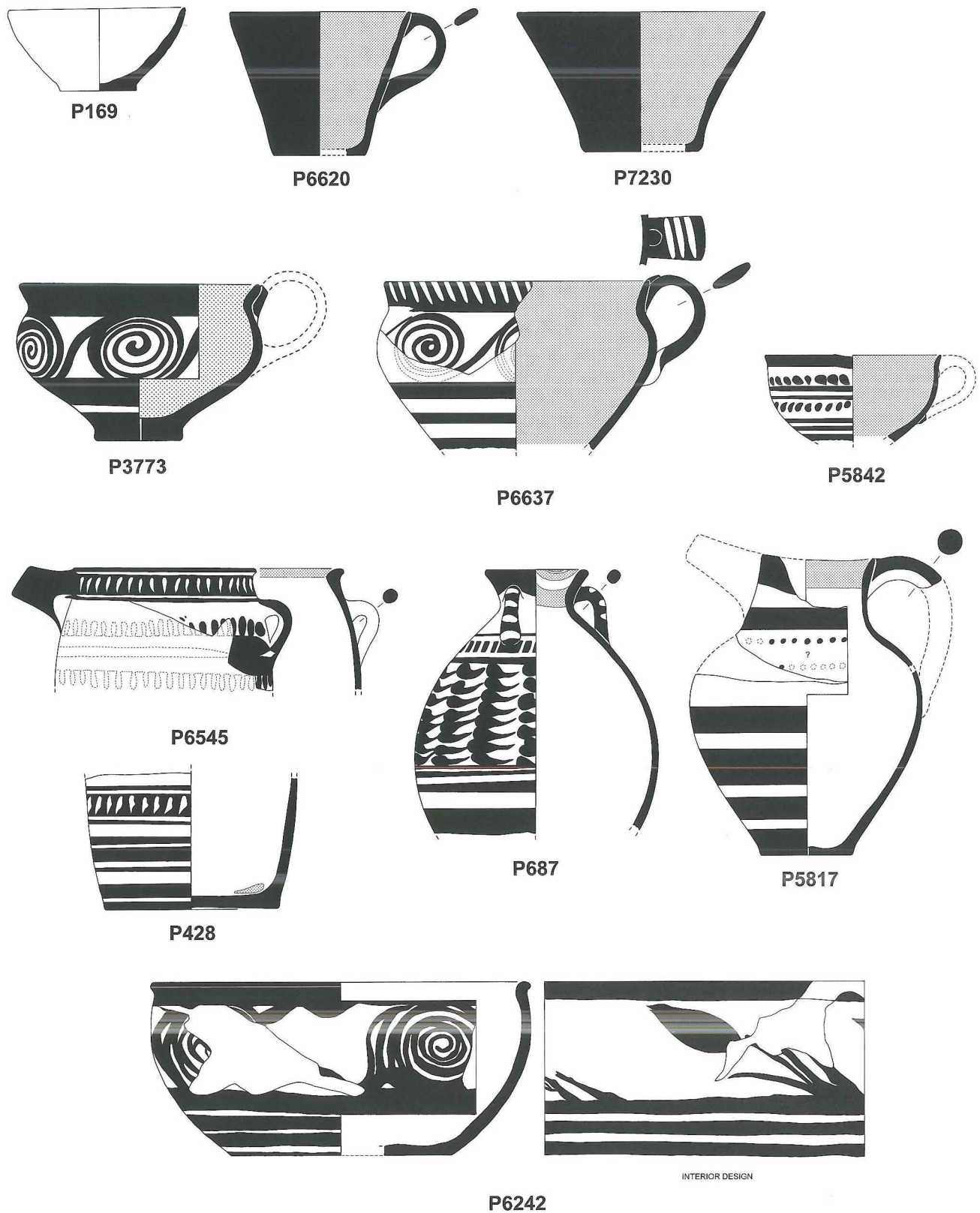


Fig. 10. Early LM IB pottery from Mochlos (drawings by D. Faulmann).



in Room 6 of House C.2, with its four successive LM IB floor levels. With each successive level, the ogival cup is found in greater numbers, and the final floor level shows a clear progression towards the large, globular body with a slightly everted rim that is found in all of the final LM IB destruction deposits across the site. The growing popularity of this cup type at Mochlos extended even to its use as a scoop (with the addition of an interior handle) – a trend which starts in this earlier LM IB phase and increases in the final LM IB.

The tall interior monochrome conical cup embellished with added white pendent arcs is not found in early LM IB, but a somewhat smaller and often unpainted or only lightly dipped version in a finer, buff fabric comes into use.<sup>23</sup> It was not as popular as its LM IA predecessor and remains a minor part of the assemblage even into final LM IB.<sup>24</sup> The decorated straight-sided cup is also rare in this early LM IB phase, represented only by a small number of sherds with dark-on-light motifs and some partially preserved monochrome examples (Fig. 10, P6620, P7230) with whole profiles.

The delicate, smaller, thin-walled rounded “teacup” or “semiglobular” rounded cup common in LM IA levels at Mochlos is already being replaced by a larger version with thicker walls, a broader base and a more rounded, rather than ovoid, strap handle in early LM IB. This change also appears to mark a difference between Mochlos and the nearby town of Pseira. The smaller cups with spirals and dot bands continue to be popular at Pseira in LM IB, while at Mochlos this shape and decoration declines in popularity in early LM IB, perhaps due to competition from the large, decorated conical cup with handle and the bell cup (discussed below) that the Mochlos inhabitants appear to have preferred.<sup>25</sup> Examples are found in LM IA levels at both Mochlos and Pseira, but the LM IB versions are quite rare at Mochlos and many of them appear to be regional imports. The rounded cups from floor 1 of Room 1.4 in House C.3 (Fig. 10, P3773, P6637) are typical of the period at Mochlos – a wide profile with a broad base and thick ovoid handle; the decoration is slightly more stylized but well applied and burnished. Note in particular the

popularity of the open centered running spirals in this period.

One of the few well-preserved decorated vessels on the earlier LM IB floor levels of Rooms 1 and 2 of House C.2 is an in-and-out bowl with an open spiral on the exterior and a vegetal motif on the interior (Figs. 10–1, P6242) which we believe is an early LM IB version; typically, less attention has been paid to the LM IB examples of this shape than the LM IA.<sup>26</sup> A tall alabastron (Fig. 11, P23), also from this level, has good parallels from both earlier and later LM IB levels at Mochlos, such as Houses D.5 (Fig. 10, P687) and C.3 and the Artisans’ Quarter, as well at other East Cretan sites.<sup>27</sup> An imported jug from floor 1 of Room 1.4 of House C.3 with two vertical lines outlined by dots (Fig. 11, P6668) also demonstrates Mochlos’ strong East Cretan ties and has excellent parallels from Palaikastro, Gournia and Malia.<sup>28</sup> Two well-preserved cylindrical bridge-spouted jars on floor 2 of Room 6 from House C.2 (Fig. 10, P428, P6545) show that this variant is already replacing the piriform type. One example of the piriform type of bridge-spouted jar with closed-center spirals (Fig. 11, P5800) was found on the early LM IB floor 2 of Room 1 from House C.7. It may be a slightly older heirloom; however, it should be noted that its surface was not given the careful burnish that is typical of the LM IA and transitional LM IB wares but instead exhibits the sloppier treatment more common in LM IB at Mochlos.

Decoration of finer vessels indicates less

<sup>23</sup> The trend is already seen in the transitional LM IA – early LM IB deposit in C.7 Room 1 discussed above (Fig. 5, P6050, P6054).

<sup>24</sup> Barnard & Brogan 2003, 35–42.

<sup>25</sup> Floyd 1998, BS/BV 64, 77, 107, 110 and P. Betancourt, pers. comm.

<sup>26</sup> For examples from final LM IA and early LM IB Kommos, see Rutter 2006a, 442, 475.

<sup>27</sup> Barnard & Brogan 2003, no. IB.296 (Mochlos, Artisans’ Quarter); Betancourt 1983, no. 9 (Mochlos, Seager’s 1908 campaign); Hawes *et al.* 1908, pl. 9, no. 8 (Gournia); Betancourt & Silverman 1991, no. 665 (Gournia); for Chryssi (pers. comm. V. Apostolakou).

<sup>28</sup> Hawes *et al.* 1908, pl. VIII, no. 16 (Gournia); Sackett & Popham 1970, 219 no. NP60 (Palaikastro); Deshayes & Dessenne 1959, pl. XVI no. 4 (Malia).

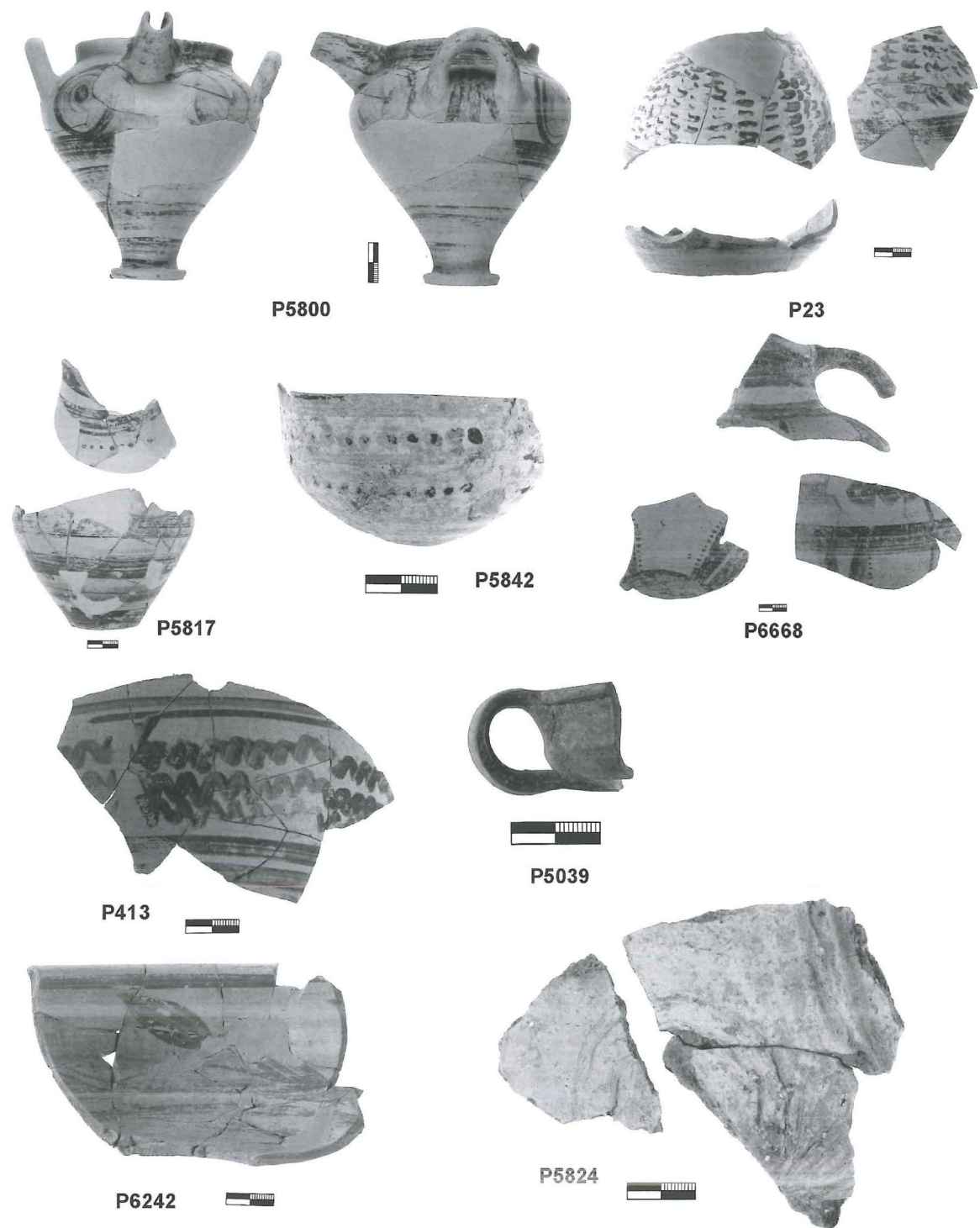


Fig. 11. Early LM IB pottery from Mochlos (photos by Ch. Papanikolopoulos).

attention to burnishing and the design of motifs in early LM IB compared to LM IA examples. Moreover, added red accents are largely absent and added white accents exhibit a change from the thick, well-preserved white of LM IA to a

thinner white paint that is translucent and fugitive in LM IB. Many examples of the foliate band, which becomes more and more stylized over the course of the LM IB period, are still comparatively well painted in the earlier LM IB phase. Most have



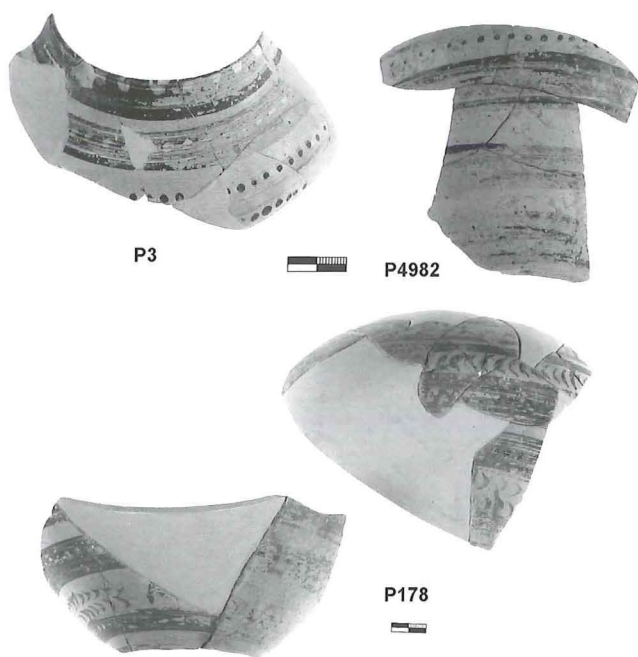


Fig. 12. Final LM IB decorated closed vessels (photos by Ch. Papanikolopoulos).

recognizable petals and one or two stems (Figs. 10–1, P5817), while others are quickly painted and lightly burnished (Figs. 10–1 P5842). Two types of decorated vessels that eventually become common in later LM IB also make their first appearance in small numbers during this early LM IB phase. The first are the small vessels (Fig. 11, P5039) in a blue-gray fabric with a glossy black slip (often called blue-gray ware); the second are the jars with incised or relief lilies that appear to be a local Mochlos production. Some chronological differences between the earlier and later LM IB phases can be noted in these “lily” jars. For instance, the jar with an incised lily from floor 2 in Room 1 of House C.7 (Fig. 11, P5824) carries a more naturalistic version of the flower, which becomes more stylized in the final LM IB phase.<sup>29</sup>

## Phase 3 (final LM IB)

### *Nature of the final LM IB deposits*

The pottery sample of final LM IB strata from Mochlos is extensive and includes the published

data from across the site, such as the Artisans’ Quarter, the Chalinomouri Farmstead, and the upper floor levels above the earlier LM IB strata in the houses on the island. It is the best represented phase preserved by the destruction and temporary abandonment of the site at the end of the LM IB period.<sup>30</sup>

### *Characteristics of final LM IB ceramics at Mochlos*

Many ceramic features of this phase are simple progressions of trends already observed in earlier LM IB. For instance, the foliate band from the early LM IB phase continues to be popular, but is now more stylized and shown as an uneven double strand of dots or single row of slashes (Fig. 12, P4982; Fig. 14, P3783; Fig. 19, P200).<sup>31</sup> The stylized foliate band, which often carries accents in added white decoration, is ubiquitous in the final LM IB pottery at Mochlos and the broader Mirabello Bay region (e.g., Gournia and Pseira).<sup>32</sup> One outstanding, albeit highly fragmentary, example of the motif from a final destruction level (Fig. 12, P178) carries more elaborate decoration with rows of flecks and stylized ivy on the shoulder. Rows of white dots and wavy lines are painted over the dark red bands, and the vessel is well burnished. We suspect that it is an import from outside the Mirabello area (perhaps Palaikastro?) and may stylistically belong to the earlier LM IB period.

Many vessel shapes seen in earlier LM IB phases continue as well, but, as with the foliate band, show changes and modifications or increasing/decreasing popularity over time. Tripod cooking pots are, of course, a standard vessel throughout most of Minoan history, but the change in profile from Betancourt’s Type B in LM IA to the Type

<sup>29</sup> Barnard & Brogan 2003, nos. IB.418–21; Brogan 2004.

<sup>30</sup> For the formation processes involved in this destruction, see Brogan, Smith & Soles 2003.

<sup>31</sup> Also see Barnard & Brogan 2003, nos. IB.356 and IB.358 for examples from the Artisans’ Quarter at Mochlos.

<sup>32</sup> Hawes *et al.* 1908, pl. VIII:39 and IX.9; Betancourt & Silverman 1991, fig. 32: 698 (Gournia); Floyd 1998, fig. 5: BS/BV 63; Betancourt 1983, pl. 5:52 and 56, pl. 6:60 (Pseira).



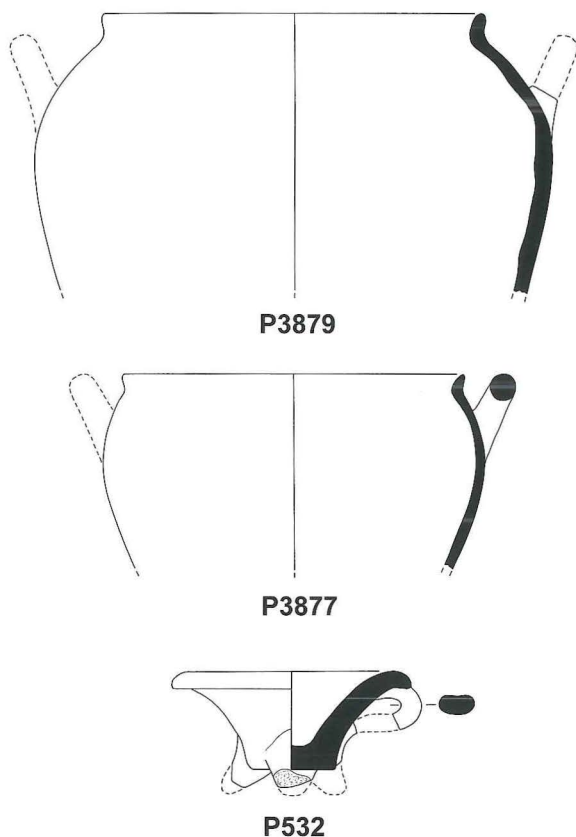


Fig. 13. Final LM IB vessels in cooking fabric (drawings by D. Faulmann).

A variety in LM IB is obvious at Mochlos.<sup>33</sup> The gradual phasing-out of the thick-walled Type B cooking pots and the rising popularity of those with a more globular profile and everted rim (Type A) is clearly seen in the earlier LM IB deposits, which have a mix of both types. The final LM IB deposits demonstrate that Type A vessels have completely replaced Type B examples, and they have become quite globular and are typically thin-walled (Fig. 13, P3877, P3879). Another kitchen vessel, the shallow tripod bowl (Fig. 13, P532), also sees a rise in popularity in the final LM IB phase.<sup>34</sup>

In contrast, other items in the final LM IB deposits represent new introductions that are typical, if infrequent, but which foreshadow styles that become a standard in the LM II ceramic repertoire on Crete. The best example (and one which received considerable discussion at the LM IB conference in Athens) is the horizontal-handled

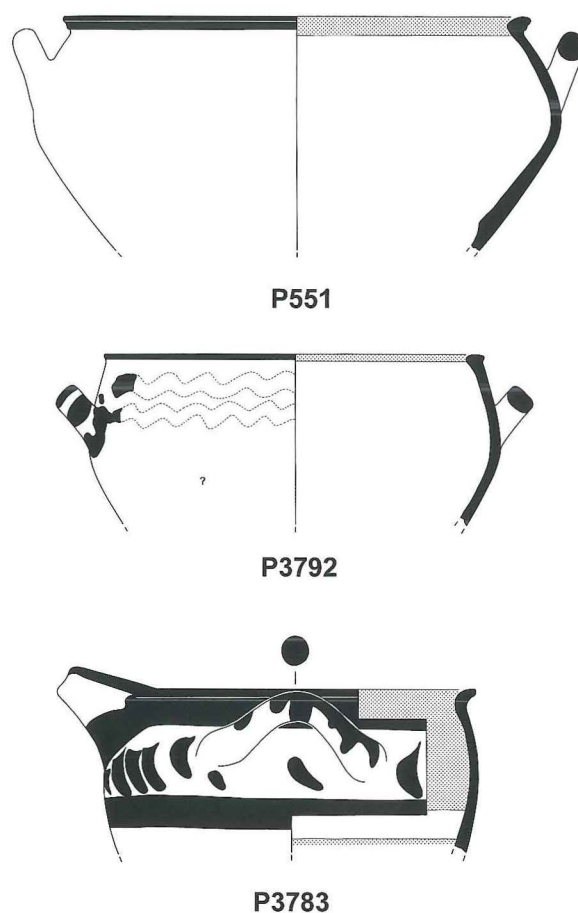


Fig. 14. Final LM IB bowls and a bridge-spouted jar (drawings by D. Faulmann).

bowl (Fig. 14, P551).<sup>35</sup> While the early LM IB levels at Mochlos still preserve the MM III – LM IA tradition of in-and-out bowls (Figs. 10–1, P6242), the final LM IB destruction deposits (e.g., Rooms 1 and 2 in House C.2 and those in House C.3, House D.5, Ceremonial Building B.2, and the Artisans' Quarter) show a trend towards bowls with horizontal handles and interior banding similar to those which are well represented from the LM II Unexplored Mansion at Knossos.<sup>36</sup> Unlike the more elaborate Knossian LM II examples, however,

<sup>33</sup> For a detailed discussion of the shape at Mochlos, see Barnard & Brogan 2003, 80–3.

<sup>34</sup> For examples from the Artisans' Quarter, see Barnard & Brogan 2003, 53–4.

<sup>35</sup> For a more detailed discussion of this shape, see Barnard & Brogan 2003, 50–2; Brogan, Smith & Soles 2003.

<sup>36</sup> Popham 1984, pls. 52–3.

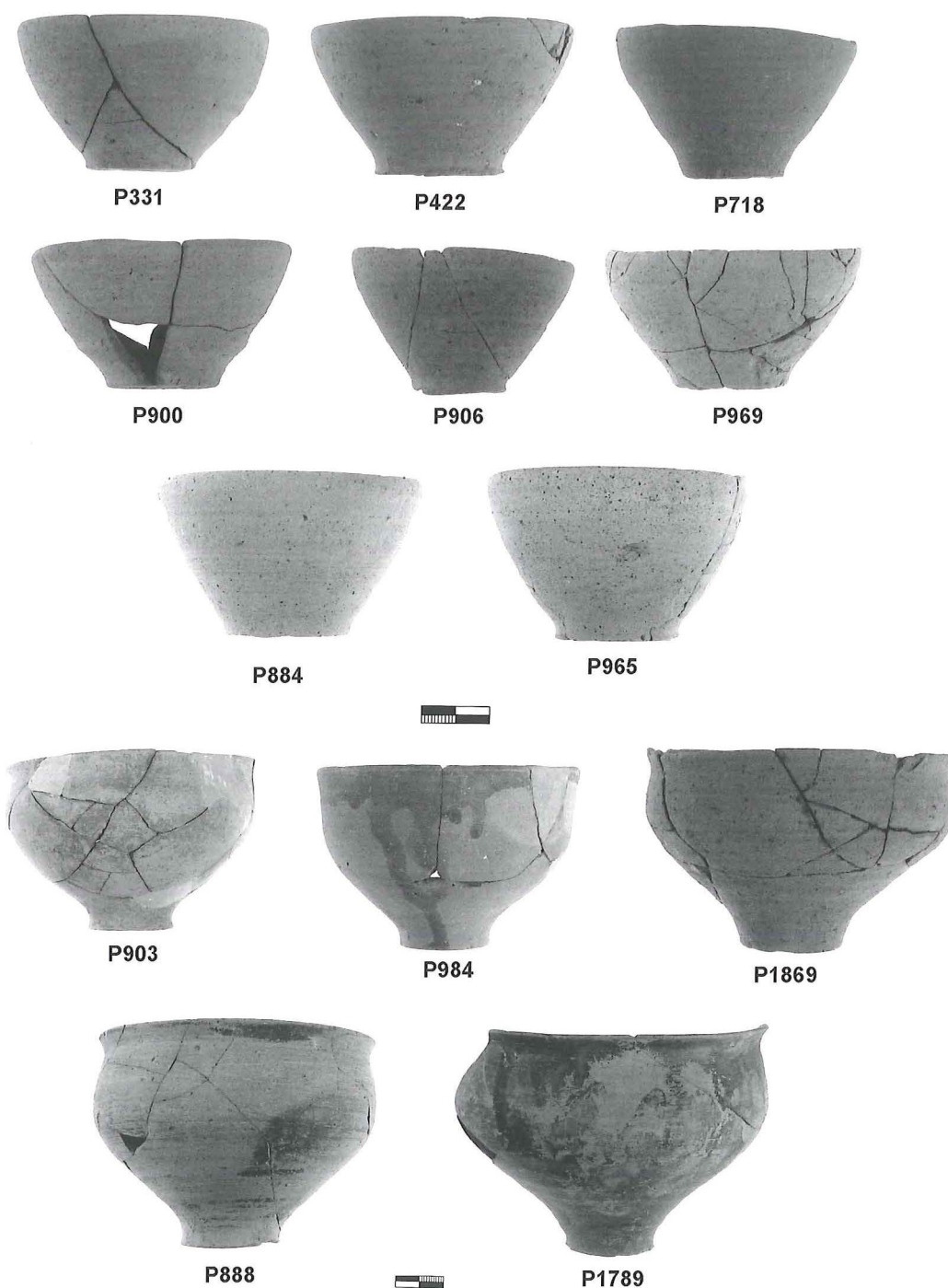


Fig. 15. Final LM IB conical and ogival cups (photos by Ch. Papanikolopoulos).

the decoration on these final LM IB bowls from Mochlos includes the simple and cursory motifs common to the final LM I phase – banding, stylized foliate ornaments and wavy lines (Fig. 14, P3783, P3792). Examples of this shape, while serving to distinguish between the earlier and later LM IB ceramic styles, are not found in abundance, with

only a few dozen identifiable bowls or fragments from the entire site.

One of the most striking features of the final LM IB pottery at Mochlos is the limited variety of shapes and motifs in comparison with the earlier LM IB and final LM IA phases. With the exception of a small number of horizontal-handled



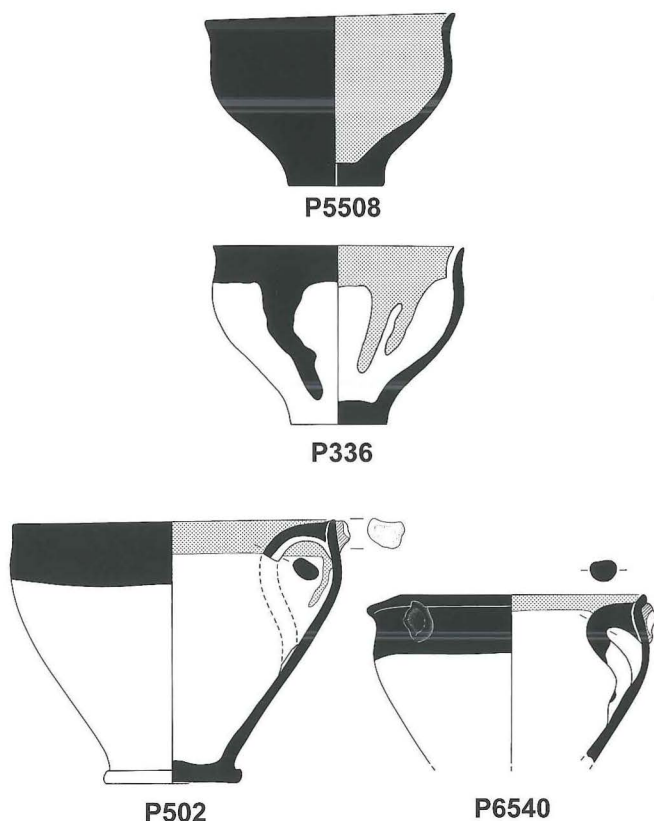


Fig. 16. Final LM IB ogival cups and scoops (drawings by D. Faulmann).

bowls, the drinking/eating vessels are limited to only a few cup shapes. The most frequent, by far, is the Type A conical cup, of which there are thousands from the town and an estimated 800 examples from the Artisans' Quarter alone.<sup>37</sup> The other types of plain, handleless cups seen in MM III and LM IA deposits at Mochlos (e.g., the bell-shaped cup, saucer and plain straight-sided cup) are not present in final LM IB. Even more remarkable is the degree of standardization in clay preparation, shape and dimension in the conical cup assemblage (Fig. 15, rows 1–3) from the final LM IB deposits. This is easy to observe given the large numbers present in every room of every building – with 137 half-to-whole preserved examples from the Artisans' Quarter and Chalinomouri Farmhouse and at least an additional 250 from House C.3 alone. The movement towards standardization in these cups already observed in the earlier LM IB phase reaches its pinnacle in the final phase when

they comprise between 10 and 25% of many assemblages. Indeed, nearly three-quarters of all conical cups from this phase vary less than 4–5 mm in dimension, and 50% of all measureable examples share a volume of 10–11 cl (with 75% varying less than 3 cl). The pottery workshop at the Artisans' Quarter is almost certainly responsible for the high degree of standardization in the fabric, shape and size of the conical cups and, to a lesser degree, of many other shapes, including the ogival cups, jars, pithoi and cooking vessels.

The ogival cup also becomes a ubiquitous drinking vessel in the final LM IB phases, increasing in popularity from the earlier LM IB phase. The shape forms 8% of the entire deposit at the Artisans' Quarter and comprises an even greater percentage of the whole-to-half extant cups excavated in House C.3, which contained more than 50 examples.<sup>38</sup> The ogival cup not only achieves a more pronounced, consistent, S-shaped profile during this phase, but also appears to come in two distinct sizes, the smaller group averaging a rim diameter of 10 cm and the larger averaging 13 cm. The vast majority are monochrome, a treatment applied by dipping the vessel (Fig. 15, P903, P1869; Fig. 16, P5508). A smaller number were given a rim band (Fig. 15, P984; Fig. 16, P336), also applied by dipping, with drips down the body that recall the pulled-rim bowls of the subsequent LM III period. At least two are both monochrome and highly burnished (Fig. 15, P888, P1789) and recall examples reported from late LM IB levels at Palaikastro and Papadiokampos.<sup>39</sup> In this final phase, the ogival cup also continues to be used as a scoop (Fig. 16, P502, P6540).<sup>40</sup>

The only other categories of final LM IB drinking vessels are the decorated cups and bowls which make up a very small percentage of any deposit. By the end of the LM IB period, the small “teacup” type of rounded cup has been completely replaced by a large version with a broad base and

<sup>37</sup> Barnard & Brogan 2003, 35–42.

<sup>38</sup> Barnard & Brogan 2003, 42–5.

<sup>39</sup> Pers. comm. with T. Cunningham and S. A. MacGillivray (Palaikastro) and with J. Morrison (Papadiokampos).

<sup>40</sup> For the shape, see also Floyd 1998, 182.





Fig. 17. Final LM IB bell cup, jugs, bridge-spouted jars, and miscellaneous closed vessels (photos by Ch. Papanikolopoulos).

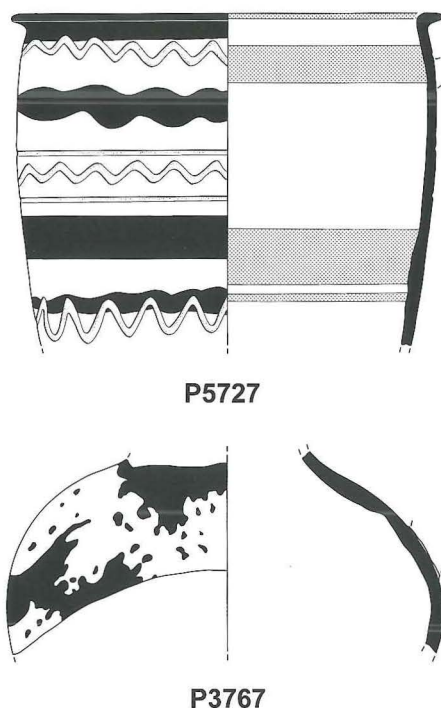


Fig. 18. Final LM IB bridge-spouted jar and jug (drawings by D. Faulmann).

wide rim diameter (12–15 cm).<sup>41</sup> The handle is typically rounded (but occasionally ovoid), and a small, pulled spout is placed at a right angle to the handle. Decoration of these vessels tends to be rather cursory and limited to a narrow band on the upper body below the rim. The range of motifs is limited to a single abstract band of crescent-shaped foliate petals, wavy lines, or isolated broken motifs (spirals). It is worth noting that running spirals have largely been abandoned for the cups (though stylized versions are still present on the jugs and stirrup jars), and the interiors of some cups are banded. While the craftsmen and farmers of the Artisans' Quarter and Chalinomouri Farmhouse used this cup in small numbers (a total of 45 vessels or sherds identifiable out of more than 28,000), the shape is even less common in the houses on the island.

The array of final LM IB motifs at Mochlos is also fairly restricted; the more elaborate examples tend to be imports, especially from other East Cretan sites. With few exceptions, the foliate band motif dominates the assemblage. Examples of Marine

Style are extremely rare at Mochlos and most appear to be imports (Fig. 17, P4, P6).<sup>42</sup> It is worth noting that all the fragments with Marine Style decoration come from the final LM IB destruction deposits and nearly all are so fragmentary that the exact shapes of the vessels cannot be identified. The one nearly complete vase with marine motifs from the Artisans' Quarter is very stylized – with a three-legged octopus.<sup>43</sup> While Mochlos does not have a large number of the other palatial LM IB styles, there are examples of the Alternating Style which is traditionally associated with the later part of LM IB (Fig. 17, P503); these are again only found in the final LM IB levels and never in the earlier levels.<sup>44</sup>

Other motifs include a form of splatter decoration, which Warren has called the “Jackson Pollock” style. At Mochlos there are both local (Fig. 17, P5) and imported examples (Fig. 18, P3767), which may have come from Kato Zakros or Palaikastro where excavators have attributed this “spray-painted” style to the latest Neopalatial phase.<sup>45</sup> Small-to-medium closed vessels, such as cylindrical bridge-spouted jars and collared, beak-spouted and trefoil-mouthed jugs (Fig. 17, P1040, P1541, P3832, P3844; Fig. 18, P5727), when not decorated with the most common foliate bands, often carried wavy lines (both painted and with a local tendency towards incised examples), spirals, or reeds over which white decoration was added. The LM IB pottery from the neighboring sites of Pseira and Gournia not only favors the same decorative scheme but also the same shape preferences (e.g., the cylindrical bridge-spouted jar). At Mochlos, the cylindrical shape begins to replace the piriform type during the earlier LM IB, becoming the standard form in this final LM IB phase.<sup>46</sup> One miniature

<sup>41</sup> Barnard & Brogan 2003, 45–9.

<sup>42</sup> Barnard & Brogan 2003, 101.

<sup>43</sup> Barnard & Brogan 2003, fig. 29, frontispiece.

<sup>44</sup> For the Alternating Style, see Coldstream & Huxley 1973, 302–3.

<sup>45</sup> Warren 1996, 46–50 (Knossos); Hatzaki 2007c, 20–3 (nos. 24–9), 80 (Palaikastro).

<sup>46</sup> Barnard & Brogan 2003, 64–6. For Gournia, Hawes *et al.* 1908, pl. IX, nos. 17, 18, 30, 31. For Pseira, Betancourt 1983, pl. 6:59.



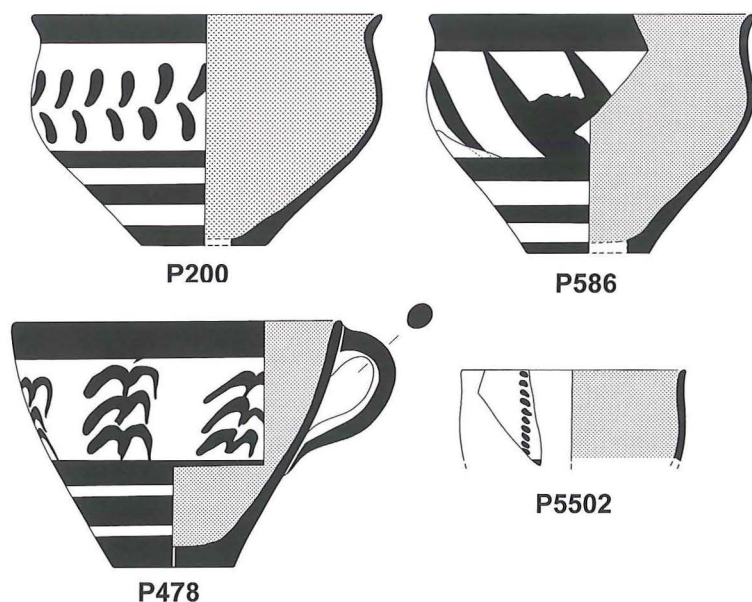


Fig. 19. Final LM IB rounded, conical and bell cups (drawings by D. Faulmann).

piriform example (Fig. 17, P269) from a final LM IB floor is perhaps an import from Gournia.

There are other popular motifs in final LM IB deposits at Mochlos, but they are often restricted to specific vessel types. While these shape-restricted motifs are found in both earlier and later LM IB levels, they are sporadic in the earlier phase. A good example is the series of tall alabastra from the island settlement, the Artisans' Quarter and the Chalinomouri Farmhouse (Fig. 10, P687) decorated with a field of flecks or irregular dots; these have good parallels at other sites in the Mirabello Bay area, and the combination of shape and decorative scheme are also seen at Gournia, Pseira, Chryssi, and Zakros.<sup>47</sup>

The use of incised or applied relief lilies to decorate medium-sized jars (already observed in the earlier LM IB phase) now becomes common in final LM IB at Mochlos. These are clearly local products (with only three examples yet found outside Mochlos at Gournia, Pseira and Papadiokampos).<sup>48</sup> These Mochlos "lily jars" probably were made by the potters working at the Artisans' Quarter and widely consumed by the inhabitants of the town.

The study of vast amounts of well-stratified Neopalatial pottery from Mochlos has allowed us to do more than develop our knowledge of ceramic sub-phases, regional styles or local idiosyncrasies. It has also illuminated meaningful differences in the consumption of pottery within the site

of Mochlos itself. In the final LM IB phase, the wealthy residents of the island houses appear to have enjoyed a larger number of finely decorated drinking cups than the inhabitants of the industrial Artisans' Quarter. This fact alone is not particularly surprising. What is interesting is the fact that types of fine drinking vessels appear to vary not only between the settlement and workshop, but also among individual townhouses. While the residents of the Artisans' Quarter appear to have preferred the big rounded cups already mentioned above, those in the houses on the island show a preference for two other fine drinking vessels which occur very rarely at the Artisans' Quarter. The first is the large, decorated conical cup (Fig. 19, P478; Fig. 20, P450), which in the final LM IB phase carries a frieze of stylized motifs like those seen on the rounded cups. Examples from Gournia and Pseira provide excellent parallels.<sup>49</sup> The second is the decorated bell cup, which appears both in simple local versions (Fig. 20, P380, P5080) and more elaborate imported styles (Fig. 17, P503 and Fig. 19, P5502). P503 is decorated in the Alternating Style and probably was imported from Central

<sup>47</sup> *Supra* n. 27.

<sup>48</sup> Brogan 2004 and pers. comm. J. Morrison.

<sup>49</sup> Barnard & Brogan 2003, nos. IB.154–5 (Mochlos, Artisans' Quarter); Hawes *et al.* 1908, VII, no. 9 (Gournia); Betancourt 1983, fig. 8, no. 48 (Pseira).



Crete. While only one bell cup was recovered at the Artisans' Quarter and House C.3 (the only completely preserved house on the island), several examples were found in the kitchen/pantry of House C.2. That same house also contained a number of unusually fine, extremely thin-walled rounded cups, which probably were also imported from North-central Crete.

## Conclusions

In the conclusion to *Mochlos IB* and in a short paper published in *Aegean Archaeology*, the authors examined a range of evidence for the date of this phase's destruction at the site and the label for the pottery from this period.<sup>50</sup> In part, this was answered by the radiocarbon dates provided by nine short-lived samples found in the Artisans' Quarter. The 1 sigma calibrated ages fall between 1500 and 1435 BC – a nice comparison to the four short-lived samples from Myrtos Pyrgos that fall between 1505 and 1430 BC.<sup>51</sup>

But the world of numbers is easier than the relative terms that we apply to the material culture found in these destructions. Is the final destruction at Mochlos simply LM IB as some have suggested, or does it represent a later phase of material that might be called final LM IB, LM IB/LM II, early LM II, or East Cretan LM II? Our arguments have been published in *Mochlos IB* and *Aegean Archaeology*. Let us begin by saying that we remain convinced of the validity of our earlier reports. What began as the presentation of one sub-phase, namely from the Artisans' Quarter, has now been framed by our subsequent study of the LM III reoccupation and the post-eruption LM IB levels in the Block C Houses – work which has provided the earlier and later parameters for a more complete illustration of this period at Mochlos. The town is rebuilt after the eruption and goes through what appears to be an earlier phase of LM IB. Before it is destroyed violently (between 1500 and 1435 BC) several houses receive new rooms, and floors are rebuilt several times. The pottery of the final destruction appears to have gone through significant morphological and stylistic changes before reaching

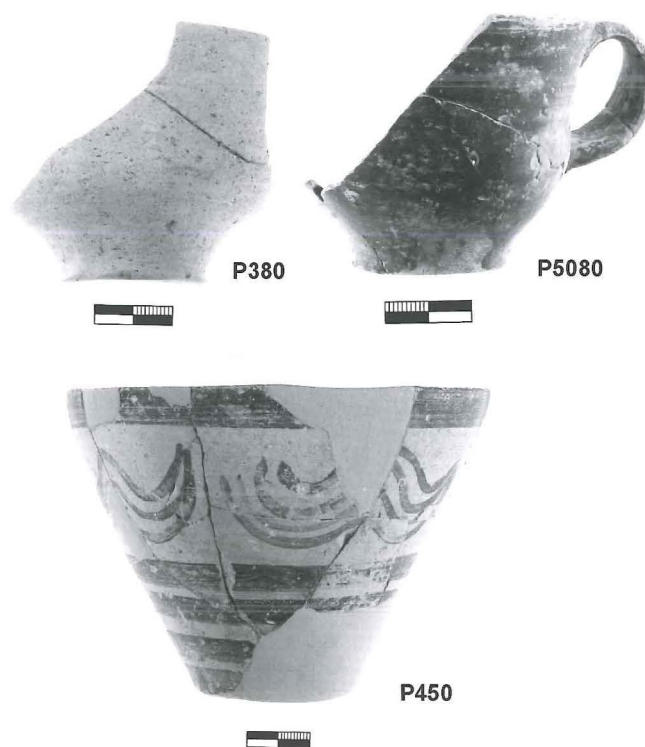


Fig. 20. Final LM IB bell and conical cups (photos by Ch. Papanikolopoulos).

that illustrated in *Mochlos IB*. We believe it is best described as a late form of LM IB or LM IB/LM II, in order to draw on both the continuity of settlement and LM I ceramic form within the settlement. At the same time, we have tried to draw attention to factors such as the increasing size of cups and bowls, the stylization of motifs, and the increasing isolation of motifs, which appear to us to be signs that LM II ceramic developments in Central Crete are beginning to influence what is otherwise a strong East Cretan LM IB tradition. There is, however, no imported LM II material in any of these destruction levels; it is present only

<sup>50</sup> Barnard & Brogan 2003, 104–9; Brogan, Smith & Soles 2003.

<sup>51</sup> For Mochlos, see Soles 2004, 145–9. For Myrtos Pyrgos, see Housely *et al.* 1999, 159–71; Manning 1999, 231–55; Manning *et al.* 2006. The close overlap of the final LM IB data from Mochlos and Myrtos Pyrgos has not received the attention it deserves in the wider discussions of the absolute dates of the LM IB period.

in the later Reoccupation deposits. In effect this interpretation offers only a partial solution to the broader problem faced by archaeologists working in East Crete – i.e., what happened in this part of the island while the Unexplored Mansion was occupied in LM II.

In our opinion, after the final Neopalatial destruction, Mochlos was abandoned for a period of time in LM II. The argument is presented in detail in *Aegean Archaeology*. In part it is based on the fact that several large bronze hoards were left behind in the sudden Neopalatial abandonment and not recovered by the new occupants in LM II/IIIA1. Intriguing evidence also exists for LM II occupation at remote sites like Katalimata in the Ha Gorge – a refuge site sought only during periods of disruption like those that brought about the final Neopalatial destruction of Mochlos and Myrtos Pyrgos.<sup>52</sup> Finally, there is the subsequent form

of the reoccupation at Mochlos – reusing streets and building on top of houses in a pattern that suggests a passage of time following the Neopalatial destruction during which the site had largely fallen into ruin.<sup>53</sup> We lack the means of measuring the length of this gap in occupation at Mochlos; however, we can suggest that it spans part of the LM II period on the island because the earliest pottery from the reoccupation is a mix of LM II and LM IIIA1 ceramics – a very significant find in eastern Crete.

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<sup>52</sup> Nowicki 2008, 80–1.

<sup>53</sup> Soles & Brogan 2008, 5–129.





# LM IB phases at Mochlos and the single phase of LM IB at Knossos: a response to Kellee Barnard & Thomas Brogan\*

Colin F. Macdonald

The presentation of LM I pottery from Mochlos by Barnard and Brogan was as detailed as it was clear. The town site on the islet of Mochlos, together with the Artisans' Quarter on the shore opposite<sup>1</sup> have provided a large amount of evidence for activities in the post-Theran eruption LM I period. The LM IB pottery is closely related to other sites in the region (Pseira, Gournia), with notable parallels in the "far east" of Crete (Palaikastro and Zakros) and to a much lesser extent in Central Crete, where comparisons with Knossos have been hindered by a lack of published deposits, a gap partially filled by the present volume (Warren and Hood).

In the 15 years since the publication of the *Troubled Island*,<sup>2</sup> Mochlos has provided much evidence for building and expansion after the eruption, even though air- and sea-borne tephra reached the island in quantities and was used in new building at the site (see House C.1 this volume for post-eruption LM IA). The LM IB pottery of Mochlos<sup>3</sup>, particularly the LM IB Final, is now some of the best known from that period in Crete, and the fine-tuning of the LM I period represented by this paper is welcome since it represents more than the presentation of micro-stratigraphies relevant only to the site itself. Barnard and Brogan attempt to paint with a broader brush, placing the main subdivisions of LM I in a historical perspective. This is not to say that they tackle such momentous questions as the cause of the LM IB Final destruction, if it was ever part of an island-wide historical event. That would have been inappropriate in the present context. Rather they have limited themselves to defining assemblages that immediately post-date the eruption of Thera, as defined by the presence of ash and those that follow it up to the end of LM IB or an LM IB–LM II transition. Thus, their

"historical" sequence was summarized at the conference with the following suggested terminology: LM IA Late or Final (but certainly post-Theran eruption); LM IB Early; LM IB Final or LM IB/II or early LM II.

House C.1 is important since it may to be an instance of a post-eruption LM IA level in the form of a possible foundation deposit. The paper did not make clear why this deposit post-dated the eruption even though it comes from beneath the ash layer. Stylistically, however, the pottery does belong in LM IA, including a handleless rounded or hemispherical cup (called an ogival cup by Barnard and Brogan, thus implying that it is the predecessor of the ogival cup that becomes the hallmark of LM IB, as much at Mochlos as at sites in East Crete like Palaikastro<sup>4</sup>). While this seems to be the case at Mochlos, the LM IA monochrome, handleless and lipless, rounded cup is a type that continues into LM IB largely unchanged at Knossos, though some few examples might almost be termed ogival (see below Fig. 4). This monochrome, lipless and handleless cup is not mentioned in the *Knossos pottery*

\* I thank Kellee Barnard and Tom Brogan for sending me their paper in advance of the conference, although I have not seen their final draft. Thanks also to Erik Hallager and Tom Brogan for inviting me to reply to the Mochlos paper. I chose to keep my reply short during the conference and have only expanded it slightly here. The small amount of LM IB pottery from the Southwest Houses presented here will be fully published in the second volume of the excavation report, the first having covered the larger Protopalatial deposits: Macdonald & Knappett 2007.

<sup>1</sup> Barnard & Brogan 2003.

<sup>2</sup> Driessen & Macdonald 1997.

<sup>3</sup> Barnard & Brogan 2003.

<sup>4</sup> MacGillivray, Sackett & Driessen 2007, 100 fig. 4.4: Deposit 1 of Well 605, LM IB ogival cups.

handbook, nor is it illustrated by Popham in his brief discussion of the LM I(A?) East-West Stairs (N IV 4) deposit, though he alludes to several monochrome shapes as being typical of the deposit, including this shape.<sup>5</sup>

It has not yet proved possible to define sub-phases of LM IA or LM IB at Knossos,<sup>6</sup> unless the two LM IA groups published by Warren from the Stratigraphical Museum Extension Excavations can be described as “early” and “late” LM IA.<sup>7</sup> However, Hatzaki may well be correct in choosing not to make a division here since such divisions do not yet help elucidate the overall ceramic development. It may be that future publication of the proportions of wares, shapes and decorative schemes from a range of deposits might allow some useful subdivisions, but that day is far off. The same can be said of the LM IB phase, where no detailed, combined analysis of LM IB deposits is yet possible. With the publication of LM IB from the Southwest Houses, some statistical analysis will be available, although the deposits are largely secondary, comprising the disturbed remains of primary destruction deposits used as fills.

At Mochlos, the detailed stratigraphic divisions are helpful on more than just a local level. An early LM IB phase is visible in House C7, Room 1, a kitchen, where material includes an interesting one-handed cup in a gray ware. This ware occurs from time to time in the Late Bronze Age, a fine LM I example being a bridge-spouted strainer-jar in a gray burnished ware from Knossos.<sup>8</sup> Having defined an earlier phase of LM IB, they observe that neither the Marine (MS) nor Alternating (AS) Styles have been found in levels pre-dating the final LM IB destruction. If it proves that both these styles really were relatively late LM IB phenomena, it allows the LM IB destructions of Crete which contain MS and AS to be placed in a fairly narrow chronological horizon of a generation or less irrespective of the overall length of LM IB as a period.

As the authors note, the final LM IB motifs of Mochlos are restricted. More elaborate designs appear on vases imported from other East Cretan sites. In general, the affinities of the domestic and fine wares with the other East Cretan sites are notable in the large numbers of ogival and conical cups. The thin-walled, squat variety of conical cup (e.g.,

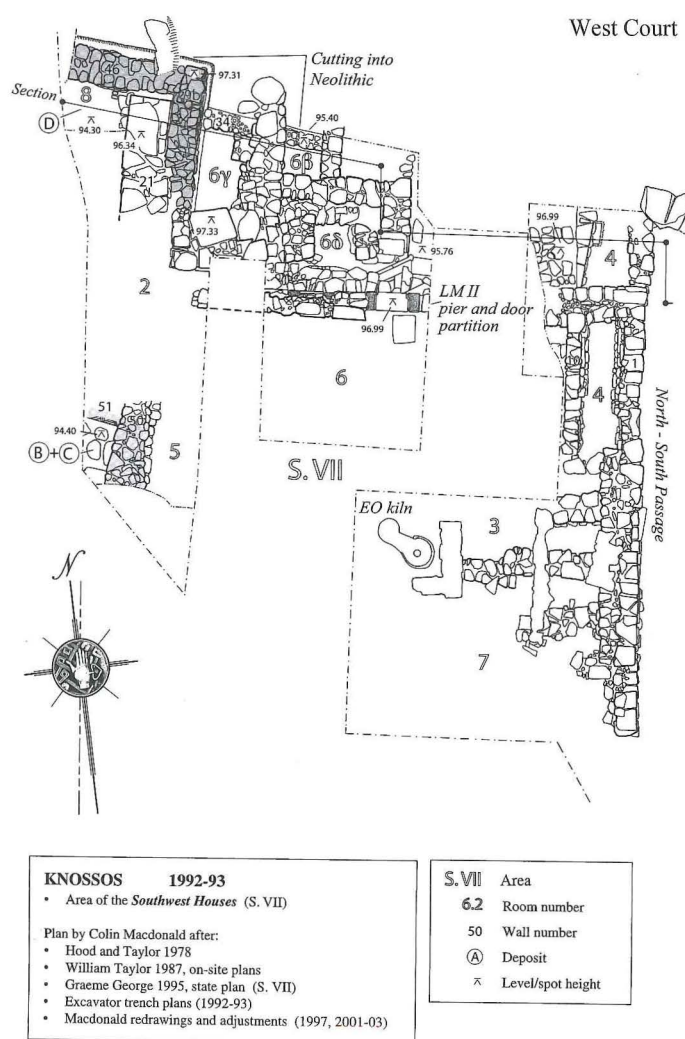


Fig. 1. Plan of the House West of the Southwest House – S.VII (west of S.V).

House C.3, final LM IB) also occurs at Knossos (see below, Fig. 4, P.1902) along with other types (see below). House C.3 is singled out early in the paper as providing strong evidence for standardized production of the most common shapes, notably the ogival and conical cup. This is an aspect which requires further discussion both here and at other sites, notably Knossos where the production of mass-produced shapes such as the handleless cup, seems less standardized than the conical and ogival

<sup>5</sup> Popham 1977, 194.

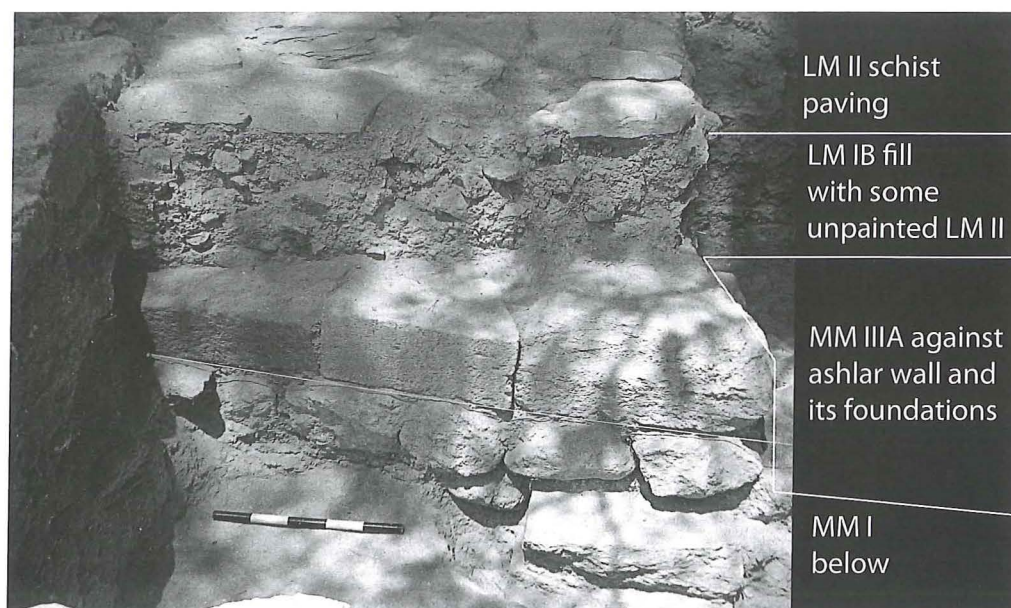
<sup>6</sup> Hatzaki 2007a, 172.

<sup>7</sup> Warren 1999, 898–9.

<sup>8</sup> Macdonald 1996, 23 fig. 3.



Fig. 2. S.VII.4 from the east showing the LM II schist paving and a fill of LM IB pottery with a slight admixture of LM II – all of this above MM IIIA destruction debris.



cups of Mochlos. It will also be worth looking at what standardization in LM IB actually means. Does it relate to consumer expectancy or demand, or to potter's techniques and the small number of potters working at any one time, or to other, economic factors? And if any or all of these are in play at one site and not at another, what does it mean? It can be argued that a small site like Mochlos might have few potters and therefore give the impression of greater standardization than a very large site like Knossos where many more potters with different skills would have been at work in all periods. Of course, when standardization is apparent within an assemblage of a very large site, the phenomenon takes on even greater significance (e.g., the standardization apparent in the MM IB Deposit A from Early Magazine A).<sup>9</sup> In addition, the significance of the apparent standardization of ceramic production techniques and shapes like the conical and ogival cup at Mochlos in LM IB, compared with LM IA, could be worth further discussion.

Lastly, there is the matter of terminology. The final and best represented LM I phase is thought to have overlapped with the beginning of LM II in Central Crete, giving rise to the suggestion of an LM IB/II label. I think LM IB *Final* or *Later* is preferable to this, recognizing that we are first talking of a ceramic phase and secondly of a chronological one. Observations such as a gradual increase in the

size of cups and bowls are probably not enough evidence to warrant calling the final LM I destruction, LM IB/II, despite my enthusiasm for it some years ago when the Artisan's Quarter was first excavated.

Knossos does not have the micro-stratigraphical evidence of East Crete, and only a single phase of LM IB has so far been defined, despite some discussion of phasing after the papers by Hood and Warren at this conference. In the area of the Southwest Houses (Fig. 1), excavated most recently by the author in 1992–93, the house excavated immediately west of the Southwest House proper, as defined and excavated by Evans,<sup>10</sup> was built and first destroyed in LM II. An earlier house, with an ashlar facade, was discovered underneath LM II schist paving (Fig. 2), and was built and destroyed in MM IIIA. Whether this house was repaired or another built over it is not

<sup>9</sup> Macdonald & Knappett 2007.

<sup>10</sup> The Southwest House is labelled S.V according to the Guide to the Stratigraphical Museum (Pendelbury 1933, Plan 25). Thus, I labelled the house to the West, S.VII. S.VI had already been used for the structure adjacent to the Southwest House proper on the south, the so-called House North West of the South House. Confusing as all this might sound, simply put, the Neopalatial Southwest House comprised S.V and S.VI built on two successive terraces. The house to the West, or S.VII, is another independent house but of Final Palatial date (LM II–LM IIIB).



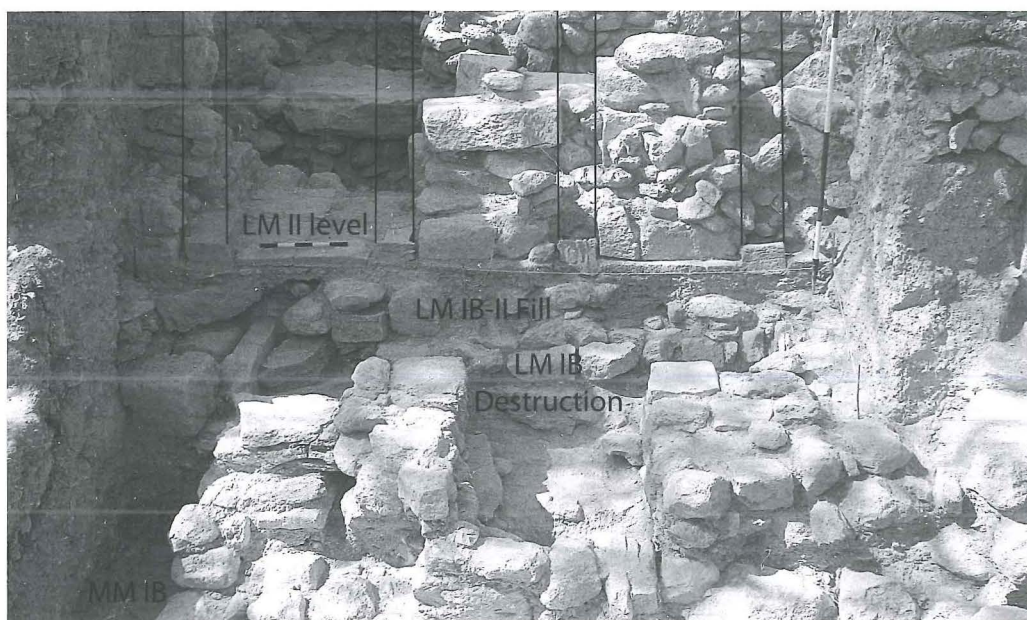


Fig. 3. S.VII.6 from the north showing the LM II gypsum *polythyron* with the piers projected upwards; underneath was a fill of LM IB with a slight admixture of LM II, on top of a LM IB destruction deposit.

clear. The LM II house has obscured most of the remains of LM I (Fig. 3) which were destroyed by fire. Until the recent detailed study of the fills and destruction deposits from S.VII.4 and 6, I had erroneously assigned the destruction of the LM I structure to LM IA, suggesting a gap in occupation before the construction of a new house at the start of LM II. The date early in LM II for the construction of the house with a *polythyron* was correctly indicated by

fills of LM IB with just a few pieces of unpainted fine pottery that would normally be termed LM II. The fills overlay burnt deposits in S.VII.6 which appear to be LM IB in date. There were no “floor deposits” with pots *in situ*, rather fills of burnt destruction debris. The construction fill seems to represent levelling of the destroyed area and its deposits in advance of building. Thus, although almost all destruction deposits appear to be secondary, LM IB now appears to be the date of this destruction.

Detailed results of our study<sup>11</sup> will include some quantitative analysis of wares, shapes and surface treatment/motifs. Here, I simply list some of the main features of the Southwest House LM IB deposits which might supplement the material presented by Hood and Warren in this volume. I do not focus on decorative motifs and schemes since these are fairly well covered in the literature, not least by Hatzaki in the *Knossos pottery handbook*.<sup>12</sup>

1. Unpainted wares: handleless cups (Fig. 4). I have already mentioned the squat conical variety found also at Mochlos and Palaikastro. How-

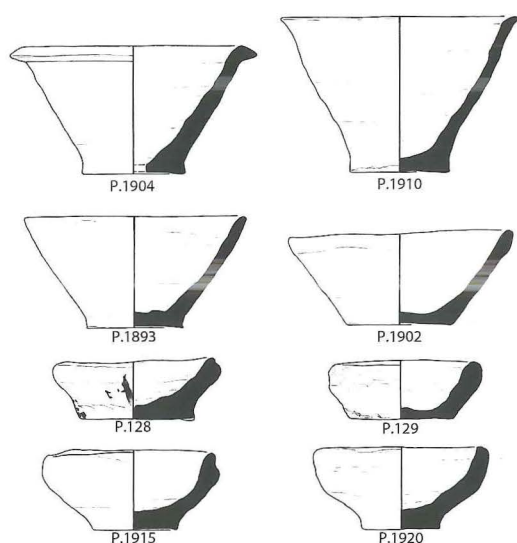


Fig. 4. Unpainted wares of LM IB from Knossos, from the House West of the Southwest House, S.VII.4: P.1904, 1910, 1893, 1902, 128, 129, 1915 and 1920.

<sup>11</sup> The study is being carried out by the author and Dr. Iro Mathioudaki of the University of Athens.

<sup>12</sup> From Popham 1967a to Hatzaki 2007a, with references, and of course, the contributions of Hood and Warren in this volume.

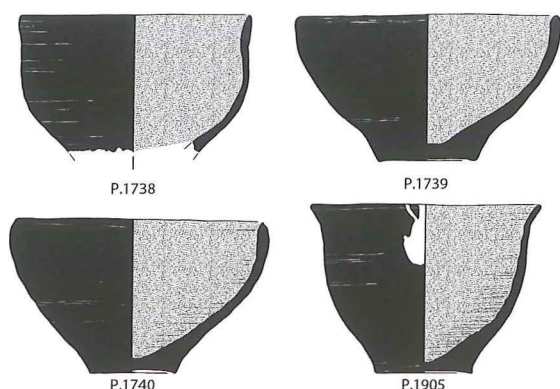


Fig. 5. LM IB monochrome wares from the House West of the Southwest House, S.VII.4: P.1738–1740, 1905.

ever, there is also another type which occurs only and in all of the Southwest House LM IB deposits, namely a thick-sectioned, small handleless cup. It is almost a miniature variety and seems reminiscent of thick-sectioned MM III examples. However, this LM IB variety is by no means crudely made and was clearly meant to be a very solid vase. I have not seen this type illustrated elsewhere, and it will be interesting to find out if it is confined to deposits of the Southwest Houses.

2. Monochrome wares: handleless bowls or cups (Fig. 5). The monochrome coating can either be red-brown or black-brown; the shape is hemispherical with no lip and a fairly narrow base – somewhat narrower than the Mochlos examples of LM IA. The shape continues from MM IIIB and LM IA where it is a notable feature of both the “KS 178 Group” from the Unexplored Mansion and the “Gypsades Well (Upper Deposit) Group” from the East-West Stairs deposit in the Palace.<sup>13</sup> This cannot be described as the equivalent in LM IB of the East Cretan ogival cup since it is by no means as popular. Plain conical and other handleless cups dominate the drinking assemblage, whereas in East Crete, conical and ogival cups can occur in roughly equal proportions, or the ogival cup can dominate.<sup>14</sup> Monochrome, conical handleless cups, rather crudely executed, may have a residual handle stump at the rim (Fig. 6).

3. Dark-on-light or monochrome wares: deep,

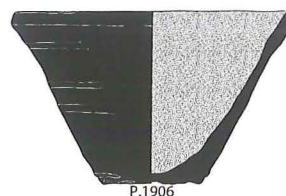


Fig. 6. Monochrome conical cup (P.1906), LM IB, from the House West of the Southwest House, S.VII.4.

hemispherical/rounded cups of fine buff clay, with pulled-rim spouts at right angles to the roll handles, which are set at 100° to the horizontal to assist in pouring (Fig. 7). These may be decorated (e.g., dark-on-light spirals or “Jackson Pollock” style<sup>15</sup>) or monochrome.<sup>16</sup>

4. Unpainted “soft sandy ware”: a deep cup in the “soft sandy ware” that first made its appearance in MM I has no lip apart from a pulled-rim spout, again with a roll handle at right angles to the spout and at 100° to the horizontal. This is always undecorated and unslipped.
5. Tripod vessels, normally called cooking pots, are similar to an unpublished series from the East-West Stairs deposit. These three vessels have short legs, ovoid in section, a conical body, lipless rim and two opposed crescent-lug handles. The clay is semi-coarse, warm or orange buff with white inclusions, not so different from the “soft sandy ware” mentioned above and not “cooking pot” ware. There are usually no signs of burning. I see no difference between the LM IA and LM IB examples of this vessel.

More generally, the secondary deposits from the LM IB Southwest Houses contain the more easily recognizable characteristics of LM IB, including sherds of the Marine Style and the Alternating Style (Fig. 7). There is also a three-handled jar derived from a MM IIIB shape and decorated with sloppily painted running spirals (Fig. 8). These are the main

<sup>13</sup> MM IIIB: Hatzaki 2007a, 166 fig. 5.6, 10. LM IA: Evans 1930, 276; Popham 1977, 194–5.

<sup>14</sup> Sackett & Popham 1970, 221.

<sup>15</sup> Hatzaki 2007a, 186 fig. 5.22,1.

<sup>16</sup> The LM IA version of this shape may more commonly have a strap handle, cf. Popham 1977, pl. 30:e–f.





Fig. 7. Decorated LM IB cups from the House West of the Southwest House, S.VII.4: P.285, 1821 and 140.

features of the S.VII.4 fills; the larger amount of material recovered from fills and destruction levels on the north side of S.VII.6 will provide more evidence to help characterize the end of LM IB at Knossos. Most of the LM IB fill levels under LM II fine unpainted sherds (Fig. 9, P.1742, 1963) as well as the fine conical cup (Fig. 9, P.1907) that becomes a hallmark of LM II–IIIA pottery deposits, indicating that both the construction of the house with the gypsum pier-and-door partitions (S.VII) and its first destruction took place within the LM II ceramic phase, and that the LM IB fills probably represent the very last products of the LM IB ceramic phase at Knossos. Fig. 10 is a very fine, decorated kylix from the LM II destruction level in S.VII.4.

Similarities between Knossian LM IB and that of LM IB Final at Mochlos are few but clear. What is quite different is what follows at Knossos. LM II sees the construction of a new house, albeit re-using much masonry, with a plan that retains clear Neopalatial traits such as the *polythyron* (Fig. 3), previously thought of as a MM III–LM I architectural device, but here constructed with gypsum paving

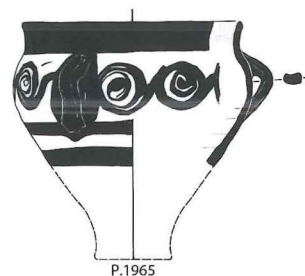


Fig. 8. Three-handled jar decorated with running spirals from the House West of the Southwest House, S.VII.4: P.1965.

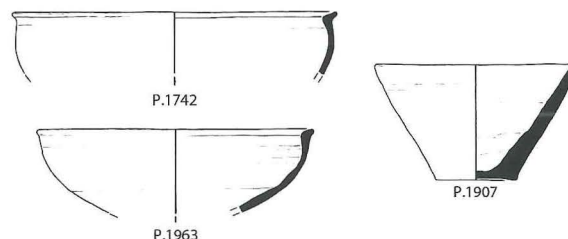


Fig. 9. LM II cup fragments (P.1742, 1963) and a fine conical cup (P.1907) typical of LM II from the “LM IB–II” construction levels in S.VII.4.

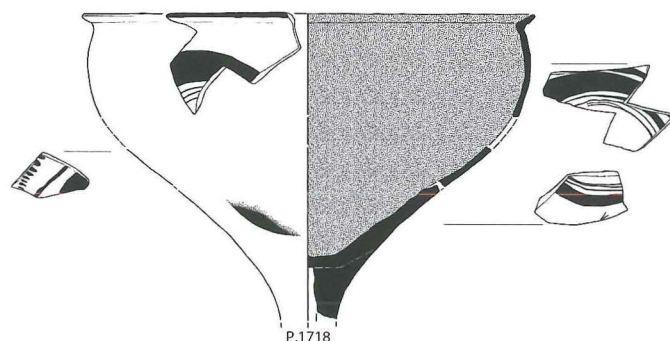


Fig. 10. LM II decorated kylix fragments (P.1718) from the LM II destruction level on top of the schist paving in S.VII.4.

on a par with that in the Palace. The last comment here should be to emphasize my initial error in dating the destruction of the Neopalatial S.VII Southwest House (as opposed to the S.V Southwest House proper) to LM IA, as opposed to LM IB, which implied some kind of gap between its destruction and the construction of the LM II house, a gap that can now disappear.



# Discussion

**Brogan** So, Colin [Macdonald], we completely agree about the lowest floor of C7 Room 1, but I wouldn't agree with the second level. That I think is LM IB. Let's see, what else did we have? We like your plain burnished early LM II, and in fact one of the most interesting and devilish horizontal-handled bowls in our deposit is a plain burnished bowl from the upper level, one of those bowls in C2, and it looks to us very late, but we could never find a good parallel for it. We should show it to you.

**Warren** I am sure we would all like to congratulate the Mochlos team not only on the very good fortune in what they have been able to find (you know archaeology is fifty percent luck and fifty percent judgment), but on the quite exceptional value of what they have been able to deliver to us through very careful analysis. With the possible exception of Khania, this must be the best site in Crete at the moment to deliver a real sequence of separate floors with masses of whole pots on each floor; we are not talking about sherds, we really are talking about vessels in use. That is material we can confidently use to draw conclusions about. I am very interested, therefore, that following your excellent paper in *Aegean Archaeology*, you came to the conclusion of an early and a later LM IB phase, which is fine, you have the evidence; and the final LM IB phase I think you rightly call LM IB. Eleni Hatzaki was saying to me, and I fully agree, that we cannot see a single trace of anything we would call LM II, in non-Mochlos terms, in the material which you have shown us. And what's more, as you carefully showed, you have got genuine LM II material in what you call the re-occupation levels. And for what it's worth, and it's perhaps a bit of a challenge to put to Phil [Betancourt], I personally couldn't see any connection between the twenty-five sherds which Phil showed us and your final Artisans' Quarter material. It is not to say that Phil hasn't got two phases, he has, but I really couldn't see any connection. In other words, you have given a picture of a final LM IB destruction of Mochlos in your final phase, which correlates perfectly with all the other sites in eastern Crete at that time and is pre-LM II in Knossian terms.

**Hatzaki** Related to your early LM IB levels, I would agree with Colin [Macdonald]. He was under the impression that some of them could be LM IA, and, in particular, the in-and-out bowls look almost as if they come from Myrtos Pyrgos. The Myrtos Pyrgos ones, unfortunately, come from dumps, and the dumps look predominantly LM IA; however, there are four Marine fragments. But it's a massive area where these dumps are, and the in-and-out bowls are plenty. Peter [Warren] referred to my comment that final LM IB has no LM II features in it. In relation to what Colin mentioned with the levels below the schist, you mention the possibility of an LM II phase basically without the existence of Ephyraean goblets? [Colin speaks off microphone—incomprehensible] Okay, I'll leave it at that then.

**Brogan** At this point we should explain what we think are the LM II features. I think, like Colin, the banded traits on the interiors of bowls are very unusual for East Crete; that would be one. The other is blob cups. We didn't really focus on that. Our paper focused on the earlier levels. But we also would draw attention to the blob cups, as several people have. We found two or three at the Artisans' Quarter. Then there is the isolation of the decoration on some of the larger jars, I think Phil [Betancourt] also makes this point, the comparison with the *horror vacui* of the true LM IB; on these later, large decorated vessels you start to get this isolation of decoration. I think that's significant, as are some of the decorative motifs, such as the scale. Also what I find very odd on those bowls is the stylization of the foliate band. By the time you reach the rounded cups (I am surprised no one commented on that), you find patterns of single lunettes that look very late to me. Compared to what Phil showed for IB, those look late.

**Barnard** Again just in comment, you were mentioning the similarities, or not being able to see similarities, between our final destruction material and Pseira's Building AF. Having seen it in person, yes, it is Mochlos material and it is our final destruction material imported from the Artisans' Quarter, there is no doubt about it, definitely, yes. It is not a great deal of material, but he definitely does have it in that phase.

**Soles** Let me just add something in response to Peter's [Warren] final comments. What was really miraculous, I think, in the Mochlos excavation was that in spite of the really scrappy nature of the LM III re-occupation, the fact that it was really on the surface of the site, we were able to isolate two phases. And it is in the early phase that we find these Ephyracan goblets, and there are a number of them. We have now been able to get some good C-14 dates from that early phase of re-occupation which will make Peter very happy and, I think, restore everyone's faith in C-14 dating, at least if it comes from Beta Analytic in Miami Beach, Florida.

**Cunningham** On your early LM IB floor. I very quickly showed some examples yesterday, but we have our earliest activity on the site after the eruption, and we know this post-dates the eruption; it's a fill of mostly LM IA material connected to the construction of a wall and, being re-deposited, I didn't think it was really of much use, but oddly enough in that material we had a bell cup like the ones you showed, which we otherwise really don't get in Palaikastro at all, and also an almost exact parallel for the crocus cup in that level, for what it's worth. Another thing I noticed, which has nothing to do with chronology, in LM IA your conical cups and cooking pots look completely different from ours, but in LM IB they are exactly the same. Ours stay the same from LM IA to LM IB comparatively, for what that's worth.

**Barnard** Yes. We can't stress enough the level, in certain artifacts, of regional differentiation and site to site differentiation. We have already seen a number of IB deposits that have cooking pots that look nothing like our IB cooking pots; it's daily use, utilitarian kitchen wares that are really going to be local, from site to site. And, it's one of the things for us that will often identify a level, even more than our decorated pottery, which we don't have that much of, so it's often crucial for each site to be able to get a hold on its own local wares, because they are so different from site to site.



- Van de Moortel** Thank you very much for this very interesting presentation, I was glad to see so many floor levels and such a lot of material to work with. But, like Peter Warren and Eleni [Hatzaki], I still don't see why it has to be LM II in Central Cretan terms.
- Brogan** We are not calling it East Cretan LM II. The latest we would say is LM IB/LM II. We have tried to show that there is a gap at the site in LM II and then it's re-occupied; at the very least it is just crossing over at the beginning of the period.
- Van de Moortel** That's not my question. Your idea that your LM IB Final is contemporary with LM II Early at Kommos, that's what I meant. So, I wonder about your Marine Style and Alternating Style. Did I hear correctly that you find those in the final LM IB levels and if so, what is their quality? Do you see any of the degeneration that Jerry talked about? Do you have any canonical pieces?
- Brogan** The Alternating Style cup is not even in the final occupation phase at the site, it's one level down. So, the Alternating Style that we have (and we don't have very much) is not even in the final destruction, it's a penultimate level. Our Marine Style pieces are always very fragmentary, we think they have already been used and have gone out of use. We feel that we are somehow through Marine Style.
- Barnard** Or, at least that we are no longer importing Marine Style, as most of our Marine Style is imported. It may still be happening elsewhere, but we are not getting it.
- Brogan** This is in contrast to Pseira, where Seager finds whole Marine Style vases. And at Gournia, Boyd finds the vases intact in many of the classic LM IB destructions. Ours are not; we find our destruction levels full of intact vases, just not Marine Style vases.
- Rutter** Not to beat a dead horse, but let's not forget the "tripus" here. I mean, excuse me, there is no way you can make that beast canonical Marine Style. It is a very rare material anywhere. We only have three pieces of it at Kommos. The fact is that that pot, which Penelope was willing to consider a "local funny" is not local, you know, it is an imported funny.
- Betancourt** One of our problems in dealing with this material is that it is filtered through several different contemporary situations, one of which is a selective production and exchange distribution system. So that a given site like Pseira can be selected for whatever social reasons to receive great amounts of Knossian Special Palatial Tradition and another site nearby at Mochlos is not selected to receive a great amount. This is a separate filter that tends to color the situation, and we have to think through that as we try to define contemporaneity.
- Cunningham** Do you have LM IA floor levels with LM IB superimposed directly on top? I mean, you made it sound like the only LM IA you have is sort of basically fills and bits and pieces. Do you have any comparable floor levels if you make your Floor 1 in that room LM IA?



**Brogan** Yes. We do. We only showed the LM IA to show you what follows it. We have two beautiful sequences of LM IA. One is five floor levels, one on top of another, again with whole objects (150–250 objects), which spans the whole chronological range. And Kellee's [Barnard] dissertation has a IA sequence with 13 levels.

[Cunningham says something off microphone]

**Brogan** No. In the road it goes straight into early IB and Seager dug into it so we lost the later LM IB floors. In the other five levels, we have a house that is probably destroyed by the eruption.

**Cunningham** My point is just that at the early stage right after the eruption you are going to have a very hard time telling not only stylistically whether it's IA or IB, but even whether or not the material is IA or IB, whether it survived, in other words, or was made more recently. You might go by something like that if, generally speaking, everything is destroyed and needs rebuilding after the eruption or if you have one instance where you actually have a room in a house that you just have purely sequential floors from pre-eruption to post-eruption with no ... see what I'm saying?

**Brogan** That's how we are interpreting C7 Room 1. The one that Colin [Macdonald] questioned, and we ourselves call LM IA/LM IB transitional.

**Cunningham** Pottery styles are not necessarily going to give you the answer, or site phasing.

**Brogan** Yes. We agree.

**Vlazaki** I would like to say to Colin that in our final destruction level we have one-handed plain cups like those that we expect to find in LM II, but, of course it is not LM II. May I ask you? Floor 1 in House C2 Room 2, where do you date it?

**Barnard** Well, those two rooms are a little difficult because there are not many whole objects in the floor material, and there is a lot of earlier material. There is a lot of IA sherd material ground up in the floor packing. The latest objects do appear to be early IB, but we have very few of them from those rooms. There are, however, on the floors standard IB ogival and conical cups, so we have to assume that the latest occupation of that lowest floor level is early IB. The earliest foundations of it might be earlier. Certainly the building is constructed as part of the presumably post-eruption reconstruction and there may have been a post-eruption IA phase that is no longer present in the artifacts but ground into the floor.

**Vlazaki** On Floor 1 you had these vases with a kind of debased foliate band, which is familiar in LM II.

**Barnard** In LM II?

**Vlazaki** Yes, I mean not the horizontal, but the other kind, like slashes, vertical.

**Barnard** Do you mean from C7? It was from C7, I think. The cup with the very black glossy slip with the vertical motifs.

**Vlazaki** House C2, Room 2, Floor 1.

**Barnard** No. That cup is from the LM IA fill.





# LM IB Petras: the pottery from Room E in House II.1\*

*Metaxia Tsipopoulou & Maria Emanuela Alberti*

## I. Introduction (M. Tsipopoulou)

For the past 23 years, archaeological investigations at Petras (Fig. 1) have shown that the primary phase of occupation was the Protopalatial period, and not the Neopalatial phase as the excavator originally believed.<sup>1</sup> The earliest occupation in the area dates to the Final Neolithic and Early Minoan I and is located on Kephala Hill. Finds were initially discovered on this hill during an intensive surface survey in 1986<sup>2</sup> and more recently, during rescue excavations on the hilltop.<sup>3</sup> From Early Minoan II onwards, the settlement at Petras witnessed a sig-

nificant change. The inhabitants moved the settlement to the neighboring rise, Hill I, which we call Petras proper, and established a cemetery of house tombs and rock shelters on Kephala Hill near the earlier settlement.

This new occupation on Hill I continued uninterrupted until the end of the LM IB period. In MM IIA a Palace was constructed on Hill I, and it was destroyed in MM IIB. The Palace was likely repaired immediately, though excavation failed to produce stratified, early Neopalatial deposits. The building was again destroyed in LM IA, and following major changes to the plan, reoccupied at a reduced scale in LM IB.

The most important LM IB changes involved the transformation of the Central Court, the abandonment of the monumental staircase, and other general modifications to circulation patterns.<sup>4</sup> It appears that the final Neopalatial phase at Petras was a period of stress and uncertainty, as suggested by the increase in storage space. Some areas of the Palace, originally equipped with flagstone floors, were now refashioned with floors of beaten earth and used for storing pithoi (and their contents). At the time of the LM IB destruction, three pithoi were being



Fig. 1. Topographical map of the excavation at Petras showing the settlement and Palace.

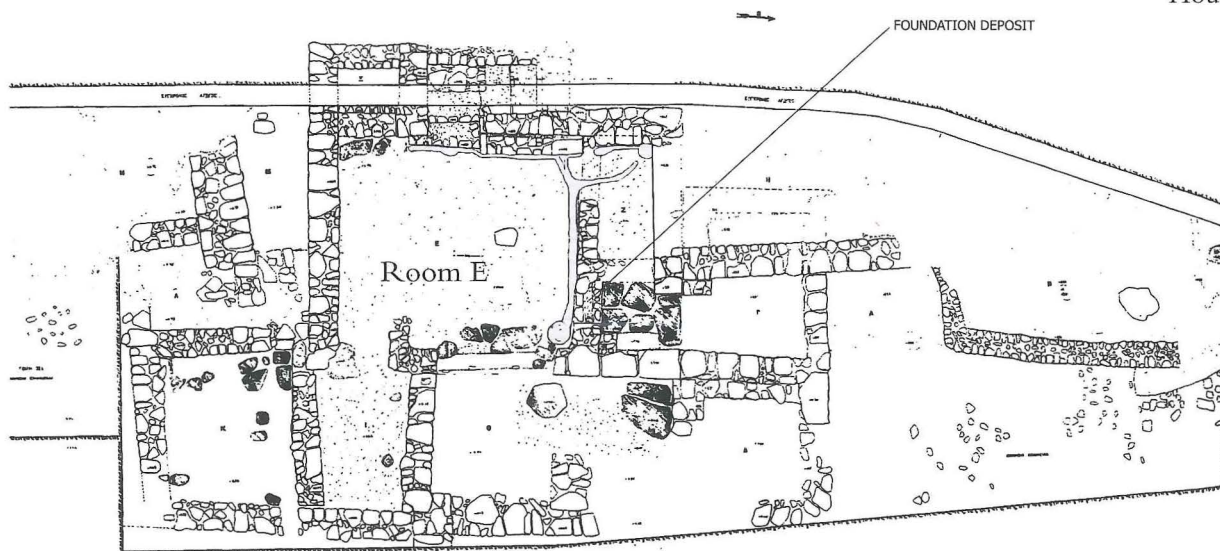
\* M. Tsipopoulou is grateful to the Ministry of Culture and the Institute for Aegean Prehistory (INSTAP) for funding both the excavation and the study. The pottery was conserved at the INSTAP Study Center in Pacheia Ammos by C. Zervaki. The excavation photographs are by the author, and those of the pottery are by G. Costopoulou. The drawings are by the author and M.J. Schumacher. The excavation plan is by M. Clontza and M. Wedde.

<sup>1</sup> Tsipopoulou 1990.

<sup>2</sup> Tsipopoulou 1990.

<sup>3</sup> Tsipopoulou forthcoming; Papadatos forthcoming.

<sup>4</sup> Tsipopoulou 2007.



stored in the Central Court, one of which carried a Linear A inscription.<sup>5</sup> An intense fire is associated with part of the destruction. On the west side of the Central Court, many ashlar blocks, including door jambs, were found fallen from the upper floor, and some of them carried mason's marks. These blocks lay in a deep (ca. 0.80 m), compact layer of burnt mudbricks, plaster, and large amounts of carbonized wood.<sup>6</sup> After the LM IB destruction, the Palace was abandoned.

An important point to keep in mind when considering the LM IB phase of the Petras Palace is the fact that this building continued to function as a palace from its MM II construction until its final destruction in LM IB. In spite of later alterations to the plan and indications that the LM IB phase may have been a stressful time, both at the site and the surrounding area, the presence of Linear A documents and centralized storage, however, indicate the presence of a palatial administration in LM IB. Moreover, the large houses of the Petras settlement show evidence of various industrial activities, but of very little large-scale storage, suggesting they were dependent on the Palace.

Following the LM IB destruction, the area of the Palace remained unoccupied until LM IIIA1, when two small buildings were constructed on either side of the Central Court. These houses had a different orientation than the earlier monumental structure

and were inhabited until the advanced LM IIIB phase, when they too were destroyed by fire. There are no architectural remains from the subsequent LM IIIC phase (at least in the excavated area of the site), with the exception of a few sherds found on the surface in the area of the Neopalatial North Magazines.<sup>7</sup>

It appears that the hill remained deserted during the Early Iron Age and later antiquity, until the 12<sup>th</sup> century AD, when a cemetery was established in the area of the Palace. Thirty-three graves of various types have been excavated, and they caused significant damage to the Minoan architectural remains in the area. Many graves were built either using standing Minoan walls or with material from them. Others were cut into the soft bedrock, thereby destroying all earlier remains down to the Early Minoan level. Some graves also cut into the thick LM IB destruction deposit.

It does not appear that the Byzantine cemetery was connected to a church. Various ceremonies, including food consumption and drinking, were conducted near the graves, as indicated by the large number of broken amphorae, drinking cups, and bowls. To give some idea of the mixed nature of the

<sup>5</sup> Tsipopoulou & Hallager 1996a; 1996b.

<sup>6</sup> Tsipopoulou 2007.

<sup>7</sup> Tsipopoulou 2007.





Fig. 3. House II.1 from the southwest.

context, two Linear A inscriptions from the West Wing of the Palace were found almost exclusively with Byzantine pottery. Furthermore, as its name (Petras) indicates, the site has served as a quarry for building material for the general Siteia area since ancient times, though especially in the Middle Ages and more recently. These factors have all caused major disturbances to the Minoan levels on the hill, and consequently, the LM IB deposits of the Palace were not well preserved and were too small to play a significant role in a general discussion on LM IB pottery.

## II. House II.1 (M. Tsipopoulou)

At Petras three sectors of the settlement have been excavated to date: I, II and III (Fig. 1). Sector I revealed a large, two-story Neopalatial house, House I.1, which was abandoned in LM IA.<sup>8</sup> Another large Neopalatial structure, House II.1, was excavated in Sector II. This house was constructed in LM IA and repaired after having been destroyed, probably by an earthquake. In its final phase, which is dated to LM IB, the function of the rooms on the ground floor changed, and the spaces were converted into an industrial area.<sup>9</sup> House II.1 (Fig. 2) is the only context at Petras with clear and adequate LM IB destruction deposits, and for this reason, it was chosen for presentation at the conference.

In Sector III, which is located immediately to the north and west of Sector I, we had initially hoped to excavate another Neopalatial house, but

the architectural remains were not well preserved. Only three rooms contained adequate floor deposits, and these were dated to LM IA; it is not clear, however, that they belong to the same building.

Although significant evidence for the urban arrangement of the settlement was not uncovered, due to poor preservation in this area, several deep stratigraphic soundings have revealed interesting details for the history of occupation at the site. In contrast to sites like Mochlos, Palaikastro, Gournia, or Zakros, the Neopalatial settlement at Petras has not been extensively excavated. This was the result of both limited funding and our research strategy, which focused primarily on the recovery and study of stratigraphic sequences in order to reconstruct a diachronic history of occupation at the site.

Because the LM IB deposits from the Palace are not substantial, this presentation will focus on the clear LM IB deposits from House II.1 and, in particular, Room E. The architecture and stratigraphy of this building were the focus of Nektaria Mavroudi's MA thesis at the University of Crete.<sup>10</sup>

This large, two-story Neopalatial building (Fig. 3) is situated on the lower part of the eastern slope of Petras Hill. Parts of the house were built directly on bedrock, and thus no traces of Protopalatial occupation were preserved in this part of the site. The house was later damaged, probably by an earthquake in LM IA, and then immediately repaired. It

<sup>8</sup> Tsipopoulou & Dierckx 2006.

<sup>9</sup> For a description of the building, see Tsipopoulou & Hallager 1996a.

<sup>10</sup> Mavroudi 2004.





Fig. 4. Room E with *gournes* and drains from the northeast.

continued to be occupied, with various modifications to both the plan and function of the ground floor rooms, until its final destruction and abandonment in LM IB. One interesting feature of the LM IB reconstruction is the “ritual (or foundation) deposit” found inside a blocked door in the east wall of Room E (Fig. 2). The offering consisted of a few conical cups and a juglet.

Room E is located on the ground floor of House II.1 and has a roughly square plan. It was initially designed as a Minoan Hall, equipped with a wooden *polytheron*, a large stone bench, and a plaster floor of good quality. A staircase, partially cut in the bedrock, led to rooms on the upper story. In the final phase of the building, Room E was refashioned with a system of drains and *gournes*, which were cut into the floor (Fig. 4). The presence of these features, together with a large number of tripod cooking pots and some portable stone *gournes*, in both Room E and other areas of House II.1, suggest that industrial activities were undertaken in this part of the house. These finds would have been suitable for washing and dyeing wool and the production of aromatics. A *nodulus* inscribed in Linear A came to light in another room of the house; it was inscribed with the pictogram of special (perfumed) oil.<sup>11</sup> Some of the conical cups and several loomweights from House II.1 also bear the incised pictogram for cloth.<sup>12</sup> The combination of this evidence suggests that the house may have served as the locus for a local wool industry, probably connected with (and controlled by) the Palace, which is located less than 100 m from House



Fig. 5. House II.1. Room E. The “cupboard” from the southeast.

II.1. One feature noticeably absent from this house was large scale storage.

In the second half of this paper, Alberti presents the large amount of cooking ware and other plain vases, such as kalathoi and conical cups, which were found in House II.1, particularly in Room E. This context offers a unique opportunity at the site to study these shapes, which are otherwise often neglected in reports. It appears that Room E was also provided with a stone cupboard, which probably supported wooden shelves, on which large numbers of cups were stored by shape (Fig. 5).

The upper floor, which appears to have served as the living quarters, contained significant numbers of decorated vessels, some of which were found on the steps of the staircase. These vases are also included in the presentation.

The stratigraphy of Room E consisted of the following levels:

- a) A disturbed layer of surface material containing mixed pottery, some of which had clearly been re-deposited from contexts further up the slope. This material is not included in the present publication.
- b) The upper floor deposit, which contained fragmentary pottery and many fallen stones.
- c) The main floor deposit on the ground floor. Because the bedrock was cut down to serve as the floor surface of the room and then covered by plaster, there were no earlier strata preserved in Room E.

<sup>11</sup> Tsipopoulou & Hallager 2006a.

<sup>12</sup> Burke 2006; Tsipopoulou 2007.

