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THE EXCAVATION OF CHRYSOKAMINO-CHOMATAS

A PRELIMINARY REPORT

ABSTRACT

Excavations in 1996 and 1997 at Chrysokamino-Chomatas, a site near the Chrysokamino metallurgy workshop in East Crete, revealed two architectural phases from the Late Minoan period in addition to earlier (pre-LM IB) and later (post–Bronze Age) remains. The first architectural phase, destroyed in LM IB-Final, consisted of the poorly preserved walls of a single isolated building. Above it were the remains of a LM IIIA2–IIIB-Early farmstead. The LM IB building, which was incompletely preserved, possessed several interesting deposits, including one with a complete copper or bronze dagger. The LM III complex was an isolated farmstead with abundant evidence for activities related to farming and animal husbandry.

THE SITE

During the summers of 1996 and 1997, a small Minoan habitation site was excavated on a dolomite outcrop a little over a half kilometer from the sea on the Gulf of Mirabello in East Crete. The location, on the west side of a hill named Chomatas (Figs. 1, 2), was investigated as part of the Chrysokamino Project.[1] Chomatas is located near the modern village of Kavousi. Harriet Boyd, who noted Roman material as well as "early architecture" here in 1901, mentioned it as an archaeological site.[2] The architecture at Chrysokamino-Chomatas, however, was not specifically

1. The Chrysokamino Project was directed by Philip P. Betancourt, assisted by codirectors James D. Muhly and Cheryl R. Floyd, with a permit from the Greek Ministry of Culture, under the auspices of the American School of Classical Studies at Athens. The authors extend thanks to the Institute for Aegean Prehistory, Temple University, and the University of Pennsylvania for financial support. Thanks are also due to the many local workmen, project members, and specialists whose efforts have made this article possible, and who are formally acknowledged at the end.

Previously published references to the site of Chrysokamino-Chomatas include Haggis 1996, pp. 401–403; Betancourt, Floyd, and Muhly 1997; Betancourt, Muhly, and Floyd 1998; 1999, p. 350; Nodarou 1998; Floyd 2000; Bevan 2002, p. 224, fig. 5; Haggis 2005, pp. 2–3, 59–60, 75–80, 115; Betancourt 2006, passim; and Floyd 2006. This article was started by C. R. Floyd, who asked P. P. Betancourt to complete it when she left the field in 2009.

2. Boyd 1901, p. 156.

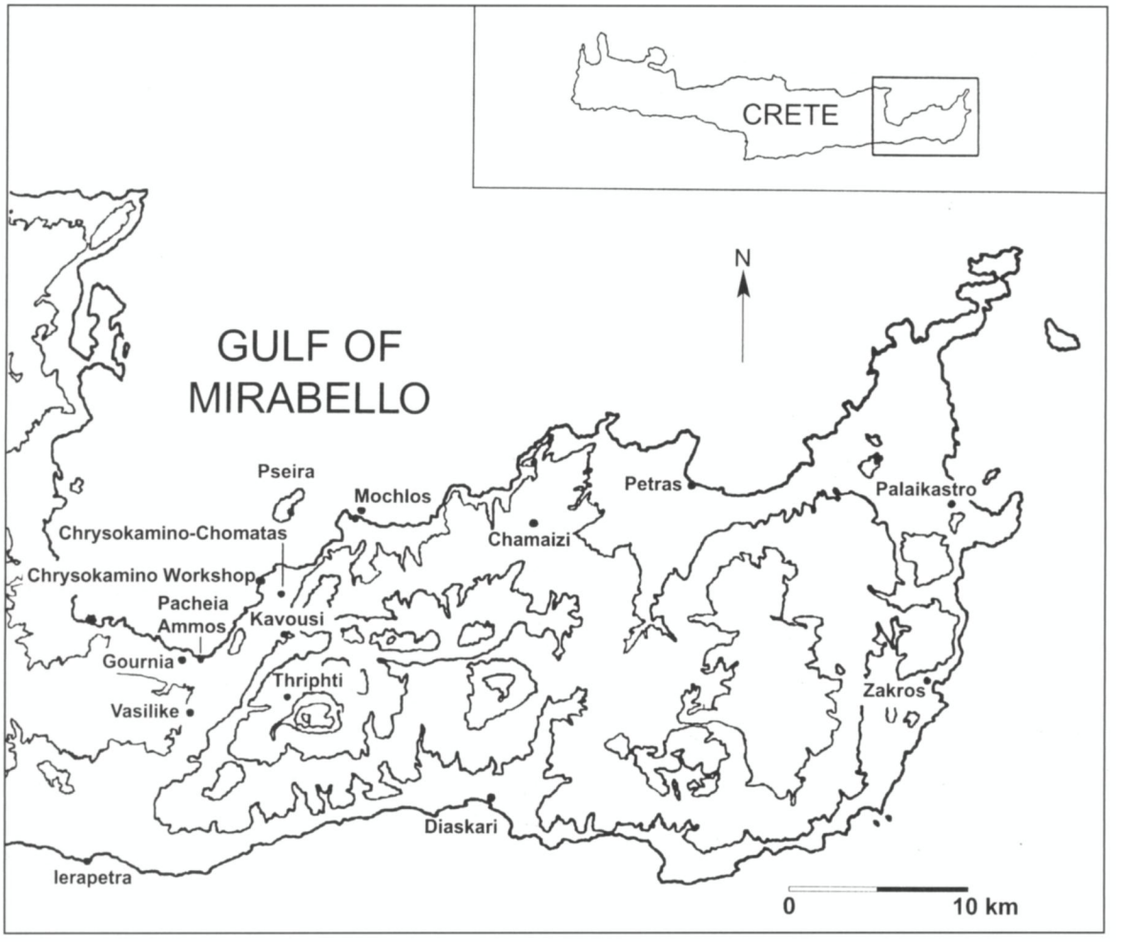

Figure 1. Map of East Crete

cited until the regional survey of the Kavousi-Thriphti area carried out by Donald C. Haggis from 1988 to 1990 when the site was designated as locus 50.[3]

The site of Chrysokamino-Chomatas presents evidence for general domestic, agricultural, and possibly ritual activity during two major periods: Late Minoan (LM) IB and LM IIIA2–LM IIIB-Early. Fragmentary ceramic material extending from the Final Neolithic (FN) to LM IA was also found, indicating earlier habitation near this location from periods before the surviving architecture. The earliest undisturbed strata are of Middle Minoan date. The latest Minoan building dates to the LM IIIA2–IIIB-Early period, while post–Bronze Age remains include a few sherds dating from Byzantine to modern times. Nearby post-Minoan structures include a modern *mandra,* or sheepfold, at the southwest corner of the site, and a large, elliptical Ottoman-period enclosure to the south (Fig. 3).

Excavation revealed two superimposed Minoan buildings (Figs. 4, 5). They were constructed using different building techniques, and the associated pottery showed that they dated to LM IB and LM IIIA2–IIIB-Early.[4] No architectural remains earlier than LM IB were encountered. The LM I building was located below the southwest quadrant of the later LM III complex. While it generally used better materials, such as larger,