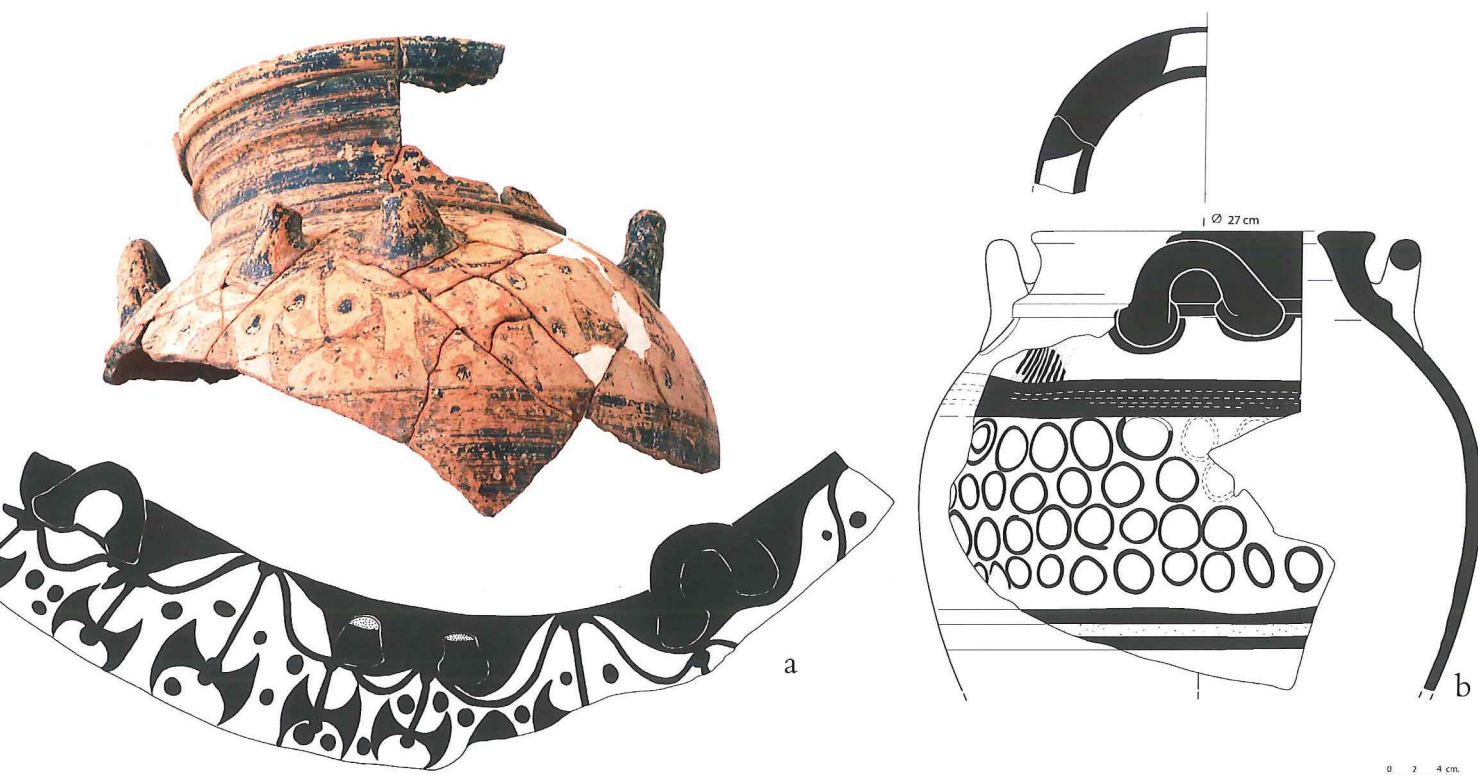


Fig. 6. a) Pithos SM no. 11659; b) pithos P90/1254. (Scale 1:6).

### III. The fine ware and non-cooking coarse wares (M. Tsipopoulou)

The total amount of pottery analyzed for this paper weighed 179.250 kg. Inventoried pottery (i.e., complete or fragmentary vessels preserving a full profile) weighed 76.992 kg; this consisted of 26.938 kg from Level 1 (the upper floor level), 35.554 kg from Level 2 (the layer above the floor deposit), and 14.500 kg from Level 3 (the floor deposit). The remaining sherds weighed 102.258 kg, including 67.904 kg from Level 1, 24.730 kg from Level 2, 8.152 kg from Level 3, 0.872 kg from the cupboard, and 0.600 kg from the staircase. The total weights for each level are 94.842 kg for Level 1, 60.284 kg for Level 2, 22.652 kg for Level 3, 0.872 kg for the closet, and 0.600 kg for the staircase.

#### *Shapes*

##### 1. Pithoi

It is interesting to note that no medium or large

coarse pithoi of the Minoan type with plastic rope decoration were found in House II.1. This may be an indication that the occupants of the house, who were perhaps specializing in textile production, were dependent on the Palace.<sup>13</sup> Two fragmentary decorated jars, originally 80 cm in height, were recovered, however. The first (Fig. 6a) has a high, square neck and four horizontal handles on the shoulder. It is decorated with a frieze of pendent double axes and festoons on the upper body.<sup>14</sup> This is one of the most impressive Neopalatial vessels yet recovered at Petras, and the only one with pictorial decoration. It was found on the staircase, having fallen from the upper story. The jar is made of the orange to brown-orange clay that is typical of the Palaikastro area, and it is probably an import from that region. A second medium-sized pithos (Fig. 6b) from the same context was made of similar clay. This vessel has a low neck and four horizontal handles. It

<sup>13</sup> Christakis 2008, 93, 110.

<sup>14</sup> For a parallel from Zou, see Platon 1956, pl. 112a.





Fig. 7. Jugs: a) P90/424; b) P89/483. Decorated jugs: c) P89/486; d) 90/1559; e) P89/1050; f) P90/1558; g) P90/1544. Wide-mouthed jug: h) P90/1262. Jugs: i) P90/1486; j) P90/862. Miniature jugs: k) P90/269; l) P89/244/12; m) P90/268; n) P89/1052. (c-g not to scale).



was decorated with careless rows of small circles, possibly in imitation of the LM I conglomerate pattern.<sup>15</sup>

**SM no. 11659.** Pithos mended from many sherds. Pres. h. 27 cm, rim d. 28.7 cm. Rim, neck and upper body fragment, two horizontal handles and part of a third. Medium orange clay with many inclusions and a thick gray core; thick yellowish slip; brown-black lustrous worn paint; uneven firing.

**P90/1254** Pithos mended from many sherds. Pres. h. 37 cm, max. pres. d. 38 cm. Rim and body fragments, non-joining small fragment from the base. Medium orange clay with many inclusions and a thick gray core; thick yellowish slip; black-brown matte worn paint.

## 2. Jugs

a) A group of fragmentary jugs was found in the collapsed upper floor deposit. These vessels have narrow torus bases and oval or piriform bodies. Some are plain, while others are decorated with rows of spirals and stylized floral motifs, which find close parallels at Mochlos and Papadiokampos (Fig. 7a-g, j).<sup>16</sup>

b) The house also contained wide-mouthed jugs (Fig. 7h) like those reported from the LM IB deposits at Mochlos<sup>17</sup> and House N at Palaikastro.<sup>18</sup> The best preserved example is decorated with brown paint and highlights of added white, which is a rare but not unknown feature in LM IB deposits in eastern Crete.

c) A third type of jug (Fig. 7i) has an oval body and a flat base that is broader than those of the first type.

d) The fourth type of jug includes various miniature forms, which are rare at Petras in general, but not for House II.1. These vessels typically have globular bodies and are unpainted or monochrome (Fig. 7k-n). The preserved rims are trefoil in shape. It is interesting to note that in addition to jugs, House II.1 also contained a variety of miniature vessels (e.g., miniature conical cups, which are discussed below). It is certainly possible that the miniature vessels had a particular function, such as measuring small quantities of some substance, perhaps a special oil or dye. Unfortunately, it was not possible to collect samples for organic residue analysis at the time of excavation. Similar miniature vases have been found in the LM I levels at Papadiokampos and Mochlos, some in foundation deposits.<sup>19</sup>

**P89/244/12.** Jug. Pres. h. 15.7 cm, base d. 4.0 cm. Fine yellowish clay with inclusions; self-slip.

**P89/483.** Jug mended from five sherds. Pres. h. 13.1 cm, base d. 7.1 cm, max. pres. d. 13.7 cm. Fine yellowish clay with inclusions; thick slip of the same color.

**P89/486.** Jug, three non-joining fragments. Max. pres. dim. 9.0 x 4.3 cm. Buff, fine clay; thick slip of the same color; red paint. Parallels for the shape from Mochlos (Barnard & Brogan 2003, fig. 54, IB.620); for similar spirals, also from Mochlos (*supra* fig. 22, IB.322).

**P89/1050.** Jug. Body fragment. Max. pres. dim. 7.0 x 5.8 cm. Orange buff, fine clay; thick slip of the same color; reddish-brown paint; uneven firing.

**P89/1052.** Miniature jug. H. 6.4 cm. Buff medium clay with inclusions and a gray core; self-slip.

**P90/268.** Miniature jug mended from two sherds. H. 7.6 cm, base d. 4.0 cm, rim d. 3.8 cm, max. d. 6.2 cm. Yellowish fine clay; self-slip; black paint, ranging to reddish; uneven firing (similar to Barnard & Brogan 2003, fig. 24, IB.333, pl. 14).

**P90/269.** Miniature jug. H. 7.7 cm, base d. 4.0 cm, rim d. 3.8 cm, max. d. 6.2 cm. Fine yellowish clay; self-slip; traces of brown matte paint suggesting it was monochrome.

**P90/424.** Jug. Pres. h. 9.3 cm, base d. 6.0 cm, max. pres. d. 11.2 cm. Fine orange clay with few inclusions; orange worn paint (cf. Barnard & Brogan 2003, fig. 54, IB.620).

**P90/862.** Jug. Pres. h. 22 cm, base d. 7.7 cm. Medium yellowish clay; self-slip.

**P90/1262.** Side-spouted jug mended from three sherds. Pres. h. 4 cm, rim d. 12.6 cm. Buff fine clay; self-slip; reddish-brown paint; uneven firing (cf. similar profile and decoration in Barnard & Brogan 2003, fig. 22, IB.320; fig. 23, IB.323, IB.326).

**P90/1486.** Jug mended from seven sherds. Max. pres. dim. 12.8 x 12.4 cm. Fine orange clay with few inclusions; buff, thick slip; brown lustrous paint and added white paint (cf. identical profile with a similar system of bands on the lower body in Barnard & Brogan 2003, fig. 20, IB.308).

**P90/1544.** Jug mended from five sherds. Max. pres. dim. 9.6 x 6.8 cm. Fine orange buff clay; self-slip; reddish-brown paint; uneven firing (for similar decoration on a

<sup>15</sup> For a parallel from Ialysos, see Niemeier 1980, 38, no. 6 (dated Sub-LM IA).

<sup>16</sup> Barnard & Brogan 2003, figs. 21–3; Brogan, Sofianou & Morrison in this volume.

<sup>17</sup> Barnard & Brogan 2003, figs. 22–3.

<sup>18</sup> Sackett & Popham 1970, figs. 11, 14.

<sup>19</sup> Pers. comm. with Ch. Sofianou & T. Brogan; for the shapes, see Barnard & Brogan 2003, fig. 18, IB.306; fig. 28, IB.366, IB.367.

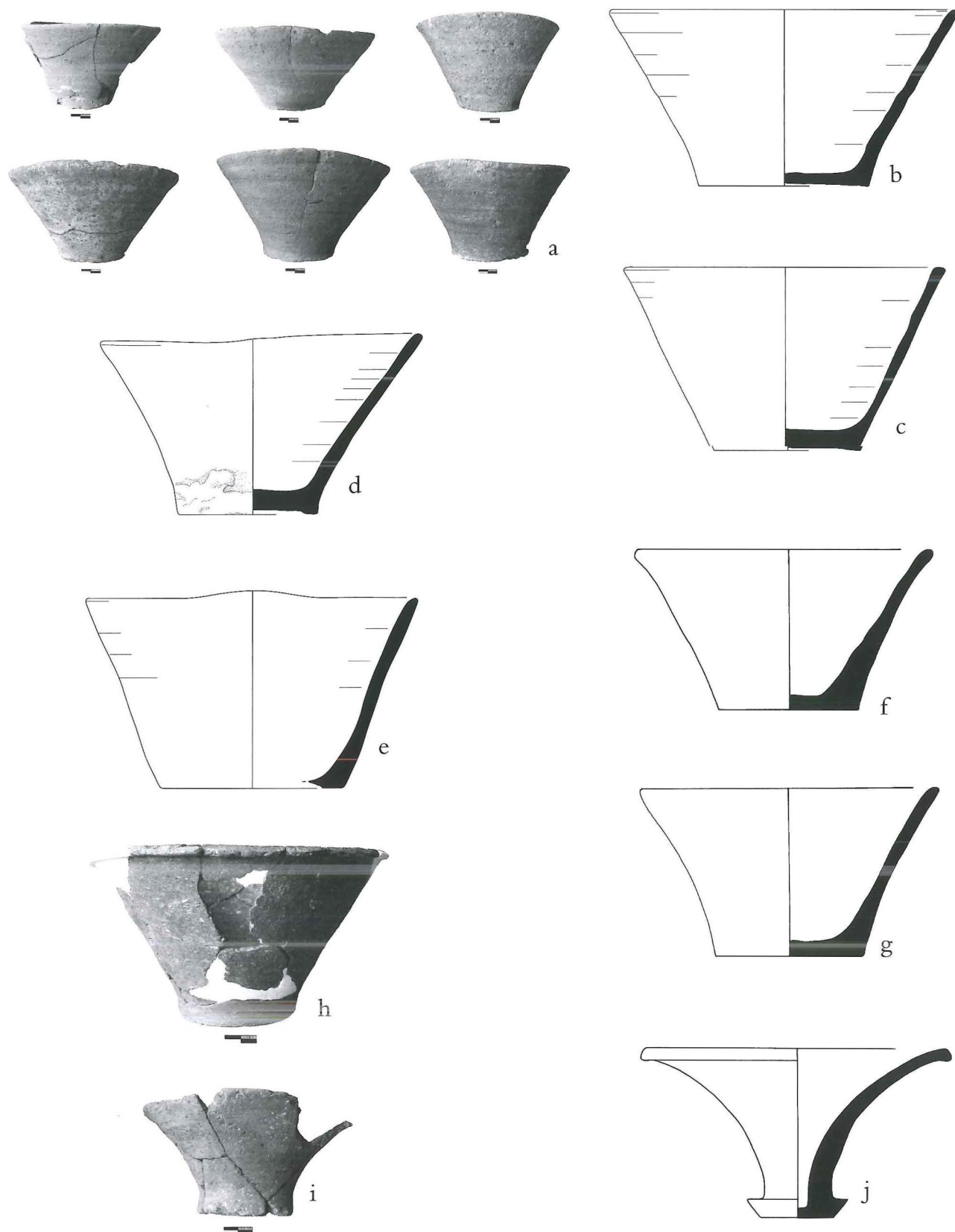


Fig. 8. Kalathoi from floor of Room E: a) Type 1: b) P89/478; c) P90/808. Type 2: d) P90/1526; e) P90/1037. Type 3: f) P90/267; g) P90/890. Type 4: h) P89/484; i) P90/1482. Type 5: j) P90/921.



side-spouted jug from Mochlos, see Barnard & Brogan 2003, fig. 27, IB.353).

**P90/1558.** Side-spouted jug. Max. pres. dim. 7.2 x 9.5 cm. Fine buff clay; thick slip of the same color; red paint ranging to brown-black and added white paint; uneven firing (for a similar arrangement of a different type of spiral, see Barnard & Brogan 2003, fig. 23, IB.326; for a similar arrangement of bands on the lower body, *supra*, fig. 23, IB.323).

**P90/1559.** Jug mended from six sherds. Max. pres. dim. 7.6 x 12.4 cm. Fine buff clay; thick slip of the same color; brown-reddish lustrous paint and added white paint.

### 3. Kalathoi

A large number of kalathoi were found on the floor of Room E (Fig. 8a). This shape, with a flat base, conical body and rounded or thin rim, is uncommon at other sites in LM IB. All examples are made of medium clay with many inclusions, are self-slipped, and show wheel marks, especially on the interior surface. The clay is always medium, either the Petras yellowish variety or the orange of Palaiakastro. The kalathoi are all slipped, but never decorated. Their heights vary between 7.8 and 10 cm, with the majority measuring from 9 to 9.9 cm; base diameters vary between 5 and 9.5 cm, with the majority from 7.5 to 8 cm, and the rim diameters vary between 15.7 and 18.2 cm, with the majority from 17.5 to 18 cm.

In House II.1, the kalathoi can be sorted by capacity, suggesting a potential connection with a special industrial activity located in Room E. One possibility is that these vessels were used to measure different weights or volumes of a liquid or solid material. The first group (Fig. 8b-c) has a capacity of 1.2 liters, while the second group (Fig. 8d-e), which includes slightly coarser examples, has a capacity of 1 liter. The third group (Fig. 8f-g), with a more convex profile, has a capacity of 0.8 liter. A final group includes two kalathoi made of medium red clay with pronounced flaring rims. One has a capacity of 1.8 liters and the other of 0.6 (1/3 the capacity of the larger vessel) (Fig. 8h-i). This shape is unusual at Petras, but a close parallel was found at Kamilari.<sup>20</sup> Another version, which is similar in shape and made from the same red clay, has a pronounced, narrow torus base, and could actually be called a fruit stand (Fig. 8j). This last example was

originally on the upper floor of the building, and therefore probably used for a different purpose than the kalathoi on the ground floor.

**P89/478.** Kalathos. H. 9.3 cm, base d. 9.1 cm, rim d. 18.2 cm. Reddish medium clay with inclusions; self-slip.

**P89/484.** Kalathos, mended from 20 sherds. H. 12.2 cm, base d. 8.2 cm, rim d. 19.8 cm. Reddish medium clay with many inclusions; self-slip.

**P90/267.** Kalathos. H. 9 cm, base d. 7.5 cm, rim d. 17 cm. Orange medium clay; self-slip.

**P90/808.** Kalathos rim mended from three sherds. Pres. h. 7.8 cm. Brown medium clay; self-slip.

**P90/816.** Kalathos. H. 8.4 cm, base d. 5 cm, rim d. 18–19 cm. Orange medium clay; self-slip.

**P90/855.** Kalathos. H. 9.2 cm, base d. 7.6 cm, rim d. 18 cm. Yellowish-orange medium clay; self-slip.

**P90/857.** Kalathos mended from eight sherds. H. 10 cm, base d. 7.2 cm, rim d. 18.2 cm. Orange-grayish medium clay; self-slip.

**P90/869.** Kalathos. H. 9.2 cm, base d. 8.7 cm. Yellowish medium clay; self-slip.

**P90/890.** Kalathos. H. 9 cm, base d. 8.2 cm, rim d. 17.5 cm. Yellow-grayish medium clay; self-slip.

**P90/921.** Kalathos base. H. 9 cm, base d. 6 cm. Yellowish medium clay; self-slip.

**P90/1037.** Kalathos. H. 9.4 cm, base d. 7.4 cm. Dark orange medium clay; self-slip.

**P90/1482.** Kalathos rim mended from eight sherds. H. 9 cm, base d. 7.1 cm, rim d. 17 cm. Reddish medium clay with many inclusions; self-slip.

**P90/1526.** Kalathos base mended from nine sherds. H. 9.8 cm, base d. 10 cm. Light orange medium clay; self-slip.

### 4. Cups

Room E contained a large number of decorated and undecorated cups of various types.

a) Decorated conical, handleless cups (Fig. 9a-c). The bases of these cups are not preserved, but they were probably similar to those from Mochlos.<sup>21</sup> The bodies are conical or with a slightly convex profile. The clay is fine and varies in color from buff to buff orange or reddish-brown. The slip is buff, while the paint is red or reddish-brown. The exterior surfaces are decorated with zones of linear motifs like spirals, rows of solid circles, or careless zig-zags, while the interiors are monochrome.

<sup>20</sup> La Rosa & Cucuzza 2001, fig. 260, XX-17.

<sup>21</sup> Barnard & Brogan 2003, fig. 3, IB.149, IB.156; fig. 9, IB.229.



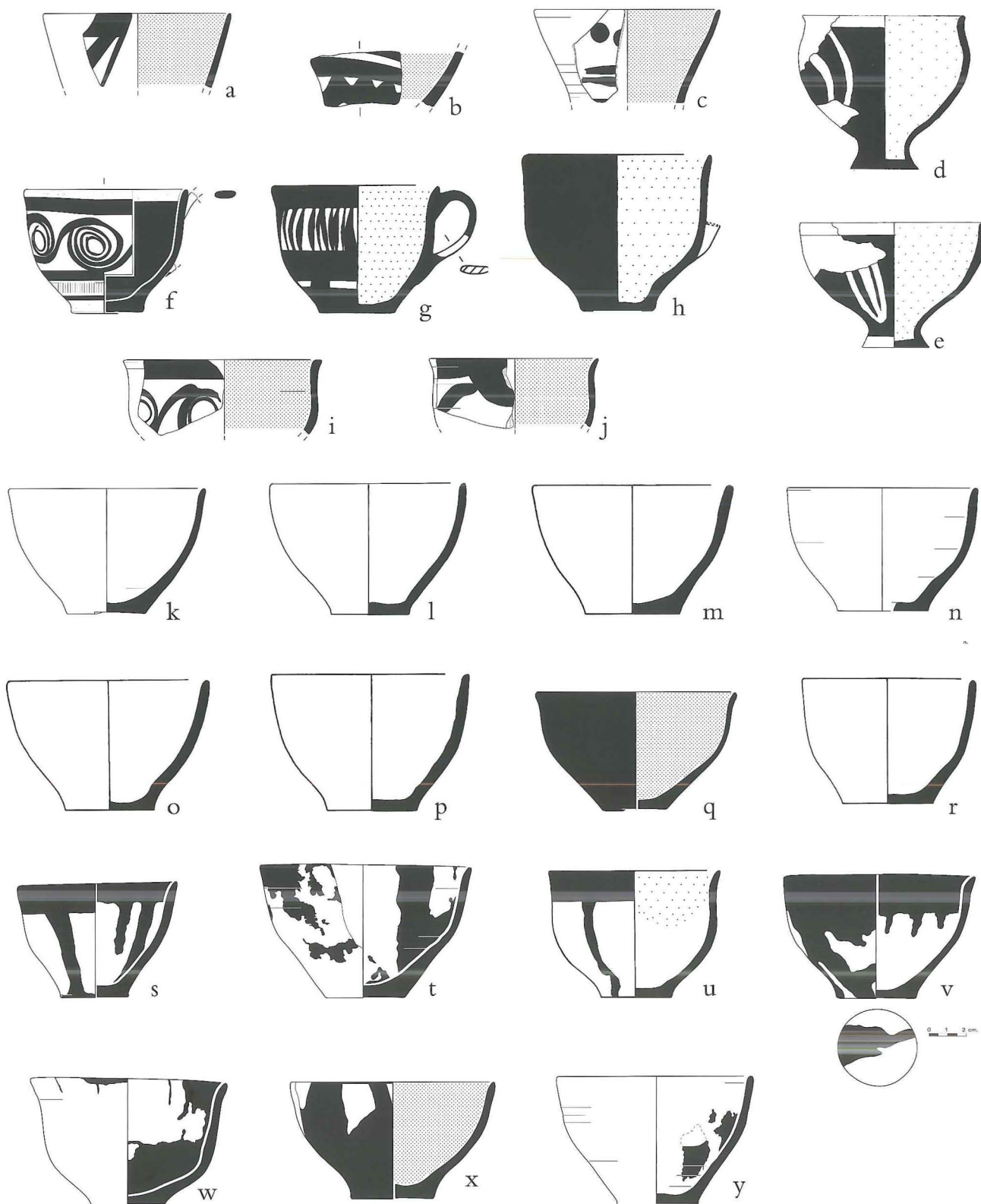


Fig. 9. Cups. Conical cups with painted decoration: a) P90/1537; b) P90/141/5; c) P89/1053. Globular cups with light-on-dark decoration: d) P90/861; e) P90/1472. One-handed decorated bell cups: f) P90/626; g) P90/1023; h) P90/357; i) P90/103/1+5; j) 89/189/4. Plain ogival cups: k) P90/408; l) P90/1025; m) P90/602; n) P89/1041; o) P90/894; p) P89/552; q) P89/477; r) P90/875. Ogival cups decorated with dribbles: s) P90/1535; t) P90/1499; u) P90/225; v) P90/950; w) P90/459; x) P89/601; y) P90/1521.

**P89/1053.** Cup rim and body fragment. Max. pres. dim. 6.8 x 2.6 cm. Fine buff clay; self-slip; reddish-brown paint.

**P90/141/5.** Cup body fragment. Max. pres. dim. 2.9 x 4.8 cm. Fine buff clay; self-slip; red paint.

**P90/1537.** Cup rim and body fragment. Max. pres. dim. 4.1 x 2.2 cm. Fine buff clay; thick slip of the same color; red matte worn paint.

b) A particularly rare type of LM IB cup (Fig. 9d-e) was found in Room E of House II.1. It has a depressed semiglobular body, a pronounced low foot, and was decorated with simple curvilinear motifs in light-on-dark. The clay is fine and brown in color, and is probably not local to Petras. The paint is dark brown and matte, while the motif is added in white paint. The closest parallels come from Mochlos, where the vessel also does not commonly occur.<sup>22</sup>

**P90/861.** Cup base and rim. Max. pres. dim. 7.8 x 4 cm. Fine brown clay; self-slip; dark brown matte paint and added white paint.

**P90/1472.** Cup. H. 7.4 cm, rim d. 9.2 cm. Fine brown clay; self-slip; dark brown matte paint and added white paint.

c) One-handled, decorated bell cups (Fig. 9f-j) have a slightly raised base, out-curving rim, and handle that is elliptical in section. Their heights range between 5.4 and 6.7 cm, the base diameters between 3.0 and 3.8 cm, and the rim diameters between 6.8 and 7.6 cm. The clay is fine and of buff or yellowish color. The cups are usually self-slipped, and in one case, the slip is thick and of the same color as the clay. Some examples are monochrome on the interior and exterior. The paint is black or reddish-brown, and the decoration, arranged in a single zone, covers most of the body surface. The motifs include spirals, vertical strokes, and a stylized floral motif.

**P89/189/4.** Cup rim. Max. pres. dim. 3.9 x 4.7 cm. Fine buff clay; self-slip; reddish-black worn paint.

**P90/103/1+5.** Cup rim. Max. pres. dim. 3.7 x 7.7 cm. Fine buff-orange clay; buff slip; reddish-brown very worn paint; uneven firing. Similar in shape and decoration to cups from Mochlos, which also have a monochrome interior (Barnard & Brogan 2003, fig. 6).

**P90/357.** Cup. H. 5.4 cm, base d. 3.4 cm, rim d. 6.8 cm. Fine buff clay; self-slip; brown paint; uneven firing.

**P90/626.** Cup. H. 6.3 cm, base d. 3.8 cm, rim d. 7.3 cm. Fine yellowish clay; thick slip of the same color; black

worn paint and added red paint (cf. Barnard & Brogan 2003, fig. 9, IB.225).

**P90/1023.** Cup. H. 6.7 cm, base d. 3 cm, rim d. 7.6 cm. Fine buff clay; self-slip; reddish-brown paint; uneven firing.

d) Plain ogival cups (Fig. 9k-r) are not as common as handleless conical cups, though they are made of the same clay. There are 47 examples preserving a full profile and at least 379 additional fragmentary examples. The first group of ogival cups consists of two undecorated types with similar profiles. Another group (Fig. 9s-y) is decorated with dribbles or splashes of paint, or was dipped in paint. This decoration first appears at Petras at the beginning of Middle Minoan I and remains popular in the Protopalatial and Neopalatial periods. The dipped version has also been found at Mochlos in LM IB.<sup>23</sup> A third group with both a monochrome interior and exterior includes the majority of the ogival cups (Fig. 10a-l); in a few cases, these cups are monochrome on the exterior with a band on the interior.

**P89/473.** Ogival cup. H. 7.6 cm, base d. 4.2 cm. Fine orange buff clay with inclusions; self-slip.

**P89/477.** Ogival cup. H. 6.7 cm, base d. 3.7 cm, rim d. 10.2 cm. Fine orange-buff clay; self-slip.

**P89/552.** Ogival cup mended from five sherds. H. 7.2 cm, base d. 4 cm, rim d. 11 cm. Fine buff clay; self-slip.

**P89/554.** Ogival cup. H. 6.2 cm, base d. 4 cm. Fine yellowish clay with inclusions; self-slip.

**P89/601.** Ogival cup. H. 6 cm, base d. 4.3 cm. Fine buff-orange clay; self-slip.

**P89/1041.** Ogival cup. H. 6.7 cm, base d. 4.3 cm, rim d. 9.5 cm. Fine orange clay; self-slip.

**P90/225.** Ogival cup. H. 8.8 cm, base d. 3.9 cm, rim d. 10 cm. Fine orange clay; self-slip; brown-black worn paint; uneven firing.

**P90/408.** Ogival cup. H. 6.5 cm, base d. 4.1 cm. Fine buff-orange clay with inclusions; buff slip.

**P90/459.** Ogival cup. H. 6.7 cm, base d. 4.2 cm, rim d. 10.6 cm. Fine yellowish clay; self-slip; brown-black worn paint; uneven firing (for the shape, see Barnard & Brogan 2003, fig. 4, IB.161).

**P90/602.** Ogival cup. H. 6.4 cm, base d. 4.4 cm. Fine buff clay; black worn matte paint.

**P90/819.** Ogival cup. H. 6.7 cm, base d. 4.7 cm, rim d. 10.3 cm. Fine buff clay with few inclusions; self-slip; orange worn paint.

<sup>22</sup> Barnard & Brogan 2003, fig. 5, IB.187, IB.189.

<sup>23</sup> Barnard & Brogan 2003, fig. 5, IB.197.



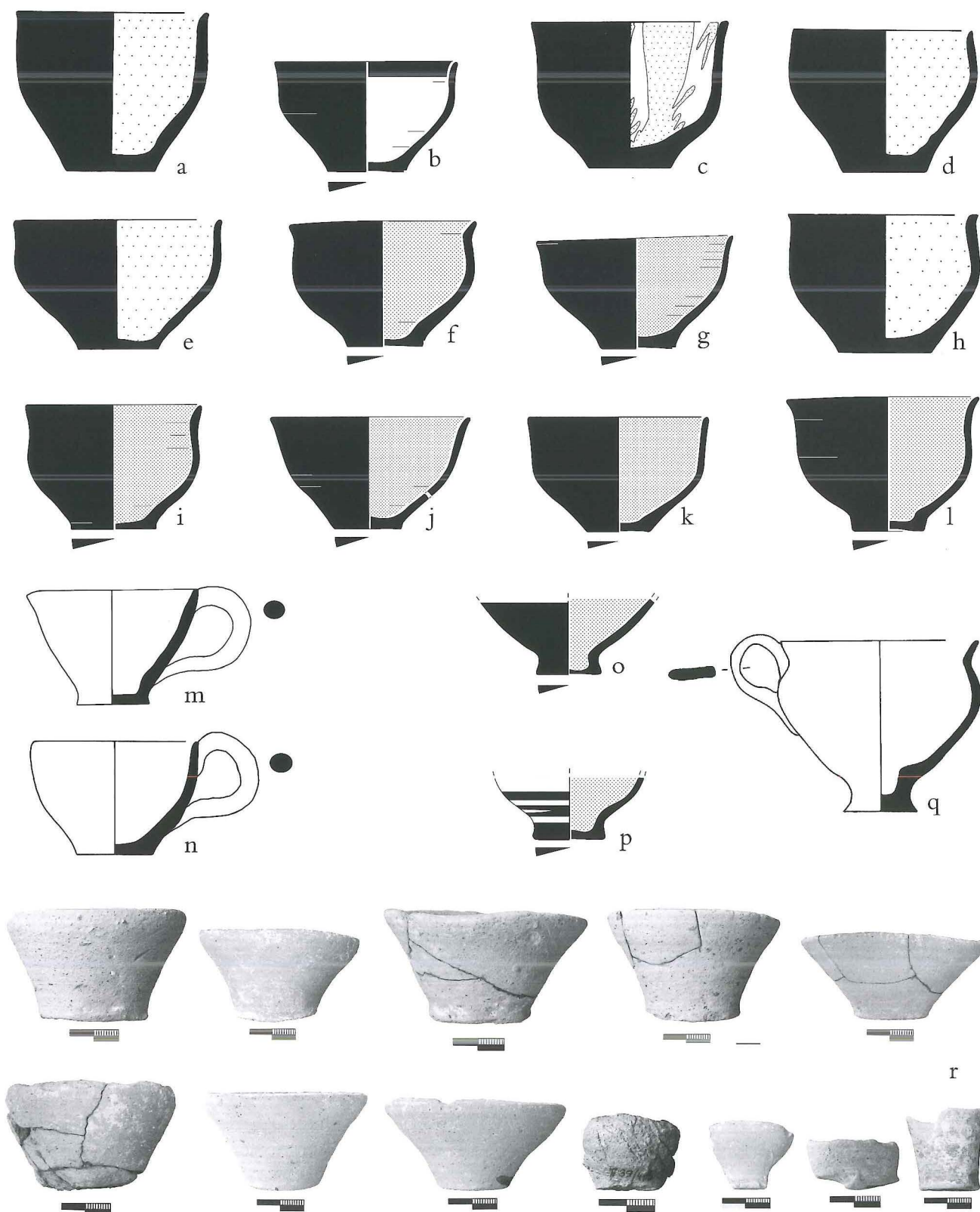


Fig. 10. Monochrome ogival cups: a) P89/473; b) P90/819; c) P90/950; d) P89/554; e) P90/910; f) P90/952; g) P90/1040; h) P90/990; i) P90/1477; j) P90/1511; k) P90/954; l) P90/951. Not to scale. One-handed conical cups: m) P90/343; n) P90/1016. One-handed (or handlesless) footed cups: o) P90/428, p) P90/87/2, q) P90/1020. Conical cups: r).



- P90/854.** Ogival cup mended from seven sherds. H. 7 cm, base d. 3.8 cm, rim d. 10.3 cm. Fine pinkish clay; whitish slip.
- P90/871.** Ogival cup mended from two sherds. H. 5.9 cm, base d. 4.6 cm, rim d. 9.9 cm. Fine buff clay; self-slip; brown paint, ranging to black; uneven firing.
- P90/875.** Ogival cup mended from six sherds. H. 6.7 cm, base d. 5 cm, rim d. 10 cm. Fine buff clay; self-slip.
- P90/894.** Ogival cup. H. 6.8 cm, base d. 4.4 cm, rim d. 10.2 cm. Orange medium clay; self-slip.
- P90/907.** Ogival cup mended from three sherds. H. 6.7 cm, base d. 3.7 cm. Orange fine clay with few inclusions; self-slip; orange-reddish paint, ranging to brown and black; uneven firing.
- P90/910.** Ogival cup. H. 5.8 cm, base d. 3.8 cm. Fine yellowish clay; self-slip.
- P90/950.** Ogival cup. H. 7 cm, base d. 3.7 cm, rim d. 9.9 cm. Fine light orange clay; thin slip that is lighter than the clay; brown-black worn paint; uneven firing.
- P90/951.** Ogival cup. H. 7.2 cm, base d. 4 cm, rim d. 9.7 cm. Fine orange clay; orange paint ranging to dark brown and black; uneven firing.
- P90/952.** Ogival cup. H. 6.6 cm, base d. 4 cm, rim d. 9.5 cm. Fine buff clay; worn black matte paint.
- P90/954.** Ogival cup mended from six sherds. H. 3.8 cm, base d. 4 cm, rim d. 8.5 cm. Fine buff clay with inclusions; self-slip.
- P90/1025.** Ogival cup mended from 14 sherds. H. 6.8 cm, base d. 4.1 cm, rim d. 10.4 cm. Orange medium clay; thick slip of the same color.
- P90/1040.** Ogival cup. H. 6 cm, base d. 4.4 cm. Orange medium clay; self-slip.
- P90/1477.** Ogival cup. H. 5.4 cm, base d. 3.6 cm. Fine buff clay with inclusions; self-slip.
- P90/1511.** Ogival cup. H. 6.4 cm, base d. 4 cm. Fine yellowish clay; buff slip.
- P90/1521.** Ogival cup. H. 7.1 cm, base d. 4.5 cm, rim d. 10.8 cm. Fine yellowish clay; self-slip; traces of black paint on the interior surface.
- P90/1534.** Ogival cup mended from four sherds. H. 5.6 cm, base d. 3.7 cm. Fine buff clay with few inclusions; thin slip, lighter in color than the clay; dark brown-black paint; uneven firing.
- P90/1535.** Ogival cup mended from four sherds. H. 5.9 cm, base d. 3.7 cm. Fine buff clay with few inclusions; self-slip.

e) One-handled conical cups (Fig. 10m-n) form a small group. They are made of medium orange clay with rather thick walls and are unpainted.

- P90/343.** Cup. H. 6.4 cm, base d. 4.2 cm, rim d. 9.4 cm. Fine light orange clay with few inclusions; self-slip (for a parallel from Mochlos with a band on the rim, see

Barnard & Brogan 2003, fig. 3, IB.157).

- P90/1016.** Cup. H. 6 cm, base d. 4.1 cm, rim d. 9.8 cm. Buff-orange medium clay; self-slip.

f) One-handled (or handleless) footed cups represent (Fig. 10o-q) a shape common in LM IB. These cups are important chronological markers because none have yet been found at Petras in contexts associated with the LM IA destruction, but instead they have only been recovered in the LM IB levels of Room E. A complete footed cup was recovered from the cupboard. Most are plain or monochrome, but one example is decorated with bands on the lower body below a frieze of spirals or schematized floral ornament.<sup>24</sup>

- P90/87/2.** Footed cup. Pres. h. 6 cm, base d. 4.1 cm. Fine orange clay; self-slip; reddish paint.
- P90/428.** Footed cup. Pres. h. 7.8 cm, base d. 3.9 cm. Fine orange clay; uneven firing.
- P90/1020.** One-handled footed cup. H. 9.4 cm, base d. 4 cm, rim d. 10 cm. Orange medium clay; self-slip; worn surface.

#### g) Conical cups

Handleless conical cups (Fig. 10r) were found in large numbers in Room E. Some had fallen from the upper floor, but most were found on the ground floor, some inside tripod cooking pots or carefully stored in the cupboard in the corner of the room. There are 118 examples preserving a complete profile, and we estimate the existence of another 1,770 from the sherd material. Compared to the ogival cups, there are 2.5 times more conical cups among the complete examples and 4.6 times as many among the sherds. Conical cups can be divided into eight types, the last of which includes miniature examples with a capacity of only a few milliliters. The clay is either fine or medium but contains very few inclusions and impurities. It is usually orange, brown, or buff, and only rarely the yellowish Petras clay. All examples are self-slipped, and wheel marks are visible on the interior surfaces and also often on the exterior surfaces. Very often the conical cups have fingerprints and marks from

<sup>24</sup> Cf. Sackett & Popham 1970, fig. 13; Barnard & Brogan 2003, fig. 5.

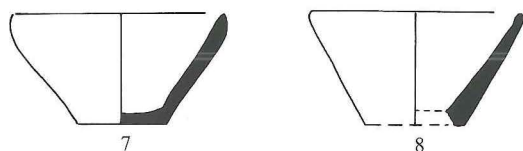
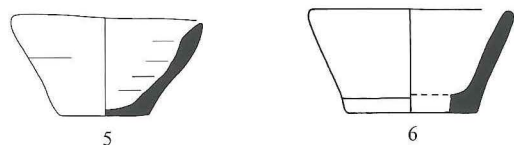
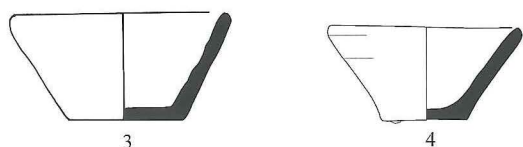
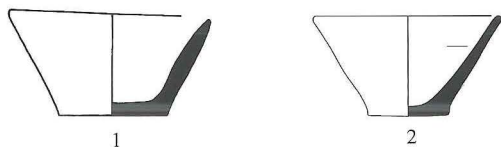


Fig. 11. Conical cups Type 1: 1) P89/466; 2) P89/613; 3) P90/403; 4) P90/1478; 5) P90/851; 6) P90/867; 7) P89/576; 8) P90/384.

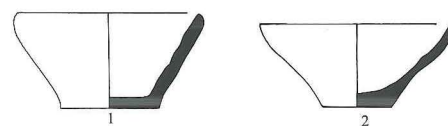


Fig. 12. Conical cups Type 2: 1) P90/350; 2) P89/482.

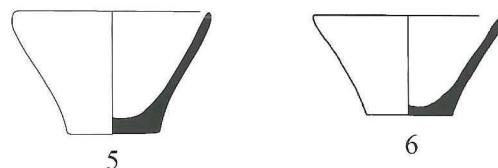
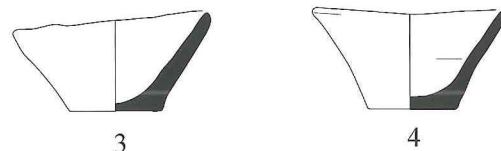
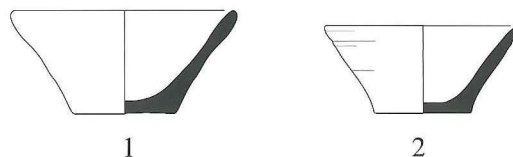


Fig. 13. Conical cups Type 3: 1) P90/1522; 2) P90/864; 3) P90/1021; 4) P89/467; 5) P90/896; 6) P90/905.

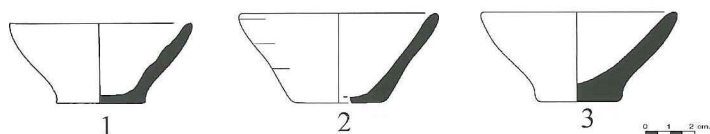


Fig. 14. Conical cups Type 4: 1) P90/508; 2) P90/495; 3) P90/351.

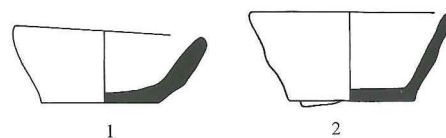


Fig. 15. Conical cups Type 5: 1) P90/334; 2) P90/865.

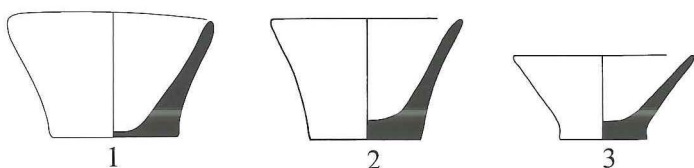


Fig. 16. Conical cups Type 6: 1) P90/1017; 2) P90/915; 3) P90/348.

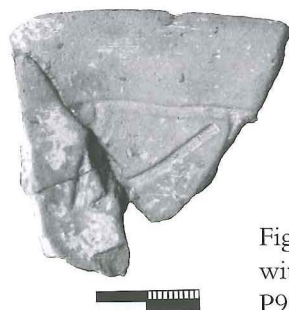


Fig. 18. Conical cup Type 7 with incised ideogram for cloth: P90/1271.

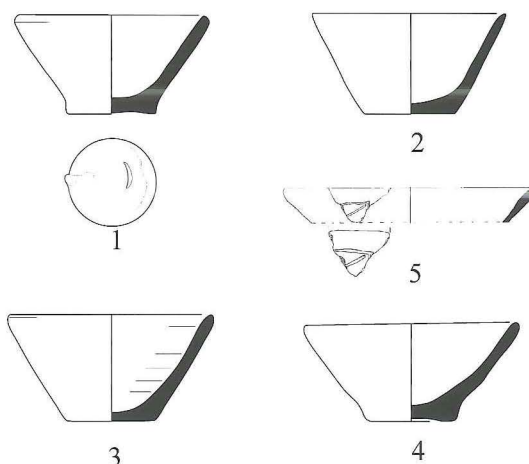


Fig. 17. Conical cups Type 7: 1) P90/1514; 2) P90/1276; 3) P90/1513; 4) P90/1498; 5) P90/1271.



the sponge used to smooth the exterior surface and to apply the slip.

1) The first type (Fig. 11) has a rather shallow conical body, flat base, and a rounded or thin rim. This type is not unknown, though it is rather uncommon at Mochlos.<sup>25</sup>

**P89/466.** Handleless conical cup. H. 3 cm, base d. 3.1 cm. Orange medium clay. Self-slip.

**P89/576.** Handleless conical cup. H. 4.5 cm, base d. 3.7 cm. Fine yellowish clay with inclusions; self-slip.

**P89/613.** Handleless conical cup. H. 4 cm, base d. 3.1 cm. Orange medium clay; self-slip.

**P90/384.** Handleless conical cup. H. 4.3 cm, base d. 3 cm. Orange medium clay; self-slip.

**P90/403.** Handleless conical cup. H. 3.9 cm, base d. 3.4 cm, rim d. 7.1 cm. Orange medium clay; self-slip.

**P90/851.** Handleless conical cup. H. 3.8 cm, base d. 3.6 cm. Orange medium clay; self-slip.

**P90/867.** Handleless conical cup. H. 3.8 cm. Orange medium clay; self-slip.

**P90/1478.** Handleless conical cup. H. 3.5 cm, base d. 3.5 cm. Yellowish medium clay; self-slip.

2) The second type of conical cup (Fig. 12) is also rather shallow and is characterized by an incurving rim. This type is somewhat rare, with only five complete examples. The body has an S-profile, though not very pronounced, while the rounded rim follows the profile of the body.

**P89/482.** Handleless conical cup mended from three fragments. H. 3.9 cm, base d. 3.5 cm, rim d. 8 cm. Fine buff clay with many inclusions; self-slip.

**P90/350.** Handleless conical cup. H. 4.5 cm, base d. 4.2 cm. Buff-orange medium clay with inclusions; self-slip.

3) The third type of conical cup (Fig. 13) is deeper than the first two and has a conical body with a poorly formed rim.

**P89/467.** Handleless conical cup. H. 4 cm, base d. 3.7 cm. Orange medium clay with many inclusions; self-slip.

**P90/864.** Handleless conical cup. H. 3.5 cm, base d. 2.6 cm. Buff medium clay; self-slip (cf. Barnard & Brogan 2003, fig. 1, IB.10).

**P90/896.** Handleless conical cup. H. 4.7 cm, base d. 3.9 cm. Buff medium clay; self-slip.

**P90/905.** Handleless conical cup. H. 4.3 cm, base d. 3.2 cm, rim d. 8.1 cm. Orange medium clay with inclusions; self-slip.

**P90/1021.** Handleless conical cup. H. 3.6 cm, base d. 3.6

cm, rim d. 7.9 cm. Fine orange clay with inclusions; thin slip that is lighter than the clay.

**P90/1522.** Handleless conical cup. H. 4 cm, base d. 4 cm. Orange medium clay; self-slip.

4) Type 4 (Fig. 14) examples are rather shallow with an S-shaped body profile and a thin rim.

**P90/351.** Handleless conical cup. H. 3.2 cm, base d. 3 cm. Yellowish medium clay with inclusions; self-slip.

**P90/495.** Handleless conical cup. H. 4.3 cm, base d. 3.8 cm. Fine buff clay with few fine inclusions; self-slip (cf. Barnard & Brogan 2003, fig. 2, IB.64).

**P90/508.** Handleless conical cup. H. 4.5 cm, base d. 4 cm. Orange medium clay with inclusions; self-slip.

5) Type 5 (Fig. 15) includes a few shallow examples with thick walls and careless execution. The rim is rounded and follows the profile of the body.

**P90/334.** Handleless conical cup. H. 3.4 cm, base d. 4.6 cm, rim d. 7.6 cm. Fine buff clay; self-slip.

**P90/865.** Handleless conical cup. H. 3.4 cm, base d. 5.2 cm, rim d. 8.2 cm. Yellowish medium clay with various inclusions; self-slip.

6) Type 6 (Fig. 16) consists of conical cups with a raised, well-formed base, a slightly convex profile and a thin, slightly incurving rim.

**P90/348.** Handleless conical cup. H. 4.6 cm, base d. 4.2 cm. Orange medium clay; self-slip.

**P90/915.** Handleless conical cup. H. 4.4 cm, base d. 4.6 cm, rim d. 8.4 cm. Yellowish medium clay; self-slip.

**P90/1017.** Handleless conical cup. H. 4.8 cm, base d. 5 cm, rim d. 8 cm. Fine buff clay; self-slip.

7) Type 7 (Figs. 17–18) includes shallow cups with a rounded rim.

**P90/1271.** Handleless conical cup. Max. pres. dim. 3.3 x 3.8 cm. Fine orange clay with inclusions; self-slip.

**P90/1276.** Handleless conical cup mended from five sherds. H. 4 cm. Fine orange clay; self-slip.

**P90/1498.** Handleless conical cup. H. 3.4 cm, base d. 3.2 cm. Orange medium clay; self-slip.

**P90/1513.** Handleless conical cup. H. 3.8 cm, base d. 3.2 cm. Yellowish medium clay; self-slip.

**P90/1514.** Handleless conical cup. H. 3.9 cm, base d. 3.7 cm. Orange medium clay; self-slip.

8) The Type 8 conical cup (Fig. 19) is small in size and has a conical body profile. The rims are cut horizontally, and the bases are flat or slightly raised.

<sup>25</sup> Barnard & Brogan 2003, fig. I, IB.12.



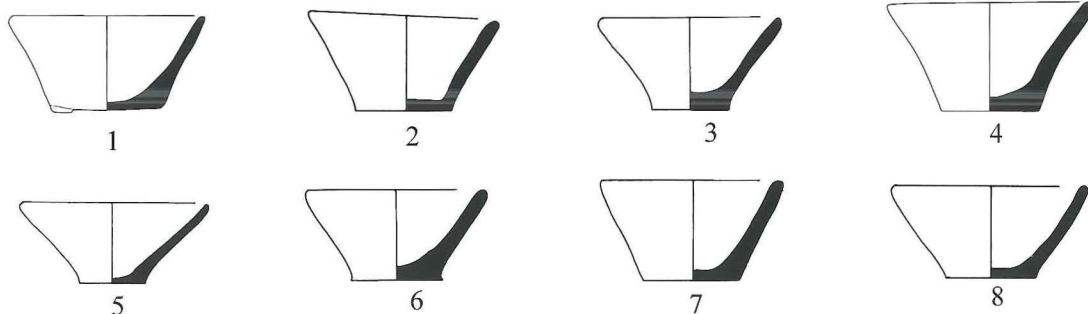


Fig. 19. Conical cups Type 8: 1) P89/515; 2) P90/846; 3) P90/1026; 4) P90/850; 5) P90/1467; 6) P89/541; 7) P90/1019; 8) P90/1073.



Fig. 20. Miniature conical cups: 1) P90/1519; 2) P89/413; 3) P90/1550.



Fig. 21. Miniature conical cups: 1) P90/1519; 2) P89/413; 3) P90/1550.

**P89/515.** Handleless conical cup. H. 3.7 cm, base d. 4.6 cm, rim d. 7.7 cm. Fine brown clay with few inclusions; self-slip.

**P89/541.** Handleless conical cup. H. 4 cm, base d. 3.4 cm, rim d. 8 cm. Fine buff clay with few inclusions; self-slip.

**P90/846.** Handleless conical cup. H. 4 cm, base d. 4.1 cm, rim d. 7.9 cm. Yellowish medium clay; self-slip.

**P90/850.** Handleless conical cup. H. 4 cm, base d. 4.1 cm, rim d. 8.3 cm. Yellowish medium clay; self-slip.

**P90/1019.** Handleless conical cup. H. 4.5 cm, base d. 4.3 cm, rim d. 8.1 cm. Light orange medium clay; self-slip.

**P90/1026.** Handleless conical cup. H. 4.4 cm, base d. 3.7

cm, rim d. 8 cm. Light orange medium clay with several inclusions; self-slip.

**P90/1073.** Handleless conical cup. H. 3.8 cm, base d. 3.8 cm, rim d. 8 cm. Buff medium clay with several inclusions; self-slip.

**P90/1467.** Handleless conical cup mended from five sherds. H. 4.1 cm, base d. 4.2 cm, rim d. 8.2 cm. Fine buff clay with various inclusions; self-slip.

9) The deposit in Room E also included a few miniature conical cups (Figs. 20–21), which are rarely found in other parts of the site. It is possible that they had a special function in measuring very small quantities of a specific substance.

**P89/413.** Miniature handleless conical cup. H. 2.8 cm, base d. 2.6 cm. Reddish medium clay, unevenly fired; self-slip; worn surface.

**P90/1519.** Miniature handleless conical cup. H. 2.6 cm, base d. 1.6 cm. Orange medium clay with few inclusions; self-slip.

**P90/1550.** Miniature handleless conical cup. Pres. h. 2.8 cm, base d. 2.4 cm. Fine buff clay; self-slip.



Fig. 22. Tripod tray P89/577.

The remaining fine pottery from Room E included a few uncommon shapes in limited numbers. Among these is a tripod tray (Fig. 22) made of fine to medium orange clay, with orange slip and decoration on both surfaces. The legs are not preserved. The decoration, consisting of bands and a cross inscribed in a circle on the interior of the



Fig. 23. Firebox P90/1505.

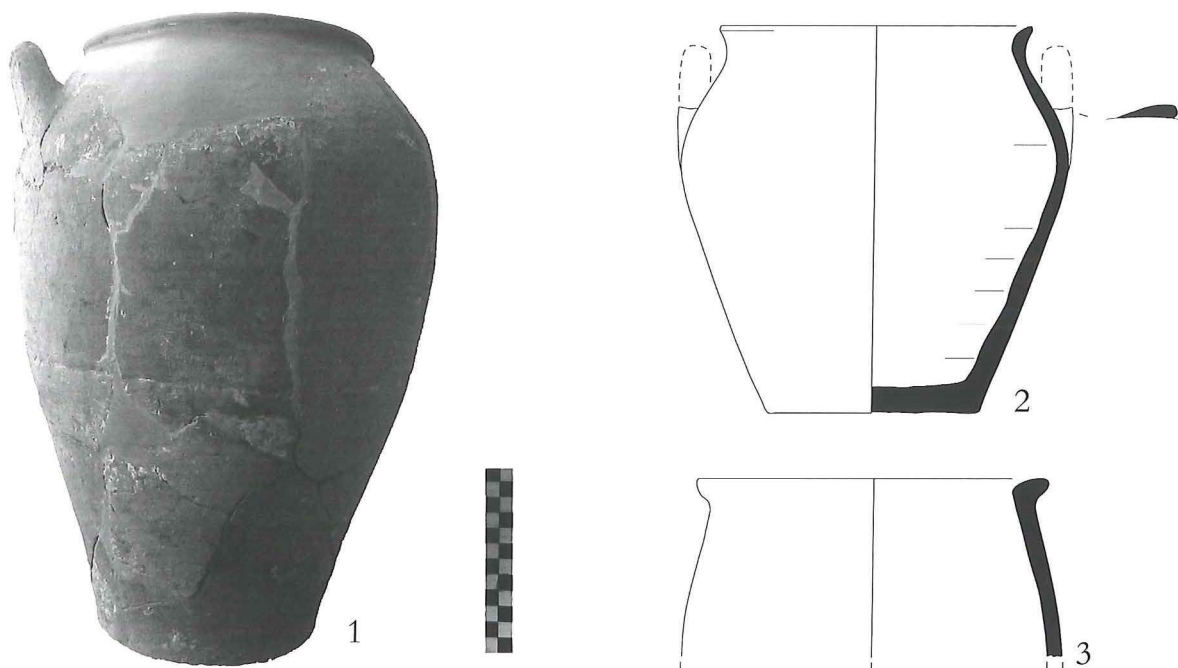


Fig. 24. Pithoid jars: 1) P90/817; 2) P90/1557; 3) P90/122/3.

base, is rather careless. An identical example with similar decoration was found at Mochlos.<sup>26</sup> The Petras vase, which was probably used for serving food, had fallen from the upper floor.

**P89/577.** Tripod tray mended from eight sherds. Pres. h. 3.6 cm, base d. 17.4 cm, rim d. 18.7 cm. Medium orange clay; orange slip; orange brown paint; uneven firing.

A firebox was probably associated with the industrial activities in the building (Fig. 23). It was made from a medium reddish clay very similar to that used for cooking pots.

**P90/1505.** Firebox. H. 6.2 cm, rim d. 8.6 cm. Reddish medium clay; self-slip (cf. Barnard & Brogan 2003, fig. 53, IB.616; Sackett & Popham 1970, fig. 17).

Room E also contained a limited number of pithoid jars (Fig. 24). One example, made with reddish me-

dium clay, had horizontal handles and an elongated oval body. At Petras this type of pithoid jar does not appear before LM IB and is absent from LM IA destruction deposits. Several fragmentary examples were found in the Palace and other rooms of House II.1. A second type of pithoid jar, also with horizontal handles, resembles examples from Palai-kastro.<sup>27</sup> This jar is smaller and has a wider base, an ovoid/piriform body, and a higher neck.

**P90/122/3.** Pithoid jar. Pres. h. 6.8 cm. Medium reddish-brown clay; self-slip.

**P90/817.** Pithoid jar. H. 39 cm, base d. 15 cm, rim d. 23 cm. Reddish medium clay with many inclusions; self-slip.

<sup>26</sup> Barnard & Brogan 2003, fig. 12, IB.265.

<sup>27</sup> Sackett & Popham 1970, fig. 17.

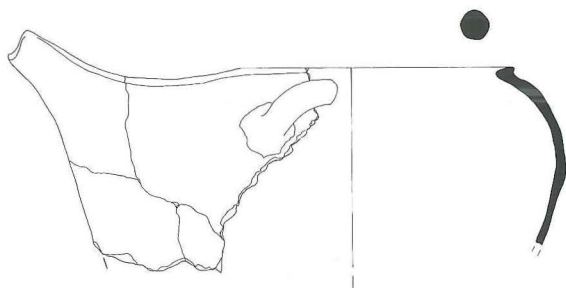


Fig. 25. Spouted basin P90/1497. Not to scale.

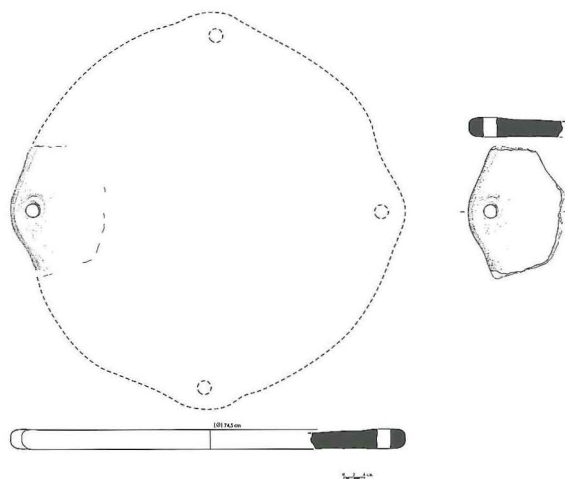


Fig. 26. Discoid large object (lid?) P90/1214. Not to scale.

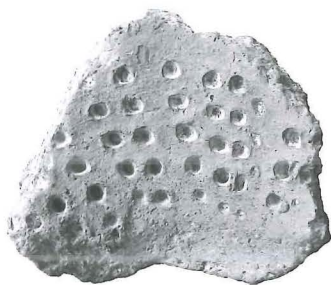


Fig. 27. Incense burner P90/470 and strainer pyxis P90/333.

**P90/1557.** Pithoid jar. H. 24.8 cm, base d. 12 cm, rim d. 15.8 cm. Reddish medium clay; self-slip (for similar examples from Mochlos with vertical handles, see Barnard & Brogan 2003, fig. 41, IB.452; for Palaikastro, see Sackett & Popham 1970, fig. 17).

A spouted basin (Fig. 25), made of the same reddish medium clay, represents another shape that is confined to the LM IB levels at Petras. Parallels are found at Palaikastro and Mochlos.<sup>28</sup>

**P90/1497.** Spouted basin. Pres. h. 6.8 cm. Reddish medium clay, red slip.

The house also contains a small fragment of a very large, flat, discoid object (Fig. 26) made of coarse red clay, and which has exact parallels from Zakros (on display in the Siteia Museum). The problem with interpreting these heavy, large circular objects as lids is that their diameter (more than 70 cm) is larger than any of the preserved pithoi, though they could have served as lids for containers made of perishable materials.

**P90/1214.** Discoid object (lid?). Max. pres. dim. 12 x 8.6 cm. Brown-reddish coarse clay; self-slip.

Finally, Room E contained several fragments of strainer pyxides, a special shape analyzed by Maria Andreadaki-Vlazaki,<sup>29</sup> and also fragments from incense burners, another shape associated with fire (Fig. 27).

**P90/333.** Strainer pyxis. Max. pres. dim. 7.8 x 9 cm. Brown medium clay; no slip is preserved (for parallels, see Barnard & Brogan 2003, fig. 28; Sackett & Popham 1970, fig. 15).

### Decoration

The presentation of shapes from this LM IB deposit at Petras reveals that the number of decorated vessels is small, and the decoration itself includes a limited range of motifs. It is noteworthy that ripple pattern is completely absent from all LM IB deposits at Petras. A simple comparison of the pottery analyzed here with contemporary deposits from other areas (both those presented at the LM IB Confer-

<sup>28</sup> Sackett & Popham 1970, fig. 18; Barnard & Brogan 2003, fig. 10, IB.241.

<sup>29</sup> Andreadaki-Vlazaki 1987, 55–68.



ence in Athens and also in previous publications) shows very clearly that the LM IB pottery from Petras lacks diversity, despite its good general quality. It is also important to note that it does not include classic LM IB features such as the Marine Style and Alternating Style. These are not only absent from House II.1, but also from the LM IB deposits of the Palace. Thus, their absence is not due to the function of House II.1, which was transformed into an industrial installation in its final stage of occupation. Furthermore, there are no stirrup jars at Petras before LM III, and even then they are rare. These features distinguish Petras from neighboring sites like Mochlos, Zakros, Palaikastro and Pseira, though the reasons for this pattern are not clear. At Mochlos the Marine Style was found both in elite houses and in the Artisans' Quarter; however, it was also observed that pottery from the Artisans' Quarter did not exhibit the same variety of decorative techniques and arrangements as found in the main town.

At Petras all vessels, even those made in a medium or coarse fabric, are slipped; the coarser examples tend to have a thin slip, while the fine wares tend to have thicker ones. The slip is usually the same color as the clay or slightly lighter. The paint is typically matte, though often worn and rarely burnished, and reddish, reddish-brown, brown or black in color. Monochrome cups are usually dipped in paint, rather than painted all over. The same is true for cups decorated with a band on the rim, where there are usually dribbles of paint. Open as well as closed shapes are often decorated with bands, in combination with zones of linear motifs; these include stylized floral elements like foliate bands and running spirals. Light-on-dark painted pottery is absent from the deposits of Room E, with the exception of two fragmentary cups that have parallels at Mochlos. Added white paint on dark decoration, usually applied in thin bands over wider dark bands, is also rare at Petras in LM IB.

## IV. The vessels in cooking fabrics from Room Epsilon of House II.1 (M.E. Alberti)<sup>30</sup>

The vessels in cooking fabrics also form a major component of the LM IB ceramic assemblage from Room Epsilon of Petras House II.1. A general, systematic study of Minoan cooking ware is still lacking, and previous studies have tended to focus on the specific evidence from particular sites. These studies have identified the primary technical, typological and functional characteristics of Minoan cooking wares and have highlighted the major chronological developments and distribution patterns on Crete. The most important quality of cooking vessels, however, is their resistance to thermal shock.<sup>31</sup> These pots also typically have rounded profiles with thin walls and are made from non-calcareous fabrics fired at a low temperature – all means of improving heat resistance.

Minoan cooking fabrics are highly consistent. From EM to the end of LM III, the cooking fabrics from different parts of Crete share the same

<sup>30</sup> I present here the first results of my study of the cooking wares from House II. This work was conducted as part of my PhD research (2001–2005 at the University of Udine, Italy) and as the subject of a post-doctoral scholarship of the Italian School of Archaeology at Athens (2005). My warmest thanks are due to S. Apostolakou and Dr. M. Tsipopoulou for entrusting me with the study of the material and to Prof. E. Borgna and Prof. P. Càssola Guida (University of Udine) for their continuous help and support during my PhD studies. I also would like to thank Prof. E. Greco and all the staff of the Italian School, who facilitated my stay and research in Greece. My work on the Petras material would not have been possible without the help of G. Costopoulou and C. Zervaki, as well as the assistance of the staff of the Archaeological Museums of Siteia and Hagios Nikolaos.

<sup>31</sup> "Diversamente le ceramiche da fuoco non devono temere sbalzi termici cosicché l'impasto sarà magro, ricco di sabbia e ossidi di ferro e povero di fondanti quali appunto il calcare. La bassa espansione termica è così ottenibile a discapito della coesione spesso scarsa, delle forme necessariamente semplici, del colore scuro. Essa è anche accresciuta da pareti sottili, assenza di spigoli e carene, porosità elevata." (Mannoni & Giannichedda 1996, 159); Riley 1983, 290; Moody 1985, 53–4; Rice 1987, 228–31, 236–8, 366–9.



basic features: they are non-calcareous and contain primarily phyllite and mica inclusions. Firing temperatures are generally low (i.e., not more than 750°C), thus improving the way cooking pots resist thermal and dynamic shocks.<sup>32</sup> These fabrics were used for a wide range of shapes, not all of which were connected to cooking activities. “While cooking may have been the main use of the Coarse Red pottery, the shapes are suitable for other functions as well. Probably the same shapes were used for dyeing cloth, making perfume, warming milk to make cheese, and many other purposes. In addition to food preparation, the vases discussed here were surely used for many different processes.”<sup>33</sup>

Scholars have approached this class of pottery in different ways. In the recent publication of the ceramics from the Mochlos Artisans’ Quarter, the authors separated the “vessels in cooking fabric” as a specific group.<sup>34</sup> It is generally very difficult to determine the function of pots based on their shape alone, and their suggested functions are not always confirmed by the context of the vessels.<sup>35</sup> The range of Minoan vessels in cooking fabric includes tripod cooking pots, cooking jars (i.e., cooking pots without legs), cooking trays, trapezes (see below), cooking dishes, spit-rests, fire-stands/ovens, braziers/scuttles, incense-burners and lamps.<sup>36</sup> The first typology of cooking shapes was made by Betancourt for the pottery from Kommos, and it was followed by Martlew’s more synthetic overview.<sup>37</sup> Further insights into Minoan (and Mycenaean) cooking, and an outline of recurring shapes from different sites and periods, are provided in the volume *Flavours of our Time*.<sup>38</sup> Finally, several recent publications of cooking wares provide local perspectives from various sites on Crete.<sup>39</sup>

## General remarks

As stated above, vessels in cooking fabric form a conspicuous component of the finds from Room Epsilon. They include at least 58 fragmentary cooking pots of various shapes, 21 fragments of cooking dishes, and 1 spit-rest. No cooking trays or trapezes are attested from this room, though these shapes are documented in other parts of the house. Other, less

diagnostic cooking ware fragments can be added to this list, including 15 handles, 27 base sherds, 32

<sup>32</sup> Phyllite and mica tempered fabrics are common both in eastern and southern Crete: Whitelaw *et al.* 1997, 270 (Myrtos Phournou Koriphi); Day 1997 and Day, Wilson & Kiri-atzi 1997, 281 (south coast and the Gulf of Mirabello); Myer & Betancourt 1990 (Kommos); Haggis & Mook 1993 (Kavousi and the Gulf of Mirabello); Palio 2001a, 365 (Phaistos); Barnard 2003 and Day, Joyner & Relaki 2003 (Mochlos and comparisons with Pseira). Day 1997, 227, n. 43: “Phyllite inclusions are plate in their nature and therefore are likely to be aligned parallel to the pot wall, transmitting stresses around the vessel instead of across the pot wall. This may avoid cracking when the pot expands through heating.”

<sup>33</sup> Betancourt 1980, 7.

<sup>34</sup> Barnard & Brogan 2003, 80–9. See also the “Coarse Red” label used by Betancourt for Kommos (Betancourt 1980). In the same way, we could also use the translation of the Italian expression “ceramica da fuoco” (“fire wares”), since most of these shapes are probably used in connection with fire or charcoal.

<sup>35</sup> For Akrotiri, “...the attempt to assign some kind of function to pottery based on palaeobotanical material in the West House has so far been unsuccessful. In fact, our results indicate instead that each pottery type had multiple functions; and, interestingly, pots whose shape imply a liquid content, such as ewers, amphorae, and kraters, were used for storing dry plant materials as well. An already published example is the jar (ewer) found sealed in Δ 16 by Professor Marinatos, which contained a legume, whereas the shape of the vessel indicated liquid storage. Thus any hypotheses about the content of pots based on shape alone are, at least at present, still unsubstantiated” (Sarpaki 1992, 229).

<sup>36</sup> See the typology in Hallager 1997b, 417. Other shapes (large tripod basins, tripod cooking bowls and cooking tables/stands) have been listed among the Protopalatial cooking wares from Knossos (Macdonald & Knappett 2007, 77 nos. 253–6, fig. 13.13, pl. 22; 105 nos. 528–32, fig. 3.32, pl. 33–4); however, small tripod basins and tripod cooking bowls can be considered, as well as Type B cooking pots and pans. Many lamps and braziers are made in cooking fabric, but should not be considered among cooking wares *strictu sensu*: Georgiou 1983, 75. See also Floyd 1999 and Rice 1987, 210–42, esp. 224–5, 236–42, and figs. 7.1, 7.4, tbl. 7.2.

<sup>37</sup> Betancourt 1980; Martlew 1988.

<sup>38</sup> Martlew & Tzedakis 1999. The relationships between food, drink and society in prehistoric Greece are also explored in Halstead & Barrett (2004).

<sup>39</sup> Kastelli Khania (LM III: Hallager 1997b; Hallager & Hallager 2000; 2003), Phaistos (LM III: Borgna 1997 and 2000), Kommos (MM II-LM III: Rutter 2004; Rutter & Van de Moortel 2006); Malia (MM II: Poursat & Knappett 2005); Mochlos (LM IB: Barnard & Brogan 2003), Palaikastro (MM IIIB – LM IA: Knappett & Cunningham 2003).



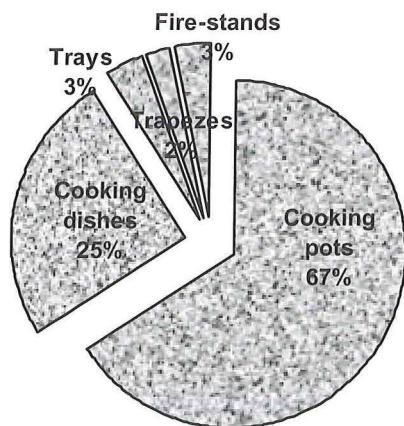


Fig. 28. Vessels in cooking fabric from House II: the main shapes.

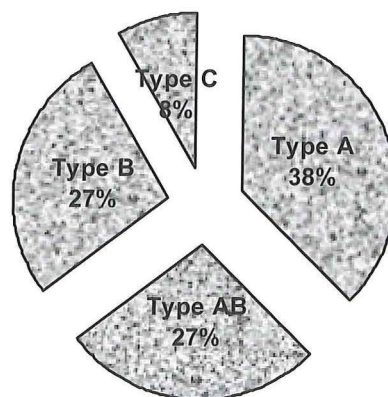


Fig. 29. Different types of cooking pots from House II.

legs, and a number of body sherds.<sup>40</sup> To complete the picture, I would also like to draw attention to the other coarse ware vessels, such as kalathoi and small jugs, which were discussed earlier in this paper. As the study of the remaining rooms in the building has not yet been completed, the overall picture for the house remains incomplete.

A concentration of vessels in cooking fabric comes from the northeast corner of the room, where three cooking pots, five kalathoi, a foot from a tripod cooking vessel, one small, spouted cooking pot, and three coarse ware sherds were found. The majority of the cooking ware belongs to Level 1 (i.e., the collapse of the upper floor),<sup>41</sup> while other clusters come from the collapse above the ground floor (Level 2) and from the floor itself (Level 3).<sup>42</sup> This evidence suggests that cooking ware was being stored upstairs. My study of the assemblage also paid close attention to vessel size, as this information can provide insights into the actual use of the vases. The assemblage contained a large number of medium-sized vessels. Larger vessels were present, but represent only 1/6 or 1/10 of the total inventory. A limited number of smaller vessels were also attested. It therefore appears that the operations carried out in Room Epsilon (or nearby) were primarily of medium-scale, though the presence of two large cooking pots and a huge cooking dish suggest occasional periods of more intense cooking.

Pots are the most common cooking shape in the assemblage, with 58 fragments. Cooking dishes

comprise the second largest group, with 21 fragments. Other shapes are present in smaller numbers (Fig. 28). Among cooking pots, there are only four fragments of the hole-mouthed variety (C), while the other types: globular (A), elongated (AB) and straight-sided (B) occur in more or less equal numbers – 18, 13 and 13 respectively (Fig. 29).

The value of petrographic analysis for the final interpretation of the cooking wares is clear; unfortunately, no systematic study has yet been undertaken for House II.1. The macroscopic analysis of the House II.1 cooking wares suggests that they fit the typical pattern for East Crete, exhibiting a preference for phyllite fabrics.<sup>43</sup>

<sup>40</sup> A proper attempt to identify cooking sets (see Rutter 2004, 80) will be made for the final publication of the material. Because the majority of the assemblage consists of diagnostic sherds with few whole or restorable vases, it was not possible to use the ratio between body size and leg size as a parameter in the classification, as suggested by Dr. E. Banou in the response to this paper.

<sup>41</sup> Ομάδα 90/103 and 90/115.

<sup>42</sup> Level 2: ομάδα 89/244; Level 3: ομάδα 89/227.

<sup>43</sup> The cooking fabrics from House II contain phyllites, quartz, calcite, and mica. Thanks to recent studies, it is now clear that coarse wares can serve as chronological markers (e.g., Moody 1985 for the Khania region; Haggis & Mook 1993 for Kavousi and the Northeast Mirabello region; and Martlew 1996, 144). Fabric analysis studies have demonstrated that coarse wares were exchanged over long distances (Riley 1983; Day 1988; Day, Wilson & Kiriatzi 1997; Knappett 1997, 2000; Whitelaw *et al.* 1997).



# Typological classification

## A) Tripod cooking pots

The vast majority of preserved cooking pots from Room Epsilon are of the tripod variety. Only one certain example of a cooking jar without legs is attested.

These vessels were clearly associated with cooking activities, especially boiling and stewing.<sup>44</sup> At the same time, they could have been successfully used in other production processes (e.g., washing textile fibers in hot water, making dye-baths and for storage). It also appears that cookpots were re-used as portable braziers once they were no longer suitable for cooking food.<sup>45</sup>

The shape of the Petras tripod cooking pot can vary considerably.<sup>46</sup> The body can have a globular or conical profile, a flat base, an everted or plain rim, and an open mouth, typically with a spout. The shoulder carries two horizontal, or occasionally vertical, handles that are round to slightly ovoid in section, and less often a third vertical handle is placed opposite the spout. The exterior is generally water-wiped, producing a smooth, hardened surface. Some examples are self-slipped, though not on the bottom, which is always left rough. The interior is generally self-slipped, though it can also be simply water-wiped.

The dimensions of the House II.1 cooking pots vary, though they exhibit a range similar to examples from the Artisans' Quarter at Mochlos. The estimated average height is between 25 and 35 cm; the rim diameters range from 15 to 26 cm, and base diameters from 12 to 18 cm. The legs vary from 6 to 13 cm in length (average 7–9 cm), with maximum widths of 4 to 6 cm. The thickness of the vessels also varies, but the walls are usually not very thick, generally ranging from 0.5 to 1.5 cm. The rims are even thinner, ranging from 0.3 to 0.7 cm. Thin walls are to be expected in cooking wares because they conduct heat and resist thermal shock.<sup>47</sup> The vessels are all wheel-made with the exception of the legs.

Given the high variability of the shape, a strict typology is not possible. Previous studies have not-

ed a broad distinction between pots with a narrow mouth and globular profile (Betancourt Type A) and pots with a wide mouth and conical or straighter profile (Betancourt Type B).<sup>48</sup> This differentiation is generally thought to be linked to chronological factors: Type B is more common in MM and MM III/LM IA (e.g., Knossos, Kommos and Mochlos), while Type A appears mainly from LM IB onwards (e.g., Malia, Pseira, Mochlos, Palaikastro, Zou, and Chalará Phaistos). At Mochlos "it seems clear that Type A pots basically replace those of Type B profile around the end of LM IA or during LM IB."<sup>49</sup> Some regional variations can also be detected, however. With few exceptions, LM IB Type A pots appear to be an East Cretan phenomenon. Type B cooking pots, on the other hand, continue to be used exclusively in Central and West Crete during LM IB, while also occurring in much smaller numbers in the East.<sup>50</sup>

<sup>44</sup> For a discussion of various types of pots (Minoan, Mycenaean or of Mycenaean derivation) and their connection with different ways of cooking, see Borgna 1997, 200–5 and 2000, 148–50. For the links between types of cooking pots, see Martlew 1996, 145 and Filippa-Touchais 2000, 426.

<sup>45</sup> Filippa-Touchais 2000, 423–4. Minoan tripod cooking pots resemble *μαγκάλια*, the traditional portable braziers of modern Crete (Blitzer 1984, 149–50, fig. 18:5.8).

<sup>46</sup> For a general description of the shape, see Barnard & Brogan 2003, 81. The typological transformations observed in later times (LM II–III) are not considered here.

<sup>47</sup> Barnard & Brogan 2003, 81. At Kastelli Khania, rim diameters of LM IIIB2/C pots range from 13 to 34 cm (Hallager & Hallager 2000, 158).

<sup>48</sup> Betancourt 1980.

<sup>49</sup> Barnard & Brogan 2003, 81.

<sup>50</sup> Type A is the most common LM IB type in East Crete, though this conference has revealed the presence of LM IB pots of this type at a much wider range of sites than previously known. It is interesting that globular profiles (even of different types) already appear in MM II cooking wares at Malia (Poursat & Knappett 2005, 56–7, nos. 341–4 and 360–1, figs. 3, 12, pls. 17, 47). Type B examples are known from EM IIB Myrtos Phournou Koriphi (Warren 1972, fig. 62), MM IIB Apodoulou (Tzedakis & Martlew 1999, 88, 91, 183, nos. 53, 61–2, 173), MM IB–IIA Knossos (Macdonald & Knappett 2007, nos. 253–5, 528–32; see n. 6) and MM II Malia (Poursat & Knappett 2005, 56, nos. 346–9, fig. 12, pls. 16–7). In MM III/LM IA, the shape is attested mainly at Knossos, Phaistos, and Kommos, but also at Malia (see n. 34) and Mochlos (Barnard & Brogan 2003, 81). In LM IB, it is present at least at Khania, Chalará, Malia and Mochlos (see n. 30). At

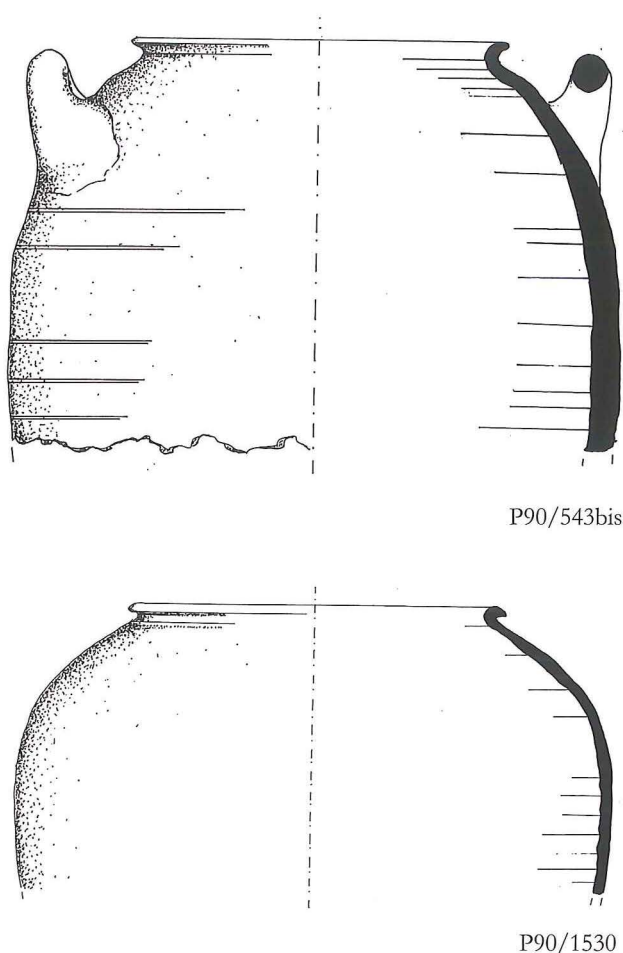


Fig. 30. Tripod cooking pots with globular profile (Betancourt Type A): more globular profile and more everted rim. (Scale 1:4).

#### A.1) Tripod cooking pots – globular profile (Betancourt Type A)<sup>51</sup>

This type of cooking pot has a narrow mouth, globular body profile, everted rim, two horizontal handles on the shoulder, a flat base standing on three legs, and frequently a small spout. The globular cooking pots are also generally taller than their maximum diameter.<sup>52</sup> Theoretically, they are best suited for slow cooking or slow firing processes: soups and stews or long dye-baths. Steam and heat are retained longer by the narrow mouth and better distributed by the rounded body.<sup>53</sup> This type is largely attested in LM IB contexts, especially in East Crete.<sup>54</sup>

#### A.1)a Tripod cooking pots

Thirteen globular cooking pots are recorded from House II.1: ten from Room Epsilon and three from other parts of the building.<sup>55</sup> They are all very simi-

Kommos, Type B pots continue from LM IA to LM III (see n. 20 and 30); however, while they are common throughout LM I-II (when Type A pots are scarcely attested), they are outnumbered by globular pots of Mycenaean type in LM III (Betancourt 1980, 3, 5 and 9). At Kommos there are also large numbers of cooking jars (Rutter 2004, fig. 4.5). At LM IB Chalará, the majority of cooking pots are Type B (Palio 2001a, nos. 281, 282, 327, 376, 461, 462, 651, 675, 926, figs. 46h, 41 and 51o), though other types are also attested (Palio 2001a, no. 653, fig. 41, probably Type AB; no. 359, and 621, not illustrated, probably Type A; nos. 22 and 714, not illustrated, probably Type C). The LM IB Type B examples shown during the conference are mainly from West and Central Crete, though also from eastern sites. There are only a few examples known from LM IIIC (Borgna 2000, 148), when the general shape of cooking pots becomes more globular (with rounded bottoms), perhaps under the influence of Mycenaean prototypes. This development should not be confused with the LM IB “Minoan” Type A pots (with flat bases). Quite interestingly, MM II cooking wares at Malia already show a complex pattern where all of the main features (globular or straight profile, tripod legs or no legs, and large, medium and small sizes) coexist and are variously combined (Poursat & Knappett 2005, 56–8).

<sup>51</sup> Betancourt 1980, 3, figs. 1A and 5A; Martlew 1988, 422, BI.

<sup>52</sup> During LM IIIB and LM IIIC, these pots develop into a type closer to Mycenaean examples and contemporary cooking jars, with rounded body, strongly everted rim and a rim diameter that almost equals the height. See LM III Kommos (Betancourt 1980, 2, C45 and C646, fig. 1; Rutter 2004, fig. 4.13, C11833, and fig. 4.15, C2497; Rutter & Van de Moortel 2006, no. 56e/8, pl. 3.60, no. 59/16, pl. 3.68, no. 67a/23 and 67a/24, pl. 3.78), LM IIIB2 Kastelli Khania (Hallager & Hallager 2000, 87, pl. 45, 73c) and LM IIIC Phaistos (Borgna 1997, fig. 3.1c). See also Tzedakis & Martlew 1999, 112–35 for “Mycenaeanizing” and Mycenaean examples.

<sup>53</sup> Borgna 2000, 148.

<sup>54</sup> Some LM IB examples include Mochlos Artisans’ Quarter Building A: IB.490; IB.492; IB.495; IB.496; IB.501; Building B: IB.491; IB.493; IB.494; IB.497; IB.498 (Barnard & Brogan 2003, 81–2, figs. 47–8, pl. 25); Mochlos Chalinomouri: IB.499; IB.500; IB.502 (Barnard & Brogan 2003, 81–2, figs. 48–9); Palaikastro, Block N: NP111, NP113 (Sackett, Popham & Warren 1965, 264; Sackett & Popham 1970, 227–8, figs. 17–8, pl. 64d); Chalará Phaistos: nos. 621, 653 (Palio 2001a, 324, 326, figs. 41, 53g); and Pseira Plateia Building: BS/BV91 (Floyd 1998, fig. 6).

<sup>55</sup> ME and loci: P90/169 (Room Epsilon, 3A locus 1); P89/1020 (Room Epsilon, NW corner); P90/1530,



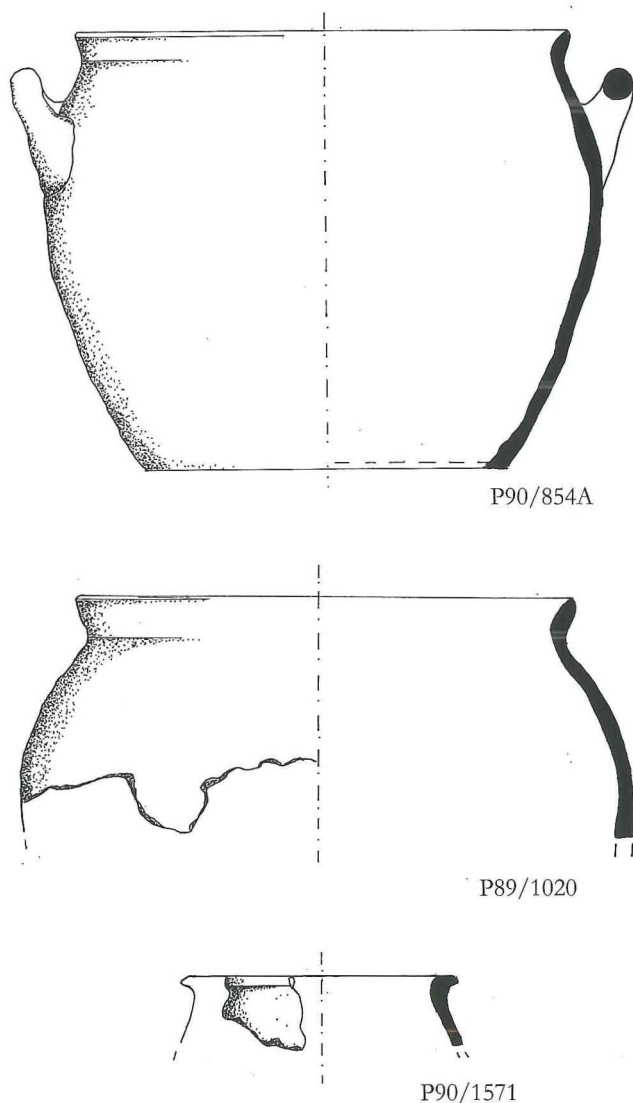


Fig. 31. Tripod cooking pots with globular profile (Betancourt Type A): globular profile and large, almost flaring rim. (Scale 1:4).

lar and medium-sized; no large example is attested. However, some distinctions can be made. P90/543 bis and P90/1530 have a more globular profile and a more everted rim (Fig. 30). P89/1020, P90/854A and P90/1571 have a globular profile and a large, almost flaring rim (Fig. 31). P90/169 and P90/1577 have a less globular, piriform profile and an everted rim with a spout (Fig. 32). P90/1252A and P90/854B have a less globular profile and a short, almost flaring rim (Fig. 33). Other medium-sized examples include P89/242/1, P90/103/19, P90/1371A, and P90/366/2.

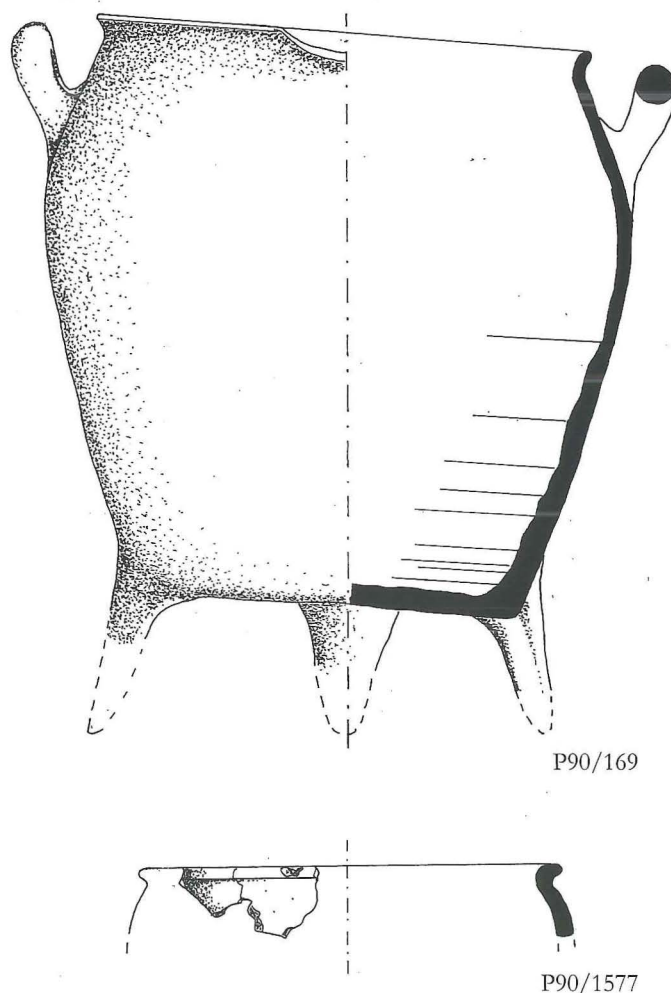


Fig. 32. Tripod cooking pots with globular profile (Betancourt Type A): less globular, piriform profile and everted rim with spout. (Scale 1:4).

#### A.1)b Flat-based cooking pots

Most of the cooking pots from House II.1 are fragmentary, so it is not possible to determine whether or not they were built with tripod legs. Only one example was definitely made without legs: P90/889. It has a small, globular body, large flaring rim, and vertical handle (Fig. 34).<sup>56</sup>

P89/1020, P90/1571, P90/1577, P90/1252A, P89/242/1, P90/103/19, P90/1371A and P90/366/2 (all from Room Epsilon); P90/543 bis (Room Theta); P90/854A and P90/854B, BII3B1 (N wall).

<sup>56</sup> ME and loci: P90/889 (Room Epsilon, locus 1). See MM IIIB Palaikastro (Knappett & Cunningham 2003, 158, no. 308, fig. 38, EP 87).

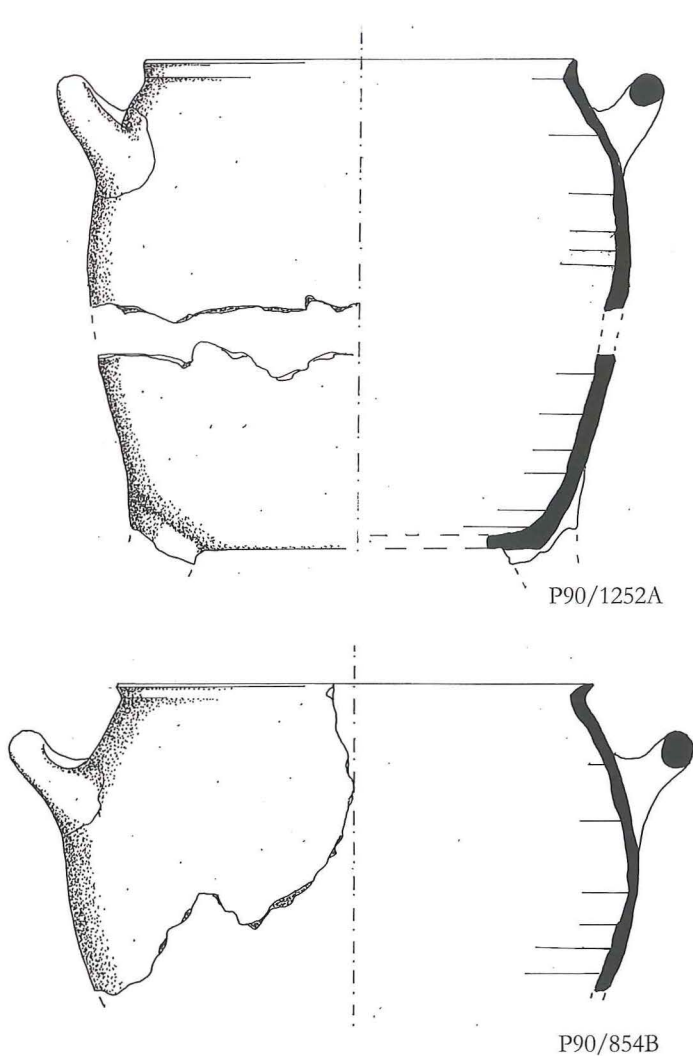


Fig. 33. Tripod cooking pots with globular profile (Betancourt Type A): less globular profile and short, almost flaring rim. (Scale 1:4).