3. Haggis 2005, passim.

4. Driessen and Macdonald (1997, pp. 25–33) list Neopalatial settlements reoccupied in LM III.

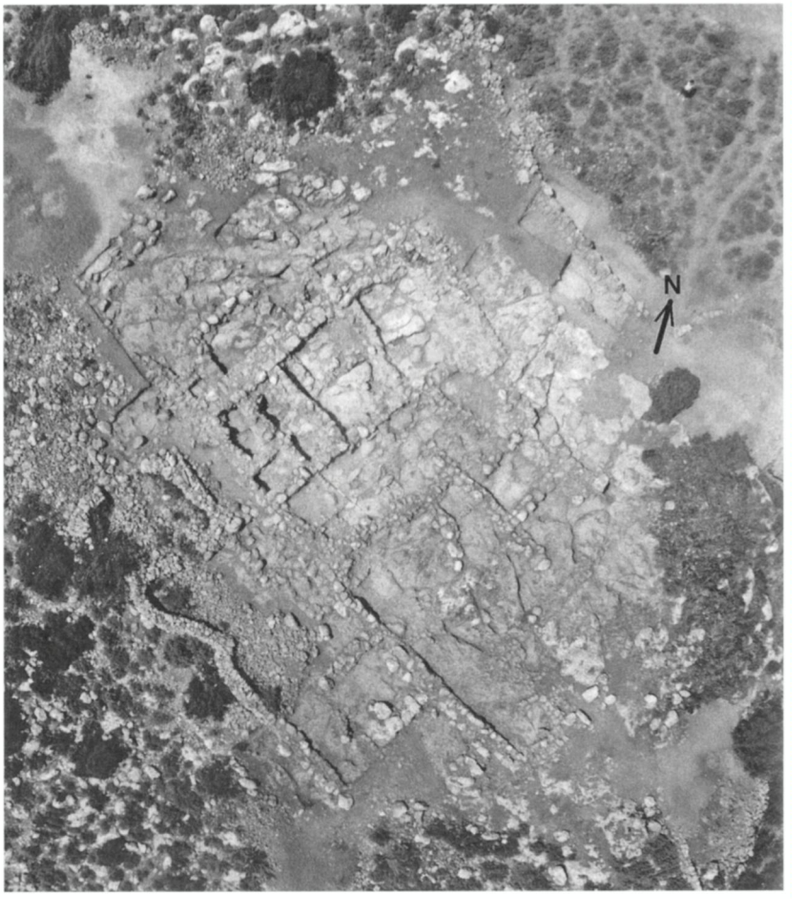

Figure 2. Aerial view of the site of Chrysokamino-Chomatas. Kite photograph by J. Driessen

more regularized, and better-seated stones, the later complex was, in places, very poorly built, with smaller, irregularly shaped stones and an abundance of mud mortar. The later builders often seated their walls on soil rather than bedrock, a technique that contributed to the deterioration of the site over time. Because many of the walls of the buildings were visible on the surface prior to excavation, it often proved possible to orient and size the trenches in order to explore the area by specific rooms. Only five rooms were recovered from the LM I building, while the LM III structure may have had as many as 15 rooms and spaces (see below).

The pottery indicates continuous or almost continuous Bronze Age habitation at or near this location over a long period of time. Periods represented by the pottery include FN, Early Minoan (EM), Middle Minoan (MM), and LM I and III. The LM III pottery is, by far, the most abundant material. The study of the pottery is not yet completed. The early material includes heavily burnished sherds from FN and EM I,[5] Fine Gray Ware from EM I–II,[6] and Vasiliki Ware from EM IIB.[7] East Cretan White-on-Dark Ware from EM III to early MM I was also present,[8] as were several MM styles. Many of the coarse vessels were made from fabrics containing rock fragment in the granodiorite to diorite series (Mirabello fabrics).[9] Variants of this type of fabric were used to form vessels in the MM Dark-on-Light Style.[10]

5. For the heavily burnished FN and EM I pottery of the Gulf of Mirabello region, see Betancourt 2008, pp. 44–46.

6. For Fine Gray Ware, see Warren 1972, p. 95; Betancourt 1985, p. 40; Wilson 1985, pp. 304–307.

7. Betancourt 1979.

8. Hall 1904–1905; Betancourt 1984.

9. For Mirabello fabrics, see Haggis and Mook 1993, pp. 273–274 (types II, III, and VI); Myer, McIntosh, and Betancourt 1995, pp. 143–145; Floyd 1998, p. 179; Barnard 2003, pp. 7–8 (fabric types 6 and 7).

10. For the MM Dark-on-Light Style, see Betancourt 1977; 1985, pp. 88–89.

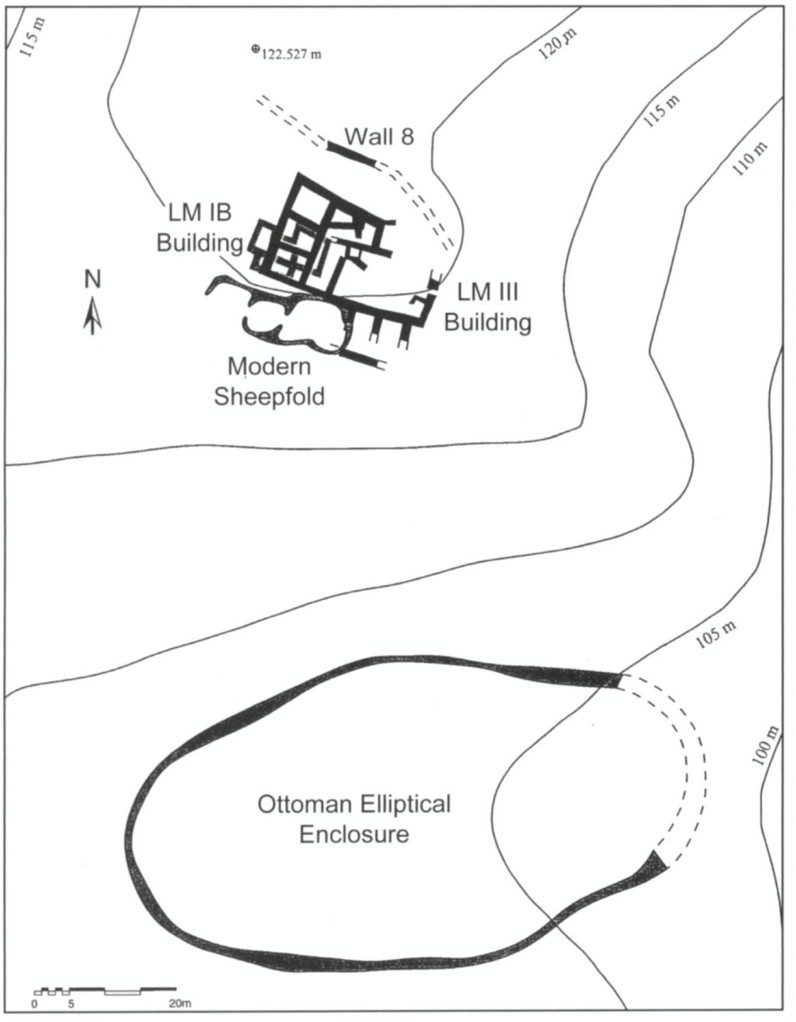

Figure 3. Schematic plan of the immediate region of Chrysokamino-Chomatas

Figure 4. Southwest corner of the site showing the superimposed architecture of the LM IB and LM III walls in the area of room 3, looking west (1997)