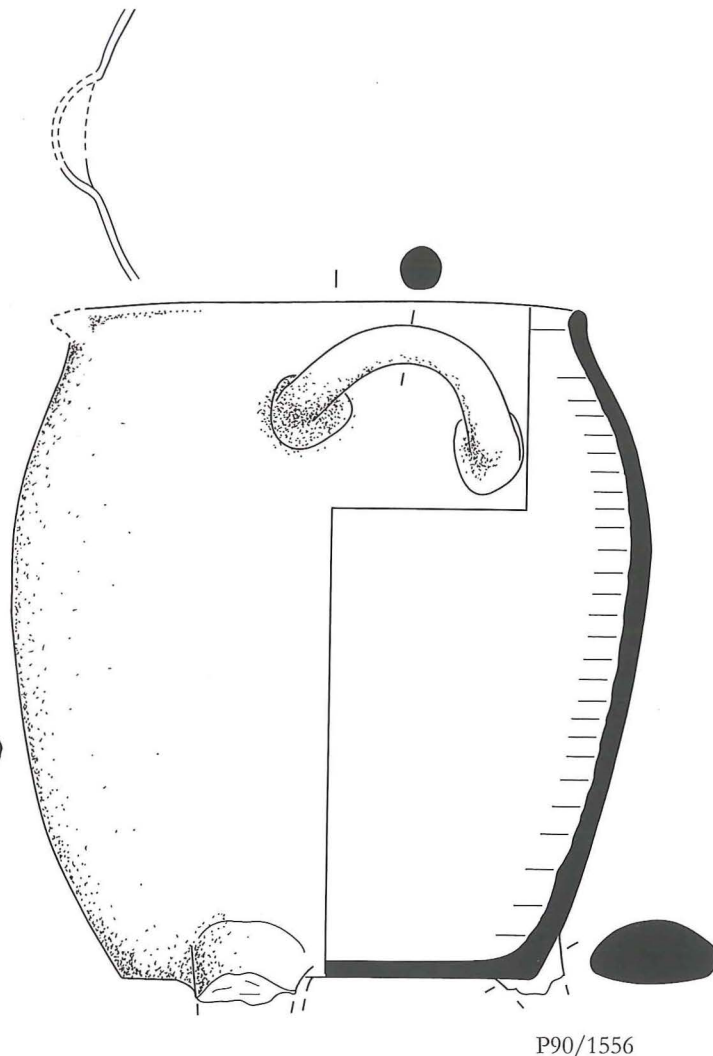


Fig. 35. Tripod cooking pots with elongated profile (Type AB?): large-sized examples. (Scale 1:4).

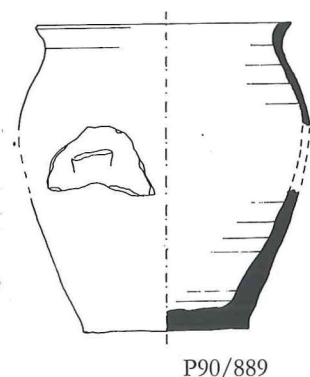


Fig. 34. Cooking pots with globular profile and flat base. (Scale 1:4).

#### A.2) Tripod cooking pots – elongated profile (Type AB?)

One group of tripod cooking pots from House II.1 has an intermediate profile between Betancourt Types A and B, and can therefore be called Type AB. This vessel type has a narrow mouth, elongated and curved body, smoothed, almost non-existent shoulder, and plain rim. The base is flat as usual, and in one case there is a spout.

P90/1556 (h. 35 cm) is a large, spouted version from Room Epsilon (Fig. 35). The eleven other examples are medium-sized, including a complete pot from Room Epsilon (P90/429), which is closer in shape to the globular Type A version. One vessel



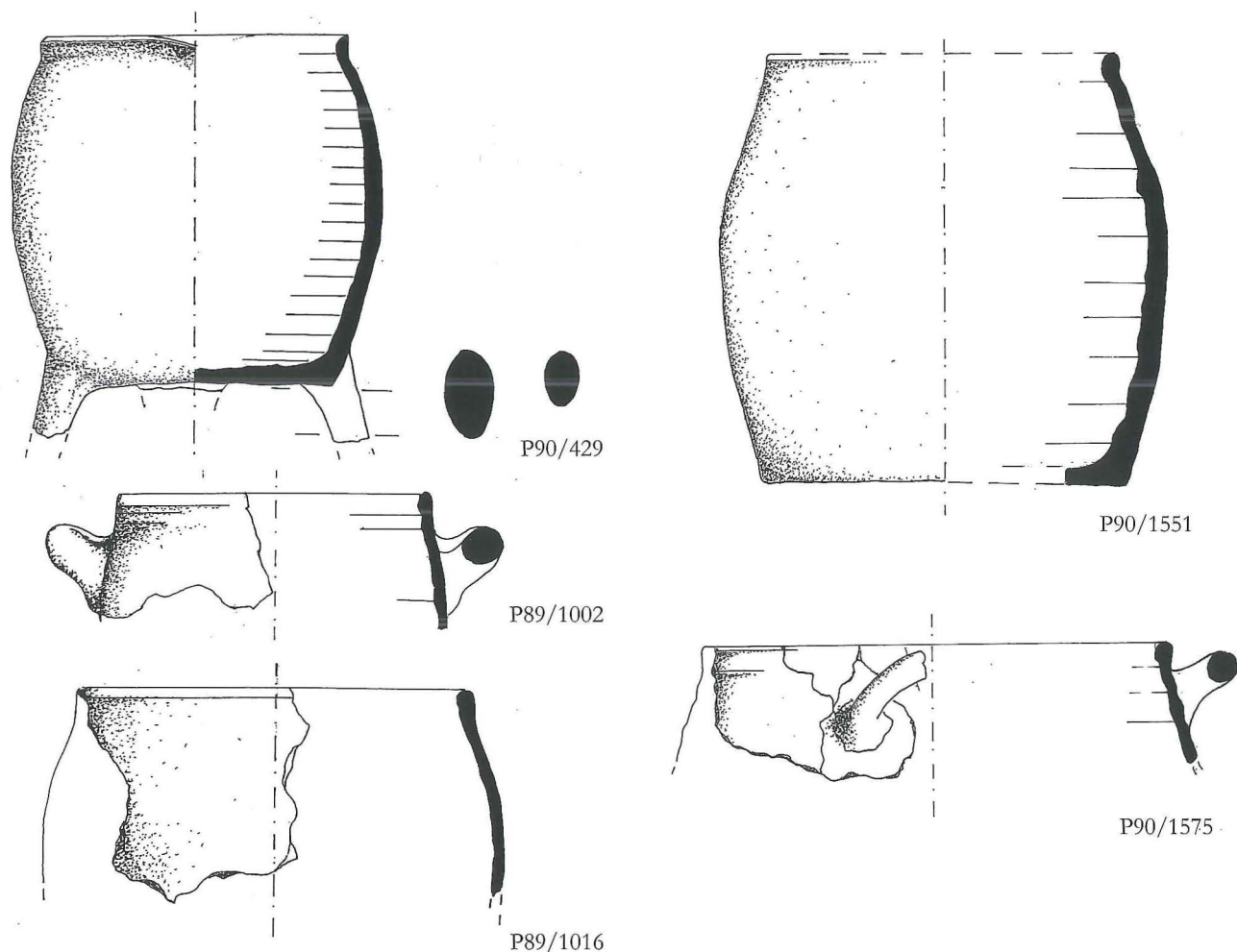


Fig. 36. Tripod cooking pots with elongated profile (Type AB?): medium-sized examples. (Scale 1:4).

has a complete profile (P90/1551), while the others are fragmentary (P89/1002–P89/1019 [spouted], P89/1016, P90/131/2, P90/1553, P90/1575, P90/252/1, P90/251/2, P90/252/1) (Fig. 36). Finally, one medium-sized version (P90/823) was found in Room Kappa.<sup>57</sup>

This type of elongated profile has not yet been distinguished in publications, though comparisons can be found at Kommos and Mochlos, among the Type B examples, as well as at Malia.<sup>58</sup> If there really is a transformation (at least in East Crete) in cooking pot types from LM IA to LM IB, this intermediate form could represent part of the transition.

### A.3) Tripod cooking pots – cylindrical profile (Betancourt Type B)<sup>59</sup>

The primary characteristic of this type of cooking pot is the large mouth, which gives the body a more

cylindrical profile; this type also has a short, thick and occasionally flaring rim, and is often given a small spout. Two horizontal handles are placed on the shoulder, while in some cases a vertical handle

<sup>57</sup> ME and loci: P89/1002–1019 (Room Epsilon, locus 1); P89/1016 (Room Epsilon, locus 2); P90/429 (Room Epsilon, II 3 A); P90/823 (Room Kappa); P90/1551 (Room Epsilon, locus 1); P90/1553 (Room Epsilon); P90/1556 (Room Epsilon); P90/1575 (Room Epsilon, locus 3); P90/131/2 (Room Epsilon, locus 2); P90/251/2 (Room Epsilon); P90/252/1 and P90/252/1 (Room Epsilon, locus 2).

<sup>58</sup> Kommos: C929 (Betancourt 1980, fig. 1, Type B, LM I); Mochlos Chalinomouri, IB.504 (Barnard & Brogan 2003, fig. 49, Type B); Malia Quartier Δ, a large example similar to P90/1556 (Demargne & Gallet de Santerre 1953, pl. XXXI, fig. 5, MM III-LM I); Malia Maison Ζα, a small example (Demargne & Gallet de Santerre 1953, pl. XLI, fig. 3, no. 2).

<sup>59</sup> Betancourt 1980, 3, figs. 1B, 5B; Martlew 1988, 422–4, AII, DI and DII.

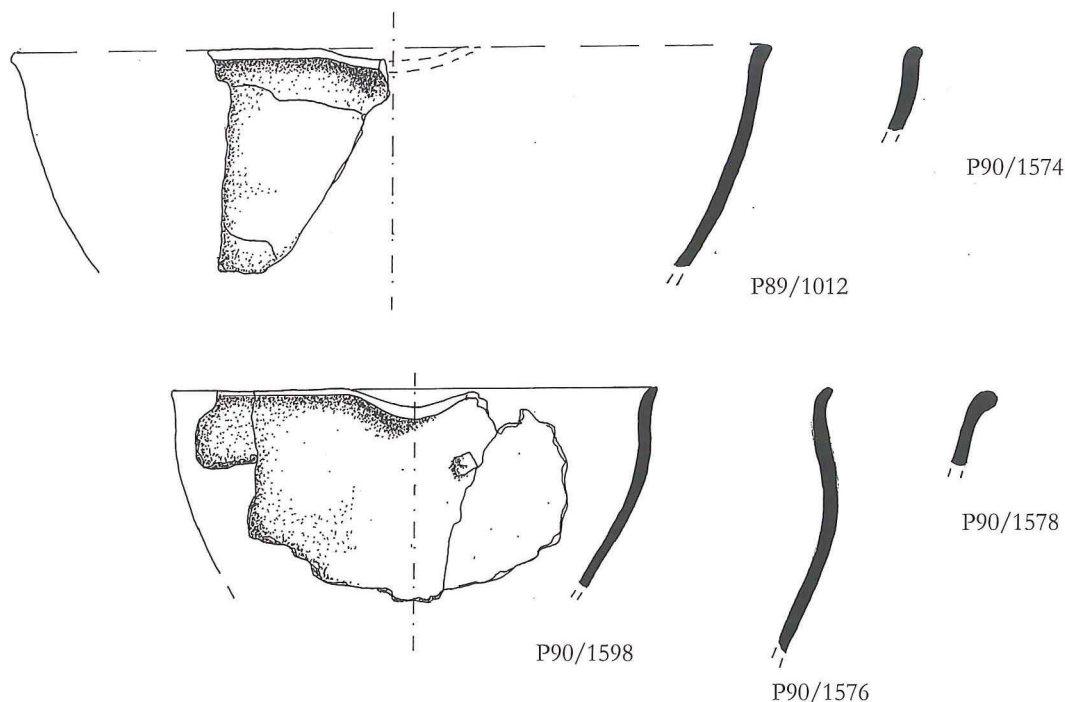


Fig. 37. Tripod cooking pots with curving, cylindrical profile (Betancourt Type B). (Scale 1:4).

or lug is found opposite the spout. The base is flat, and in eastern Crete, rope decoration is frequently applied near the base between the two front legs.<sup>60</sup> The straight profile and large mouth are more suitable for fast heating and boiling.<sup>61</sup> Although more popular in the MM III/LM IA period, the shape is also attested during LM IB at Pseira, Mochlos, Makrygialos and Chalará.<sup>62</sup>

The actual shape of the cooking pots varies considerably, but an important distinction can be made on the basis of size and general outline (i.e., taller vessels should be called pots, while shallower vessels should be called pans). This division also provides insight into the function of the vessels, a topic frequently overlooked in publications. In some cases, the pans have also been called “cooking jugs”, a term that is not well suited to the shape.<sup>63</sup>

### A.3)a Pots

These vessels have low walls and wide bodies with rim diameters reaching 30 cm. Generally, they are provided with two horizontal handles and a spout. In House II.1, they tend to have a very open body and large mouth, similar to large bowls or small basins. They also have either a slightly curving or flaring profile.

*Curving profile* – Two large (P89/1012, P90/1574) and three medium-sized examples (P90/1576, P90/1578, P90/1598) are attested (Fig. 37).

<sup>60</sup> Davaras 1997, 132, figs. 35–6 (Makrygialos, LM IB). There are also examples from Petras and Kato Zakros on display at the Archaeological Museum of Siteia.

<sup>61</sup> Borgna 2000, 149.

<sup>62</sup> MM IIIB Palaikastro (Knappett & Cunningham 2003, 156–7, nos. 293–4, figs. 36–7, B6R1/R3); LM IB Khania Daskaloyianni Street excavations (Tzedakis & Martlew 1999, 108–9, nos. 77–9); LM IA and LM IB Kommos (Rutter & Van de Moortel 2006, nos. 9b/9–10, pls. 33.30–1 (LM IA Early), nos. 22b/3 and 24/25, pls. 3.35 and 3.37 (LM IA Final), no. 37e/15, pl. 3.43 (LM IA Advanced – LM IB Early), 40/32 and 40/33, pl. 34.5 (LM IB Early); see also Rutter 2004); LM IA Seli Kamilari Phaistos (La Rosa & Cucuzza 2001, XXVII–19, 108, fig. 132); LM IB Chalará Phaistos (Palio 2001a, 301, 326 and 328 nos. 281, 282, 651, 675, figs. 41, 46h–i); LM IB Malia (Pelon 1966, 573, fig. 16); LM IB Pseira Plateia Building (Floyd 1998, fig. 3, BS/BV35) and LM I Building BY (Betancourt & Davaras 1999, fig. 44, BY35); LM IB Mochlos Artisans’ Quarter IB.505 and Chalinomouri IB.503 (Barnard & Brogan 2003, 81–2, fig. 49); Makrygialos (Davaras 1997, 132, figs. 35–6).

<sup>63</sup> In most publications, pots and pans are grouped together as Type B pots. They are, however, very different in terms of shape and function. See also the response to this paper by E. Banou.





Fig. 38. Tripod cooking pots with a flaring, cylindrical profile (Betancourt Type B). (Scale 1:4).

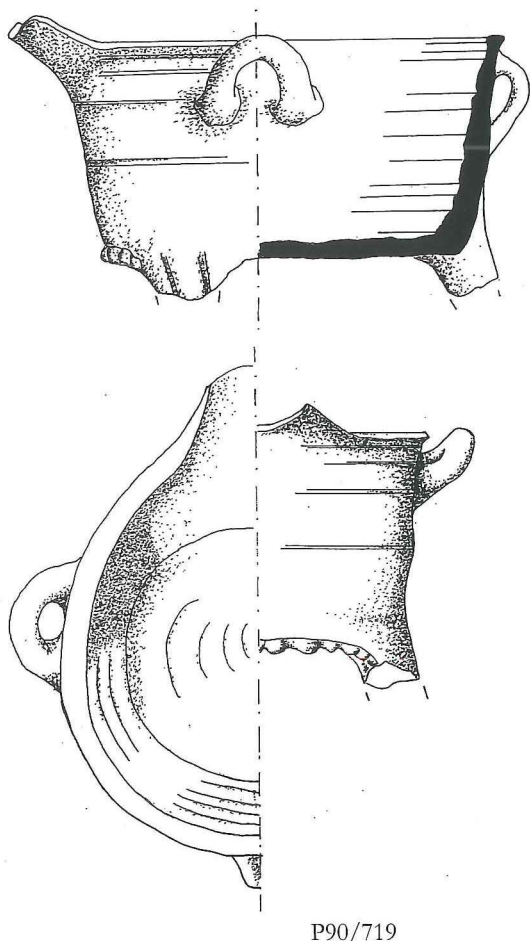


Fig. 39. Tripod cooking pan with cylindrical profile (Betancourt Type B). (Scale 1:4).

*Flaring profile* – Two large (P90/1580 and P89/1063) and one medium-sized examples (P90/1569) have been identified (Fig. 38).<sup>64</sup>

#### A.3)b Pans<sup>65</sup>

The pans are provided with lower walls, and they are distinguished by the presence of a spout on one side with a single vertical handle opposite. Their

dimensions are extremely variable, but most are medium-sized, with the exception of a few smaller examples.

*Medium-sized* – Medium-sized pans have rim diameters of ca. 18 cm, base diameters of ca. 10 cm and heights of ca. 20 cm. The legs are typically slightly pulled back from the front, and the shape occurs in both earlier and later contexts.<sup>66</sup>

One of the best examples from House II.1 is P90/719.<sup>67</sup> This vessel has a conical profile with flaring walls, plain rim, two horizontal handles, and a small vertical handle opposite the spout. Rope decoration was added along the base, and wheel marks are visible on the exterior body, as well as vertical strokes on the legs (Fig. 39).

*Small-sized* – One small example is attested from House II.1 (P90/1570). Parallels have been found

<sup>64</sup> Another medium-sized pot can be added to the list (P90/103/sn18). ME and loci: P89/1012 E (sector west of locus 2); P89/1063 (Room Epsilon, locus 1); P90/1569 (Room Epsilon, locus 2); P90/1574 (Room Epsilon?); P90/1576 (Room Epsilon, II2, cleaning of north wall); P90/1578 (Room Epsilon, locus 2); P90/1580, P90/1598 and P90/103/18 (Room Epsilon, locus 1).

<sup>65</sup> Betancourt 1980, 2, fig. 1B, C103 (Kommos); Levi 1988, pl. 15n (Phaistos); Martlew 1988, 424, D II.

<sup>66</sup> Malia: MM II and MM III-LM IA examples in different sizes and profiles (Poursat & Knappett 2005, 57–8, nos. 362, 364–7, fig. 12, pls. 17 and 47 (MM II) and Demargne & Gallet de Santerre 1953, pl. XL, fig. 2, nos. 4–5, and pl. XLI, fig. 3, no. 1 (MM III-LM IA); Palaikastro: both large and medium-sized examples of MM IIIB (Knappett & Cunningham 2003, 136–7, nos. 181–3, figs. 21–2, B6R1/R3 and 156, no. 292, fig. 36, EP87) and LM IA (Knappett & Cunningham 2003, 170, no. 436, fig. 46, EP87); Chalará Phaistos: LM IB (Palio 2001a, 301, no. 281, fig. 46h); and Knossos Unexplored Mansion with a small example with two lugs from LM II (Popham 1984, 36 and 50, L110, pl. 86h, 162.11).

<sup>67</sup> ME and loci: P90/719 (Room Epsilon, West from II 3 A [α]).

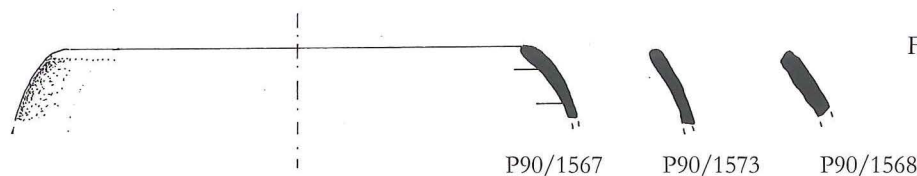


Fig. 40. Tripod cooking pots with hole-mouthed rim (Type C). (Scale 1:4).

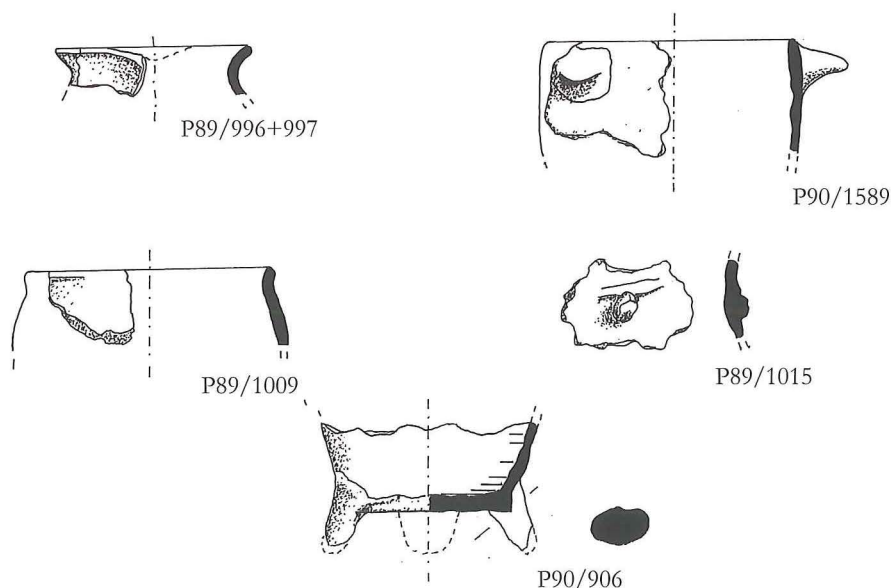


Fig. 41. Small cooking pots. (Scale 1:4).

at other LM IB sites (e.g., Palaikastro) and also from later contexts (e.g., Knossos).<sup>68</sup>

#### A.4) Tripod cooking pots – hole-mouthed pots (Type C)<sup>69</sup>

Another variety of tripod cooking pot has an incurving rim and profile similar to that of hole-mouthed jars. In other instances, the shape can resemble Type B cooking pot profiles but with the mouth completely open.

In House II.1, very few examples of this type were recognized (e.g., P90/1037/sn21, P90/1567, P90/1568, P90/1573). Because all are rim sherds (Fig. 40), it is not possible to reconstruct the complete shape;<sup>70</sup> however, good comparisons have been found at Palaikastro in MM IIIB contexts.<sup>71</sup> Given the small numbers and the date of the parallels at Palaikastro, this type probably represents sherd material from earlier phases (i.e., pre-LM IB) of House II.1.

#### B) Small cooking pots

Among the typical cooking pots from Room Epsilon were very small vessels that were not well preserved. Their presence must be emphasized because they appear to form part of the typical “cooking set” in the house.

The first example (P89/996) (d. 10 cm, th. 0.3

<sup>68</sup> ME and loci: P90/1570 (Room Epsilon, locus 1). For comparisons, see Palaikastro (Sackett & Popham 1970, NP 66 pl. 64f) and Knossos (Popham 1984, 6, 47, 66 and 74, H187, H188 and L48, pl. 86g, f; pl. 162.9–11).

<sup>69</sup> Martlew 1988, 422, B I.

<sup>70</sup> ME and loci: P90/1567 (Room Epsilon, locus 2); P90/1568 (Room Epsilon, locus 3); P90/1573 and P90/1037 sn21 (Room Epsilon, locus 1).

<sup>71</sup> Large and medium-sized vessels from MM IIIB Palaikastro (Knappett & Cunningham 2003, 135–6, nos. 177–80, figs. 20–1, B6R1/3; 157 nos. 287, 289 and 296, fig. 37, EP 87). The shape, however, appears to be attested from MM IIIB (Tzedakis & Martlew 1999, 89, 91 and 162, nos. 54, 57 and 145 from Apodoulou and 96, 146, no. 67 and 128 from Monastiraki).



cm) has a sharply everted rim with spout, and probably had a globular profile that typologically may be related to Type A cooking pots or coarse jugs. The second (P89/1009) (d. 14 cm, th. 0.3 cm) has an elongated profile and plain rim, connecting the vessel to cooking pots of Type AB or B. The same is also true for P90/1571 (d. 12 cm, th. ca. 0.5 cm). The third example (P90/1589) (d. 14 cm, th. 0.5 cm) preserves the rim, lug handle, and body of a small vessel that resembles Type B cooking pots. The fourth example (P90/906) consists of the base of a small tripod cooking pot (base d. 9 cm, th. 0.5 cm). Finally, P89/1015 preserves a tiny body sherd with a possible lug handle (th. 0.5–0.7 cm) and likely belongs to a small cooking pot (Fig. 41).<sup>72</sup>

### C) Cooking trays

The term “cooking tray” is highly conventional and does not explain the function of the vessel. In most cases, the presence of burn marks confirms an association with fire, though this is not always the case.<sup>73</sup> These vessels may have been used not only for cooking or other processes involving fire, but also for serving or storing food. Given this possibility, the term “baking pan” might provide a more accurate description.<sup>74</sup> When used over fire, the trays probably provided a warm cooking surface. When used with large lids, they could also have served as portable ovens.<sup>75</sup>

The trays are typically round and have a flat base, low side-walls, which are either straight, slightly flared, or slightly convex, and a rounded or square lip, which is often pulled out to form a spout. The type of handle varies – some are horizontal, while others are pierced lugs. Most trays are provided with three legs, though there are examples without supports, and all are hand-made. The interior surface and exterior of the rim are generally water-wiped and smoothed or slipped, while the rest of the exterior and bottom are left rough.<sup>76</sup> The dimensions vary considerably, with heights from 2 to 5 cm and rim diameters from 18 to 40 cm.<sup>77</sup>

The extreme variation in the shape likely explains why previous studies have failed to propose either a clear typology or chronological develop-

ment of the form.<sup>78</sup> The examples from House II.1 at Petras are thus important because they illustrate a major distinction between thinner/smaller (Type A) trays and thicker/larger (Type B) examples.<sup>79</sup>

Room Epsilon of House II.1 did not yield any cooking trays, but four trays were identified in the preliminary ceramic study from other parts of the house (three of the thin variety and one of the thicker type).<sup>80</sup>

<sup>72</sup> ME and loci: P89/996 (Room Epsilon, northeast corner); P89/1009 and P89/1015 (Room Epsilon, locus 2); P90/906 (Room Epsilon, locus 3); P90/1571 and P90/1589 (Room Epsilon, locus 1).

<sup>73</sup> The examples from the Mochlos Artisans' Quarter show little sign of contact with fire (Barnard & Brogan 2003, 33); see also Hallager & Hallager 2000, 160–1.

<sup>74</sup> There are shapes among the Bronze Age pottery from central and southern Italy, Sicily and Sardinia that resemble Minoan trays, including those called “tegami” (pans) or “teglie” (baking pans). Among Nuragic vessels, a general distinction is made, almost exclusively on the basis of morphological features, between “tegami” (walls taller than 5–6 cm) and “teglie” (walls shorter than 4–5 cm). See Belardelli *et al.* 1999, 376–7, fig. 3, nos. 1–2; Adamo *et al.* 1999, 488, fig. 9, nos. 185–6; Antona *et al.* 1999, 499, fig. 1, nos. 3–4 (teglie) and 5 (tegami); Bagella *et al.* 1999, 517, fig. 3, nos. 3–7. On Nuragic wares, see also Campus & Leonelli 2000. Baking pans are also recognized in the traditional pottery production of modern Crete (γουβέτσι); see Blitzer 1984, 149–50, fig. 18.5.10.

<sup>75</sup> Borgna 1997, 200.

<sup>76</sup> Borgna 1997, 193.

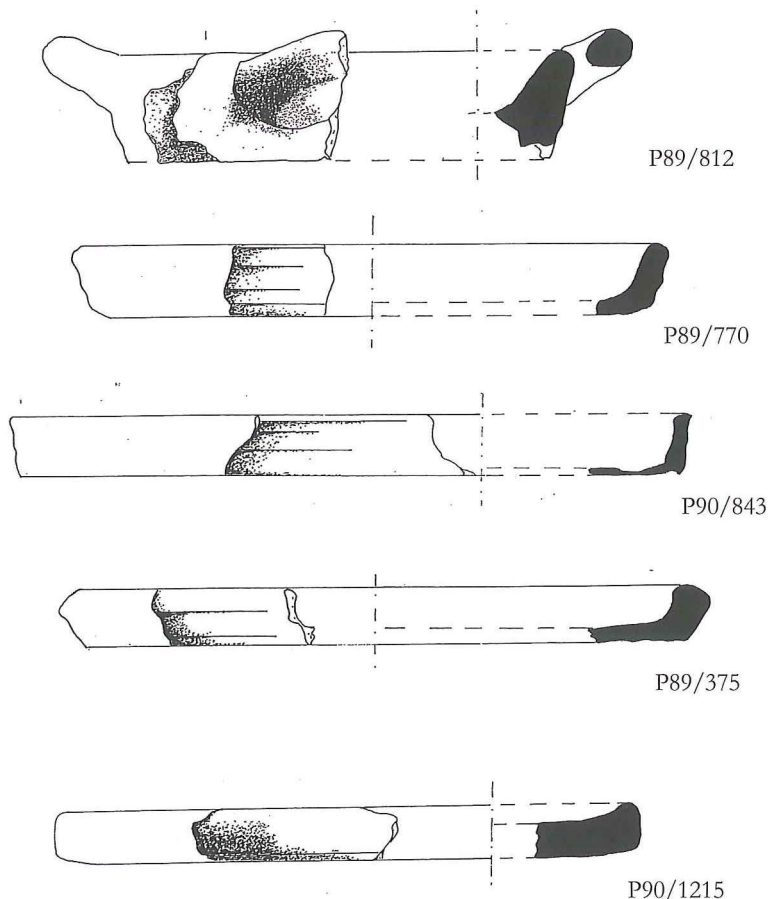
<sup>77</sup> Hallager & Hallager 2000, 160–1; Barnard & Brogan 2003, 86.

<sup>78</sup> “[...] it was not considered worthwhile to deal with variations on an individual basis” (Martlew 1988, 424); Betancourt 1980, 7. See Types AIII, DIII and F in Martlew 1988.

<sup>79</sup> In Hallager & Hallager 2000, 159, 168, fig. 32, “cooking trays” are smaller and without legs, while “tripod cooking trays” are larger and employ feet. The following description draws on evidence from House II and House I together with other published examples from Mochlos.

<sup>80</sup> ME and loci: thinner trays P89/375 (Room Gamma); P89/770, II 5; P90/843 (Room Kappa); thicker tray P89/812 (II 4, locus 1b). Comparanda: Kommos, Oblique House, LM IA-B (Watrous 1992, 10–1, no. 187, pl. 20); Kommos, other contexts, MM III (Betancourt 1980, thin tray C429 and thick tray C643, fig. 8, with other thick trays from LM IIIB contexts); Seli Kamilari and Phaistos: a thin LM IA tray from the Volakakis plot (La Rosa & Cucuzza 2001, XX–33, 103, fig. 262); Mochlos, the LM IB Artisans' Quarter Building A (IB.581, IB.582, IB.587, IB.588, IB.589, IB.593 and IB.600),

Fig. 42. “Thin” cooking trays (Type A, P89/375, P89/770 and P90/843), “thick” cooking trays (Type B, P89/812) and trapezes (P90/1215). (Scale 1:4).



### C.1) “Thin” cooking trays (Type A)

Thin cooking trays are made in normal cooking fabric, and their walls are on average ca. 1 cm (0.8 – 1.5 cm) thick.<sup>81</sup> The rim diameter varies from 20 to 50 cm, while the majority cluster between 35 and 45 cm. The base of these vessels is not thick, and traces of legs are preserved in a few cases (Fig. 42, P89/770 and P90/843).

### C.2) “Thick” cooking trays (Type B)

Thick cooking trays are made in a distinctive fabric similar to that of trapezes and fire-stands (also known as spit-rests);<sup>82</sup> this fabric consists of a very coarse mixture with many different inclusions, some of which appear to have been smashed into powder. These vessels are considerably larger than the Type A trays, with walls 2–3.5 cm thick (in some cases even 4.8 cm) and bases (when preserved) of similar dimension. The rim diameters vary from 35 to 60 cm, with the average size between 40–45

cm, and the preserved handles are thick and round in section (up to 3 cm). Most trays are provided with three thick legs, but the smaller fragments can easily be confused with the so-called trapezes (Fig. 42, P89/812).

Building B (IB.583, IB.584, IB.592, IB.594, IB.595, IB.598, IB.599 and IB.602), the pottery kilns (IB.585, IB.586, IB.596, IB.597) and Chalinomouri (IB.590, IB.591, IB.601) in Barnard & Brogan 2003, 86–7, figs. 50–1 (most are thick trays with a few exceptions (IB.583 and IB.596); and Pseira LM IB Area BX (Betancourt & Davaras 1999, fig. 40, thick tray BX5 and thin trays BX8–9).

<sup>81</sup> P89/375 (h. 3 cm, d. 33 cm, th. 2 cm) which has low side walls and a squared rim; P89/770 (h. 3.8 cm, d. 30 cm, th. 1.1 cm) which has a more rounded profile and rim and traces of burning on the exterior; and P90/843 (h. 3.2 cm, d. ca. 48 cm, th. 1.1 cm) which has a straight profile and squared rim.

<sup>82</sup> P89/812 (h. 5.6 cm, d. 48 cm, th. 2.4 cm) has a straight, slightly flaring profile and a thick horizontal handle attached below the rim.



## D) Trapezes<sup>83</sup>

Trapezes are disc-shaped and have very low, almost non-existent sidewalls. The interior surface and exterior of the rim are generally water-wiped and smoothed or slipped. The rest of the exterior and the bottom of the vessels are left rough. These vessels are hand-made, in a fabric very similar to that used for thick trays and fire-stands/spit-rests. The size of the vessels varies (rim diameters from 30–40 cm and heights from 0.3 to 3 cm).

This shape is not common, and its function is still unclear. Trapezes may have been used like cooking trays that were heated over fires to make bread or “pita.” It is also possible that some fragments have been misidentified and instead belong to lids for pithoi (especially the very flat ones) or to drain-heads (especially those with low side-walls). Only one example is recorded from House II.1, P90/1215, and it has a slightly raised border (d. 44 cm, h. 2.5 cm, th. 1.6 cm) (Fig. 42, bottom).<sup>84</sup>

## E) Cooking dishes

Very few cooking dishes were found in Room Epsilon, a feature also observed in the larger assemblage from House II.1. Although it is one of the most common Minoan cooking shapes, the function of the cooking dish is still widely debated.<sup>85</sup> These vessels were probably placed on a bed of coals to create a warm surface for toasting, roasting, frying, and cooking thin bread. The deeper examples would also have been suitable for making soups, while other cooking dishes could have been used to make cheese and dyes.<sup>86</sup>

Cooking dishes have an elongated shape with a rounded bottom and large spout on the short, straight side. They are made with extremely thin walls in order to allow the heat to pass through, while the rims tend to be thicker. The interior surface is generally water-wiped and smoothed, while the exterior is left rough. The dishes are hand-made with rim diameters from 30 to 90 cm, with an average between 40 and 60 cm.<sup>87</sup> In excavations, they are usually found broken and re-used in various ways, suggesting the vessels were fragile and used only a few times before breaking.<sup>88</sup>

## E.1) Medium-sized cooking dishes

In Room Epsilon, 21 rim fragments of cooking dishes have been found.<sup>89</sup> These vessels are approx-

<sup>83</sup> Further comment on this shape is provided by E. Banou's response to this paper.

<sup>84</sup> ME and loci: P90/1215 (II 1, locus 1).

<sup>85</sup> Kommos: Betancourt 1980, 5–7 (where the shape is compared to the modern oriental *wok*); Mook 1999 (Kavousi, LM IIIC); Gerondakou 2000 (Zakros, LM I); Hallager & Hallager 2000, 160, 168 (Kastelli Khania, LM IIIC); Barnard & Brogan 2003, 82–3 (Mochlos, LM IB). See also Popham 1984, 174 (Knossos, Unexplored Mansion, LM II) and Borgna 1997, 200 (Phaistos, LM IIIC). The publication of the Mochlos material seems to answer the need for a “[...] common terminology and specific definitions if we are to understand the function, development, and cultural significance of this shape. [...] At this time, there is a great need for rigorous identification of cooking dishes in Minoan ceramic assemblages and for standardizing the nomenclature in publication” (Mook 1999, 504, 508).

<sup>86</sup> In many ways, they have the same use as a kitchen plate or the traditional Cretan *μαγκάλια* (Blitzer 1984, 149–50, fig. 18, 5.8 and Sarpaki 2001, 39). A large and updated discussion of the subject can be found in Barnard & Brogan 2003, 83.

<sup>87</sup> On the basis of the impressions found on the underside of some vessels, it is argued that cooking dishes were hand-made in a mold, either in woven baskets or directly on the ground. The rims were probably attached separately while the vessels were still wet, and the interior was then smoothed. In order to cover the join, clay was probably drawn up from the interior, thereby producing the characteristic thinning out of the bottom. At LM IIIC Kavousi, the rims were wheel-made and regular (Mook 1999, 506–7).

<sup>88</sup> Barnard & Brogan 2003, 82. For this reason, it is generally agreed that these dishes were left near or inside the hearths. At Kommos, fragments of cooking dishes appear in open hearths, while fragments of cooking pots prevail in the closed ones (Shaw & Shaw 1996, 225). At Kavousi, the cooking dishes are made of three different fabrics, thus pointing to different workshops (Mook 1999, 506, n. 23). The fragile and irregular shape of the vessels probably excludes their use in pairs as portable ovens (Hallager & Hallager 2000, 160 in response to this suggestion in Betancourt 1980, 7).

<sup>89</sup> ME and loci: squared rim: P89/1014 (Room Epsilon, locus 2); P89/1022 and P89/1023 (Room Epsilon, removal of stones from a hypothetical wall E); P90/1579 and P90/1590 (Room Epsilon, locus 1); P90/1595 (Room Epsilon?); P90/103/11, P90/115/27 and P90/242/1 (Room Epsilon, locus 1). Larger examples: P89/1061 and P90/1546 (Room Epsilon, locus 1). Rounded rim: P89/1021 (Room Epsilon, removal of wall, northeast corner); P90/1572, P90/1581, P90/1582, P90/103/20 and P90/258/1 (all Room Epsilon, locus 1). Badly preserved: P89/bag 4 and P89/bag 5 (Room Epsilon, removal of east wall); P90/1546, P90/1282 and P90/115/25 (Room Epsilon, locus 1).

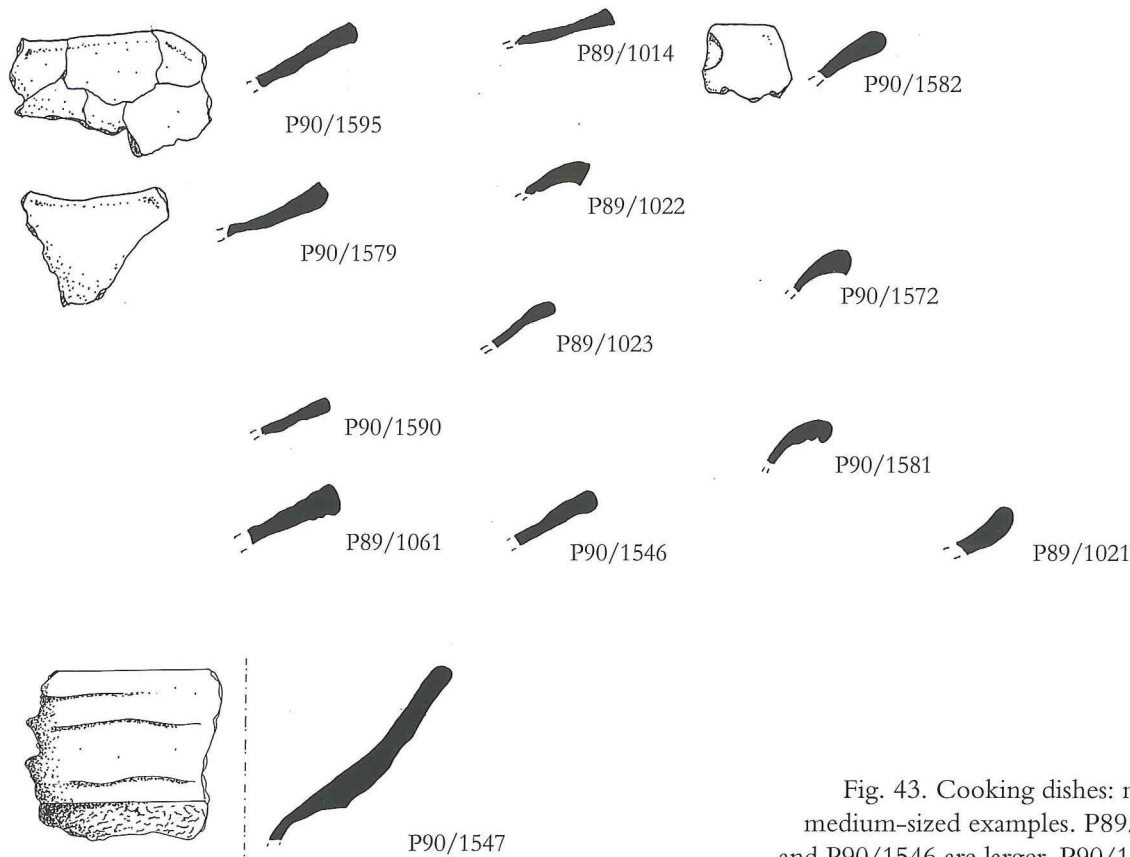


Fig. 43. Cooking dishes: mostly medium-sized examples. P89/1061 and P90/1546 are larger. P90/1547 is exceptionally large. (Scale 1:4).

imately 1 cm thick and have estimated diameters from 20 to 60 cm. Most have a squared rim, including P89/1014, P89/1022, P89/1023, P90/1579, P90/1590, P90/1595, P90/103/11, P90/115/27, P90/242/1. In addition, two examples (P89/1061 and P90/1546) are larger than the others, suggesting that a larger version was also produced (Fig. 43).

Another group of cooking dishes employs a rounded rim: P89/1021, P90/103/20, P90/1572, P90/258/1, P90/1581, P90/1582 (Fig. 43). P89/1021 is the only example with an incurving rim, indicating that it does not form a spout.<sup>90</sup> The other fragments (P89/bag 5, P89/bag 4, P90/115/25, P90/1546, P90/1282) are poorly preserved.

## E.2) Large cooking dishes

Room Epsilon also contained a rim fragment from a very large cooking dish: P90/1547.<sup>91</sup> The rim itself is 7 cm high (Fig. 43, bottom). Dishes of this

size are uncommon, which raises an interesting question regarding its use in this context.<sup>92</sup>

## F) Fire-stands/spit-rests

Three fire-stands were recorded from House II.1, including two from Room Epsilon.<sup>93</sup> The defini-

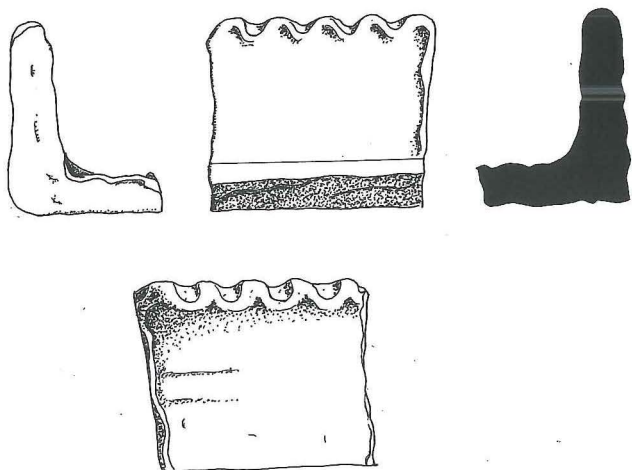
<sup>90</sup> Rim fragments from both the side and spout are known from Kommos (Betancourt 1980, fig. 3, C733, C886–92, LM I-II) and the Artisans' Quarter and Chalinomouri at Mochlos (Barnard & Brogan 2003, figs. 49–50, IB.511–36 from the spout, IB.538–63 from the side, LM IB). Additional LM IB examples are known from Pseira, Area BX (Betancourt & Davaras 1999, fig. 40, BX 6–7).

<sup>91</sup> ME and loci: P90/1547 (Room Epsilon locus 1).

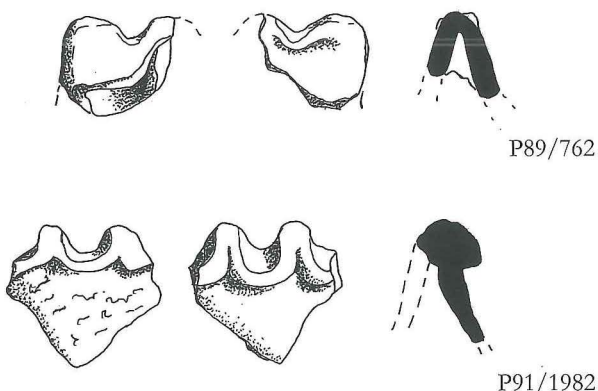
<sup>92</sup> Large examples are known from later periods (LM IIIC): see Hallager & Hallager 2000, pl. 46, 71.P0831 (Kastelli Khania) and Mook 1999, pl. CX (Kavousi).

<sup>93</sup> ME and loci: P89/519 (Room Epsilon, locus 1); P89/762 (Room Epsilon, removal of stones from hypothetical wall E); P91/1982 (Rooms Theta and Iota).





P89/519



P89/762

P91/1982

Fig. 44. Fire-stands/spit-rests. P89/519 Scheffer Type A; P89/762 and P91/1982 Scheffer Type C. (Scale 1:4).

tion and function of the fire-stand/spit-rest is still uncertain; the type of fabric used and traces of burning sometimes found on the sides point to a connection with cooking fires.<sup>94</sup> Scheffer identified three types: A, B and C (but his Types A and B are probably the same).<sup>95</sup> The stands were likely used to hold spits with meat over coals or cooking pots that did not have legs. At Petras, their fabric is quite distinctive, and very similar to that used to make the thick trays and trapezes.

#### F.1) Scheffer Type A

One of the examples from Room Epsilon, P89/519, belongs to Type A. It is "L-shaped" in section and shows signs of being cut with a string on three sides. The surface is self-slipped and smoothed, with the

exception of the base which was left rough. It is 10.5 cm high and 2 cm thick (Fig. 44, top), and a series of depressions on the rim have been interpreted as the rests for spits.

#### F.2) Scheffer Type C

Two more fire-stands, one from Room Epsilon (P89/762) and another from a different room (P91/1982), belong to Type C (Fig. 44, center and bottom). This vessel type resembles a pan or plate made with depressions in the rim, and it was likely used to hold spits above charcoal.

### A summary of the cooking wares

The presence of so many cooking vessels points to the frequent use of fire in Room Epsilon. We should, however, keep in mind that most of the cooking vessels were stored upstairs at some distance from the central hearth of the room.

The cooking ware shapes suggest a date for the assemblage early in LM IB. Some vessels, like the Type C hole-mouthed pots of MM IIIB, may represent antiques or fragments that were built into the floor packing. The large number of both "traditional" (i.e., LM IA) Type B tripod cooking pots and "transitional" Type AB pots is more significant, as it suggests that the transition from Type B had not ended. At the same time, the presence of LM IB Type A pots in slightly larger numbers suggests that this shape was a recent introduction, which should thus be placed early in the LM IB period (Fig. 29). This chronological picture is broadly confirmed by M. Tsipopoulou's analysis of the fine wares.

A comparison of the LM IB cooking wares from House II.1 with those from LM IA House I pro-

<sup>94</sup> A critical review of the shape is provided in Hallager & Hallager 2000, 162. See also Georgiou 1983, 78–80. A full discussion and typological analysis is given by Scheffer (spit-supports with scalloped tops), where three different shapes are recognized (Scheffer 1984, 155–6, fig. 1). See also Chapouthier & Demargne 1942, 51 (where Types A and B are illustrated) and Levi 1988.

<sup>95</sup> Scheffer 1984.

vides a nice conclusion to this study, but one that will remain preliminary until the study of House II.1 is finished. It is also limited by the fact that neither house contains complete or restorable vases.<sup>96</sup>

Two points are immediately visible when we compare the two sets of data (Fig. 45):

- Cooking pots and dishes occur in almost equal quantities in both structures.
- House I contained several trays and trapezes, which are absent from House II.1. While this pattern may point to a different function for each structure, the study of House II.1 must be completed before we can be certain.

The distribution of the cooking pot types (Fig. 46) is broadly similar in both structures; however, House I has fewer Type A (globular) cooking pots and intermediate Type AB pots and more Type B pots. Among the Type B pots, the majority have open mouths similar to the so-called “Type C” cooking pots and conical pans. This evidence is consistent with the earlier LM IA chronology of House I. One of the future questions to be examined at Petras is whether this change in the preference of certain cooking shapes from LM IA to LM IB (at least in eastern Crete) coincided with any meaningful changes in cooking practices.

## Conclusion to the LM IB pottery from Petras House II.1 (M. Tsipopoulou)

The ceramic study of House II.1 is still in progress, but the pottery presented here provides a representative sample of what one might expect to find in other LM IB levels at Petras. In fact, Petras fits easily into the general picture of East Cretan ceramics, with the closest parallels coming from Mochlos and Palaikastro. It appears likely that much of the pottery consumed at Petras in this period was actually produced at Palaikastro, unless the characteristic orange clay was imported to Petras and then used by the local potters. In the exemplary publication of Mochlos Period III by Barnard and Brogan, the importance of regional tradition (or rather, traditions) is stressed. Petras should, undoubtedly, be consid-

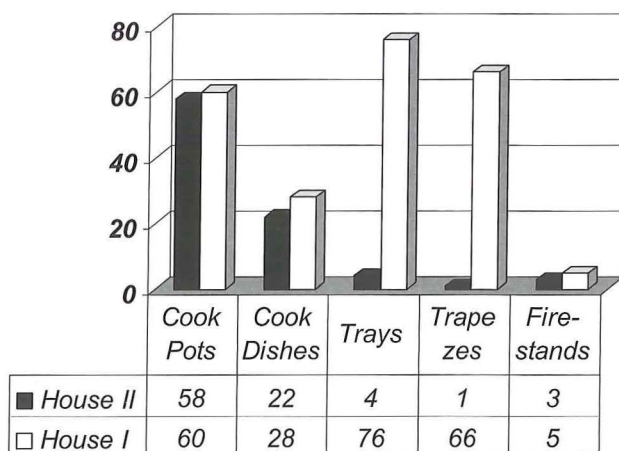


Fig. 45. Comparison between House I (LM IA) and House II (LM IB): the main shapes of cooking wares.

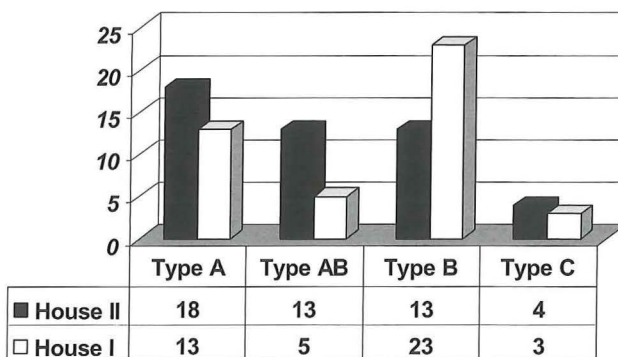


Fig. 46. Comparison between House I (LM IA) and House II (LM IB): the types of cooking pots.

ered a local tradition, but this is difficult to illustrate because so few decorated vessels have good parallels from the area. Moreover, given the poor quality of the extant assemblage at Petras, it is still not possible to determine whether the LM IB destruction at the site happened at an early phase of this period. For now, the available evidence indicates that there was only one LM IB destruction at Petras. The relationship of this event to the other destructions recorded across the island is not easy to establish with any certainty. We would only note the total

<sup>96</sup> The list of complete or restorable cooking pots from Petras House I includes six cooking pots (one of Type A, one of Type AB, and four pans of Type B), while the number from Petras House II.1 includes five cooking pots (three of Type A, one of Type AB, and one pan of Type B).



absence of the shapes and styles that are currently considered to be representative of a late or final LM IB date, such as the Alternating Style. At this point, we can suggest that the LM IB destruction took place earlier in LM IB, and consequently that this period was a short one at Petras.

It is also worth noting that there are some signs of continuity at Petras from MM II and LM I. Petras appears to have been a substantial polity already in the Protopalatial period, during which time it shows few links to Central Crete (at least not North-central Crete). This pattern continues into the LM I period, especially LM IB, when Petras still appears not to have played an important role in Knossian interests in East Crete. Instead, Knossian interests were best (or even exclusively) served by the Palace of Zakros. Thus, Petras was left to continue in a rather diminished capacity, trying, perhaps

only briefly in LM IB, to cope with this new dynamic, until it was finally destroyed and abandoned. The important point to be emphasized, however, is the fact that the Petras Palace and its administration survived into LM IB, even if under stress. During this period of possible Knossian hegemony over eastern Crete, it is not easy to understand the exact form or role of the Petras Palace. It may simply be that Petras was considered insignificant and was thus left to live with the memories of its past glory and even allowed to continue using the hieroglyphic script into LM IB. The Petras economy was based primarily on agricultural resources and was administered by a centralized bureaucratic system, unlike that of Mochlos, where maritime contacts and trade played a much more important role. Petras may thus not have been able to survive and adapt to the new circumstances in LM IB.

# An introduction to the LM IB pottery from Poros: a response to Metaxia Tsipopoulou and Maria Emanuela Alberti\*

Eleni S. Banou

For many years Metaxia Tsipopoulou has been working in eastern Crete, especially in the region of Siteia. Her systematic excavations and research at Petras have made it one of the best understood sites in prehistoric Crete. For this conference, Tsipopoulou presented an informative paper outlining the history of settlement (including burial practices) at Petras from the Final Neolithic to LM IIIB, before focusing on the LM IB phase.

The pottery from Room E of House II.1 forms the core of her discussion, and it fits well within the LM IB tradition. For example, the pithoid jars decorated with double axes and a molded rim (a feature common in East Crete) and a jar with conglomerate pattern have close parallels at Pseira, Mochlos, Gournia and Palaikastro.<sup>1</sup> On the other hand, the handleless bell cups with light-on-dark spiral decoration suggest that the LM IA ceramic tradition is still present; in fact, this light-on-dark style actually belongs to the even earlier MM III tradition. The absence of the Special Palatial Tradition (SPT) at Petras is noteworthy; however, this pattern may be explained in part by the marginal character of the houses at the site, which likely would not have had access to these wares. Another possible explanation, offered by Tsipopoulou, is that limited relations between Petras and Knossos in the LM IB period may have prevented SPT vases produced in Knossian workshops from reaching sites in the Siteia area.<sup>2</sup>

The second half of this paper introduces a deposit of pottery from the Liouni Plot at Poros in Herakleion. I believe it provides evidence for the existence of a transitional LM IB/II ceramic phase. A comparison of the Petras material and the Liouni deposit clearly indicates that the pottery from

Room E of House II.1 at Petras should be dated earlier than the Poros assemblage and perhaps early in the LM IB ceramic sequence.

In the second part of the Petras presentation, Tsipopoulou's colleague, Dr. Emanuela Alberti covers a long neglected component of Minoan ceramics – cooking wares. It is well known that the impetus for studying cooking wares can be traced to the classic article on the subject by Betancourt.<sup>3</sup> Since then, scholars have paid much greater attention to cooking vessels, recognizing their value not only for interpreting specific contexts, but also for the information they provide about the Minoan diet. The best example of such work was the exhibition organized by the Hellenic Ministry of Culture in 1999: *Minoans and Mycenaeans-Flavours of their Time*, which examined the gastronomic habits of the Minoans on the basis of cooking wares and organic residue analysis of cooking pots.<sup>4</sup>

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\* I would like to express my gratitude to Tom Brogan and the INSTAP Publication Team for their assistance in the processing of this material. In particular, I would like to thank Kathy Hall for the careful conservation of the pottery, Douglas Faulmann for the drawings, and Chronis Papanikolopoulos for the photography. This work was conducted in 2004 at the storerooms of the Herakleion Museum and the Stratigraphical Museum at Knossos. I sincerely thank both institutions for providing their facilities and Eva Grammatikaki and Doniert Evelyn for their help.

<sup>1</sup> For Pseira, see Banou 1995c, 35, fig. 38 AB10 and fig. 51 ACD98; Betancourt & Banou 1999, 135, figs. 14–5BQ2, BQ5. For Mochlos, see Barnard & Brogan 2003. For Gournia, see Betancourt & Silverman 1991, fig. 20, no. 579. For Palaikastro, see Knappett & Cunningham 2003, 107–87.

<sup>2</sup> Müller 1997; Betancourt 2004.

<sup>3</sup> Betancourt 1980.

<sup>4</sup> Tzedakis & Martlew 1999.



Alberti's careful approach to the shapes found in the Petras cooking assemblage allows her to date the group to early LM IB on the basis of statistics rather than cooking fabrics.<sup>5</sup> One should be cautious, however, when identifying specific cooking shapes as chronological markers because the shapes of cooking wares do not change dramatically over time.

Alberti's typology includes all of the different forms of cooking wares found in Room E of House II.1 at Petras. Not surprisingly, the dominant shape is the tripod cooking pot, which occurs in a variety of shapes and sizes. Note that:

1. It is generally agreed that Betancourt's Type B tripod cooking pot is earlier than the Type A form. Type B pots were produced over a long period of time, from MM IB to LM II, though Betancourt assigns them primarily to MM III and LM IA. These vessels appear in various sizes and shapes, usually with a wide mouth, straight or slightly convex (i.e., slightly globular) profile, two horizontal handles, thick legs that are oval in section, and occasionally a small spout. The overall appearance of the pot is that of a tall vessel with an elongated body.
2. Pots with the same features as Type B, but with a narrow mouth and pronounced globular profile, are identified as Type A and are found mainly in deposits dating to LM IB and later.

In addition to Betancourt's Type A and Type B, Alberti identifies two more types: Type AB (a combination of A and B) and Type C (a variation with a hole-mouth). She also examines a range of other cooking shapes, like dishes, trays, fire-stands and trapezes/plates.

After providing a preliminary report on the cooking pots from House II.1 at Petras, Alberti concludes her presentation with a comparison of the cooking ware assemblages from House I (LM IA) and House II (LM IB). Although the author stresses that the results are still in a preliminary form, it would have been more useful if the statistics, as shown in the chart, had distinguished the number of complete or nearly complete vessels and the specific shapes.

Finally, Alberti emphasizes the fact that the ty-

pology of cooking vessels shows a strong continuity through LM IA. She then raises the possibility that the Type AB cooking pots (with an elongated body and convex profile) may represent a "key" transitional phase in cooking shapes between LM IA and LM IB. There is, in fact, a subtle difference between Betancourt's Type B and Alberti's Type AB, primarily in the rim diameters. A comparison of a Type AB cooking pot from Petras with a Type B MM III example from Kommos<sup>6</sup> confirms that the Type AB pots do have smaller diameters. Given that the difference is small, it may be preferable to avoid the term Type AB and simply label vessels of this shape as Type B. At the same time, I agree with Alberti that there is a trend towards cooking pots with smaller rim diameters in East Crete during LM IB.<sup>7</sup>

Further light on the development of cooking pots is provided by the new assemblage of LM IB material excavated in the Liouni Plot at Poros Herakleion.<sup>8</sup>

Betancourt's classification and chronological implications regarding cooking pots remain valuable on a broad level. To the published Type B examples from Kommos, which are mainly MM IIIB-LM IA in date, we can now add two unpublished examples of Type B from the MM IIIB/LM IA deposit at Pera Galenoi (Fig. 1a). This shape does, however, clearly continue in several LM IB and LM II deposits; examples are found in the LM IB and LM II deposits at Kommos,<sup>9</sup> the LM IB deposits at Splanzia Khania,<sup>10</sup> a stratified late LM IB deposit from the Liouni Plot at Poros in Herakleion (Fig. 1b), an LM IB deposit at Gournia,<sup>11</sup> and an LM IB deposit at Pseira.<sup>12</sup> Moreover, Type A cooking pots (usually dated to LM IB and later) are found

<sup>5</sup> Statistics that calculate the number of whole vases or largely restorable vases and diagnostic sherds in each deposit have proven extremely useful in Minoan pottery studies. Here Alberti is also trying to attribute a chronological significance to the percentages, which is challenging.

<sup>6</sup> E.g., Betancourt 1990, fig. 26.

<sup>7</sup> Barnard & Brogan 2003, figs. 47–8.

<sup>8</sup> Banou 1996, 630–2.

<sup>9</sup> Watrous 1992, fig. 16, no. 218, fig. 26, no. 581.

<sup>10</sup> Tzedakis & Martlew 1999, fig. 77.

<sup>11</sup> Betancourt & Silverman 1991, fig. 15, no. 519, fig. 16, no. 520.

<sup>12</sup> Floyd 1998, fig. 3 BS/BV35.

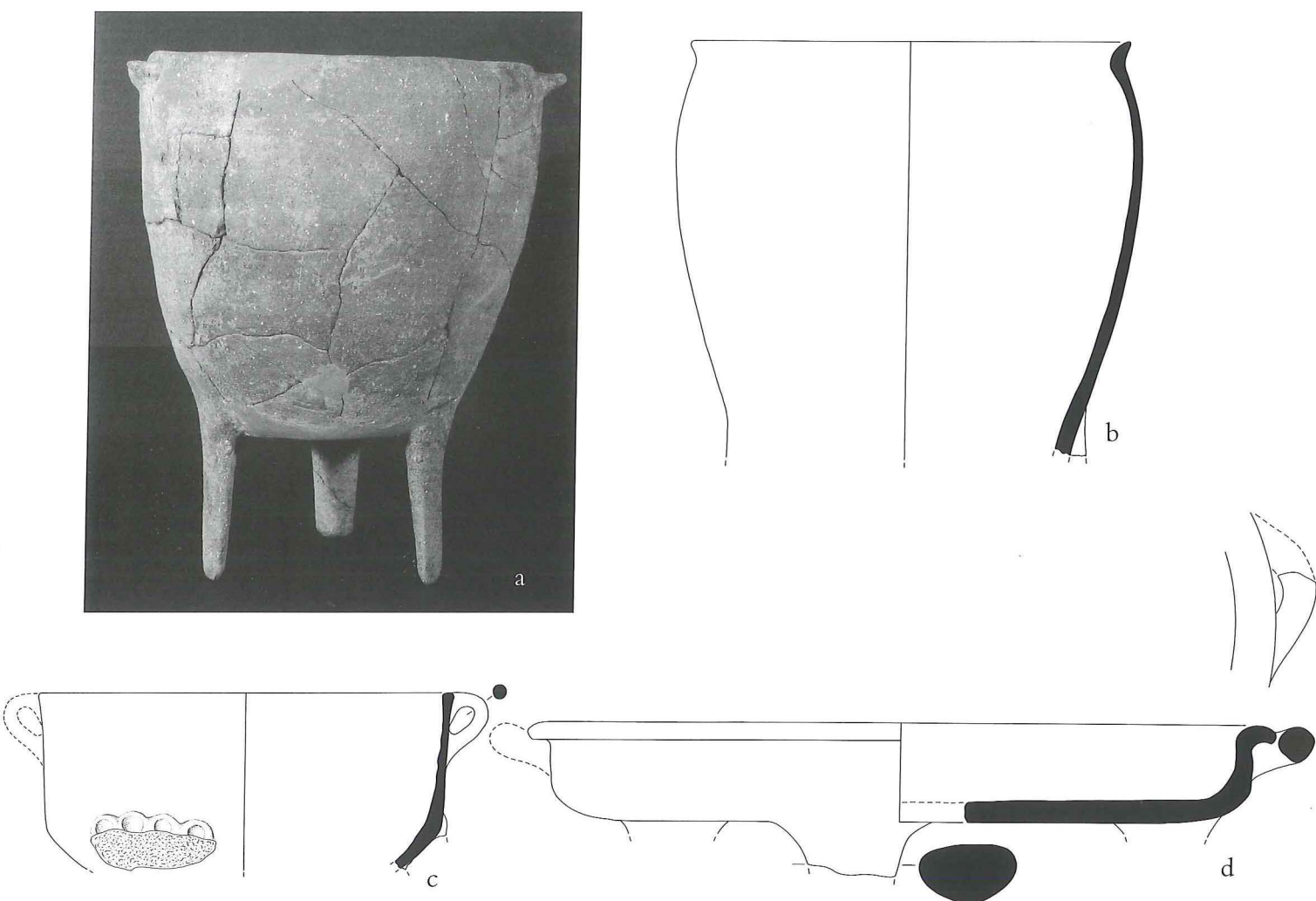


Fig. 1. Cooking vessels from Pera Galenoi (a) and Poros, Herakleion (b-d).

in both of the LM I houses (I and II) at Petras, and they occur in earlier Neopalatial deposits at Pera Galenoi (Fig. 1a). I would even suggest that we add another parameter to this classification, namely the ratio of body to leg size. What characterizes the cooking pots, particularly in the MM III and LM I periods, is the relation of the elongated body to the legs (3:1), regardless of the body profile (vertical or globular). It is only in LM IB and LM II, when the body becomes squat, that the shape conveys a body to leg ratio of 1:2. One slight drawback to using this criterion is that complete pots or at least complete profiles are required; however, every significant deposit furnishes at least one or more restorable cooking pots and the legs are usually preserved in full length. Taking this parameter as a

broad chronological measure, I suggest that cooking pots with an elongated body are produced from MM II through LM IB, while those with a short/squat body should be assigned to LM IB and later. The smaller and miniature pots of the pan or cup type with a vertical handle (as recorded from House II.1) belong to a different category (as they represent another vessel type).

This new distinction provides an additional means of studying the cooking pots from House II.1 at Petras. Using the ratio of body to leg height, we find that some Type A examples and the “crucial Type AB” do not provide clear evidence for a later date. Indeed, very few Type A cooking pots meet the proposed 1:2 body-leg ratio of LM IB. But this should not be surprising and may in fact



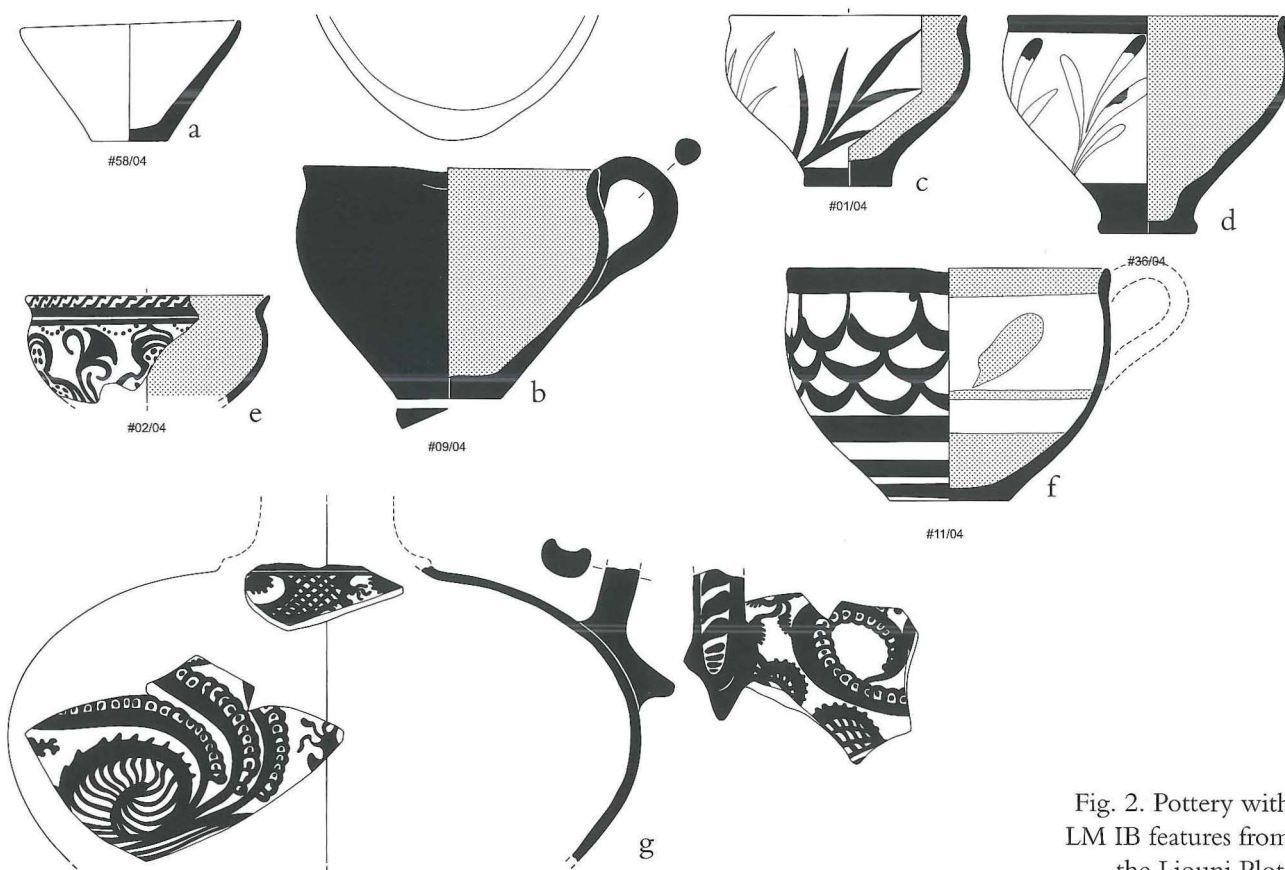


Fig. 2. Pottery with LM IB features from the Liouni Plot.

corroborate Alberti's conclusions. It suggests that the cooking ware from House II.1 remains within the MM IIIB-LM IA tradition, with only a few Type A examples looking towards the developments of LM IB.

I would like to conclude my review of the Petras material with a few words on the other cooking shapes. The pan-shaped vessels from House II.1 with plastic decoration between the front legs find a good parallel in the LM IB Late deposit from Poros (Fig. 1c). These pan-shaped tripod vessels should not, however, be confused with Type B cooking pots; they are a different shape. In addition, the size and forming techniques of the so-called plates or trapezes from Room E recall the unpublished "vat slabs" from Kommos. They do not seem to be plates like the complete set that was found in an MM III-LM IA deposit at Galatas.<sup>13</sup> An example from Pera Galenoi also suggests that this shape can be traced back to an even earlier period (MM IIB).<sup>14</sup> For this vessel form at Petras, I would suggest the

term "slab." The function of these pots can only be speculated, but cloth dyeing is certainly among the possibilities. Finally, cooking trays or baking pans are usually provided with legs, like the complete example from the LM IB Late deposit from Poros (Fig. 1d).

## The LM IB/II deposit from the Liouni Plot at Poros, Herakleion

In 1996 as an Epimelete of the 23rd Ephorate of Antiquities in Herakleion, I conducted a brief rescue excavation in the Liouni Plot in the suburb of Poros, Herakleion. This plot is located 550 m inland from the modern harbor. Only Late Minoan deposits were found in the excavation, and they contained a rich assemblage of pottery dating from

<sup>13</sup> Rethemiotakis 1994, 706, pl. 228b.

<sup>14</sup> Banou & Tsivilika 2006.

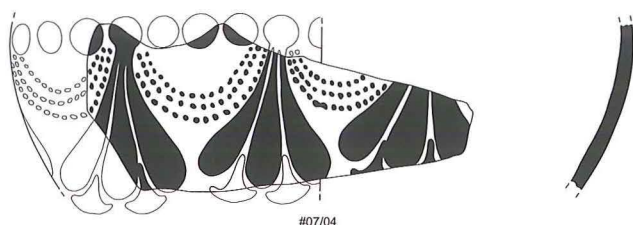


Fig. 3. LM IB pendants and festoons.

LM IB to LM IIIB.<sup>15</sup> Due to the limited size of the plot, a small trench (Trench V) measuring 3 x 2 m was opened. This trench exposed part of one ancient room with remains of a large wall, constructed of dressed blocks, on the north side and traces of a small square hearth on the east. This space probably served as a kitchen.<sup>16</sup>

A large assemblage of pottery, part of a destruction deposit, was recovered from the interior of the room. This deposit, consisting of Levels 7b and 8–10, proved to be particularly informative regarding the topic explored by the LM IB workshop and in particular, the tantalizing issue of the existence of a late LM IB period or a transitional phase between LM IB and LM II. This paper is not intended to be a detailed presentation of the material from the Liouni Plot, which will be published elsewhere, but is instead directed at the specific question of possible LM IB sub-phases.

The deposit under discussion consists mainly of complete or restorable vases and exemplifies the following general features:

1. Stratigraphically, it lies between an (upper) LM II–IIIA1 context (Levels 4–7 and 7a) and bed-rock (lower).
2. The pottery was found buried within a thick burnt layer which represented the destruction deposit of the building (i.e., a floor deposit).
3. The LM IB style (no LM IA was recognized) is reinforced by the presence of the Special Palatial Tradition (SPT), including excellent examples of Knossian quality Marine Style. The deposit contains more than sixty complete vases, occurring in three different Minoan fabrics – fine, coarse buff-tempered and coarse red-tempered (for cooking activities) – and one non-Minoan fabric.
4. Conical cups, semiglobular cups (both mono-

chrome and decorated), and jugs form the majority of shapes.

5. Certain shapes and decoration are canonical for LM IB; however, a few shapes and motifs appear to anticipate the subsequent LM II ceramic style.

## Typical LM IB features in the deposit

### *Fine fabric (plain and decorated)*

The most popular shape is the small, thin-walled, plain conical cup (Fig. 2a), with rim diameters ranging from 8 to 8.5 cm and heights from 3.5 to 4 cm. The plain or monochrome, handleless, semiglobular cup (Fig. 2b) continues the LM IA tradition.<sup>17</sup> The handleless, concave-convex (i.e., ogival) cup with a pronounced everted rim is almost exclusively decorated with reeds (Fig. 2c), also following the LM IA tradition.<sup>18</sup> Several examples of this cup type are present in the deposit, and it is worth noting that the reeds conform to the earlier LM IA style, with the leaves springing from a main stem and ending in fine points. This motif, usually in clusters of two or three stems, covers the entire body surface. An additional group of one-handed cups with ring bases is also decorated with reeds, but these leaves taper to rounded ends, foreshadowing the style of the next period (Fig. 2d). Clusters of reeds are also used to decorate the beaked jugs.

Another popular LM IB shape is the deep cup decorated with plain scale pattern or scale pattern filled with dots (Fig. 2f).<sup>19</sup>

Several vases belong to the Special Palatial Tradition. These include a small cup with metallic profile decorated with papyri and shields (Fig. 2e), a beaked jug with argonauts and seaweeds (Fig. 2g), several sherds decorated with pendent festoons, and

<sup>15</sup> Banou 1996, 630–2.

<sup>16</sup> Banou 1996, fig. 8.

<sup>17</sup> Popham 1984, fig. 144, nos. 21 and 17.

<sup>18</sup> Popham 1984, fig. 143, no. 6, pl. 133d.

<sup>19</sup> Mountjoy 2003, fig. 4.22, no. 349.



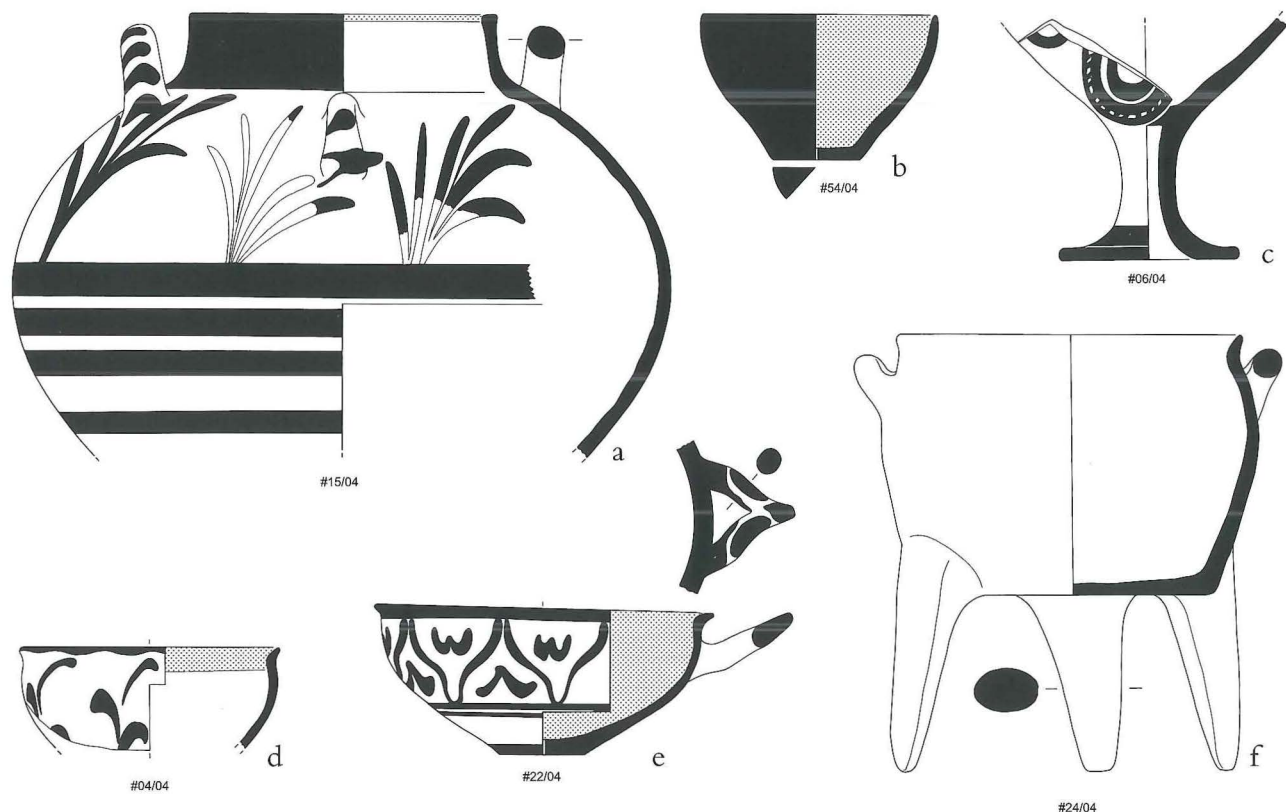


Fig. 4. Vessels that foreshadow LM II from Poros, Herakleion.

a large sherd decorated with pendants and festoons in the Abstract Style (Fig. 3).

All of these vases have parallels in the stratified LM IB deposits from Kythera (particularly deposits ξ and ν),<sup>20</sup> Archanes,<sup>21</sup> Pseira,<sup>22</sup> and from the unstratified LM IB deposits in the South House at Knossos.<sup>23</sup>

## Features foreshadowing the LM II style

Several aspects of the Liouni ceramics, including the fabric, shapes and decoration, appear to surpass the typical LM IB style and foreshadow the following LM II style.

### *Fabric*

A soft, greenish fine fabric (perhaps a new fabric or technology) is present in the deposit. This fabric has been observed by several scholars working on LM IB-LM II material in Central Crete. One ex-

ample from the Liouni deposit consists of a wide-collared jug decorated with clusters of reeds (Fig. 4a). Popham also noted “green to yellow soft ware present in LM IB and LM II,” and this jug shape is found in the LM II deposits at MUM and at Kommos.<sup>24</sup> Low, thin kylix stems made of this soft green clay are also present in the Liouni deposit.

### *Shapes*

The deep monochrome one-handled cup with roll handle and pulled rim is represented by a considerable number of examples in this deposit (Fig. 4b), and the shape finds identical parallels from the MUM at Knossos.<sup>25</sup> The appearance of a goblet in

<sup>20</sup> Coldstream & Huxley 1972, pl. 39, no. 103–4, pl. 40, no. 149.

<sup>21</sup> Sakellarakis & Sakellarakis 1997, 420.

<sup>22</sup> Betancourt & Davaras 1999, fig. 8BE 7.

<sup>23</sup> Mountjoy 2003, fig. 4.22, no. 346.

<sup>24</sup> For Knossos, see Popham 1984, 62, and 180; for Kommos, see Watrous 1992.

<sup>25</sup> Popham 1984, pl. 81.

soft greenish clay with fugitive paint (decoration of pendent loops?) is a new feature, which again belongs to the LM II style (Fig. 4c). The stems from several small kylikes were also collected from this deposit. The presence of a complete bowl with a wishbone handle, decorated with a tri-curved arch motif (Fig. 4e), recalls a similar bowl from an LM IB tomb from Poros and another from the LM II MUM deposits.<sup>26</sup>

### Decoration

On a few cups and bowls, the leaves of the reed motif are painted with thick brush strokes (Fig. 4d). This style of reed appears to be very popular in the LM II levels at Knossos and Kommos.<sup>27</sup> Other motifs, such as the “papyri and shield motif”, are found in deposits traditionally dated to LM IB, but they appear to express a new military ethos that could easily be assigned to LM II, foreshadowing the new LM II pictorial style. Other motifs include scale pattern, dotted scale pattern, and running spiral.

### Tempered fabric-red coarse fabric

Shapes in these fabrics are difficult to date with precision and are usually dated by their context. The few vessels in tempered fabric found in this deposit include an undecorated conical basin and a large base, perhaps from a large open shape like a basin, decorated with thick undulating lines on the interior.

Several fragments of the red coarse fabric belong to Type B cooking pots, including one complete vessel (Fig. 4f) which has an identical parallel from the LM II MUM deposits. Here the body to leg ratio is 1 to 1.

## Non-Minoan fabric

A nearly complete Canaanite jar was found in the upper part of the Liouni deposit (Fig. 5). This vessel retains the typical features of the Canaanite jars from the early part of the Late Bronze Age with an ovoid body and rounded shoulder.<sup>28</sup> A close parallel for our example was uncovered at Akrotiri by Mar-

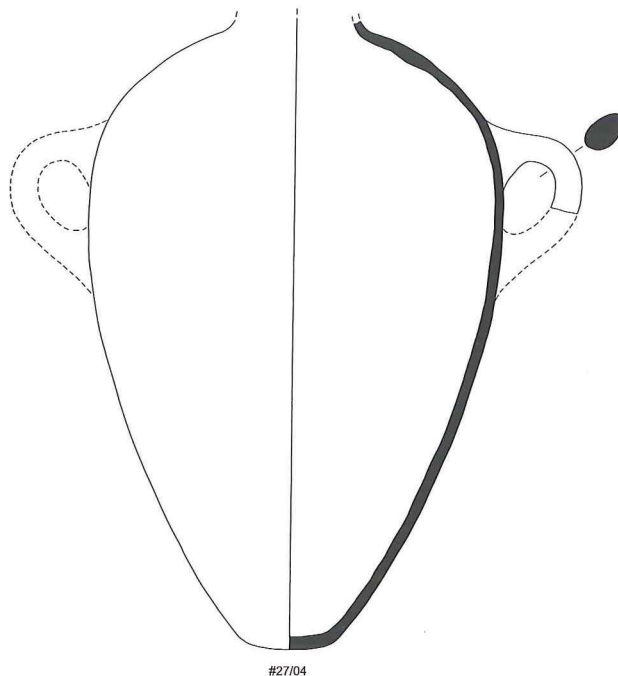


Fig. 5. Canaanite jar from Poros, Herakleion.

inatos in an LM IA context;<sup>29</sup> however, the vessel from Poros represents the earliest extant complete jar of this type from Crete (in subsequent periods, particularly in LM IIIA, many Canaanite jars are known from Kommos). Its presence at Poros should not, however, come as a surprise given the fact that Poros was the most important Minoan harbor on the north coast.<sup>30</sup>

## Conclusions

The LM IB deposit from the Liouni Plot contained no pottery that can be dated earlier than LM IB; in fact, the pottery is noteworthy for its mixture of elements from both LM IB and LM II styles, and it appears to be contemporary with the “LM IB” deposit from the South Corridor in the MUM. The

<sup>26</sup> For Poros, see Dimopoulou-Rethemiotaki 2004, 372, fig. 31, no. 16; for MUM, see Popham 1984, pl. 51.

<sup>27</sup> For Knossos, see Popham 1984, pl. 90c-d; for Kommos, see Watrous 1992.

<sup>28</sup> Amiran 1969–70, 140; Raban 1980.

<sup>29</sup> Marinatos 1976, 30, pl. 49b.

<sup>30</sup> Dimopoulou-Rethemiotaki 2004, 363–80.



excavator of this deposit believed that the pottery "is either mixed with LM II or represents a very early stage of LM II."<sup>31</sup> Finally, the deposit contains mixed material, but it is not mixed stratigraphically with later levels.

The features which appear to be post-LM IB and are closer to the LM II style include the use of a soft, greenish porous fabric, which may thus represent a characteristic of LM IB/II transitional pottery production, and various vessel shapes. Among these transitional forms are deep monochrome or plain one-handled cups, bowls with a wishbone handle, goblets and small kylikes. No less important is the absence in the Poros deposit of deep monochrome cups with strap handles and deep monochrome bowls.

The pottery is also decorated with a mixture of LM IB and LM II motifs. The LM IB repertoire includes scale pattern, dotted scale pattern, running spiral, reed motif, Marine Style, and Abstract motifs of the SPT, while motifs like tricurved arches and pendent festoons are more easily ascribed to the subsequent LM II ceramic style. A few motifs, like the reed motif, are rendered in a more abstract manner, including reed that is painted with the thick brush strokes more commonly found in LM II. Finally, some Neopalatial motifs like the "shield and papyrus pattern" may herald or reflect or express a militaristic social class often identified with LM II at Knossos.

The most difficult question thus appears to be what should we call this deposit – late (or mature)

LM IB? LM IB/LM II transitional? or simply early LM II? Because pottery styles are like "moving sand," they cannot be defined easily in layers of soil. One option is to allow statistical analysis to help us date deposits. Unfortunately, the study of the Poros deposit is still at an early stage and statistics have not yet been compiled for the pottery. It is apparent from our preliminary review of the material that most of the features are still LM IB in style; however, there are a few new elements that give the material a mixed, transitional character. Therefore, the term "LM IB/II" is tentatively suggested. Others may wish to call it mature or late LM IB. But if we decide to label it thusly, we should then accept the fact that certain shapes traditionally called LM II, like the Ephyraean goblet and the small kylikes, were introduced during the Neopalatial period, possibly by new arrivals (Achaean?). In fact, the Marine Style goblet from the MUM,<sup>32</sup> when viewed in light of the Liouni evidence, also suggests that this shape was introduced while the Marine Style was still in use. In this case, the term "transition" is suitable to express a social "episode" on the island, that is, the moment of interaction and amalgamation of two cultures, the Minoan and the Mycenaean. Further research will hopefully clarify these issues.

<sup>31</sup> Popham 1984, 158, pl. 124.

<sup>32</sup> Popham 1984, pl. 124b.

# Discussion

**Alberti** This method used by Eleni Banou to make a chronology for cooking wares is really interesting: I wonder if it could work also with the material from Petras. Obviously we know that coarse wares cannot be used to achieve a fine chronology, and that's why I tried to use statistics, whenever possible. Obviously, it's a small assemblage, and the study could perhaps have been more accurate if it had been larger, but, at least, when I finished my work and saw that Metaxia [Tsipopoulou] had the same results, I was quite satisfied. As far as the typological division used in this work is concerned, obviously the AB group is fundamental. Studying the pottery from Petras House II I decided to separate the so-called AB pots because they were very different from the rest of the assemblage; thus, the large bowls could not go with the small, almost cylindrical pots, so that's why I tried to separate them and to make another sub-class.

**Cunningham** We do have at least one spouted basin in our Period XII destruction, but it's definitely the very latest of the local things that we have there. And it really is a IIIA1 piece. It's one of the ways we see just how late our Period XII destruction is. The form goes back all the way to MM III, but it's usually larger and made in a cooking pot fabric through LM IA and B, and then right at the end of Period XII it starts being made by the same local production center that makes light-slipped and burnished ware, and that's one of the markers, but we do have it in the destruction.

**Tsipopoulou** Thank you. Don't you agree that this is Palaikastro ware? Because we have a lot of pottery from Palaikastro at Petras and it is very easily recognizable.

**Cunningham** That's unmistakable, even from a photo.

**Dabney** Hi! I had a question about your evidence for the function of specialized activities in the building. Do you have any information on the faunal remains or the stone tools?

**Tsipopoulou** Yes. As I said, we have these very strange cuttings in the bedrock; they are very well-organized like drains and *gournes*, especially on the edges and corridor of Room Epsilon, and in an open area outside of the house we have larger cuttings, which we filled with water to determine how they all interconnect. Also, we had many loomweights from the upper floor, and we have several instances of the pictogram for cloth. We have the *gournes*, and especially these double *gournes*, known elsewhere only from Malia. And, yes, we had many stone tools connected with the *gournes*; additionally, the impression formed, especially at the time of excavation, was of a large amount of cooking pots, unlike in other areas, such as our House I.1, which is not exactly contemporary, but is also Neopalatial. That's why I suggested this.



- Dabney** Do you have any animal bones from the house that have been studied yet?
- Tsipopoulou** We have very few animal bones, but they have not yet been studied.
- Dabney** And the other question: were the miniature jugs and the miniature conical cups associated with each other?
- Tsipopoulou** No.
- Hemingway** We also have one of these slabs or lids like you showed, very large, at Palaikastro in an LM IB context from Building 4, also in a kind of cooking assemblage. The upper surface is very carefully finished and the underside is very rough; it doesn't seem to be a lid.
- Tsipopoulou** Maybe Lefteris [Platon] has an idea. There are three or four complete examples from Zakros in the Siteia Museum hanging on the wall. They might be like tables. But, of course, they have these suspension holes, four of them.
- Alberti** I went in June to Palaikastro and saw the cooking pots and also this strange "plate", and I noticed that its section and manufacture are exactly the same as what we call *trapezes*, but we have just fragments. Probably our *trapezes* are something like this.
- Brogan** I was fortunate enough to see Metaxia's pottery at the Study Center while Kellee [Barnard] and I were preparing our papers, and it's very clear that her ogival cups and the fragmentary pottery from this deposit match very well with the early floors at Mochlos. And so I think that this is a really important deposit for this earlier phase. How was the building abandoned? A fire destruction?
- Tsipopoulou** There was a fire destruction.
- Brogan** So it's a real destruction at the site in this period. That is an important point for the conference. And then, we also have a double *gourna* at Mochlos; it's in a mixed LM III level but probably was LM I. And, finally, it's really too bad that Eleni [Banou?] couldn't show that pottery. As Peter [Warren] said, a few of us were lucky enough to see it at the Strat. It's a very interesting mix of what looks LM IB, though looking back and having seen the full deposits you showed, we probably would look at it differently. It would also be interesting to go back because I think there were twenty levels, or twenty-one levels, and we were at the time only interested in looking at the late ones, the LM IB/II transition. But now having heard everyone's papers, it would be worth going back to the deposits and looking for earlier divisions in those as well.
- Vlazaki** Congratulations for this excellent presentation. I am thinking of the activities that were performed there and about wool dying. What about the perfume industry? I mean, do you have these miniature conical cups, do they have burned lips, or do you have others with pouring lips? Because the whole picture has something to do with the perfume industry, and there were fireboxes everywhere; it doesn't mean that we

had evidence of the perfume industry everywhere, but strainers and *gournes* are also good for this.

**Tsipopoulou** While I was writing this and again during this conference, I was thinking more and more of this possibility. And, I think my, if you want, *idée fixe* about the wool industry depends mostly on the pictogram of cloth. But, of course, the perfumed and special oil, as Erik [Hallager] knows, in the Linear A nodulus could be used either in the perfume industry, or to wash the wool etc., or they could have been combined. Yes, you are very right. We have this. And also the small juglets and the very small conical cups, I believe they were used to measure something, so what was this? Perfume? Oil? Dye?

**Vlazaki** Yes. But do you have powdered colors, have you found any?

**Tsipopoulou** Not in the *gournes*, I can tell you that we didn't find any. But unfortunately we didn't have the possibility at the time to do chemical analysis to see whether there were any traces.

**Vlazaki** For Emanuela, in Khania we have the Type 2 cooking pot with the short legs until the end of LM IB, and it is the classical type for Khania. We don't have the other one with the two vertical handles, only small ones with one vertical handle.

**Alberti** Yes. We have to consider the chronological dimension, but obviously Type A pots start early, as we know. And Type B pots always continue, we know that. What I cannot understand is whether the development that we see in East Crete can be applied to other parts of Crete: that's something I cannot say, but probably it is not the same.

**Tsipopoulou** If I may add something here, the production of cooking pots, as you all very well know, is very localized and it is surprising that we find so many parallels. For instance, the cooking pots from Petras and the pots from the Achladia Villa are significantly different. They are produced by different workshops. They look generally the same but they are different, both the legs and the handles.

**Doumas** First of all I would like to say that large discs used as lids have been found in Akrotiri *in situ*, so these can also be lids. I was impressed that tripod cooking pots were stored in the upper story, which is very strange. But one has to bear in mind that quite often vessels were kept high on shelves even in the ground floor; we have evidence from Akrotiri about that. But, I was not impressed by the number of cooking pots, because in Akrotiri they are counted in the hundreds in every house. But I was impressed by the variety of types, which, I think, may indicate a variety of functions: cooking, boiling, stewing, making herbal teas, boiling water for the extraction of oil, dyeing, and so on. There are many possible functions, and I think this variety is more impressive than anything else.

**Warren** Two very brief comments. First of all as to the function of these (I'm not quite sure what you call them but we have tended to call them baking plates) very, very thin



huge dishes, they go way back in the Cretan tradition, that is, as far back as the Early Minoan IIB destruction at Phournou Koriphi. We actually had one or two of these things *in situ*, albeit broken, and, of course they were set on the ground and they had indications of fire underneath them, so, they really were used for some heating purpose, and the thin fabric would have supported that. But then, one brief question, following a little from what Christos has just said. I too found it a little surprising that all these pots, or at least many of them, were on the upper story. You said that there was collapse associated with heat or fire; is it now possible that you think the building was destroyed in a fire? But the notion of having pots involved with some sort of heating and fire on an upper floor is not easy to understand really, you would expect these kinds of fire operations to be on a ground floor.

**Tsipopoulou** There were lots of cooking pots, complete and broken on the floor and by the central hearth that we have there. But others came from the upper floor. Maybe they were stored there. The stratigraphy was not so difficult, because we don't have other periods in this house. So, yes there were some from the upper floor but there was sizeable activity going on there and many broken pots were found in the fire, as well as conical cups.