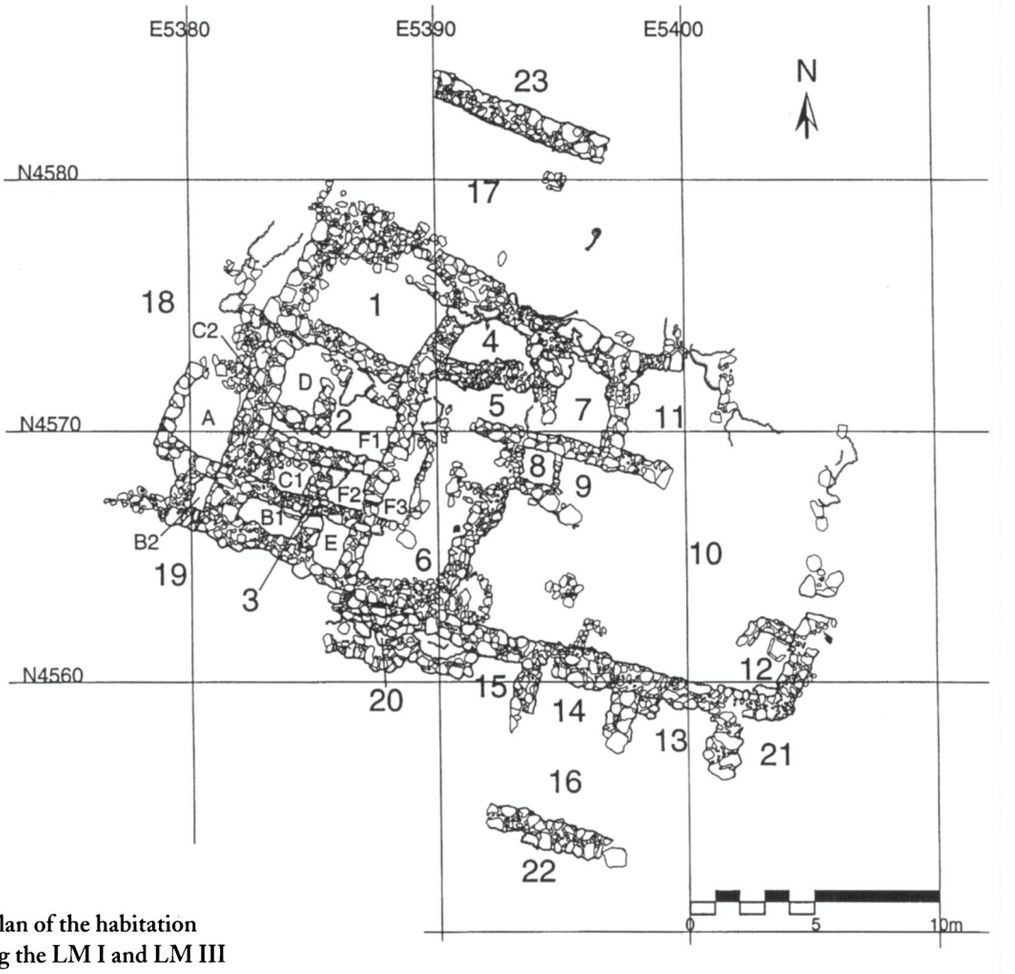

Figure 5. Plan of the habitation site showing the LM I and LM III buildings

A major difference between the tempered fabrics of pre–LM I and LM I date at the site lay in the quantity of sherds in coarse fabrics, especially Mirabello Fabric. In the earlier periods, Mirabello Fabric was abundant, while other types of inclusions, especially fragments of phyllite, were infrequent. By the LM I period, however, phyllite fabrics were predominant.[11] The Mirabello Fabric category did, however, reoccur in notable quantities during the following period, LM IIIA–IIIB-Early, when many coarse vessels were used at the site, including fabrics tempered with granodiorite, serpentinite, and even crushed sedimentary rocks. While several variants of phyllite inclusions were discerned macroscopically, their distinctions were not visible microscopically.[12]

In addition to pottery and architecture, the habitation site yielded objects in clay, stone, bone, shell, and metal, as well as botanical and faunal remains, most of which could be dated to the LM III phase. Ceramic objects

11. Phyllite fabrics did occur in the EM–MM periods in East Crete, however, as noted by Haggis (1993, pp. 20–21, nos. 144–146, 148, 150, 153, 158) and Barnard (2003, p. 5, n. 10). For discussions of phyllite fabrics, see Haggis and Mook 1993, p. 273 (type 1); Myer, McIntosh, and Betancourt 1995, pp. 145–146; Floyd 1998, pp. 179–180; Barnard 2003, pp. 5–7 (types 1–5).

12. The microscopic analyses of the LM fabrics were undertaken by Ioannis Iliopoulos and Eleni Nodarou. Their work will be included in the final publication of the site's pottery.

Figure 6. Clay weights from the site

included whole and broken weights (Fig. 6), mostly for use on the loom; segments or fragments of ceramic drains; and a low-fired or unfired clay hearth (in room 12 of the LM III complex). At least two LM III stone hearths were also noted, as well as several other stone-built features (possibly cists or bins) in room 2 and areas 10, 17, and 18. Depressions pecked in bedrock were found below room 6 (feature H, a possible mortar) and in area 17 (feature G, part of an installation associated with agricultural or industrial production; see Fig. 7).

Nearly 200 stone tools or possible stone tools were recovered from the site (Fig. 8), of which all but four (two pieces of chipped obsidian and the two pecked depressions, features G and H) were ground stone tools.[13] Over three-quarters of the ground stone tools came from the LM III phase. The hand tools included pounders, pounder/grinders, pounder/pestles, pounder/polishers, grinder/rubbers, whetstones, querns, drill guides, ring weights, and pivots. Two pieces of obsidian came from LM I contexts (see below, Fig. 13:**20**, **21**). The site was especially notable for the large number of complete or fragmentary querns recovered, which showed a tendency to be elongated rather than ovoid in shape. Nearly 30 examples were noted and catalogued. Three complete or nearly complete stone bowls (including Fig. 13:**19**), the complete profile of another stone bowl, and fragments from two other examples also were recovered. In addition, two stone seals were found (Fig. 10:**8**, and Fig. 21:**34**), dating to the MM II(?) and LM IIIA2 periods, as well as a possible seal blank of quartz. The presence of stone drill guides and the possible seal blank may indicate the working of objects in stone at the site.

13. The stone implements are being studied by D. Evely.

Figure 7. Pecked depressions in bedrock in area 17, looking east

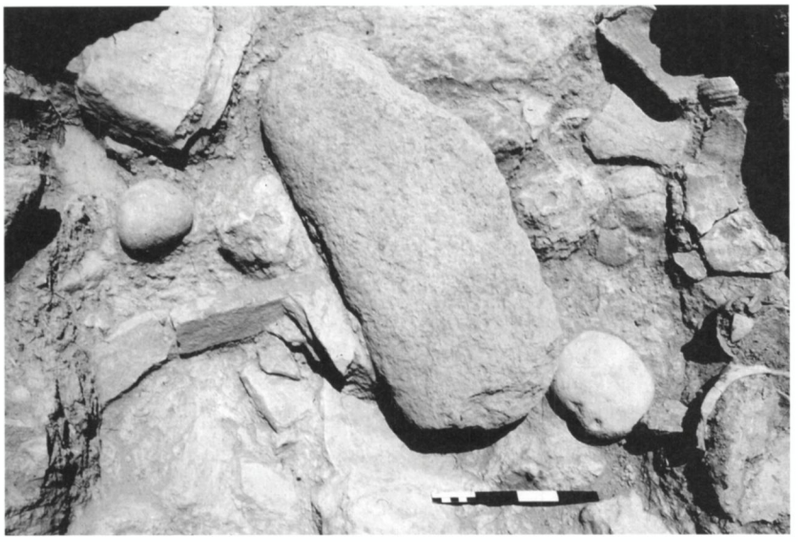

Figure 8. Ground stone tools on a LM III floor in room 3

Although faunal remains were recovered from strata of all periods, most, by far, were from the LM III phase. The LM III faunal material came from mammals, birds, fish, and marine invertebrates, indicating a diverse diet for the inhabitants of the complex, who relied on both wild and domesticated species.[14] While sheep or goats were the most numerous among the mammal remains, suggesting a reliance on animal husbandry within the domestic economy, bones from pigs, cows, hares, weasels, a shrew, a lizard, a hedgehog, and a possible deer were also identified. The variety of marine invertebrates was large, with no fewer than 30 species represented. Fragmentary examples of crabs, as well as cockles, cone shells, whelks, cowries, top shells, limpets, dove shells, tun shells, and spiny oysters, among others, were recovered, suggesting the degree to which the inhabitants supplemented their diet with creatures from the sea. In addition, otoliths and bones from fish as well as bones and an eggshell fragment from birds were found.

14. David S. Reese is studying the faunal remains.

Bone implements recovered from the site included an awl and a few unspecific tools. Two pairs of goat horn cores (see, for example, Fig. 21:**33**) that had been carefully cut from their skulls were recovered from a deposit in room 11 of the LM III complex. In addition to the marine shells interpreted as food, two complete (or nearly complete) triton shells (see below, Figs. 17, 18, 21:**32**) and fragments from two other triton shells, a shell pendant, and two shell beads were found.

Metal finds were limited. They include a dagger blade (Fig. 13:**18**), an Early Byzantine buckle (**35**, Fig. 22), a fragmentary bronze hydria (Fig. 21:**31**), a fragmentary knife blade, a broken hook, a chisel fragment, and part of a broken bronze ring of uncertain function. Three folded strips of lead (possibly used for mending ceramic or bronze vessels) and a cylindrical lead balance weight were recovered from the LM III complex.

Chrysokamino-Chomatas is separated by approximately 550 m from the nearby metallurgical installation explored earlier by the Chrysokamino Project.[15] Although the two sites are relatively close in terms of physical location, there is no direct evidence aside from contemporary pottery to suggest that the habitation site at Chrysokamino-Chomatas functioned as a settlement for the workers associated with the metallurgical activities conducted at the workshop. No evidence for copper working or any other form of metallurgy was found at the settlement; ceramic fragments from bellows, smelting furnaces, or pieces of slag, so abundant at the metallurgy site, were absent from the habitation site.

THE MATERIAL FROM BEFORE LM IB

Although no architecture from before LM I was found at the site, it is possible that subsequent inhabitants demolished all traces of the earliest constructions. The undisturbed early strata were limited to two areas. The first was below the floor level in room 11 of the LM III complex, while the second came from below the lowest course of wall 8, which separated areas 17 and 23, to the north of the two buildings (Figs. 3, 5). Wall 8 yielded LM IB sherds when sectioned. The fact that the wall had two faces indicated that it was built above ground (i.e., it was not constructed to support a terrace). It may have been an enclosure wall for animals. The area between it and the LM I building had a surface just above bedrock. By LM III it was only about a meter high, and the area south of it had been filled in with soil and debris to form an unroofed terrace for the LM III building. Although only a segment of this long wall was excavated, a deep sounding below it revealed an undisturbed MM–LM IA stratum.

The earliest strata were mostly limited to rather small pockets of packed soil, mixed with worn and highly fragmentary sherds that were located in crevices in the irregular dolomite bedrock that characterizes the site at large. Although small quantities of pottery fragments from the FN to MM periods were recovered, there were no complete vessels. The pottery from the MM deposits ranged from FN to MM III, indicating that the locality or its close vicinity was inhabited continuously or almost continuously over this long time period.

15. The copper-smelting workshop was published by Betancourt (2006). The five sherds from Chrysokamino in the Mount Holyoke College Art Museum collection probably all came from the cave of Agriospelio (also called Kolonospelio or Theriospelio), ca. 600 m northeast of this habitation site (Foster 1978, pp. 1, 6–9, 20–22 and cat. nos. 8, 12, 17, 20, and 21; Betancourt and Floyd 2006).

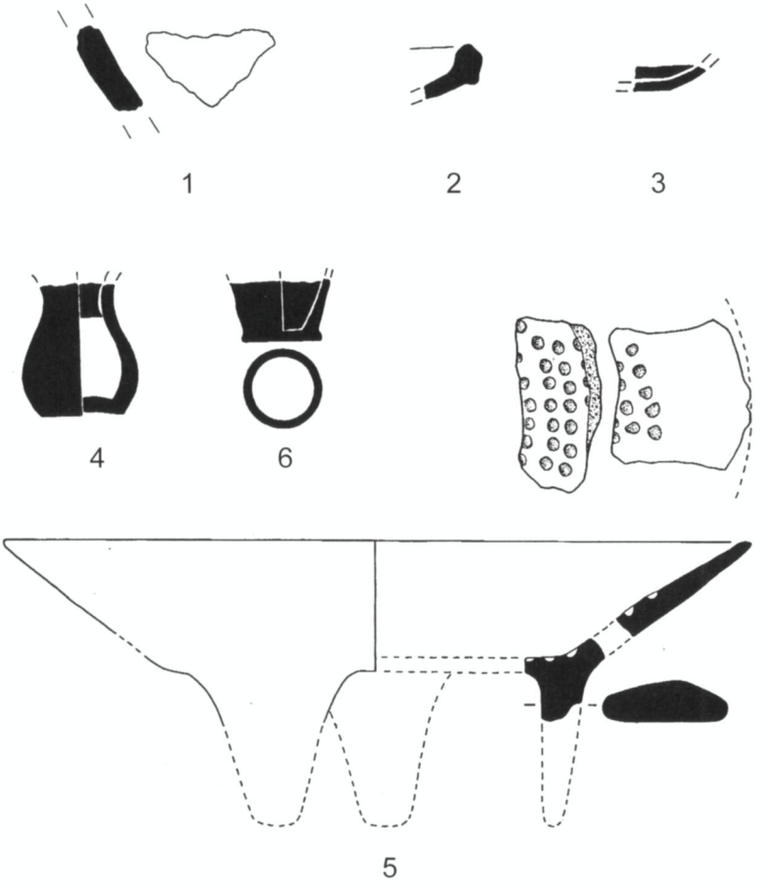

Figure 9. Pre–LM I pottery. Scale 1:3

A few early finds also came from later deposits. Among them were a MM juglet that was almost complete (Fig. 9:4) and a FN celt (Fig. 10:7). A probable MM II sealstone (Fig. 10:8) was also recovered from a LM III context, from a stratum associated with the collapse of the later building. Most of the early pieces from late contexts probably represented material that had been incorporated into the construction of the floors, walls, and ceiling.

Catalogue

1 Bowl Fig. 9

X 1890, XB-46-10. From MM packing below room 11. Bowl, body sherd. Max. dim. 0.07, Th. 0.013 m. Convex profile; thick wall. Coarse fabric. Interior burnished, with dark surface. Exterior burnished, mottled.

Burnished, thick-walled bowls were very common vessels in the FN–EM I period (for discussion and many examples, see Betancourt 2008, pp. 13–16).

FN–EM I.

2 Open vessel Fig. 9

X 648, XB-8E-1. From room 6. Open vessel, rim sherd. Diam. rim ca. 0.19–0.24, Th. body 0.006 m. Thickened, upturned rim; thin body; hole pierced through rim. Coarse fabric containing phyllite. Exterior burnished.

Pierced hole probably facilitated lid attachment or suspension of the vessel.
Cf. Barnard and Brogan 2003, fig. 50 (Mochlos).
EM I–II.

3 Carinated cup Fig. 9

X 1641, XB-46-10. From the MM packing below room 11. Carinated cup, base sherd. Max. dim. 0.038, Th. wall 0.004 m. Convex profile; straight, flat base. Fine fabric. Interior and exterior covered with dark slip.

Typical base for a MM II carinated cup.

For parallels see Hawes et al. 1908, pl. 2, no. 11 (Gournia); Demargne 1945, pl. 33, no. 8657 (Malia); Betancourt 1999, p. 145, no. 28, p. 152, nos. BR 107–109 (Pseira).

MM II.

4 Juglet Fig. 9

X 1054, XB-9W-8. Southern end. From a LM III stratum in area 18, west of the LM III building, a fill level above a LM IB floor. Juglet, nearly complete. Diam. base 0.036, P.H. 0.055 m. S-shaped profile; flat, straight base; narrow neck. Phyllite fabric. Interior has dark slip (traces at neck). Exterior and bottom of base have dark slip.

The presence of the juglet in this context may indicate that it was an heirloom in the LM I building.

For parallels, see Barnard and Brogan 2003, fig. 24, nos. IB.330 and IB.333 (Mochlos).

MM II.

5 Tripod offering stand or brazier Fig. 9

X 1640, XB-46-10 and XB-30-3. From the MM packing below room 11. Tripod offering stand or brazier, rim, leg, base, and body sherds. Max. dim. 0.072 (largest sherd), Th. wall 0.007–0.011 m. Flaring profile; leg with thin oval section; pattern of impressed dots on interior surface of bowl. Coarse fabric.

MM II.

6 Tumbler Fig. 9

X 1497, XB-38-12. From the LM IA packing below wall 8, area 17. Tumbler, base sherd. Diam. base 0.032, Th. wall 0.002 m. Slightly convex profile; slightly pronounced, flat base. Fine fabric. Exterior covered with dark slip, which is also around the edge of the bottom of the base's exterior.

MM IB–II.

7 Celt Fig. 10

X 1422, XB-46-2. From a LM IIIA collapse stratum above area 23. Stone celt, complete. L. 0.057 m. Peridotite, a form of ophiolite. Miniature trapezoid in shape. Pecked and ground margins and bottom halves of faces. Butt and bevels polished. Use wear on cutting edge. Battered from use.

For parallels, see Strasser and Fassoulas 2003–2004.

FN(?).

8 Sealstone Fig. 10

X 208, XB-2E-4. From a LM IIIA collapse stratum above room 2. Sealstone, complete. 0.014 × 0.014 × 0.004 m, Wt. 4 g. Lentoid sealstone with one hole. Engraved on both sides. Motifs uncertain. Possible ship motif; reverse may show three dolphins. Worn and difficult to read. Serpentinite(?).

MM II(?).