**Betancourt** On the same subject, at Pseira the kitchens were routinely on the upper story, and cooking pots were stored there as well, and there may be a simple explanation for this: it is easier to get the smoke out from the upper story than from the ground floor, if you have a multi-story building.

**Sackett** I think that what you'll be seeing shortly from Palaikastro is the case of grills actually fallen from either the roof or the upper floor into more than one room; it's absolutely secure, they certainly were not on shelves.

**Platon** On the chronology. I do not agree with the view expressed by Eleni Banou that the pottery is LM IB Early, because of the presence of the ogival type cups with light-on-dark decoration, which have also been found in Mochlos and Zakros in the latest Neopalatial level.

**Tsipopoulou** So, I think one of the conclusions of this conference will be that all of these destructions are contemporary, they happened on the same day!

**E. Hallager** That remains to be seen after the final discussion. Thank you very much and now we will proceed to Palaikastro and I would like to ask Hugh to say a few words before.

**Sackett** I would just like to say that this report is by MacGillivray *et al.* There is a lot of *et al.* here, four or five very senior people who have actually worked at Palaikastro and three or four now present. Sandy MacGillivray himself just was released from the hospital the evening before this conference and is not, I think, here, we weren't sure if he was going to come. But, I would say that I have once or twice given a report with him and someone felt inclined to say, "Why the two of you?" And I would answer that I am going to give some facts and Sandy is the ideas man. And I think that some of the creative thinking, which he normally provides, will be covered by Seán

[Hemingway] who excavated two of the main houses and so is a very suitable person to be doing this. Eleni Hatzaki also has just finished publishing one of the important deposits, which is in proof stage at the moment.





# The LM IB Renaissance at postdiluvian Pre-Mycenaean Palaikastro<sup>\*</sup>

*Seán Hemingway, J. Alexander MacGillivray & L. Hugh Sackett*

Palaikastro was a major Minoan settlement in eastern Crete during the Late Bronze Age, and it supported its own pottery workshops, as well as imported pottery from elsewhere on the island and further afield.<sup>1</sup> Three successive campaigns of excavations, intermittently spanning more than a century, have provided a large corpus of pottery belonging to the Late Minoan IB period, which is the single largest destruction horizon represented on the site.<sup>2</sup> The first large-scale excavations more than a century ago yielded good representative examples of the main types of pottery that occur at Palaikastro in the Late Minoan IB period. By and large, the more recent excavation campaigns have not dramatically changed this picture, but our understanding has been enriched through more detailed study and publication of the pottery, especially the plain wares and local painted fine wares. Many of the fundamental characteristics of pottery typology and decoration from LM IB Palaikastro, known as Periods XI and XII in the excavation's local site phase terminology, are described below.<sup>3</sup> Recent excavations provide clear stratigraphic evidence for at least two destructions at the site during the Late Minoan IB period, a phenomenon that can also likely be identified in the earlier campaigns. However, preliminary analysis of the pottery from these two sub-phases has not yielded significant distinctions in the ceramic assemblages.

The British archaeologist Robert Carr Bosanquet came to Palaikastro in April of 1902 in the hopes of finding a Palace like that which Sir Arthur Evans was then excavating at Knossos and also of locating the famous Greek sanctuary to Diktaian Zeus, a sacred place of the thunder god renowned in antiquity. The first area excavated

is situated by the sea in the plain known as Roussolakos, or "Red pit," because of the very red color of the soil there. While no remains of a palace like that at Knossos emerged from the early British investigations, Bosanquet and his team excavated a substantial area in the five seasons from 1902–1906, revealing a sizeable Minoan settlement with large houses and regular paved streets; in addition, they discovered significant remains from the later Greek sanctuary to Diktaian Zeus.<sup>4</sup> Their research

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<sup>\*</sup> The authors wish to thank our colleagues who work at Palaikastro, notably Tim Cunningham and Carl Knappett, both of whom read an early draft of this paper and offered their comments, as well as Maud Devolder, Jan Driessen, Colin Macdonald, and Ilse Schoep. In addition, we wish to recognize our team of conservators and illustrators, especially Effie Anaplioti, Carol Bankerd, Colette C. Hemingway and Eleanor Sackett. Our sincere thanks go to Thomas Brogan and Erik Hallager for organizing the conference. We would like to acknowledge the continuing support of the Institute for Aegean Prehistory and the Metropolitan Museum of Art in New York, which provided support for Seán Hemingway's participation, most notably through a Theodore Rousseau Travel Grant. The final publications of the British School at Athens' recent excavations of Minoan Palaikastro are currently being researched and completed, so this presentation must necessarily be understood as a work in progress, and, that notwithstanding, any errors in this paper remain those of the authors.

<sup>1</sup> For general discussion of the Minoan settlement, see MacGillivray & Driessen 1990, 395–412; MacGillivray & Sackett 1992, 221–31; Aston & Taylor 1998, 48–51.

<sup>2</sup> On the history of the excavation of the site, see Driessen, MacGillivray & Sackett 2002, esp. pls. 1–5; Driessen 2000, 119–20.

<sup>3</sup> On the significance of local site terminology, see the paper by Tim Cunningham in this volume.

<sup>4</sup> The preliminary reports of the early excavations appeared in the *Annual of the British School at Athens*: Bosanquet 1901–2, 286–316; Bosanquet *et al.* 1902–3, 274–387; Dawkins & Currelly 1903–4, 192–231; Dawkins, Hawes & Bosanquet



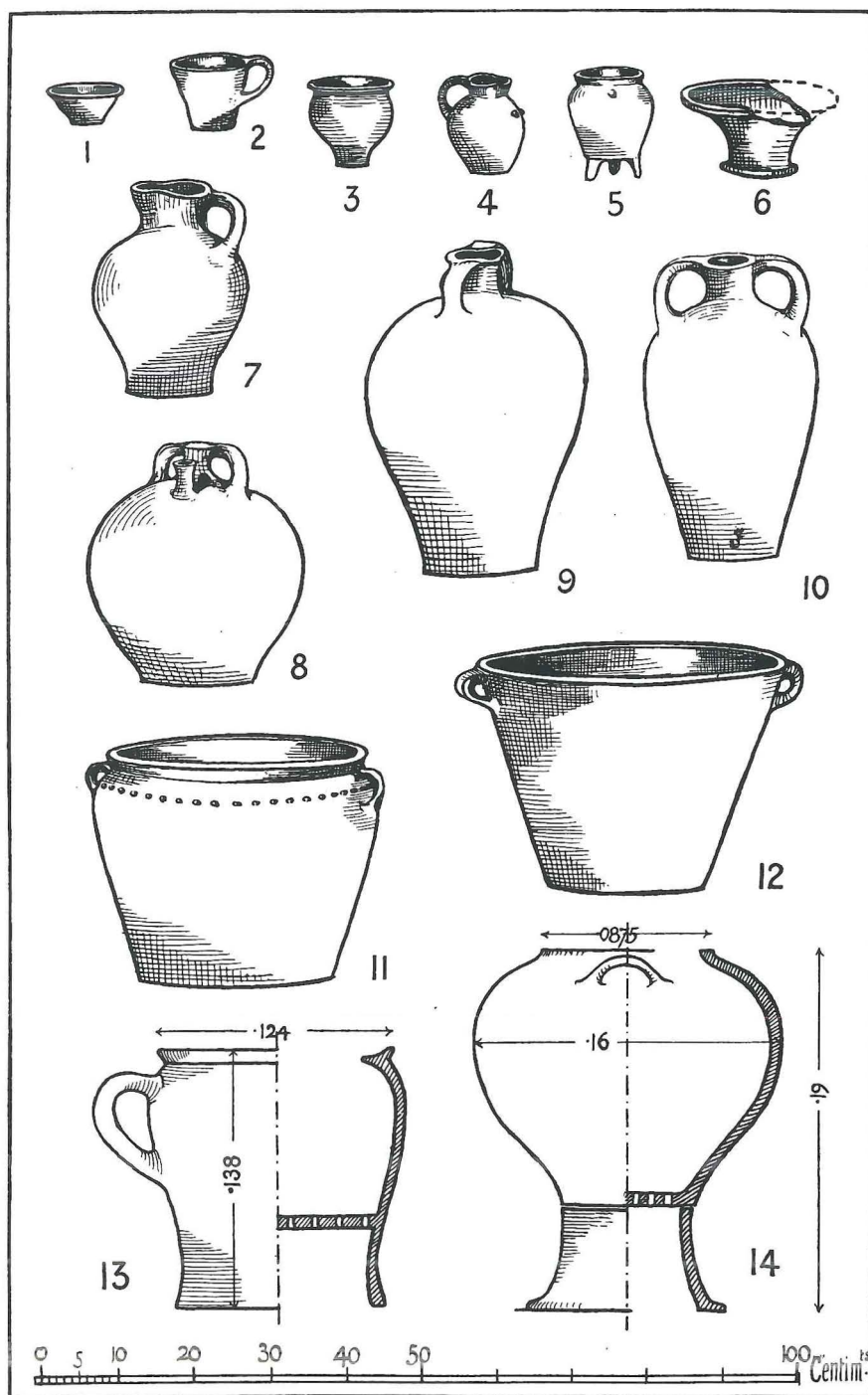


Fig. 1a. Fourteen characteristic shapes of domestic LM I pottery from Palaikastro as cataloged in the early excavations (after Bosanquet & Dawkins 1923, 60, fig. 48).

also included a survey of the outlying area, which located important burials from the early and late phases of the Minoan settlement.

The early excavations yielded a large quantity of LM I pottery and, as was the general practice at the time, their publications focused especially on the painted wares.<sup>5</sup> Bosanquet and his team also identified twenty-five characteristic shapes of

1904–5, 258–308. For the LM I pottery from the early excavations, see also Bosanquet & Dawkins 1923, 21–74, pls. XIII–XXII, figs. 13–59; Hutchinson 1939–40, 38–9, pls. 14–5. Most of the pottery from the early excavations is stored in the Herakleion Archaeological Museum. Some pieces are also now in the Fitzwilliam Museum, Cambridge. See note 6 below.

<sup>5</sup> On the Special Palatial Tradition (SPT), see Betancourt 1985, 140–8. One of the SPT Marine Style vases from the early

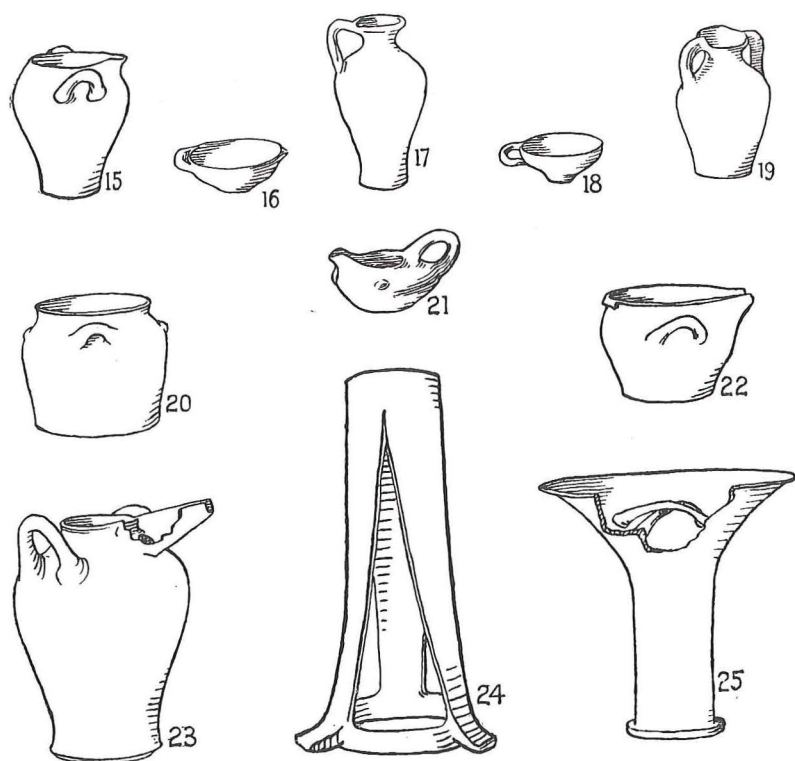


Fig. 1b. Eleven characteristic shapes of domestic LM I pottery from Palaikastro as cataloged in the early excavations (after Bosanquet & Dawkins 1923, 66, fig. 53).

domestic pottery that occurred at the site, which they published in two charts (Figs. 1a-b).<sup>6</sup> However, for the most part, they did not provide detailed morphological and chronological distinctions within the individual types, and generally speaking, they paid less attention to the plain wares. Although not the focus of this paper, the pottery from the early excavations represents an important corpus of LM IB pottery from the site, and further work can still be done. For example, Robert Koehl in his study of Aegean rhyta, published in 2006, has noted that at Palaikastro, rhyta have been found in 16 out of approximately 30 excavated buildings, the highest distribution density for any LM IB town.<sup>7</sup> Likewise, the large corpus of Special Palatial Tradition pottery at Palaikastro likely signals a strong relationship between Knossos and Palaikastro in the LM IB period. It should also be noted that the early excavations classified much of their LM IB pottery as LM II, and sometimes this late period classification has been carried on mistakenly in later publications.<sup>8</sup>

Subsequent to these early excavations, two further campaigns have been undertaken at Palaikastro. In

1962–1963, excavations were resumed by Mervyn Popham and Hugh Sackett of the British School at Athens.<sup>9</sup> Their aims were twofold: to check the stratigraphy and results of the earlier excavations by digging a number of trial trenches in the Roussolakos area and to investigate remains of the final Minoan occupation at the site, evidence for which is manifested only in a small refuge settlement on the top of Kastri, the prominent knoll by the sea which dominates the landscape. In particular,

excavations at Palaikastro is featured in the special temporary exhibition at the Herakleion Archaeological Museum. See Zapheirou 2007, 59, fig. 16.

<sup>6</sup> Bosanquet & Dawkins 1923, 60, fig. 48; 66, fig. 53.

<sup>7</sup> See Koehl 2006, 308–9.

<sup>8</sup> See, for example, Siebenmorgen 2000, 261, no. 97. This abstract banded trefoil jug, which is now in the collection of the Fitzwilliam Museum in Cambridge (accession number GR 131.1907) is a typical local LM IB type at Palaikastro, but is erroneously dated to LM II. For the Minoan pottery from Palaikastro in the Fitzwilliam, see also Lamb 1936, 6–12, pls. III–IV, which also follows the early LM II classification.

<sup>9</sup> See Sackett, Popham & Warren 1965, 248–315; Sackett & Popham 1970, 203–42.





Fig. 2a-c. Late Minoan IB Marine Style stirrup jar and Alternating Style bowl from House N at Palaikastro. (a) stirrup jar, PK62/P100; (b-c) bowl, PK63/P102 (photos by L. Hugh Sackett).

House N yielded several important deposits of LM IB pottery.

Hugh Sackett first became acquainted with the major LM IB destruction at the monumental building at Royal Road: North (RRN) Knossos as

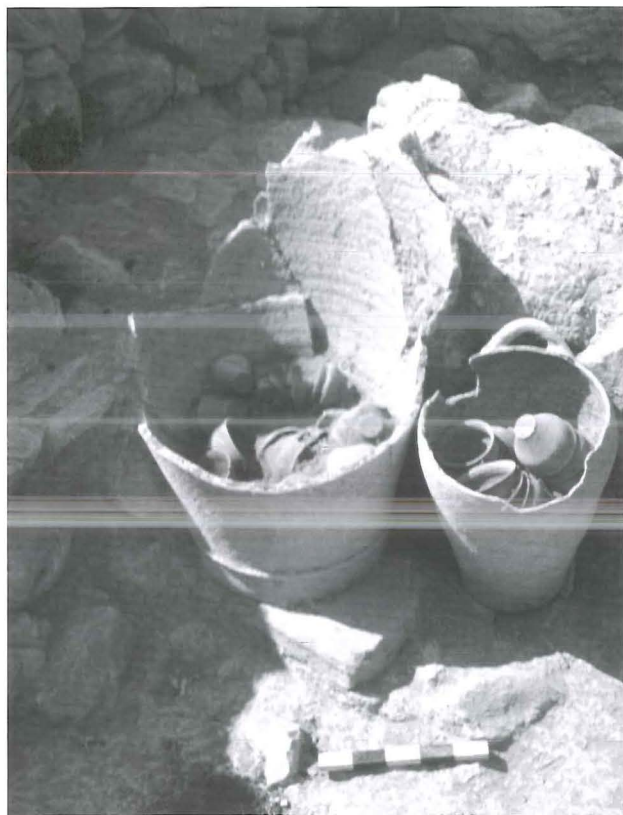


Fig. 3. Conical cups and ogival cups tightly packed in two jars in House N (photo by L. Hugh Sackett).

a trench supervisor in 1959–1961.<sup>10</sup> When he and Mervyn Popham went to Palaikastro in 1962–1963 and excavated House N, it seemed to them both simply an excellent provincial example of the very same event as at Knossos, tied in especially by an imported Marine Style stirrup jar (Fig. 2a). We have always tended to assume that this Marine Style vase from House N and others like it at the site are imports from Knossos.<sup>11</sup> Given Mountjoy and Ponting's recent analytical work on the imported Marine and Alternating Styles of pottery at Phylakopi on Melos and Hagia Eirene on Kea, which has shown most of those vases to be of mainland origin, it is perhaps worth leaving this question open, pending future petrographic analysis.<sup>12</sup> Other decorative elements, like an Alternating Style shallow bowl (Fig. 2b-c) from House N, are also considered typical hallmarks of LM IB painted pottery from Knossos. The identification of a possible house shrine was based on the presence of an agrimi rhyton, a beetle

<sup>10</sup> See Sinclair Hood's paper in this volume.

<sup>11</sup> See Mountjoy 1974b, 175; 1984. Numerous additional examples of Marine Style pottery have come to light in the recent excavations since Mountjoy assembled her corpus. For Special Palatial Tradition vases from Palaikastro, see also Müller 1997, esp. 297–9.

<sup>12</sup> Mountjoy & Ponting 2000, 141–84. See also Mountjoy 2004, 399–404. Only one sherd of Marine Style pottery from Palaikastro has been subjected to chemical analysis and its fabric was associated with Central Crete, see Mountjoy 1974, 175; Catling & Millett 1965, 24–5, pl. 18a.1.

Fig. 4. Outer porch of House N with stratified evidence for two architectural phases (photo by L. Hugh Sackett).



vase, miniature vessels, as well as a stone pyramidal stand, possibly a double axe support, all of which had fallen from an upper story.

The presence of a potter's wheel and several hundred conical and ogival cups, many in mint condition and some tightly packed in jars (Fig. 3), as if for distribution or sale, suggested one occupation of the house's residents. The ubiquitous ogival cup indeed became the most reliable and easily recognizable local criterion for an LM IB deposit, since it was not found in LM IA contexts and only as residual or in changed form, as pulled-rim bowls, in later deposits. Characteristic ogival cups from Palaikastro occur in plain, monochrome, as well as the Dip-and-Run Style (see below Fig. 5b-c). The prevailing view at the time seems to have been "Why find more LM IB, a period we already know all about?" Times change!

Another significant contribution of Sackett and Popham's work was a more complete publication of the plain wares (see below Fig. 5), since they recognized that decorated vases were comparatively rare on the site, and often it is necessary to rely on the typology of plain wares for dating specific stratigraphic levels at Palaikastro. Plain ware shapes of the LM IB period include cups, jugs, amphorae, tripod cooking pots, and spouted basins.

One further comment is warranted on House N. Hugh Sackett and Mervyn Popham's quite limited tests below the floor level exposed Prepalatial and early Neopalatial (MM III) finds, and at the time they had no thought about two LM IB phases. But it should now be noted that Bosanquet and his team in 1903, when they excavated the outer porch of House N did find evidence for two architectural phases – the first with a paved flagstone floor and the second, on which the final burnt destruction deposit fell, with a fine plaster floor (Fig. 4), wooden threshold (preserved as charcoal below very heavily burnt, even calcined, fallen debris), and a pier and door partition. In light of new developments, especially in Building 5 nearby, which is discussed below, it may be that future tests in other rooms could be chronologically informative.

It is interesting to note that an ancient pottery kiln has also been identified at Palaikastro. The date of the kiln is uncertain but Costis Davaras suggests that it may well belong to the LM I period.<sup>13</sup> The kiln has a regular circular shape, a large well-cut shelf around the circumference of the chamber

<sup>13</sup> See Davaras 1980, 115–26, esp. 124.



and lacks any evidence of a central support.<sup>14</sup> It is located west/southwest of the excavations in the Minoan settlement and west of Zone 6 of the recent geophysical survey, where we now believe the Minoan settlement continues.<sup>15</sup>

The most recent excavation campaign has been underway since 1986, led by Hugh Sackett and Sandy MacGillivray, and with Jan Driessen as architect. The careful excavation and recording of seven new buildings has provided information for a much more detailed understanding of the Neopalatial phases of the settlement. It is impossible to discuss the LM IB period and not take into account the previous stages of the preceding LM IA period. Research on Building 1 caused MacGillivray to take a particular interest in determining the date of the Thera eruption and its relationship to the phases of Minoan occupation at the site, as well as their relationship to Egyptian absolute chronology. This is too complex a subject to broach in this paper, but, in summary, MacGillivray currently advocates a late date for the Thera eruption (ca. 1500 BC) and, of especial relevance, a short time span (ca. 40 years) for the LM IB period at Palaikastro.<sup>16</sup>

The Plinian eruption of the Thera volcano created a crater as big as 83 square kilometers. Today that crater extends as much as 480 meters below sea level inside a wall of cliffs, which themselves rise dramatically some 300 meters above the sea. The Late Bronze Age Thera eruption is among the largest volcanic eruptions ever known to have occurred. The tsunami triggered by an earthquake under the Indian Ocean in December of 2004 severely affected countries in Asia and Southeast Asia and provided remarkable new data for the destructive force that massive tidal waves can wreak. Sandy MacGillivray has been accumulating evidence for the possible effects of a massive tsunami or series of tsunamis in the late LM IA period at Palaikastro. His initiatives have sparked a number of on-going studies by specialists that appear to support the theory that Palaikastro, as well as many other coastal Minoan sites, suffered a cataclysmic destruction by water inundation as a result of the Thera eruption. Arguments for this theory were presented by Driessen and MacGillivray at the 10th International Cretological Conference in October

2006.<sup>17</sup> The discovery of Thera ash during recent excavations at a number of locations at the site in LM IA levels, notably in Building 6, evidence for flooding at the site, sedimentology samples taken in the summer of 2006 which are currently being studied, and the evident destruction of a number of buildings at this time, such as the neighboring Building 2 which appears not to have been rebuilt at the end of LM IA, may all provide evidence of this disaster.<sup>18</sup>

A particular focus of MacGillivray's own research has been the relationship between Crete and Egypt in the Late Bronze Age.<sup>19</sup> He dates the devastation caused by the Thera eruption to the reign of the female pharaoh Hatshepsut.<sup>20</sup> MacGillivray argues that the Minoans would have appealed to Hatshepsut for aid, and subsequently to her co-regent Tuthmosis III, and that the large number of Egyptian imports in LM IB represent evidence of this Egyptian support, which also enabled massive building programs in many places on Crete at this time and what MacGillivray has termed a "Renaissance" in the luxury arts. The Palaces at Knossos, Gournia, Kato Zakros, and perhaps Khania, were rebuilt in their grandest forms in LM IB in fine ashlar masonry, and numerous other expensive monuments were built at Hagia Triada, Mochlos, Psira, and Palaikastro. Some of the most characteristic Minoan artistic creations belong to this time: the Hagia Triada stone vases, Marine and Floral Style pottery in the Special Palatial Tradition, and the Palaikastro Kouros.<sup>21</sup> MacGillivray suggests that Tuthmosis

<sup>14</sup> Davaras 1980, 120. Channel kilns appear to have been more common on Crete in the Late Minoan I period. See Shaw *et al.* 2001, 135–7.

<sup>15</sup> See Boyd, Whitbread & MacGillivray 2006, 89–134, esp. 91, fig. 2.

<sup>16</sup> MacGillivray 2009.

<sup>17</sup> See Driessen & MacGillivray forthcoming.

<sup>18</sup> See Bruins *et al.* 2008, 191–212; Driessen, MacGillivray & Sackett 2006.

<sup>19</sup> See, for example, MacGillivray 2000a, 150–3; 2000b, 123–30; 2009.

<sup>20</sup> On Hatshepsut, see Roehrig, Dreyfus & Keller 2005.

<sup>21</sup> On the chryselephantine statuette known as the Palaikastro Kouros, see MacGillivray, Driessen & Sackett 2000; Sackett 2006.

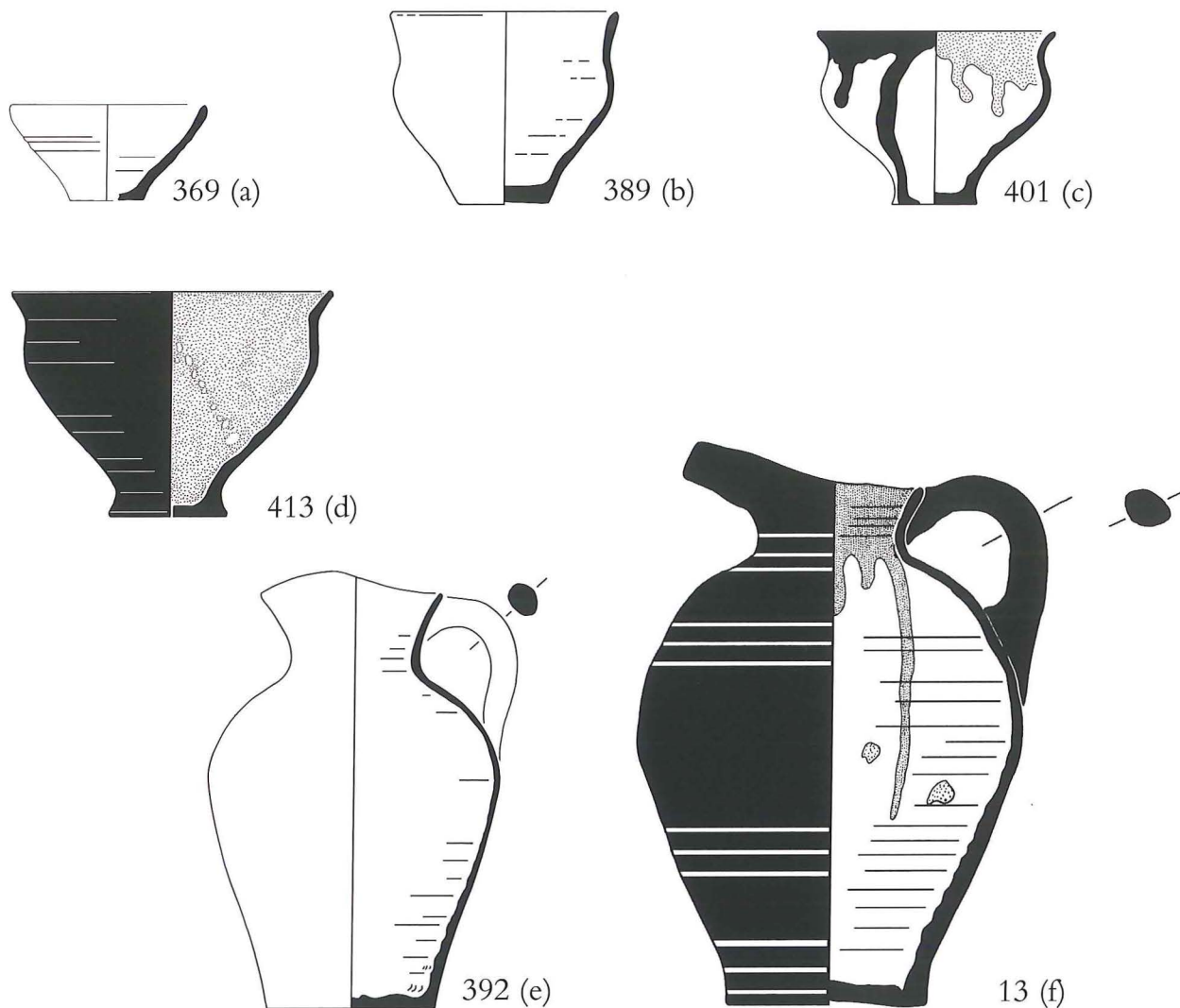


Fig. 5a-f. Fine Plain and Painted Wares from LM IB deposits in the Palaikastro wells. (a) conical cup, PK94/6416; (b) ogival cup, PK94/6402; (c) ogival cup, PK94/5194; (d) ogival cup, PK94/5215; (e) trefoil-mouthed jug, PK94/5213; (f) beak-spouted jug, PK94/5551.

III's coming of age and subsequent ordering of the erasure of Hatshepsut's names and images in a proscription of her memory would have impacted Theban relations with the Keftiu. It would have left the Minoans without a sponsor and defender only thirty-seven years into their reconstruction period after the destructions caused by the tsunami(s). MacGillivray argues that the depiction of Keftiu envoys bearing tribute in the tomb of Rehmire may represent a Mycenaean delegation (sent to Tuthmosis III during the LM II period) which cemented their allegiance with this newly sympathetic Pharaoh during their take over

of Minoan Crete.<sup>22</sup> This theoretical historical framework forms a useful backdrop for the following presentation of the ceramic evidence from Palaikastro in the LM IB period.

Significant stratified pottery deposits in the Minoan wells at Palaikastro offer a rare opportunity to analyze the development of local pottery fabrics, wares and styles from LM IB to LM IIIA2. The information presented here is based primarily on

<sup>22</sup> For illustrations of the Keftiu paintings in the tomb of Rehmire, see Karetsoy, Andreadaki-Vlaziaki & Papadakis 2001, 92, figs. 67–8.



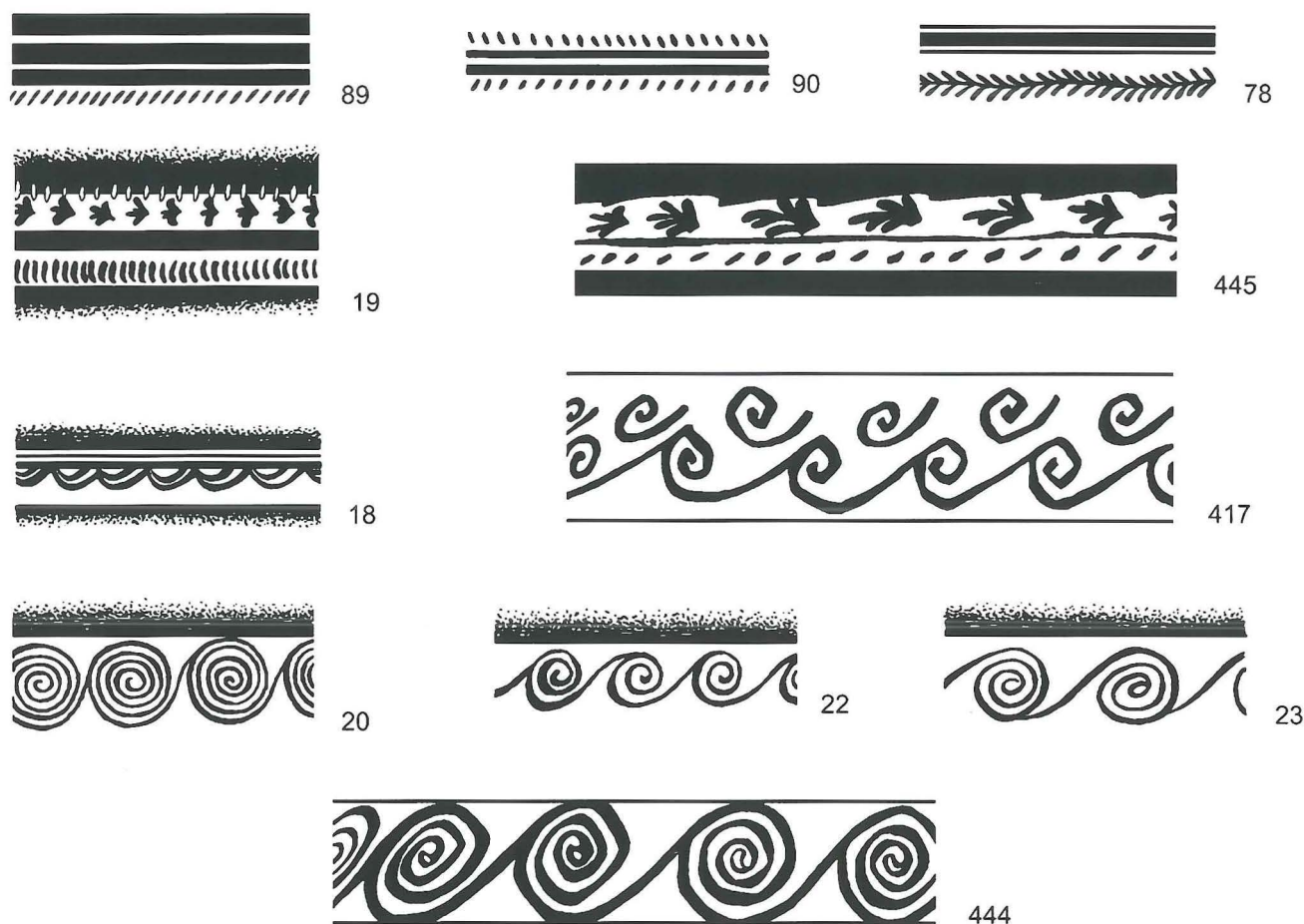


Fig. 6. Motifs in the LM IB-II Abstract Banded Style at Palaikastro (after Sackett *et al.* 2007, fig. 5.1).

MacGillivray's observations of the pottery deposit from Well 605 and elsewhere, as well as on Eleni Hatzaki's observations on pottery from Well 576.<sup>23</sup> The pottery from the earliest deposits in both of these wells provides a useful sample of LM IB ceramics at Palaikastro, which are well-known from numerous destruction deposits throughout the town site at Roussolakos, such as those in Block N discussed earlier. Size and frequency of schist particles in the clay matrix give us an approximate distinction between fine and coarse wares.

LM IB fine ware lacks the refinement of earlier LM IA and later LM IIIA pottery. Sand and quartz inclusions, as well as rounded and angular schist particles give the soft pottery paste a gritty feel. However, the surface of fine ware is often so eroded that painted decoration very rarely survives intact. LM IB coarse ware from Palaikastro breaks down

into two main categories based on the inclusions. The first group typically has large angular and rounded schist inclusions. The second group has a gritty feel owing to a predominance of sand and quartz. In general, there appears to be a marked improvement in quality later in the LM IIIA1 period, when clays are harder, walls are thinner, and there are fewer inclusions, resulting in a smoother finish.

In all periods at Palaikastro, there exists Fine Plain Ware, made of local orange buff clay that was formed into pottery and fired without further treatment. All forms of this type from the wells are wheel-thrown. In LM IB deposits at Palaikastro, Fine Plain Ware is represented by conical cups (Fig.

<sup>23</sup> MacGillivray, Sackett & Driessen 2007.

5a), as well as ogival cups (Fig. 5b) and trefoil-mouthed (Fig. 5e) and beak-mouthed jugs.

Fine Painted Ware in the LM IB period at Palaikastro generally comprises two different stylistic groups. The first group, which MacGillivray has dubbed the Dip-and-Run Style, was popular throughout the Aegean Bronze Age, and was used at Palaikastro to decorate plain ogival cups in the LM IB period (Fig. 5c). The potter dipped the cups upside down in a dark wash, in order to coat the rim. When the cups were then set upright, the dark wash ran freely down the body of the vessel.

The second style found in Fine Painted Ware from LM IB deposits in the wells at Palaikastro is the Dark Monochrome Style. It appears on ogival cups (Fig. 5d). MacGillivray has included in this class a couple of beak-spouted jugs with horizontal bands and vertical stripes. A relatively rare class in the Palaikastro well deposits is fine pottery that has been coated with a light slip as though to imitate the fine buff plain wares of Central Crete; common forms from the LM IB period are the ogival cup and the jug.

From the LM IB well deposits at Palaikastro are a number of vessels that have a fine slip and painted decoration. These common orange buff clay vases are coated with a distinctive creamy white slip and decorated with dark paint. The light colored slip provided the potter with a light ground on which to apply the painted decorative style that developed on naturally occurring buff clays elsewhere. Interestingly, buff clays are also sometimes slipped at Palaikastro. Fine LM IB jugs were slipped and then decorated with horizontal bands in reddish brown paint (Fig. 5f). This is referred to as the Banded Style.

In the Abstract Banded Style, potters employed a variety of motifs, such as simple quirks, double rows of quirks that resemble foliate bands, iris or crocus buds and quirks, pendent loops, abbreviated and interlocking closed spirals, and foliate bands (Fig. 6).

All of these motifs are common to the repertoire of LM IB pottery at Palaikastro, though they also occur in LM II deposits at Knossos. They most likely derive from similar abstract patterns on LM IA pottery, which in turn derive from wall painting.

For example, MacGillivray suggests comparing the so-called “jet d’eau” painting from the House of the Frescoes at Knossos with the foliate band on pottery.<sup>24</sup> The painted pottery and fresco design could express the same notion – a water flow, which is appropriate on vessels used for liquids.

One last style, the so-called Spray Painted Style, occurs on fine light slipped and painted ware from the LM IB well deposits at Palaikastro. Jugs and globular amphorae were coated with a thin light wash before a random spray of red-brown to dark brown paint was applied to the body, below a dark coated spout (Fig. 7a). This style is similar to the Jackson Pollock Style identified by Peter Warren at Knossos.<sup>25</sup>

Coarse painted pottery during the LM IB period is distinctive. Drip-painted vessels, such as knobbed amphorae (Fig. 7b), are as characteristic as they are rare. One also finds coarse pots in the Dark Monochrome Style, where the entire exterior of the vessel is coated in a dark wash. As previously described, a similar technique is found on LM IB fine ware. Likewise, the technique of decorating fine LM IB dark monochrome pots with white bands was also used on coarse LM IB jugs.

Painted coarse Light-slipped Ware occurs less frequently in LM IB deposits than in later, LM IIIA deposits. On spouted basins from the LM IB–LM III periods, the potter sometimes applied a dark rim band to a coarse form. This may be a variation on MacGillivray’s Dip-and-Run Style that is found on fine ware from this same period.

The palm-sized, conical-shaped, handleless bowl of Neopalatial Crete, best known as the conical cup, is well represented in the well deposits at Palaikastro. Although there are only two examples from the primary LM IB deposit of Well 576, there are 22 examples with complete profiles from Well 605 (Fig. 5a), as well as fragments of very many more. All of these examples are in Fine Plain Ware and, according to MacGillivray, were produced in the Cretan manner of throwing off the hump, a technique introduced from Egypt during the First Palace Period. Rims of

<sup>24</sup> See Evans 1928, 461, fig. 272.

<sup>25</sup> Warren 1996, 46–50.



LM IB conical cups from Palaikastro are generally very slightly out-splayed, and there is some variation in the height and rim diameters. We note that at the end of LM IB, or early in LM II, the out-splayed rim and concave profile of LM IB conical cups was gradually replaced with the wider, incurving profile found in LM III deposits.<sup>26</sup>

The ogival cup, formerly Bosanquet's "pear-shaped cup form 3" (See Fig. 1), is diagnostic of the LM IB period at Palaikastro, as was mentioned for the House N deposits. The name "ogival" is appropriate, as it derives from the French "ogive", which describes the S-profile in Gothic moldings. The ogival cup is plentiful in Well 605 in Plain Ware (Fig. 5b), the Dip-and-Run Style (Fig. 5c), and the Dark Monochrome Style (Fig. 5d), and these appear to be the three most characteristic variations at Palaikastro.

The ogival cup, which may derive from either the rounded bowl or the bell cup of LM IA,<sup>27</sup> is readily distinguished by its elegant form with fine thin walls and dipped, not painted, rim. Large quantities of ogival cups have been found in the Palaikastro storerooms. That it was a common drinking vessel, most likely accounts for its mass manufacture. The obvious successor to the LM IB ogival cup is the pulled-rim bowl, one of the most distinctive forms of the LM IIIA period.<sup>28</sup>

The knobbed amphora (Fig. 7b) is a new Palaikastro form in the LM IB period. It is a coarse vessel decorated with knobs and painted in the Drip Painted Style. MacGillivray has pointed out its similarity to the knobbed vase in female form from Hagia Triada.

The oval-mouthed amphora, a well-known form of the Middle and Late Minoan periods, is well-represented in the LM IB well deposits at Palaikastro, but rarely occurs later. Examples are plain and in the Dark Monochrome Style. The tripod cooking pot, an essential element of the Minoan ceramic assemblage, is well-represented in the LM IB well deposits, and also in the LM IIIA1 and LM IIIA2 periods. MacGillivray notes a variety in shape, handles, and rim types from different periods, but no consistency that would allow for attributing specific elements to a single period.<sup>29</sup> Tripod cooking pots at Palaikastro are always in coarse plain ware and

typically have dark burn marks on the sides where they were exposed to fire.

Many of the imported ceramics from the well deposits shed light on the relative chronological links between Palaikastro and Central Crete. For example, one cup-rhyton from Well 605 has a Central Cretan fabric, and its form is at home at Palaikastro and Knossos in the LM IB period.<sup>30</sup> Fragments of a goblet and bowl (Fig. 7c-d) from the same deposit are probably imports from the Knossos region, where they fit well with LM II ceramics. One must accept that in a well, it is always possible for such small fragments to have fallen down from an upper, and chronologically later, level; nonetheless, as MacGillivray points out, their appearance both here and elsewhere at Palaikastro with material that is stylistically and stratigraphically LM IB seems more likely to us to support the theory that the latest phase of LM IB at Palaikastro overlaps the earliest LM II phase at Knossos.<sup>31</sup>

Study of the seven buildings from the recent excavations is currently underway by our international team of specialists. The first building to be published, the study of which is nearly complete, is Building 1. Since Building 1 was cleaned out, practically to its foundation level, and extensively reused in the LM III period, no major undisturbed LM IB pottery deposits were found within it. Instead, a certain amount of LM IB pottery from the building was found in re-deposited layers from the subsequent LM III period, but these are not dwelt on here. Likewise, there is only limited evidence for the LM IB period in the areas of Buildings 2, 6 and 7. These

<sup>26</sup> MacGillivray, Sackett & Driessen 2007, 132–3.

<sup>27</sup> For commentary on the rounded bowl and hemispherical cup in the Neopalatial period at Palaikastro, see Knappett & Cunningham 2003, 163, fig. 44, nos. 422–4, 427 (hemispherical cups); fig. 45, nos. 430, 432, 433 (rounded bowls).

<sup>28</sup> See MacGillivray *et al.* 1988, 274–5, fig. 8.1 for an example of an LM III pulled-rim bowl.

<sup>29</sup> MacGillivray, Sackett & Driessen 2007, 157–8.

<sup>30</sup> MacGillivray, Sackett & Driessen 2007, 107, fig. 4.11 no. 437.

<sup>31</sup> MacGillivray, Sackett & Driessen 2007, 158.

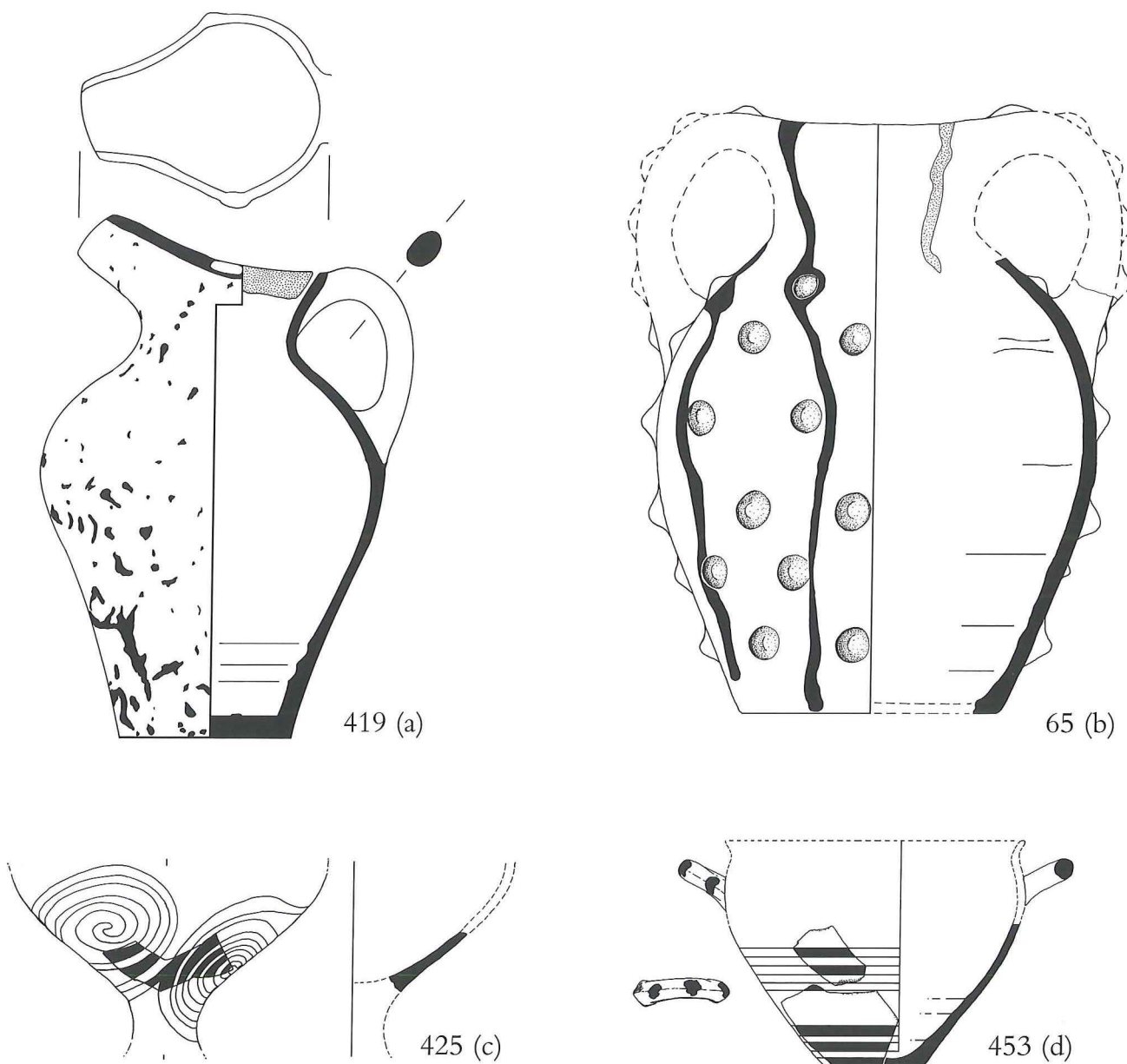


Fig. 7a-d. Fine and Coarse Painted Wares from LM IB deposits in the Palaikastro wells. (a) beak-spouted jug, PK94/5237; (b) knobbed amphora, PK94/6288; (c) goblet fragment, PK98/6431; (d) bowl fragments, PK98/6432.

three buildings appear to have been destroyed at the end of the LM IA period, probably by the tsunami caused by the Theran eruption, and they were not rebuilt in the LM IB period.

It was mentioned above that in House N there may be evidence for two stratigraphical phases during the LM IB period at Palaikastro. The main, final LM IB destruction horizon at Palaikastro is known in our local site chronology as Period XII. It

is also worth mentioning that a deposit of stratified LM IB material in Building 3, Room 10 is earlier than the main LM IB (phase 2) destruction, which is represented by a fine imported Marine Style jug.<sup>32</sup> A stone bench in the same room was filled

<sup>32</sup> See MacGillivray *et al.* 1989, 422–4, pl. 58a–b; for the Marine Style jug (PK88/1042), see 425, fig. 6.



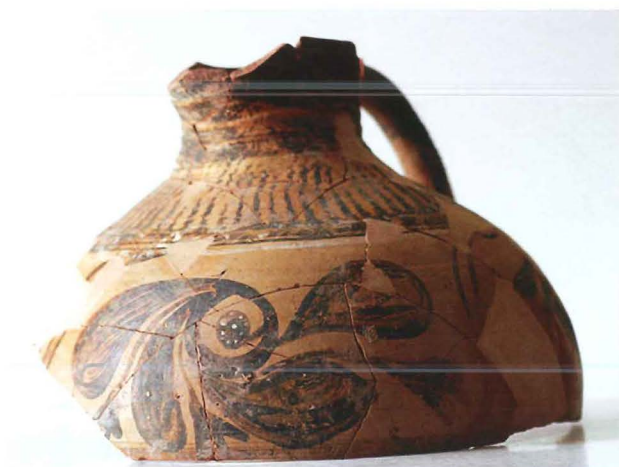


Fig. 8a. Jug from LM IA deposit in Building 4, Room 15 (photo by S. Hemingway).



Fig. 8b. Detail of Zakros jar from LM IB deposit at Mochlos (photo by S. Hemingway).

with disused LM IB material, mostly ceramic. This deposit includes ogival cups and typical conical cups, among many other fragments, and should provide a good example of an early LM IB pottery assemblage when it has been fully studied by Ilse Schoep. We assign this pre-final LM IB material to our site Period XI, though preliminary analysis has as yet yielded no clear distinction from pottery belonging to Period XII.

The early history of Building 4 predates the LM IB period. Parts of the facade, with its distinctive massive, almond-colored, roughly hewn stones, likely belong to the original construction of the building, which may date to the Middle Minoan IIB period. We were able to excavate only small test areas of the earlier phases within the building. One particularly interesting deposit of the final LM IA period in Room 15 indicates that an early entranceway, which opened onto the Plateia and led directly to a stairway to the first floor of Building 4, was blocked and a ritual deposit made with a Floral Style jug, numerous drinking cups, and animal bones. We believe the door blocking and deposit were made shortly after the tsunami destruction. This space became a storage area in the subsequent LM IB period.

The large Floral Style trefoil jug found in this LM IA deposit was largely complete (Fig. 8a).<sup>33</sup> The elaborate decoration of its upper body, in a dark-on-light style with much added white,

has parallels with other LM IA floral motifs from Palaikastro.<sup>34</sup> This motif has a long history in Minoan art, as it appears in less complex forms on sealstones of the MM II period as, for example, on two seals from the collection of the Metropolitan Museum of Art (Fig. 9a-b).<sup>35</sup> It is interesting to note that this motif also continues into LM IB where it occurs on numerous vases at Zakros. A vase excavated recently at Mochlos in an LM IB level, and now on display in the Hagios Nikolaos Museum, exhibits this motif and has been attributed to a workshop at Zakros (Fig. 8b). Whether the Zakros vases represent a continued conservative trend and were manufactured in LM IB or are valued heirlooms from the preceding LM IA period is an interesting point to consider.<sup>36</sup>

When first extensively excavated in 1987 and 1988, Building 4 revealed a large house of the LM IIIA2 period, which was preserved in

<sup>33</sup> MacGillivray *et al.* 1989, 421, 424, pl. 58c-d (PK88/1684–Siteia Museum inventory number 8214).

<sup>34</sup> See, for example, Bosanquet & Dawkins 1923, pls. XVb, XVIb. For other floral motifs from Palaikastro in the Neopalatial period, see Bernini 1995, 55–82; on Neopalatial pottery at Palaikastro, see also Knappett & Cunningham 2003, especially 171–3.

<sup>35</sup> New York, The Metropolitan Museum of Art, accession. nos. 26.31.120, 26.31.125; Kenna 1972, 102, no. 61c; 118, no. 70b.

<sup>36</sup> See the paper by L. Platon in this volume.



Fig. 9a (left column). Middle Minoan II sealstone with floral motif and modern impression, New York, The Metropolitan Museum of Art, accession number 26.31.120 (image courtesy of The Metropolitan Museum of Art, New York). Fig. 9b (right column). Middle Minoan II sealstone with floral motif and modern impression, New York, The Metropolitan Museum of Art, accession number 26.31.125 (image courtesy of The Metropolitan Museum of Art, New York). Scale 3:1.

a destruction event and contained important deposits of pottery in two storerooms.<sup>37</sup> These storerooms, dubbed the northwest and southwest *apothekes*, included over two hundred whole or nearly intact vases of various types. The stratigraphy of this western part of the house revealed that the LM III reoccupation levels thoroughly cleaned out the earlier Late Minoan I levels. In the case of the *apothekes*, the level of the LM III floor was actually lower than the LM I floor. Consequently, we had envisaged making this building a monument to the LM III period at the site. However, the excavation of the street between Building 5 and Building 4 in 1990 made it clear that there was a major LM IB street entrance there, and that to the east, where the land slopes down towards the sea, significant remains from the Palatial periods could be preserved.<sup>38</sup> This proved to be true, especially

in the eastern Rooms 13 and 14, which were excavated in 2003.

Rooms 13 and 14 yielded an important deposit of cooking pots and animal bones preserved from a fire destruction of the LM IB period, our Period XII at the site. Room 13 appears to have had a trap door, probably with a collapsible wooden ladder that led down to a doorway into Room 14, which contains a central pillar and otherwise had no visible access. Room 14 is a bastion-like projection at the center of the east facade of the building.

Room 13 contained two large stone weights that may have been used as counterbalances for the trap door and ladder. A fine shallow bronze bowl

<sup>37</sup> See MacGillivray *et al.* 1988, 276; MacGillivray *et al.* 1989, 421, 424, 429–34.

<sup>38</sup> See MacGillivray *et al.* 1992, 123–4.





Fig. 10a-b. Terracotta hearth, grill and cooking pot from the LM IB deposit in Building 4. (a, top) portable hearth, PK03/7898, and grill, PK03/7895; (b, bottom) tripod cooking pot, PK03/7899 (photos by L. Hugh Sackett).

with loop handle was also discovered.<sup>39</sup> It may have served as an oil lamp to light this small room. On the floor was a pithos rim fragment with a Linear A inscription. The fact that this piece was found on the floor and no other fragments of the vessel were found with it suggests that it was likely kept for its inscription.

The association of a basement level room, with one or more pillars and with limited access from a small adjacent room, has a number of parallels in Minoan architecture and has come to be known

in the literature as a “pillar crypt.” These structures sometimes have pillared halls above them, as at Knossos, and this is a likely possibility here.<sup>40</sup> On the floor of Room 14 several inverted conical cups were found placed at the base of the square sandstone pillar in what may have been cult practice. Nearby were goat horn cores, the skeleton of a feral piglet and sheep bones, which point to the use of this space for food preparation, butchery, storage and possibly sacrifice. The necessary bronze knife was also at hand; its spatulate blade is a characteristic Minoan type that came in a variety of sizes.<sup>41</sup> The bones from the deposit in Room 14, when fully studied, should yield significant evidence about the nature of the animal remains in the room and, consequently, the Minoan diet at Palaikastro at this time. The ceramic finds in these two rooms provide an unusually complete assemblage of cooking and feasting vessels and utensils. Most of this material clearly fell into the rooms from the floor above, and in some cases, perhaps even from the roof.

In addition, most of a large terracotta portable hearth was recovered (Fig. 10a). It is a curious fact that very few permanent cooking installations are found in Minoan houses or even in the Palaces in the Neopalatial period.<sup>42</sup> Instead they seemed to have used portable hearths like this one, which was likely set up on the roof of Building 4. The hearth has a neatly cut opening on one side to provide access to the coals when the grill is in place. A nearly complete terracotta grill was also recovered and appears to have been made as a set with the hearth (Fig. 10a). Clear signs of use, probably residual grease from grilling meat, are discernable on the tops of the bars and dripping down the sides. A second more fragmentary grill of the same type and size was also reconstructed from the fallen debris. This type of grill was evidently popular at

<sup>39</sup> For a discussion of this type of bronze bowl, see Matthäus 1980, 207–19.

<sup>40</sup> See Evans 1921, 441 and 1936, 85 for additional references to the pillar crypts at Knossos.

<sup>41</sup> A larger example of the same type is in New York, The Metropolitan Museum of Art, accession number 26.31.486, Bequest of Richard B. Seager.

<sup>42</sup> See Muhly 1984, 107–22.

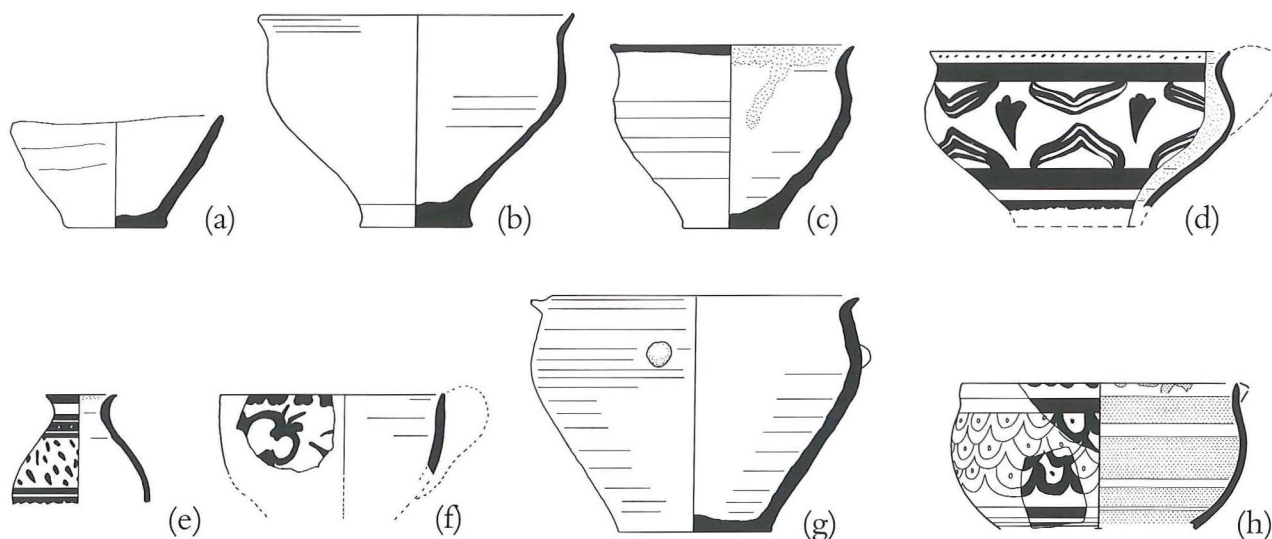


Fig. 11a-h. Fine Plain and Painted Wares from LM IB deposits in Building 4, Rooms 13 and 14. (a) conical cup, PK03/8041; (b) plain ogival cup, PK03/8048; (c) Dip-and-Run Style ogival cup, PK03/7927; (d) Alternating Style hemispherical cup, PK03/8065; (e) alabastron, PK03/8049; (f) Marine Style bell cup, PK03/8069; (g) light-slipped and burnished ogival cup with pulled-rim and bosses, PK03/7869; (h) fragmentary cup or bowl with net or scale pattern, PK03/7929.

Palaikastro since a similar example was found in the early excavations of the town.<sup>43</sup> It is notable that the feral piglet skeleton found in the same room would fit perfectly on this grill, which may well have been used for the Minoan version of baby back ribs. These grills expand our knowledge of the grilling methods of the Late Bronze Age chef as they offer a means of grilling cut meats quite different from the souvlaki or shish-kebab stands that have also been found at Palaikastro and elsewhere on Crete, such as at Zakros, and at Akrotiri on Thera.<sup>44</sup>

The deposit also includes several tripod cooking pots (Fig. 10b). These vessels are of different heights, varying from approximately 8 inches to 20 inches tall, but all have essentially the same shape, which is characteristic of the vessel type in LM IB. They conform to Betancourt's Type B tripod cooking pot.<sup>45</sup> When placed over a fire these pots could have served to cook soup, stew and other liquid-based dishes.

One particularly interesting vessel is a deep baking dish. More than 60% of the dish is preserved, including its entire profile. The vessel is quite large and extremely thin walled. Similar examples are known from other Minoan sites such as Kommos

and Mochlos.<sup>46</sup> Petras, in fact, has yielded a nearly complete example of a similar shape, also of the LM IB period. More often, only small rim or body sherds are preserved and the shape, presumably because of its very thin walls, is restored as being quite shallow.<sup>47</sup> It is clear, however, that the more complete examples from Palaikastro and Petras are quite deep, and, indeed, most may have been so. The Palaikastro baking dish is carefully smoothed and slipped on the interior, while the exterior has a coarse surface and preserves considerable traces of burning.

Another distinctive shape from this deposit is the basin. Two of these large vessels fell from the upper story or roof. This vessel type has a wide distribution

<sup>43</sup> See Bosanquet & Dawkins 1923, 72, fig. 58c.

<sup>44</sup> See Bosanquet & Dawkins 1923, 72, fig. 58a for a souvlaki stand from Palaikastro. A souvlaki stand from Zakros is on display in the Siteia Museum. Another terracotta example decorated with bulls' heads was excavated at Akrotiri and is now on display in the Thera Museum. For a plain souvlaki stand from Akrotiri, see Marinatos 1971, pl. 101a.

<sup>45</sup> Betancourt 1980, 1–15.

<sup>46</sup> See Barnard & Brogan 2003, 82–4 with references.

<sup>47</sup> See, for example, Barnard & Brogan 2003, fig. 51, IB.569.



on Crete and because of the deliberate deep scoring on the interior they have been persuasively identified as beehives. However, they also sometimes occur in great numbers at settlements, such as Myrtos on the south coast, and they are likely to have had other uses as well. Here they did not appear to function as beehives but were reused for the kitchen. Their worn interiors and especially bottom surfaces suggest that they were found in a secondary use. Other shapes from the deposit that complete the cooking and dining assemblage are amphorae, a pithoid jar and small basins. There were also miniature jars that likely contained spices or possibly condiments. The most prevalent vessel types were drinking cups and bowls. These included some four dozen conical cups and another two dozen ogival cups of varying dimensions (Fig. 11a–c). All of the standard types discussed in the well deposits from Palaikastro occur here as well.

Some imported fine wares helped to secure the relative date of the deposit. These include a hemispherical cup with alternating marine motifs (Fig. 11d), which is a very late LM IB import, probably from Knossos. A small alabastron (Fig. 11e) has a very good parallel from Mochlos that comes from a late LM IB level and may even be from the same workshop.<sup>48</sup> There is also a rim fragment from a bell cup of LM IB date with Marine Style rockwork in dark brown crackling paint (Fig. 11f).

There are additional indications in the local pottery that this deposit should be placed chronologically at the very end of the LM IB period at Palaikastro and that this phase may even overlap with what is considered to be LM II in Central Crete. The addition of bosses and a pulled rim on one ogival cup (Fig. 11g) is something rarely seen at Palaikastro until the LM III period. Likewise, a large basin with pulled spout from the deposit becomes a common shape in LM III, and is even well-attested in the later deposits in Building 4. It is interesting to see that there is some continuity in these shapes from LM IB to LM III. There is also evidence in Building 4, primarily stratigraphical and architectural, to suggest that the building was re-occupied very soon after the LM IB destruction, presumably in the LM II period.

Imports from Room 13 also appear to corroborate

the late date of this LM IB deposit. Most interestingly, well within the LM IB deposit of Room 13 were the rim and upper body fragments of a cup or bowl with a net or scale pattern, dots at the rim, and bands on the interior (Fig. 11h). It is probably a Knossian LM II work. It seems unlikely to us that this is an intrusion from a later level, especially since we found nothing like it in the Postpalatial trodden earth floor levels that were excavated above this room. The recent excavations at Mochlos have also produced stratigraphical evidence that suggests multiple destruction horizons in the LM IB period, the last of which seems to overlap with the LM II period at Knossos.<sup>49</sup>

Building 5, where the chryselephantine statuette known as the Palaikastro Kouros was found, provides our clearest evidence for two destructions by fire at the site in the LM IB period. Interestingly, the southeast alley did not exist in the LM IA period, but Building 5 faced onto a paved open court in the area of B6 to the south. At the beginning of LM IB, Building 5 had to be rebuilt from the ground up after a major disaster, which we currently believe to be the tsunami from the Thera eruption. At the same time, the south wall of the alley was built as a high terrace wall and for protection against further flooding. It still stands over 1.5 meters high, and LM IB strata suddenly rise by this much to the south.

The heavily burnt deposits of the final LM IB destruction of Building 5, excavated in 1987–91, were a very familiar phenomenon at Palaikastro. They were found in all 21 rooms, except the re-used paved porch at Room 1, and clogged the adjacent streets. Excavation of the street between Building 5 and Building 4 revealed massive ashlar blocks fallen amidst destruction debris.<sup>50</sup> This destruction layer was characterized by very red decomposed mudbrick in the soil and abundant evidence of burning from the timber used in the construction of the building, as can be seen, for example, in an

<sup>48</sup> See Barnard & Brogan 2003, fig. 18, IB.300.

<sup>49</sup> See paper by Barnard & Brogan in this volume.

<sup>50</sup> See MacGillivray *et al.* 1991, 128, fig. 6. These ashlar blocks were re-incorporated into the east facade of Building 5 in 1990.





Fig. 12. LM IB pot deposit in Building 5, Room 13, which contained numerous amphoroid jars and a trefoil jug (photo by L. Hugh Sackett).

excavation photograph of a pot deposit in Room 13, which contained numerous amphoroid jars and a trefoil jug (Fig. 12).

Interestingly, it appears that in the LM IB period, Rooms 1, 2, and 13 of the building were transformed into an independent shrine for the chryselephantine statuette known as the Palaikastro Kouros.<sup>51</sup> For our purposes here, what is important is that a second, earlier LM IB burnt destruction level was identified stratigraphically in five of the seven rooms that were tested below the floors (Rooms 6, 7, 8, 9, 11, 16, and 18).

In most areas, scanty remains of ash and of an earlier burnt floor occurred immediately below the later quite distinctive yellow clay floor, as shown in this sketch from the excavation notebook (Fig. 13). The lower ash layer is seen to go beneath the architectural features of the second (and main) phase of LM IB. However, it was only in Room

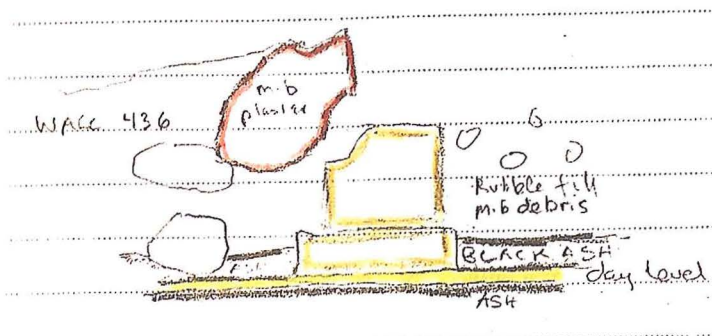


Fig. 13. Sketch from the excavation notebook of Building 5 illustrating two stratified levels of the LM IB period (drawing by Stuart Thorne).

18 at the south and in the 2003 tests in the adjacent Building 7 (at Room 1) that it became clear that there had been a major disaster. The damage had been severe enough to require the rebuilding of the south facade in massive limestone blocks, in an operation that moved the property line to the north, thus ceding several square meters to the area of Building 7. Clear debris of a deep LM IB first phase burnt destruction was stratified beneath the stone paving of the second phase and beneath the new foundations of the second phase south facade. Pottery from this deposit includes a large amphoroid jar (Fig. 14a), an amphoriskos (Fig. 14b), a conical cup (Fig. 14c) and an ogival cup in the Dip-and-Run Style (Fig. 14d).

Architecturally there was a complete rebuilding, on an apparently quite different, revised plan with cramped spaces constructed with mudbrick walls where there had been a more open plan with colonnades. The key problem here, however, is to be sure that the latter does not represent basically an LM IA ground plan with no substantial or very convincing associated deposits surviving. One test through the LM IB first phase floor did produce a whitish silt level below with some LM IA sherds, and the excavator thus interpreted this space as having been left open unroofed and unoccupied for some time.

<sup>51</sup> See MacGillivray, Driessen & Sackett 2000, 43–6, 166, fig. 2.1; Sackett 2006, 10–2.



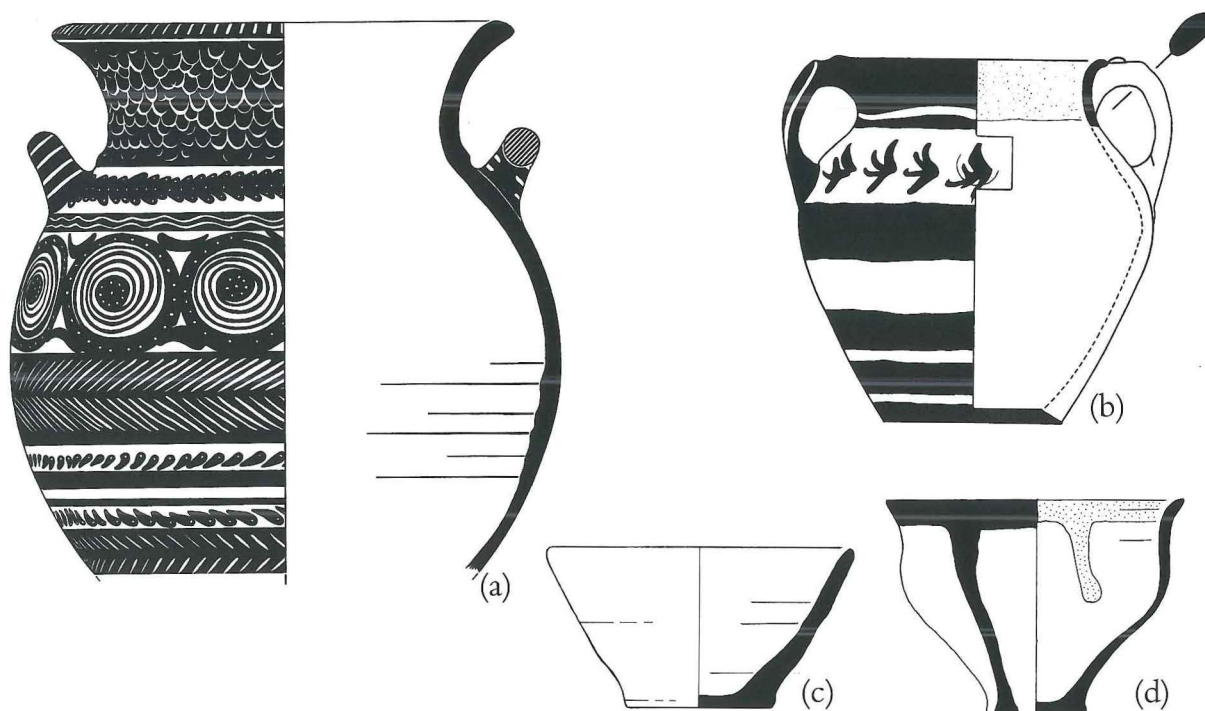


Fig. 14a-d. LM IB Phase 1 vases from Building 5, Room 18 (lustral basin?). (a) amphoroid jar, PK03/7399; (b) amphoriskos, PK90/2587; (c) conical cup, PK02/7399; (d) ogival cup, PK90/2351. Scale (a) at 1:3.5; (b)-(d) at 1:2.

However, study of these rather limited ceramic assemblages has so far not produced any convincing trends, either stylistic or statistical, between our two stages, and a conservative, preliminary conclusion might be that the two phases were comparatively short. This remains a work in progress and the pottery is being studied for final publication by Sandy MacGillivray and Hugh Sackett with the assistance of Maud Devolder.

In conclusion, the recent excavations at Palaikastro have produced stratigraphic evidence for two archaeological phases of the LM IB period at the site, both of which are associated with burnt destructions. The evidence for this is clearest in Building 5 but appears to occur elsewhere, notably in Rooms 10 and 13 of Block B from the early excavations,<sup>52</sup> and perhaps in House N and Building 3. We believe that the small number of fragmentary LM II imports, which have been found within the second phase LM IB destruction (Period XII at Palaikastro), places this major LM IB destruction as contemporaneous with the early LM II period at Knossos. This scenario can perhaps be explained historically as the result of a sequence where the

Mycenaean Greeks first established themselves at Knossos, in the LM II period, and only later set out to dominate the rest of the island, with Palaikastro succumbing among the last, given its location in the far eastern part of the island. The fundamental local LM IB ceramic typology at Palaikastro has been worked out. Research is on-going, but although the two LM IB phases are clearly identified by the stratigraphy, we do not at present see clearly identifiable differences in the associated ceramics. This relative homogeneity in ceramic production at the site might be explained by the LM IB period being of short duration, as MacGillivray currently argues.

<sup>52</sup> See Bosanquet 1902, 314; Bosanquet *et al.* 1902-3, 287-9; and the paper by L. Platon in this volume.

# Late Minoan IB ceramic phases at Palaikastro and Malia: a response to Séan Hemingway, J. Alexander MacGillivray & L. Hugh Sackett

*Aleydis Van de Moortel*

## Late Minoan IB ceramic chronology at Palaikastro

This response will focus on the characteristics of the LM IB pottery assemblage and the relative dating of the final Neopalatial destruction at Palaikastro, as presented by Hemingway *et al.* in this volume. The absolute date of the destruction and the connections between LM IB Crete and Egypt will be left out of consideration.

The pottery from the last Neopalatial destruction horizon at Palaikastro (Period XII) is abundant, thanks to the recovery of substantial deposits by Bosanquet in many town houses (1902–1905), by Popham and Sackett in House N (1962–1963), and most recently by MacGillivray, Sackett and Driessen in Buildings 3, 4, and 5 and in fills of nearby wells (1986–2003). Because of the attention devoted by Popham and Sackett, as well as the current excavators, to all classes of vases, and not just the fine painted pottery, we can obtain a good understanding of the entire range of LM IB pottery produced and consumed at Palaikastro. It may be possible in the future to distinguish an early ceramic sub-phase of LM IB at the site, since earlier LM IB contexts have been found in Building 5 (early fire destruction in several rooms), Block B (Rooms 10, 13), House N, and Building 3 (fill of a stone bench in Room 10). However, the quantities of pottery recovered are scant, and so far their study has not resulted in significant distinctions within the final LM IB destruction assemblage.

The LM IB pottery from Palaikastro is of particular interest to our understanding of Minoan pottery production and regional interaction because it is so idiosyncratic. It can readily be distinguished from

the pottery of the LM IA “Mature” destruction horizon at the site by its overall coarser texture and the ubiquitous presence of ogival cups. Other, much rarer, diagnostic features are imported vases of the Marine Style, Floral Style, and Alternating Style of Betancourt’s Special Palatial Tradition, as well as cup-rhyta and knobbed amphorae, all of which have comparanda with late LM IB features at other sites. Among the locally produced vases at Palaikastro, most striking is a decrease in the range of shapes and decorative motifs as well as the unusually large proportion of utilitarian vases among the serving vessels. This settlement apparently lacks much of the repertoire of LM IB medium-quality fine tableware found elsewhere in East and Central Crete, such as at Mochlos, Malia, Knossos, Kommos, Phaistos, and Hagia Triada. All those settlements have locally produced teacups (i.e., fine rounded lipped cups), bowls, jugs, bridge-spouted jars, and rhyta with a variety of shapes and dark-painted decorative motifs on a pale, lustrous polished ground, which are of a distinctly higher quality than the utilitarian vases, but of lesser quality than the vases of the Special Palatial Tradition. At those sites, a parallel set of utilitarian tableware exists as well, with compact conical cups, larger convex-sided conical cups (or ogival cups at Mochlos), and varieties of bowls, jugs and other pouring vessels.<sup>1</sup>

In contrast, most of the fine tableware from LM IB contexts at Palaikastro is utilitarian, consisting of large quantities of small, compact conical cups,

<sup>1</sup> For Mochlos, see Barnard & Brogan 2003; for Malia: Van de Moortel & Darcque 2006; and see below; for Knossos, Kommos, Phaistos, and Hagia Triada: Van de Moortel 1997.



somewhat smaller amounts of ogival cups – the counterparts of the large convex-sided conical cups in Central Crete – as well as jugs and cup-rhyta. Many vases are unpainted; others have dark monochrome coated surfaces or dark-dipped rims. Some ogival cups, jugs, and rhyta have been buff-slipped as if to imitate Knossian fine fabric. Few of those buff-slipped vases have dark-painted decoration; it is possible that these decorated vases are of medium-quality, but their poor state of preservation does not allow the identification of polished surfaces. Motifs are limited to spirals, quirks, foliate bands, pendent loops, and rows of floating crocuses. A number of vases have dark speckles reminiscent of Warren's so-called "Jackson Pollock Style" at Knossos.

The lack of fine teacups, bowls, bridge-spouted jars and jugs with dark-painted patterns on a lustrous ground at Palaikastro is unique in LM IB East and Central Crete. Even if we allow for the possibility of lost lustrous surface finish and decorative patterns, the fact remains that the morphological repertoire of locally produced medium-quality fine table ware at Palaikastro was much more restricted than in the LM IA "Mature" sub-phase. In view of the relatively large number of buildings excavated at Palaikastro and the substantial amounts of late LM IB pottery recovered, this poverty of the ceramic repertoire appears to be real and not due to the vagaries of archaeological recovery. This is also suggested by the similarly narrow range of vases found in the possible production assemblage from House N. The reduction in the quality of LM IB tableware is accompanied by an increase in the softness and grittiness of fine fabrics as compared to the LM IA assemblage at Palaikastro. This development again is unique to the site. Elsewhere, no coarsening in the fabric texture has been noted, whereas at Kommos, Phaistos, and Malia, fabrics on the whole are finer in LM IB than in LM IA, even among utilitarian vases.

This deterioration in the quality of tableware at Palaikastro cannot be explained by its consumption by a lower social class, since the excavated LM IB buildings of the settlement are substantial and comparable in size and refinement to contemporary town houses found elsewhere on Crete. It is possible that it is the result of a conscious decision on the part of the local potter(s) to specialize in certain

products so as to maximize production, as I have argued with respect to the output of the LM IA kiln at Kommos.<sup>2</sup> The grittier fabric texture may be the result of less careful fabric preparation, again in an effort to produce a greater number of vessels more quickly. One could also argue for a certain degree of isolation of LM IB Palaikastro vis-à-vis the rest of Crete, but then one would expect to see comparable idiosyncracies in other aspects of the material culture. Clearly, the pottery characteristics must be considered together with the other categories of evidence from Palaikastro. We must wait and see whether the ongoing study by the Palaikastro team will find a plausible explanation for the much restricted range and lower quality of locally produced LM IB tableware.

These idiosyncracies make it less straightforward to link the locally produced LM IB pottery from Palaikastro with that from other areas and assign a relative date to the final Neopalatial destruction of this site. The authors propose that it was synchronous with the LM II phase in Central Crete, as exemplified by the pottery from the Minoan Unexplored Mansion.<sup>3</sup> Their main arguments are that fragments of an imported LM II goblet and a horizontal-handled bowl have been found together with local LM IB pottery in Well 605, and several fragments of an LM II rounded cup or bowl with a dark-painted scale pattern on the upper body and banded interior have been found in Building 4, Room 13, sealed by a thick red mudbrick layer belonging to the LM IB destruction.<sup>4</sup> Furthermore, an ogival cup with pulled rim and bosses and a large basin with pulled spout have been found in the destruction level of Building 4; since both are common in the LM III phase at Palaikastro, it is proposed that they post-date the local LM IB phase and should be dated to LM II. In addition, in the well deposits it is observed that in the higher levels compact conical cups are gradually replaced by larger, wider conical cups with incurving profile reminiscent of LM III coni-

<sup>2</sup> Van de Moortel 2001.

<sup>3</sup> Popham 1984.

<sup>4</sup> The presence of this mudbrick layer was pointed out by H. Sackett during the discussion following the Palaikastro presentation at the Athens workshop.



cal cups. Finally, it is pointed out that banding, dipping, and spray paint, which are common among the pottery of the final Neopalatial destruction horizon at Palaikastro, continue in the LM II phase at Knossos, and thus may well date to LM II.

The presented arguments for an LM II date of the Palaikastro destruction are not convincing. First of all, it is significant that the LM II imported vases found with final Neopalatial destruction material are extremely rare and highly fragmentary. This contrasts with the much more numerous imported vases from the same levels that are firmly datable to LM IB, including ten or more vases of the Special Palatial Tradition, as well as cup-rhyta, knobbed amphorae, and a small alabastron likely to have been made at Mochlos. All these imported LM IB vases were found in the same restorable or intact condition as the local vases, and therefore must belong to the same destruction horizon, unlike the highly fragmentary and rare LM II pieces, which are likely to have experienced a different depositional history.

The imported LM II goblet fragment from Well 605 may well be intrusive, as the authors themselves admit. The well fills range in date from LM IB to LM IIIA2, and since these fills were not sealed, it is always possible that a later fragment trickled down among earlier pottery. Alternatively, it is possible that the filling of these wells did not begin until the LM II phase, when LM IB destruction material was cleared and deposited here prior to the reoccupation of this area. The fragmentary imported horizontal-handled bowl from the wells, with its semi-ovoid shape and dark horizontal bands, does not need to date to LM II but may be LM IB. Bowls such as these already occur in the final LM IB destruction levels at Mochlos, Knossos, Nirou Chani, Kommos, and Phaistos.<sup>5</sup> The LM II bowls from the Minoan Unexplored Mansion show a much larger rim diameter, averaging 17–18 cm. Since the rim and the maximum body diameter of the Palaikastro bowl are missing, it is not possible to be certain about its date.

Likewise, the three small fragments of the rounded bowl with scale pattern from Building 4, Rooms 13–14, need not date to LM II, but can be LM IB in date. The combination of a scale

pattern restricted to the upper body and a banded lower body already occurs in LM IB,<sup>6</sup> and so does a banded interior (see above). The fairly small size of the bowl, as shown in fig. 11h, likewise does not support a LM II date. Even if these bowl fragments date to LM II, it can easily be argued, because of their highly fragmentary condition, that they were intrusive and deposited together with the LM IB destruction material during a leveling operation in the LM II phase, in preparation for the reoccupation of the area.

Rather than dating to LM II, it appears that the final Neopalatial destruction at Palaikastro is more plausibly dated to the LM IB Final sub-phase, as defined elsewhere in this volume.<sup>7</sup> Since all vases of the Special Palatial Tradition found in this destruction horizon are of top-quality, they should be dated to the late stage of LM IB. None belong to the lower-quality variety considered by several authors in this volume as typical for the final stage of LM IB. However, the fragmentary alabastron from Building 14 with close comparanda in the LM IB Final destruction level at Mochlos, and the locally produced, large conical cups with incurving rims from the wells, are indicative of an LM IB Final date. Comparable conical cups have been found in the latest LM IB contexts at Kommos, which are now dated to LM IB Final.<sup>8</sup>

In sum, the evidence presented by the Palaikastro team for a synchronism of the final Neopalatial destruction at Palaikastro (Period XII) and LM II in Central Crete is inconclusive. The rare imported LM II fragment or fragments appear not to have been deposited during the destruction, but during the subsequent LM II cleanup and rebuilding of the site, whereas the better preserved and more numerous imported vases as well as the locally

<sup>5</sup> For Nirou Chani, see Xanthoudides 1922, fig. 19; for Knossos (South House), see Mountjoy 2003, 97–105; and for Phaistos (Chalara), see Palio 2001a, 244–422.

<sup>6</sup> E.g., on a bridge-spouted jug from Mochlos (Barnard & Brogan 2003, fig. 24, IB.328) and a tall alabastron from Pseira (Betancourt 1985, fig. 104D).

<sup>7</sup> See Rutter, Puglisi, Barnard & Brogan and elsewhere in this volume.

<sup>8</sup> Conical cups from House X, Room 2: see Rutter in this volume.



Table 1. Synchronisms at Malia.

Pelon 1970 ( <i>Quartier E</i> )	Van de Moortel ( <i>Abords Nord-Est</i> )
Phase II	Middle Minoan III with intrusive early Late Minoan IA fragments
Phase IIIA	LM IA "Mature"
Phase IIIB	LM IB and later

produced conical cups, which undoubtedly belong to the destruction horizon, provide a latest date of LM IB Final, contemporary with the destructions at Mochlos and Nirou Chani. It is hoped that the forthcoming final publication of the pottery from Palaikastro will provide quantified data on the frequencies of shapes, decorative motifs, and qualitative classes of pottery as well as on their distribution at the site.

## LM IA and LM IB ceramic chronology at Malia

In spite of more than 90 years of archaeological excavations at Malia, the Neopalatial ceramic chronology of the site is not as well developed as that of other major Minoan sites. The primary reason for this is the scarcity of stratigraphic excavations in Neopalatial contexts. The first such excavation was carried out by Olivier Pelon in the 1960s at *Quartier Epsilon*.<sup>9</sup> Pelon was able to distinguish three Neopalatial ceramic phases, for which I propose to assign the synchronisms shown in Table 1.

In the following, I will elaborate on Pelon's work using the Neopalatial pottery data from the *Abords Nord-Est*, the urban area bordering the New Palace on the northeast. The *Abords Nord-Est* was excavated by Pascal Darcque and Claude Baurain between 1981 and 1992.<sup>10</sup> The finds are currently being studied for publication under the direction of Pascal Darcque.<sup>11</sup> The *Abords Nord-Est* saw significant building activity and reorganization in the Late Minoan I phase. The area lacks a long stratigraphic sequence at a single location, but it was possible to reconstruct a coherent ceramic chronology by relating short stratigraphic sequences

from several locations through similarities in their pottery. This study was done in close cooperation with Pascal Darcque (stratigraphy) and Martin Schmid (architecture). Combining the results of our work with Pelon's findings at *Quartier Epsilon* allows me to propose a new Neopalatial ceramic chronology for Malia with five sub-phases of Late Minoan I. These ceramic phases are of necessity rudimentary because they are based on few floor deposits and mostly on a number of large stratified fills. Nevertheless, stratigraphic relationships are secure enough, and the amount of material from those fills large enough, to justify the existence of those phases and the establishment of a number of diagnostic criteria.

An earlier version of this Neopalatial ceramic chronology was presented at the 9th Cretological Congress in 2001.<sup>12</sup> Further study has led me to distinguish not two but three LM IA ceramic sub-phases (Early, Advanced, and "Mature"), and to assign the third construction phase at the *Abords Nord-Est* more confidently to LM IB Early rather than post-Theran LM IA. In the following, the architectural and stratigraphic sequence of the *Abords Nord-Est* will be summarized in its present, slightly modified form, and the main characteristics of the five LM I ceramic sub-phases will be reviewed, with an emphasis on the distinction between LM IB and LM IA "Mature" and on the definition of the LM IB sub-phases, since those are

<sup>9</sup> Pelon 1970.

<sup>10</sup> Baurain & Darcque 1989, 135–9.

<sup>11</sup> I want to thank Pascal Darcque for inviting me to study and publish the Neopalatial pottery from the site, and for his warm support.

<sup>12</sup> Van de Moortel & Darcque 2006.

the focus of the present volume. Finally, the paper considers whether the last Neopalatial destruction at Malia should be dated to LM IB Late or to the new LM IB Final sub-phase identified at several other Cretan sites by authors in this volume.<sup>13</sup>

### *LM IA Early: first construction phase (Level 8 and probably Level 9)*

The earliest building activity that can be seen in the Neopalatial period at the *Abords Nord-Est* is the extension of the New Palace to the north. This new north wing was given an eastern entrance with a porch that looked out over an open area (Space 11) measuring roughly 13 m north-south by 9.5 m east-west.<sup>14</sup> Most of Space 11 was taken up by a large shallow pit, ca. 8 x 10 m wide and ca. 1 m deep; to the north, east, and south of this pit, cobble Pavements 64 and 56 were laid (Level 8). The contemporaneity of all these features with the new north wing of the Palace is secured by architectural relationships. No excavation has been carried out underneath the pavements to obtain a ceramic date, but Poursat, as well as Driessen and Macdonald, dated the construction of the north wing to the beginning of LM IA, and my analysis of the next building episode at the *Abords Nord-Est* supports this date (see Level 10, below).<sup>15</sup> A small rectangular structure, Building 10A, located in the southwest corner of Space 11, may have been constructed at this time or survived from an earlier phase.

Probably at about the same time, or slightly later in LM IA, Building 6 was constructed over Protopalatial ruins to the east and northeast of Space 11 (Level 9).<sup>16</sup> The stratigraphic relationship of Building 6 to Space 11 and other areas of the *Abords Nord-Est* could not be ascertained, because it had been destroyed by later activity. Building 6 was badly damaged by water, but still contained nine patches of floors with small construction fills underneath and modest amounts of restorable pottery left on top or in close relationship to those fragmentary floors. Building 6 was covered by a thick, water-worn stratum of clay some time during the Late Minoan III period (Level 16).

The construction fills of Building 6 contained

40 diagnostic pottery fragments.<sup>17</sup> The latest pieces belong to five conical cups of a compact shape that postdates Pelon's Phase II and is broadly datable to LM I at Malia. They also include a tumbler of MM III or LM IA Early date, but no dark-on-light patterned pieces with a lustrous ground.<sup>18</sup> The surviving floor deposits of Building 6 consist of about 25 intact or restorable vases, all of Neopalatial date. These include eight compact conical cups of LM I date as well as three dark-on-light patterned vases with a lustrous ground. Two of these patterned vases (bowl N2005-004 and bridge-spouted jar N2005-006) have registers of thin ripple applied with multiple brush and added white bands, which are datable to an early stage of LM IA.<sup>19</sup> The decoration of the third patterned vase is too eroded to be legible. A straight-sided cup (N2005-020) of ordinary quality is MM III to

<sup>13</sup> See articles by Betancourt, Brogan & Barnard, Puglisi, and Rutter in this volume.

<sup>14</sup> Van de Moortel & Darcque 2006, fig. 1.

<sup>15</sup> Poursat 1988, 75; Driessen & Macdonald 1997, 182.

<sup>16</sup> In Van de Moortel & Darcque 2006, fig. 1, most of this structure was labeled Building 24. Since then Darcque has concluded that Buildings 6 and 24 were parts of the same structure, now named Building 6. In the same publication, the two southernmost partially preserved floors were not yet considered to be part of Building 6. It is now believed that they indeed belong to Building 6.

<sup>17</sup> Most of the Neopalatial pottery units of the *Abords Nord-Est* had been preselected, that is, pottery deemed undiagnostic had been thrown away, before I was engaged to do this study.

<sup>18</sup> Van de Moortel & Darcque 2006, fig. 2a. For LM I compact conical cup shapes from *Quartier Epsilon* at Malia, see Pelon 1970, pl. XXXVII.9-10. The tumbler from Building 6 is closely comparable to Pelon 1970, pl. XXXVII.8.

<sup>19</sup> Van de Moortel & Darcque 2006, 180, fig. 2b (bowl N2005-004) with a list of early LM IA comparanda from Knossos, Kommos, Hagia Triada, and Akrotiri. Vases decorated with tortoise-shell ripple from pure MM III contexts at Kommos, Phaistos, and Knossos *always* have thick ripple bands. Thin ripple does not appear at these sites before the LM IA phase (Van de Moortel 1997, 650). Pelon similarly observed that the majority of ripple-decorated vases of his Phase II have thick ripple bands, whereas in Phase IIIA they are mostly thin (Pelon 1970, 64, 95); for a discussion of the mixed MM III and early LM IA characteristics of his Phase II, see Van de Moortel & Darcque 2006, 181-2, 185. For different definitions of the end of the MM III phase and the beginning of the LM IA phase in ceramic terms, see Van de Moortel 1997, 486-90; Hood 1996; Macdonald 1996; Hatzaki 2007a, 151-60.



LM IA Advanced in date, and a tall teacup (0307–002) is of a long-lived LM IA–B type at Malia.<sup>20</sup> In the absence of any vase or fragment that must date to LM IA “Mature” or later, it is safe to place the construction fills and partially surviving floor deposits of Building 6 early in the LM IA phase. These are stylistically the earliest ceramic groups of the LM IA phase known from Malia, and for this reason they are assigned to the LM IA Early sub-phase.

### *LM IA Advanced: second construction phase (Level 10)*

The second architectural phase at the *Abords Nord-Est* was marked by the construction of rubble screen Walls 65 and 66 on top of cobble Pavement 64 and the laying of a thick layer of cobbles over the entire excavated area north of the Palace, which we refer to as *Esplanade 26*.<sup>21</sup> Probably some time during this same phase, Building 10A was rebuilt as Building 10B. Over 5,000 diagnostic pottery fragments were found within the cobble layer of *Esplanade 26*. Almost 80% of these are Protopalatial in date, and only about 20% are Neopalatial. Among the 1,075 Neopalatial pieces are 138 conical cup fragments, of which 60 are of squat heavy types datable to MM III, and 78 are compact cups typical of LM I.<sup>22</sup> The latest closely datable pieces are nine vases with dark-painted decoration on a lustrous buff ground. Most carry thin ripple, but some have spirals, and two bowls show plant motifs: bowl fragment 3305–007 is decorated with a large crocus, possibly floating, on its interior, and bowl 3304–002 has a vertical reed pattern on its exterior.<sup>23</sup>

The appearance of spirals and plant motifs on open shapes makes this deposit more advanced in character than the material from Building 6, although it still fits well within the early stage of LM IA as defined by Peter Warren at Knossos and elsewhere.<sup>24</sup> There is not a single decorative pattern in *Esplanade 26* that is datable to his LM IA “Mature” sub-phase, such as plant motifs on large closed vases or triple-linked spirals. The bowls with crocus and reed patterns are of medium size and have convex sides with thickened rims. In shape they closely resemble bowls from Kommos that I dated to LM

IA Advanced – a sub-phase fitting between LM IA Early and LM IA Late or “Mature”.<sup>25</sup> Because of the close similarities in shape and fabric it is even possible that these fine buff bowls from *Esplanade 26* had been imported from the Mesara. Thus it seems reasonable to distinguish also at Malia a new sub-phase called LM IA Advanced, and assign the construction of *Esplanade 26* to this date. Since its cobbles abutted the socle of the Palace facade as well as screen Walls 65 and 66, this LM IA Advanced date represents a *terminus ante quem* for the construction of the north wing of the Palace (Level 8).