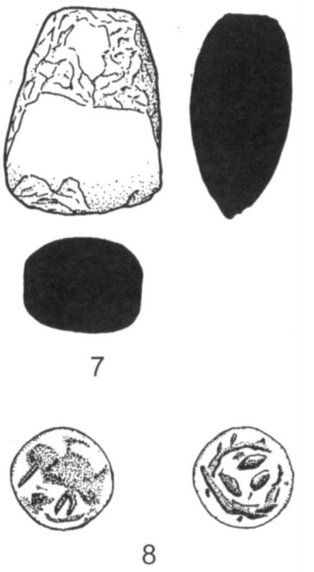

Figure 10. FN(?) celt and MM II(?) sealstone. Scale 1:2 for **7**; 1:1 for **8**

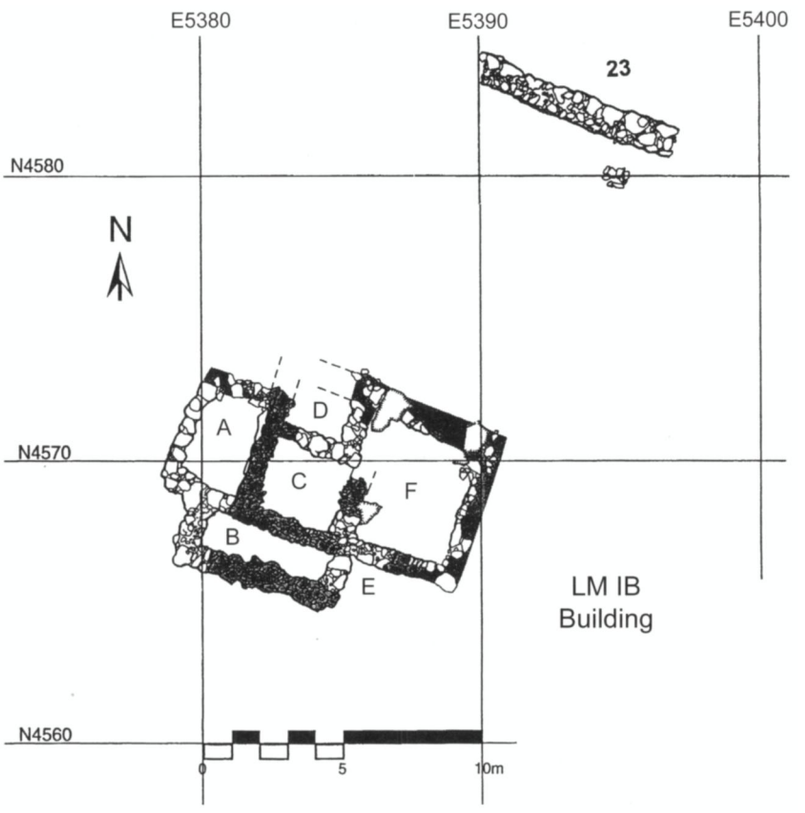

Figure 11. Plan of the LM IB building

ARCHITECTURAL PHASE 1: THE LM IB TO LM IB-FINAL PERIOD

Strata from LM IB to LM IB-Final came from the LM I building and from several levels below the LM III complex, suggesting that the LM I building must have been larger and that it was partly demolished to obtain building material for the later construction. As preserved, the building was composed of five rooms, designated A, B, C, D, and F (Fig. 11). Space E was probably an exterior space adjacent to the building. Many of the walls must have been visible to the LM IIIA inhabitants at the site, because they sometimes used the partially destroyed LM IB walls as foundations for their own construction. The use of the early walls occurred, for example, in the southern portion of the massive west wall of the LM III complex that was built on top of the earlier, Cyclopean east wall of room A. It was also noted in the south wall of room 3, which reused the former southern wall of room B.

The LM IB building generally used rubble masonry, with soil as mortar. The builders also tended to seat their walls on bedrock. Sometimes (as in wall H, the north wall of room C) these walls were well bonded, with stones placed to span the entire thickness of the walls. Wall A, the Cyclopean east wall of room A, was especially well built and thicker than any wall of the succeeding LM IIIA period. This wall incorporated several roughly shaped and massive stones (up to ca. 1.55 × 0.55 m in size on one face). In addition, several hammer-dressed stones that were incorporated into the later, LM IIIA wall 10 (the east wall of room 3) were probably

reused blocks from the earlier building. Overall, the LM IB walls on the site appear to have been better built than their later counterparts.

The organization of the surviving LM I rooms is typical of many Minoan domestic structures, including several of the houses at Gournia, Pseira, and Palaikastro and the general house type 3 presented by McEnroe.[16] The structure has megalithic or Cyclopean masonry in places, a situation that also occurs at Gournia and Pseira. The preserved part measures ca. 11.5 × 8.25 m. Ceramic debris such as sherds from cooking vessels and cups suggests that cooking and dining took place in the LM IB structure. The presence of clay discoid weights corroborates the picture of a building used as a domicile.[17] The presence of a well-preserved copper or bronze dagger with a riveted handle (Fig. 13:**18**), stone bowls (including Fig. 13:**19**), and fragments from several imported ceramic vessels suggests that the occupants enjoyed a degree of wealth.[18]

The pottery from this phase came from 20 strata (from A, B1, B2, C1, D, E, F1, F2, and G). Over 2,200 sherds weighing more than 31 kg were recovered from LM IB strata. Thirty-one whole or largely restorable LM I vessels were recovered, all of them cups. Among these vessels, conical cups are the most common, followed by miniature cups, handled cups, an ogival cup, a tripod cup, and a spouted cup. Sherds of LM I vessels in fine fabrics came from conical cups, handled conical cups, straight-sided cups, semiglobular cups, bell cups, knobbed cups, miniature cups, in-and-out bowls, strainers, small closed vessels (jugs and jars), scoops, bridge-spouted jugs, and bridge-spouted jars. LM I sherds made of coarse fabrics without phyllite, while few in number, came from basins, an amphora, and a few closed vessels (jugs and jars). LM I vessels with phyllite inclusions consist of conical cups with and without handles, large conical cups, miniature cups, tripod cups, a scoop, cooking dishes, cooking pots, cooking trays, lekanes, kalathoi, jugs, jars, pithoi, and basins, some with scoring inside.

Multiple building campaigns or floor replenishments were indicated by the presence of at least three superimposed LM IB floors in room A that were within 20 cm of each other. Several interesting deposits were noted in the LM I building. For example, a LM IB floor in room A was visible in the southeast corner and, to a greater extent, in the western half of the trench. Formed of hard, packed, light brown soil, its surface was at an elevation of approximately 120.12 m above sea level. The latest ceramic material within the physical floor was LM IB, providing a terminus post quem for its construction. The complete copper or bronze dagger blade (Fig. 13:**18**) came from this partially preserved floor along with sherds, some fragments of shells and bones, a ground stone hand tool, the rim from a stone bowl, and a perforated shell, perhaps intended as a pendant. Below the level of this surface were two earlier LM IB floors.

Part of the same (highest) LM IB floor was also recovered in the southwest corner of room F. The hard surface yielded four complete conical cups, in addition to sherds, bits of animal bones, shells, three ground stone hand tools, a stone loom weight, and some charcoal. The average elevation for the surface of this floor was 120.10 masl. A LM IIIA dump was found on top of the deposit. None of the conical cups was found inverted, and the nature of the LM IB deposit seemed to be general domestic debris.

A few fragmentary ceramic vessels from the habitation site appear to be stylistically more developed than the bulk of the Neopalatial material,

16. McEnroe 1982, pp. 10–13.

17. Bevan (2002, p. 224, fig. 5) identified the LM IB architectural remains as a farmstead. The building fits well with the tradition of isolated farmsteads discussed by Bevan, with examples from Karoumes, Kokkino Froudi, Chiromandres, Kato Mesara sto Kouse, and elsewhere.

18. The presence of Cyclopean masonry might suggest that this LM I structure should be classed as an example of an isolated, rural Cyclopean building with multiple functions, such as the ones noted at the sites of Mesa Lasithi Psygika, Kampos Kamara, Kampos Khordakia, Karoumes, and Chiromandres (Zielinski 1998, p. 61). In his dissertation, Zielinski noted the increased frequency of Cyclopean architecture in East Crete, which he credited to the preponderance of local limestone and the distance of the eastern sites from Knossos (pp. 418–419). The LM IB building possibly can be viewed as an East Cretan isolated Neopalatial habitation site, termed "type 3" by Driessen and MacGillivray (1989, p. 103).

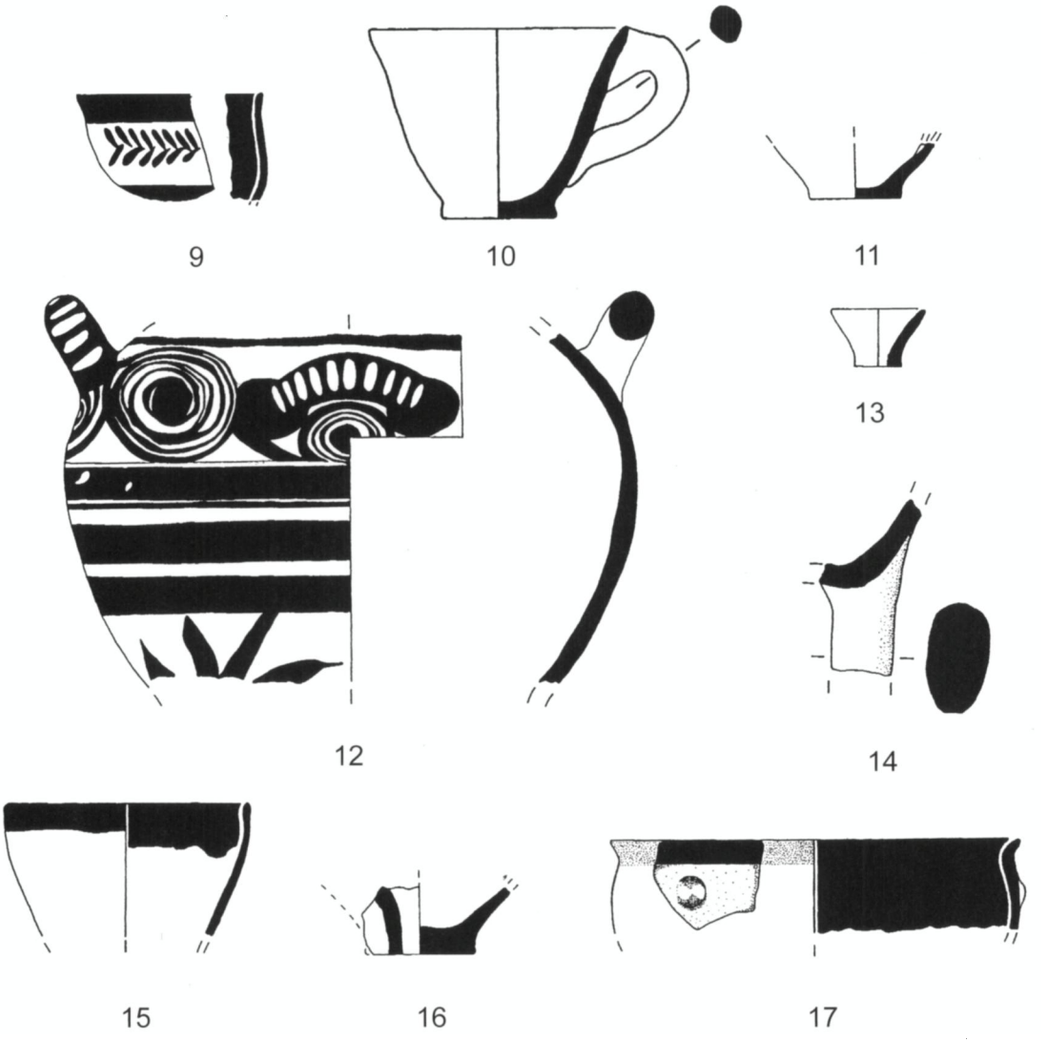

Figure 12. LM IB and LM IB-Final pottery. Scale 1:3

yet earlier than the LM IIIA period represented by the subsequent phase (Fig. 12:**15–17**). These sherds have been dated to LM IB-Final based on their similarity to ceramics from the nearby sites of Mochlos (final destruction in the Artisans' Quarter and the farmhouse at Chalinomouri, dated to a final phase of LM IB) and Pseira (Block AF North, dated to LM IB-Final).[19] These disparate sherds came from bowls, knobbed bowls, tall conical cups, and spouted bowls or cups. However, it was not possible to assign these sherds to specific floors or strata on the site. They came from all over the site, from both LM IB and LM III strata. The presence of some of these sherds in undisturbed LM IB contexts indicates that they were associated with the occupation of the earlier architecture rather than the later LM III complex. Thus, use of the LM IB building may have continued into the latest years of the LM IB period, or even into LM II, a period poorly understood for eastern Crete.

The circumstances under which the whole or nearly complete objects from the LM IB period were found suggest that the building was abandoned hastily, probably at a very late stage in the LM IB period, or even after LM II had begun. Although no traces of a general burning or an overt and purposeful toppling of its blocks were noted, the complete dagger blade (Fig. 13:**18**) was left at the site. It appears to have been hidden in

19. For Mochlos, see Barnard and Brogan 2003, pp. 46–47, 51, 107–109. Also, see Driessen and Macdonald 1997, p. 111, for the suggestion that the LM II period outside of Knossos was characterized by squatters and that only in LM IIIA1 were any new building programs undertaken. For Pseira, see Floyd 2009, pp. 54–55.

a corner of what might have been a partially ruined room (room A).[20] In addition, several whole or nearly complete LM I ceramic cups were found on the few scantily preserved floors that survived. Although most were serviceable at the time of their deposition, they too had been left behind. Later, these vessels were covered over or filled in with debris by the LM IIIA builders.

Catalogue

9 Bell cup Fig. 12

X 879, XB-3W-22. From a LM IB floor packing in the eastern part of room B. Bell cup, rim sherd. Diam. rim 0.10–0.11 m. S-shaped profile; thin, slightly everted rim. Fine fabric. Interior and exterior burnished, with dark slip. Degenerate floral band, with bands above and below it.

Cf. Floyd 1998, fig. 10, no. BS/BV 163 (Pseira).

LM IB.

10 Conical cup with handle Fig. 12

X 885, XB-3W-22. From a LM IB floor packing in the eastern part of room B. Handled conical cup, complete profile. Diam. rim 0.10 m. Convex profile; thin, straight rim. Phyllite fabric. Undecorated.

Burned on rim and on interior, perhaps from use as a lamp.

LM IB.

11 Scoop Fig. 12

X 1914, XB-3E-20. From the LM IB floor packing within the northwest quadrant of room F. Scoop, base and handle sherds. Diam. base 0.035 m. Convex profile; straight, flat base; vertical coil handle in interior. Fine fabric. Exterior wiped with water.

For discussion of the shape and for parallels, see Floyd 1999a; Barnard and Brogan 2003, fig. 18, no. IB.294 (Mochlos).

LM I.

12 Bridge-spouted jar Fig. 12

X 878, XB-3W-22. From a LM IB floor packing in room B. Bridge-spouted jar, handle and body sherds. Max. dim. 0.109 m. Convex profile; horizontal, coil handle with round section. Phyllite fabric. Exterior with pale slip; running spirals, three wide bands, unknown motif; white paint; vertical slashes on handle.

Cf. Floyd 1998, p. 66 and fig. 14 (Pseira).

LM IB.

13 Miniature conical cup Fig. 12

X 555, XB-3E-20. From the LM IB floor packing in the northwest quadrant of room F. Miniature conical cup, complete profile. Diam. rim 0.04, H. 0.022 m. Conical shape; thin, straight rim; straight, flat base. Phyllite fabric. Wiped with water.

Cf. Barnard and Brogan 2003, fig. 11, no. IB.264 (Mochlos).

LM IB.

14 Tripod cooking vessel Fig. 12

X 1447, XB-38-10. From the LM IB packing associated with Feature E (a cist or bin?) in area 17. Tripod cooking vessel, leg sherd. Max. dim. 0.081, Th. at base of leg 0.008 m. Leg with thick oval section. Phyllite fabric.

LM I.

20. A list of deliberately hidden LM IA and LM IB bronze objects, compiled by Driessen and Macdonald (1997, p. 68), includes items from Ayia Triada, Gournia, Zakros, Knossos, Mitropolis, Mochlos, and Palaikastro. The authors proposed a LM I "hoarding horizon" (p. 69) and suggested that these hoards (most of which belonged to LM IB) indicated a period of insecurity (p. 70).