Pottery fragments from *Esplanade 26* carrying dark-painted patterns on a lustrous buff ground often have horizontal bands painted in added white or red. The prominence of added red is new in the LM IA Advanced sub-phase at Malia, and it is a local feature.<sup>26</sup> One caveat must be added: in view of the modest quantities of pottery recovered from Building 6, one cannot rule out entirely that this material is in fact contemporary with the more advanced-looking pottery of the *Esplanade 26*.

<sup>20</sup> I am grateful to J.-C. Poursat and S. Müller-Celka for discussing the date of this straight-sided cup type with me. Whereas they would date it to MM III, the evidence from the *Abords Nord-Est* suggests that it continues into LM IA Early and Advanced. Comparanda for tall teacup 0307–002 are illustrated by Pelon 1970, 80, pls. XV.1a–b, XXXV.4 (phase IIIA); 83–4, pl. XVI.3 (phase IIIB); Pelon 1966, 574, fig. 20 (Hagia Varvara, LM IB); Deshayes & Dessenne 1959, 42, pl. VIII.3 (House Zb, LM IB).

<sup>21</sup> Formerly called *Esplanade Nord*: Van de Moortel & Darcque 2006.

<sup>22</sup> For MM III conical cup types at Malia, see Pelon 1970, pl. XXXVII.1–7. Some compact LM I conical cups from the *Abords Nord-Est* have been dipped in dark paint (e.g., 3407–010); it is not clear whether this is a chronologically diagnostic feature.

<sup>23</sup> Van de Moortel & Darcque 2006, 179, fig. 2c (bowl 3305–007).

<sup>24</sup> Warren & Hankey 1989, 61–5; Warren 1991.

<sup>25</sup> Van de Moortel & Darcque 2006, 181, n. 12; Van de Moortel 1997, 126–7, fig. 27, C9675; Van de Moortel 2001, 64, 91, 95–6, fig. 38, no. 62; Rutter 2006a, 435 (in-and-out bowl).

<sup>26</sup> Van de Moortel & Darcque 2006, 181, fig. 2d; Driessen & Macdonald 1997, 187, 189–90 considered added red bands to be diagnostic for LM IB at Malia, but our findings clearly show that it appeared as early as the LM IA Advanced sub-phase.

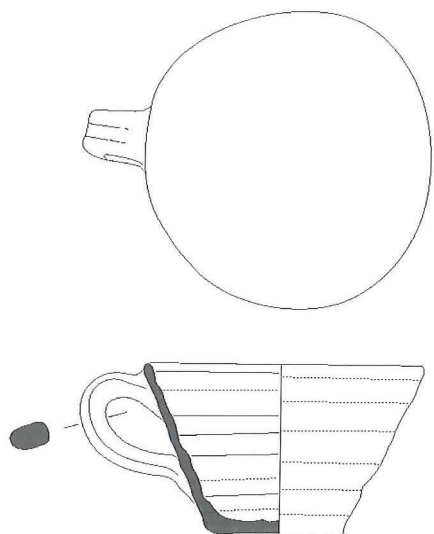


Fig. 1. Large ordinary flaring cup 1308-001 from Building 10, LM IA “Mature”. It has a dark red fabric and rudimentary surface finish (drawn and inked by H. Fournié; modified by F. Bourguignon; École Française d’Athènes).

Only through further excavation at Malia will we be able to ascertain whether the LM IA Early and Advanced ceramic sub-phases at this site should be maintained or merged.

### LM IA “Mature” destruction (Level 11)

Some time later, small Building 10B was destroyed by fire, leaving a floor deposit of 31 restorable vases grouped in at least five clusters (Level 11).<sup>27</sup> All have been made of fine dark or pale red fabrics and are ordinary in quality. They include 14 compact conical cups of LM I date and several vases broadly datable to the Neopalatial period: 1 miniature bell cup, 5 tripod bowls, 2 miniature convex handled lamps, and 2 miniature braziers used as rhyta. One of the tripod bowls has white painted bands on its exterior and illegible traces of white decoration on its interior; the other vases are undecorated. The most closely datable pieces of the floor deposit are six large flaring cups and one similar cup of smaller size (Fig. 1). They have roughly finished, undecorated surfaces. This ordinary flaring cup type may be the successor of the MM III – LM IA Advanced ordinary straight-sided cup. It never occurs in LM IA Early or Advanced contexts at the

*Abords Nord-Est*, and thus must be later. It resembles Pelon’s Type A cup found in his Phase IIIA and IIIB contexts at *Quartier Epsilon*,<sup>28</sup> and fragments also appear sporadically in contexts of the third and last architectural phase at the *Abords Nord-Est* (Level 12). Building 10B’s floor deposit must predate that last construction phase, because it is stratified below the remnants of a construction fill and floor belonging to that phase (Building 10C), and none of the ceramic features that typify that later architectural episode are found in the floor deposit of Building 10B or its associated pottery fragments.

It will be argued below that the third construction phase should be dated to LM IB Early. Thus the destruction of Building 10B is to be situated after LM IA Early and Advanced, and before the LM IB Early construction phase. It is difficult to assign it an exact date because of the special nature of its floor deposit and the scarcity of decoration, but it seems reasonable to situate it roughly contemporary with Pelon’s Phase IIIA or LM IA “Mature.” The ceramic characteristics of Pelon’s Phase IIIA can be summarized as follows:

- compact conical cups made of a gritty red fabric<sup>29</sup>
- straight-sided cups of Pelon’s Type A: ordinary flaring cups made of red fabric, such as those found in Building 10B<sup>30</sup>
- straight-sided cups of Pelon’s Type B: ordinary tall convex-sided cups made of whitish buff and pale red fabrics; these are not found in Building 10B, but will be extremely common in the third architectural phase and the final Neopalatial destruction at the *Abords Nord-Est* (see below, Fig. 4)<sup>31</sup>
- rounded cups of Pelon’s Type A: tall teacups of

<sup>27</sup> This deposit is discussed in detail in Darcque & Van de Moortel 2009, where it is argued that it represents a ritual assemblage related to the northeast entrance of the Palace.

<sup>28</sup> Pelon 1970, 79–80, pls. XIV.4, XXXV.11; Pelon pers. comm., Nov. 2000.

<sup>29</sup> Pelon 1970, 81–2, pl. XXXVII.9–10.

<sup>30</sup> Pelon 1970, 79–80, pls. XIV.4, XXXV.11; this single example is described as having a pink slip. This may be the same as one of the cup types found in the Palace by Chapouthier: Chapouthier & Joly 1936, pl. XIVb.

<sup>31</sup> Pelon 1970, 80, 150 no. 284, pls. XIV.5, XXVIII.5; Pelon pers. comm. Cf. Chapouthier & Joly 1936, pl. XIVc.



ordinary or high quality made of fine whitish buff or pale red fabric; high-quality cups are decorated with white-painted patterns on a dark ground<sup>32</sup>

- rounded cups of Pelon's Type B: squat teacups of high quality made of pale red or buff fabric, and decorated with dark-painted patterns on a lustrous buff slip<sup>33</sup>
- rounded cups of Pelon's Type C: squat teacups with a short foot<sup>34</sup>
- white-painted decoration on high-quality vases includes plant motifs, vertical ripple lines, dot pattern<sup>35</sup>
- dark-painted decoration on lustrous buff ground on high-quality vases is carefully executed, and includes running spirals, triple-linked spirals, plant motifs, thin ripple etc.; plant motifs occur on small vases as well as on large closed shapes<sup>36</sup>
- white highlights still occur on dark-patterned vases; added red is sparingly used<sup>37</sup>
- whereas a number of these characteristics are specific to Malia, the range of the dark-painted motifs on lustrous buff ground, and especially the occurrence of plant motifs on large closed shapes, provide reliable chronological links between Pelon's Phase IIIA and Warren's LM IA "Mature" at Knossos and elsewhere.<sup>38</sup>

It is conceivable that the destruction of Building 10B at the *Abords Nord-Est* took place somewhat earlier than the LM IA "Mature" sub-phase, because it lacks the tall convex-sided cups (Pelon's straight-sided cups Type B) that are a hallmark of Phase IIIA contexts at *Quartier Epsilon* as well as all later Neopalatial contexts at the *Abords Nord-Est*, including the construction fill of Building 10C. Such earlier dating would imply that Building 10B and the *Abords Nord-Est* were lying in ruins throughout the LM IA "Mature" sub-phase until they were rebuilt in LM IB Early. While this is not impossible, it is unlikely that this area outside the northeast entrance of the Palace would have been in disarray for a long time while the Palace was still in use. It is possible that tall convex-sided cups appeared only late in the LM IA "Mature" sub-phase at Malia, or else their absence in the destruction deposit of Building 10B may simply be due to the limited amount of pottery recovered

from this context and the special nature of its floor deposit.

In view of the scarcity and fragmentary nature of the ordinary flaring cups (Pelon's straight-sided cups Type A) in contexts postdating Building 10B at the *Abords Nord-Est*, it is possible that their production was short-lived. Alternatively, they may have had a special use and may never have been produced in large quantities.

### *LM IB Early: third construction phase (Level 12)*

Some time after this destruction, the third and last architectural phase took place at the *Abords Nord-Est*. Building 10 was reconstructed as Building 10C and received a new earthen floor at a much higher level. The large pit in Space 11, which appears to have subsided in conjunction with the earlier destruction (Level 11), was now filled to the level of the pavements with a mass of earth as well as some 4300 diagnostic pottery fragments, a few restorable vases (mostly conical cups), unknown quantities of undiagnostic pottery fragments, and other debris – ostensibly in an effort to avoid further subsidence. At about the same time, a new cobbled Passage 14 was laid at a higher level to the east of Space 11. The fill of the pit, the make-up of raised Passage 14, and the construction fill below the floor of Building 10C have ceramic features in common with earlier contexts, but they also show new characteristics that clearly postdate Pelon's Phase IIIA. One could propose to date this third construction horizon to a final stage of LM IA; and indeed it is clear from the

<sup>32</sup> High-quality cups: Pelon 1970, 80, pls. XV.1, XXXV.4; cups of ordinary quality: Pelon 1970, 151 nos. 288–9, pl. XXVIII.6.

<sup>33</sup> Pelon 1970, 81, 150–1 no. 287, pls. XV.2, XXVIII.4, XXXV.5.

<sup>34</sup> Pelon 1970, 81, pls. XV.3, XXXV.8.

<sup>35</sup> Pelon 1970, 80, 90–1, pls. XV.1, XLI.8–11.

<sup>36</sup> Pelon 1970, 91–5, pl. XX.1–5. Plant motifs are found on fragments of a bridge-spouted jar (pl. XX.2j) and a pithos (pl. XX.4). Most of the dark-patterned pieces listed by Pelon are single vase fragments.

<sup>37</sup> Pelon 1970, 78.

<sup>38</sup> Warren & Hankey 1989, 72–5.

Fig. 2. Fine red conical cup 2715–012 (left) and fine buff conical cup 2617–005 (right), both of Type C, from different LM IB contexts at the *Abords Nord-Est*. Cup 2715–012 was found among fallen debris from the Palace on top of Pavement 64; cup 2617–005 was found in the LM IB Early fill of the large pit in Space 11 (photo A. Van de Moortel).



final discussion of this July 2007 workshop that there are no generally agreed upon criteria to distinguish the latest LM IA pottery from the earliest LM IB material at Cretan sites. However, I believe that this third architectural phase is best dated to an early stage of LM IB, based both on the internal logic of pottery developments at Malia and on stylistic comparanda with LM IB pottery from other sites. It is possible to situate the third construction phase early rather than late in LM IB because of the absence of Marine Style and other top-quality pottery of Betancourt's Special Palatial Tradition that is commonly found in late LM IB destructions on Crete.<sup>39</sup> It also lacks some local ceramic features that ostensibly developed at Malia later in LM IB. These later local features, together with fragments of the Special Palatial Tradition, have been found in the final Neopalatial destruction level at the *Abords Nord-Est* (Level 14), which must postdate the third construction phase (see below).

Vases with red fabrics still dominate the pottery of the third construction horizon at the *Abords Nord-Est*, but we see a marked overall change in surface color, in that fabrics now tend to be fired pale red and orange rather than dark red. It is as yet unclear whether this development is due to a change in the recipe of the clay body or a change in firing practices. Fine red compact conical cups continue much the same as before, but tend to have smaller base diameters, some being less than 3 cm. A striking new feature is the use of fine buff fabrics for conical cups (Fig. 2). Fine buff conical cups never appeared in Pelon's Phase IIIA, but they have been found in later LM IB destruction contexts at the *Abords Nord-Est*. It seems best to date fine buff

conical cups at Malia to LM IB rather than a final LM IA phase postdating Pelon's Phase IIIA.<sup>40</sup> Given the ubiquity of conical cup fragments in stratigraphic units, the presence of a fine buff conical cup would be a very useful diagnostic feature for distinguishing LM IB from LM IA deposits at Malia.

In addition, several new, but less common, conical cup types make their first appearance in this third architectural phase at the *Abords Nord-Est*. Produced in fine red and buff fabrics, they are larger and more convex than the compact type, and they may be unpainted, dark-dipped or solidly coated with dark paint (Fig. 3). These larger conical cup types were not identified in Pelon's Phase IIIA contexts, but they occur in the later LM IB destruction contexts at the *Abords Nord-Est*, as well as in the LM IB destruction deposits of Houses Za and Zb at Malia, and thus it is again reasonable as well as convenient to date their first appearance at Malia to LM IB.<sup>41</sup>

Tall ordinary red teacups with strap handles con-

<sup>39</sup> Betancourt 1985, 140–8.

<sup>40</sup> Pelon 1970, 81–2. I thank Pelon for discussing with me the characteristics of his phase IIIA and IIIB conical cups from *Quartier Epsilon*.

<sup>41</sup> House Za: Demargne & Gallet de Santerre 1953, pl. XL.4, second row, lower left. House Zb: Deshayes & Dessenne 1959, pl. VIII.1. Similar large conical cup types occur in both LM IA and LM IB contexts at Kommos, Hagia Triada, Phaistos, and Knossos: Van de Moortel 1997, 53–81, 283, 287, 289, 399, 401, 520–1, 582, 600–1, figs. 7–10. Pelon lists a bowl among his phase IIIA pottery that is quite close to a conical cup; but with its finished horizontal rim, it is best considered to be a bowl, since large convex conical cups of LM IA or LM IB never have finished rims (Pelon 1970, 82, pl. XV.5). Pelon does not specify the frequency of this shape.



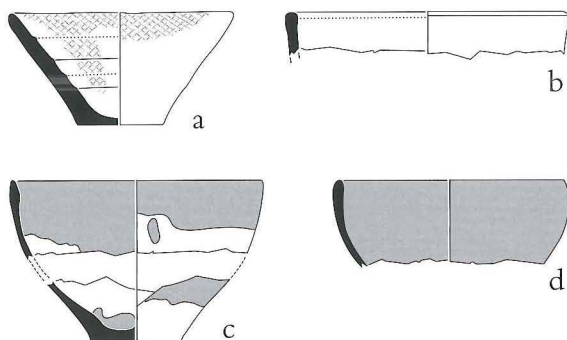


Fig. 3. Fine buff conical cup types of LM IB Early date from the *Abords Nord-Est* (Level 12): a) Type C (2617–005); b) Type E/F (2607–033); c) Type K (N2507–007), all from the fill of the large pit in Space 11; and d) Type P/Q (0209–019) from the construction fill of raised Passage 14 (drawn and inked by H. Fournié; École Française d’Athènes).

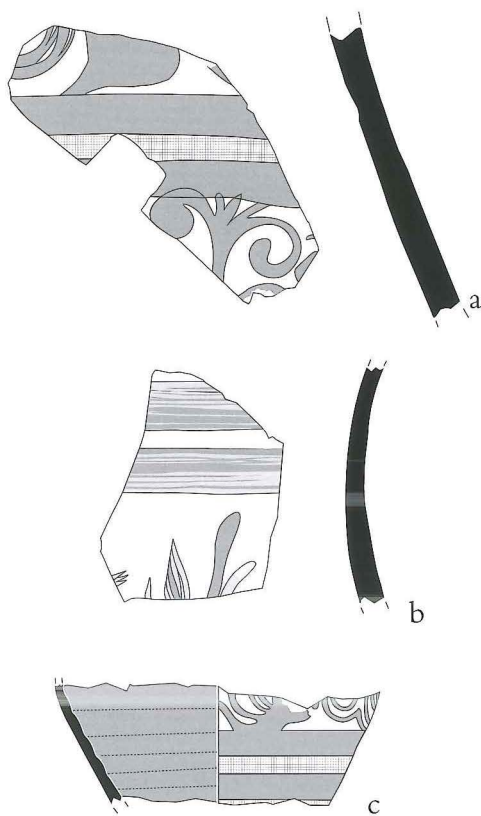


Fig. 6. LM IA “Mature” – LM IB vase fragments with plant motifs and added red bands from the fill of the large pit in Space 11. Added red paint is indicated by crosshatching: a) large closed vase 2614–023; b) large closed vase 2616–001; and c) teacup 1334–001 (drawn and inked by H. Fournié; modified by F. Bourguignon; École Française d’Athènes).

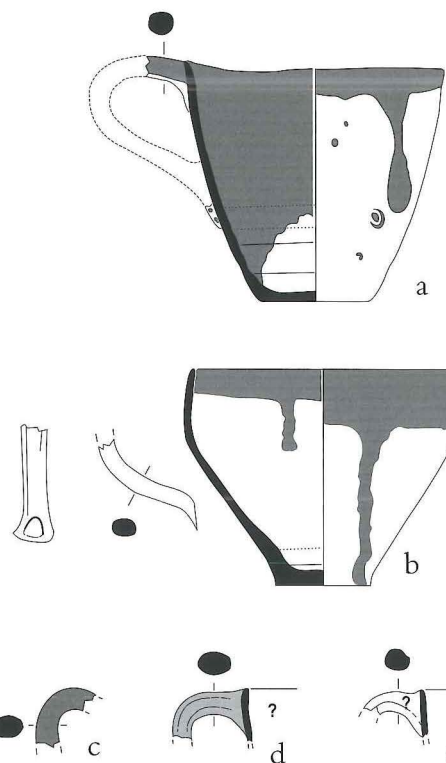


Fig. 4. Convex-sided tall cups of Pelon’s Type B (LM IA “Mature” – LM IB) from the *Abords Nord-Est*. All come from closed contexts in LM IB Early (Level 12): a) fine whitish buff cup 1330–001 and b) fine pale red cup 1258–098 from the fill of the large pit in Space 11; c) fine pale red cup handle 1343–019 from the construction fill of Building 10C; and d) fine pale red fragment 0209–020, as well as e) fine buff fragment 0210–021 from the construction fill of raised Passage 14 (drawn and inked by H. Fournié; modified by F. Bourguignon; École Française d’Athènes).



Fig. 5. High-quality handleless spouted teacup 2614–020 with red monochrome coating from the LM IB Early fill of the large pit in Space 11 (drawn and inked by H. Fournié; École Française d’Athènes).

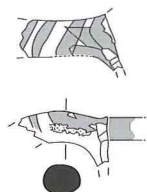


Fig. 7. LM IB Early jug handle 2617–038 with diagonal cross bars from the fill of the large pit in Space 11 (drawn by G. Fawkes, inked by M.J. Schumacher; École Française d'Athènes).

tinue from before and are quite frequent in the construction fills of the third architectural phase at the *Abords Nord-Est*. The most common handled cup type, however, is the tall ordinary straight-sided cup with slightly convex sides, coil handle, and dark-dipped rim that Pelon classified as his straight-sided cup Type B (Fig. 4; see above). Most examples found were made of fine pale red fabric; few were fine whitish buff. This convex-sided tall cup type is a hallmark of Pelon's phases IIIA and IIIB and thus broadly datable to LM IA "Mature" and LM IB.<sup>42</sup> It may be the successor of the LM IA "Mature" ordinary flaring cup or overlap with it (see above). It certainly occurs much more frequently than the ordinary flaring cups or the straight-sided cups of the MM III phase and LM IA Early and Advanced subphases (see above). Because of its ubiquity and easily identifiable characteristics, the tall convex straight-sided cup is a very useful diagnostic marker of the LM IA "Mature" and LM IB phases at Malia.

Another new shape in the third construction phase at the *Abords Nord-Est* is a large semi-ovoid red monochrome coated teacup of high quality, which may be handleless and spouted (Fig. 5). Fragments of several identical cups have been found, all coated with the same bright red pigment, so it can be identified as a real teacup type. Unlike the tall convex straight-sided cup, this teacup has a very fine buff fabric and well-finished surface and is of high quality.<sup>43</sup> Fragments of such teacups have also been found in the later LM IB destruction horizon at the *Abords Nord-Est*. Since this teacup type is not listed by Pelon among the Phase IIIA or Phase IIIB pottery of *Quartier Epsilon*, it may be a rare type datable within LM IB.

The fill of the pit in Space 11 included many dark-on-light patterned pottery fragments on a

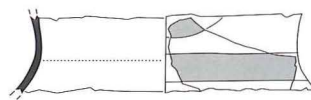


Fig. 8. Neck fragment of LM IB Early collar-necked jug 2616–051 with horizontal wavy band from the fill of the large pit in Space 11 (drawn and inked by H. Fournié; École Française d'Athènes).

lustrous buff ground, often with added red bands. Large closed vases often are decorated with plant motifs, and thus broadly datable to LM IA "Mature" and LM IB (Fig. 6).<sup>44</sup> Remarkably frequent are fragments of large piriform vessels used as rhyta. Some dark-painted patterns on a lustrous ground found in the fill of the pit may well be restricted to LM IB. Examples are vertical jug handles with diagonal bars (Fig. 7) and collar-necked jugs and other collar-necked shapes with a wavy band on the neck (Fig. 8). At Malia, in the Mesara, and elsewhere, dark-painted diagonally barred handles and dark-painted single, wavy neck bands on a lustrous ground are routinely dated to LM IB.<sup>45</sup>

<sup>42</sup> Cf. note 22 above. These cups resemble in shape the LM IA and LM IB one-handled conical cups from Mochlos, but the Mochlos cups appear to be of higher quality (Barnard & Brogan 2003, 36–7, fig. 3; Brogan & Barnard, this volume).

<sup>43</sup> In these respects this teacup is quite different from the ogival cups that are the hallmark of the LM IB phase at Mochlos and Palaikastro (Barnard & Brogan 2003, 42–4).

<sup>44</sup> Warren & Hankey 1989, 72–8.

<sup>45</sup> Diagonally barred handles: Pelon 1970, pls. XVIII.5, XXII.1 (Malia, Phase IIIB). Diagonally and horizontally barred handles are also very common among the LM II pottery of the Minoan Unexplored Mansion (Popham 1984, 161, 166, 168, 172, pl. 157 and *passim*). Horizontally barred handles occur on a LM IB jug from Pseira (Betancourt 1985, fig. 104I) and on a Minoan jug from the Period VII destruction horizon in House A at Hagia Eirene (Cummer & Schofield 1984, 125–6, no. 1554, pl. 31; I thank Penelope Mountjoy for this reference). However, they already appear on fragments of a cup and jug found in the LM IA destruction level of the Villa of the Lilies at Amnisos (Schäfer 1992, 219–20, pl. 93.2, 93.6), and thus need not be diagnostic of LM IB at Malia. For examples of one or more wavy bands on the neck of LM IB collar-necked jugs and other vases, see Pelon 1970, pl. XXII.1 (Phase IIIB); Levi 1967–8, 118–9, fig. 73e; Palio 2001a, 298–9, 340, nos. 234, 853, figs. 43, 45 l (Phaistos, Chalará LM IB); La Rosa & Cucuzza 2001, 116, 199, no. XLVI–9, fig. 152b (Seli di Kamilari, Volakakis plot, LM IB); Levi 1959, fig. 25f (Kannia



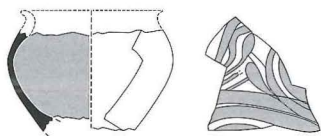


Fig. 9. LM IB Early bowl 1358–102 painted with flowers and buds, from the fill of the large pit in Space 11 (drawn and inked by H. Fournié; École Française d'Athènes).

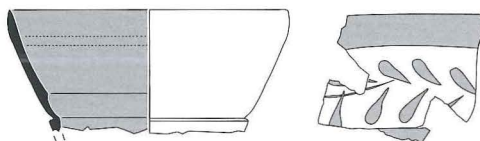


Fig. 11. Fragmentary LM IB tall cup or cup-rhyton 2715–004 decorated with a dark-painted foliate band below the rim, found among the fallen debris of the Palace on top of Pavement 64 (drawn and inked by H. Fournié; École Française d'Athènes).

Likewise, the flowers and buds seen on a small piriform bowl from the pit (1358–102) resemble the decoration of the LM IB agrimi rhyton from House N at Palaikastro (Fig. 9).<sup>46</sup> For all these reasons, it seems best to date the third and last construction phase of the *Abords Nord-Est* to LM IB Early rather than to a final stage of LM IA.

*LM IB Late: final destruction and abandonment of Abords Nord-Est (Levels 13 and 14); destruction horizon in the Palace and Houses Za, Zb, and E*

Some time later, the New Palace of Malia was destroyed and the *Abords Nord-Est* abandoned. Parts of the Palace walls fell into the *Abords Nord-Est* at several places, covering pottery and other debris (Level 14). The clearest stratigraphic sequence was found on top of Pavement 64, where a yellowish layer of earth had been sealed by ashlar blocks fallen from the Palace. Its latest pottery is datable to a late stage of LM IB because it includes two fine pottery fragments decorated in Marine Style (2710–005) and Plant Style (2715–020) (Fig. 10). The leaf scroll on the Plant Style fragment closely parallels that of well-known bridge-spouted jar HM 3007 from the LM IB destruction of the Villa at Hagia Triada.<sup>47</sup>



Fig. 10. Fragments of LM IB Late fine closed vessels decorated in Plant Style (2715–020, left) and Marine Style (2710–005, right), found among fallen debris of the Palace on top of Pavement 64 (photo A. Van de Moortel).

These two fragments from the *Abords Nord-Est* provide an indisputable *terminus ad* or *post quem* of LM IB Late for the fall of at least this part of the Palace facade. Associated with these two fragments were several other vases or pottery fragments datable to LM IB, according to the new criteria outlined above: compact conical cups made of fine buff fabrics and larger conical cups of different types with fine

LM IB); Watrous 1992, pl. 1, fig. 17, nos. 45, 264 (Kommos LM IB), the latter redated by Rutter to LM IB Early: Rutter 2006a, 458, pl. 3.44, no. 40/2; Van de Moortel 1997, fig. 51, C2752, C5550, C9602 (Kommos LM IB). The only example known to me of a wavy neck band that has been dated to LM IA is on a collar-necked jug from a deposit of fragmentary vases found on top of an LM IA floor underneath the South House of the Stratigraphic Museum site at Knossos: Warren 1999, 899, pl. CCVII.14 (P 1194). Warren dates this deposit to a final, post-Theran, LM IA phase. He does not specify whether the deposit was closed, however, and the fragmentary condition of the vases could be taken to argue that this is not a destruction deposit but pottery that accumulated over time. There seems to be no reason why this deposit could not have extended into early LM IB.

<sup>46</sup> Sackett 1996, fig. 3B; Niemeier 1980, fig. 4.9. A teacup with similar decoration comes from a mixed LM IA–B context at Kommos and is dated by Watrous to LM IB: Watrous 1992, 6, fig. 13, no. 88.

<sup>47</sup> Halbherr, Stefani & Banti 1977, fig. 49. See Van de Moortel & Darcque 2006, fig. 4 for drawings of the two fragments from the *Abords Nord-Est*.

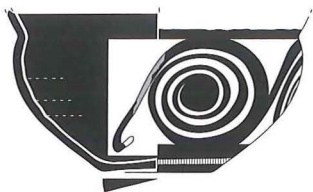


Fig. 12. LM IB Late squat teacup or bowl 2707–013, made of a whitish buff fabric and decorated with poorly drawn running spirals with blob centers and thickened outer loops, bordered below by black and red bands (drawn by R. Docsan, inked by M.J. Schumacher; École Française d'Athènes).

buff or fine red fabrics. Likewise datable to LM IB is a fragmentary tall cup or cup-rhyton (2715–004) decorated below the rim with a dark-painted rather sketchy foliate band on a lustrous ground (Fig. 11); its decoration has good LM IB comparanda elsewhere.<sup>48</sup> A new squat teacup or bowl type made in a local whitish buff fabric occurs for the first time at the *Abords Nord-Est* and appears to be diagnostic of the late stage of LM IB at Malia (Fig. 12). Most of its body is covered with poorly drawn running spirals with blob centers and thickened outer loops executed in black paint on a lustrous ground. Its lower body is painted with three alternating thick black and red horizontal bands touching each other. Such lower body decoration likewise appears to be characteristic for the LM IB destruction horizon at Malia.<sup>49</sup>

Pottery of Betancourt's Special Palatial Tradition has been found previously in the final Neopalatial destruction levels of Houses Za, Zb, and E at Malia,<sup>50</sup> but this is the first time that it has been identified in association with the destruction of the Malia Palace. Because of the absence of such pottery from the destruction level within the Palace, it had been argued by the early excavators that the Malia Palace had been destroyed in the LM IA phase and was lying deserted during LM IB.<sup>51</sup> Most recently Pelon has argued with new evidence that the New Palace was destroyed by fire in the LM IA phase, and was only sporadically reused thereafter.<sup>52</sup> Closer inspection of the excavation reports and the illustrated pottery from the Palace, however, make it possible to propose an LM IB

Late date for the destruction of several more parts of the Palace, which makes it much more likely that the entire building was in use into LM IB Late and was destroyed at the same time as the settlement.<sup>53</sup>

There is no doubt that a significant part of the restorable vases recovered from the Palace are datable to LM IA and not LM IB, but it is also obvious that the early excavators dug into different architectural phases at once, mixing their material.<sup>54</sup> Through comparison with the new LM IB pottery chronology from the *Abords Nord-Est* and the pottery from the late LM IB destruction horizon

<sup>48</sup> Its rather sloppily executed foliate band compares well with that found on a teacup from a LM IB Late floor deposit at Kommos (Van de Moortel 1997, fig. 14, C9605 from House X, Room 2, 2nd LM IB floor), a footed strainer from the LM IB destruction horizon at Hagia Triada (Halbherr, Stefani & Banti 1977, fig. 11), and several vases from the final LM IB destruction horizon at Mochlos (Barnard & Brogan 2003, fig. 23, IB.326, fig. 27, IB. 353 and IB.354). Niemeier (1980, 24, fig. 5) assigns a similar foliate band to the Sub-LM IA style of the LM IB phase, and Betancourt (1985, 137–9) likewise considers it to be LM IB.

<sup>49</sup> Fragments of two identical cups or bowls have been found nearby on Pavement 64 (in stratigraphic unit 2707) as well as in the waterworn layer over Building 6 (stratigraphic unit 0307). Similar arrangements of three alternating dark-brown and red bands above the base are seen on jugs HM 9575 and HM 9573 from the final LM IB destruction level at House Zb (Deshayes 1959, 53–4, pls. XVI.1 and 3); they never occur in earlier contexts at the *Abords Nord-Est*.

<sup>50</sup> House Za: Demargne & Gallet de Santerre 1953, pls. XLIII.1–4, LV, LVII (HM9465); House Zb: Deshayes 1959, 55–60, pls. XIV.3, XV.4–5, XVI.2; House E: Pelon 1970, pls. XVIII.3–4, XXI.5–6; Deshayes & Dessenne 1959, 120, pls. LXII.e–g, LXIII.b–c.

<sup>51</sup> Chapouthier & Joly 1936, 47–50; Chapouthier & Demargne 1962, 75.

<sup>52</sup> Pelon 2005, 191–6. In an earlier publication (1997), Pelon had dated the final use and destruction of the Palace to LM IB. In both publications he argues for a reuse of the north part of the Palace in LM II–III.

<sup>53</sup> Arguments for an LM IB destruction date of the Palace have also been advanced by Niemeier (1985, 176, n. 1327) and Poursat (1988, 76).

<sup>54</sup> Cf. Charbonneaux' presentation of restorable vases of Protopalatial, MM III, LM I, and LM IB date in a single chapter under the heading, "MM III" (Chapouthier & Charbonneaux 1928, 52–4, pls. XXVII, XXVIII) or Chapouthier & Demargne's (1942, pl. XLVII.1–2) presentation of Protopalatial and Neopalatial vases as "vases divers de la deuxième époque".



in Houses Za, Zb, and E, it is now possible to date many more vases from the Palace to LM IB than before. Thus the large conical cups with convex sides and incurving rims reported from the Palace are now datable to LM IB.<sup>55</sup> It is unfortunate that the fabric color of conical cups from the Palace is never specified by the excavators, so we do not know whether they found compact conical cups made of fine buff fabric – another marker of LM IB. The exact findspots of the large convex-sided conical cups are not given either, but conical cups in general are said to be very numerous, with large deposits having been encountered in Hypostyle Hall IX.2 and in the East Magazines.

Beaked jug HM 7921 from an unspecified context in the Palace likewise can be dated to LM IB because of its piriform body and diagonally barred handle. Its lower body is banded, and its upper body carries a row of dark-painted grass clumps on a lustrous buff ground.<sup>56</sup> The decoration on the body closely resembles that of pithoid jar 2104–001 from Room 8.1 of the *Abords Nord-Est* (Fig. 13), as well as that of several vases from Houses Za and Zb, all destroyed late in LM IB (see below). Likewise, a piriform beaked jug and a collar-necked jug from Room XXVII.4 (one of the row of storerooms in the northernmost part of the Palace) must be LM IB in date. The beaked jug is decorated with a row of double axes on its upper body, and the collar-necked jug carries a row of running spirals on the upper body and is poorly finished.<sup>57</sup> Three other fine buff vases have dark-painted decorative patterns on a lustrous ground and are datable to LM IB: a small askoid jug from Quartier XXVII, its body carrying a row of thin and thick chevrons; a collar-necked bridge-spouted jar with horizontally barred handles from Room XXII.1 in the north wing; and a footed pyxis from an unspecified context with a row of large irises covering its body.<sup>58</sup>

In addition, two large stirrup jars found in the Palace are datable to LM IB. One large ovoid jar (h. 0.345 m) from Room XXV.3 in the north wing, near the northeast entrance, has a buff fabric, three barred handles, horizontal banding on the lower and mid-body, and a row of triple-linked, large dark-painted circles with central dots on the upper

body.<sup>59</sup> In shape and decoration this stirrup jar is most closely comparable to a specimen from the North House at Knossos, which was destroyed late in LM IB.<sup>60</sup> Its “open-spiral” motif, described in the catalog but poorly visible in the published photograph, is widespread in Central and East Crete, and is limited to LM IB; a squat stirrup jar from the late LM IB destruction level of House Zb at Malia has an almost identical decoration, and other comparanda come from Knossos, Archanes Tourkogeitonia, Gournia, Palaikastro, and Mochlos.<sup>61</sup> The second stirrup jar (HM 7838) comes from Room XIV.2 in the south wing of the Malia Palace. With its squat ovoid body (h. 0.23 m), it is similar in shape to the stirrup jar with open spirals from House Zb, and it also has three handles. It is decorated on the shoulder with a pattern of dark-painted double dotted tendrils, volutes, and rockwork, augmented with added red bands between the tendrils; the lower body is covered with dark brown and red horizontal bands.<sup>62</sup> With its lavish use of added red it must be a local imitation of the Special Palatial Tradition, and thus it is datable to a late stage of LM IB.

<sup>55</sup> Chapouthier & Charbonneaux 1928, 54, pl. XXVIII.2; Chapouthier & Joly 1936, 33, pl. XIII.1, q, r, s.

<sup>56</sup> Chapouthier & Joly 1936, 30–1, pl. XXXIIa.

<sup>57</sup> Pelon 1997, 353–4, figs. 18–9; Van Effenterre 1980, fig. 502. In this publication Pelon dates both jugs to LM IB, whereas later (2005, 195) he dates them to post-LM IA. Driessen & Macdonald (1997, 193) agree with the LM IB date of the beaked jug.

<sup>58</sup> Fine collar-necked, bridge-spouted jar: Chapouthier & Demargne 1942, pl. XLVI.2a; askos: Chapouthier & Demargne 1942, 43, fig. 20, pl. XLVII.2b; and pyxis: Chapouthier & Demargne 1942, pl. XLVI.2b.

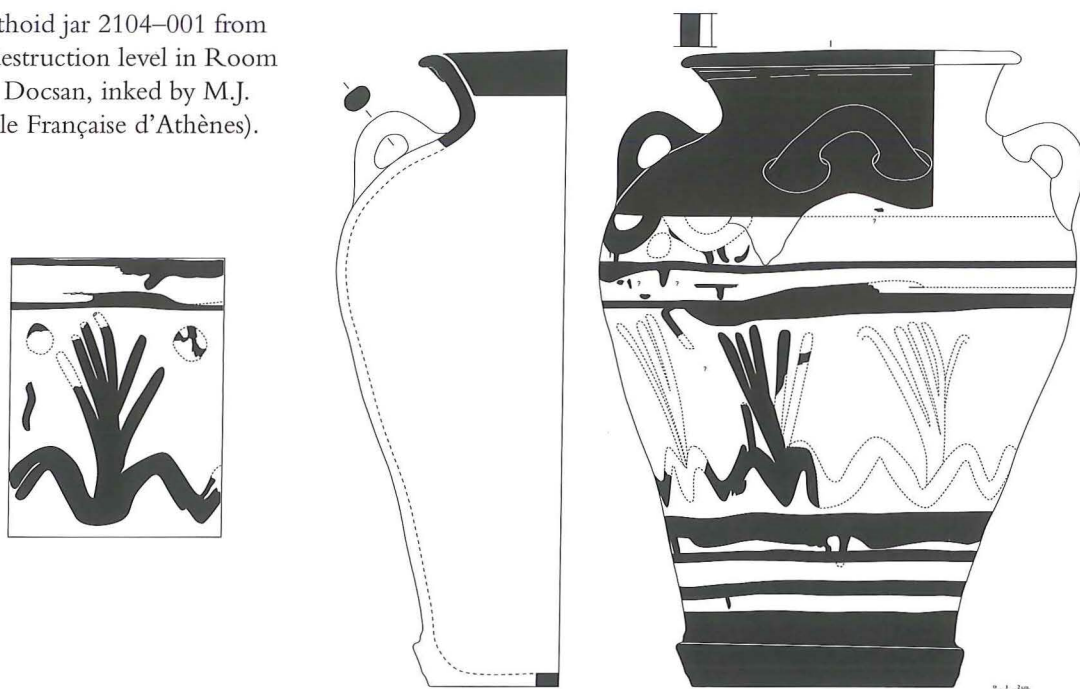
<sup>59</sup> Chapouthier & Joly 1936, 32, pl. XXXIII.2.

<sup>60</sup> Warren 1981, 82–3, fig. 25; Warren refers to this motif as open, dot-center spirals.

<sup>61</sup> House Zb: Deshayes & Dessenne 1959, 54–5, pl. XIV.4 (HM 9572); Knossos, Royal Road: Niemeier 1980, 34–6, fig. 15.5; Archanes, Tourkogeitonia: Catling 1983, 53, fig. 98b; Gournia: Hawes *et al.* 1908, 43, pl. IX.4; Palaikastro: Dawkins, Hawes & Bosanquet 1904–5, 281, fig. 12a dated to LM II; Mochlos: Barnard & Brogan 2003, 70, IB.368, fig. 29, pl. 17 and frontispiece (top).

<sup>62</sup> Chapouthier & Joly 1936, 32, pl. XXXII.c. Better photos are provided by Van Effenterre 1980, 538, fig. 778 (B/W), pl. XXVIII (color). Niemeier (1985, 176, n. 1327) likewise dates this stirrup jar to LM IB.

Fig 13. LM IB pithoid jar 2104–001 from the LM IB Late destruction level in Room 8.1 (drawn by R. Docsan, inked by M.J. Schumacher; École Française d'Athènes). Scale 1:6.



Stirrup jars with squat, ovoid shapes are common in LM IB Crete and may not begin before this phase. Examples have been reported from Knossos, Archanes Tourkogeitonia, Mochlos, Gournia, Palaikastro, Makrygialos, and Zakros, often carrying motifs of the Special Palatial Tradition. A squat ovoid stirrup jar from Palaikastro has a decoration that is closely comparable to that of stirrup jar HM 7838 from the Malia Palace.<sup>63</sup>

Even though the published vases with LM IB features from the Palace are relatively few, it should be kept in mind that the total number of complete and intact dark-on-light patterned vases recovered from the Palace is low as well.<sup>64</sup> Most of the whole vases found in the Palace ruins were undecorated and of ordinary quality, which makes it plausible that the building had been looted after its destruction, as J. Hazzidakis, its first excavator, concluded. Driessen and Macdonald proposed that only parts of the Palace were still in use by the time it was destroyed in LM IB.<sup>65</sup> However, in view of the much more widespread distribution in the Palace of intact or restorable vases now datable to LM IB, it is more plausible that the entire Palace was used into LM IB Late and destroyed by fire at that time.

In addition to the Palace and Space 11 of the

*Abords Nord-Est*, Room 8.1, partially excavated in the very southeast corner of the *Abords Nord-Est*, was destroyed late in LM IB, and a small destruction deposit was left behind (Level 13). Only three restorable vases were found on the floor of this room, and all show heavy burning. A tall collar-necked pithoid jar (2104–001), 0.50 m high, with a piriform body and ledge rim, is decorated with a poorly executed row of dark-painted grass clumps

<sup>63</sup> Squat ovoid stirrup jars from Mochlos: Barnard & Brogan 2003, 69–70, IB.368, IB.369, IB.371, figs. 29–30, pl. 17, and n. 156 for more bibliographical references; Gournia: Hawes *et al.* 1908, 43, pls. VIII.18, IX.5; Zakros: Betancourt 1985, pls. 20H, 22E; Archanes Tourkogeitonia: Catling 1983, 53, fig. 98b; Palaikastro: Bosanquet 1901–2, 312–3, fig. 26 and Dawkins, Hawes & Bosanquet 1904–5, 281, fig. 12a. The stirrup jar published by Bosanquet is decorated with double ivy tendrils and scrolls, and was found in the lustral basin of House B. Bosanquet dates it to LM IA, but I agree with Niemeier that its decoration is better dated to LM IB (Niemeier 1980, 26, fig. 7.10). A stirrup jar with similar squat ovoid shape was found in Deposit F on the Knossian Acropolis, and dated by Catling to LM IA (Catling, Catling & Smyth 1979, fig. 31, no. 225). Again, I agree with Macdonald that it fits better with an LM IB date (Macdonald 1990, 87).

<sup>64</sup> Pelon 1980, 15.

<sup>65</sup> Driessen & Macdonald 1997, 192–3.



on an undulating base line (Fig. 13). Its ledge rim appears to be LM IB in date, and its decoration is closely paralleled on a piriform jug from the late LM IB destruction level of House Zb, as well as on a large cylindrical bucket jar and possibly also a large collar-necked pithoid jar from House Za.<sup>66</sup> The second vase recovered from Room 8.1 at the *Abords Nord-Est* is a very large narrow-necked jug, 0.515 m high, with ovoid body and short neck with three protuberances (Fig. 14). Its upper body is decorated with a row of stylized vertical reeds, and its lower body is covered by thick black horizontal bands. The diagonal bars on its handle are datable to LM IB, and the reed pattern on its upper body is closely paralleled on several vases from the late LM IB destruction levels of Houses Za and Zb.<sup>67</sup> The third vessel from Room 8.1, a cooking pot with a single vertical handle, is not closely datable.

Even though the amount of pottery published and known from LM IB destruction contexts at Malia is limited, it allows us to narrow the date of this destruction, in light of the new evidence for at least two waves of late LM IB destructions on Crete presented by several authors in this volume. Most of the vases discussed above fit comfortably into the LM IB Late sub-phase characterized by the presence of Betancourt's Special Palatial Tradition and the more sketchily executed decorative motifs of the Standard Tradition. One of the complete vases from House Zb, however, is a squat alabastron decorated in Marine Style (HM 2256) that could be later in date because of its shape.<sup>68</sup> Few squat alabastra of this type have been found on Crete, and most come from LM II contexts. The shape is more at home on the Greek mainland, where it has been dated by Furumark to LH IIB.<sup>69</sup> Deshayes likewise dated the squat alabastron from House Zb to LM II because of the stylized execution of its rockwork. In contrast, Mountjoy, Niemeier, and Müller date it to LM IB.<sup>70</sup> No doubt the shape must have been known in Crete by the LM IB Late sub-phase, since two squat alabastra, including one decorated with marine motifs, have been found in a well-dated LM IB Late destruction horizon in the Palace at Zakros.<sup>71</sup>

The presence of a third squat alabastron at Mochlos is one of the arguments presented by

the excavators for dating the final Neopalatial destruction at that site to a new LM IB Final sub-phase, which postdates the LM IB Late destructions at many other Cretan sites.<sup>72</sup> A similar LM IB Final sub-phase has now been identified at Hagia Triada, Kommos, Nirou Chani, and elsewhere.<sup>73</sup> Among the criteria marking this new sub-phase are the greater frequency of large horizontal-handled bowls and large teacups, as well as the appearance of poor-quality imitations of decorative motifs of the Special Palatial Tradition. At Malia no horizontal-handled bowls are known from LM IB destruction deposits, and it is difficult to assess the size range of the teacups, because so few have been published. The new teacup or bowl type from the LM IB

<sup>66</sup> Jug HM 9575 from House Zb: Deshayes 1959, 53–4, pl. XVI.1. House Za: Demargne & Gallet de Santerre 1953, 83, pls. XXXIX.4 and 6, LVI.2. This pithoid jar is similar in size to jar 2104–001, and it also has a ledge rim, but its lower body is much more constricted. A row of plants was painted on the lower body, but their style cannot be ascertained from the photo or description.

<sup>67</sup> A bridge-spouted jar from House Za of similar size (h. 0.52 m) has a reed motif of slightly different style but located on the same part of the body, and its lower body is likewise dark-banded: Demargne & Gallet de Santerre 1953, 83, pls. XXXIX.3 and 6, LVI.3. Comparable reeds are seen on teacup HM 9578 and ovoid jug HM 9573 from House Zb (Deshayes 1959, 53–4, pls. XV.3, XVI.3). Cf. stylized reed pattern on a pithoid jar with ledge rim from the LM IB destruction of the North House at Knossos: Warren 1981, fig. 23. Niemeier (1980, 27–8, fig. 8) considers such stylized reeds to be LM IB (Sub-LM IA style).

<sup>68</sup> Deshayes 1959, 57–60, pl. XV.4–5; this alabastron was found in Room II; *non vidi*.

<sup>69</sup> Furumark 1972, fig. 11.82 (FS 81).

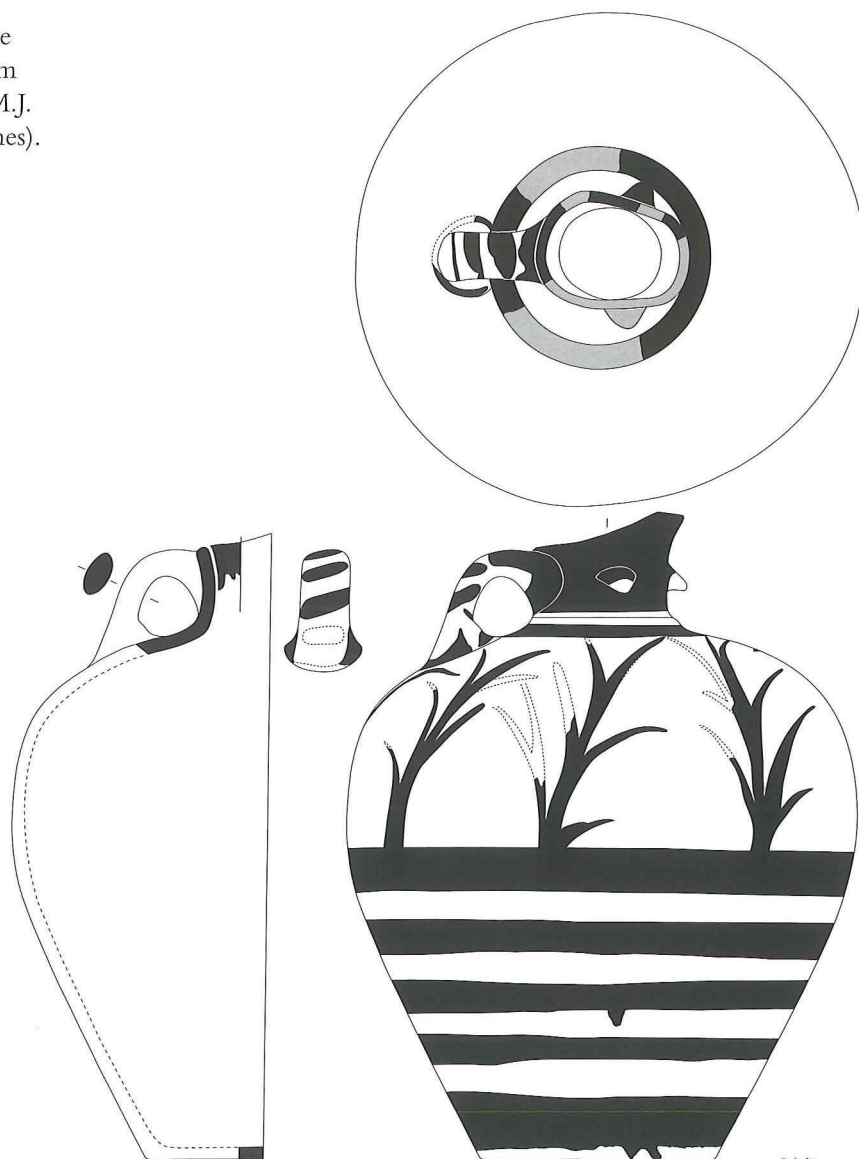
<sup>70</sup> Mountjoy 1984, 192, pl. 16b; Niemeier 1985, 176, n. 1327; Müller 1997, 82, 393, no. 222.

<sup>71</sup> Müller 1997, 82, 393, nos. 221, 223, pl. 76 accepts a LM IB date for one of the alabastra from Zakros (no. 223), which he does not illustrate (Siteia Mus. no. 520). He seems to hesitate about the LM IB date of the other alabastron (no. 221).

<sup>72</sup> For the squat alabastron, see Barnard & Brogan 2003, 59–60, IB.305, fig. 19 and n. 117–8 for more bibliographical references. For the LM IB Final sub-phase at Mochlos, see Barnard & Brogan 2003, 108–9 and Brogan & Barnard, this volume. Several labels have been considered for this new subphase; LM IB Final was chosen as the result of the present workshop.

<sup>73</sup> Cf. articles by Puglisi (Hagia Triada) and Rutter (Kommos) in this volume.

Fig 14. LM IB jug 2104–003 from the LM IB Late destruction level in Room 8.1 (drawn by R. Docsan, inked by M.J. Schumacher; École Française d’Athènes). Scale 1:6.



destruction contexts at the *Abords Nord-Est* (Fig. 12) is rather modest in size, with a rim diameter of 0.12 m. Among the few high-quality teacups published from House Zb only one is larger, with a rim diameter of 0.13 m, but its size still falls within the range of LM IB Early and Late teacups elsewhere.<sup>74</sup> There is at least one vase from Malia (stirrup jar HM 7838 from the Palace) with decoration that can be considered to be a poor-quality imitation of the Special Palatial Tradition. However, it is hazardous to argue that imitations such as this must postdate the standard versions of the Special Palatial Tradition at Malia, unless they are found clearly stratified above them. Since at Malia vases of the

Special Palatial Tradition and their poorer imitation have been found in the same LM IB destruction horizon, it is better to accept that these particular vases are contemporary, and that the poor imitation on stirrup jar HM 7838 is the result of emulation. Thus the squat alabastron from House Zb and the imitation-Marine Style stirrup jar from the Palace do not provide a sufficient basis for dating the

<sup>74</sup> Deshayes 1959, 53, pls. XV.3, XXVII.A3. Similar rim diameters are already found on LM IB Early teacups from Kommos (Watrous 1992, 15, nos. 257–9, 262; cf. Rutter 2006, 444–5) and on LM IB Late teacups from Pseira (Barnard & Brogan 2003, 108–9).



final Neopalatial destruction at Malia to the new LM IB Final sub-phase. Since squat alabastra were produced already in the LM IB Late sub-phase, as the Marine Style example from Zakros shows, the alabastron from House Zb at Malia may well be of the same date.<sup>75</sup> Thus it is safer to conclude that the final Neopalatial destruction of the Palace and settlement at Malia took place in the LM IB Late sub-phase.

### *LM II – IIIA2: sporadic presence*

After the LM IB Late destruction, the area of the *Abords Nord-Est* no longer witnessed architectural activity. There is evidence of sporadic LM II and LM III presence in the form of 14 pottery fragments found either on top of or slightly above the LM IB surfaces. The latest closely datable pieces belong to the LM IIIA2 sub-phase. This lack of post-LM IB building activity and the very dramatic drop in the deposition of pottery lends additional support to the dating of the Palace destruction to the LM IB Late sub-phase, but leaves open the possibility of a limited reuse of the Palace in later times, as has been proposed by Pelon.<sup>76</sup>

## Conclusion

To sum up, it is proposed here that the architectural modifications at the *Abords Nord-Est*, the urban area northeast of the north wing of the Palace, enable

us to distinguish for the first time five ceramic sub-phases in LM I at Malia: LM IA Early, LM IA Advanced, LM IA “Mature” (Pelon’s Phase IIIA), LM IB Early, and LM IB Late. Since relatively little pottery comes from floor deposits, and the remainder from large fills, it is impossible at this time to fully characterize the newly established phases, but a number of diagnostic features have been proposed. Specifically with reference to the topic of this workshop, a few new criteria have been suggested for distinguishing the earliest LM IB sub-phase from the latest stage of LM IA, which may be applicable elsewhere in Crete. These are dark-painted diagonal bars on handles and a single wavy band on the necks of collar-necked vases. It is also argued here that the New Palace at Malia was destroyed in LM IB Late, together with the *Abords Nord-Est*, Houses Za, Zb, and E, as well as presumably the remainder of the settlement.

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<sup>75</sup> Cf. Mountjoy 1984, 162; Müller 1997, 82–3.

<sup>76</sup> Pelon 2005, 195–6.

# Discussion

**Cunningham** Yes, Aleydis [Van de Moortel], I am glad you noticed that. It's true that our entire range is very limited and very local in LM IB, especially the further on you get into Period XII. By the end, I would say that imports pretty much stop and don't really start up again. The next things we have that are really identifiable are LM IIIA1, of which we do have bits and pieces; there is another Ephyraean goblet but not from a good context, and one Palace Style sherd, perhaps from a jar, otherwise the final date that we propose for Period XII is really not on the basis of any imported pottery or even style. It's purely based on our local site history, our local progression and the fact that our local pottery is so close to pottery that we know is imported LM IIIA1. In fact, we used to date it LM IIIA1 and then we found it in Period XII, of course at this conference I am almost starting to think that Period XII may even be later than the Unexplored Mansion destruction and in fact be almost IIIA1, but we'll see. I'll let Hugh talk about the scale cup and whether or not that was intrusive. I don't think it was, but that's not the basis for dating this material.

**Hemingway** Can I just add to your point about the variety of shapes? I would say that we certainly have more shapes at Palaikastro in this period. It's important to remember that in the paper I presented we were looking primarily at a well deposit, which had shapes related to the well, and I also presented a deposit that had mainly cooking material from a related context. So we didn't get a chance because of Sandy's [MacGillivray] health to present much of the pottery from Building 5; there is a lot more material, including traditional kinds of pottery, so, hopefully for the final publication of this conference we can add some more shapes to that to round it out a little bit.

**Van de Moortel** Actually, I am now remembering reading another one of my scribbles, that there is one local feature which seems very late; Sandy pointed out in the latest level that you already have some conical cups which become larger and more convex. In fact, at Kommos we have exactly the same thing and it's a phase that Jerry [Rutter] now dates to LM II Early. But, I would be very careful with using conical cups to make links between sites because conical cups are just your quintessential local shapes. Why at two sites would they follow exactly the same morphological change? Still it's something to think about.

**Hatzaki** I studied the Well 576 pottery between '95 and '97, so my memory is not that fresh and I submitted the manuscript in '98 so, yes, it's been a long time now; but when I was invited to study the well pottery, one of the things that I was alerted to by the excavators was the fact that stratigraphically at the site there were two destruction levels, and they were very much interested in finding out if there is any ceramic difference between the two. In the well material that I looked at, I was not able to find any stylistic difference in the pottery that would allow me to identify two phases



of LM IB. So, that looks very much like one event. There is a slight difference in the depositional history from one well to the other, and actually the material from the other well has been dated to LM II, so I can't securely comment on that. But with the well I studied, there was considerable seepage, movement from up going down, right up to the middle of the well. So, IIIA1 material had moved even to the bottom zembil of LM IB. Now, what is very fortunate in Palaikastro when you compare LM IB and LM IIIA1 is that you don't even need to see shapes, you can date the material only by fabric and surface treatment. So, it was very easy to pull out the later stuff from the seepage going down. I don't know if that's also a potential for the other well, for the LM II material coming down. Also, one of the things that I was very much interested in was determining if I could see in the local sequence of the well anything that would stylistically or stratigraphically be slotted between LM IB and IIIA1. Again, this well wasn't very useful. There was one particular layer that was very clearly LM IB destruction debris re-deposited in the well after it had stopped being used for the collection of water and became a rubbish dump. And that rubbish level basically contained rubble, it wasn't a site clearance in terms of complete pots. Amongst the rubble there were just a few ogival cups that looked somewhere in between the LM IB and the LM IIIA1 type, but because of all the seepage I didn't push the evidence further. The other well may have a different picture, but at least in the one we looked at, we tried really hard to see if we could identify an LM II phase and I couldn't, but it might be the nature of the well; let's not forget the well is not primary material, it's mostly secondary, at least in those levels.

**Van de Moortel** So, if you find it in the well it means that the clean up could have happened in the next phase, it doesn't mean that the local LM IB pottery and the imported LM II pottery are contemporary.

**Cunningham** Yes, that's exactly the point and was based on what Sandy [MacGillivray] knew of the sequence, and it was actually partly stylistic seeing those transitional pulled rim ogivals. What happened was, when we dug in Building 4 in 2003, we found a sealed Period XII destruction. It had not only those transitional pulled-rim ogival cups with slip and burnish, but also the LM III orange, hard-fired (gray at the core) slipped and burnished spouted basins. I have worked mostly on the subsequent periods XIII and XIV, say the end of LM II and the beginning of IIIA1; we have deposits in buildings, where the builders made little pits and such, but the very next real deposits already have unmistakable imported IIIA1 pottery with this local pottery. Because of that, when I saw the material from Building 4 it was these pulled rim ogival cups in certain fabrics that made me say, "Wait a minute, now our destruction has to be later." It was not actually the scale cup.

**Van de Moortel** So, are you saying that there is a lot of continuity in the pottery production between LM IB and LM IIIA1? This would argue against an abandonment of the site.

**Cunningham** What becomes the LM IIIA1 and IIIA2 early local potting tradition, which is again very, very distinctive at Palaikastro, begins before that destruction. I don't know why we are so localized, despite what Sean [Hemingway] said, we really don't get those typical drinking cups, the dark-on-light, I won't say there aren't any, but there are

very few; they are only in our earliest possible levels where it is very hard to separate them from LM IA. But we really don't have that kind of material, and that's why we think, and it's still obviously a guess, that this destruction is happening quite late in island-wide terms. This has no effect on the dating of any of the Marine Style pottery or any of the pottery that is stylistically similar to elsewhere on the island. I really think that at Palaikastro they are going off on their own and maybe continuing to use it, I don't see why ... I wouldn't use something like Marine Style for chronological purposes anyway, it's pretty dicey, but anyway that's for the final discussion.

**Sackett** I would just like to make one comment about that scale cup, because my first reaction was exactly the same as yours. So, looking at the stratigraphy, you say there are pits and other features; this room had a later level in it, then it had from wall to wall an absolutely brilliant red mudbrick LM IB destruction. Was this cup fragment at the top? No. Was it on the edges near the wall? No. It was in the middle down in. So I am a little worried about that. I don't think it's possible; there was no mole, or anything like that. I think it belongs.

**Brogan** I think we should say a few things about Malia. It was nice of Aleydis to bring the site into the discussion yesterday. I think that Kellee [Barnard] and I would agree completely with what you described as early LM IB. Several of the same features are also represented at Mochlos: the blond fabric, the conical cup shape and the handled cup. I had one question for your late LM IB. I know you don't have very many fragments in your deposit, but can you take your observations and apply them to House Zb, or Epsilon which is a mixed context? We found many, many good parallels between Coast Mochlos assemblages and those houses at Malia, particularly Zb. Do you find the same things? For example, the cup in fig. 12 looks earlier than LM IB Late to me. It doesn't look as late as Coast Mochlos.

**Van de Moortel** Well, most of the material from House Zb was thrown away; there is very little material left. And the publications don't give you very detailed information, so I could make a few links, but that is all.

**Vlazaki** The two destructions at Palaikastro that you presented seem similar to me to the two different layers found at Khania. Since you said that there is a short period after the second one, it fits well with what happened at Khania. I mean, in the first one you have a full Marine Style and in the second one the advanced Alternating Style, if I understood well.

**Hemingway** We get the Marine Style and the Alternating Style in the second one, which is the main destruction.

**Vlazaki** The second one. The full Marine Style in the second one?

**Hemingway** I think so, though we only have fragments of it; I just showed a small fragment with Marine Style. If the interpretation is correct about the doorway of House N, then that would also place both Marine Style and Alternating Style in the second phase.



**Vlazaki** The jug you showed?

**Hemingway** The jug is also from the second phase. We need to study the deposits carefully from the earlier phase to see if we get Marine Style or not.

**Vlazaki** And then that sherd you showed us from Malia with the foliate band, you said fine fabric, buff, maybe it's from our area; we have the same vase from the early phase, but we must have a look.

**Rethemiotakis** A brief question to Aleydis. The material presented from these stratigraphic tests, of course it's rather poorly dated, especially the rather inconclusive interpretation of assigning an exact LM IB Early chronology. This may be late LM IA because I don't see many differences in terms of cups, and also the decorated vases continue the tradition of LM IA. Nevertheless, my question was the following: does this stratigraphy have any correspondence with or any relation to what was going on in the same period in the nearby Palace?

**Van de Moortel** Yes. There is an early destruction in the Palace. And actually, I have been told by Veit Stürmer that a very large piriform vase like those we found in the fill of Pit 11 has been found on a floor in Palace Sector IV that was then sealed by the destruction, but that's all the information I have. I agree with you that a lot of the material is LM IA "Mature", or else it cannot be dated securely between LM IA "Mature" and LM IB Early. I just think that there are some elements you could date to LM IB Early, and then I could very nicely plug in the fine buff conical cups.

# Between Palaikastro and Zakros: The pottery from the final Neopalatial horizon of the Sea Guard-House, Karoumes\*

Leonidas Vokotopoulos

*In memory of David Hardy*

The site known as the Sea Guard-House lies at the eastern end of Crete. Extending over the south-eastern slopes of the hill known as Kastellas, it overlooks the small cultivable valley and cove of Karoumes – one of the few places offering anchorage along this rocky and inhospitable coast. The excavation of the site, which was carried out as part of the *Minoan Roads* research program, established the existence of four occupation periods dating from the second millennium BC (Periods I–IV, MM II to early LM IIIA2).<sup>1</sup>

In the third occupation period, which may be equated to the middle and late stages of LM I, the site constituted a complex of three buildings, which were surrounded by semi-open areas, courtyards and cultivation terraces (Fig. 1).<sup>2</sup> The

\* I am grateful to Thomas Brogan and Erik Hallager for the invitation to contribute to this volume. The following paper is based on the relevant sections of my doctoral dissertation (Vokotopoulos 2007). I would like to thank my supervisor, Professor Stelios Andreou, for his comments and the excavator of the site, Dr. Stella Chryssoulaki, for giving me permission to publish the relevant material. The Greek text was translated by David Hardy.

The pottery presented here was conserved by Clio Zervaki and Alexis Karachalios. It was drawn by Patricia Macri and Mary-Jane Schumacher, as well as by Sara De Angelis, Yorgos Kondos, Nektaria Mavroudi and Melpomeni Nikiforidou. The plan of the site was drawn by the author. The photographs were taken by Stella Chryssoulaki, Chronis Papanikolopoulos and the author. The final processing of the illustrations was by Spilios Pistas.

<sup>1</sup> Vokotopoulos 2006, 348–55; 2007, 160–8, 265–95; forthcoming.

<sup>2</sup> Vokotopoulos 2007, 194–206, 212–3.

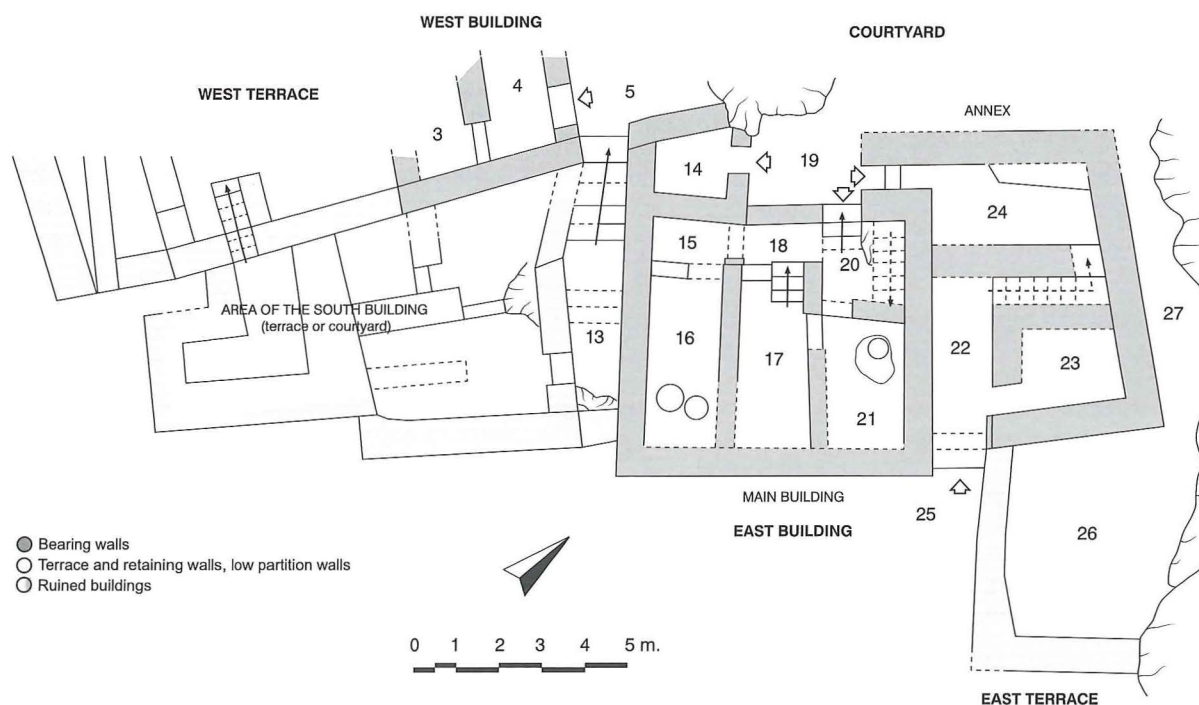


Fig. 1. Sea Guard-House. The excavated section of the site in Period III. Ground plan.



Fig. 2. Sea Guard-House.  
The East Building during  
the excavation. From the  
south-southeast.



most important was the East Building (Fig. 2), which consisted of two parts: a main dwelling with a rectangular ground plan and its annex. Uphill from this was the Northwest Building, which had apparently fallen into ruin well before the end of the period.<sup>3</sup> Between these two buildings stood the West Building. This structure was clearly smaller in size and did not have the impressive megalithic masonry that distinguished the other two buildings. The available data indicate that the site was a permanently occupied farmstead. Its inhabitants may be described as independent farmers, who probably belonged to the lower ranks of the social hierarchy, though not to the very bottom.<sup>4</sup>

This article offers a brief account of the ceramic assemblage from the final Neopalatial horizon of the site (Phase IIIb) and examines the evidence that it provides for the chronology of the end of this period in East Crete.

## The stratigraphic context

The deposits dating to the end of Period III were located inside the buildings and in the areas immediately surrounding them. In most cases, they covered the floors and the underlying levelling fills of the mature LM IA period (Phase

IIIa). However, in some places the Phase IIIb deposits lay directly on the bedrock or above fills from the MM IIIB horizon. In the East Building, the upper part had been swept down the hill by erosion, whereas in the West Building they were gradually covered and sealed by deposits of Roman and early Modern times. In the area between these two structures (i.e. on the northeast part of the terrace or courtyard that extended above the earlier South Building) the Phase IIIb deposits were largely removed during the construction of a small Roman building.

The upper part of these deposits typically contained many large limestone blocks, as well as smaller stones, indicating that it was formed by the collapse of the buildings' masonry. The fallen stones were less dense above the floors. Consequently, the lower part of the deposits was formed from the collapse of the mudbrick superstructure. On the floors of most rooms, concentrations of finds were preserved. These included several whole or substantially preserved vessels which appear to have been in use until the end of the occupation

<sup>3</sup> This building, which is still unexcavated, is not included on the ground plan of Fig. 1.

<sup>4</sup> For the character of the Period III installation and the status of the occupants, see Vokotopoulos 2007, 277–90, esp. 283–7.

of the two buildings. In the East Building, some objects had fallen from the upper story of the main dwelling. This is clear from a number of vases, the fragments of which were found throughout the whole depth of a deposit or even in different, non-adjacent rooms. Finally, a fair number of individual sherds lay scattered across the floors. These represent primary refuse,<sup>5</sup> that is, they had accumulated during the final stage of Period III – given the fact that they come from vases similar to those in use at this time, if not with later features.<sup>6</sup>

The two buildings went out of use at the same time, since the pottery of their floor deposits was identical from a typological point of view. Moreover, their assemblages are linked by two vases – a jug with cutaway neck and a beak-spouted jug (see below Figs. 3a, 7d). Fragments of these vessels were found together inside the collapse covering the area of the South Building, while the distribution of their remaining fragments indicates that they were originally positioned in the West and East Building, respectively. It should be emphasized that at this site there is no evidence for two destructions within LM IB, as at Palaikastro and Zakros, or of reconstructions and successive occupation phases during the same period, as at Mochlos and Kastri on Kythera.<sup>7</sup> It is therefore clear that all of the pottery from the two buildings belongs to the same horizon – both the vases that are typical of LM IB and those which, as we shall see below, have later features.

The finds of Phase IIIb do not represent the complete household equipment of the two buildings, as is clear from the virtual absence of artifacts made of precious or imported materials (e.g., metal tools). This situation cannot simply be attributed to a humble social status of the occupants, given the existence of a number of fine decorated vases – objects that would have given their owners a certain prestige.<sup>8</sup> Apart from the latter, the finds were restricted to utilitarian pottery, stone tools and ceramic objects – that is, to artifacts of everyday use, made of abundant raw materials, or heavy implements that were difficult to move. According to ethnographic parallels, this picture would suggest a planned departure of the inhabitants, during which any objects that

were considered useful for the new settlement were taken away with them.<sup>9</sup> Nevertheless, the evidence does not support this interpretation of an organized abandonment. Instead, some rooms in the East Building yielded evidence of fire,<sup>10</sup> while the scattering of the fragments of certain vases indicates that they were intentionally thrown down, where they were found, before the collapse.<sup>11</sup> Therefore, the distribution of the finds and the composition of the assemblages imply that the site was plundered and then torched. Alternatively, it may be proposed that the buildings were abandoned in haste and then used occasionally by third parties, to whom should be attributed the disturbance of the household equipment and the scattered traces of burning.

## The pottery

The fabrics used at the end of the Neopalatial period were mainly reddish yellow, light red or reddish in color. Among the fine wares, pale brown and friable light red to bright purple fabrics are also found, though these were rare. The stone inclusions in the coarse wares are usually dense, medium to large-sized, and come mainly from the violet phyllite which is common in the wider region. The pottery was probably fired at lower temperatures in

<sup>5</sup> See LaMotta & Schiffer 1999, 21.

<sup>6</sup> The last category includes, for example, the sherds in Figs. 9h, 10b, 17b.

<sup>7</sup> Palaikastro: MacGillivray 1997b, 276–7; MacGillivray, Sackett & Driessen 2007, 224–5. Mochlos: Barnard & Brogan 2003, 106; Brogan, Smith & Soles 2002, 95. Kastri: Coldstream & Huxley 1972, 302–3. See also the papers by Hemingway, MacGillivray & Sackett, Barnard & Brogan, Tournavitou, and Platon in this volume.

<sup>8</sup> See Dabney 1997, 471.

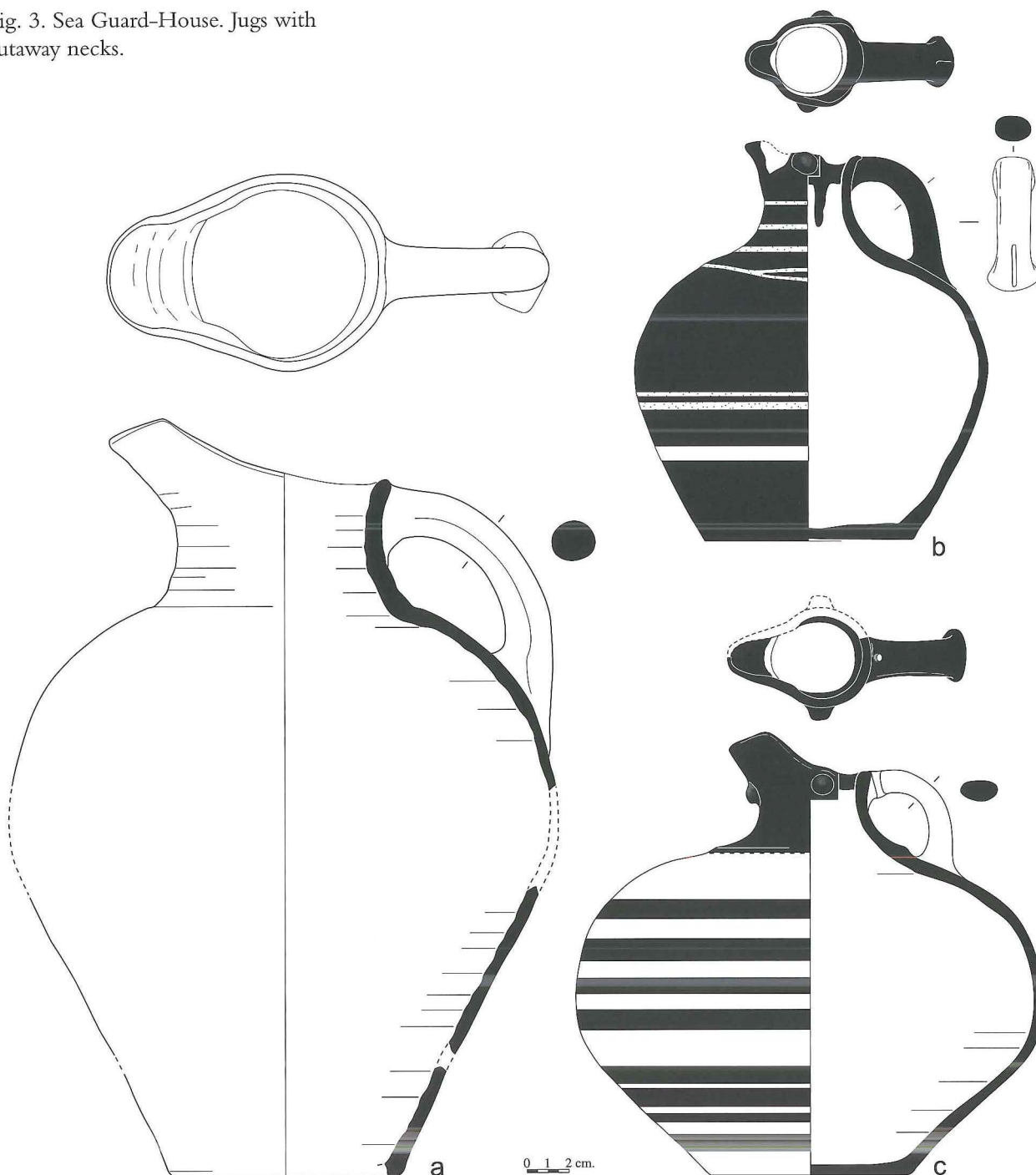
<sup>9</sup> LaMotta & Schiffer 1999, 22–3. For the forms of abandonment of individual buildings or sites and the factors that determine the composition of the relevant assemblages, see also Cameron 1991, *passim*.

<sup>10</sup> This includes the unusually dark color of the soil, the presence of calcified stones and fragments of charcoal, and finally the traces of burning on the surface of several vases.

<sup>11</sup> In Room 16, for example, sherds of the same vases were found scattered on the floor and also inside the two pithoi that were sunk into its substratum.



Fig. 3. Sea Guard-House. Jugs with cutaway necks.

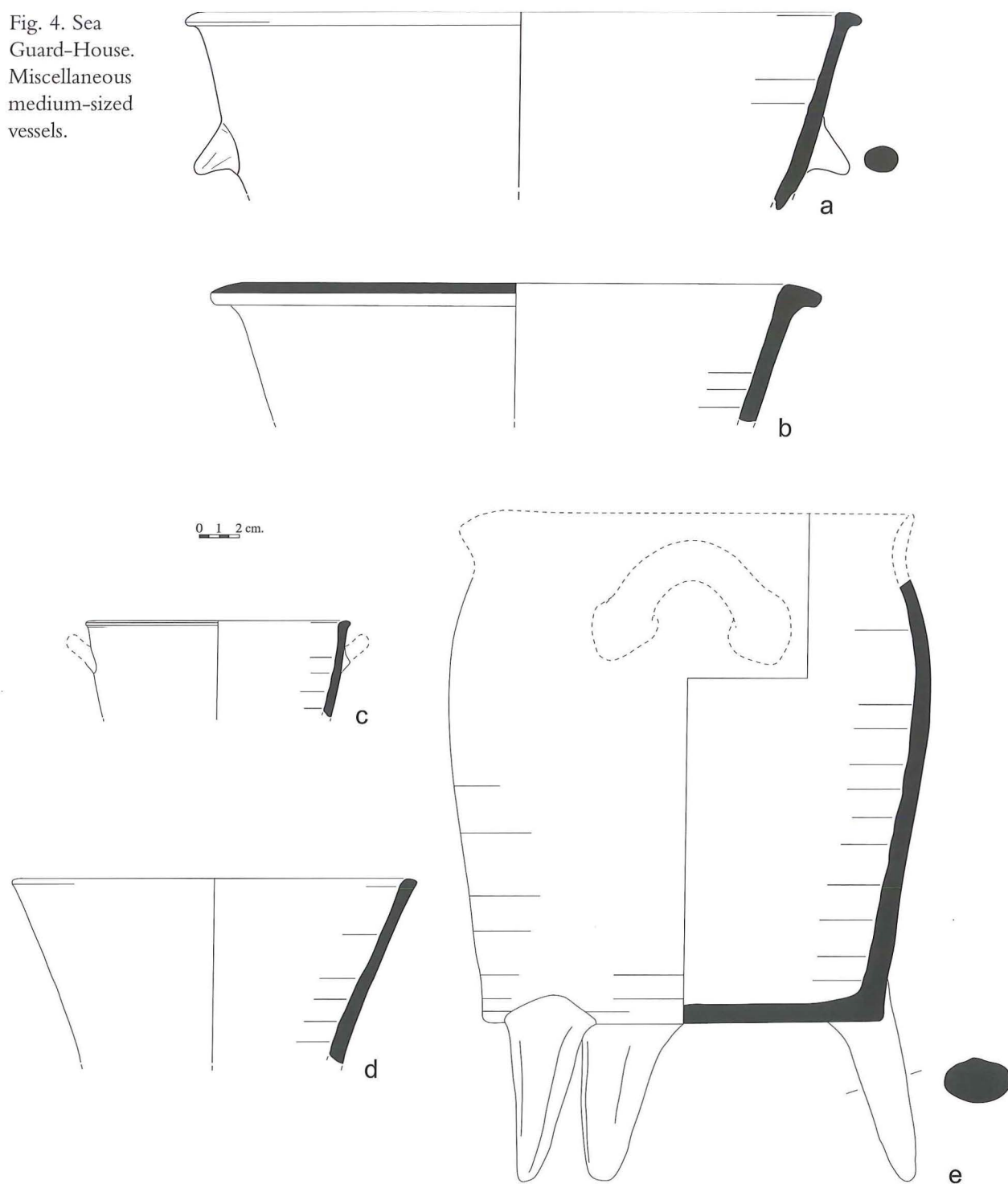


comparison to that of the previous phases, given its softer clay. This is consistent with the evidence from neighboring sites, which points to a decline in the quality of pottery production.<sup>12</sup>

The paint is usually moderately shiny and of a brown color ranging from light reddish brown to blackish. A lustrous, dense red paint is also found,

<sup>12</sup> According to E.M. Hatzaki (MacGillivray, Sackett & Driessen 2007, 78–9) and L. Platon (1999a, 44). It should be emphasized, though, that this picture may also be due to the circumstances of preservation. A good example is provided by the pottery from Room 22 of the East Building, which has hard pastes and better preserved surfaces than that of the adjacent rooms, undoubtedly as a result of the stable environment created by the thicker, more solid deposits.

Fig. 4. Sea Guard-House. Miscellaneous medium-sized vessels.



and it sometimes acquires an orange or purple hue. This type of paint was used almost exclusively on ogival cups. As a rule, the paint is of even density, a feature characteristic of LM IB.<sup>13</sup>

All the decorated vases were coated with whitish,

pinkish, or yellow slip. The last, which is diagnostic of LM I, appeared mainly on vases with relatively elaborate decoration. In other respects, these

<sup>13</sup> Floyd 1998, 192.



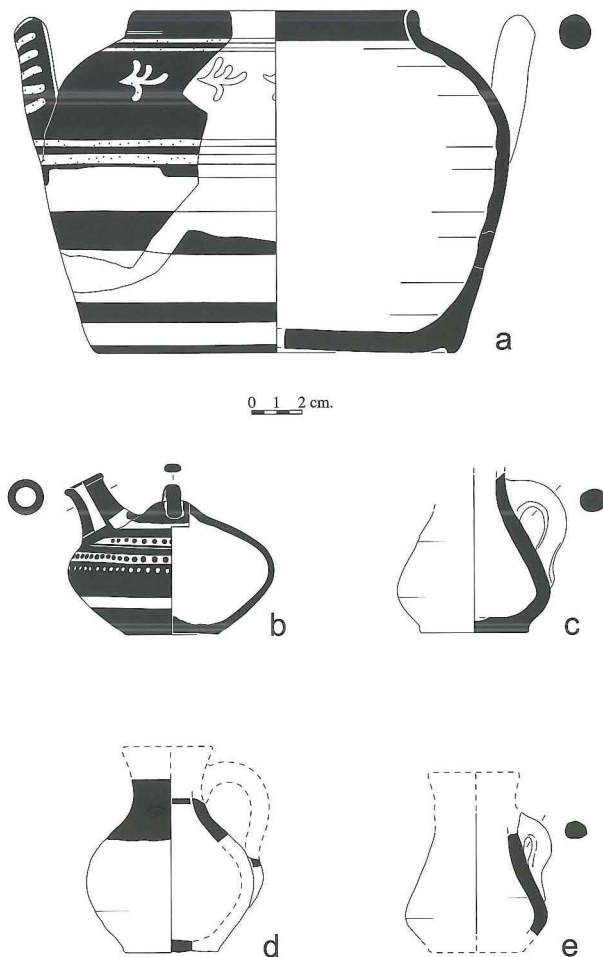


Fig. 5. Sea Guard-House. Pyxis (a), askos (b), and juglets (c-e).

three types of slip were used on both the shapes characteristic of LM IB and those that suggest a later dating. The decorated pottery was almost invariably burnished.<sup>14</sup>

### Decoration

Almost all of the painted pottery may be assigned to Betancourt's Standard Tradition,<sup>15</sup> given that the decorative techniques, composition and motifs follow the rules of the LM IA style.

The types of decoration found at the site were common in East Crete during the late Neopalatial period.<sup>16</sup> Several medium-sized closed vases were covered by simple horizontal banding (Fig. 3c). Kalathoi and ogival cups frequently had a band on the rim (Figs. 4b and 17d), while the technique of

dipping the upper part of a vase in paint is found only on a juglet (Fig. 5d). The larger vases were sometimes decorated with blots of paint on the shoulder, from which trickles run (Fig. 6a). The Spray-painted Style, in which the entire body is covered by speckles of paint, is only found on a trefoil-mouthed jug (Fig. 7b).<sup>17</sup> The majority of vases with more complex decoration follow the Plain Style.<sup>18</sup> Thus, the decorative motifs are usually developed in a single zone that occupies the upper part of the open vessels or the shoulder of the closed ones, while the rest of the surface is covered with horizontal bands. Most of the designs are derived from plant forms. Specifically, the motifs found are reeds and ivy leaves (Fig. 8), foliate band (Fig. 7d), foliate scroll (the simple version – Fig. 9g; and possibly the one framed by dots – Fig. 10b), and finally simple and open-center spirals (Fig. 9d).

Added white paint was not very common. It was employed mainly for subsidiary elements, specifically, for the horizontal lines and rows of dots that were drawn over bands of dark paint (Figs. 3b, 5b). Its use for more complex designs is found only on a pyxis (Fig. 5a)<sup>19</sup> and on a jug of the beak- or bridge-spouted type (Fig. 7e). The latter is the sole vase on which the decoration was rendered in both the light-on-dark and dark-on-light techniques, a feature characteristic of East Crete.<sup>20</sup> Only two vases had added red paint.

Raised bands with impressed decoration are found on almost all the pithoi (Fig. 11a) and on

<sup>14</sup> Exceptions to this rule are provided by the majority of the vases bearing a simple painted band on the rim.

<sup>15</sup> Betancourt 1985, 137.

<sup>16</sup> For the characteristics of LM I pottery from the eastern part of the island, see Floyd 1998, 191–2; Silverman 1978. See also Barnard & Brogan 2003, 99; MacGillivray, Sackett & Driessen 2007, 146–51 for the decorative styles found in the LM IB pottery of Mochlos and Palaikastro, respectively.

<sup>17</sup> For this type of decoration, which appeared in East Crete from LM IB to LM IIIA1, see MacGillivray 1997a, 198; MacGillivray, Sackett & Driessen 2007, 80, 150.

<sup>18</sup> See Silverman 1978, 33.

<sup>19</sup> Cf. Sackett & Popham 1970, 225, fig. 15 NP43, pl. 60d (Palaikastro), where the same decoration of crocus flowers is rendered in the dark-on-light technique.

<sup>20</sup> For Zakros, see Platon 2002b, 151; Platon in this volume.

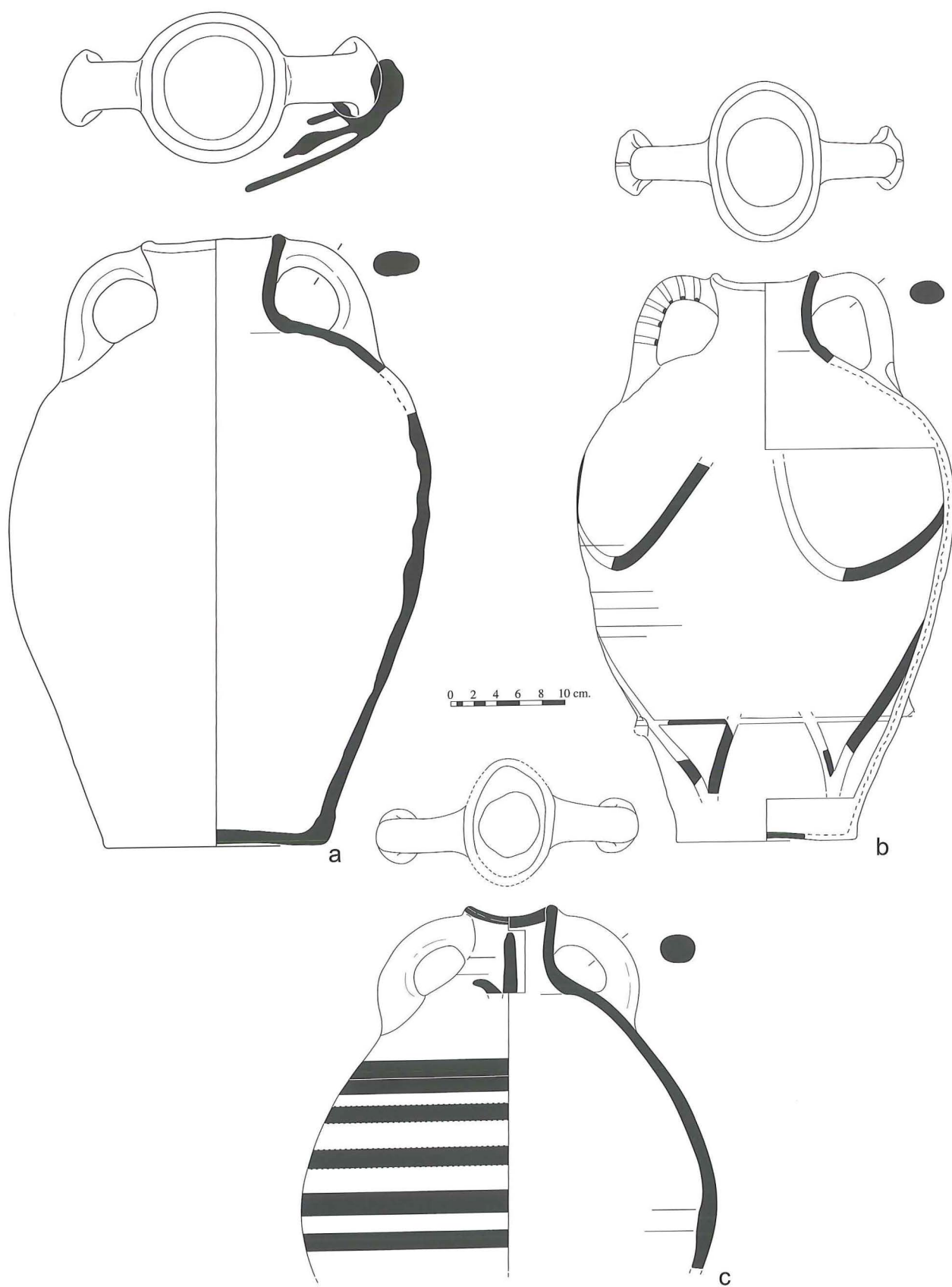


Fig. 6. Sea Guard-House. Amphorae.



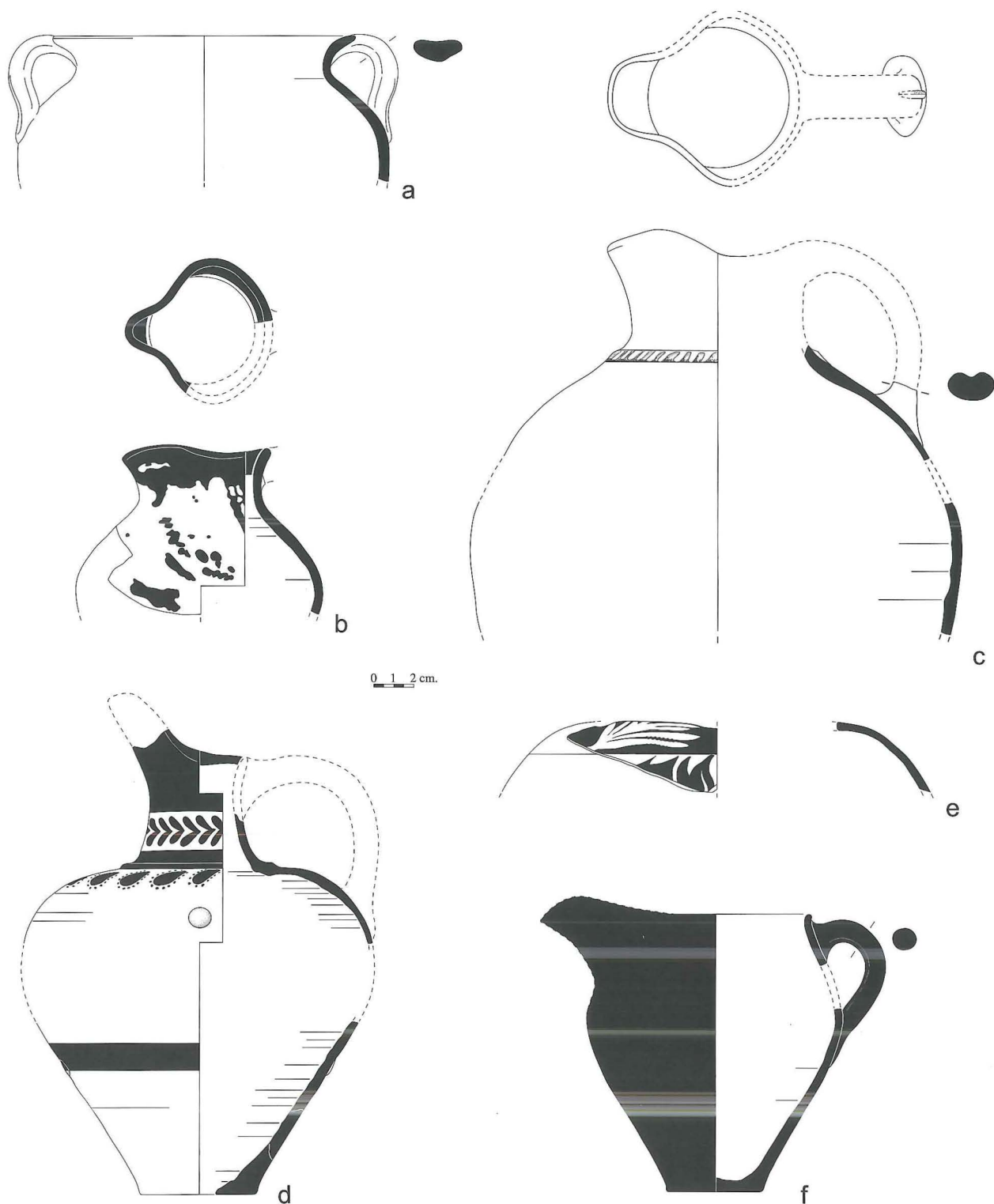


Fig. 7. Sea Guard-House. Amphoriskos (a) and jugs (b-f).

one trefoil-mouthed jug (Fig. 7c). The decoration usually consists of rope-patterns. Otherwise, it takes the form of rows of lunettes or vertical slashes. Finally, a trefoil-mouthed jug had an incised wavy line on its neck (Fig. 12).<sup>21</sup> This type of decoration

is only found in the area of Mochlos,<sup>22</sup> from where the above vase likely came.