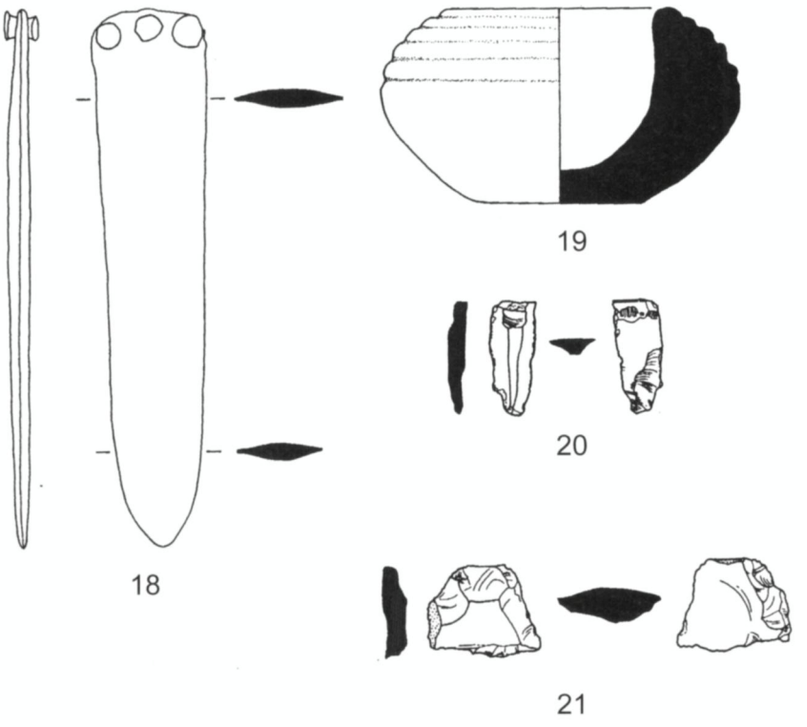

Figure 13. LM I dagger blade, stone bowl, and obsidian. Scale 1:3 for **18** and **19**; 1:2 for **20** and **21**

15 Tall cup Fig. 12

X 477, XB-3E-18. From the LM IB floor level in the southwest quadrant of room F. Tall cup, rim sherd. Diam. rim 0.10 m. Convex profile; straight rim. Phyllite fabric. Interior and exterior with rim band. Wiped with water on exterior.

Cf. Banou 1999, fig. 53, no. DA 13 (Pseira); Barnard and Brogan 2003, fig. 3, no. IB.157 (Mochlos).

LM IB-Final.

16 Bowl or kalathos Fig. 12

X 1608, XB-36-4. From the disturbed floor packing of room 16. Bowl or kalathos, base sherd. Diam. base 0.043 m. Convex profile; straight, flat, thick base. Fine fabric. Burnished on the interior and exterior. Exterior surface with vertical drip.

Cf. Barnard and Brogan 2003, fig. 4, nos. IB.161, IB.164, IB.173 (Mochlos).

LM IB-Final.

17 Knobbed bowl Fig. 12

X 1402, XB-34-1. From the packing below the LM IIIA surface in space 10. Knobbed bowl, rim sherd. Diam. rim 0.17 m. Convex profile; thin, slightly everted rim; knob below rim on vessel exterior. Fine fabric. Burnished.

See Barnard and Brogan 2003, fig. 10, nos. IB.243–IB.245 (Mochlos).

LM IB-Final.

18 Dagger Fig. 13

X 830, XB-9E-14. From the latest floor in the southeast corner of room A. Dagger blade, complete, but missing handle. L. 0.22, W. at rivets 0.047 m. Corroded copper or bronze blade with three rivets to attach it to the hilt.

For discussion of this piece, see Floyd 1999b.

LM IB.

19 Bowl with horizontal fluting Fig. 13

X 1230, XB-17-1. From the LM IIIA collapse above area 20. Stone bowl with horizontal fluting, nearly complete. H. 0.085, max. W. ca. 0.15 m. Bowl with horizontal fluting on upper body. High shoulder. Series of five concentric grooves around circumference. Mottled serpentinite.

For discussion and parallels, see Warren 1969, p. 26.

LM IB.

20 Obsidian blade Fig. 13

X 935, XB-3E-19. From a LM IB surface or floor in area E. Obsidian blade, distal end. L. 0.03, W. 0.012, Th. 0.005 m. Obsidian, black. Blade fragment with damaged edges. Rectangular in section.

LM IB context.

21 Obsidian flake Fig. 13

X 1021, XB-9W-11. From the packing of the LM IB floor in room A. Obsidian flake. L. 0.032, W. 0.03 m. Obsidian, black, matte to lustrous.

Presumed to be a preparatory flake as some cortex is apparent. Flaking damage on edge (work rather than retouch).

LM IB context.

ARCHITECTURAL PHASE 2: THE LM IIIA2 TO LM IIIB-EARLY PERIOD

The last Bronze Age occupation of the site extended from LM IIIA1 to LM IIIB, although the majority of the surviving architectural remains appear to date from LM IIIA2 to LM IIIB-Early. The building consisted of a large rectangular complex measuring ca. 26 m east to west and ca. 20 m north to south (Fig. 14). Evidence exists for approximately 15 rooms and spaces, several of which were probably unroofed, including a large open court (space 10).

The complex proved to be significant, as too little is known about the isolated Minoan farmsteads during this period in East Crete. The pottery is mostly of LM IIIA2 date, but some earlier (LM IIIA1) and later (LM IIIB-Early) pottery was also present.[21] The site apparently functioned as an isolated farmstead.[22] With its massive, Cyclopean west wall, the

21. While the majority of the pottery is of LM IIIA date, some pieces appear to be more developed; the term "LM IIIB-Early" is used here to indicate that, while the latest Bronze Age pottery from the site appears to belong to the LM IIIB period, it is only from very early in this period. For example, the shallow decorated kylikes and deep bowls (Fig. 20:**24–26**) are more likely to be from the early part of LM IIIB. The presence of the whorl shell motif on a few vessels (Fig. 20:**25**) is also a LM IIIB-Early characteristic. For a reference to pottery or strata assigned an early LM IIIB date at Knossos, see Warren 1997, pp. 171, 173, 175; Warren mentions strata of "LM IIIA2–B" and refers to a "LM IIIB earlier" phase and a "LM IIIB later" phase in trench X of the Stratigraphical Museum Extension excavations. Also, see Tsipopoulou 1997, p. 212, for a reference to the dating of the destruction of the West House at Petras to "early LM IIIB." She also mentions (pp. 212, 219) amphoroid kraters and juglets from Petras that date to "early LM IIIB." In addition, Farnoux (1997, p. 265) uses the term "Early LM IIIB" for dating a shallow kylix (M558) from Quartier Gamma at Malia. For a further consideration of the use of terms indicating an early and a late phase of LM IIIB, see Kanta 1997, p. 83. For the notion of a "ceramic continuum," see the comments by L. V. Watrous in Hallager and Hallager 1997, pp. 188, 190.

22. The relationship of the building to the immediately surrounding territory is discussed at length by Betancourt (2006) in light of the results of