<sup>21</sup> Cf. Barnard & Brogan 2003, fig. 25 IB.332 (Mochlos).

<sup>22</sup> Barnard & Brogan 2003, 62, 101–2; Brogan 2004, 33, 35.

Fig. 8. Sea Guard-House.  
Pithamphora.



### Shapes

*Pithoi* had an oval body profile, a distinct neck and an everted thickened rim (Fig. 11a). Part of a cylindrical pithos with a low, incurving rim was also found (Fig. 11b).<sup>23</sup>

The East Building yielded a *pithamphora* (Fig. 8).<sup>24</sup> This is the most elaborately decorated vase of the final Neopalatial assemblage and the only one in which differences in the density of the paint were consciously manipulated, so as to produce a relief effect for the motifs. As was customary for this shape, the decoration was developed in successive zones.<sup>25</sup> The vase has the usual piriform profile. Nevertheless, in comparison with most of the LM IB *pithamphorae*,<sup>26</sup> its neck was less pronounced and the maximum diameter of the body was located lower down. Moreover, added red paint was used extensively for the subsidiary ornaments and details of the motifs, while white paint was completely absent. The above point to

an early date, specifically, they indicate that the vase was made before the final phase of LM IB.

The *amphorae* were generally large in size. Therefore, they could have been used both for storage and as transport vessels. Most of them had an ovoid body with a distinctly curving shoulder (Figs. 6b, 13), features that were common in LM IB.<sup>27</sup> One amphora had a rounded body and a circular, rather than oval mouth (Figs. 6a, 14),<sup>28</sup>

<sup>23</sup> Cf. Barnard & Brogan 2003, fig. 44 IB.445–6 (Mochlos); Sackett & Popham 1970, 229, fig. 19 NP88 (Palaikastro).

<sup>24</sup> Cf. Floyd 1998, fig. 16 no. 235 (Pseira); Platon 1961, pls. 173b right, 177b (Kato Zakros).

<sup>25</sup> Platon 2002b, 148–9.

<sup>26</sup> See Betancourt 1983, fig. 9 no. 54 (Pseira); Platon 1962, pls. 156c, 159c; Platon 1974, 86, fig. 42 (Kato Zakros); Sackett & Popham 1970, 226, fig. 16 NP69 (Palaikastro).

<sup>27</sup> Barnard & Brogan 2003, 72 (Mochlos); MacGillivray, Sackett & Driessen 2007, 82 (Palaikastro). See also Platon 2002a, 14, fig. 11 (Kato Zakros).

<sup>28</sup> Cf. Davaras 1997, 132, fig. 34 (Makrygialos).



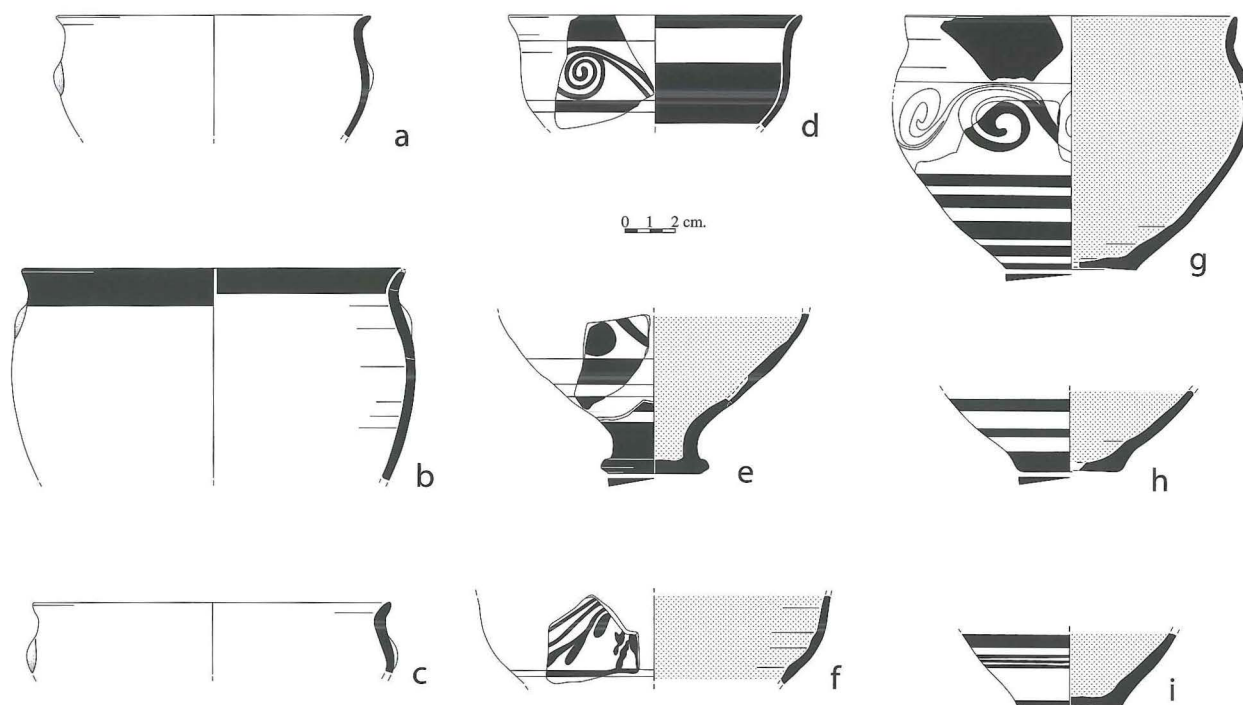


Fig. 9. Sea Guard-House. Ogival cups with knobs (a-c), stemmed cups (d-f), and hemispherical cups (g-i).

while another was distinguished by its narrow neck, the absence of a distinct shoulder, and its low center of gravity (Fig. 6c).<sup>29</sup> The handle zone of the latter carried a solitary vegetal motif, a decorative scheme which is characteristic of late MM IIIB and LM IA.<sup>30</sup> Consequently, this vase must have been manufactured well before its deposition, probably in LM IA or at an early stage of LM IB. The majority of the amphorae were plain. One was covered with dark-on-light decoration (Fig. 6b), which is very unusual for the larger examples of this shape, while another carried blots and trickles of paint (Fig. 6a). This decorative style is characteristic of LM IIIA amphorae,<sup>31</sup> though it first appeared before the end of the Neopalatial period at sites such as Choiromandres and Palaikastro.<sup>32</sup>

The final Neopalatial assemblage includes fragments of two *amphoriskoi*, a shape that was not very common. Of these, one belonged to the plain utilitarian version. The other was more elaborate since it had S-shaped handles with a rib along the back and knobs at their juncture to the rim (Fig. 7a).

The jugs were distinguished by considerable variety in size and shape.<sup>33</sup> There were large vessels,

which would have been used mainly for transporting water (Figs. 3a, 7c), as well as smaller serving vessels, which were the only examples bearing painted decoration (Fig. 3b). Most common were the *trefoil-mouthed jugs* (Fig. 7b). Of the *jugs with cutaway neck*, one had a squat oval body (Fig. 3c).<sup>34</sup> This vessel type, which usually had knobs on the mouth and a raised ridge at the base of the neck, made its first appearance in LM IA<sup>35</sup> and was relatively rare. The surface of the aforementioned jug was worn, part of the mouth was broken, and the edges had been smoothed, in order for it to be reused.

<sup>29</sup> This variant was rather rare: cf. Pelon 1966, 579, fig. 27 (Malia); Barnard & Brogan 2003, fig. 32 IB.386 (Mochlos).

<sup>30</sup> See Platon 1999b, pl. CXLIVc (Kato Zakros); Rethemiotakis 2002, pl. XVIIIa (Galatas).

<sup>31</sup> MacGillivray 1997a, 199; MacGillivray, Sackett & Driessen 2007, 87, 151.

<sup>32</sup> See Sackett & Popham 1970, 223, fig. 14 NP140, pl. 63a.

<sup>33</sup> This picture is characteristic of LM IB: see, for example, Barnard & Brogan 2003, 60–1 (Mochlos); Muhly 1992, 108 (Poros); Sackett & Popham 1970, 221 (Palaikastro).

<sup>34</sup> Cf. Betancourt & Silverman 1991, fig. 26, pl. 28 no. 637 (Gournia); Coldstream & Huxley 1972, pl. 34 no. 45 (Kastri).

<sup>35</sup> Soles & Davaras 1992, 438, fig. 14, pl. 100d (Mochlos).

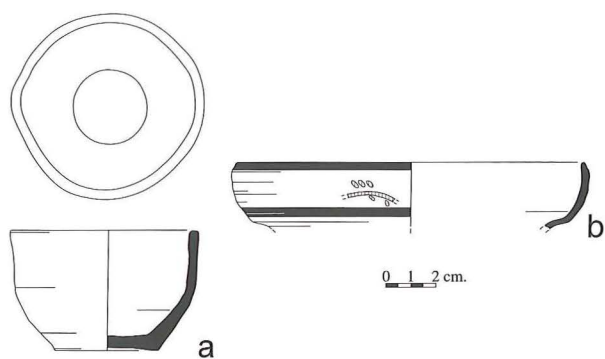


Fig. 10. Sea Guard-House. Bell cup (a) and bell bowl (b).

profile that imitates metal prototypes,<sup>37</sup> and is distinguished by the excellent quality of its firing and burnishing. On the shoulder it carried a frieze of schematically rendered leaves surrounded by dots, while the neck was adorned by a foliate band without a central stem. Only one or two horizontal bands decorated the lower part of the body. The arrangement of the decoration is characteristic of LM II.<sup>38</sup> However, its unusually austere character is found only in vases of the LM IB period.<sup>39</sup> In any case, this jug is one of the few vases of high quality

These features indicate that this was possibly one of the earliest vases in the assemblage of the final Neopalatial horizon. A *beak-spouted jug* was also found (Fig. 7d).<sup>36</sup> This vase has an usual piriform

<sup>36</sup> Cf. Muhly 1992, 85, fig. 18, pl. 21 (Poros); Xanthoudides 1922, 17, fig. 14 middle of top row and bottom left (Nirou Chani).

<sup>37</sup> Pelon 1966, 575–6.

<sup>38</sup> Popham 1984, 168.

<sup>39</sup> Muhly 1992, 109.

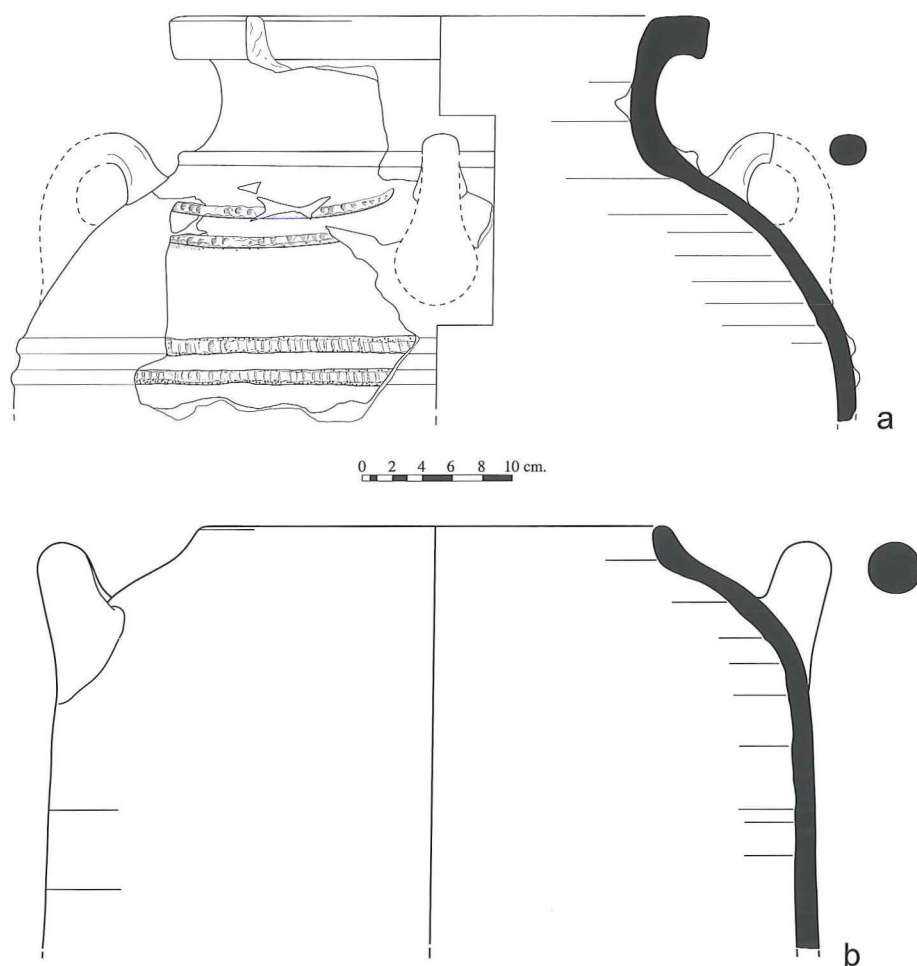


Fig. 11. Sea Guard-House. Pithoi.





Fig. 12. Sea Guard-House. Area of the South Building. Trefoil-mouthed jug with incised decoration.

yielded by the site – indeed, its slender shape and buff fabric make a provenance from North-central Crete very probable.

*Beehive basins* are represented by only a few sherds. In contrast with previous periods, the criss-crossed incisions on their interior were invariably both narrow and shallow. The same feature is also observed on the basins from Choiromandres.

The *kalathoi* had the usual form, that is, they were rather large vessels with a conical body, knobs or lugs instead of handles, and a down-turned ledge rim (Fig. 4a–b). This shape is found at Kommos already in the late phase of LM IA<sup>40</sup> and at Choiromandres from LM IB–II.

The *conical basins* had straight walls and everted or unformed rims (Fig. 4d), features characteristic of these medium-sized vases throughout LM I. Fragments of two small *cylindrical jars* were also found (Fig. 4c). This shape, which was not particularly common, is distinguished by its deep profile, horizontal handles, and small everted rim. The decoration normally consisted of broad bands,<sup>41</sup> though the examples from the site were left plain.

The category of cooking vessels is represented by only two shapes: *baking plates* and *tripod cooking pots*, the latter being more common. All cooking pots had legs with a thick oval section. In contrast with previous periods, their walls could be quite thin.<sup>42</sup> The majority of the cooking pots belong to Betancourt's Type A,<sup>43</sup> since they had a fairly globular body and a clearly distinguished, everted

rim. The rest had an oval or almost cylindrical body (Fig. 4e). The transition to the vertical or barely out-turned rim was smooth and was often emphasized by shallow incised lines.<sup>44</sup> Their fairly open shape places these pots closer to Type B, to which the versions from the middle phases of the Neopalatial period essentially belong. Their presence here distinguishes this site from Mochlos and Palaikastro, where almost all cooking pots of the LM IB period belong to Type A.<sup>45</sup> No examples were found of the shallow cylindrical type with unformed rim, which appears during the same period at sites such as Makrygialos and Kato Zakros.<sup>46</sup>

The *juglets* were similar to those found at Kato Zakros.<sup>47</sup> They usually had a globular body and an everted, flat rim – that is, in form they resembled an ewer (Fig. 5d). One example (Fig. 5e), distinguished by its wide cylindrical neck, belongs to the second type found at Zakros. In addition, the site yielded a vase that apparently belongs to the trefoil-mouthed type (Fig. 5c).<sup>48</sup> All of the juglets were left plain, except for the one which was dipped in paint.

Among the drinking vessels, the most common were conical and ogival cups, while the presence of other shapes was limited. In comparison with the previous phases, the proportion of fully coated and painted vases was distinctly reduced.<sup>49</sup> The above

<sup>40</sup> See Van de Moortel 1997, 1011, fig. 28 C10533.

<sup>41</sup> Barnard & Brogan 2003, 51.

<sup>42</sup> In some cases, they have a thickness of only 0.3 cm.

<sup>43</sup> Betancourt 1980, 3.

<sup>44</sup> Similar cooking pots are found already in mature LM IA at Choiromandres, as well as at Mochlos (Barnard 2001, 248 no. 4.44, 357, 359).

<sup>45</sup> Barnard & Brogan 2003, 81 (Mochlos); MacGillivray, Sackett & Driessen 2007, 81; Sackett & Popham 1970, 227 fig. 17 NP113; 228, fig. 18 NP120 (Palaikastro). Both types are found together in the LM IB destruction horizon of Pseira (Floyd 1998, 185, ill. 42), but this should probably be dated earlier – that is, in the course of the period, rather than at its end (Barnard & Brogan 2003, 107–9).

<sup>46</sup> Davaras 1997, 132 fig. 36 (Makrygialos); Platon 1962, pl. 150a (Kato Zakros).

<sup>47</sup> See Platon 2002a, 21, fig. 22.

<sup>48</sup> Cf. Betancourt 1983, fig. 28 nos. 650, 652 (Gournia).

<sup>49</sup> Specifically, 54% of the drinking vessels were undecorated. Solid-painted vases accounted for 34%, the painted ones to only 12%.



Fig. 13. Sea Guard-House. East Building, Room 14. Amphora.



Fig. 14. Sea Guard-House. East Building, Room 14. Amphora.

picture is typical of the assemblages from the late Neopalatial period.<sup>50</sup>

The *conical cups* outnumbered all other shapes, representing 42% of the small open vases. In LM I, these vases were distinguished by their standardized form and capacity.<sup>51</sup> Thus, the cups from the site may be assigned to two groups. The majority had an average height of 4.5 cm, a base diameter of 3.5 cm and rim diameter of 8.0 cm. They had straight or slightly curved walls (Fig. 15c) and their rims were frequently compressed, sometimes forming a rudimentary spout (Fig. 15a-b). The vases of the other group were somewhat larger, with an average height of 4.8 cm, a base diameter of 3.8 cm and rim diameter of 9.0 cm. Their profile was usually S-shaped (Fig. 15e), though some had straight walls (Fig. 15f). All the conical cups were undecorated.

*Straight-sided cups* and *rounded cups* are well-represented in the final Neopalatial horizon, due to the incorporation of earlier sherds in the superstructure of the buildings.<sup>52</sup> Only one rounded cup was in use at the end of Period III (Figs. 15g, 16).<sup>53</sup> This vase is distinguished by its coarse fabric and raised handle, which together with the

compressed rim, would not preclude its use as a ladle.<sup>54</sup>

*Ogival cups* represent 23% of the drinking vessels. Some were plain (Fig. 17f), but most had a band on the rim (Fig. 17b, i) or were monochrome-coated (Fig. 17g-h). These vases were distinguished by a considerable variety of size and form, a feature observed at other sites as well.<sup>55</sup> Their heights ranged from 6.7 to 13 cm and the rim diameters from 10 to 14 cm. Many examples had a raised base, out-flaring walls and a clearly distinguished, everted rim (Fig. 17a, c); they belong to the piriform type

<sup>50</sup> For comparison, see Barnard 2001, 401, 403; Brogan, Smith & Soles 2002, 101; Floyd 1998, 192.

<sup>51</sup> Barnard & Brogan 2003, 36; Gillis 1990, 36, 60, 73.

<sup>52</sup> These shapes represent 12.35% of the minimum number of drinking vessels.

<sup>53</sup> Cf. MacGillivray, Sackett & Driessen 2007, 96, fig. 4.1 no. 387; Sackett & Popham 1970, 222, fig. 13.15, pl. 61i (Palaikastro).

<sup>54</sup> These features do not appear in the examples from the final LM IB horizon of Mochlos: see Barnard & Brogan 2003, 36-7.

<sup>55</sup> Barnard & Brogan 2003, 41 (Mochlos); Sackett & Popham 1970, 221 (Palaikastro).



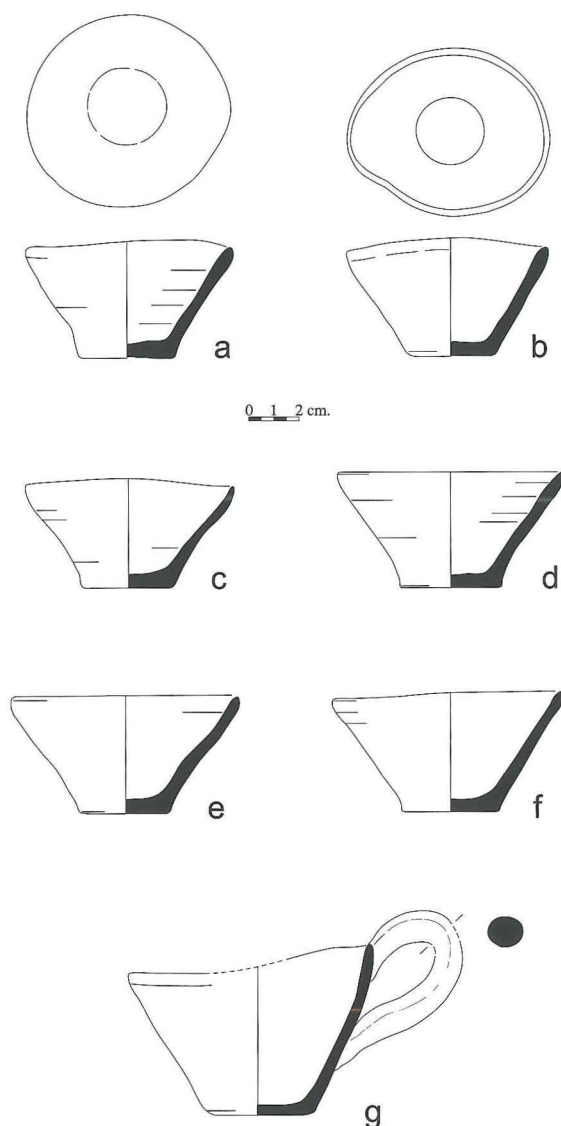


Fig. 15. Sea Guard-House. Conical cups (a-f) and rounded cup (g).



Fig. 16. Sea Guard-House. East Building, Room 21. Rounded cup.

which is characteristic of LM IB. On several other vases the rim scarcely projected or was unformed (Fig. 17e, l), while others had a low center of gravity (Fig. 17j). These features are also found in the early versions of the shape, dating from the LM IA period.<sup>56</sup> Finally, one vase stood out because of its small size, plain rim and carinated walls (Fig. 17k)<sup>57</sup> – features characteristic of the MM III–LM IA bell cups from which the ogival cups evolved.

Three ogival cups were knob-handled,<sup>58</sup> a feature foreshadowing the development of this shape into the pulled-rim bowl of the LM III reoccupation.<sup>59</sup> Among these vases, one is earlier from a typological point of view, since its thin walls and fluid, S-shaped profile are characteristic of LM IB ogival cups (Fig. 9a). The other two are distinguished from pulled-rim bowls by the position of the knobs, which were on the shoulder and not at the height of the greatest diameter (Fig. 9b-c).<sup>60</sup>

Four vases, of which only small fragments are preserved, may be recognized as *stemmed cups* on the basis of their form and the presence of dark-on-light decoration. This shape was fairly rare in East Crete, since examples of it are known at present only from Palaikastro.<sup>61</sup> Of the vases from the Sea Guard-House, one had an everted rim (Fig. 9d), a feature which is not found in stemmed cups from Palaikastro, but is characteristic of LM II examples from Knossos.<sup>62</sup> Two vases are unusual, in that they did not have a solid stem

<sup>56</sup> Barnard & Brogan 2003, 42–3.

<sup>57</sup> Cf. Barnard & Brogan 2003, fig. 4 IB.171 (Mochlos); Sackett & Popham 1970, 222, fig. 13.12 (Palaikastro).

<sup>58</sup> Owing to their fragmentary condition, it is not clear whether these vases had a pulled spout, like those from Mochlos (see Barnard & Brogan 2003, 52).

<sup>59</sup> Brogan, Smith & Soles 2002, 107.

<sup>60</sup> Cf. respectively Barnard & Brogan 2003, fig. 10 IB.242, IB.245 (Mochlos). See also Platon 1997b, 199, fig. 27 no. 12363 (Prophetes Elias Praisos).

<sup>61</sup> Sackett & Popham 1970, 218.

<sup>62</sup> Popham 1984, 162. The horizontal bands on the interior of this vase are not found on stemmed cups, but do occur on hemispherical cups of the final LM IB phase (Barnard & Brogan 2003, 46). Its small size, however, points to the former shape, and this is also true of its decoration with running spirals: cf. Sackett & Popham 1970, 222, fig. 13 NP54 (Palaikastro).

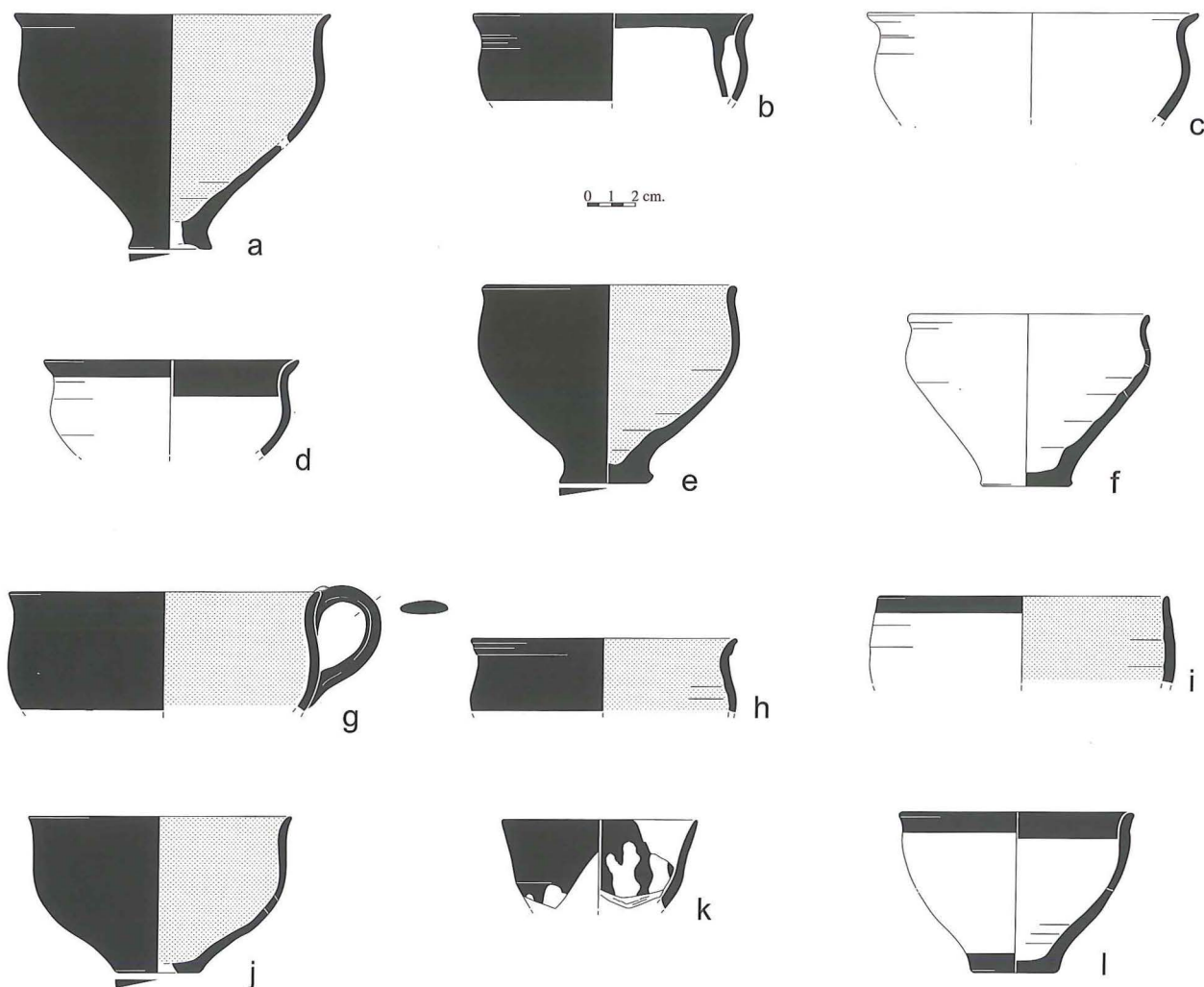


Fig. 17. Sea Guard-House. Ogival cups.

(Fig. 9e); they may be assigned to an intermediate type, with features of both the ogival and stemmed cups.

*Hemispherical cups* were represented by only a few fragmentary examples. These belong to the sizeable type, with simple or slightly raised base and distinctly flaring walls, which is found in the assemblages of late LM IB (Fig. 9g–h).<sup>63</sup> As was typical, the lower part of the body was covered by fairly broad, regularly arranged horizontal bands. One cup stood out, since it carried a group of three narrow bands beneath the main decorative zone, which has unfortunately not been preserved. The lower part of its walls was reserved, while another band extended along the base (Fig. 9i).<sup>64</sup> At Knossos

this arrangement is diagnostic of LM II,<sup>65</sup> to which this vase should be dated.<sup>66</sup>

<sup>63</sup> Barnard & Brogan 2003, 47, 108; Brogan, Smith & Soles 2002, 101.

<sup>64</sup> Cf. Popham 1984, pls. 51a, 156.4 (Knossos).

<sup>65</sup> Popham 1984, 161, pl. 147. See also Watrous 1992, 120 (Kommos).

<sup>66</sup> The sherds of this cup were found in Area 13, on the border between the collapsed superstructure of the East Building and the deposits of the Reoccupation period, which extended to the west. Given that the presence of diagnostic LM III pottery in the relevant excavation units was insignificant, the cup should be assigned to the final Neopalatial horizon. However, the possibility cannot be excluded that the fragments had been incorporated into the walls of the nearby LM IIIA building.



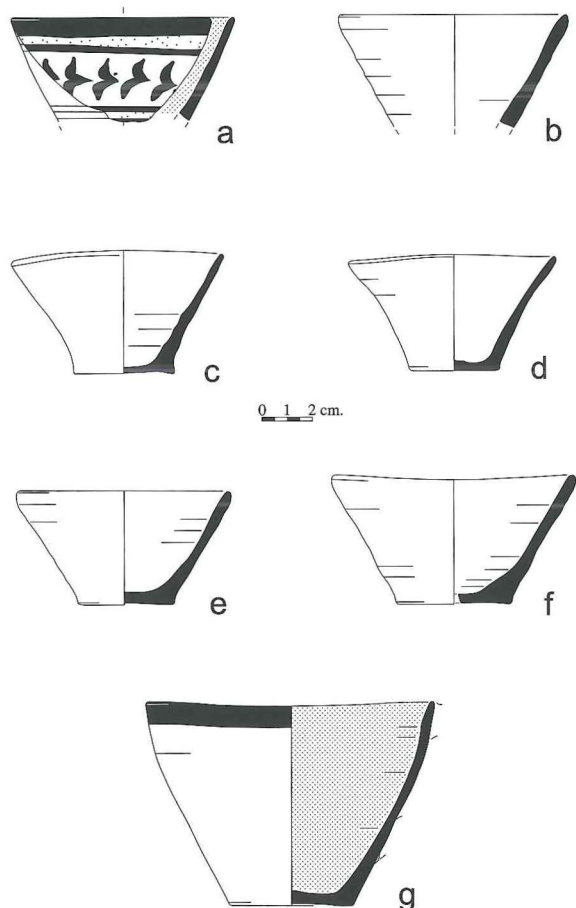


Fig. 18. Choiromandres. Conical cups (a-f) and rounded cup (g).

One vase resembles a rare LM IB cup type with convex walls and a simple straight rim.<sup>67</sup> Nevertheless, its body is shallower and it has a squared lip, which was formed with a sharp tool (Fig. 10a). This trait distinguishes the *bell cups* of the LM IIIA1 period.<sup>68</sup> In contrast with the latter, the cup from the Sea Guard-House has a pulled spout, a feature that was found on several drinking vessels during late LM IB and LM II. One might consider, therefore, the unusual characteristics of this vase to have been the result of experimentation, which led to the typical bell cups of the Reoccupation period.

Finally, a sherd from a *bell bowl* was found (Fig. 10b). Its only close parallels are from Palaikastro<sup>69</sup> and date to an early stage of the site's reoccupation, which began during the LM II of North-central Crete.<sup>70</sup> An LM II cup from Psari Phorada has

a similar form.<sup>71</sup> However, the use of red paint connects the vase from the Sea Guard-House with the polychrome tradition of LM I, of which it was one of the last examples.<sup>72</sup>

## The relative chronology

The closest parallels for the pottery of the Sea Guard-House are to be found in the assemblages of Periods XII and XIII from Palaikastro, which correspond to LM IB and the rebuilding phase of LM II,<sup>73</sup> in the LM IB destruction horizon at Kato Zakros<sup>74</sup> and in the deposits that define the end of the occupation of the Guard-House at neighboring Choiromandres.<sup>75</sup> There are also several parallels in the corresponding assemblages from Mochlos.<sup>76</sup> Finally, there are features in common with the pottery of Makrygialos and Prophetes Elias, Praisos.<sup>77</sup>

<sup>67</sup> See Betancourt 1983, fig. 9 no. 52, pl. 5 (Pseira); Betancourt & Silverman 1991, fig. 18 no. 558 (Gournia).

<sup>68</sup> MacGillivray 1997a, 197–8; MacGillivray, Sackett & Driessen 2007, 154.

<sup>69</sup> MacGillivray *et al.* 1992, 139, fig. 17.3–4, 140. These spouted vases have been recognized as early versions of pulled-rim bowls. They have no knobs, however, and are reminiscent of the shallow bowls of the Reoccupation period due to their large size, open shape and convex upper walls.

<sup>70</sup> MacGillivray *et al.* 1992, 139–40. For the dating of the reoccupation at Palaikastro, see MacGillivray 1997b, 277–8; MacGillivray, Sackett & Driessen 2007, 112, 225.

<sup>71</sup> Banou & Rethemiotakis 1997, 30, fig. 6.7.

<sup>72</sup> The red paint was used to render the main motif, clearly an unusual feature; moreover, it was probably applied before firing. It has an even shade and is clearly distinguished from the black paint of the bands framing the decorated frieze.

<sup>73</sup> For the definition of these periods, see MacGillivray 1997a, 195; 1997b, 276–8. For the relevant assemblages, see Bosanquet & Dawkins 1923, *passim*; MacGillivray, Sackett & Driessen 2007, 15–45, 78–84, 95–115, 145–58; Sackett & Popham 1970, 217–31.

<sup>74</sup> See Dawkins 1903, 254–9; Platon 1961, *passim*; 1962, *passim*; 1974, *passim*; Platon 2002a, *passim*.

<sup>75</sup> Tzedakis *et al.* 1990, 57, 58, figs. 15 right, 16 top, 17 bottom, 59, fig. 18 right.

<sup>76</sup> Barnard & Brogan 2003.

<sup>77</sup> See respectively Davaras 1997, *passim* and Platon 1997b, 198–9, 201, fig. 31b.

The assemblages from the settlement at Mochlos and from the nearby farmhouse at Chalinomouri contain shapes or motifs that closely resemble those of the Reoccupation period, or which have parallels in the LM II of Central Crete.<sup>78</sup> According to the excavators, their presence implies that the end of the Neopalatial period at Mochlos occurred late, that is, during the first stages of the Mycenaean presence at Knossos – and this is probably also true for the other excavated sites in East Crete, with the exception of Psira.<sup>79</sup> The same conclusion is suggested by the available evidence for the absolute dates of the LM IB destructions, which indicates that these sites were destroyed later than those in the central and western parts of the island.<sup>80</sup>

These comments are also valid in the case of the site under examination. Thus, a late stage of LM IB is suggested, *inter alia*, by the ogival cups with knobs, the large-sized hemispherical cups, the rare use of added red paint,<sup>81</sup> and finally by the stylized, repetitive decoration of the beak-spouted jug from the East Building. However, the presence of the bell bowl and of the squat, spouted cup that may be recognized as a precursor to the LM IIIA bell cups points to an even later date. The same is probably true for the LM II hemispherical cup, since at the nearby centers the pottery of this style is not found in the deposits from the end of the Neopalatial period, but in those that signal the beginning of reoccupation.<sup>82</sup>

It should be emphasized that the same picture is observed at Choiromandres. Thus, the pottery from the final Neopalatial deposits at this site is, generally speaking, characteristic of LM IB (Figs. 18b–e, 19a–c). The presence, among other vases, of a decorated conical cup (Fig. 18a)<sup>83</sup> and of sherds from pithamphorae of the Provincial Palace Style provides a firm correlation between this assemblage and those from the destruction horizon of Kato Zakros. Moreover, a rounded cup (Fig. 18g) found at Choiromandres has close parallels in the final LM IB phase of Mochlos.<sup>84</sup> Nevertheless, these vases coexisted with others that are distinguished by late features. Among the latter is a spouted ogival cup with a squat profile, small dimensions and relatively thick walls (Fig. 19d),<sup>85</sup> features that are characteristic of the last examples of the shape in LM II.<sup>86</sup> Actually, this vase could easily

be recognized as an early version of a pulled-rim bowl. A conical cup (Fig. 18f)<sup>87</sup> was also found, the walls of which were more open than in the LM I examples, a feature that foreshadows the evolution of this shape in LM IIIA. The same deposits produced a cup distinguished by the convex upper part of its walls (Fig. 19f).<sup>88</sup> This vase should be regarded as an early version of a bell cup – a shape which is really not found before the Reoccupation period at both Mochlos and Palaikastro.<sup>89</sup> A spouted basin (Fig. 19e) is distinguished by the pronounced inward curve of its upper walls and by its rather large size, features that are again typical of the LM IIIA examples of this shape.<sup>90</sup> Finally, a fine vase, possibly a bridge-spouted jug, was decorated with

<sup>78</sup> See Barnard & Brogan 2003, 46–7, 51, 59, 108; Brogan, Smith & Soles 2002, 101.

<sup>79</sup> Barnard & Brogan 2003, 107–9; Brogan, Smith & Soles 2002, 101, 103; and Betancourt in this volume.

<sup>80</sup> By way of example, see Barnard & Brogan 2003, 108–9; MacGillivray 1997a, 275–7; Manning & Ramsey 2003, 117–8, 120–3. See also Driessen & Macdonald 1997, 106.

<sup>81</sup> See Barnard & Brogan 2003, 100, 107.

<sup>82</sup> Kato Zakros: Platon 2004, 290. Mochlos: Barnard & Brogan 2003, 109; Brogan, Smith & Soles 2002, 104–5. The only exception is Palaikastro – if it is accepted that Deposits 2 & 3 of Well 576 and Deposit 2 of Well 605 represent the last phase of LM IB, as suggested by J.A. MacGillivray and L.H. Sackett (MacGillivray, Sackett & Driessen 2007, 108, 224–5), and not a temporary or partial abandonment of the site following its final destruction.

<sup>83</sup> Cf. Platon 2002b, pl. XLVIb front row, third from left.

<sup>84</sup> Cf. Barnard & Brogan 2003, fig. 3 IB.148.

<sup>85</sup> Cf. MacGillivray, Sackett & Driessen 2007, 113, fig. 4.14 no. 457 (Palaikastro).

<sup>86</sup> Barnard & Brogan 2003, 44. Similar vases appeared as early as the final phase of LM IB: see Sackett & Popham 1970, 222, fig. 13.8 (Palaikastro).

<sup>87</sup> Cf. MacGillivray, Sackett & Driessen 2007, 44, fig. 3.23 no. 123 (Palaikastro).

<sup>88</sup> Cf. MacGillivray, Sackett & Driessen 2007, 44, fig. 3.23 no. 119 (Palaikastro).

<sup>89</sup> Brogan, Smith & Soles 2002, 107 (Mochlos); MacGillivray, Sackett & Driessen 2007, 154–5 (Palaikastro). In Central Crete, though, variants of this shape are found from LM II: see Banou & Rethemiotakis 1997, 30, fig. 6.3–4 and 6 (Psari Phorada); Watrous 1992, 119–20, fig. 18 no. 342 (Kommos).

<sup>90</sup> Spouted basins are found in the LM IB horizons of Gournia (Soles 2002, 128, pl. XXXVII no. 8), Mochlos (Barnard & Brogan 2003, fig. 10 IB.241), Palaikastro (Bosanquet & Dawkins 1923, 68, fig. 53 no. 22) and Kato Zakros (Platon 1965, 198, pl. 241b). However, the shape only became



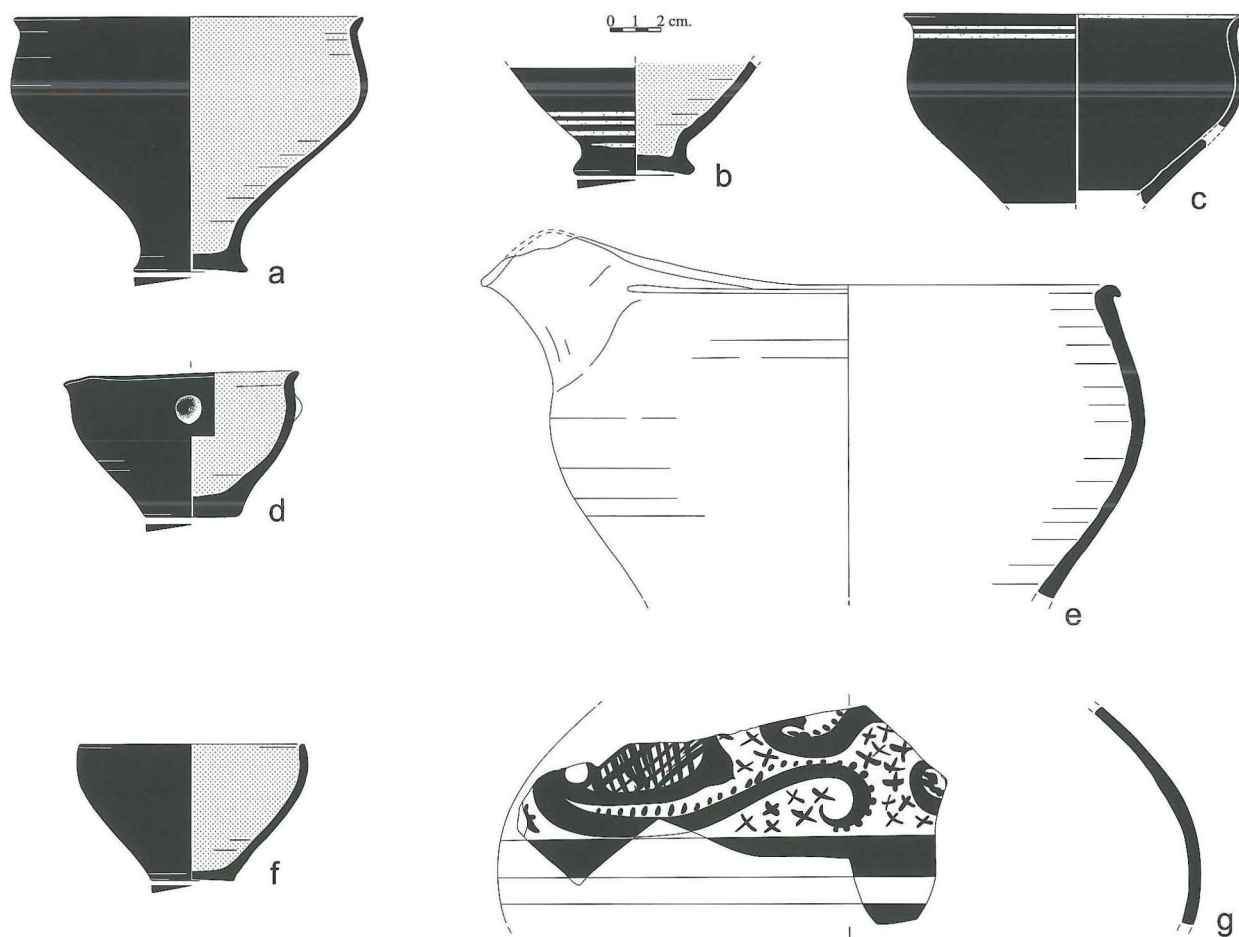


Fig. 19. Choiromandres. Pottery of the LM IB-II horizon.

Marine Style (Fig. 19g),<sup>91</sup> the stylized rendering of which has affinities with Mountjoy's Type C (dated to the end of the LM IB period),<sup>92</sup> but is more advanced in stylistic terms.

The evidence presented above is of particular importance, since it indicates that the end of the LM I occupation at both the Sea Guard-House and Choiromandres must have occurred *after* the destruction of the neighboring urban centers. It is probable, namely, that these two sites in the countryside were destroyed or abandoned just before the rebuilding of Palaikastro, or even during this phase, while Mochlos remained uninhabited.<sup>93</sup> Consequently, the particularly late features of the pottery from both these sites reinforce the evidence suggesting that the LM IB destructions did not occur simultaneously, but over an interval of several years or even decades. They cannot, therefore, be attributed to a single, natural event, such as an

earthquake. On the contrary, they must have been brought about by human action, at least in the majority of cases,<sup>94</sup> as is indicated by the signs of looting noted at the Sea Guard-House.

The destruction horizon of the site under study may be defined as LM IB-II, given the transitional character of its pottery. It is nevertheless clear that

common in the Reoccupation period. Earlier versions appear in the final LM IA phase of Choiromandres, and in the early LM IB of Kommos (Rutter 2004, 79, fig. 4.12 C2755).

<sup>91</sup> Cf. Betancourt 1983, 32, fig. 10 no. 65 (Pseira). See also Barnard & Brogan 2003, 101, fig. 29 IB.369 (Mochlos).

<sup>92</sup> Mountjoy 1974a, 177, 179.

<sup>93</sup> For the abandonment of this site and its implications, see Brogan, Smith & Soles 2002, 96–8, 104–5. For Palaikastro, see MacGillivray, Sackett & Driessen 2007, 225.

<sup>94</sup> For the probable causes of the destructions see Brogan, Smith & Soles 2002, 89, 95–6, 98, 117; Driessen & Macdonald 1997, 105–18; Hood 1985; Warren 2001, 118.

the majority of the vases belong to the ceramic tradition of LM IB. Moreover, the record suggests an uninterrupted occupation from the first stages of LM I. The final phase of Period III, therefore, was contemporary with the early, or rather with the middle, LM II of Central Crete, yet in historical terms it signals the end of the Neopalatial period at the site. Consequently, it may readily be labelled final LM IB, following the terminology used by K.A. Barnard and T.M. Brogan to designate the corresponding phase in the area of Mochlos.<sup>95</sup>

## The LM IB–II assemblage and the pottery workshops of East Crete

The bay of Karoumes and the adjacent inland valley of Chochlakies form the boundary between the geographical areas that constituted the immediate hinterland of the settlements of Palaikastro and Kato Zakros. According to the petrographic analyses carried out by P.M. Day, the pottery of the country Villa at Chochlakies, as well as that of the neighboring farmstead at Azokeramos, came from both the aforementioned centers.<sup>96</sup> It would therefore be important to establish whether this picture is also true for the site under study.

The closest parallels for the vases of the LM IB–II horizon are to be found at Palaikastro. However, there are also several similarities with the pottery from the settlement and Palace of Kato Zakros. In this respect, it is particularly interesting to compare the pottery from the Sea Guard-House with the contemporary assemblage from Choiromandres, a site that lies in the hinterland of Zakros. The two assemblages have a similar composition with regard to the shapes represented and their typology, but several differences may be noted. For example, whereas at the Sea Guard-House cooking pots of Types A and B coexist, at Choiromandres most of these vases belong to Type B.<sup>97</sup> The conical cups of the two sites were similar (Figs. 15d, 18e). Nevertheless, at Choiromandres their manufacture was normally more meticulous, since they had a finer fabric, thinner walls and a less rigid, fluid

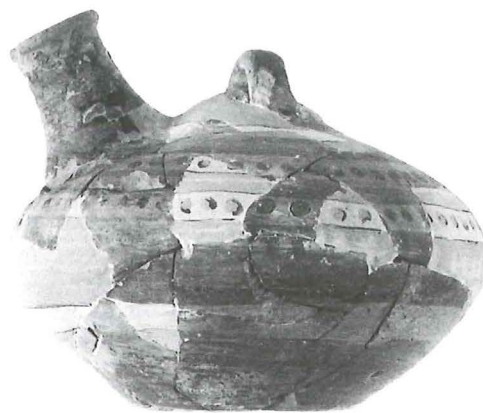


Fig. 20. Sea Guard-House. East Building, Room 15. Askos.

profile (Fig. 18c–d). A larger, thick-walled type of conical cup with a coarser clay was also present (Fig. 18b), which did not exist in the Sea Guard-House. In contrast to this site, at Choiromandres there were several ogival cups with decoration in white paint (Fig. 19b–c). Vases of this kind also existed at other sites in East Crete, such as Mochlos and Palaikastro,<sup>98</sup> though here they were very rare.<sup>99</sup> These cups are much more common at Zakros – indeed, L. Platon assigned the examples which carried vertically arranged leaf-like motifs to the output of this particular center.<sup>100</sup> On the ogival cups of the Sea Guard-House, the beginning of the rim was frequently emphasized by shallow incisions or grooves (Fig. 17b–c, h). At Choiromandres, the former feature was very rare.<sup>101</sup> Finally, no stemmed cups were found at this site, a shape which, as we

<sup>95</sup> Barnard & Brogan 2003, 109; Brogan, Smith & Soles 2002, 103.

<sup>96</sup> Day 1997, 225, 227.

<sup>97</sup> See, for example, Tzedakis *et al.* 1990, 59, fig. 18 1.47/88.

<sup>98</sup> Cf. Sackett & Popham 1970, 222, fig. 13.10.

<sup>99</sup> See Barnard & Brogan 2003, 43; Sackett & Popham 1970, 221. The cups at Mochlos were thought to have been imported from another part of East Crete.

<sup>100</sup> Platon 2002b, 150.

<sup>101</sup> Both rim treatments were probably characteristic of the ogival cups from the eastern end of Crete, since they are not common among the examples from Mochlos: see Barnard & Brogan 2003, 43.



have already seen, occurs both at the Sea Guard-House and at neighboring Palaikastro.

The differences noted above relate to individual features of typology and do not obviate the similarity of the two assemblages, which belong to the common ceramic tradition of the easternmost part of Crete. They do suggest, however, that a significant part of the utilitarian and simply decorated pottery of both sites came from different workshops. In the case of the Sea Guard-House, these are probably to be located in the area of Palaikastro, or even in the north part of the hinterland of Zakros. This last hypothesis is supported by the dispersed nature of pottery production which was characteristic of Zakros, according to P.M. Day<sup>102</sup> – a view that has been further substantiated by the surface survey of the area and by the pottery workshop excavated at the site of Kokkino Phroudi.<sup>103</sup> In any case, vases such as the askos (Figs. 5b, 20)<sup>104</sup> or juglets (Fig. 5d-e) of the Sea Guard-House probably came from Zakros. So did the most imposing vase yielded by the site, the decorated four-handled pithamphora (Fig. 8), given that the majority of examples of this type have been found at Kato Zakros, specifically in the west wing of its Palace.<sup>105</sup>

In conclusion, the evidence suggests that in the late Neopalatial period the site looked mostly to

Palaikastro for its pottery supplies. On the other hand, confirmation is provided for the coexistence of pottery from both centers in the area located between them. Consequently, this picture is valid not only for the sites at the peak of the settlement hierarchy, such as the country Villa at Chochlakies, but also for those of the lower ranks – to which the Sea Guard-House should be assigned, if not also the building at Azokeramos. Accordingly, if Kato Zakros and Palaikastro were the seats of different polities, this did not imply the existence of vertical barriers between them, at least at the level of economic exchanges.<sup>106</sup>

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<sup>102</sup> Day 1997, 225.

<sup>103</sup> Chryssoulaki 2000, 586–93.

<sup>104</sup> Cf. Dawkins 1903, 257, fig. 31 (Kato Zakros).

<sup>105</sup> See Platon 2002b, 149–51, where these vases are attributed to a workshop directly connected with the Palace. A provenance in the eastern end of Crete is also accepted by K.A. Barnard & T.M. Brogan (2003, 104).

<sup>106</sup> For the probable relations between the two settlements, see Cunningham 2001, 84; Vokotopoulos 2007, 95–7.

# The LM IB pottery from Papadiokampos: a response to Leonidas Vokotopoulos\*

*Thomas M. Brogan, Chrysa Sofianou & Jerolyn E. Morrison*

We want to congratulate Dr. Vokotopoulos for his thorough presentation of the final Neopalatial pottery from Karoumes. His paper outlines the ceramic developments at this rural farmstead during the Neopalatial period and then considers whether one of the nearby Minoan centers (Palaikastro or Kato Zakros) was the primary producer of the material consumed at Karoumes. The surprising result is that neither center had a monopoly (though more material is coming from Palaikastro), suggesting the possibility that the pottery market in East Crete was open to consumer choice and not restricted by a dominant producer. There is also growing evidence for small-scale production outside the Palace and settlement of Kato Zakros. The author begins by providing a careful reading of the Neopalatial stratigraphy and architecture at Karoumes, which consists of three buildings. The paper focuses on the assemblages from Period IIIB at the site, which are derived exclusively from the East and West Buildings and are equated with the final Neopalatial period. The careful demonstration of the site formation processes distinguishes both sherd material found within the floors (i.e., primary refuse from Phase IIIB) and the smashed vessels that were in use on the floors when the site was destroyed. The author also emphasizes the scattered nature of the sherds, which he suggests could be explained in one of two ways: either as activities by a group plundering the buildings or occasional squatters who used the site after it was first abandoned. Even though a definitive answer cannot be provided, the question itself is intriguing and is a reflection of the author's detailed study. The study of LM IB House A.1 at Papadiokampos has also noted similar patterns in the scatter of objects and other remnants of everyday activities, suggesting that the histories of these two houses were probably much more complicated than originally imagined.<sup>1</sup>

Another significant contribution of Vokotopoulos' paper, which resulted from his doctoral research, is its emphasis on a discussion of the complete range of decorative styles and ceramic shapes in use at this isolated, rural site. It is worth noting the importance of this comprehensive approach to ceramic assemblages, as it is the only way that we can consider questions of regional production, or in this case, provincial consumption. Finally, the author considers the date of the Phase IIIB material at Karoumes. Although the site does not provide evidence for multiple sub-phases of LM IB, Vokotopoulos finds links to several sites across Crete that present compelling arguments for dating the abandonment to LM IB-II.<sup>2</sup>

## The LM IB pottery from Papadiokampos

Papadiokampos is a newly excavated Neopalatial town located on the remote coastal plain that stretches west of the Trachilos peninsula. The site is strategically situated between two well-known Neopalatial regions in northeastern Crete. The Mi-

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\* We would like to thank Ch. Papanikolopoulos for the photography and J. Morrison and K. Chalikias for the drawings of the pottery

<sup>1</sup> For a detailed discussion of the evidence, see Brogan *et al.* forthcoming and Brogan, Sofianou & Morrison forthcoming.

<sup>2</sup> We would like to add the pottery from the recent excavations on Chryssi Island to Vokotopoulos' list of sites. Excavations there by the 24th Ephoreia of Prehistoric and Classical Antiquities have recovered clear evidence for two, or even three, phases of architecture, as well as a rich collection of pottery from the final destruction levels. This evidence provides additional support for this final LM IB phase. For Chryssi, see Apostolakou, Brogan & Betancourt forthcoming.



rabello Bay is located to the west, approximately 14 kilometers by sea, and the Siteia Bay is to the east, approximately 10 kilometers by sea. In 2004, the 24th Ephoreia of Prehistoric and Classical Antiquities began exploring the LM I town of Papadiokampos with rescue excavations. By 2009, a combination of excavation and survey had probed all four areas of the site near the sea (A, B, C, and D), recovering parts of three LM IB houses in Areas A and B, as well as a fourth LM I house next to terraced fields in Area C.<sup>3</sup> This presentation of the LM IB ceramics from Papadiokampos is largely based on the completed study of the pottery from House A.1. A smaller number of vessels from House B.1, where work has just begun, are also included in order to fill in gaps or expand the discussion.

The houses at Papadiokampos were built early in the Neopalatial period and then substantially rebuilt in LM IB, probably following the significant damage caused by the Theran Volcanic Eruption.<sup>4</sup> Very little pottery from this first phase, presumably MM IIIB-LM IA, has been recovered; instead, the vast majority of the ceramic material from House A.1 belongs to the second phase, which spans the LM IB period. The floor deposits include substantial portions of vessels that were thoroughly smashed in the collapse of the two-story structure. At the same time, the presence of metal artifacts in both houses, including a gold chain in House B.1 and a dagger on the South Porch of House A.1, suggests that the LM IB destruction was a sudden and unexpected event, from which the occupants did not return to collect valuable belongings.<sup>5</sup> There is also clear evidence that the inhabitants were living in the building at the time of the destruction; for example, three meals were in preparation in House A.1, and another was found in House B.1.<sup>6</sup>

Our presentation has two parts. The first considers the range of shapes, decorative styles, and preliminary ceramic fabric types that characterize the assemblage. There is still no direct evidence for pottery production at the site in the form of wheels or kilns; however, on the basis of our study of the House A.1 material, we are now in a position to discuss the local Papadiokampos pottery assemblage by drawing comparisons with its LM IB neighbors. There is a vast record of published ma-

terial from the central and eastern parts of the Mirabello Bay, which lay immediately west of Papadiokampos.<sup>7</sup> The sample of LM IB pottery from sites in the Siteia Bay to the east, however, is surprisingly small. This absence has led some scholars to suggest that certain sites in the Siteia Bay struggled to recover from the Theran Volcanic Eruption, but the presentation of LM IB pottery from Petras in this volume provides important new comparanda.<sup>8</sup> The results of these comparisons allow us to address the topic of local and regional ceramics in East Crete in the LM IB period, which forms the second part of this paper.

Due to limitations of space, the authors present the pottery in a manner that lends itself most easily to the topic of the conference. The first group of pottery includes the plain and decorated open shapes connected with eating and drinking, as well as the plain and decorated fine vessels connected with pouring and serving. The second group includes the coarse vessels used for cooking, processing food, and storage. Finally, to explore the role of Papadiokampos as a potential consumer during the LM IB period, we conclude with a brief presentation of the off-island and Cretan transport amphorae unearthed in House A.1.

### *The fine wares*

From the first group, we begin with the conical cups. A sample of ten cups from House A.1 shows that the potters preferred a medium fabric – six were produced with a pale yellow fabric and four with an orange fabric. Although similar in rim shape, size, and overall vessel proportion, the con-

<sup>3</sup> Brogan & Sofianou 2009; Sofianou & Brogan 2009; 2010.

<sup>4</sup> For a detailed presentation of the evidence, see Brogan & Sofianou 2009.

<sup>5</sup> For the broader context of the LM IB destruction in the Mirabello Bay region, see Brogan, Smith & Soles 2002.

<sup>6</sup> Brogan *et al.* forthcoming.

<sup>7</sup> For monographs on Mochlos, see Barnard & Brogan 2003; for Pseira, see Betancourt & Davaras 2009. Articles by these authors for the same sites also appear in this volume.

<sup>8</sup> For the impact of the eruption on sites in the Siteia Bay, see Brogan & Sofianou 2009, 117, no. 3. For LM IB Petras, see Tsipopoulou & Alberti in this volume.

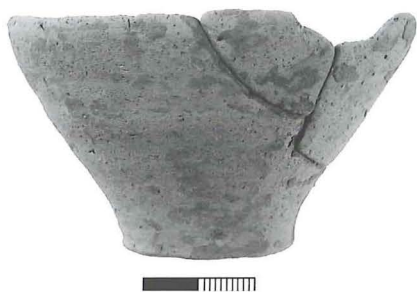


Fig. 1. Conical cup, P 301.



Fig. 2. Conical cup, P 383.

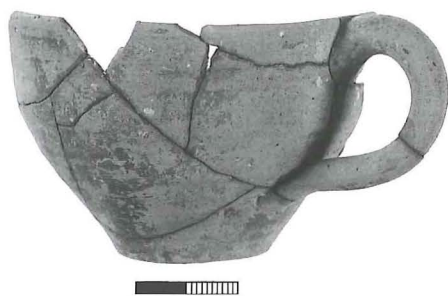


Fig. 3. One-handed conical cup with monochrome decoration, P 380.



Fig. 4. Ogival cup decorated in the Dip-and-Run Style, P 776.

struction of the conical cups does not display the same level of consistency as found at Mochlos and Palaikastro during the LM IB period.<sup>9</sup> At Papadiokampos, more than half of the examples have an incurving rim (Fig. 1, P 301), which is the hallmark of the later Mochlos LM IB conical cups. Another prominent feature in the House A.1 material is the noticeable thickening in the middle of the profile (e.g., Fig. 2, P 383). This feature is present in more than half of the cups, including examples in both the pale yellow and orange fabrics. The same feature has not been observed at Mochlos or in the published material from other sites in the Mirabello area. Finally, in contrast to the undecorated handleless cups at Papadiokampos, conical cups with handles are painted. A smaller conical cup with a handle is decorated monochrome red (Fig. 3, P 380), while a larger version (P 43) carries a rim band, as seen at LM IB Mochlos.<sup>10</sup>

The most popular open shape in House A.1 is the ogival cup, a form that is reported at a small number of sites at the end of LM IA and which became exceedingly popular at specific sites in LM IB.<sup>11</sup> At Mochlos, the ogival cups from the final LM IB levels show a high degree of standardization in size, shape, and decoration. At Papadiokampos,

a selection of 20 ogival cups reveals much more variety in the fabric, surface treatment, and shape. Four of the cups are probably LM IB imports from sites of the eastern end of Crete, if not specifically the Palaikastro area. Two cups (P 388 and P 371) were produced in a fine orange-pink fabric and finished with a burnished monochrome surface, while two more were produced in an orange fabric with an unburnished surface and decorated in what MacGillivray has termed the Dip-and-Run Style (P 418; and Fig. 4, P 776).<sup>12</sup> On the basis

<sup>9</sup> Cf. Mochlos (Barnard & Brogan 2003, 35–42, IB.29, IB.82, figs. 3–4, pl. 6); for Palaikastro (Sackett & Popham 1970, 221, nos. 2, 4, fig. 13; Hatzaki 2007c, 15, no. 1, fig. 3.1; MacGillivray, Sackett & Driessen 2007, 95–6, nos. 369, 373, 377, 379, 383, fig. 4.1).

<sup>10</sup> For examples of Mochlos LM I conical cups with handles, see Barnard & Brogan 2003, 35–42, nos. 148, 157, fig. 3.

<sup>11</sup> Cf. Mochlos (Barnard & Brogan 2003, 43–5, IB.159–61, IB.164, IB.174, IB.181, IB.196, figs. 4–5, pl. 6), Palaikastro (Sackett & Popham 1970, 221, nos. 5–6, 8, 11–13, fig. 13; Hatzaki 2007c, 17, no. 6, fig. 3.1; MacGillivray, Sackett & Driessen 2007, 96, nos. 388, 391, fig. 4.2; 99, nos. 401, 405, 407–8, 410, 413, fig. 4.4, pls. 21–2).

<sup>12</sup> Personal comm. with Tim Cunningham, Carl Knappett, and Colin Macdonald; also see MacGillivray, Sackett & Driessen 2007, 99, no. 401, fig. 4.4, pl. 21, 146.





Fig. 5. Ovoid cup, P 103.



Fig. 6. Ovoid cup, P 817.



Fig. 7. Ovoid cup, P 851.



Fig. 8. Ovoid cup, P 8.



Fig. 9. Ovoid cup decorated in the Dip-and-Run Style, P 57.

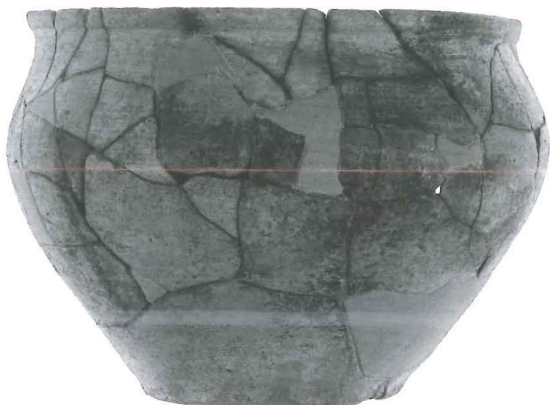


Fig. 10. Bowl, P 556.

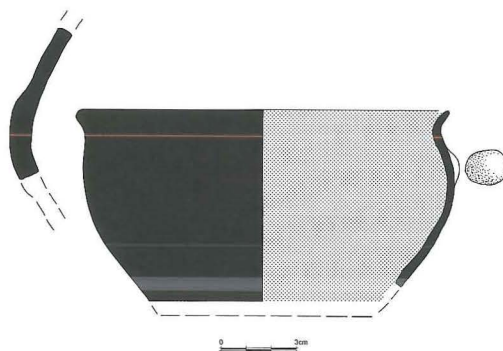


Fig. 11. Knob-handled bowl, P 586.



Fig. 12. Kalathos, or large conical bowl, P 575.



Fig. 13. Bell cup, P 490.



Fig. 14. Cup-rhyton, P 100.

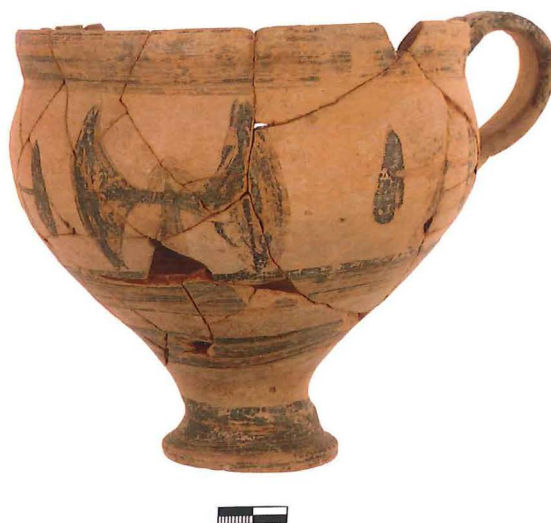


Fig. 15. Cup-rhyton, P 416.

of a more homogenous choice of fabric, surface treatment, and shape than the previously mentioned conical cups, we suspect that the remaining examples (e.g., Fig. 5, P 103; Fig. 6, P 817; Fig. 7, P 851) are made at workshops located in the Siteia Bay, if not specifically the immediate area around Papadiokampos. We must also add that there are no obvious imports from the Mirabello Bay region. What is striking in comparison with the Mochlos ogival cup type is the baggy appearance of those at Papadiokampos. Ogival cups at Papadiokampos (e.g., Fig. 8, P 8) have wide bases and a very slightly everted rim. This type of rim is much more common at Mochlos in the final LM IA and early LM IB phases, yet at Papadiokampos it appears to continue until the end of LM IB. Among the examples with a more sharply everted rim and Dip-and-Run Style of decoration is a cup (Fig. 9, P 57) made with a pale yellow-green fabric that could be an import from Petras.<sup>13</sup> House A.1 also contained a bowl (Fig. 10, P 556) which is a larger version of the ogival shape common at the site. In addition, a small number of knob-handled bowls were recovered (e.g., Fig. 11, P 586), which are now being reported primarily in the final LM IB levels at East Cretan sites such as Mochlos, Palaikastro, Karoumes, Zakros, and Chryssi. House A.1 also produced one example of a large *kalathos* or large conical bowl (Fig. 12, P 575). This shape is rarely found in LM IB levels at Mochlos but is

characteristic of LM IB Petras. The coarse pale yellow-green fabric of the *kalathos* is also compatible with Petras, marking it as a possible import from the Siteia Bay.

The assemblage of finer cups is small. There are two bell cups (P 311; and Fig. 13, P 490), the latter of which was possibly imported from Petras as indicated by its fabric. The fragmentary nature of the House A.1 rounded and semiglobular cups makes it difficult to draw specific conclusions about the production and consumption of these vessel types; however, there are four exceptional cup-rhyta. Based on the dark pink-orange fabric and the quality of the decoration, two of the Papadiokampos rhyta (P 69; and Fig. 14, P 100) are almost certainly imports from the regions of Palaikastro and Kato Zakros, where the shape is popular in LM IB.<sup>14</sup> Another rhyton decorated with axes (Fig. 15, P 416) may be a local Papadiokampos product, while a fourth (Fig. 16, P 527) is yet another possible import from Petras. Its rather eccentric decoration includes careless spirals on the interior and exterior of the vessel and slashes on the rim, which are compatible with a date late in LM IB. This vessel finds

<sup>13</sup> Macroscopically, there is at least one well-known, very distinct, pale yellow, or pale yellow-green, fabric from Petras (Day 1995, 151). Also, pers. comm. with Metaxia Tsipopoulou in 2009 and 2010.

<sup>14</sup> For Zakros, see Platon in this volume, fig. 33.



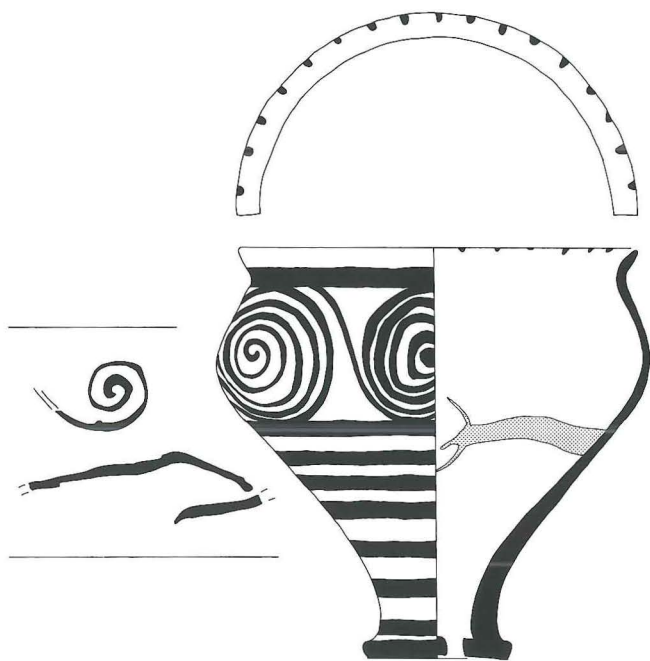


Fig. 16. Cup-rhyton, P 527.

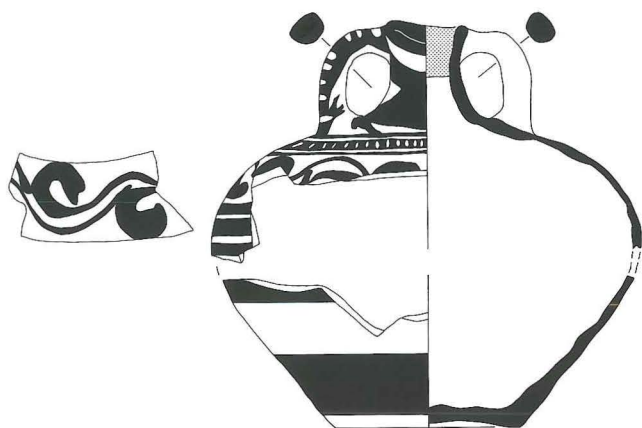


Fig. 19. Amphora decorated with tendril scroll, P 54.

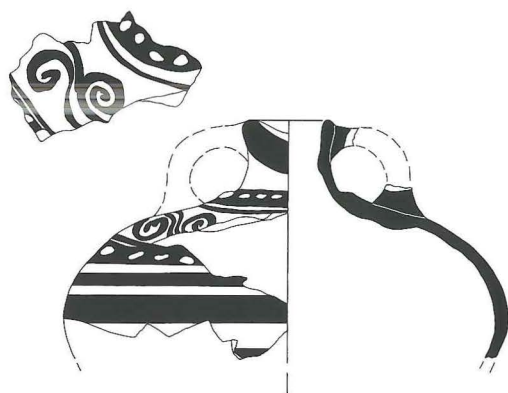


Fig. 20. Amphora decorated with tendril scroll, P 196.



Fig. 17. Tall alabastron, P 577.



Fig. 18. Amphora decorated with foliate band, P 815.



Fig. 21. Side-spouted jar decorated with tendril scroll, P 818.

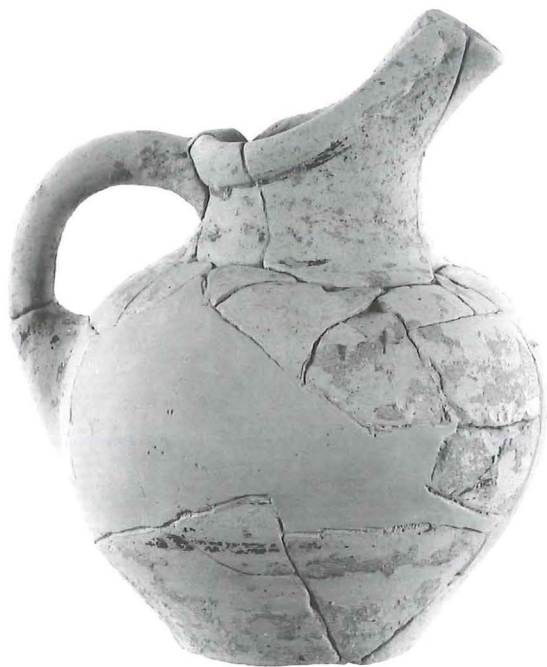


Fig. 22. Beak-spouted jug decorated with foliate band and tortoise shell ripple, P 35.

close parallels in a contemporary local workshop noted by Puglisi at Hagia Triada.<sup>15</sup>

The decorated pouring vessels found in House A.1 provide additional evidence for both regionally made wares and imports to Papadiokampos from further away. House A.1 contained two tall alabaster which date to the LM IB period. The first (Fig. 17, P 577) may be an import from Petras, but a source in North-central Crete cannot be ruled out. It is decorated with a field of dark brown crosses<sup>16</sup> painted over pale yellow-green clay, while the other (P 641) is decorated with the ogival canopy and has close parallels from the Mirabello area.<sup>17</sup> A sample of four amphorae from Houses A.1 and B.1 includes a small example decorated with a foliate band (Fig. 18, P 815), two (Fig. 19, P 54; Fig. 20, P 196) with a tendril scroll, and a large amphora with a wavy band (P 560). Based on the color of the clay and the use of added white paint over the dark brown to black decoration, it is likely that P 54 and P 196 were produced in workshops associated with the Mirabello Bay region. The best parallels come from the final LM IB destruction levels at Mochlos. The brown color of the paint on P 815 is not the same as that used at Mochlos, nor

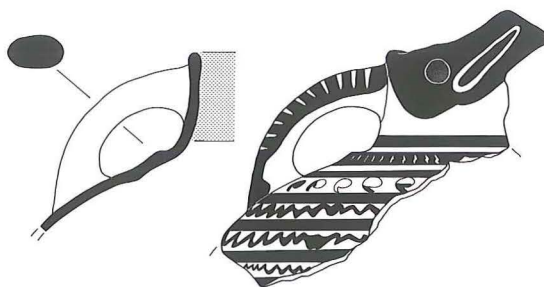


Fig. 23. Beak-spouted jug decorated with a row of quirks and alternating, careless wavy bands and dark bands, P 381.

is the fabric the distinctive granodiorite mix produced and used for potting at Priniatikos Pyrgos and Gournia.<sup>18</sup> The closest parallel is a side-spouted jar (Fig. 21, P 818) decorated with a foliate scroll found with P 815 in House B.1 at Papadiokampos. The striking similarity of the fabric, decoration, and application of the motif clearly mark them as products of the same workshop, which may have been based at Papadiokampos, though they exhibit close stylistic parallels with vessels from the neighboring Mirabello area.

Jugs are also a popular type of fine ware at Papadiokampos. There are three well-preserved beak-spouted jugs. One example was produced from fine pale yellow-green clay and decorated with a foliate band on its shoulder and a thin version of tortoise shell ripple near the base (Fig. 22, P 35). On the basis of the color of the clay, we suggest that it was made at Petras. Moreover, the shape and decora-

<sup>15</sup> See Puglisi in this volume, fig. 17.

<sup>16</sup> For parallels of this unusual "cross" motif, see cup NP 53 from the LM IB deposits of House N at Palaikastro, where the interior of the cup is decorated with the cross motif and a central rosette pattern. We must point out that it is unclear if this was a local product; however, the motif can be securely dated to the LM IB period (Sackett & Popham 1970, 217, NP 53, fig. 9, pl. 57).

<sup>17</sup> For examples of LM I alabaster from Mochlos, see Barnard & Brogan 2003, 58–60, IB.296–300, IB.304, fig. 18, pls. 11–2.

<sup>18</sup> For macroscopic descriptions of Neopalatial granodiorite fabric, also commonly called "Mirabello" fabric, see Floyd 1998, 179; Barnard & Brogan 2003, 7. For petrographic fabric descriptions, see Day, McIntosh & Betancourt 1991, 91–101; Myer *et al.* 1995, 144–5; Day, Joyner & Relaki 2003, 17–8, 24–5, pls. 2A–B, 3C–D.



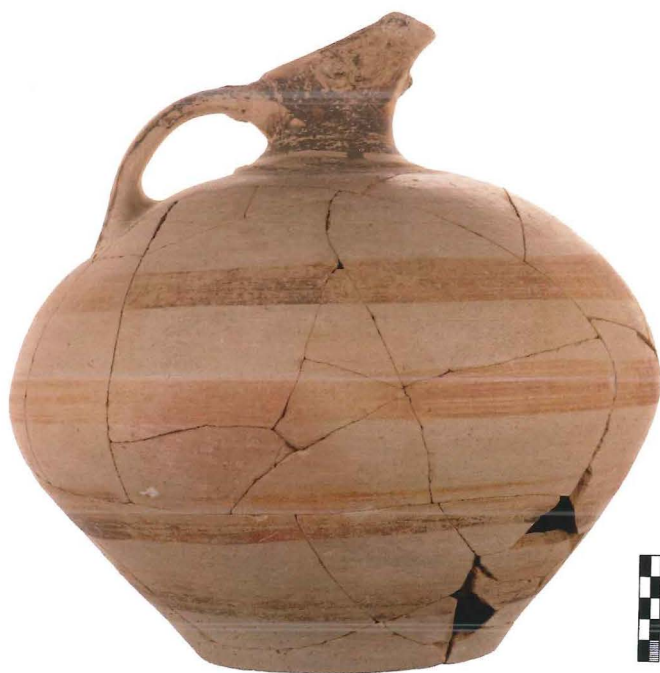


Fig. 24. Beak-spouted jug that is highly burnished and decorated with bands, P 530.

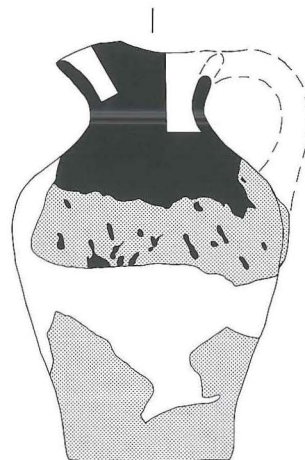


Fig. 25. Trefoil-mouthed jug decorated in the Spray-painted Style, P 226.

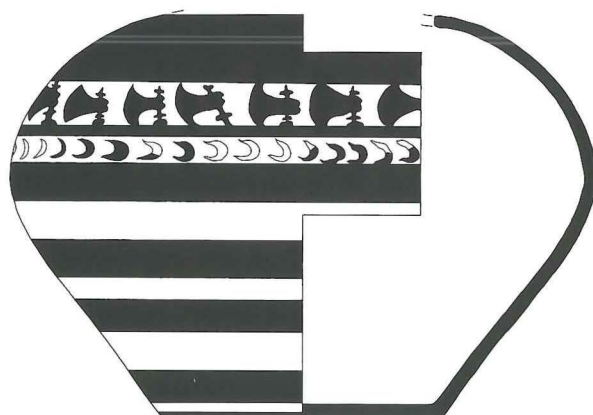


Fig. 26. Bridge-spouted jug decorated with a motif comprised of hatches, P 102.



Fig. 27. Bridge-spouted jug decorated with running spirals, P 48.



Fig. 28. Bridge-spouted jug decorated with the conglomerate pattern, P 421.

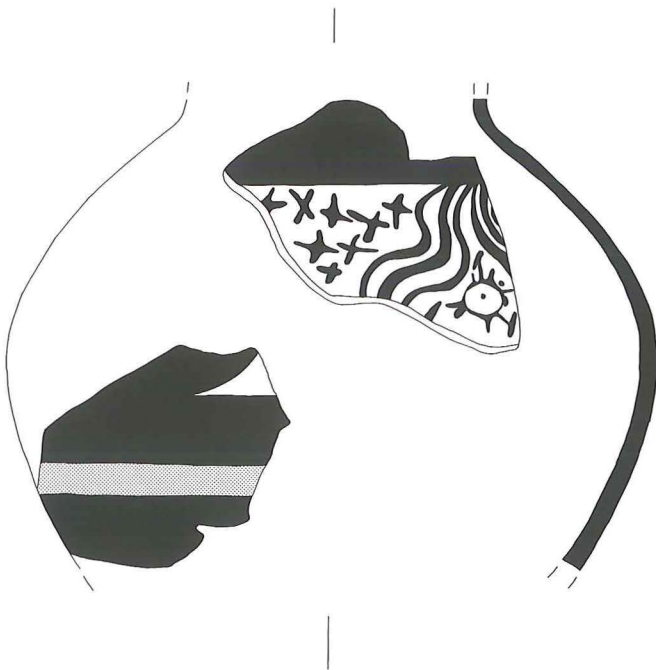


Fig. 29. Sherds from a vessel decorated with a pendent motif (tricurved arch?) surrounded by a field of crosses, P 929.

tion indicate that it is an antique from the LM IA phase of House A.1. Another beak-spouted jug is decorated on the shoulder with a row of quirks and alternating rows of wavy bands, and dark bands with added slashes of translucent white paint (Fig. 23, P 381). The decoration on this jug closely parallels those produced at the Mochlos Artisans' Quarter. The third beak-spouted jug is banded and highly burnished (Fig. 24, P 530). Its shape, decoration, and pierced handle find a very close parallel at Karoumes, but both vases may be imports to eastern Crete, possibly from North-central Crete.<sup>19</sup> Three trefoil-mouthed jugs are decorated with the Spray-painted Style. Two are from House A.1 (Fig. 25, P 226 and P 405) and another is from House B.1. P 226 was made with an orange fabric that was first covered with a gray slip and then decorated with a darker Spray-painted Style. This type of vessel, fabric, and style of decoration is known from the east end of Crete at Palaikastro and Kato Zakros.<sup>20</sup>

Another shape that is popular in House A.1 is the bridge-spouted jug. Of the many examples, only one bridge-spouted jug is made with pale red clay (Fig. 26, P 102) and decorated with a band of dark brown to black hatchets. Based on the fabric and

quality of the preserved decoration, it is marked as a probable import from the Palaikastro or Zakros region. A bridge-spouted jug (Fig. 27, P 48) with a frieze of running spirals is broadly part of a large group of decorated vessels from Papadiokampos that look similar in style to LM IB vases from the Mirabello Bay. Yet on the basis of the evidence previously noted for the amphorae (P 54 and P 196) and the side-spouted jar (P 818), we would not rule out the possibility that this jug is a product of a local Papadiokampos workshop. The final example of a bridge-spouted jug is a large vessel decorated with a red painted conglomerate pattern (Fig. 28, P 421).

This sample of fine ware reveals the possibility of workshops in the broader region of the Siteia Bay, a situation similar to that observed in the Mirabello area, as well as a range of imports from the Palaikastro and Zakros region. What is missing are imports from palatial centers and regions further to the west; however, one should not forget that the sample from Papadiokampos comes from only two houses, one of which is clearly the dwelling of a less affluent group of people living at the edge of the LM I town.<sup>21</sup> Further exploration in the center of town in Areas B and C is required before any conclusions can be drawn about the absence of these types of imports. The one exception is a poorly preserved closed vessel made in a very fine fabric and decorated with a pendent motif surrounded by a field of crosses (Fig. 29, P 929). This could well be an import from North-central Crete and it has an interesting parallel from Karoumes Vokotopoulos (fig. 19).

### *The coarse wares*

From the second group, we begin with the largest assemblage of coarse vessels, the cook-pots. Based on the quantity of House A.1 objects, vessels with

<sup>19</sup> Sofianou & Brogan 2010, 142, fig. 3b. For the jug from Karoumes, see Vokotopoulos in this volume, fig. 3C.

<sup>20</sup> For East Crete LM IB examples of the Spray-painted Style on trefoil-mouthed jugs, see Palaikastro (Hatzaki 2007c, 21, no. 25, fig. 3.5; 23, no. 27, fig. 3.6; MacGillivray, Sackett & Driessen 2007, 102, no. 421, fig. 4.6, pl. 22; 110, nos. 446–7, fig. 4.12, pl. 24).

<sup>21</sup> Brogan *et al.* forthcoming.





Fig. 30. Tray with horizontal handles, P 5.



Fig. 31. Tripod cooking pot, P 314.

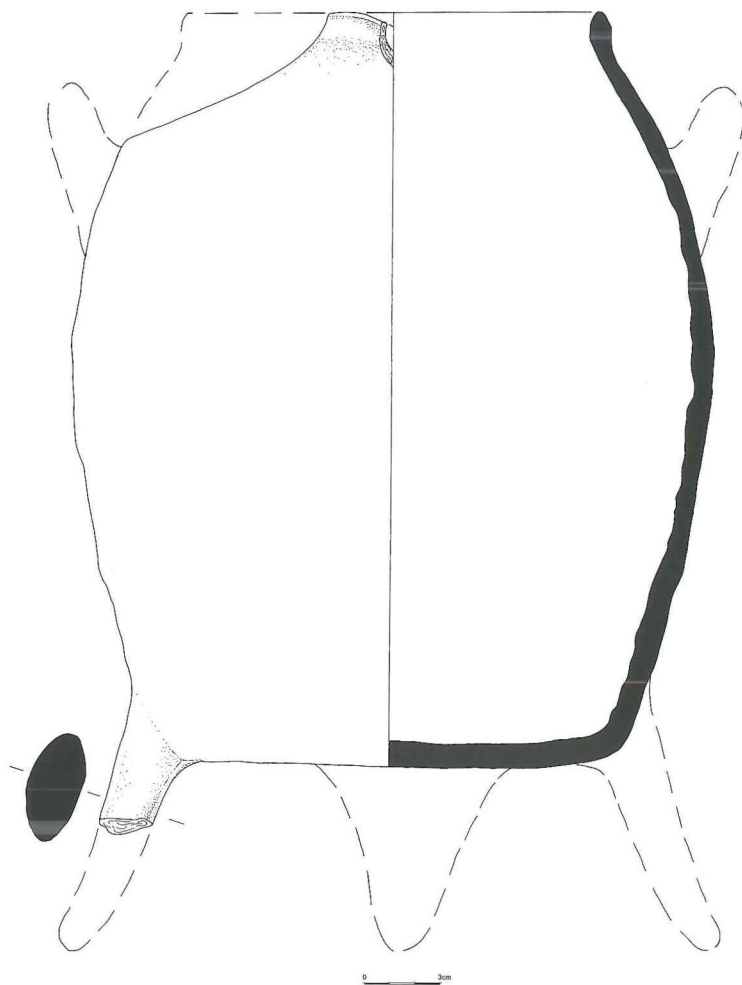


Fig. 32. Tripod cooking pot, P 64.

morphologies that could more easily be used to boil, steam, sauté, or deep fry food using direct heating methods (e.g., a hearth and/or bed of coals) were more popular than those more suitable for baking (e.g., trays). This group includes the spouted tripod cooking pot, the broad-spouted cooking dish,<sup>22</sup> and the jar. The vessel assemblage associated with indirect cooking methods, such

as ovens, is comparatively limited. For example, fragments of two circular trays (P 514 and P 87) were found in Room 5 where there is evidence

<sup>22</sup> We use the terminology established by Betancourt (1980) to describe the Papadiokampos cooking vessels; however, these types of shallow, broad-shaped vessels are also commonly called “baking plates”.

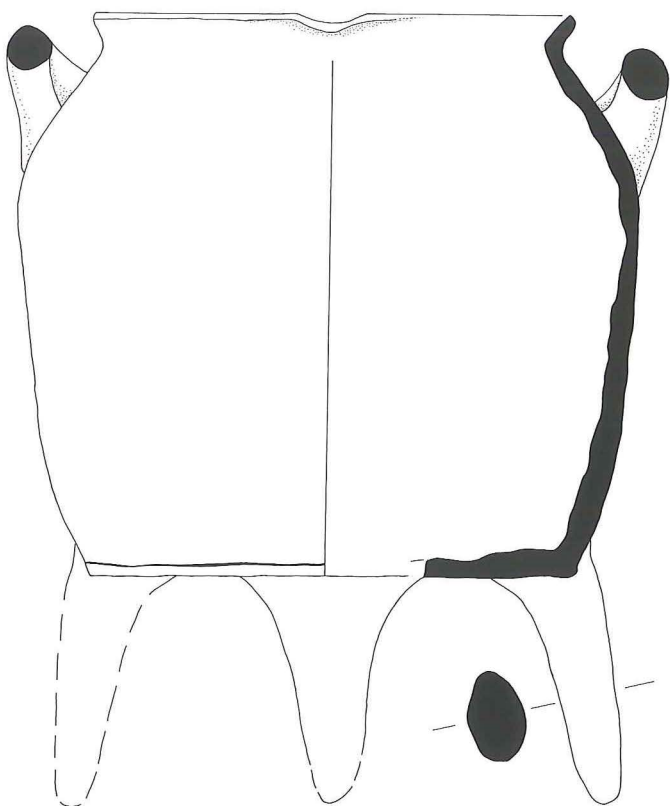


Fig. 33. Tripod cooking pot, P 3.

for an oven, and another tray with horizontal handles (Fig. 30, P 5) was found in the adjacent pantry, Room 1.

In contrast to the limited number of vessels typically associated with baking, the spouted tripod cooking pot is the most popular type of cooking vessel unearthed at Papadiokampos thus far. From House A.1 alone, there are at least seven examples, and based on shape, the majority of these vessels can be roughly classified as Betancourt's Type A tripod cooking pots.<sup>23</sup> Unlike the Type A LM IB tripod cooking pots found at Mochlos and Palaikastro,<sup>24</sup> the vessels from House A.1 are not a homogenized assemblage in terms of size, shape, fabric, and surface treatment. Preliminary macroscopic analysis of the fabric indicates that the tripod cooking pots were produced using a variety of metamorphic materials that are outcropped in East Crete.<sup>25</sup> In terms of surface treatment, two tripod cooking pots are slipped on the interior with cream colored clay (P 40; and Fig. 31, P 314), while the exterior of one

vessel (Fig. 32, P 64) looks heavily slipped with a finer version of the clay used to produce the vessel. The remaining four tripod cooking pots (Fig. 33, P 3; P 25, P 2, and P 554) have interior and exterior surfaces that were either left plain or very lightly coated with a layer of slip.

The second most abundant type of cooking vessel from House A.1 is the broad-spouted cooking dish. There are at least five preserved examples with complete profiles (e.g., P 4, P 151, and P 289), and two have thumb impressions on the thickened vertical rim opposite the broad spout. The wok-shaped form of this vessel is pan-Cretan and occurs in numerous LM I deposits.<sup>26</sup> We must note that like the tripod cooking vessels evidence from the preliminary macroscopic fabric analysis<sup>27</sup> reveals that the cooking dishes were also produced in multiple clay bodies and found in both pantry (e.g., Room 1) and cooking contexts (e.g., Rooms 5 and 8; the South Porch) within House A.1. This is a clear indication that these seemingly fragile

<sup>23</sup> Betancourt's (1980) identification of Type A tripod cooking pots is based on the material from Kommos. These vessels have a flat base, globular body, everted rim, two handles (either vertical or horizontal) placed opposite one another on the shoulder, and round or oval-shaped tripod legs that taper down to either round or square-shaped toes.

<sup>24</sup> For comparanda on East Crete LM I tripod cooking pots, see Mochlos (Barnard & Brogan 2003, 80–2, IB.490–1, IB.494, IB.500, figs. 47–8, pl. 25); Palaikastro (Sackett & Popham 1970, 227, NP 113, fig. 17; 228, NP 111, fig. 18; Hatzaki 2007c, 23, no. 31, fig. 3.6).

<sup>25</sup> For East Crete LM I macroscopic fabric descriptions, see Karoumes (Vokotopoulos in this volume, 555–8); Mochlos (Barnard & Brogan 2003, 3–11); Palaikastro (MacGillivray, Sackett & Driessen 2007); Pseira (Floyd 1998, 179–80). For LM I petrographic fabric descriptions, see for the Siteia Bay and far eastern regions of Crete (Day 1995, 153–64, figs. 111–13), for Mochlos (Day, Joyner & Relaki 2003, 13–32, pls. 1–5), and for Pseira (Myer *et al.* 1995).

<sup>26</sup> For comparanda on LM I cooking dishes, see Mochlos (Barnard & Brogan 2003, 82–6, IB.525, IB.553, IB.569, figs. 49–51, pl. 25); Pseira (Betancourt & Davaras 1995, 81, 109, 116, AM 15, ADC 4, ADC 74; Floyd 1998).

<sup>27</sup> The fabric study at Papadiokampos was conducted using Moody's (Moody *et al.* 2003) MACFA method and Whitbread's (1995) petrographic method of describing ceramic fabrics. These methodologies are complimentary because they are based on a combination of soil and sedimentary rock descriptive systems.





Fig. 34. Jar with applied rope decoration and an agrimi head in relief, P 412.

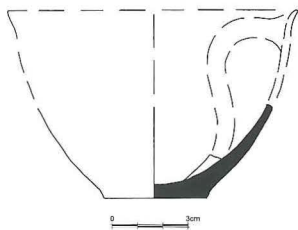


Fig. 35. Scoop, P 298.



Fig. 36. Jar, P 471.



Fig. 37. Hole-mouthed jar, P 157.



Fig. 38. Hole-mouthed jar, P 580.



Fig. 39. Small hole-mouthed jar, P 155.

vessels were much more durable than one might initially think based on their fragmentary remains.<sup>28</sup>

Unique to the neighboring LM I communities in the Mirabello Bay, jars from House A.1 are divided into those that were used for cooking food and those used for storing household products. The analysis of the organic remains and the contextual evidence demonstrate that in Room 8 the occupants were preparing a seafood soup over a hearth in a badly warped jar, perhaps a potter's second, decorated with an agrimi head in relief (Fig. 34, P 412). Additional evidence for cooking with a jar was found on the South Porch. Here we find a cooking dish (P 289) and a scoop (Fig. 35, P 298) next to the fragmented base of a tripod cooking pot (P 296), as well as a medium-sized jar with a sharp everted rim and horizontal handles that sit opposite one another on the shoulder (P 288).<sup>29</sup> All three vessels show signs of extensive burning on the lower portion of the body, and based on the context, this was most likely caused by direct contact with the hearth flame. Analysis of a similar medium-sized jar (Fig. 36, P 471) found in House A.1 indicates that the occupants were either using coarse ware jars for multiple purposes, or like at

Kommos,<sup>30</sup> jars comprised part of the LM I Papadiokampos cooking assemblage. Both vessels (P 288 and P 471) were produced with a red metamorphic fabric in the same shape, and they also have extensive burning marks on the lower body.

Much like the cooking vessels, the hole-mouthed and piriform jars from House A.1 are more varied than those found at LM I sites with recognizable, long-standing pottery traditions. For example, much like the Mochlos hole-mouthed jars, the Papadiokampos vessels have a short, straight, and slightly squared rim with one row of four handles around the shoulder (the larger pair sit opposite one another horizontally, and the smaller pair sit opposite one another vertically). Unlike the situation at Mochlos, however, there are two distinct Papadiokampos medium-sized jar groups. One group of hole-mouthed jars (P 154; and Fig. 37, P 157) has a conical shaped body and was made with a tan-orange metamorphic fabric. The second group (Fig. 38, P 580; P 278 and P 949) has a piriform shaped body and was made with a red-pink metamorphic fabric. In addition, one example of a much smaller hole-mouthed jar (Fig. 39, P 155) was found in House A.1. The smaller version of this vessel form has only two horizontal handles opposite one another with knobs in place of the vertical handles found on the larger-sized vessels. The piriform jars were also made with a metamorphic fabric that

<sup>28</sup> Betancourt 1980, 5; Floyd 1998, 184; Barnard & Brogan 2003, 82–4.

<sup>29</sup> For illustration, see the image for jar P 471 (Fig. 36).

<sup>30</sup> There is evidence that cooking was performed in jars during the Late Minoan period at Kommos. For illustrations of vessel morphology and size, see the following inventoried Kommos LM vessels: for LM IB Early, C2760 (Watrous 1992, 15, no. 273, pl. 7; Rutter 2004, 70, fig. 4.5; Shaw & Shaw 2006, 1138, no. 40/31, pl. 3.45); for LM II, C2563 (Rutter 2004, 70, fig. 4.5; Shaw & Shaw 2006, 1142, no. 45/8, pl. 3.49); for LM IIIA2, C8205 (Rutter 2004, 82, fig. 4.14; Shaw & Shaw 2006, 1156, no. 56f/3, pl. 3.63) and C11836 (Rutter 2004, 82, fig. 4.14); for LM IIIB, C2496 (Watrous 1992, 78, no. 1352, pl. 78; Rutter 2004, 83, fig. 4.15; Shaw & Shaw 2006, 1161, no. 59/18, pl. 3.68), C6402 (Watrous 1992, 77, no. 1336, pl. 31; Rutter 2004, 84, fig. 4.16; Shaw & Shaw 2006, 1165, no. 60/27, pl. 3.72), C6403 (Watrous 1992, 77, nos. 1332, 1334, pl. 32; Rutter 2004, 84, fig. 4.16; Shaw & Shaw 2006, 1165, no. 60/26, pl. 3.72), and C6442 (Watrous 1992, 77, no. 1335, fig. 49, pl. 32).





Fig. 40. Piriform jar with rolled-down rim, P 112.



Fig. 41. Piriform jar with squared rim, P 310.



Fig. 42. Basin with scored interior and rope decoration, P 240.

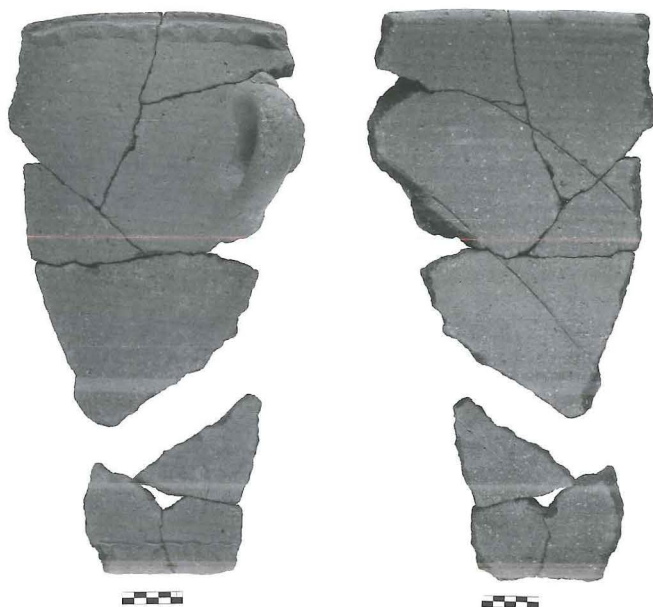


Fig. 43. Basin with scored interior and rope decoration, P 515.

fired either to bright orange, brown, or dark gray-blue. They have a narrow mouth and a high collar neck with either a rolled-down rim with rope decoration around the base of the neck (P 98; and Fig. 40, P 112) or a squared rim with a raised ridge around the base of the collared neck (Fig. 41, P

310; and P 584). This jar type is found in a variety of sizes and typically has some form of decorative rope-work that runs in a diagonal pattern on the shoulder between the vertical handles (P 98, P 112, and P 584). Sometimes the shoulder of the vessel is left plain (P 548 and P 555).

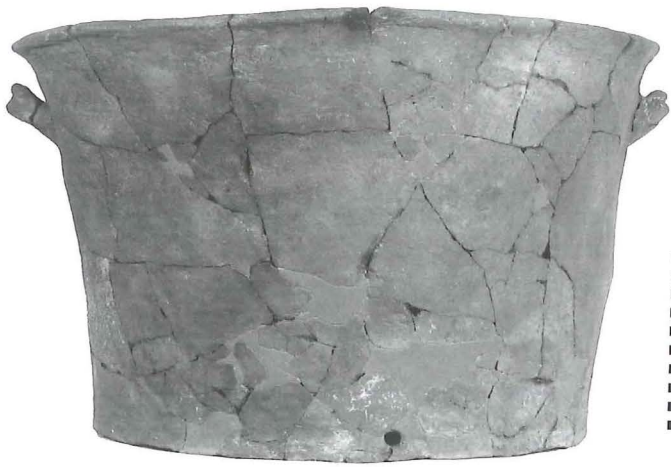


Fig. 44. Vat, P 535.

Like neighboring sites both to the east and west of Papadiokampos, House A.1 has various types of large coarse basins and vats. There are at least five basins, three of which have scored interiors<sup>31</sup> and rope decoration (a cross between Christakis' Rope Type 2 and Type 3<sup>32</sup>) applied to the exterior below the rim (Fig. 42, P 240; and P 430); one of these also has applied rope decoration around the base (Fig. 43, P 515).<sup>33</sup> The remaining two basins have a more pronounced everted rim and do not have scored interiors, yet one is spouted (P 92) and the other is not (P 384). A large vat (Fig. 44, P 535) was found in House B.1, and the presence of associated storage jars with mineralized remains of grape seeds indicate that it was used to make wine.<sup>34</sup> Based on the varying types of metamorphic fabrics with which these basins and vats were made, it is clear that none were imported into the area by pottery production centers operating in the Mirabello Bay; in fact, at least two of the basins, P 92 and P 240, resemble those from Palaiakastro.<sup>35</sup>

The domestic assemblages in Houses A.1 and B.1 would not be complete without a description of the coarse ware jugs. These pouring vessels tend to be large in size at Papadiokampos, and they are associated with cups and bowls, cooking vessels, storage jars, basins, and vats. The most common type of coarse ware jug in the Papadiokampos assemblage thus far is the trefoil-mouthed variety.



Fig. 45. Trefoil-mouthed jug, P 343.

From House A.1 there are at least four examples. Like the vessels previously discussed, each of these is unique in size, fabric, and decoration. For example, a substantially large, plain trefoil-mouthed jug (Fig. 45, P 343) was found in the multi-purpose Room 5, while fragments of another large trefoil-mouthed jug (P 1), decorated with a cream slip and spray-paint decoration in dark brown, was found in the adjacent pantry, Room 1. Another example (Fig. 46, P 780), which is either a tre-

<sup>31</sup> The basins with scored interiors are also referred to as "bee hives". We refer to this type of vessel as "basin with scored interior", since the term "bee hive" implies a particular use or function for which we do not have evidence at Papadiokampos.

<sup>32</sup> For illustrations of rope-decoration Types 2 and 3, see Christakis 2005, fig. 27b-c.

<sup>33</sup> For comparanda on LM I decorated basins, see Sackett & Popham 1970, 224, NP 99, fig. 19, pl. 64b.

<sup>34</sup> Sofianou & Brogan 2010, 135-6, figs. 4-6.

<sup>35</sup> Pers. comm. with Colin Macdonald 2010; Bosanquet *et al.* 1902-3.





Fig. 46. Trefoil-mouthed or beak-spouted jug decorated with applied knobs, P 780.

foil-mouthed or a beak-spouted jug, comes from House B.1. The size, shape, and applied decoration of clustered knobs on the shoulder are reminiscent of the LM IB trefoil-mouthed jugs excavated from the Palaikastro wells.<sup>36</sup> In addition to these vessels, there are two smaller jugs (P 446 and P 707). P 446 (Fig. 47) is also a trefoil-mouthed jug, but the red-brown metamorphic fabric and the incised wavy band around the base of the neck, with two applied pieces of clay on the rim at both sides of the spout, parallel that of jugs produced in the Mirabello Bay.<sup>37</sup> The shape and fabric of P 707 (Fig. 48) are unique compared to the aforementioned jugs. This undecorated jug has a cylindrical neck with a small spout, and based on the globular contour of the preserved upper body, the vessel more than likely had a conical lower profile. The coni-



Fig. 47. Trefoil-mouthed jug decorated with an incised wavy band, P 446.

cal shape and the pale yellow-green fabric of P 707 are reminiscent of the beak-spouted jug P 35, which is earlier in date. On the basis of the fabric, we suggest that P 707 is also a product from the Petras region. Perhaps these two jugs, P 35 and P 707, demonstrate a continuity of choices in both vessel shape and use of clay made by the potters working in the Petras region during the Neopalatial period.

Much like the fine ware transport amphorae previously described, the coarse ware examples provide evidence that the LM I community at Papadiokampos had access to goods from off-island sources, as well as from other regions within Crete. For example, there are fragments of off-island transport amphorae and/or jugs and jars that were found in a pantry area (Room 1) of House A.1. These vessels

<sup>36</sup> For East Cretan LM I comparanda of plastic knob, or nipple decoration on jugs, see MacGillivray, Sackett & Driessen 2007, 108, no. 430, fig. 4.8, pl. 23.

<sup>37</sup> For East Cretan LM I comparanda of a trefoil-mouthed jug with incised wavy band decoration, see Barnard & Brogan 2003, IB.332, fig. 25.

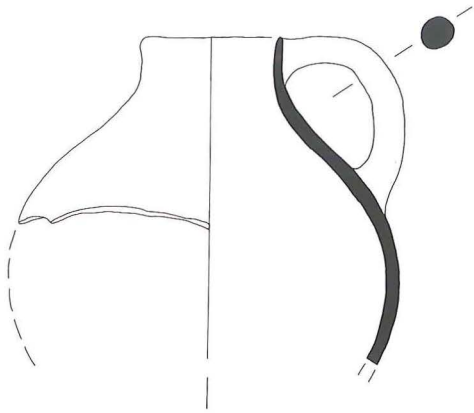


Fig. 48. Jug, P 707.

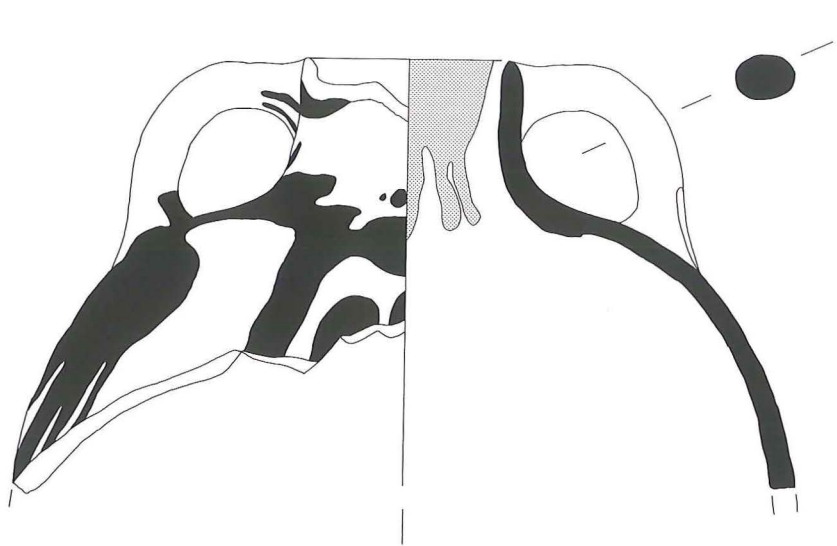


Fig. 49. Amphora decorated with drips or the Spray-paint Style, P 14.



Fig. 50. Amphora, P 205.

probably come from the southeastern Aegean, most likely Kos<sup>38</sup> (P 49 and P 140). The two remaining examples do not resemble vessel or fabric types known to the authors. One comprises the bottom portion of a large biconical vessel that was coil-built and produced with a red, silver micaceous fabric (P 91). The fragmented pieces of the other (P 85) join to reconstruct the carinated portion of another biconical shape. This vessel was produced in a medium to coarse fabric that is pale pink-cream on the exterior surface and blue-gray on the interior with matt to translucent, sub-rounded, red inclusions.

An additional group of six transport amphorae of various sizes, all Cretan in origin, were found scattered throughout House A.1. One example is a small to medium-sized squat amphora (P 459) embellished with two buttons opposite one another

<sup>38</sup> The fabric and stylistic details of these samples from Papadiokampos House A.1 are macroscopically similar to the Koan material from the excavations by Morricone (1935–46) that J.E. Morrison is currently studying under the direction of S. Vitale (Morricone 1972–3; Vitale 2006). We are flexible with this provincial identification and keep in mind, as Davis & Williams (1981) emphasize in their study, that the islands in the northern Cyclades have a similar geological make-up, and since many were occupied during the Bronze Age, we cannot rule out the possibility that these vessels are products from other southeastern Aegean or even Cycladic communities.



on the shoulder and a form of applied rope-like decoration around the base of the neck. The tan-pink metamorphic fabric with deep purple phyllite/shale inclusions indicates that this vessel could have come from the southeastern part of Crete. Three medium to large-sized amphorae (P 309, P 382, and P 423) have no preserved decoration and are made in metamorphic fabrics. The most distinctive example was made with a bright orange fabric full of dark blue-gray, phyllite/shale inclusions (P 423). The two largest amphorae are decorated. One amphora (Fig. 49, P 14), perhaps from the Petras region, is made with a pale yellow-green fabric full of dark inclusions and decorated with dark brown drips similar to the Spray-paint Style. Another piriform amphora (Fig. 50, P 205) is made with a pale tan-orange metamorphic fabric full of large red phyllite/shale and silver mica schist inclusions. The exterior of the vessel was decorated with red paint, and while the preservation is poor, three thin bands with what looks like spirals are preserved on the upper portion of the body.

## Conclusions

After several years of study, we are now in a position to present the range of shapes, decorative styles, and preliminary fabric types that characterize the LM IB assemblages from Houses A.1 and B.1 at Papadiokampos. The variety of the ceramic material combined with the lack of direct evidence for a pottery workshop makes it challenging, at this phase of the study, to discern those ceramic objects that were made locally from those imported into the area from workshops with access to similar potting materials.<sup>39</sup> Nevertheless, our ability to find clear parallels for certain objects unearthed at Papadiokampos has allowed us to begin considering questions of regional ceramic production and consumption within the context of the site's neighboring LM I communities.

The East Cretan LM I regions that we draw on most heavily for this comparative study are the Mirabello Bay region (e.g., Gournia, Mochlos, and Pseira), the Siteia Bay region (e.g., Achladia and Petras), Palaikastro from the far east, and Za-

kros from the southeast. While finds from all of these sites are in various stages of study, ceramic specialists from each have broadly outlined distinctive characteristics that identify their local repertoire. Moreover, the concept of identifiable local LM I styles has emerged gradually from scholars working at these sites, as presented in the recent publications of material from Gournia, Pseira, Mochlos, and Palaikastro.<sup>40</sup> This is extremely helpful for our efforts to identify and define the unusual domestic assemblage from House A.1, as its highly varied character makes it difficult to find patterns that distinguish locally produced vessels from imported ones. The other advantage of drawing on these sources to characterize the assemblage is that it provides us with the opportunity to understand better possible production and consumption patterns within the broader region of East Crete. In the following paragraphs, we briefly outline the characteristics from the aforementioned regions that have been the most useful for our study.

We begin with sites in the Mirabello Bay which have formed the basis of several recent discussions regarding a Neopalatial ceramic style for this region. Based on environmental restrictions and lack of archaeological evidence, many scholars agree that the LM I community at Pseira were not producers, but rather consumers of goods from pottery workshops located in the Mirabello Bay, such as at Gournia, Kalo Chorio-Priniatikos Pyrgos, and Mochlos.<sup>41</sup> For this reason, Floyd argues that the pottery found at Pseira should be used to characterize the ceramic assemblage of the Mirabello Bay region, and thus East Crete in general. Floyd's idea is that this

<sup>39</sup> Extensive collecting and testing of potting materials in the areas around the Mochlos plain, the Papadiokampos plain, and the Siteia Bay are planned as part of J.E. Morrison's PhD research under the direction of Ian Whitbread at Leicester University.

<sup>40</sup> For the Mirabello area, compare Silverman's (1978, 31–5) "plain" and "polychrome" styles, Betancourt's (1985, 137–41) "Standard Tradition", Floyd's "Mirabello Style" (Floyd 1998, 191–2), and Barnard & Brogan 2003.

<sup>41</sup> For evidence of pottery production workshops in the Mirabello Bay, see Gournia (Hawes *et al.* 1908, pl. 8, nos. 32, 33), for Kalo Chorio-Gournia, Kavousi-Mochlos (Haggis 2000, 535–44), and for Mochlos (Soles 2003; Barnard & Brogan 2003).



regional characterization can be used by ceramic specialists to distinguish vessels from the Mirabello Bay from other "provincial styles" across Crete.<sup>42</sup> While this is a logical approach to identifying regional trends in ceramic production and consumption, one must be cautious and consider additional factors that could impact the consumption patterns outlined by Floyd.<sup>43</sup> Nevertheless, Floyd's observations, based on the LM I Pseira material, of the preferred vessel types, decorative motifs and their application, as well as the use of fine and coarse fabrics for the Mirabello Bay region, parallel those made by Barnard and Brogan for LM I Mochlos.

For example, in terms of vessel type, both Pseira and Mochlos favor the conical cup over the ogival cup.<sup>44</sup> This is in direct contrast to the assemblages from sites further east, such as Palaikastro, Papadiokampos, and Zakros, and from the far west, such as Khania.<sup>45</sup> Like most LM I sites on Crete, Pseira and Mochlos have a range of jug types in their assemblage, but unlike most sites east of the Mirabello area, the trefoil-mouthed jug is not the dominant type. In fact, this variety is absent from the Pseira material.<sup>46</sup> Again, this is in contrast to sites further east, where the dominant jug type is the trefoil-mouthed variety.<sup>47</sup>

The Mirabello potters also show a preference for specific types of decorative motifs and methods by which these were applied to the vessel. The preferred decoration for cups, strainers, jugs, amphorae, jars, and alabastra consisted of painted motifs with various sorts of foliate and floral bands, grass and reeds, lunettes, spirals, and tendril scrolls.<sup>48</sup> Further east in Palaikastro, the LM I potters typically chose less elaborate decorative styles, such as those which MacGillivray has termed the "Dip-and-Run Style" and the "Dark Monochrome Style". Additional decorative styles include the Spray-painted Style and various types of bands, such as the Banded Style and the Abstract Banded Style. When painting pattern decoration, potters from the far eastern region favored simple quirks, double rows of simple quirks, foliate bands, iris/crocus buds with quirks, pendent loops, and abbreviated and interlocking closed spirals.<sup>49</sup> While preference in vessel types and decorative motifs are excellent indicators of East Cretan regional styles for both fine and coarse wares, one

cannot exclude the most characteristic feature of the vessel, the ceramic fabric.

In the Mirabello Bay region there are at least two distinct LM I fabric groups. One is comprised of igneous material, such as granodiorite, and the other is comprised mainly of metamorphic material, such as phyllite and schist.<sup>50</sup> Each of these groups has variations therein that can be attributed to specific pottery production areas. For example, the distinctive granodiorite fabric is attributed to pottery production centers in Gournia and Kalo Chorio-Priniatikos Pyrgos,<sup>51</sup> while the metamorphic fabrics

<sup>42</sup> Floyd 1998, 178.

<sup>43</sup> As an island community, Pseira is geographically segregated from all other communities in the Mirabello Bay; this means that when it is comes to acquiring ceramic goods, if the occupants of the island were not producing their own pottery, like Floyd proposes, then the individuals would have had limited access. These sorts of goods must have been brought to Pseira either by middlemen traders and/or during personalized trips to the Cretan mainland where they could be acquired directly from the potter. Either way, their access would have been more limited than that of those living on the mainland; thus perhaps this is not a true representation of what was being produced in the region. Since it is unclear under what economic conditions the ceramic material traveled to Pseira, it is best to discuss the ceramic assemblage from Pseira in terms of a collection of material that was available, rather than a standard sample of the region's products.

<sup>44</sup> Floyd 1998, 180–1; Barnard & Brogan 2003, 35, 42.

<sup>45</sup> Sackett & Popham 1970, 221; MacGillivray, Sackett & Driessen 2007, 153. Interestingly, as at Papadiokampos, Sackett & Popham (1970, 221) observed at Palaikastro that the ogival cup is equally popular in the LM IB deposits, if not more so, than the conical cup. For example, footnote 21 states that in Room 17 there are 48 ogival cups and 16 conical cups, and in Room 18 there are 349 ogival cups and 27 conical cups. Perhaps the abundant presence of the ogival cup, compared to the conical cup, is more of a cultural marker, of sorts, that distinguishes the far eastern LM I communities from other regions within Crete.

<sup>46</sup> Floyd 1998, 183; Barnard & Brogan 2003, 60–2.

<sup>47</sup> Bosanquet *et al.* 1902–3, 321; MacGillivray, Sackett & Driessen 2007.

<sup>48</sup> Floyd 1998, 188–90; Barnard & Brogan 2003, 100–2.

<sup>49</sup> MacGillivray, Sackett & Driessen 2007. This characterization is certainly true of the material found in the wells at Palaikastro; future publications will demonstrate if it is also valid for the houses from the town.

<sup>50</sup> Floyd 1998, 179–80; Barnard & Brogan 2003; Day, Joyner & Relaki 2003.

<sup>51</sup> See n. 17 above for references.



are more complicated. The geology of East Crete from Kavousi eastwards on the north coast is dominated by the Phyllite-Quartzite Series,<sup>52</sup> which has rock and mineral components that are very similar, though not exactly the same due to localized metamorphism;<sup>53</sup> in fact, subtle, yet specific traits (e.g., the color of inclusions, texture of the paste, color range of a particular fabric group) allow ceramic specialists to distinguish one metamorphic fabric group from another. For example, macroscopic and petrographic analysis have revealed that the LM I fabric at Mochlos is predominantly metamorphic, ranges in color from yellow-red to deep red, and has various sized phyllite inclusions that range in color from red-gray and pale red to red-brown.<sup>54</sup>

Day's petrographic study has also been able to discern metamorphic fabric groups within the Siteia Bay and Achladia area, yet his study is solely petrographic, and thus can be challenging for someone who does not know how to relate petrographic descriptions to the material viewed macroscopically on the sherd tables. Nevertheless, the information he provides is invaluable for examining the production and distribution patterns of ceramic fabric groups in East Crete. As at Papadiokampos, Day concludes that the cooking pots from sites in the Siteia Bay region show the greatest variation between vessels, yet they are mainly produced from phyllite-based clays.<sup>55</sup> His study also points out that both macroscopically and petrographically, one can easily identify the pale yellow, or pale yellow-green, ceramic fabric from Petras that is a combination of the Neogene marine clays and phyllite materials.<sup>56</sup> In the same vein, MacGillivray macroscopically describes the LM I Palaikastro fabrics as having a pink-orange color with either schist (phyllite) inclusions or a gritty type of clay that is mainly comprised of quartz and sand,<sup>57</sup> and Vokotopoulos describes LM I Karoumes fabrics as having a reddish-yellow, pale red, or red color with a dense distribution of medium-to large-sized violet phyllite inclusions.<sup>58</sup>

The ceramic assemblages from Houses A.1 and B.1 at Papadiokampos have a varied and unique range of shapes, fabrics, and decorative styles. As previously stated, this collection should be distinguished from sites with homogenous assemblages and established pottery workshops like Mochlos

and Palaikastro; however, we are not implying that the LM I Papadiokampos community did not have a preference for, or access to, a specific variety of vessel types. In fact, we are comfortable stating that the ceramic collection reflects the "local taste" of the Papadiokampos LM I community. It would appear, in fact, that a type of free-market economy existed where people had access to a variety of goods, yet more often choose one particular vessel type over another. For example, in the extant Papadiokampos assemblage, the two largest groups of vessels are the jugs and tripod cooking pots. For both the fine and coarse ware jugs, the trefoil-mouthed variety is the most popular, yet the individual jugs display multiple sizes, surface treatments, and fabrics within the collection. Likewise, the general shape of Betancourt's Type A tripod cooking pot is favored at Papadiokampos; however, the vessels exhibit a variety of sizes, surface treatments, fabrics, and shapes of attached appendages (e.g., the handles and legs). Other shapes that reflect the "local taste" of the Papadiokampos LM I community include the bridge-spouted jug, cup-rhyton, and cylindrical bridge-spouted jar. The bridge-spouted jug and cup-rhyton are far less common in the Mirabello area, yet in the Papadiokampos House A.1 assemblage there are at least three well-preserved examples of this jug type and four rhyta. No less striking, the LM IB cylindrical bridge-spouted jars that are common in the Mirabello area are completely absent from the assemblages at Papadiokampos and other sites in the Siteia Bay.

The decorative motifs on the Papadiokampos ceramics also reflect the "local taste" of the LM I community. The occupants of Houses A.1 and B.1 clearly preferred pottery, or only had access to pottery, that was decorated with spirals and scrolls. This

<sup>52</sup> Papastamatiou *et al.* 1959a; 1959b.

<sup>53</sup> Day 1995, 151–3.

<sup>54</sup> For LM I fabric analysis from coast Mochlos, see Barnard & Brogan 2003; Day, Joyner & Relaki 2003; Nodarou 2003. Study of the fabric for the LM I town on the island is in progress by Barnard, Morrison, and Nodarou.

<sup>55</sup> For cooking pot references, see Day 1995, 165.

<sup>56</sup> Day 1995, 151, 165.

<sup>57</sup> MacGillivray, Sackett & Driessen 2007.

<sup>58</sup> Vokotopoulos in this volume.



differs from the assemblages of the Mirabello area, where vessels decorated with the foliate band motif appear to have been much more popular, though both spirals and scrolls are common. Such a feature would clearly reflect consumption rather than production at Papadiokampos, since many of these vessels have been identified as being imported from Palaikastro, the Siteia Bay, and sites in the Mirabello Bay. At the same time, we suggest that one group of vessels, comprised of amphorae, jugs, and side-spouted jars, from Houses A.1 and B.1 appear to be products of a single workshop, most probably in the local Papadiokampos area, that was influenced by potters working in the Mirabello area.

Taken together, these observations lead us to multiple intertwined conclusions regarding ceramic production and consumption trends between Papadiokampos and its East Crete neighbors, as well as further abroad, during the LM IB period. The most important observation is that the varied LM I assemblages of Houses A.1 and B.1 demonstrate that the occupants had access to, and acquired, their vessels from multiple workshops across the broader East Crete region. At least four decorated vessels from Papadiokampos – an alabastron, two amphorae, and a jug – may be products of potters in the Mirabello Bay region, whereas at least six decorated vases – a bell cup, kalathos, cup-rhyton, alabastron, jug, and amphora are probable imports from Petras. At least 14 vessels, including ogival cups, cup-rhyta, fine ware jugs, a coarse ware jug, a bridge-spouted jug, basins, and an amphora are products of the Palaikastro and/or Zakros regions. Two objects may originate from Central Crete, while a small number of containers were most likely imported from the Cyclades, the Southeast Aegean, and/or the Levantine Coast.

While this paper identifies a large number of cups, some cooking vessels, and a small number of decorated vases as possible products of potters working at Papadiokampos, our current understanding of the assemblages is better suited to a discussion of the LM I community's consumption habits. In fact, our current conclusion, based on the assemblage of House A.1, is that Papadiokampos may have been more of a pottery consumer than a producer. Perhaps this is not uncommon in Crete, but what is re-

markable, and even more curious, is that the material indicates that the inhabitants of Papadiokampos did not acquire the majority of their goods from the nearby pottery production centers at Mochlos and Petras.<sup>59</sup> Instead, Palaikastro, and/or those workshops associated with the Zakros region, appear to be the most popular source(s) for a very wide range of shapes. On a commercial or social level, does this then indicate that the LM I community had stronger relationships with producers in the more eastern and southeastern regions than they did with those in the west? The overall number of objects from the Papadiokampos excavation remains small, but it is certainly a pattern that should be examined in the future.

For now, it is important to emphasize that there is an emerging pattern of consumption at Papadiokampos that is clearly different from that noted at Mochlos, where the focus is on the localized production and consumption of pottery,<sup>60</sup> but more similar to that noted by Day for Petras,<sup>61</sup> where locally made goods dominate, together with those from multiple East Cretan ceramic producers. On a broader level, it also resembles the evidence noted by Vokotopoulos, who suggests that Karoumes is also a consumer of ceramic goods imported from neighboring producers at both Palaikastro and Zakros, though perhaps more from Palaikastro. The evidence presented in this paper indicates that the Neopalatial economy, in terms of ceramic production and consumption, is a complex network. Moreover, there also appears to be more freedom of choice for the producer and consumer on a local and/or regional level, rather than one imposed on the LM I communities by higher ranking centers, such as regional palaces.

<sup>59</sup> Based on Day's (1995, 164–6) petrographical analysis of the material in East Crete, it is clear that while Petras was one of the largest towns in the Siteia Bay region and producing some of its own pottery, at least one other major producer, most likely in the Achladia area, was in operation and distributing large amounts of ceramic goods.

<sup>60</sup> Barnard & Brogan 2003.

<sup>61</sup> Day 1995.





# Zakros: one or two destructions around the end of the LM IB period\*

*Lefteris Platon*

A rather remarkable phenomenon in the research of Minoan Crete is the fact that the extensive destructions which struck the island around the end of the Neopalatial Period have yet to come under the pottery specialists' microscope. This is surely due to the apparent similarity of the destructions, as well as the kind of archaeological material recovered from the excavated sites. It was only in 1982 at the conference on "Minoan Thalassocracy" that W. Niemeier came to "stir the waters" with his view that some of the destructions attributed to the LM IB period, such as those at Tyliisos and Nirou Chani, were probably later than others which had been placed in the same chronological phase.<sup>1</sup> Some years later, archaeomagnetic studies by D. H. Tarling and W. S. Downey reached a similar conclusion, distinguished only by the different sites which were studied.<sup>2</sup> This matter surfaced again after the recent detailed publication of some ceramic assemblages from the settlement at Mochlos.<sup>3</sup> In that study, the excavators supported the "theory of non-contemporary destructions", at least with respect to those of Mochlos and the neighboring settlement on the island of Pseira.<sup>4</sup>

The significance of accepting such a theory is rather obvious. Destructions which are separated from others by substantial intervals could not easily be attributed to the same natural phenomenon, whereas those considered to be absolutely contemporary would hardly implicate the human factor. In any case, it should be noted that, although the discovery of identical or similar pottery types in two different excavation contexts could be used as a significant criterion for identifying them as contemporary, it is not sufficient to prove it. This is because certain items could have remained in fashion for a longer period of time at some sites, which

is impossible to define with precision. Thus, two destructions could be separated in time by a period of just a few months, something which would be impossible to ascertain through comparison of the latest ceramic material from the sites.<sup>5</sup>

To date Minoan specialists have not emphasized the distinction between the LM IB period and the previous phase called LM IA.<sup>6</sup> This is probably due in large part to the fact that the features of the pottery belonging to the LM IA phase are not very different from those seen on the bulk of the material dated to LM IB. The problem is aggravated by the absence of published, well-stratified assemblages from these two phases in Crete, which might prove their chronological succession beyond any doubt.

Recent study of a selection of pottery from the

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<sup>1</sup> Niemeier 1984, 208–10. This theory was also expressed by A. Furumark (1941b, 82) many years ago.

<sup>2</sup> Tarling & Downey 1989, 352; 1990, 153–7.

<sup>3</sup> Barnard & Brogan 2003.

<sup>4</sup> Barnard & Brogan 2003, 46–7, 107–9. See also Soles 2002, 128.

<sup>5</sup> Hood 1973, 112; Sackett & Popham 1970, 231, n. 24.

<sup>6</sup> Hood 1961–2, 96–7; Popham 1967, 338–41; Furumark 1941b, 78–82; Hood 1973, 117; 1978, 684–7; Niemeier 1980; Hankey 1987, 44; Warren & Hankey 1989, 74–8; Van de Moortel 1997, 29, 261, 269, 409, 558–9, 589, 597; Warren 1999, 895; Floyd 1998, 191–2.



Palace and Neopalatial settlement of Zakros may offer some answers to the question posed above. As a starting point, these deposits share similar taphonomic conditions. Nevertheless, it should be noted that the study of the assemblages presented in this paper has yet to be completed, though it is already at an advanced stage; consequently, the conclusions given here should be not considered final.

During the first seasons of excavation at Zakros, Nikolaos Platon discovered only two main habitation phases in the Neopalatial settlement.<sup>7</sup> In his studies and preliminary excavation reports, he calls the first MM IIIB–LM IA.<sup>8</sup> Platon did not, however, use this term to mark a transitional phase from the MM to the LM period,<sup>9</sup> because he believed that this phase ended with the destruction of Thera, dated by the majority of archaeologists to the end of LM IA.<sup>10</sup> Consequently, Platon's MM IIIB–LM IA horizon at Zakros is roughly equivalent to the LM IA horizon at Knossos.<sup>11</sup>

In a paper presented at the 3rd International Cretological Congress, N. Platon described the pottery belonging to his "MM IIIB–LM IA" as (in translation) "...using at the same time both the 'light-on-dark' and 'dark-on-light' styles, the second with very glossy, mainly vegetal, decoration...".<sup>12</sup> This pottery can be considered to correspond, in typological and chronological terms, with that which D. Hogarth brought to light in two deep pits on the hill to the southwest of the settlement.<sup>13</sup> Recent study of the Zakros material showed that this pottery was similar to that coming from the fill of an important building which N. Platon had considered to be part of the first Palace on the site.<sup>14</sup> This building was obviously filled in before the construction of the new Palace, because some of its preserved walls are found immediately under the level of the northeast court of the latter.<sup>15</sup> This pottery fill from the so-called "Old Palace" actually presents features which N. Platon had attributed to his MM IIIB–LM IA period, including the simultaneous use of both painted decoration techniques (dark-on-light and light-on-dark) and the frequent presence of floral motifs executed on a glossy light background. The combined use of the ripple motif and bands of spirals, together with

the presence of vegetal motifs,<sup>16</sup> led us to a later date, which, nevertheless, under the traditional terminology, should be called MM IIIB–LM IA or even MM IIIB.

The examination of additional assemblages from Zakros has now shown that the same pottery is found in a wide destruction horizon at the site.<sup>17</sup> It appears that this destruction happened immediately before an extensive stage of rebuilding probably connected with the construction of the New Palace.<sup>18</sup> On the other hand, study of numerous assemblages from the area surrounding the Palace and the settlement confirms that a pure LM IA style is absent from Zakros. This situation also implies that the pottery belonging to the so-called MM IIIB–LM IA phase, which is identified as "Zakros IV", represents essentially the phase which immediately preceded the LM IB period.<sup>19</sup>

According to N. Platon, the second phase of the Neopalatial settlement (labeled "Zakros V" by the author) at first sight does not present any chronological difficulties, because it is represented by a closed destruction layer with thousands of vessels.<sup>20</sup> Among them are a substantial number of high quality vases belonging to the so-called Special Palatial Tradition,<sup>21</sup> the presence of which, as far as we know, constitutes firm proof of an LM IB date. Although rather common in comparison with that found at other LM IB sites, it should be stressed here that the total still represents only about

<sup>7</sup> Platon 1968b, 222.

<sup>8</sup> Platon 1964, 147; 1965, 213–4; 1966, 141–2, 146, 148, 153–4, 158, 172–3; 1968b, 222.

<sup>9</sup> A meaning which this term acquires in the relevant British bibliography. See for example, Warren 1991.

<sup>10</sup> Platon 1968b, 222–3.

<sup>11</sup> Platon 1999a, 45–6; 1998b, 677–9.

<sup>12</sup> Platon 1973b, 242.

<sup>13</sup> Hogarth 1900–1, 123–9; Dawkins 1903, 248–54. Bosanquet & Dawkins 1923, 25–9; Warren & Hankey 1989, 76–8.

<sup>14</sup> Platon 1970, 209–10, 246; 1971a, 241; 1972, 159–60; 1973a, 138; 1974, 225–6; 1975, 343, 351.

<sup>15</sup> Platon 1999a, 46; 1999b, 678.

<sup>16</sup> Platon 1999b, 677–8, pl. CXLIV, c–g.

<sup>17</sup> Gerontakou forthcoming.

<sup>18</sup> Platon 1999b, 678–80.

<sup>19</sup> Platon 1999b, 678.

<sup>20</sup> Platon 1968b, 221–2.

<sup>21</sup> Betancourt 1985, 140.

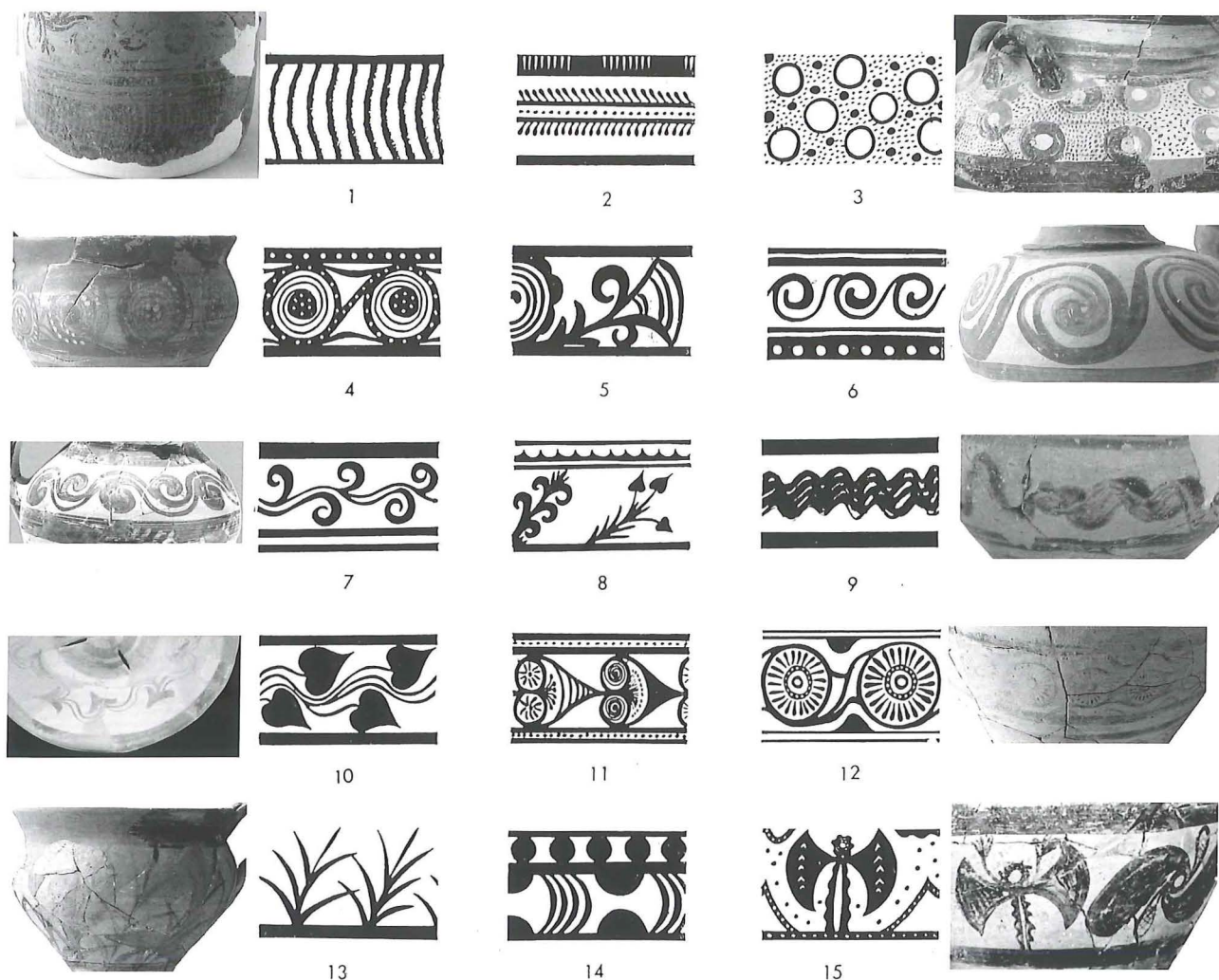


Fig. 1. Decorative motifs attributed to LM IA but found in LM IB contexts at Zakros.

0.1% of the pottery from this horizon. Most of the pottery belongs to a class of traditional shapes and decoration, which Furumark<sup>22</sup> and Niemeier<sup>23</sup> assigned to their "Sub-LM IA" Style. These pots are found together with even more conservative styles, characterized by the use of white decorative motifs drawn on a dark background.

This type of pottery has been described by N. Platon in his paper at the 3rd International Cretological Congress: (in translation)

...to this class of pottery (i.e., LM IB pottery) belong vases decorated in the Floral and Marine Styles, pithamphorae whose decoration often includes orange bands (which in the past would have been called LM IA), simple pots with white decoration applied on a brown or buff ground...

Decorative motifs such as reeds, dense foliages of grasses and joined spirals (which in the past would have been classed as LM IA), occur in these pottery groups. Most characteristic is the typology of the vessels, which does not differ perceptibly from that already known at other sites, such as Hagia Triada, Nirou, Tylissos, Sklavokampos, etc. There, although the pottery came from the same destruction layers, according to Evans' definitions, they have oddly been divided into two classes, one LM IA and the other LM IB.<sup>24</sup>

From these quotes, it becomes clear that the excavator of Zakros in essence rejected the division

<sup>22</sup> Furumark 1950, 154.

<sup>23</sup> Niemeier 1980, 19–20.

<sup>24</sup> Platon 1973b, 241–2.





Fig. 2. Pithamphora found in the Zakros Palace with orange bands and added white ornaments over the dark motifs.

of pottery by Evans and others into two successive phases, LM IA and LM IB, solely on the basis of stylistic differences, particularly as he observed that features of the two styles occur together in the same closed excavation context. A brief look at the LM IA decorative motifs proposed by the specialists<sup>25</sup> is sufficient to show that all of them occur repeatedly in the secure LM IB assemblages at Zakros (Fig. 1). The motifs include various types of spirals, such as the eyed spiral (also known as the fresco spiral), which is usually decorated with added white highlights, the retorted spiral (often considered LM IA), the medallion spiral with a central rosette, tendrils, reed pattern in several variants, conglomerate pattern, the double axe with fringed stem, ripple, and wavy branches with ivy leaves. This last motif decorates the inside of a fruit stand, which carries a net of spirals on the exterior, another motif considered to be typical of LM IA.<sup>26</sup>

More generally, these same vessels exhibit the subsidiary use of orange or red bands between the main decorative zones, as well as added white ornaments drawn over the principal dark motifs (Fig.

2). As Nikolaos Platon observed, these are features which have in the past been considered typical of the LM IA style. The situation at Zakros suggests that this “LM IA” material does not constitute a discernible phase, but rather a style which was developed during what is typically understood to be the LM IB period.

Consequently, the excavator’s view regarding the presence of two main phases in the life of the Neopalatial settlement appears justified. The first phase includes pottery with close similarities to the assemblages labeled as MM IIIB–LM IA. The second phase contains clear examples of LM IB pottery with considerable numbers of vases that have been labeled LM IA elsewhere. At the same time, there are no assemblages of purely LM IA pottery at Zakros (as the style is currently understood).

Strangely enough, during the late 1970s, the excavator of Zakros, probably influenced by the general discussion on the chronology of the finds from Akrotiri on Thera, started to refer to “purely LM IA” assemblages in the Zakros settlement.<sup>27</sup> Recent conservation and study of the finds has shown, however, that these belated attributions were in every case incorrect. For instance, in his excavation reports, he dated the contents of House A on the northwest hill, which contained the sealings found by Hogarth, to LM IA.<sup>28</sup> However, the discovery of two vases decorated in the Marine Style<sup>29</sup> and a cup-rhyton<sup>30</sup> in the destruction layer of the house indicate an LM IB date for the destruction. The finds from the lower strata of the basement rooms of House Δα on the southwest hill, the Building of the Niches, and the East Building, which the excavator believed had been filled in the last LM IB phase, were also dated to LM IA.<sup>31</sup> Nevertheless, recent study of this material showed once more that this material is, in fact, LM IB.

<sup>25</sup> E.g., Popham 1967, fig. 1.

<sup>26</sup> Banou 1995b, 95.

<sup>27</sup> E.g., Platon 1975, 355; 1976, 422, 432; 1977, 422, 426, 433; 1978, 260, 285–6.

<sup>28</sup> Platon 1978, 285–6.

<sup>29</sup> Müller 1997, 362–3, pl. 55.

<sup>30</sup> Hogarth 1900–1, 132, fig. 43.

<sup>31</sup> Platon 1975, 363; 1977, 422–3, 426; 1985, 254–6; 1986, 268.



Fig. 3. Rounded cups decorated in the Alternating Style from the lower stratum of the East Building (a) and the Stratigraphical Museum Sector, Knossos (b).



What led the experienced excavator of Zakros, with his knowledge of the conservative trends of provincial pottery workshops to ascribe to the LM IA period ceramic groups which were dominant in LM IB? At first glance, one might assume that he was influenced by the absence of vessels from the Special Palatial Tradition (SPT) which are typical of LM IB. In earlier papers, the author has shown that this phenomenon is not confined to Zakros; in fact, the study of pottery assemblages from other sites in East Crete, such as the Villas at Achladia and Prophetes Elias Tourtoulou, and comparison with pottery from the destruction layer of the Zakros Palace have confirmed that all of these deposits are roughly contemporary, thus lowering the date of the former from LM IA to LM IB.<sup>32</sup> Further, it seems that stratigraphic factors misled the excavator of Zakros.

In some cases (e.g., the East Building and the Building of the Niches), the layers he called "LM IA" were really found "sealed" beneath securely dated LM IB floors. In the case of the East Building in particular, these floors were made from the same mixture of clay and stucco that had covered the entire western half of the building, creating a terrace at approximately the level of the apartments in the eastern half.<sup>33</sup> Below these well-constructed floors, excavation revealed a thick destruction layer full of building debris, including stones, burnt bricks and carbonized wood.<sup>34</sup> This layer also contained a rich assortment of finds, such as ivory inlays and small relief and incised plaques, a small silver axe, bronze tools or toilet implements, beautiful stone vases and pottery of high quality.<sup>35</sup>

Thus, having uncovered two easily discernible stratigraphic phases, the excavator followed the

standard conventions of the time and assigned them to LM IA and LM IB, as originally outlined by Evans and Mackenzie. He made a similar evaluation for two successive architectural phases identified in the south part of the adjacent Building of the Niches, where the stratigraphic and ceramic data were even clearer.<sup>36</sup> In this case, the basements in the south part of the building had been filled in after a destruction, thereby creating a picture similar to that of the western half of the East Building. Here, partition walls had been built on the raised levels of the ground floor terrace, and pots and vessels easily attributed to the LM IB period were found *in situ* on the floors of the newly constructed rooms.<sup>37</sup>

The ceramic material from the basements of these two buildings is very rich and the taphonomic conditions of the deposits leave no doubt that they belong to a single ceramic phase. In particular, the material from the East Building contains vessels that are securely dated to LM IB, including some shapes and decoration that are thought to belong to the end of the period. A rounded cup decorated in the Alternating Style (Fig. 3a) finds a close parallel from the main destruction layer in the area of the Stratigraphical Museum in Knossos (Fig. 3b).<sup>38</sup>

<sup>32</sup> Platon 1997b, 195–6, 198.

<sup>33</sup> Platon 1977, 423, pl. 224a.

<sup>34</sup> Platon 1977, 426–7.

<sup>35</sup> Platon 1977, 429–33.

<sup>36</sup> Platon 1975, 363.

<sup>37</sup> Platon 1975, 362; Archontaki forthcoming.

<sup>38</sup> Warren 1980–1, fig. 12. A similar vase, again from Knossos, was found in a well-constructed building beside the Royal Road (Warren 1973a, pl. 544a). For more parallels, see Müller 1997, 397–9, pl. 78–9.





Fig. 4. Bridge-spouted jug from the East Building, bearing the Waz-Lily motif.

A fine bridge-spouted jug is decorated with a variant of the Waz-Lily motif, which W. Niemeier places at the transition to, if not within, the LM II period (Fig. 4).<sup>39</sup> To the Special Palatial Tradition belongs another, more impressive, bridge-spouted jug of which, unfortunately, only the upper part remains. Nevertheless, the preserved section leads one to the fairly safe conclusion that it belongs to

the so-called Geometric Style (Fig. 5a). The same motif appears on an elegant beaked-spouted jug from the neighboring Palace at Zakros (Fig. 5b).<sup>40</sup> Several ogival cups, which supposedly represent the last stage of LM IB ceramic development in East Crete,<sup>41</sup> are also present in the same stratum. Other vessels decorated with panels filled with rows of flecks find parallels in the late LM IB “destruction layer” at Mochlos (Fig. 6).<sup>42</sup> Trefoil-mouthed jugs decorated with irregular flecks (Fig. 7), similar to those which have been dated to the end of LM IB or even to LM II at neighboring Palaikastro,<sup>43</sup> are also present in these deposits. There are also small askoi decorated with stylized foliate bands, which according to W. Niemeier represent the Sub-LM IA style (Fig. 8).<sup>44</sup> Finally, two baggy alabastra (Fig. 9), which belong to a variety that is safely dated around the end of the period, have good parallels in

<sup>39</sup> Niemeier 1984, 209, fig. 2.10.

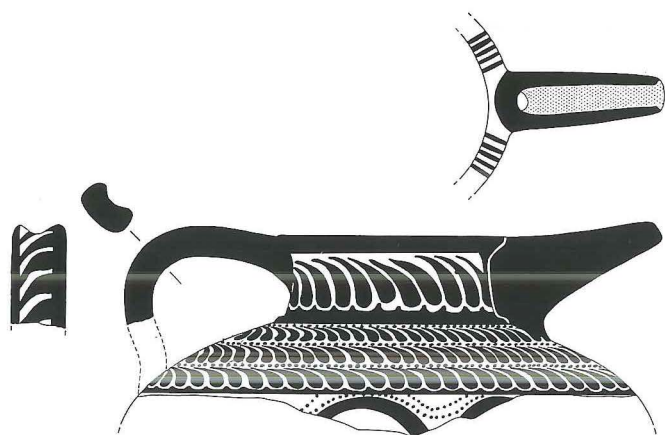
<sup>40</sup> Platon 1974, fig. 50; Müller 1997, pl. 85.

<sup>41</sup> Barnard & Brogan 2003, 42–3, 106–7.

<sup>42</sup> Barnard & Brogan 2003, 90, fig. 55, pl. 27.

<sup>43</sup> MacGillivray 1997a, 198, fig. 3.

<sup>44</sup> Niemeier 1980, 36–7, fig. 17.5.



a



b

Fig. 5. Bridge-spouted jug from the lower stratum of the East Building, Zakros (a) with a motif of the “Geometric Style”, identical to that of a beaked-spouted jug from the Palace (b).



Fig. 6. Alabastron with panels filled with rows of flecks from the East Building, lower stratum.



Fig. 7. Trefoil-mouthed jug from the lower stratum of the East Building, Zakros, decorated with irregular flecks.

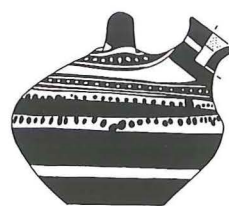


Fig. 8. Askos from the lower stratum of the East Building decorated in the so-called "Sub-LM IA style".



Fig. 9. Baggy alabastron found in the lower stratum of the East Building.



Fig. 10. Globular jug found in the lower stratum of the East Building, Zakros.



Fig. 11. Lower part of a jug from the first LM IB level of the East Building, decorated with fresco spirals above a reed zone.



the destruction layers of other LM IB settlements like Hagia Triada in South-central Crete and Mochlos.<sup>45</sup> It therefore appears that the absence of examples of true "Marine Style" in these deposits should be considered more or less accidental.

However, apart from the vases described above, the assemblage from the lower stratum of the East Building also includes some examples with close parallels from other sites that have been assigned to the LM IA period. A noticeable case is that of a globular jug with three conical protuberances on the mouth and a relief ring on the base of its neck (Fig. 10), which is very similar in shape to a vase from Mochlos.<sup>46</sup> There are also motifs that are more often considered typical of LM IA, such as spotted discs or wheels<sup>47</sup> and the solid-centered spirals with added white decoration<sup>48</sup> (in one case combined with a zone of reed in an arrangement assigned by P. Warren exclusively to this period – Fig. 11).<sup>49</sup> The final example of this conservatism is the presence of pots decorated in the Light-on-Dark Style, which in East Crete survives into the LM IB period (Fig. 12).

Although inferior in quality and variety, the ceramic material from the earlier strata in the adjacent Building of the Niches displays more or less similar features. From this context, I

<sup>45</sup> Halbherr, Stefani & Banti 1977, 94–5, no. 7, fig. 61; Müller 1997, 76–82, 385, 387, pls. 70, 71. For Mochlos pers. comm. Thomas Brogan.

<sup>46</sup> Soles & Davaras 1992, 437, fig. 14, pl. 100d.

<sup>47</sup> Mountjoy 1986, 10, fig. 1.6.

<sup>48</sup> Popham 1967, 339, fig. 1.4; Warren & Hankey 1989, 74–5, 78, 80; Betancourt & Davaras 1998a, 119.

<sup>49</sup> Warren 1999, 894–5. Cf. Sackett & Popham 1970, 218, pl. 65c.





Fig. 12. Upper part of a jug found in the lower LM IB stratum of the East Building, presenting motifs executed in the Light-on-Dark Style.



Fig. 14. Bowl decorated with wavy lines, from the lower stratum of the Building of the Niches.



Fig. 15. Ogival cup from the earlier LM IB levels of House Δα on the southwest hill, Zakros.



Fig. 13. Piriform jug from the earlier LM IB levels of the Building of the Niches.



Fig. 16. Miniature amphorae found in the upper LM IB levels of the Building of the Niches (a); and the earlier LM IB strata of the East Building (b).

would draw attention to two piriform jugs with close parallels to LM IB Mochlos (Fig. 13),<sup>50</sup> a handleless bowl decorated with parallel wavy lines (Fig. 14) that again has good parallels in the destruction levels at Mochlos<sup>51</sup> and Kommos,<sup>52</sup> an ogival cup, and a three-handled baggy alabastron with a highly stylized version of the conglomerate motif. The earlier strata of the basements in the central part of House Δα also contained ogival cups (Fig. 15), suggesting a similar date for these assemblages.

Consequently, these earlier strata, which were dated to LM IA by N. Platon, should now be dated to the LM IB period and indeed, if we rely on observations made for certain other closed contexts, to a mature phase of LM IB. On the other hand, these same levels, as with those in the Palace,

<sup>50</sup> Barnard & Brogan 2003, 61, figs. 20, 21, pl. 12.

<sup>51</sup> Barnard & Brogan 2003, 50–2, fig. 9.

<sup>52</sup> Watrous 1992, 4, 6, fig. 13, no. 87, figs. 14–5, fig. 17, no. 257; Van de Moortel 1997, 94–5.

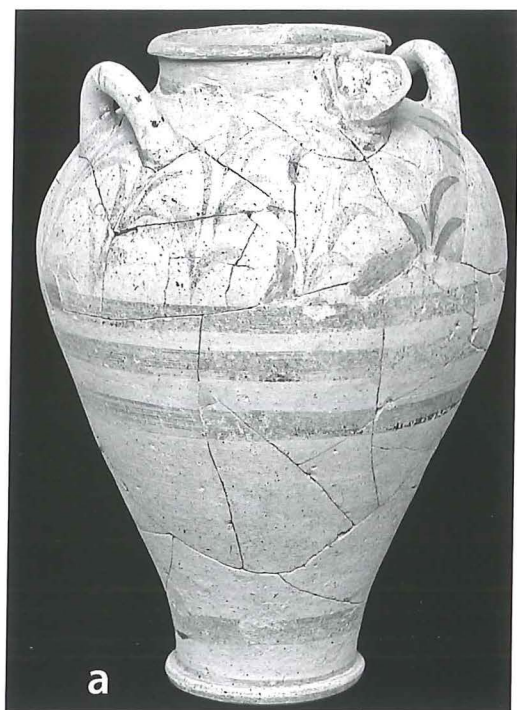


Fig. 17. Bridge-spouted stamnoi decorated with reeds, from the upper LM IB levels of House Δα (a); and the destruction layer of the Zakros Palace (b).

appear to include styles and types which elsewhere have been considered typical of LM IA.

Unfortunately, the upper levels of the East Building were almost completely lost, and the ceramic finds from them are meager and not easily dated.<sup>53</sup> Nevertheless, the corresponding levels in the adjacent Building of the Niches included shapes and decoration with parallels dated to the LM IB period. We again find rounded and ogival cups and strainers decorated with stylized foliate bands, similar to those found in the LM IB destruction levels of the Artisans' Quarter at Mochlos.<sup>54</sup> The same deposits also contain a three-handled pithamphora similar to those found in the Palace,<sup>55</sup> cooking pots of LM IB type, and a small amphora decorated with a row of V-shaped motifs (or a stemless foliate band) (Fig. 16a) that finds parallels in the earlier strata of the East Building (Fig. 16b). From the upper destruction levels of House Δα, reference here will be made only to a bridge-spouted jar (Fig. 17a), which has a close parallel in the destruction layer of the neighboring Palace (Fig. 17b),<sup>56</sup> as well as in the contemporary levels of House B, which are discussed below.

In stratigraphic terms, this final stage in the life of the Neopalatial Zakros settlement is represented

by a "destruction horizon" observed across the site, which has provided a rich assemblage of closed pottery deposits. In this paper, we consider two deposits which come from two important buildings found in two distant quarters of the settlement: House B on the southwest hill and the Strong Building on the slope immediately to the north of the Palace.<sup>57</sup>

The first assemblage, in particular, contains more than four hundred restored vessels and thus offers a good illustration of the pottery from this last stage of the Neopalatial settlement. The shapes and motifs in this deposit show close affinities with the LM IB destruction levels at Palaikastro, of which Building N is perhaps the most representative.<sup>58</sup> Among the vessels found in both Zakros House B and Palaikastro Building N are various types of

<sup>53</sup> Platon 1977, 423–4.

<sup>54</sup> Barnard & Brogan 2003, 67–8, fig. 28.

<sup>55</sup> E.g., Platon 1962, 160, pls. 156c, 159a; 1974, 99–100, fig. 42.

<sup>56</sup> Platon 1961, pl. 177c; 1962, pl. 153a.

<sup>57</sup> For House B, see Platon 1961, 219–22; 1962, 148–53; 1963, 167–8; Platon 2000a, 61–2. For the Strong Building, see Platon 1968a, 156–62; 1969, 209–18; 1970, 218–9; 1971a, 244–7; 1972, 179–83; 1974, 215; Platon 2000a, 60–1, fig. 4.

<sup>58</sup> Sackett & Popham 1970, 215–31.





Fig. 18. Ogival cup from the destruction layer of House B on the southwest hill, Zakros.

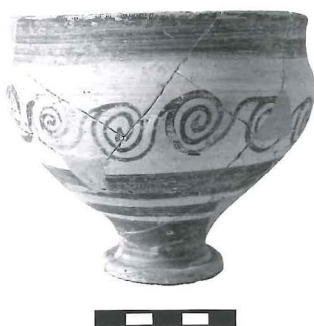


Fig. 19. Footed cup with a foot and spiral decoration, from the destruction layer of House B, Zakros.



Fig. 20. Cylindrical cup found in the destruction layer of House B, Zakros.

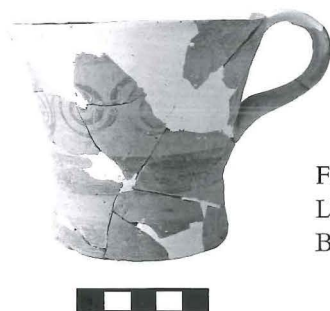


Fig. 21. "Vapheio cup" from the LM IB destruction layer of House B, Zakros.



Fig. 23. Rounded cup decorated with a stylized foliate band from the destruction layer of House B, Zakros.



Fig. 22. Similar rounded cups decorated with floral motifs and fill ornaments derived from the Marine Style, found in the destruction layers of House B, Zakros (a); and the Royal Road: North, Knossos (b).

ogival cups,<sup>59</sup> which are often decorated with a bright red or black slip and added bands of white (Fig. 18). Other common shapes include strainers and footed cups with spiral decoration (Fig. 19).<sup>60</sup> These cups from Zakros House B also find close parallels in one of the two deposits from the area of the Stratigraphical Museum at Knossos, which have been attributed by P. Warren to a post-eruption stage of the LM IA period.<sup>61</sup> From the destruction layer of House B also comes a cylindrical cup (Fig. 20), a parallel for which was again found in the same Knossian deposit.<sup>62</sup> But an even closer parallel for the Zakros example was found in one of the tombs at Poros in Herakleion.<sup>63</sup> From the same

levels of House B also comes a "Vapheio cup" (Fig. 21), which resembles a similar vase from the Gypsades Well deposit at Knossos.<sup>64</sup> A rounded cup, beautifully decorated with floral motifs and filling ornaments derived from the Marine Style (Fig.

<sup>59</sup> Sackett & Popham 1970, 221, fig. 13, nos. 5–13.

<sup>60</sup> Sackett & Popham 1970, 224, fig. 15 and fig. 13 NP54, NP55.

<sup>61</sup> Warren 1999, 898–900, pl. CCVI, P2332.

<sup>62</sup> Warren 1999, 898, pl. CCVI, P2331.

<sup>63</sup> Dimopoulou-Rethemiotaki 2004, 370, fig. 31.8.

<sup>64</sup> Popham 1967, pl. 76d; Macdonald 2004, 249. The example from House B contradicts W. Niemeier's (1980, 45) assertion that this cup type did not survive into LM IB Crete.



Fig. 24. Three-handled stirrup jar decorated with linked, open spirals from House B, Zakros.



Fig. 26. Cylindrical cup decorated in the Alternating Style from the destruction layer of the Strong Building.

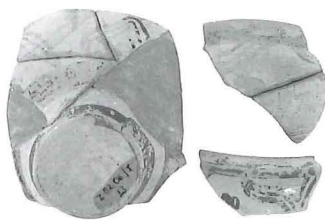


Fig. 25. Fragments of a one-handed cup decorated in the Alternating Style from the destruction layer of House B, Zakros.



Fig. 27. Cup-rhyton decorated with solid center spirals with added white, from the Strong Building.

22a), finds its twin in another Knossian deposit from a house along the Royal Road (Fig. 22b).<sup>65</sup> In this particular case, the two vases appear so similar that it is possible to suggest that they were produced by the same potter, perhaps even at the same time. An additional, more conservative decorative fashion appears on another rounded cup (Fig. 23), which bears a stylized foliate band with close parallels from Palaikastro,<sup>66</sup> Kommos and Prophetes Elias Praisos.<sup>67</sup> A three-handled stirrup jar decorated with linked, open spirals represents the last stage of the LM IB period, according to recent definitions at Khania<sup>68</sup> and Mochlos (Fig. 24).<sup>69</sup> Finally, the assemblage includes several trefoil-mouthed jugs decorated with irregular flecks or splatter, which at Palaikastro have been dated to the LM IB or even the LM II period,<sup>70</sup> as well as some pieces belonging to the Alternating Style (Fig. 25), which supposedly represents a very late stage of LM IB or even the beginning of LM II in West Crete.<sup>71</sup> Nevertheless, it should be emphasized that the rich

ceramic assemblage from the destruction levels of House B, as well as the even richer deposits from the neighboring Zakros Palace, lack any trace of pure LM II pottery, at least as it has been defined in the Knossos area.<sup>72</sup>

The pottery from the destruction levels of the Strong Building on the north hill is very similar. In addition to the various types of ogival cups, the assemblage includes a cylindrical cup decorated in the Alternating Style (Fig. 26), which has a similar

<sup>65</sup> Hood 1961–2, pl. B4; Müller 1997, 399, pl. 79.

<sup>66</sup> Popham 1967, 339, pl. 76h. W. Niemeier (1980, 48) has proposed an LM IA date for the published Palaikastro example.

<sup>67</sup> Platon 1997b, 198–9, fig. 27.

<sup>68</sup> Andreadaki-Vlasaki, in this volume.

<sup>69</sup> Barnard & Brogan 2003, 69, fig. 29, P 104.

<sup>70</sup> MacGillivray 1997a, 198, fig. 3; MacGillivray, Sackett, & Driessen 2007, 150–1.

<sup>71</sup> Coldstream & Huxley 1984, 110; Niemeier 1984, 210; Andreadaki-Vlasaki 2002, 158, pl. LIa. *Contra* Mountjoy 2004, 401–2.

<sup>72</sup> Popham 1967, 343–5; 1984, 159–81; 1994, 98.





Fig. 28. Baggy alabastron decorated with the "Adder pattern" from the destruction layer of the Strong Building.



Fig. 29. Bridge-spouted jug from the Zakros Palace decorated with ivy leaves.

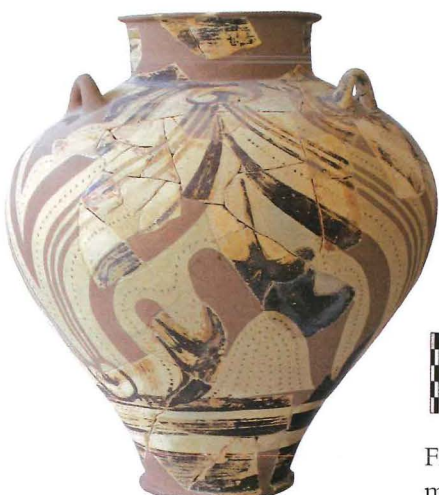


Fig. 30. Pithamphora from the Zakros Palace imported from mainland Greece.



Fig. 31. Footed cup with thin spirals of LM IA style from the destruction layer in the Zakros Palace.

shape to that from House B and an even closer parallel in the tombs at Poros.<sup>73</sup> There are three cup-rhyta, one of which is decorated with closed spirals with added white details (Fig. 27),<sup>74</sup> and one baggy alabastron decorated with the elaborate vertical "Adder pattern" (Fig. 28).<sup>75</sup>

Until recently, the rich ceramic assemblages from the destruction levels of the Zakros Palace have received far more scholarly attention, mainly due to the publication of a selection of high quality vases. These vessels include a large number decorated in the Special Palatial Tradition,<sup>76</sup> with its magnificent examples of Marine, Floral and Geometric Styles, together with a much larger corpus of pottery exhibiting the complete range of Neopalatial shapes and decoration seen elsewhere and associated at times with LM IB, but also with

LM IA. A case in point is provided by a bridge-spouted jug (Fig. 29). Its shape and decoration have close parallels with vases from Pseira, dated to either LM IA or LM IB.<sup>77</sup> Another example is provided by a pithamphora imported from

<sup>73</sup> Lebesse 1967, 203. Cf. also Karetsou, Andreadaki-Vlazaki & Papadakis 2000, 144–6, nos. 120a–b, 121.

<sup>74</sup> Platon 1969, 216, pl. 264a.

<sup>75</sup> Cf. Müller 1997, 377–8, pl. 66.

<sup>76</sup> Platon 1962, 157–8, pls. 152a–b, 153b, 154a–b, 155a–b, 156a–b, 158b; 1974, 92, 106, figs. 16, 45–7, 49–1, 53–4, 56–7; Müller 1997, 333–5, 337–40, 342, 346–7, 356, 362–4, 371–2, 378, 381–2, 393, 404–5, 412–4, 465, pls. 1, 9–10, 14–5, 17, 19, 22–3, 31, 46–7, 55–6, 61, 68, 76, 84–5; Platon 2004, 383, fig. 32.1–3.

<sup>77</sup> Niemeier 1980, 11, fig. 7.7; Banou 1995a, 19–20, fig. 35, pl. 9; Betancourt 1995, 23; Floyd 1998, 67, no. 235, fig. 16.



Fig. 32. Bell cup found in the LM IB destruction layer of the Zakros Palace.



Fig. 33. Cup-rhyta appearing in several variants from the destruction layer of the Zakros Palace.



Fig. 34. Bridge-spouted jar with spirals typical of LM IB Zakros found in the Palace.



Fig. 35. Baggy alabastra found in the LM IB destruction layer of the Zakros Palace.

mainland Greece and decorated with the so-called “ogival canopy” motif (Fig. 30). The same motif on a vase from Palaikastro has been dated to the LM IA period.<sup>78</sup> A footed cup from Zakros with thin spirals is also supposed to be LM IA in style (Fig. 31), as are a number of bell cups with close parallels from the deposit of the East Staircase in the Palace of Knossos (Fig. 32).<sup>79</sup> Other forms are obviously more developed, like several varieties of cup-rhyta (Fig. 33), some of which also occur in contexts published as LM IA (e.g. Deposit F in the Akropolis Houses at Knossos),<sup>80</sup> or the bridge-spouted jars with spirals typical of LM IB Zakros (Fig. 34).<sup>81</sup> Among the examples which perhaps could be dated to the transition between the LM IB and LM II periods are two baggy alabastra with

decoration very close to that observed on alabastra from the last LM IB stage at Mochlos (Fig. 35),<sup>82</sup> a bridge-spouted jar decorated with the three-C motif, and a considerable quantity of S-profile cups with light-on-dark decoration of vertical lines resembling leaves (Fig. 36).<sup>83</sup> The latter again have close parallels from the destruction levels at

<sup>78</sup> Warren 1999, 895; Macdonald 2001, 527; 2004, 249.

<sup>79</sup> Popham 1977, 194, pl. 31a-c.

<sup>80</sup> Catling, Catling & Smyth 1979, 44–51, figs. 31–6. For a possible LM IB date for this deposit, see Niemeier 1980, 76; Macdonald 1990, 87; Driessen & Macdonald 1997, 162; Van de Moortel 1997, 558, 574.

<sup>81</sup> Platon 2002b, 149–50.

<sup>82</sup> Cf. Barnard & Brogan 2003, figs. 18, 25.

<sup>83</sup> Platon 2002b, 150, pl. XLVIa.





Fig. 36. S-profile cups with light-on-dark decoration of vertical lines forming leaves from the destruction layer of the Zakros Palace.

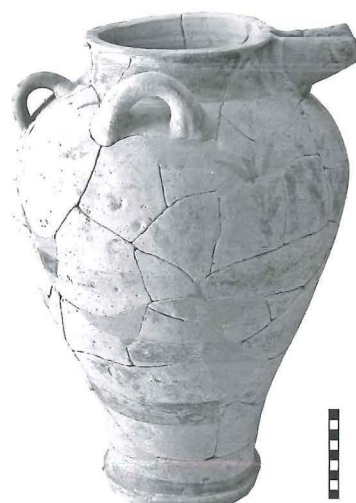


Fig. 37. Squat alabastron decorated with stylized argonauts from the destruction layer of the Zakros Palace.



Fig. 38. Fragment of a closed vessel decorated with a wavy line outlined by rows of dots found in the sealed earlier deposit of Area 55 of the Zakros Palace.

## House B



## Palace



a

b

c

Fig. 39. Footed cups with spiral decoration (a); bridge-spouted stamnoi with spirals enriched by small stylized leaves (b); and bridge-spouted jars with reeds (c), from the LM IB destruction layers of House B and the Zakros Palace.

Mochlos.<sup>84</sup> Finally, there are two squat alabastra, one of which is decorated with stylized argonauts belonging to a group thought to represent the last stage in the evolution of the Marine Style (Fig. 37).<sup>85</sup>

In light of this evidence and the discussion at the LM IB conference, I would now like to consider the possibility of two successive LM IB destructions in the area of the Zakros Palace itself. During the excavation of the better preserved West Wing, N. Platon recorded traces of architectural modifications like the blocking of an entrance in the south wall of the “Banquet Hall”<sup>86</sup> and the construction of a thin wall on the base supporting the columns of the light well in the “Hall of Ceremonies.”<sup>87</sup> However, the makeshift nature of these works suggests that they have more to do with “safety measures”, probably taken to consolidate or strengthen the structure. On the other hand, the presence of a built hearth in the North Wing, in front of the western entrance to Room 57 and in the passageway leading to a wooden staircase located in Area 55,<sup>88</sup> confirms the impression that the Palace structure was not functioning normally at the time of its final abandonment. On the contrary, there is good evidence to suggest that it was under repair: large bronze saws were found on the floor of the most luxurious hall in the West Wing,<sup>89</sup> while pieces of frescoes, probably being replaced, were found in heaps thrown in the small northwest paved court.<sup>90</sup> The fact that some door openings and passageways were blocked may reflect efforts to stabilize the building, but they also would have blocked circulation in the Palace area, perhaps to offer better working conditions for the craftsmen.<sup>91</sup>

Therefore, it is also possible to talk of two discernible architectural phases, but perhaps not covering a large span of time (at least in the case of the second). Looking at the pottery, this can be confirmed by the study of a closed context from the area of Staircase 55, which was probably not in use during the last phase of the Palace.<sup>92</sup> This pottery group consists primarily of drinking vessels, including many ogival cups that are securely dated to LM IB, but which cannot be easily distinguished from the main volume of pottery of the final “destruction layer” on either typological or stylistic

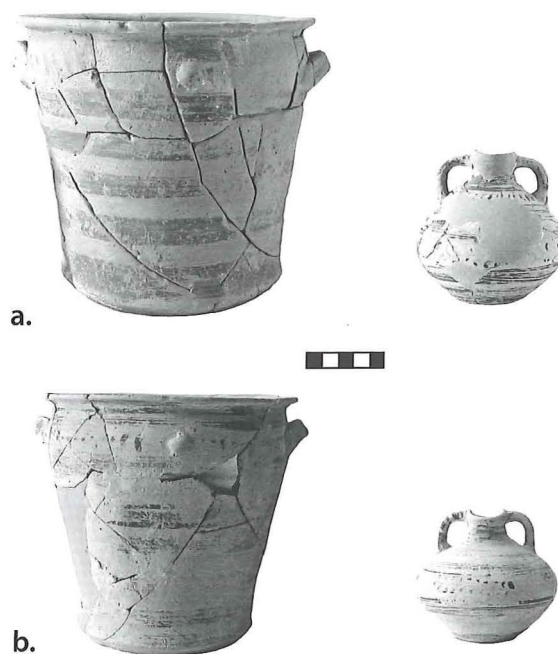


Fig. 40. Bucket-shaped vase and miniature amphora from the destruction layer of House B (a); compared to two almost identical vases from the lower LM IB stratum of the East Building (b).

grounds. Among the other shapes, there is a fragment of a closed vessel (probably a jug) decorated with a pair of wavy lines outlined by rows of dots (Fig. 38), which finds close parallels in vases from Pseira and the last LM IB stage at Mochlos.<sup>93</sup>

Several vases in the closed deposits of House B and the Strong Building confirm that the final destruction at the site affected both the settlement and Palace. Footed cups with spiral decoration (Fig. 39a), a bridge-spouted stamnos with spirals enriched by small stylized leaves (Fig. 39b) and a bridge-spouted jar with reeds (Fig. 39c) from House B find exact “look-alikes” in the Palace. At

<sup>84</sup> Barnard & Brogan 2003, 43, fig. 5.

<sup>85</sup> Mountjoy 1974a, 179. The vessel type has also been attributed to a late stage of LM IB (e.g., Barnard & Brogan 2003, 59).

<sup>86</sup> Platon 1964, 151; 1974, 157.

<sup>87</sup> Platon 1964, 184.

<sup>88</sup> Platon 1965, 197, 205.

<sup>89</sup> Platon 1963, 186; 1964, 149; 1974, 144.

<sup>90</sup> Platon 1963, 173; 1974, 211.

<sup>91</sup> Platon forthcoming.

<sup>92</sup> Platon 1965, 197, pl. 240a-b.

<sup>93</sup> Floyd 1998, 58, no. 173, fig. 10; Barnard & Brogan 2003, 90, 102, no. 636, fig. 55.

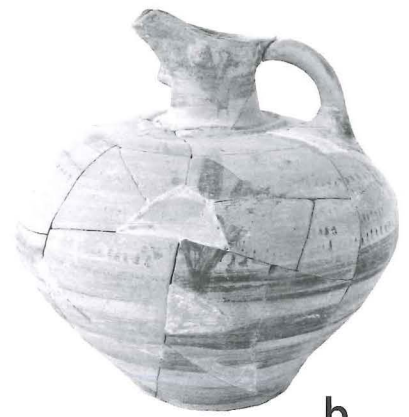




Fig. 41. Small askos from the destruction layer of House B.



a



b

Fig. 42. Globular jugs from the earlier LM IB deposit of the East Building (b) and a foundation deposit (immediately following the Theran Eruption) beneath House C.1, Mochlos (a).

the same time, these assemblages appear to be very close chronologically to those coming from the lower strata of the East Building and the Building of the Niches. Good examples are a bucket-shaped vase and a miniature amphora from House B (Fig. 40a), which can be compared to two almost identical vases from the lower stratum of the East Building (Fig. 40b).

These observations confirm the fact that the two final destructions which struck the settlement and Palace of Zakros were actually so close in date that the pottery in the interval between them had no time to evolve.<sup>94</sup> The only noticeable difference between these two destruction deposits is the presence of a pottery class of lower quality in the second destruction level, which probably reflects stress rather than hasty production (Fig. 41).

Evidence for two successive destructions near the end of LM IB has also been observed at other sites in Crete, including the recent excavations at Palaikastro and Mochlos. At Palaikastro, Building 5 appears to have suffered two destructions, the first of which forced the people to change the function of some important rooms by the addition of improvised architectural elements.<sup>95</sup> The same situation was also observed in Building N, where the excavators distinguished two successive LM IB levels and also confirmed changes in the architectural arrangement of some areas and their

approaches.<sup>96</sup> In neither case, however, were the excavators able to distinguish two ceramic phases on the basis of this stratigraphy.

A similar picture is offered by the recent excavations at Mochlos,<sup>97</sup> especially in the Artisans' Quarter, south of the modern village.<sup>98</sup> Here, the excavators have attempted to show that the second of these LM IB phases was very advanced and distinct from the LM IB destruction recovered at neighboring Pseira.<sup>99</sup> It is of far greater interest, however, that two other assemblages, which happen to come precisely from these two sites (Palaikastro and Mochlos), may actually represent the earlier LM IB destruction, and this fits with the first of the two destructions at Zakros. At Palaikastro, this level was found under the floors of two adjacent areas, Rooms 10 and 13 in Block B.<sup>100</sup> This assemblage includes a bridge-spouted jug with ogival canopy, a motif securely dated to LH IIA, which, in all

<sup>94</sup> Platon forthcoming.

<sup>95</sup> MacGillivray *et al.* 1991, 123–32; MacGillivray 1997b, 276–7; Driessen, MacGillivray & Sackett 2006, 384–5.

<sup>96</sup> Sackett, Popham & Warren 1965, 253–6, 259–60, 265, 267–8.

<sup>97</sup> Soles 2004, 153; Brogan, Smith & Soles 2002, 91–5.

<sup>98</sup> Brogan, Smith & Soles 2002, 95–6. Barnard & Brogan 2003, 106.

<sup>99</sup> Barnard & Brogan 2003, 46, 107–9.

<sup>100</sup> Bosanquet 1902–3, 284–7, figs. 4–5.



Fig. 43. Globular jug found in the LM IB destruction layer of the Zakros Palace.

probability, corresponds precisely to the LM IB phase in Crete,<sup>101</sup> and a miniature pithos decorated in a style that finds close parallels in the LM IB strata at Zakros.<sup>102</sup>

The second assemblage comes from House C.1 at Mochlos. It may be even more important because it was found in a level which, according to the excavators, was covered by a layer of ash from the Thera eruption.<sup>103</sup> The globular jug published from this deposit (Fig. 42a)<sup>104</sup> is identical in shape to the jug found in the lower LM IB stratum of the East Building (Fig. 42b). At Zakros, jugs of similar shape have also been found in various LM IB levels (e.g., in the Palace [Fig. 43], in House B and in the Strong Building). There is no doubt that the jug from the East Building at Zakros was made in the advanced LM IB period, because its decoration finds close parallels with other LM IB vessels from Zakros and Mochlos.<sup>105</sup> Moreover, the decoration of the jug from House C.1 at Mochlos also supports an LM IB date. On the one hand, the branches of the tendrils on its shoulder appear to be a degenerate version of an earlier East Cretan motif; on the other hand, this particular motif has been enriched with a row of added white dots in a fashion which occurs at Gournia and Mochlos,<sup>106</sup> as well as at Zakros on pots belonging to the LM IB period (see Fig. 29). Finally, the second vase published from the lower stratum of House C.1



Fig. 44. S-profile cup with spirals from the Palace of Zakros.

at Mochlos, an S-profile cup with running spirals and added white dots,<sup>107</sup> may also be placed in LM IB without problems. This is based on the style of the decoration, which is typical of East Cretan LM IB, as well as the discovery of similar examples in corresponding LM IB strata at Zakros (Fig. 44).<sup>108</sup>

From this analysis of Zakros pottery, three important facts emerge for the history of the site and, more generally, I believe, for the history of LM IB Crete:

a) On the basis of the extant data, it is possible to distinguish two stratified destructions at Zakros, both occurring in the period defined by pottery as LM IB. The interval between the first and second destructions was very short and did not permit any discernible development in pottery production (nor

<sup>101</sup> Hankey 1987, 44. *Contra* Dickinson 1974, 111; Warren 1990–1, 30–1; 1999, 895; 2006, 317; Macdonald 2001, 527; 2004, 249.

<sup>102</sup> The view that this context should probably be dated to LM IB has been expressed by other authors as well. Bosanquet & Dawkins 1923, 21; MacGillivray 1997b, 276; Macdonald 2004, 249.

<sup>103</sup> Soles & Davaras 1990, 91–3; 1992, 436–8.

<sup>104</sup> Soles & Davaras 1990, 92, fig. 11; 1992, 437, fig. 14, pl. 100d.

<sup>105</sup> Cf. Barnard & Brogan 2003, 100, no. 641, fig. 55.

<sup>106</sup> Soles 2002, 127, pl. XXXVI.8; Barnard & Brogan 2003, no. 343, fig. 27.

<sup>107</sup> Soles & Davaras 1990, 92, fig. 9; 1992, 437, pl. 100c.

<sup>108</sup> The third vase published from the deposit beneath C.1 is an ogival cup with a clearly shaped foot. It does not offer a problem for the LM IB date of the context. Soles & Davaras 1990, fig. 10.



the complete restoration of the damages caused by the first destructive event).

b) As far as the pottery is concerned, our analysis indicates that the Zakros destructions, especially the second, were absolutely contemporary with those identified at other sites in both East and Central Crete. Moreover, in no case can these destructions be dated to the LM II period, at least in the form in which this latter phase is understood at Knossos.

c) Some ceramic deposits from other sites which have been attributed to the LM IA period should be reconsidered, in light of comparisons with

confirmed LM IB assemblages from Zakros. Among them is the deposit from House C.1 at Mochlos, which according to the excavators, was found under an undisturbed layer of ash from the eruption of the Thera volcano.<sup>109</sup>

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<sup>109</sup> Soles & Davaras 1990, 92–3; 1992, 436, n. 44, 438.

# A West Cretan response (Nerokourou) to Lefteris Platon and the LM IB pottery from Zakros\*

*Athanasia Kanta*

I would like to thank Lefteris Platon for his very interesting paper and excellent presentation. The hard work and thorough study of this material is evident. I would like to begin by stating that I agree with the evidence he has presented here, namely, that: 1) there appear to be two LM IB destructions at Zakros; 2) they appear to be contemporary with other LM IB destructions on Crete; and 3) they are very close to one another in time.

The problems concerning Neopalatial pottery phases still require substantial work across the island, including primarily, more complete publication of deposits from different sites. The characteristics, and indeed the very existence of the individual phases that we are used to calling MM IIIA, MM IIIB, and LM IA, need to be elaborated, as does the absolute chronology for these phases, which still presents serious problems. I have thought for a long time that all Neopalatial destructions need to be re-evaluated after a full, non-selective publication of the associated pottery, as we have done in the publication of the pottery from the Villa at Nerokourou near Souda Bay. It remains one of the very few fully published villas to date.<sup>1</sup> Here, I would like to state that by the term *Villa* I mean buildings which include both *polythera* and a Minoan hall.

Another important aspect of the work which needs to be done all over Crete is the integration of the data and ceramic sequences of individual sites with those of other sites across the island. Extreme care needs to be exercised so that phases are not created or abolished unnecessarily on the basis of evidence from a single site. Obviously, the material from floor deposits or closed levels needs to be analyzed in great detail before criteria are selected for identifying their precise dates. Indeed,

the dating itself, both relative and absolute, should come at the very end of the study. It is comforting to see in the bibliography a number of very good and detailed recent publications. No doubt after the publication of this symposium, we will all be in a better position to evaluate LM IB across the island, and the presentation of so much new material will allow scholars to make up their own minds about the date or chronology of different sites and their associated material.

It seems indeed that Zakros had two LM IB destructions. What is not so clear is what lies underneath the Palace or the other buildings and to which phase all this material belongs. No doubt, when the time comes for the full study of the earlier phases, the Zakros team will clarify this matter, as well as the character of the earlier buildings below the LM IB Palace (i.e., whether or not they are palatial).

I also want to thank Lefteris Platon, because he kindly explained to me that an important earlier Neopalatial building, which may have had a palatial character, existed underneath the LM IB Palace. Below at least part of this earlier building was an important Protopalatial building. It seems to me, therefore, that Zakros shows the same sequence typically found at other Cretan palatial sites, and this underlines the importance of the site. Indeed, we look forward to the future work of the Zakros team on the earlier phases below the LM IB Palace.

Lefteris Platon may be correct when he states that some of the LM IB destructions in Crete did

\* In this article the Figures are not to scale. For the true scale of the illustrated pottery refer to the publications cited.

<sup>1</sup> Kanta & Rocchetti 1989.



not happen at the same time. However, I think that the current state of our knowledge (and I would include not only pottery typology and stratigraphy, but also the various scientific methods of dating) still does not allow us to date the different destructions as having happened within only a few months of each other. A few years would seem a better estimate, but at present it is simply not possible to establish the number of years more precisely. I would guess that around ten years is the lowest number possible. Anything below that would appear roughly contemporary to us. Whether the non-contemporaneous nature of LM IB destructions and the existence of more than one destruction at various sites, as indeed happened at Zakros, suggest enemy action as opposed to seismic activity is a matter for additional study. If, following the Santorini eruption there were years of intense earthquake activity, then this would accord well with the evidence of destructions, rather than a blanket earthquake which destroyed the whole island. Within this framework enemy action is not, of course, inconceivable

I disagree somewhat with Lefteris Platon's view that Crete lacks well-stratified groups of LM IA and LM IB material. As mentioned above, I would stress that only after the complete publication of existing excavation data will we be in a position to say whether this material is well-stratified or not and to which phase it belongs. Until then we should keep an open mind.

Lefteris Platon mentions the pottery fill from the so-called "*Old Palace*", i.e., the pre-LM IB Neopalatial Palace. The fill of this building could include, in theory, pottery of an earlier phase mixed together with later pieces, which were added during clearing operations or later building work. Clear evidence for an earlier destruction would also be very important. In order to estimate unequivocally what happened and to establish the phases of this earlier palatial building, we would need to know the pottery from the destruction or abandonment of this building, the pottery from its floors, as well as that of the later filling operations. Then, this evidence will need to be compared to the pottery of the later palatial building, which we have just seen. We look forward to the publication of this study in the future.

Lefteris Platon also spoke about the lack of a pure LM IA style at Zakros. This may or may not be true. In order to have a better idea, we should first define the characteristics of pure LM IA; this could be a good and very useful subject for a future symposium. At present, however, we have fruitful work in front of us related to defining LM IB.

We are again reminded of Professor N. Platon's lucid and thorough account of the contents of the Zakros destruction level. Lefteris Platon concludes that at Zakros, LM IA and B are not separate phases but styles which evolved within the same LM I period. I would rephrase this conclusion by suggesting that the two pottery phases developed (perhaps with some overlap) within the two Neopalatial phases LM IA and LM IB. Thus, as stated above, two problems exist. The first is the sequence and characterization of the Neopalatial phases prior to LM IB. The second is the definition and characterization of LM IB and whether or not it can be subdivided into phases that are valid across the entire island. Obviously, we need sites with pure levels and floor deposits. Also, the presence of substantial architecture at these sites and associated architectural phases would help, if they coincide with the pottery phases. Nevertheless, they may not.

Houses in old towns found all over Europe today represent classic examples of architecture that do not correspond to phases of finds, where a building erected at Time A continues in use until Time B, which may even be several centuries later. This hypothetical building can go through several renovations, alterations or reconstructions before it is destroyed or abandoned. Very little may survive from the stages or periods of its earlier life, prior to destruction or abandonment, and that may all be mixed together.<sup>2</sup>

Alternatively, we may have clear stratigraphy with levels that can be easily distinguished, but whose contents include pottery of different phases or periods. It does not mean, of course, that this pottery is all contemporary. In the case of Zakros, we need to take this last point into serious

<sup>2</sup> The author has carried out the renovation of such a building in London, which can be dated by deeds, and has studied the remaining evidence for phases and the dates of various finds.

consideration. I do not need to quote occasions where such mistakes related to Minoan archaeology have been made in the past. They are well known.

I think that the small oval-mouthed amphorae with slightly depressed bodies decorated with a foliate band (Platon, fig. 16) illustrate the Zakros destructions well. They indicate that the two destruction events described in L. Platon's paper must be very near in time.

A further comment should be made here on the retention of several LM IA characteristics, which we have seen in the LM IB Zakros material. Although Zakros lies at the eastern end of Crete and is provincial in location, its position on the sea routes towards the Dodecanese, Syro-Palestine and Egypt ensured that it remained in the mainstream of developments in LM IB Crete. Thus, although its pottery retained many LM IA features, the presence of typical LM IB material shows that Zakros was part of the broader LM IB trends of the island.

Dating and identifying the chronological characteristics of provincial deposits (i.e., deposits which lie somewhat outside the mainstream of developments) presents a problem for archaeological research. If we move to the western side of Crete, one of the few investigated sites which have provided relevant material is the Minoan Villa at Nerokourou. This site offers an instructive case-study for reviewing the problem.

## The Minoan Villa at Nerokourou

The Zakros excavations fortunately produced large amounts of excellent, well-preserved pottery, the shape and decoration of which have helped date the material. This is not, however, the case at many sites. Often, soil conditions cause serious damage to the preservation of the ceramic surfaces. In such cases, the decoration is not always preserved, and it can be difficult to date the pottery. Another factor that makes dating difficult is provincialism, which is demonstrated by the conservative retention of older characteristics and delays in the adoption of new fashions. When these two factors are combined, it can be difficult to establish an accurate date for Neopalatial destructions. As a cautionary tale, I

would like to revisit the efforts to date the Minoan Villa at Nerokourou.

Building I<sup>3</sup> at Nerokourou has been characterized as a Villa because of its *polythera* and Minoan hall. The destruction of the building was thought to be connected with an earthquake.<sup>4</sup> When this building was destroyed and abandoned, there were masses of complete vases on the floors. The vases from the upper floor were found fallen over the ground floors below. The stratigraphy of the Villa was simple, even though a bulldozer had damaged the site extensively. Where the earth was undisturbed, it consisted of a fill of red to brown soil. In it were clear areas of burning and many fallen stones and broken slabs – the destruction debris of the building. The main floors of the building were paved with flagstones that were burnt in places. The depth of the destruction fill, measured from the surface, varied somewhat, due to the action of the heavy machinery, which also damaged the pottery.<sup>5</sup>

The Nerokourou Villa had an upper story, and in places its flagstone floor was found fallen onto the ground floor below.<sup>6</sup> The building went through three architectural phases. Apart from the destruction deposits found in the various rooms, sherds belonging to the earlier phases of the building were found embedded in walls.

The pottery consisted of vases which were obviously contemporary,<sup>7</sup> as they were used at the same time. Among them was a mass of simple conical cups. I will not discuss them here, because I firmly believe that typologies of conical cups often have only local relevance. Indeed, they are useful for dating in the same wider region, but they are not a good criterion for cross-Cretan correlations.

### Cups

The deep monochrome handleless cup whose shape varies from almost bell to ogival is, however,

<sup>3</sup> Kanta & Rocchetti 1989, 293–300, figs. 2, 3.

<sup>4</sup> Cf. Kanta & Rocchetti 1989, 297.

<sup>5</sup> E.g., Kanta & Rocchetti 1989, 294, fig. 33.

<sup>6</sup> E.g., Kanta & Rocchetti 1989, 293.

<sup>7</sup> Kanta & Rocchetti 1989, 320.



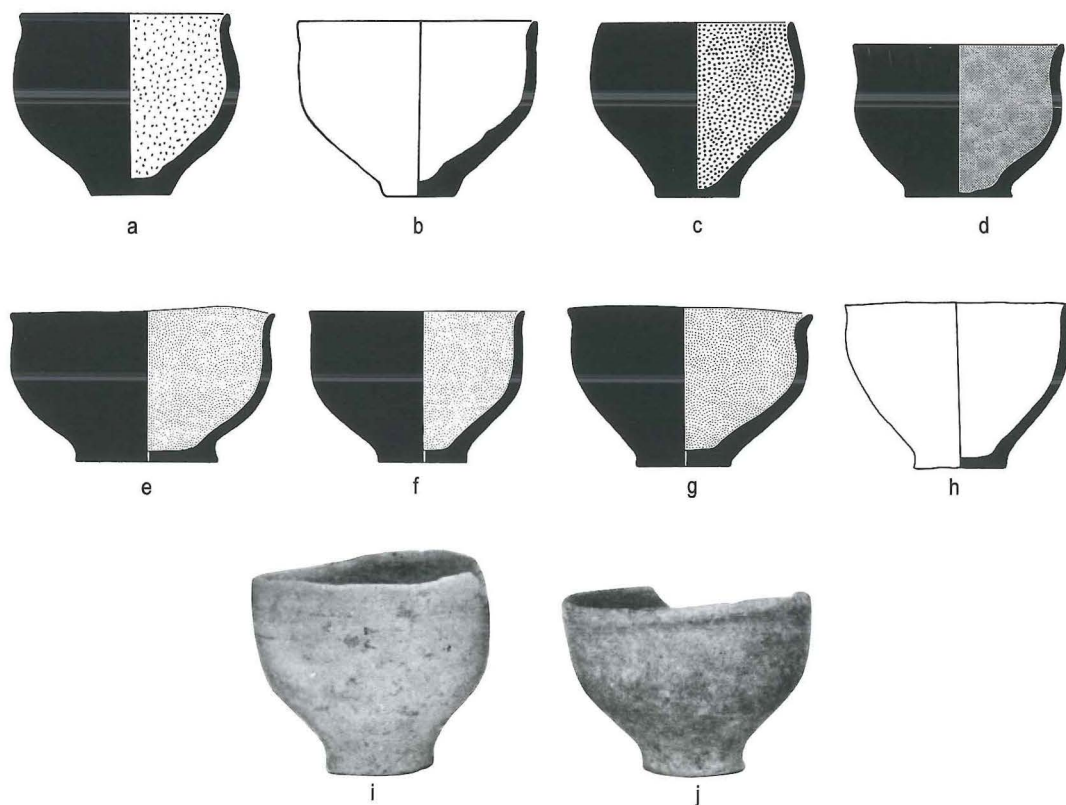


Fig. 1. a) Kanta & Rocchetti 1989, fig. 36, no. 51; b) Kanta & Rocchetti 1989, fig. 36, no. 37; c) Kanta & Rocchetti 1989, fig. 36, no. 49; d) Sackett & Popham 1970, fig. 13; e) Barnard & Brogan 2003, fig. 5, IB.191; f) Barnard & Brogan 2003, fig. 5, IB.196; g) Barnard & Brogan 2003, fig. 4, IB.177; h) Barnard & Brogan 2003, fig. 4, IB.165 (upper row): i) Coldstream & Huxley 1972, pl. 33, no. 29; j) Coldstream & Huxley 1972, pl. 81, no. 15.

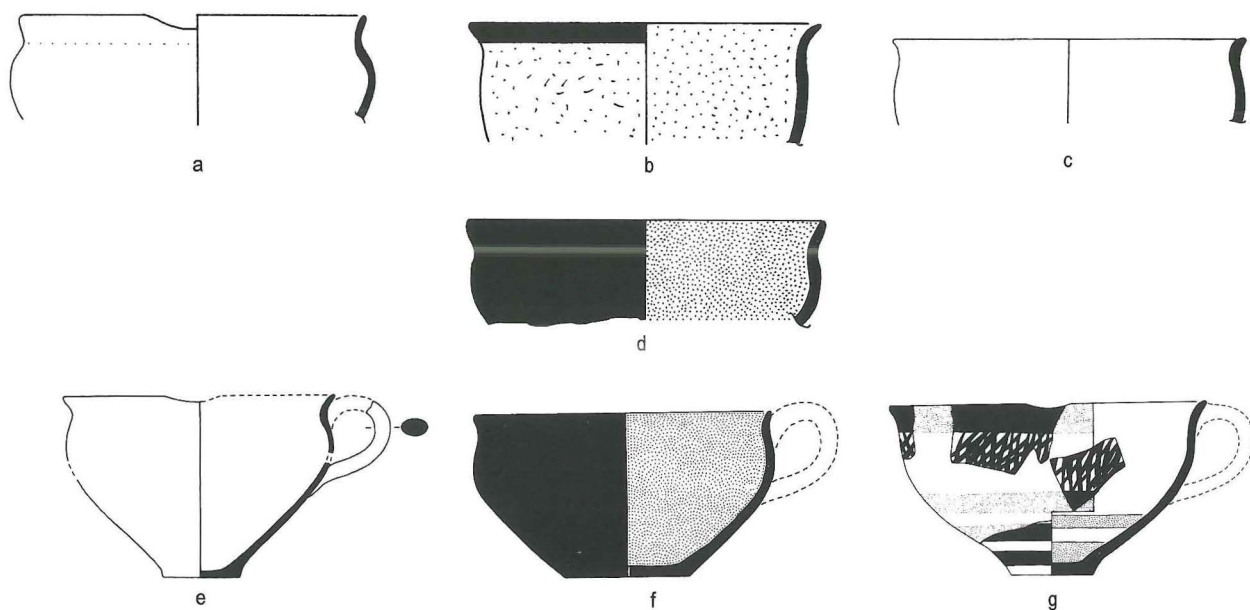


Fig. 2. a) Kanta & Rocchetti 1989, fig. 38, no. 97; b) Kanta & Rocchetti 1989, fig. 38, no. 91; c) Kanta & Rocchetti 1989, fig. 38, no. 94; d) Kanta & Rocchetti 1989, fig. 38, no. 95; e) Barnard & Brogan 2003, fig. 8, IB.216; f) Barnard & Brogan 2003, fig. 6, IB.205; g) Barnard & Brogan 2003, fig. 6, IB.199.

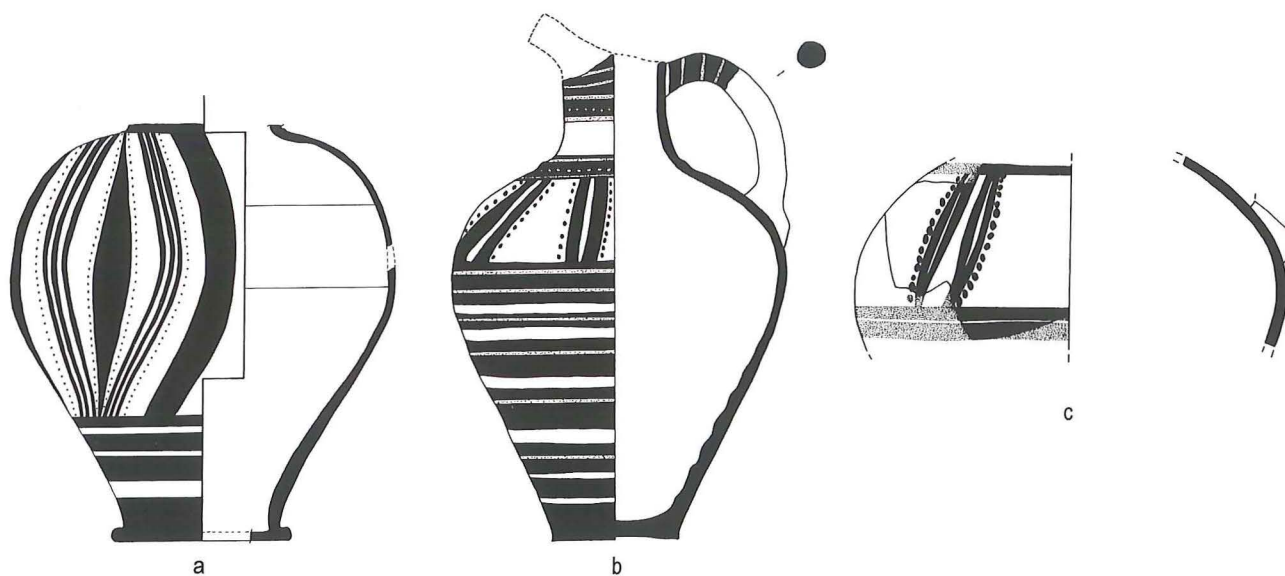


Fig. 3. a) Kanta & Rocchetti 1989, fig. 59, no. 455; b) Sackett & Popham 1970, fig. 11, NP 60; c) Barnard & Brogan 2003, fig. 21, IB.313.

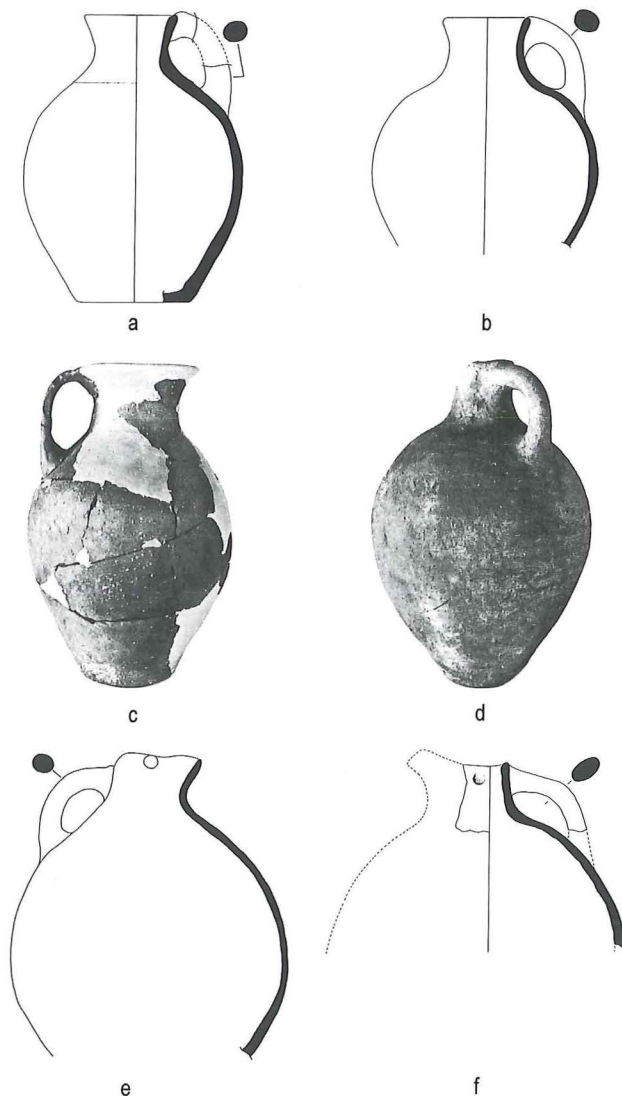


Fig. 4. a) Kanta & Rocchetti 1989, fig. 61, no. 467; b) Kanta & Rocchetti 1989, fig. 61, no. 469; c) Cummer & Schofield 1984, pl. 60, no. 687; d) Cummer & Schofield 1984, 60, no. 686; e) Kanta & Rocchetti 1989, fig. 61, no. 466; f) Barnard & Brogan 2003, fig. 22, IB.315.

another matter. In this conference, we have seen it in many deposits, which were clearly LM IB, from sites all across the island. The Nerokourou forms (Fig. 1a-c) offer slight variations, from a simpler bell cup to the ogival cup long considered typical of LM IB.<sup>8</sup> Of the cups from Nerokourou, the closest to the identified LM IB ogival cups is cup 1a (Fig. 1). Some of the Nerokourou forms have close parallels at the Artisans' Quarter at Mochlos (e.g., Fig. 1e-h). Kythera Deposit  $\mu$  and Tomb  $\zeta$  also have comparable forms (Fig. 1i, j), as did Deposits  $\xi$  and v.<sup>9</sup> It is interesting to note that many of the Palaikastro and Mochlos LM IB ogival cups are also dipped in a dark paint (e.g., Fig. 1d, e, f, g). It is clear, therefore, that the habit of dipping pots in an almost black paint, which continued in West Crete until the end of the Neopalatial period, was also present in East Crete, but there this tradition continued in later times, even into LM III.

<sup>8</sup> Cf. Sackett & Popham 1970, 222, fig. 13: 13, our Fig. 1d.

<sup>9</sup> Coldstream & Huxley 1972, pls. 39:91, 36:30.



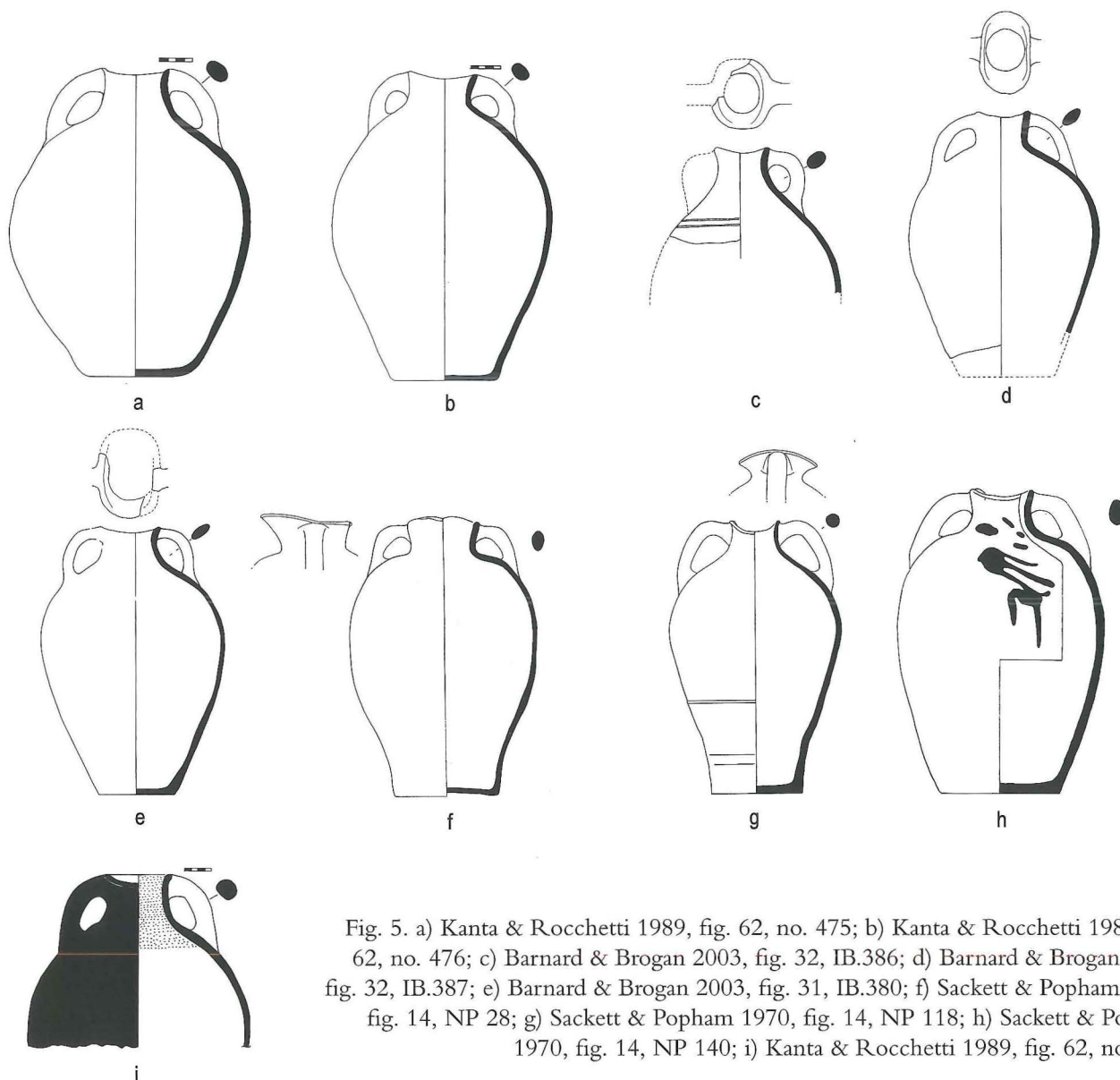


Fig. 5. a) Kanta & Rocchetti 1989, fig. 62, no. 475; b) Kanta & Rocchetti 1989, fig. 62, no. 476; c) Barnard & Brogan 2003, fig. 32, IB.386; d) Barnard & Brogan 2003, fig. 32, IB.387; e) Barnard & Brogan 2003, fig. 31, IB.380; f) Sackett & Popham 1970, fig. 14, NP 28; g) Sackett & Popham 1970, fig. 14, NP 118; h) Sackett & Popham 1970, fig. 14, NP 140; i) Kanta & Rocchetti 1989, fig. 62, no. 472.

The cup with one handle was not so popular at Nerokourou; however, the few extant but fragmentary examples also have close similarities to LM IB cups from Mochlos (Fig. 2).

### *Jugs and amphorae*

Clear evidence for an LM IB date for the Nerokourou destruction is offered by jug no. 455 (Fig. 3a). The vase is not complete, but the applied ring at the base of the neck is clear. The complex pattern of vertical decoration on this vase finds close parallels in East Crete. A similar, but simpler motif adorns an LM IB jug from Palaikastro (Fig.

3b). Comparable decoration is also seen on an LM IB jug from Mochlos (Fig. 3c). The decoration of the Nerokourou jug, however, extends lower down the body than the East Cretan examples.

The Nerokourou destruction also included plain jugs with a round mouth (Fig. 4a, b). An important chronological correlation is offered by two vases from House A on Kea (Period VII), which was destroyed at the end of LM IB (Fig. 4c, d). A fragmentary LM IB jug from Mochlos contains the same oval form and pellet below the rim as found on one of the jugs from Nerokourou (Fig. 4e, f). The spout is not preserved on the Mochlos vase, thus preventing a closer comparison. The possibility also remains that the restored portions of the neck

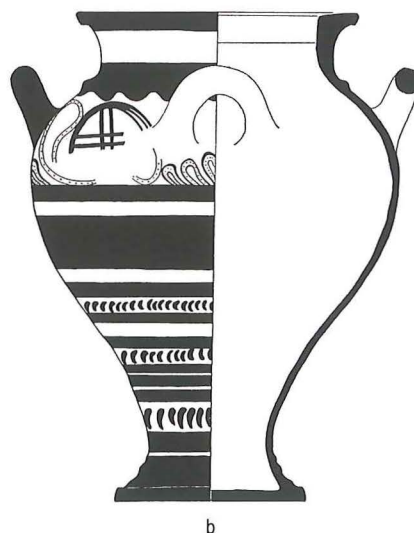
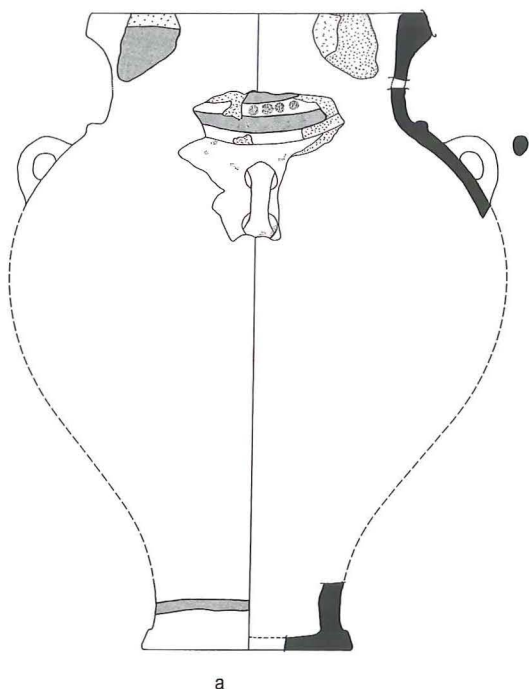


Fig. 6. a) Kanta & Rocchetti 1989, fig. 79, no. 582; b) Sackett & Popham 1970, fig. 16, NP 69.

and spout of the Mochlos jug were not as shown in the drawing, but in fact more similar to the jug from Nerokourou.

The plain amphora with oval mouth may not be a very diagnostic shape by itself, but significantly, it continues into LM IB, as is clear by a comparison of examples from Nerokourou and Mochlos. This form is also present at Palaikastro (Fig. 5a-i).

### *Piriform jar*

A piriform jar with cylindrical neck was not mended because of its poor preservation; however, the vase was reconstructed in a drawing from three diagnostic fragments (rim, shoulder and base). The reconstruction of the middle section of the body was not very successful,<sup>10</sup> and a corrected version is presented here. The form is similar to that of an LM IB vase from Palaikastro (Fig. 6).

### *Alabastron*

The material from Skinias presented at this conference by Stella Mandalaki included a squat decorated alabastron. This is a mainland shape often imitated in Crete. On the Greek mainland, FS 89 appears in LH I. Furumark believed that the an-

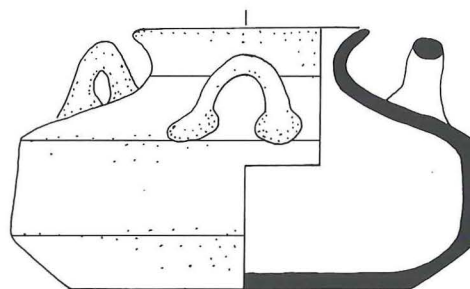


Fig. 7. Kanta & Rocchetti 1989, fig. 74, no. 543.

gular, squat alabastron did not “appear on Crete before LM IIIB1, and then evidently as a sign of Mycenaean influence”.<sup>11</sup> Obviously, the shape arrived in Crete much earlier, and this is important for historical reasons, as we shall see below. The only other published example of this shape came from the Nerokourou destruction (Fig. 7), and for a long time it appeared to be an oddity. This vase has a short neck, sloping shoulders, a straight-sided angular upper body, sloping lower body and a flat base. The clay is buff and worn with faint traces of black paint still visible.<sup>12</sup> It is not clear

<sup>10</sup> Kanta & Rocchetti 1989, 208, fig. 79.

<sup>11</sup> Furumark 1941a, 43, n. 2.

<sup>12</sup> Kanta & Rocchetti 1989, 157–8, fig. 74.



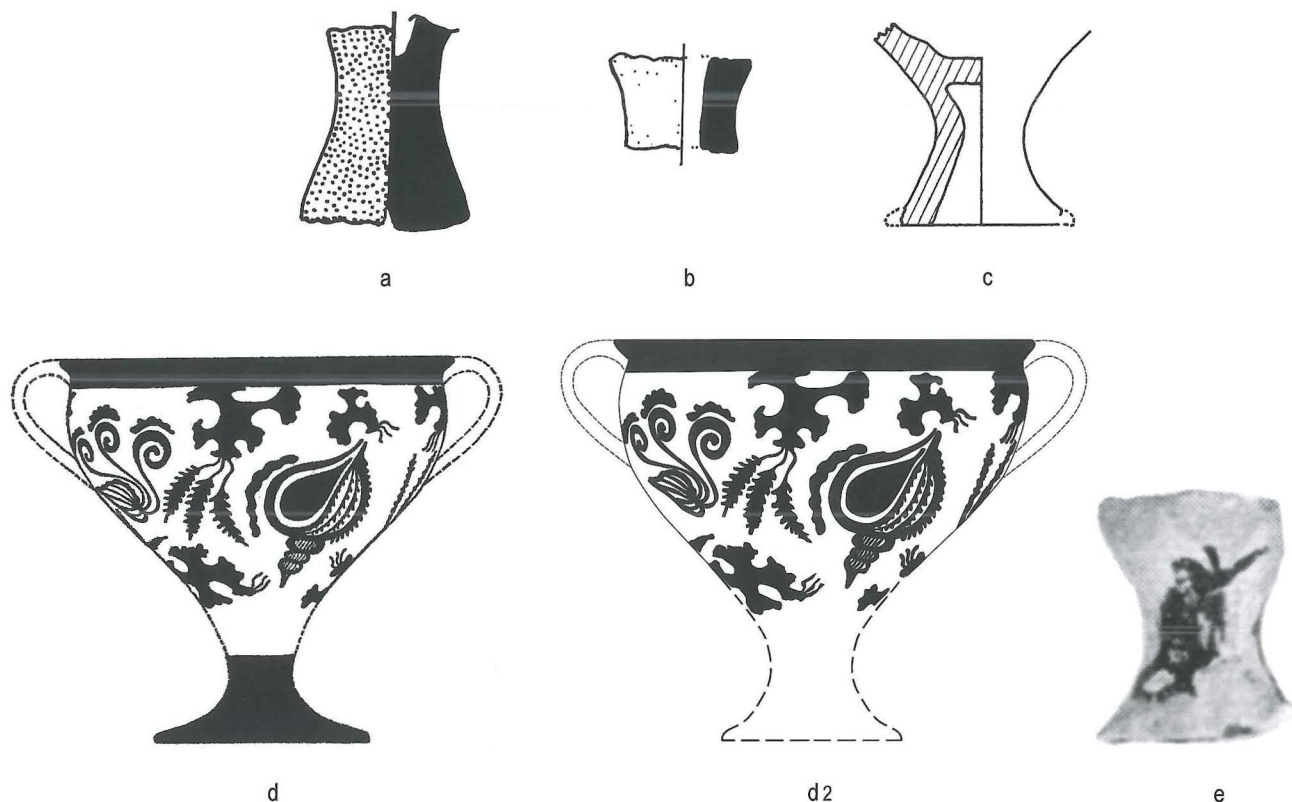


Fig. 8. a) Kanta & Rocchetti 1989, fig. 53, no. 391a; b) Kanta & Rocchetti 1989, fig. 53, no. 391; c) Coldstream & Huxley 1972, pl. 44, no. 109; d) Popham 1978, fig. 1b; d2) suggested restoration of previous; e) Coldstream & Huxley 1972, pl. 55, no. 109.

whether this vase is local or an actual Mycenaean import. Its worn state does not permit a clear attribution, though future clay analysis may provide a solution to this problem. It is also interesting that the pottery from Skinias shares many other features with the ceramics from Nerokourou, thus illustrating the essential unity of LM IB culture across the island.

### *The goblet*

Another shape which can be a good indicator of chronology is the goblet. Two sherds from kylikes or goblets were found at Nerokourou (Fig. 8a, b). Both have reddish clay with worn surfaces, faint traces of white slip, and reddish paint. One has a perforated stem, while the other is solid in the middle, but the beginning of the bowl and foot are visible. A kylix foot from Kythera (Fig. 8c, e) has a similar section and size. Its decoration of rockwork and seaweed dates it very firmly to LM IB.<sup>13</sup> True

hollow-stemmed kylikes or goblets do not seem to appear in Crete before LM II.<sup>14</sup> However, there can be no doubt about the context and the fact that the Nerokourou fragments date to the Neopalatial period. Popham considers a Marine Style kylix from the Unexplored Mansion to be early LM II. Although an LM IB date for this kylix could be possible on stratigraphic and stylistic grounds, he prefers to consider it the earliest known kylix in Crete.<sup>15</sup> In view of the Nerokourou and Kythera fragments, it is probable that the Knossos marine kylix is also LM IB and not early LM II in date. Its foot, which is missing and subsequently restored like a typical LM II Ephraean kylix, could have been similar to the kylix stem from Kythera (Fig. 8d, d2). In the case of the vase from the Unexplored Mansion, traces of two handles are preserved, while

<sup>13</sup> Coldstream & Huxley 1972, 145, dep. ξ, fig. 44: 109.

<sup>14</sup> Popham 1969, 298.

<sup>15</sup> Popham 1978, 181–3; Popham 1984, 167–8.

the Kythera and Nerokourou fragments do not preserve such evidence. We should not forget that two-handled goblets (Communion Cups) existed in the Protopalatial period and continued into the Neopalatial, but the foot and base of these vessels were different than those of LM II. The vases discussed here may represent the first appearance of the shape at the end of LM IB.

These cups have parallels at Kythera and the Unexplored Mansion, but their presence at Nerokourou, a site which lacks later occupation, is a clear indication of a late destruction within LM IB when the first characteristics of LM II had started appearing. No. 391 was found in level 1 of Trench 24 (the Minoan Hall) where much pottery was discovered in lower levels. It is possible, therefore, that the vase to which the sherd belonged was originally situated on the upper floor of the Villa. No. 391a was found in the surface level of Trench 35 in an area damaged by the heavy machinery (Fig. 8a, b).

## Conclusions

It is obvious from this conference that more than one destruction occurred on Crete in LM IB. These destructions seem to be connected to historical events and changes during the Neopalatial period itself. These changes are also reflected in the appearance of militaristic subjects in various aspects of Neopalatial culture (e.g., the iconography of various sealings). Also, fragments of swords and boars' tusk helmets are present in some Neopalatial tombs at Poros.<sup>16</sup> These changes may be related to Knossos. They may also reflect the arrival and presence on the island of Mycenaeans. Some distinct Mycenaean features in LM IB pottery (e.g., the appearance of the alabastron and goblet) are compatible with the features mentioned above. It seems possible that within the framework of severe seismic activity, Mycenaean elements already present on the island, and perhaps with reinforcements from the mainland, took over at Knossos, where there appears to have been a change of dynasty. Well-known new elements illustrating these changes include the appearance of warrior

graves, chamber tombs, underground tholos tombs and the establishment of Linear B, starting in LM II.

### *Further problems related to LM IB pottery*

Regarding the contents and definition of LM IB pottery, there are several points that need to be addressed:

1. The presence and extent of added white decoration and the continuation of polychromy within the Neopalatial period need to be clarified. Connected with this is the evolution of the floral style (e.g., reeds, olive sprays), as well as the variations of the spiral. The Floral and Marine Styles and the use of linear motifs, which at Zakros all seem to belong together, obviously do not follow one another from LM IA to LM IB. Instead, they appear to co-exist on vases, which thus need to be dated using other obvious parameters.
2. Vases of the Special Palatial Tradition have been discussed in this symposium. For the most part they belong to the Marine Style. Does such a palatial tradition in pottery exist in LM IA, though, of course, not marine in style?
3. Can a definite typology of the reed pattern be established? Do LM IA-type reeds continue into LM IB?
4. Is there a clear typology of the rounded, S-shaped decorated cup and the bell cup? Here, one can include the rounded cups decorated with a voluted running spiral with or without added white.
5. Considering the system of bands framing LM I motifs, can an evolution in their arrangement be distinguished for each phase?
6. Do the straight-sided and Vapheio cups continue or disappear in LM IB?
7. The appearance and evolution of the stirrup jar needs clarification. When exactly does the small stirrup jar appear? Is it before LM IA, during LM IA or only in LM IB? Do the spirals that often decorate such stirrup jars fit typologically

<sup>16</sup> Muhly 1992. Thanks are due to Dr. G. Rethemiotakis who brought the Poros finds to my attention.



with other spirals attributed to various phases,  
and if so, which?

8. Does the sea anemone used as filling ornament  
appear before LM IB

Obviously, much work still remains to be done, and

the material from many sites needs to be published  
before we can have a more thorough understanding  
of LM IB. Nevertheless, this conference has  
provided an auspicious beginning.

# Discussion

**Platon** Athanasia, thank you very much for this valuable contribution to my paper. I only have to say that I wanted to show some pottery from the previous phase, attributed to LM IA, but I did not.

**Warren** So rich and wonderful is the material from Zakros that we really can look at things with an extraordinary level of information. I found Lefteris' presentation of two stages within the Zakros stratigraphy entirely convincing; it could not have been more clearly demonstrated. At the same time, there appears to be very little, if any, significant ceramic distinction between them, and they do appear to go together, though I agree with Athanasia that it's impossible to measure exactly how much time is involved. The only thing I would say at this stage, specifically in relation to your paper, is that I think it would help if you were willing to withdraw the Mochlos House C.1 group, which is actually stratified underneath the Santorini ash, as we've known since the famous publication of 1989. Yes, you can show that those forms do occur in the LM IB stage, but it really would make it very difficult indeed to place the material, which must be pre-eruption or at the time of the eruption; it doesn't affect the rest of your argument, unless of course, which I do not think to be the case, you really are arguing that the destruction of Zakros in LM IB is contemporary with the eruption. I know your father did say that, but I understood that you do regard it as later than the Thera eruption. Otherwise, we get into a huge thing about pre- and post-eruption. There can be no doubt that the Mochlos House C.1 material is pre-eruption or was put in, as was said in the paper, at the time of the immediate rebuilding as a foundation deposit, or something like that. It could easily be separated out and all the rest of your material could stand as a very solid piece of evidence for discussion.

**Platon** I don't know why I must withdraw material. Of course this is not the time for a general discussion on the simultaneous destruction of the Thera and Zakros settlements. But, in recent years I have considered that the two destructions are very close, and probably we must reconsider the matter; we must see if we have two destructions in a short time interval in Santorini and if the first of them is represented by the first layer of ash which covered this significant pottery unit.

**Barnard** About the C.1 material again, I can agree with both of you. You made a fantastic presentation and I have absolutely no doubts that at Zakros there are materials that stylistically we would call LM IB together with what we would stylistically call LM IA. We have to learn to separate things dated by artistic style, and things dated by stratigraphy; stratigraphy wins. Regarding the House C.1 material, for Mochlos that material is not IB. For Zakros, it is. You clearly are working with a different style in IB; you're continuing those previous traditions. At Mochlos everything



about those pots screams that it does not belong with deposits that also have ogival cups, Marine Style, or anything else IB, as well as the quality of the clay, which is imported. Maybe it's from Zakros, or somewhere else further in the East. The burnishing, the color of the slip, the quality of the added white paint, there is nothing about it that matches anything we have elsewhere in IB, so the divide seems pretty clear. But that does not in any way stop that style from being LM IB elsewhere. Mochlos no longer does that, but we are a very different site so there is no problem with that.

**Platon** I am not a specialist on the pottery of Mochlos, but you showed yesterday an ogival cup from this same context, I think, and, as far as I know, the ogival cup is a type fossil for the LM IB period.

**Barnard** Yes, it is and it's not only a type fossil of the IB period, it's a type fossil from the time of the eruption. And we believe this deposit is a foundation deposit, associated with the rebuilding of House C.1, contemporary with or just subsequent to the eruption, which is why there is a layer of ash, recently fallen, we assume, on top of this foundation deposit. It shows that a very rudimentary precursor to an ogival cup (Colin Macdonald prefers hemispherical because it doesn't really provide the ogival shape) is already there, but only in single examples in these levels like these. Again, it is not canonical for our LM IB.

**Doumas** First of all, I would like to point out that the burial together of two different pottery styles does not mean that they were produced simultaneously. Second, as far as Santorini is concerned, we have only one destruction that we call pre-eruption, and this occurred, at the most, two or three months before the eruption, and the eruption itself did not last more than a few days, according to the specialists.

**Platon** I am not sure of the duration of the whole explosion activity, because in the last congress on the Santorini eruption in 1989, I think there were some people who considered that the time probably was for some years, something like that. I think I can remember. From the vegetation, some plants which have been grown in this last layer.

**Doumas** Yes. First of all, the excavations after that period showed that we have a lot of organic material deposited on the debris and trapped by the pumice, which means that items such as furniture, baskets, etc. were not exposed. They simply did not manage to take them from the site to wherever they were camping and, second, in the last issue of *ALS*, our little periodical, there is a full description of last year's research about the eruption.

**Brogan** Lefteris, my question is not about C.1, I agree with Kellee and Peter [Warren], but about all of the white-on-dark pottery we have. I think that Kellee and I have now seen at least ten new things that we can identify consistently as coming from Zakros. I mean, to show all of that pottery from so many buildings, not just the Palace or the East House, that whole range of what must have been eight assemblages together was beautiful, extremely useful for us; we have always suspected it, but now we know that

we're importing many, many things from Zakros. I have one question. You showed a cup from one of the Villas outside of Hagios Giorgios, and we were always drawn to the late looking features of that cup, which I think has pendent semicircles at the rim. When you go back and look at those villas around the Sitia area, do you find anything that looks later than your Zakros destruction? First of all, I guess the question is: is it contemporary with your second destruction? We're finding blob cups in these rural villas that make us want to consider the idea that some of these sites may continue on into the LM IB Final phase.

**Platon** About the cup from Prophetes Elias, unfortunately this excavation is very old and we have no precise location for the find. But, as I can see from the other material, which is almost a unit, and is almost contemporary, the material from Hagios Giorgios is LM IB. Also, we do not have additional LM II features, at least as it has been defined in the Knossos area; I think the destruction of the Villa is simultaneous with the destruction of the Zakros Palace.

**Knappett** Lefteris, thank you very much for this very clear presentation of the LM IB, which I find very convincing. I just have a few points about your Zakros IV, the MM IIIB and LM IA and possible synchronisms with Palaikastro. I would say that your Zakros IV probably goes quite well with our Palaikastro X, i.e., LM IA. We have some of these motifs, the floral scroll, the diagonal foliate band, associated with white-on-dark pottery and with Theran ash. And, it seems quite different from the previous phase, Palaikastro IX, in which we don't have that dark-on-light floral scroll. So I would just like to say that we think at Palaikastro that we can separate MM IIIB and LM IA, and our Palaikastro X would go with your Zakros IV, from what we've seen.

**Platon** I agree absolutely that Zakros IV is contemporary with the Palaikastro phase to which you referred. But we could not tell whether this stage is similar to the LM IA mature style in Central Crete, this is the problem. This is exactly what I said, that the so-called MM IIIB-LM IA in East Crete is roughly equivalent to LM IA in Knossos, and after that we have only two phases of LM IB.

**Tsipopoulou:** First, about the villas. I am convinced that the Villa of Hagios Giorgios is one of the most promising sites to be re-excavated in East Crete, and I think you will agree there is a lot that has not yet been excavated; I am sure anyone who wants to continue this excavation would find very interesting and crucial things by examining the stratigraphy carefully. Of course, as you know, I would very much like to have these villas finishing earlier, but I just do not see that. All of what Lefteris has published from the villa conference is LM IB. So, their destruction, or abandonment (I am not sure what has happened to them) seems to be contemporary with the final destruction of Petras, and now Zakros, etc. But I am not very comfortable with this term MM III/LM IA because, as I said, at Petras we have LM IA destructions at the Palace, in the houses, etc., and a part of the settlement is never re-occupied. We have many more LM IA rooms and houses than LM IB. So, I think this is one phase, the LM IA destruction, and then we have a re-occupation, which is IB; at Petras I think we have only one destruction, maybe you have more than one. But, what you call MM



IIIB/LM IA is a phase with ripple pattern, spirals, etc.; this is what we, and I think Mochlos, call the LM IA destruction.

**Platon** Yes. This is exactly what I said, that the so-called MM IIIB/LM IA is not the transitional from MM IIIB to LM IA, but is a phase, which ends with LM IA Final.

# Closing comments

*Wolf-Dietrich Niemeier*

So, this very stimulating conference is coming to an end and, as some of you must leave early, I would like, on behalf of all of you, to thank Tom Brogan and Erik Hallager for organizing this wonderful conference. There may be things in the discussion that we don't agree on, but we can all agree that this was a very stimulating conference, and though in this free and open atmosphere it sometimes appeared that we would run out of time, everything worked out well. It was a unique experience for me and we had lots of time for discussion and some very good discussion. Second, and I think I speak for all of you, it was a great pleasure and honor that "the grand old man of Minoan archaeology", Sinclair Hood, came down all the way from flooded Oxford to hot Athens to join us and give a brilliant paper with his usual very good sense of humor. On the other hand, one scholar, I think, was missing at this conference, Mervyn Popham. It is sad that he is no longer with us. I think that we all miss his authority and his advice. He would have pointed out some things to us at this conference.

But now, to the topic of the conference: *LM IB pottery, examining new evidence for relative chronology and regional differences*. I think there are some points on which we all, or at least most of us, agree. There is a distinct LM IB phase between LM IA and LM II. I remind you of Sinclair Hood's paper in which he told us that at the time of his pioneering work on defining LM IB, in his *ILN* article "Sir Arthur Evans Vindicated", it was doubted that there was a distinct LM IB phase. This doubt appeared again and again; Doro Levi doubted it at some point, and during the seventies and eighties in the discussion about the Thera eruption, it was doubted again, and so one important result here is that we can now definitely define an LM IB phase. We have

problems with the beginning and the end, but I will come to that later. Gerald Cadogan in his paper asked, "What is LM IB? Is it only fine ware or is it the full range of pottery?" This also points to the fact that until recent years the hallmark of LM IB in all of the handbooks, and coffee table books was the fine ware that we, together with Phil Betancourt, call the Special Palatial Tradition. These vases, as Lefteris Platon said, comprised far less than one percent of the pottery from Zakros, and we probably have similar numbers from other sites; this was the pottery which until recently defined LM IB. We now know from this conference that it is rare and does not appear in all LM IB deposits; also, I think that a very important result of this conference is the knowledge that where we have different phases of LM IB, it appears rather late. So we, apparently, have early phases of LM IB without the Special Palatial Tradition (e.g., Marine Style). This was also clear from Aleydis Van de Moortel's paper today and others in the last days. So, now that we have seen a lot of exciting new material and the full range of LM IB pottery deposits from a number of sites all over the island, there can be no doubt that there is a LM IB phase across Crete. And we have also seen much of range of the undecorated domestic pottery (e.g., the conical cups, cooking pots). In addition, in some of the papers, there is the hint of typological development in these quotidian shapes from LM IA to LM IB.

Then, there are the points of disagreement. First, the beginning of LM IB. How do we define the beginning of LM IB? And here I would like to quote another eminent British scholar, John Pendlebury, who wrote long ago (*A Handbook to the Palace of Minos at Knossos*, London 1933, 9): "But it must be always remembered that the periods are not



separate watertight compartments, they often slide imperceptibly one into the next. It is not reported that Minos declared, *I am tired of Middle Minoan III let Late Minoan IA begin!* That's the problem. There is a good deal of overlapping and it was also clear in Lefteris Platon's paper, in the deposit from the Royal Road and others, that in decorated LM IB pottery, the great majority is a continuation of LM IA. That is what Furumark called Sub-LM IA, and I too used this term a long time ago, but I now prefer Phil Betancourt's term "Standard Tradition" because Sub-LM IA gives the impression that it's a little bit that continues a little further, but that's not true. Let us say that perhaps 90% of the LM IB pottery from deposits, or perhaps an even greater percentage of the decorated pottery, is in the Standard Tradition. And as I said already, the Special Palatial Tradition apparently, as I learned from this conference, makes its appearance only later in LM IB; we only have it near the end of that phase.

Now, perhaps we should start with the problems of relative chronology, first the beginning of LM IB, and then the end of LM IB. So, where should we put the border between LM IA and LM IB? We saw in the discussion after the paper on Mochlos that there was some disagreement. The speakers called two floors early LM IB and in the discussion it was argued that it was not early LM IB, but rather late or mature LM IA. So, where should we put the border between LM IA and LM IB? I propose the Thera eruption. We have stratified Thera ash fall at Thera, Mochlos and Palaikastro, and in the eastern Aegean on Rhodes, Kos, at Miletus and Iasos. Perhaps we should define the border there. Otherwise I see a problem because as Pendlebury said, we stop LM IA and start LM IB. Because in LM IB, the great majority of the pottery is just a continuation of LM IA. And with that I would like to open up the final discussion.

# General discussion

**E. Hallager** But the natural question would be: would they start LM IB just because of the Theran eruption?

**Van de Moortel** If we do that, we would create a discrepancy with the LC I chronology because Cherry and Davis recognized a post-Theran eruption LC I phase. And Yannis Lolos has also recognized post-Theran eruption LH I.

**Rethemiotakis** Just a small point. When in stylistic terms the LM IA period finishes, this could be a good starting point for the next period. I have heard in several papers here, an *argumentum ex silentio* about the elimination of ripple. Most scholars here agree by consensus that this motif does not occur in LM IB whatsoever.

**Niemeier** I think we had some examples; Lefteris Platon showed one.

**Platon** On this matter, I think that the people who identify LM IA Final consider that ripple is almost absent then. This is the problem, that the same is also said for the LM IB pottery. There is a little ripple in LM IB and in LM IA Final. What is the difference?

**Macdonald** Jerry Rutter just said that nobody wanted to talk about LM IB Early, but surely this is all quite simple. This is a methodological and stratigraphical matter, but, at certain sites there are divisions, stratigraphically different phases of IB, as we will see particularly at Mochlos when we come to it. Whereas in North-central Crete, none of us has been able to find a different phase or to subdivide LM IB. Therefore, those of us who have worked mostly in North-central Crete will not talk about early LM IB because we haven't got the evidence to support it. But elsewhere in Crete, particularly in the east, Mochlos, for example, has several different levels of LM IB. So that's perfectly alright on a site by site basis. And then it's up to us as this conference progresses to decide the usefulness of these divisions. Whether they are merely stratigraphic at each site, or whether they can really be defined in any useful way to help us in different parts of Crete.

**Hood** The Minoan periods in general are defined by the horizons of destruction throughout the island, and what could be better than the eruption of a great volcano? Also, it is nice to have an outside, independent as it were, umpire. The eruption of Thera does seem to me a very good point at which to draw the line, and anything above a deposit of tephra must by definition be early LM IB. Also, of course, Evans always said that the pottery designs were based on what the fresco painters had done. There is, Christos [Doumas] assures me, no Marine Style pottery from Thera. But, in harmony with the views of Evans, there is the plaster offering table with incipient Marine Style



decoration, doubtless the work of someone more regularly employed in painting wall frescoes.

**Betancourt** I think it's very difficult to try to define any phase on the absence of something because of the problem of heirlooms and antiques; very often the deposits have only a few vases, and if one of them happens to be an antique with a motif from the previous phase, then that is a problem. It would be much better to define something, if it must be done on the basis of motifs and shapes, on the appearance rather than the disappearance.

**Doumas** It seems that as pottery is continually being produced, it is logical to think that the style which we consider LM IB started within the floruit of the LM IA style. It must have started somewhere in a geographical place. And perhaps those sites which happen to be covered with volcanic ash had not yet introduced, or accepted, or adopted this new style, while others adopted it earlier and continued on a parallel path. I don't see that we have to have a clear-cut ending.

**Rutter** The advantage in using the Theran eruption would be, as we heard from Irene [Nikolakopoulou] earlier, that the number of imported Minoan vessels coming from, presumably, many different centers on Crete (though the majority may come from Knossos) would be somewhere in the neighborhood of 800 whole pots; this is a larger group of chronologically homogeneous material than I know of from any single Minoan site anywhere. And it would be great just to accept this, but you have to publish all of the LM IA pots from the eruption horizon and just draw a line and say "we arbitrarily call this the end of LM IA." And you would then have the advantage of including not only Knossos but also other production regions. We know that there is regionalism in Crete already in LM IA, but that would be built into this mechanism because you would have these pots represented at Akrotiri. Otherwise, it's hard for me to imagine, and I represent a site where we have no destructions; so, if you have to find a great destruction in order to define a phase, well you can just leave Kommos out of the argument altogether. I don't think that's the way to proceed. And I agree with Phil [Betancourt] about the survival problems of ripple.

**Brogan** Mochlos provides the flip side of this observation. Several of our Neopalatial buildings are completely rebuilt in what we believe is a post-eruption horizon; we think it happens very soon after the eruption. Kellee [Barnard] and I may have made a mistake in our paper yesterday, and that was showing you the lowest level of Room 1 in House C.7; that's the one Colin [Macdonald] picked up on right away. We were trying to show this level as a mix, a room we think was in use already before the eruption and continued in use after the eruption; it thus had this mix, perhaps one would call it half and half. That deposit confused us and we showed it to you. If we had taken that deposit out, and just showed you what we were much more confident were post-eruption levels, there would have been less confusion. And so for Mochlos to work, not from the negative (i.e. the things that are missing) but from the positive (i.e. the things that we see happening in the post-eruption horizon), we get, like Aleydis [Van de Moortel] showed today, conical cups suddenly being produced in a buff fabric with a very consistent shape. At the same time we get the ogival cup,

which I think many sites in East Crete have, in a post-eruption horizon. We may get a few strange things in the fill, but it's very clear that they are different; the ogival cups that come in with the eruption have an almost straight side, and there are very few of them. And then, I would say that we also have the advantage of considering the difference between sites that are producing pottery like Mochlos and sites that are consuming pottery like Pseira. After the eruption, the Mochlos Artisans' Quarter begins, but Mochlos was probably producing its own pottery earlier in the MM III – LM IA horizon as well. Thus we have the advantage of seeing the impact of a major new production center introduced right after the eruption. And we see its impact on many shapes. It wasn't something that we emphasized heavily in the paper. But, there again you have the potential emphasis of a local production center starting new things, you see new ideas, new shapes, and we would argue, some new decoration. So, there is something to be said on the positive side.

**Van de Moortel** Just a small addition to this, the advantage of doing it this way is that the new elements that come in after the Thera destruction continue into the phase in which we have Marine Style and Special Palatial Tradition, so that is an argument to say that we see LM IB at that point. At least in East Crete.

**Warren** I think that Jerry [Rutter] has begun to get us into some of the fundamentals of the discussion. I am beginning to feel that in some ways we have to hold certain things in what we might call "creative tension." We will always have a situation where we have bodies of material that are stylistically consistent, which we'll say: it's reasonable to call that LM IA. And we will have other bodies of material, which, for the reasons that are already clear, with the Special Palatial Tradition and so on, we will call LM IB. And therefore we accept that after all we are talking about a passage of time, though perhaps not yet the absolute number of years, in which there are ceramic styles coming and going and developing; it may simply be meaningless to say some sharp line can be drawn between these. But, nonetheless, we can hold that in a kind of tension with the fact that we can isolate deposits here and there, as Jerry [Rutter] began to touch on; I would agree with Sinclair's [Hood] point that you could perhaps take major horizons of destruction, but that's a natural phenomenon and it's quite by chance whether it might or might not affect ceramic styles. You could have a major horizon and you could say "right, we will call it that". At first sight, the Thera eruption is a tremendous major horizon. But, as we all know, it is not easily traceable all over the island of Crete. It may be clear in some places but it's absolutely invisible in others. So that outside of Thera, it is difficult to use that as a criterion. On the other hand, we do have two really substantial destruction horizons. There isn't full agreement on what label to stick on the first one I call it MM IIIB/LM IA transition, others call it MM IIIB, and still others call it early LM IA, but it does represent a horizon that you can put your finger on at many sites across the island. And the second one, of course, is the LM IB destruction horizon. Certainly, I think it's been well demonstrated in this meeting that there is some phasing within LM IB (internal phasing within sites), both of which can be called LM IB. But it's equally impressive that the evidence suggests that there is not a great time gap between these phases within LM IB. Mochlos may perhaps point a little bit the other way, but at several sites no big gap seems to be involved, so that when you move to the wider level, the gap is small and we're not



really talking about a whole different phase within LM IB that can be very clearly demonstrated. So, we have this sort of “creative tension”, where we have different ceramic groups. The problem of regionalism and conservatism is a very real one; when we study Cretan pottery over a long period, we seem to have this sort of time-lag in many phases. I’m not trying to score points here for Knossos, perhaps I have to make that clear, but there is a sort of time-lag where you have developments; we think of the MM IB/II position, where eastern Crete is perhaps lagging a bit, as new styles have begun to be advanced in the center of Crete, whereas the older styles are carrying on a little longer in the East, but in real terms they are actually contemporary. But I don’t think we should agonize too much about this. We have deposits which we can safely call LM IA, and we have huge numbers of deposits we can safely call LM IB, but perhaps we should try not to agonize over whether or not we can draw a very sharp line between them. I don’t think Thera will work because it’s a natural phenomenon that doesn’t actually apply all over Crete; if it did, that would be a different matter.

**Niemeier** Just as Doumas said, the problem is that we have a continuous development, and the lines we cut are conventions to define a phase, therefore, I asked this question at the beginning. Of course I agree with Colin [Macdonald] that we would need deposits to define what is LM IA. But the problem is that everyone at the conference has his own picture of the transition from LM IA to LM IB because there is not a clear distinction between what we may call mature LM IA and early LM IB; this is a floating development and therefore we have a problem, we can’t agree where to put an exact border line. But what do we then teach the students, who want to have definitions; we have these tables where we put absolute chronology, which we fortunately left out of this conference up to now, so we are aware of those problems, I think. And there is the problem of the existence of a horizon which is contemporary all over the island; others have a different view of that. So, the Knossos excavators have shown us that, without a doubt, LM IB is a single phase. The only exception is the Minoan Unexplored Mansion South Corridor deposit, but Eleni [Hatzaki] said that one deposit doesn’t make a phase, or sub-phase, and that’s the only deposit that could be considered a chronologically different phase, at the end of LM IB or between LM IB and LM II. But we have seen Khania, and I think Maria [Vlazaki] said that we will have another look at the Khania material because, unfortunately, we started with her before we had seen all of the other material from eastern Crete. I believe that you [speaking to Maria Vlazaki] argued that you have a phase later than all of the LM IB destructions.

**Vlazaki** Later than the material I saw from the Royal Road published in the *Kritika Chronika*, I said.

**Niemeier** But you argued that you have classical Marine Style, but not in the last destruction.

**Vlazaki** Yes, that’s what I said; I have it in the earlier destruction.

**Niemeier** So, if I understand your argument correctly, then you think that the destruction of Khania may be a little later than some of the other LM IB destructions with classical Marine Style.

**Vlazaki** As I now understand it, it looks as though we are together with the rest of Crete; only Knossos has one destruction.

**Rutter** Let's be fair before we say all of North-central Crete. I would say Nirou Chani, Tyllissos, Knossos. Those three. And the other sites we would have to leave out.

**Vlazaki** We have LM IA groups of pottery from below the final destruction, below the last floor, and all of them have Marine Style. And you see also what Aleydis [Van de Moortel] said about the fine decorated material; it looks like hers. This material belongs to the earlier floor and below, but not above. It has nothing to do with the last floor. We have not found full Marine Style *in situ* in the final deposits. It doesn't mean that we might not find it in the future. We also have these vases, which are the same as one from the Royal Road excavations which could be from Khania, in deposits earlier than the final destruction. The fabric that Sinclair Hood describes looks like Khaniote. The earlier pottery is better made, at the end it is more hastily done. Of course, it only covers a short time and goes with the destruction of the Royal Road, and I put all these together, as I had some photos from the *Kritika Chronika*, in a short phase before the final one. We have Alternating Style vases, but this pottery comes from the second stage, an advanced phase. They are not locally made, they come from Knossos, I think, but we haven't yet done analysis. And we also have something different in the architecture. Repairs were being made in several rooms of House 1 when the final destruction came. The "Sevah Building" was under repair; they closed the doors and covered the clays pipes; they put a hearth on top of a door, that's why I think that this represents later activity.

**Brogan** Our Marine Style, like hers, is broken up; it's not in use at the time of the destruction.

**Warren** Right! So! Let's put the problem the other way around. Let's say we'll take Khania as the base from which, just for the purposes of the discussion, we can discuss this matter. Obviously, Maria, we fully accept that you have two stratigraphical phases, your early one and later one, both of which are LM IB. The point I am making is a purely stratigraphical one, you have two phases. What you are suggesting at the moment is that the lower, the earlier, the first of your two phases corresponds closely with the Royal Road, and that would mean also with my Stratigraphical Museum material, and that, therefore, your later material, as it were, would be later than the horizon we are talking about at Knossos. Well, the problem there is that there are perfectly good vessels, indeed the very last one, the lily cup that you showed, which are present in the Knossos destruction, that is, material from your later phase, classic pieces; Lefteris [Platon] has one in Zakros, which we saw, and we have exact parallels of classic pieces of your later phase in the Knossos material that we are talking about. So, the solution to this problem is actually very, very simple. You have two phases, Knossos has only one. The question is almost a false one: which one of your two does Knossos go with, because it's very obvious that they have to be extremely close together in time.

**Vlazaki** They are close together in time since we have a Marine Style amphora in the first [phase]. That's why I said it is at the end. But there are two [phases]. Something



happens after the first. And I would prefer to have the assemblage go with the example that Lefteris [Platon] showed us. It could be with your early destruction, I don't have the assemblage to see this. ... Anyway, the one from Mochlos, which is at the same stage of the Alternating Style, is not in the final destruction, it is in the middle.

**E. Hallager** Maria, I want to make one point, because I think that what Lefteris [Platon] pointed out to us was very important, that the Marine Style was far less than 1 % of the entire assemblage. So, even though you have excavated a lot of plots in Khania, we cannot be absolutely certain that the Marine Style will not turn up in the late phase.

**Vlazaki** We have not found any vase of full classic Marine Style *in situ* in the destruction. Maybe we will find it in the future, maybe a little more advanced. For the moment we have not. Just a few sherds, mainly in mixed deposits, and then we have them in the lower one.

**Platon** Let's see again the context in House B which we are sure belongs with the latest phase. Here we have a known cup, which is very similar to that from the Royal Road, together with ogival cups and Alternating Style pieces, as I have shown. So, I believe that the House B context dates to the latest phase, and matches very well with the Royal Road, and, of course, matches both the first and the latest phase of the Khania assemblages.

**Vlazaki** But these look to be the earlier stage of Alternating Style.

**Mountjoy** I did say this yesterday, but perhaps people didn't take it on board. I suggested that the LM IB destructions on Crete, including Kastelli, Khania and Kastri, and the abandonment on Kythera are all contemporary, and that the fact that you have a different kind of Alternating Style, an open kind, at Kastri and Kastelli, in the last phase, indicates a regional West Cretan development. That's why it's less common in Central and East Crete, but it's there, I showed some pieces, it's there in the destructions, so you can't say that it's later. There is also the matter of the everted cup, which in fact was not later, but is present in those Central Cretan destructions. At Kastri in the final IB deposit with the Alternating Style you've also got the crowded type and the open type together with classical IB; you have got Reed Style, you've got spirals with arcades, and classic Marine Style; it's contemporary, all of it. And Maria has these in her deposit. You haven't got the Marine Style, I agree with you, that's extremely curious, but you do say that what you should perhaps have is the little tiny Argonauts on the little cups. You haven't got them, but you might get them.

**Cunningham** I just want to make a methodological point. I don't understand why we are trying to use the Marine Style for any chronological purpose, I mean, of all the possible things you could use this seems to me by far the least trustworthy, partly because we don't really know where it's being made or where it could be copied. People will have kept this even when it's broken and in a fragmentary state. The distribution is strange and very special, so we don't know how it's being distributed or how it's being consumed; some places have it, some don't. I just don't see any reason to try to use it for any chronological purpose. And secondly, when we talk about LM II, or Knossian LM

II, I am confused as to what would mark that. Is there anything other than these Ephyraean goblets? I mean even in the deposits that Peter [Warren] was talking about, he had his sixty intrusive sherds, all kylikes, and he hadn't actually noticed if there was anything else to go along with them. I mean the normal occurrence of kylikes in an LM II deposit would be what, from one percent, ten percent? No matter what, there's thousands of other sherds that should have been LM II in that deposit. So essentially, there is no stylistic criteria for LM II, from what I've heard, or, if there is, then what is it?

**Warren** Actually, I am not going to accept Tim's perfectly fair challenge just yet because we haven't got to LM II in the discussion, but I did want to say a word about Marine Style. In one sense I agree with your comment about the difficulty of using Marine Style, but we might remind ourselves that we are talking about a particular form of pottery which, going right back to Sir Arthur Evans (and he was followed by Penelope [Mountjoy] in an article at the French School symposium many years ago), almost invariably is found in special contexts associated with ritual and cult. This is certainly the case in the North Building that I was illustrating at Knossos where we have plenty of Marine Style that definitely is final LM IB, but, equally due to the nature of the material, it might not appear somewhere else. The Zakros Palace has an astonishing amount, but you need to look at it room by room and see; I'm sure you will find plenty of rooms in the Zakros Palace where there is no Marine Style. But, equally, from the Zakros Palace as a whole, there is plenty. It's a very specific kind of material, so, in that sense, you can't use it as the be all and end all of defining the end of LM IB, but it does, nevertheless, have to be part of the picture of how we look at LM IB. However, its absence may not mean that we are not at the same point of time as instances where it does occur in other rooms or in other buildings.

**B.P. Hallager** Anyhow, for later periods it is very important when new shapes appear. I can see that there are some differences concerning shapes between LM IA and LM IB deposits. Has anyone found any flasks in LM IA? I haven't seen any presented here. Or, for that matter, the Mycenaean type squat alabastron with one handle? That also seems to appear for the first time and to be a hallmark of LM IB. There could be other shapes, like the small stirrup jars, or, for that matter, the alabaster, which are not in LM IA deposits but seem to appear in LM IB. You could go on. Shapes are very important in LM III, more important than motifs, because old motifs continue to be used on new shapes. We have many, many examples of that. One of the classic examples that we have often talked about is Mervyn Popham's famous goblet decorated with marine motifs (*BSA* 73, 1978, 181–2, fig. 1b, pl. 24). And, while some people have tried to say that it is late LM IB, this is totally impossible because it's on a new shape introduced in LM II, an LM II goblet, even Mervyn admitted that.

**Cadogan** From your list, Birgitta, for flasks, I can't think of any LM IA ones, but one can think of some late MM ones; therefore, I am not sure that the fact that we may not have LM IA examples matters. But I do think small stirrup jars, meaning non-transport stirrup jars, represent a very significant development in LM IB. And both the large version and that very odd small one that I showed looked as if they ought to be LM IIIB depressed!



**Betancourt** A light-on-dark small stirrup jar comes from Kommos in a pure MM III deposit, along with flasks.

**B.P. Hallager** There always has to be a beginning. When I said that the squat alabastron seems to have been introduced in LM IB deposits, there is this curious, strange forerunner in Hagia Triada, which has been dated MM IIIB (*Creta Antica* 1984, 188, fig. 289). So, of course, it has to start somewhere, but when we can see that it becomes frequent, then we will have entered another phase.

**Barnard** I think there is one thing that we must be careful about with phasing, and I'm feeling guilty about our Mochlos phases here, because everyone is saying "Mochlos has this, Mochlos has that". Yes, Mochlos has it, but this does not mean that the same tendencies and styles must be present everywhere. Nobody in South-central Crete is going to get an ogival cup. We will, and we won't have it in our LM IB deposits. Same thing with Marine Style. I fully agree with Peter Warren's comments on Marine Style, and Tim's as well; it is a very special type of artifact, which at so many sites is not local and thus is imported. You're not only dealing with the style and the chronology of the style, but accessibility. Are you accessing the trade route that is bringing this in to you, or not? What does it mean for social and religious preferences for things of that special nature? I think that each site must identify its own phasing and it can't be done without stratigraphy. And you can't expect them all to match up and align. The best we can do is to get the broad picture of pan-Cretan synchronisms that show tendencies across time.

**Hatzaki** I think that one of the major problems in trying to look at synchronisms is the fact that there are so many regional ceramic styles, so many different workshops that are producing their own things. So, it's far more easy within particular regions to look and say things are contemporary; for example, what we have been saying about North-central Crete; the Mesara region is a very tight group, at least for, let's say, table ware; Khania; East Crete. The problem is when we look at the Standard Tradition pottery, and we have ogival cups in East Crete but no production of the semiglobular cups with fancy decoration that are found in North-central Crete; that's when we start having problems and this is where we are introducing Marine Style and Alternating Style. We have to use a combination of all three different features together in order to reach synchronisms. It's not going to work only with Marine Style, or with the Standard Tradition, or Alternating Style. It must be a combination of the three, and sometimes at sites we don't have all three together, or, rather, we don't have Alternating, Marine and Standard Tradition. So, this is what I see as our main problem at the moment; we should combine features together. Also, I would like to emphasize again what Peter [Warren] said about Marine Style, it is so socially restricted that its absence on its own is not necessarily a criterion for dating something to a later phase.

**Betancourt** We are probably trying to do something twenty-five years too soon; that is, until we define these regional styles, we are going to have a very hard time fitting them into the same phase in another region. Maybe what we should be concentrating on is suggesting that we all try to publish our regional styles over the next few years. There

have been relatively few articles on regional styles in print, and maybe if we did that for a while it would help.

**Niemeier** I think that would be very important and we have seen the regional styles in these presentations, but they haven't yet been defined. Of course, everyone has to define his own regional style for his own excavation.

**E. Hallager** That is something you could add to your papers.

**Niemeier** Perhaps we should return again to the end of the period. We have now discussed Khania; the excavators of Hagia Triada, Kommos, Pseira, Mochlos and Palaikastro have all argued that they have a phase which is later than the main LM IB destruction. The question is whether we all accept this; there have also been several suggestions of how we should call this phase, including final LM IB, LM IC, LM IB2, early LM II. Sitting next to Jerry I can see that he has prepared something on this point.

**Rutter** I would like to start by finding out if we do in fact have a consensus on whether there are these two different horizons because it is pointless for me to continue if we don't have a consensus on that. These two horizons are, it seems to me, clearly identifiable in Central Crete. We can talk about what the problem is in East Crete later on, or how you would line them up. But, Peter [Warren], if you and I are not going to agree on the fact that we have two different horizons, we are not going to make progress. I think that Dario [Puglisi] and I are convinced that there are two different stages.

**Warren** For what it's worth, I have no problem at all with the fact that this has been demonstrated. Wolf [Niemeier] has just given a list of sites where there is internal evidence for phasing in LM IB. It has been very well shown; that is perhaps one of the most interesting things to come out of this workshop. We can agree on that. The question which then arises is: do we consider the latest of those phases at all of the individual sites to be more or less contemporary around the island, or are we talking about a significant period of time, which at some sites represents a later stage. I hope that we are going to move the discussion away from simply discussing ceramic typologies to some speculations about the historical interpretation of all this material. My own feeling at the moment (and I came here very ready to learn and see what people had to say) is that we seem to end with a horizon of destruction around the island, which in some sites (for example Khania) appears to be preceded by an earlier stage of disturbance in LM IB. The evidence from Zakros, Mochlos, and your [Rutter's] site of course indicates that we end with a horizon which is more or less, perhaps not exactly, contemporary with our data. So, I come back to you [Rutter] and say: are you actually proposing from the Kommos material to place something significantly in advance chronologically of what I seem to see; and as Penelope [Mountjoy] and lots of other people have said, all around the island, we seem to have more or less a contemporary, final horizon. So, do you put some sites, including your own, significantly later than that point?

**Rutter** I will just lay out what I see, and you tell me what you don't agree with. It seems to me that there is a major destruction of the Villa at Hagia Triada and that this is



contemporary with a destruction of the Villa at Plakes, Pitsidia; I think those are equivalent in time. And based on what I saw yesterday, I would also link them with the destruction at Makrygialos. I would put all three together with what I called in my paper LM IB Late. That is one horizon. A separate horizon is Knossos Royal Road: North, Knossos SEX North Building, Nirou Chani, Tyliossos, Kolokythi Skinias, and what I was calling LM II Early in my paper. That's a separate horizon and, if you want the list of features that separate those two, I am happy to give them to you. I bet I could come up with about ten to a dozen features. And this is not Marine Style, this is not fancy, exotic stuff, this is basic stuff that, really, we should be using, that occurs on common open shapes and so on and so forth, that we can trace easily. One of the things that really impresses me about the later stage, your terminal LM IB, is that it is easily recognizable over enormous expanses of the island. So, my question to the group is: how do we articulate in a terminological fashion this distinction. Now, if you want to ignore the distinction, fine, we don't have to do any business. But, if you want to say, yes, this is a significant distinction, what can we do? It seems to me there are three options, and I think that we've heard some of them, but let me just run them by you again: 1) we can subdivide IB (IB1, IB2, IB3); 2) we can call one horizon IB and the second some kind of sub-stage of LM II, as I said in my paper; or 3) we can go with Maria [Vlazaki] and identify the later of these two stages as IC, but I suggest that we agree as a group, because if we don't, somebody is going to commit academic suicide here. I think this is important because we are defining a couple of major ceramic horizons, which do have chronological value in my estimation, and we haven't even started to talk about the interpretation. The interpretation is a whole separate ball game, as far as I'm concerned. It's the definition of these horizons and whether we agree that they exist or not, that is the key. Mochlos, the Artisans' Quarter, I think, belongs to the later of these horizons. I also think Maria's [Vlazaki] final destruction may well belong to the later horizon, I don't know, we would have to take a look into that. It seems to me that the Zakros Palace final destruction is the earlier horizon, and so what I want to suggest to you is that it's a real patchwork. Why is Zakros earlier? Because none of the features that I am calling the identifying characteristics of the later horizon show up at Zakros, and the thing that is so striking about Zakros is that so much of its material has perfect analogues at Knossos. So, where are the little cups with the loops at the rim? Where are these features that are among the latest material? Zakros would be earlier than the Knossos Royal Road destructions.

**Warren** I have to say that if ever two deposits looked contemporary, it's the final destruction material of the Palace at Zakros and the material we are speaking about from Knossos. I am really amazed that you want to put Zakros as an earlier LM IB horizon. And then you go the other way around, because Maria [Vlazaki] is saying exactly the opposite.

**Platon** I do not agree that the Zakros Palace is dated to the earlier phase. I agree with Professor Warren. I can show you what I mean. First of all, we have many of them, which are dated at Mochlos to late LM IB, the last phase, and we have also the squat alabastron, which is very late, with argonauts of Type C. And here, we have three vases from House B, belonging to the latest phase, together with a cup similar to the

Royal Road; and here we have the identical vases from the Palace destruction layer, which are, I think, proof that the Zakros Palace destruction layer is simultaneous with the House B one, which is dated to the latest phase.

**Betancourt** A question. Do you also have any blob cups, or any large horizontal-handled bowls with a diameter from sixteen – eighteen centimeters?

**Platon** No, we do not. I think it is very clear that this phase is absent from Zakros.

**Barnard** We are again back to this argument from silence. Just because you don't have something doesn't mean you're still not in the right period. We need to work, as Eleni [Hatzaki] said, from what we do have in common, and I have to agree with both Lefteris [Platon] and Peter [Warren] that the Royal Road is closely connected to the Zakros destruction deposits. But also, one thing I want to ask Jerry [Rutter]: Why three periods? Why A, B, C? You said you had two horizons. [Rutter responds off microphone] Oh. Okay, you're not putting three phases in LM IB. That was my confusion.

**Puglisi** Do you have at Zakros a whitish greenish fabric and a one-handled cup with bars or slashes on the handle?

**Platon** I do, but not very many examples. From House Delta Alpha I have a flask of a very soft greenish fabric.

**Puglisi** Do you have slashes on the handles of rounded cups or bowls, not on closed vessels?

**Platon** Yes, but I can't remember very well, among the thousands of fragments; I think, it does exist, it's not a strange thing.

**B.P. Hallager** It's not a criterion for LM II; there are several in LM IB Khania.

**Puglisi** And also in LM IB Late at Kommos and in LM IB contexts at Hagia Photeini and Chalara, and maybe also at Pitsidia. So, I think such characteristics may be later in LM IB. I think we have to work with contexts, not with single vases. In addition, we have handles with slashes and the whitish greenish fabric at Hagia Triada in contexts which are later than the final destruction of the Villa. So these are regional characteristics in the Mesara, the dump at Kommos confirms this. For the rest of Crete, I don't know.

**Van de Moortel** This is just a suggestion. Since we have such a hard time defining two really separate phases (an LM IB Late and an LM II Early or whatever), is it just possible that at the various sites certain features appeared at different stages, and the sites that we are talking about were destroyed at different moments in time between LM IB Late and LM II Early? I think that's why you don't get the real pure phases from the various sites.

**Barnard** You also have to look at the entire context. Yes, Mochlos in its final phase has blob cups and horizontal-handled bowls and some other strange things. We have, I think, two blob cups and maybe ten horizontal-handled-bowls. We have thousands of other



things that don't lead us into the LM II period. There is no reason not to see that any style that is going to occur later must have precursors. Things don't start from a vacuum. You're going to have traces in an earlier period of things that become standard in the later period; you can't just immediately develop a whole new style out of the blue.

**Rutter** It was a bad idea of mine to mention Zakros, a bad idea! I'm perfectly happy to leave Zakros out of the picture pending further information, that's fine with me. But, the question is: what are we going to call these two periods, if in fact we agree that they are different periods? And because I agree that it opens up a whole can of worms, if we talk about two ... My own preference would be to vote for IC; I don't think we want to start sub-dividing IB, if we do, then where do we begin? We haven't even agreed on how many phases we have in IB. I am happy to publish the material from Kommos as LM IC, and I'll probably never go back to Crete again for the rest of my life anyway, which is probably a good thing. But, it would be great, if I had a little company.

**Warren** I very much hope we shall be seeing Jerry in Crete for many, many years, but, in truth, I don't really care about what number we use. I take the point that, if you start calling things II, there is a whole lot of baggage attached to the number II in this instance, and we haven't yet even come to talk about the first moment of the arrival of Mycenaeans and all of that, so, perhaps we should stay somehow or other with the number I. I don't mind, if we want to decide at this conference that the final stage of LM IB should be called LM IC, if that's the general feeling. But, what is at issue is exactly what you put in that hypothetical IC. You've accepted to withdraw your idea of putting Zakros before IC, and, we would need to see your list, because I have the feeling that quite a few people around this room would want to put things in IC that you want to put earlier, including Skinias and Makrygialos. That's what we're really talking about, what goes with what? It thus doesn't matter too much if you want to call it IC or IB Final or something like that.

**Betancourt** I also do not agree with putting Nerokourou in LM IC, and I think that the Zakros final phase of LM IB and the earlier phase of LM IB are both LM IB, not LM IC. I would also put the Pseira main destruction in LM IB, and I would put the later one, LM IB Final, contemporary with LM II Early, because I think it is later than the Knossos deposit that we have seen; it already has items like blob cups that are very clearly there in the Unexplored Mansion as published by Mervyn Popham. I think we have more than just two phases, I think we have identified several phases, even if we can not characterize them very carefully, or very completely.

**Dabney** To the earlier suggestion about having people work together to define regions, such as East, North-central and South-central, I would like to add that you should start talking about contexts, whether ceremonial or not, palatial or not, port or not, and then you might find that you really don't yet have enough material to start defining these things.

**Rethemiotakis** Well, after having been tired out a bit by such elaborate conversations about pottery and ceramic sequences, I feel ready to pose a fatal question to the congress: does anyone have a definitive answer, a clue about what might have caused all these destructions?

I think this is a crucial issue to be addressed, because I have the impression that such elaborate sequences with so many destructions, or sub-destructions, or whatever, in such a comparatively short period of time need a better explanation. I think that the seismic theory is not adequate to explain such events. Perhaps human agency was involved in the events we are talking about. Well, this is an open issue, which I think we must say something about. I have experience from another site, Hellenistic Lyttos, which was destroyed in a fire caused by the Knossians – once more Knossos is involved in the Pediada! Well, when I was excavating at Kastelli, Pediada, I was puzzled by the destruction sequence; the depositional history of Kastelli was very similar to what I saw at Lyttos, which was invaded and burned by the Knossians (cf. Rethemiotakis 1992–3, 34 with Rethemiotakis 1984, 53). What happened at Kastelli is unknown, of course. I realized, and this must be of some importance, that even the domestic pottery and the pithoi in the magazines were left behind in the destruction at Lyttos, as fire swept through the building. Even their contents were not removed, olive oil and cereals remained *in situ*. And also, all the other vases, domestic and fine ware, remained there trapped in the destruction debris. Exactly the same feature was observed in the destroyed building at Minoan Kastelli. So, the first event is directly related to an invasion. It is human agency – the destruction of the city, which is well described by Polybius. This is my question: can we always speak about destruction by earthquakes, such earthquakes all over the island at so many sites simultaneously, or in different periods in short time gaps?

**Warren** I think you're absolutely right, it really is time we moved on to major historical things, rather than an infinite discussion of pot motifs and so on. Where are we these days in scholarship? There are roughly three possibilities, aren't there, for trying to explain the LM IB destruction and whether it was a kind of staggered destruction; we discussed that fully enough. One is the earthquake, the natural agency view of things. The other is, of course, the possibility of an invasion, and, if that's so, it could only mean a Mycenaean military intervention of some kind. But there is also a third possibility: that society reached a stage of internal collapse. This was the original version years and years ago of catastrophe theory, that it is internal tensions, competition, faction and all the rest of it, which bring things to such a state that everybody starts killing everybody else and burning their settlements down. I have always felt that the natural agency view is the strongest, the earthquake view, if you like. And, if you want an example for practically the whole of the island, Ammianus Marcellinus describes the fourth century earthquake, which affected the whole of the southern Aegean, not just Crete. But, if we are going to identify earthquakes, I would say that you have to have really, really good evidence, not just burnt pots on a floor, or even a fallen wall, because they could easily result from human intervention. What you really have to have are examples of walls that have been shifted out of position. And, to be honest, almost the only example I know of is from Zominthos, where the walls have been shaken from position, though these are of course, as we've heard, probably LM IA.

**E. Hallager** Well, I think Peter [Warren] has summed up very well the three possibilities, and when Tom [Brogan] and I organized this conference, we were talking about whether this should also be a topic, but we thought it would be too big and it is really a topic



for a small workshop by itself. I don't want to cut off the discussion, if there is anyone else who want to make comments on what Peter said, please.

- Platon** Only a small comment. In Zakros we have some works activated just a few days before the final destruction. We have saws on the floors of the luxurious Hall of the Ceremonies, we also have blocks half-sawn to make some architectural members. We have some consolidation work. And these, I think, put the matter in the direction of a seismic catastrophe. And I agree with Professor Warren that it is the most possible explanation.
- Betancourt** A fourth possibility is that we have some of each. Some sites are destroyed in one way, and others in another. In the case of Pseira, for example, our main destruction is accompanied by buildings that are emptied of their contents and then burned, and that, to me, suggests warfare.
- Cadogan** Obviously the evidence from Pyrgos does not support earthquakes, as one finds destruction at the big place in the middle and not in the places around. Human wickedness is always a very strong motive, one must remember that. Going back to the earlier discussion, not to re-open things but just to leave a thought with you, there has been the same problem with what used to be called the *Philia* culture at the transition from the Chalcolithic to the Early Bronze Age in Cyprus. After much discussion, the present view is that, rather than trying to define it precisely, we may now call it the *Philia facies* – which allows it to float in both time and space. So, this might be a little solution.
- Cunningham** The final destruction at Palaikastro, as we know from the deposition, particularly of the statuette, is definitely due to human agency, which does not rule out an earthquake for other places, or even for the earlier destruction. So, there is certainly the possibility to have both. But there is absolutely no way that these fires weren't arson. We've even reconstructed the way the building was set on fire. Likewise, at Mochlos, I believe, there is a building where an ashlar wall was pulled down and the blocks pulled around the corner and down an alleyway. I think it's physically impossible for something like an earthquake to have moved those blocks there, so, definitely there is human agency, and it looks not like some kind of marauding or internal fighting but like a very well-planned, orchestrated thing done by a very major power. I mean, basically a central power coming out and taking care of business, not internal fighting.
- Macdonald** When Jan Driessen and I wrote *The Troubled Island*, we went through as many sites as possible detailing such things as blocked doorways, changes in circulation and similar things. But, as you know, it was ten years ago and in certain instances, we made the assumption that the original plan would have been LM IA, with the changes being made in LM IB, followed by a destruction. And it affected the way in which we interpreted the history, if you like, of Crete during that period. Obviously, if we try to rewrite that book, it will require heavy re-interpretation in light of the much more detailed stratigraphies and architectural observations that now exist. I agree totally with the idea that we may be dealing with both natural and man-made

disasters, that is certainly a possibility, and the probability of having a single Cretan-wide earthquake from one end of the island to the other is highly unlikely. It may happen once every five hundred years, or once every thousand years, but it really is unlikely. Anyway, but that's as may be. What I have been impressed by is Lefteris' observations at Zakros, of changes immediately before the destruction. The same is apparently true with Metaxia [Tsipopoulou] in her earlier LM IB destruction; before that she was thinking that things were on their last legs. This kind of observation by excavators, I think, is to be valued greatly because the person who is actually digging it up, or looking at the original notebooks, gets an idea that we can't possibly get from reading the final publication.

**Brogan** Mochlos is often brought up in this context because Richard Seager claims to have found human bodies inside the LM IB destruction. Seager excavated part of Block A, at least one LM IB house in Block B, and little bits of Blocks C and D. He excavated half of the site that is now exposed. In the more recent excavations, we have instances where human body parts were found in the LM IB destruction. We found part of a body in a street of Block A, and we found the head of a young woman in the basement of a house. Jeff Soles has a very different interpretation for how that head got there, so we need to keep that out (see Soles 2010). So, we have some questions. You then might say: was Richard Seager able to identify human remains? I think he probably was because Boyd had already been doing a good job identifying human remains at Gournia from the tombs. What I would note is another difference. Not only did Seager find bodies and we don't, but he found burnt destructions. In his buildings there is evidence of a major fire (i.e. Houses B and D). When you examine Richard Seager's photographs, you see the preserved marks of half timbering in the walls; we never find that. And, our buildings do not appear to have been burned. So, Seager excavates at least House D, and what he calls House B, both of which suffered major fire destructions, and that's where he finds the bodies. We don't. And so, there is some variation in how different parts of the site were destroyed. We think very strongly that it was human agency, and we describe that in *Aegean Archaeology* (Vol. 6, 2002, 95–6). Tremendous amounts of metal were left, some of which looks to have been hoarded, and we have finally started to find medium-sized knives, almost like daggers; they didn't take them with them, they were still in these hoards. It looks like a sudden event wiped out the town and then nobody went back to pick up anything from the buildings. And so, that's where we get into the argument of the gap at the site. It's a tough question as the site, like Zakros, is in full swing; they have no idea what's coming, apart from this question of the hoards. At Zakros the metal tools, the saws, axes, etc., are in use inside the houses, and we have the same thing; not all of the metal is in the hoards, twenty or thirty percent of it is found in use throughout the houses. Still there was no attempt to take the metal with them when they left the buildings, no attempt to take the stone vases, lead weights, ivory boxes, glass beads, there are all sorts of equipment that you would have expected people to have taken with them if they had had time to clear things out. So, we think the cause is human agency, unexpected and massive, wiping out the settlement.

**Kanta** One thing that we must keep in mind is that some of it may well have been human agency, of course, but human agency does not destroy the whole island completely,



because how are the conquerors then going to survive? What are they going to eat? Where are they going to stay? You have your battles, you subdue the inhabitants, you punish a few, you destroy a bit and you take over the rest. This is something that we must keep in mind. Also, you must keep in mind, and I noticed at Nerokourou a long time ago, and at other sites, that there was a main “political” event sometime before the final destruction, which changed the function of all these fine buildings. At Nerokourou, for example, they were storing pithoi and working in the main Minoan hall. This shows that there may have been other reasons, as said just before, a combination of reasons.

**Betancourt** One somewhat allied comment is that I think we could all agree that these ceramic changes had already started to occur before the destructions. That is, that they are internal Cretan developments within the ceramic tradition; they are not introduced by a putative Mycenaean invading army. I think we all would agree to separate the late LM I phases that we have suggested from the Unexplored Mansion, which is mature LM II; that is the point where we start to get the Mycenaean shapes like the Ephyraean goblet and so forth. So, what we are talking about is a transitional situation with some internal development within the LM IB pottery, but not yet the Mycenaean shapes.

**Chatzi-Vallianou** Yes, LM IC but not LM II.

**Vlazaki** The crucial point for Khania is that at the end we have the destruction of the Linear A archives, so it cannot be LM II. But I have the feeling that this last destruction came after Knossos, but maybe I am wrong, I don't know.

**Hood** When invasion starts, my ears go up. It is quite obvious that if there was a Mycenaean invasion, a great mass of the people survived it, and some of them may have even been quislings and joined the invaders. But, it's also clear that one aspect of that is these fashions, which I must say do seem to me a Mycenaean introduction, these Ephyraean goblets and so on, I leave it to my elders and betters like Blegen and Wace; they don't spread all over Crete, those fashions, there are large areas where they don't seem to have penetrated at all. And if you believe in invasion, there is no reason there shouldn't be some slight time lag between destructions in one part of the island and the other. You can't do that with natural causes.

**Rethemiotakis** Just a small remark, to state my personal opinion after the provocative question I asked. This situation reminds me very much of what is known from a much later period in Hellenistic Crete, when the two predominant cities of Crete, Knossos and Gortys, which were involved in a prolonged civil war, each captured and destroyed the allies of the other city. So, there was widespread disaster and de-population, conflagration and civil war all over Crete.

**Cadogan** As Giorgos was saying, of course, their primary goal would have been to take out the main buildings, and perhaps we have been doing rather too much looking at main buildings not, I agree, at Mochlos and Pseira, but in other places, or even at Gournia.

**Brogan** Another interesting find from Mirabello is Krzysztof Nowicki's publication of Metaxia [Tsipopoulou's] excavations at Katalimata, Monastiraki (2008). He has an intriguing phase at the site with pottery that might be late LM IB, East Cretan LM II, or maybe IIIA1; he has a hard time defining it. It's a very unusual site. I think the copper ingot also comes from this phase. You remember that the houses at Mochlos, Gournia and Psira all have copper ingots in this period of abandonment. And so, this again, I think, points to a level of continued worry by the local population, the fact that they would flee to a place like Katalimata. And that's when they're moving to this site, during times of tension. This suggests that during LM II in Central Cretan terms, they're moving up to a site like Katalimata. It suggests that there's a real problem in the area and they're no longer able to continue living down at these coastal sites. You can see the pottery in the final publication; it's not crystal clear but I think he's on the right track.

**Tsipopoulou** I just thought that civil war, or an internal disturbance hypothesis would explain the lack of radical change in the material culture. And, it would also explain the change in the function of important areas from an earlier period like at Nerokourou and Petras. This is better explained by internal upheaval rather than by the arrival of Mycenaeans.

**Niemeier** I would just like to mention again some points which already came up in the discussion of the different papers. The Special Palatial Tradition and, especially, the Marine Style we heard about also in our final discussion, that this is ceremonial pottery that comes only from very special contexts, as Penelope Mountjoy has shown. We had a question about the role of Knossos in the production and distribution of the Special Palatial Tradition. And, Sinclair Hood had the idea that they may also be diplomatic gifts to elites around the island; we had the question of whether the Special Palatial Tradition was only produced in the Palace and did this thus signify a palatial tradition. We thought up to now that the central production center was the Palace of Knossos, and we were a little embarrassed by Galatas, with its local version of the Olive Spray Painter. I still have a problem imagining traveling painters. What should be the model? So, if these were palatial workshops, then those potters and painters were employed, let us say, by the court of Knossos and there would thus be no freelance potters who could travel all around the island and paint their vases here and there. But I think we are only at the very beginning of this discussion. Perhaps we have to do more clay analysis. Is Galatas a single case, or are these individual painters? Are the Reed Painter and the Olive Spray Painter not individual painters, but did they also copy certain motifs? Did they use some kind of pattern books where certain motifs could be copied, either by individual artists, or else copied again and again by different painters? That's an open question. I remember a paper by John Cherry at the Hobart conference about the problem of the individual painter. Can we use, like Sir John Beazley, certain motifs or manners in which the motifs are executed, to distinguish individual artists; John Cherry was very skeptical about this, and denied it, and I too find it rather problematic. Because, of course, the Olive Spray Painter, if he existed, didn't paint only olive sprays for his entire life. He must also have painted other motifs. And, of course, Phil Betancourt and Penelope Mountjoy, and also myself, have tried to identify individual painters within the Marine Style, and



there you can compare the motifs. But why should the Olive Spray Painter not also have painted octopi on stirrup jars? There is no method to recognize this.

**Van de Moortel** About the Olive Spray Painter, actually I was thinking last night about another group of vases that the Olive Spray Painter could have produced, and those are vases that you have in Knossos, I think, and in Nirou Chani, in Kommos we have one and in Skinias: these similar teacups or rounded cups, which have a double row of very, very nicely executed spirals, small spirals (Van de Moortel 1997, 602–3, fig. 83, C9653); they have exactly the same shape as the olive spray teacups and exactly the same thicker central band and the thinner bands underneath. And, I know from the Mochlos cup that the rim is very specific, that it is slightly undercut and is actually leaf-shaped in section, so that's one of the things we can look for.

**Rethemiotakis** I just remembered a very similar case for the scenario of Knossos trade potters traveling all over Crete, on occasion and on demand. A few years ago, a similar event was attested by Eleni Banou and myself when we studied and published the material from Psari Phorada, Viannos (*La Crete Mycénienne* (BCH Suppl. 30), 1997, 23–57). There we had vessels which were almost exact copies of Knossian examples. Not only subjects and execution but even the fabric looked Knossian. We were uncertain whether they were Knossian imported or locally made. And besides pottery, we also had pithoi, which had exact parallels in the Knossian magazines. To our surprise, when we made clay analysis we realized that they were locally made. So, they were made, apparently, by Knossian potters and painters who traveled as far as the south coast of Crete, in the area of Viannos, in LM II and IIIA1 and not only painted vases in the Knossian manner but also chose local clays similar to Knossian so as to produce faithful copies.

**Niemeier** Regarding the last point, we can't discuss it here now, but we have already touched on the need to know more about regional developments and regional styles. So, I had the impression from the slides we've seen these last few days that there really are distinct regional styles. Khania and West Crete is a very special case, the Mesara, East Crete, and I think that we have to learn more about this. It's very important because, as we have seen, the Special Palatial Tradition, which connects all of Crete, represents only a very small percentage; this is just the tip of the iceberg of the pottery we have. We need more knowledge about the regional styles in order to better know and study interregional relations.

**E. Hallager** Again, I think the publication will be a very good starting point for this investigation.

# Shape illustration index

*Thomas M. Brogan*

The workshop did not attempt to gather a consensus opinion of specific names for LM IB pottery shapes. This index represents an attempt to group together broadly similar shapes and the different labels used by the authors to describe them in this volume. The best example of the potential variation is provided by the S-profile cup, a shape which is described with 10 different labels in the volume. There also is a minor amount of duplication because different authors used the same label for different shapes and there are some vessels that actually belong to more than one of the proposed categories.

In general, the index is intended as a guide to readers rather than an attempt to establish a new standard. Moreover, just because a shape does not appear in the index at a particular site in no way indicates its absence at that site. Many papers focused on particular deposits and topics and thus did not attempt to provide an overview of every shape known from that particular site.

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