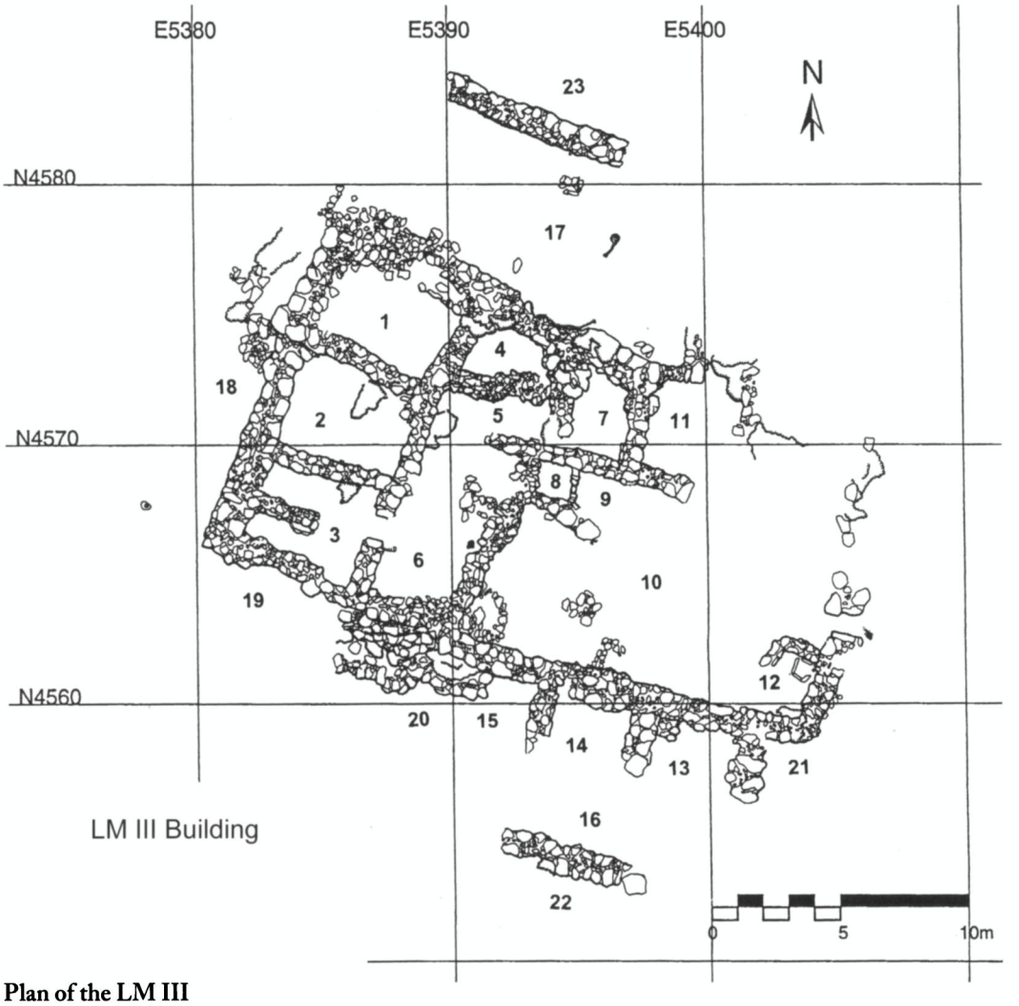

Figure 14. Plan of the LM III building

LM III complex may have been a structure related to the "megalithic farmsteads" of LM III–Early Iron Age date noted on the island.[23] The complex could also be understood as a later version of a conventional rural Minoan farmstead, such as those noted at Stou Kouse, Pobia East, Pinakino tou Stavrakou, Mesa Lasithi stous Skarveli, Avralcontes Kakadravatos, Kato Chorio, and Chalinomouri,[24] especially since it stands on the location of a LM IB predecessor. The Chrysokamino complex can perhaps be understood as an expression of the eastern tendency toward a partial continuation of Minoan architectural traditions after the arrival of the Mycenaeans. The type of Cyclopean masonry apparent in the massive west wall (wall 2/5) corresponds most closely to the "Gournia Style" as

the intensive Chrysokamino survey. The domestic economy of the farmstead must certainly have been based on a combination of farming and animal husbandry. The complex had surrounding lands that would have afforded space for a wide variety of crops as well as grazing land for livestock, most likely sheep and goats. The regional survey by Haggis has identified additional nearby sites at Kephalolimnos and elsewhere (Haggis 2005, pp. 106–109, 116–117). The adjacent lands would probably have been ample for the farming and shepherding needs of the inhabitants of the complex. The building was probably occupied year-round.

23. Hayden 1997, passim.

24. Zielinski 1998, pp. 59, 430; Bevan 2002, pp. 224–225.

enumerated by Zielinski, but it is later in date than the LM I examples he cites.[25]

The site's LM III architecture differs from that of LM IB in a number of significant ways.[26] The basic organization of the rooms is more regularized and axial in the later period, resulting in a rectangular ground plan overall. The complex was constructed on a considerable slope, as was often favored by the Minoans,[27] and thus was arranged in three basic levels or tiers, running down the slope from north to south: area 17 at the north, rooms 1–12 on the middle level, and rooms 13–16 on the southernmost tier. Unfortunately, the LM IIIA builders often did not seat their walls on bedrock. This practice, coupled with the numerous deep fissures that run through the dolomite bedrock at the site and the considerable slope of the location, has resulted in a relatively poor state of preservation for most of the walls of the LM III complex.

In an effort to lend additional support to several large, important walls, the LM IIIA builders constructed several types of buttresses at the site. A massive buttress in area 20, built against the southern face of the south wall of room 6 and space 10, was formed in stages that resulted in a steplike appearance leading downward from this massive south wall. In room 13, an example of a corner buttress constructed of medium-sized stones and mud mortar was noted at the northwest corner.

The irregular surface of the dolomite bedrock at the site often necessitated the use of deep packing layers in order to level areas for use. One LM IIIA building technique noted was the purposeful placement of cobble-sized stones into crevices, accompanied by considerable soil, to provide a firm packing level upon which to create beaten earth or stone slab–paved floors. Ample evidence for this technique was observed in space 10 and in room 6.

The plan of the LM III structure includes a large, enclosed courtyard (space 10). This court, entered from the east (Fig. 15), was an important feature of the building, and it provided access to other rooms in the complex. Many different household or food-processing activities probably took place in this court, which may have also served as a place to confine animals when necessary. A detached kitchen with two hearths, one stone-built and the other made of clay, was in the southeast corner of the court, in room 12 (Fig. 16). An adjacent room (room 14) may have served as the pantry or storage area for the cooking vessels used in this kitchen.

25. Zielinski 1998, pp. 92–93. Perhaps Zielinski's (1998, p. 99) statement that "a cyclopean architecture relative chronology really has only two phases: PP [Postpalatial] and NP [Neopalatial]" may need to be reassessed once more examples of later Minoan Cyclopean buildings are excavated and more securely dated.

26. A number of the characteristics apparent in the architecture of the LM III structure accord well with the list of features noted by Hayden as typifying LM III architecture elsewhere on the island, including the enclosed court (area 10), the rectangular stone-built hearths, and axially aligned rooms (Hayden 1990, p. 206). In addition, in several instances the doors are near the corners of the rooms, not in the centers of their respective walls, as in rooms 2 and 3. The practice of building exterior walls first, and then interior, dividing walls, did not occur in LM I buildings at Gournia, although it was conspicuously present in the few LM III buildings of the reoccupation period (for example, Buildings He and Hf). The interior walls of the LM III buildings at Gournia are not bonded with the exterior walls, but simply abut one another (Fotou 1993, p. 96). The same situation is present in the LM III complex here.

27. For example, see Buildings AA, AB, AD, AG, and BH, among others, at Pseira (McEnroe 2001, pp. 35–36, fig. 1).

Figure 15. Entrance to the LM III building, looking west (1996)

Figure 16. Stone hearth in the northeast corner of room 12, looking east (1997)

The building included several features built of stone. One of them, located in area 18 west of room 1, may have functioned as a cist or bin or as a place to feed livestock. In the center of room 3, above the earlier walls of the LM I building but below the latest phase of the LM III complex, was an oval, stone-built hearth. The earliest phase of this hearth was associated with LM IIIA2 pottery. It probably did not survive into the LM IIIB-Early period.

Several interesting and informative deposits were recovered from the LM III complex. In a crevice in the bedrock forming the north wall of room 11, a possible LM IIIA2 ritual deposit was found, elevated above the level of the floor on an irregular, shelflike surface (Fig. 17), perhaps indicating the presence of a small niche devoted to cult within the household. On a packed surface upon the shelf were several items interpreted as having cultic significance. This deposit consisted of a hand tool of quartzite, a complete conical cup, a broken ladle (Fig. 20:**28**), a fragmentary storage jar, a complete triton shell (Figs. 17, 18, 21:**32**),[28] and two pairs of goat

28. For information on the presence of triton shells in ritual contexts in the Aegean and eastern Mediterranean, see Åström and Reese 1990; Baltzinger 2002, p. 72. Also interesting to note is the stone vessel carved of chlorite in the form of a triton shell from the site of Zakros (Platon 1971, pp. 220–221). Four triton shells were recovered from Chrysokamino-Chomatas, two of which were complete or nearly complete and two of which were fragmentary. All came from LM III contexts.

Figure 17. Possible LM IIIA2 ritual deposit in room 11, looking north (1997)

horns that had been carefully cut from the skulls (Fig. 21:33).[29] This deposit suggests that the room could have functioned as a small domestic shrine for the complex.[30] The bedrock ledge in the area served to elevate the location of the deposit above the preserved bit of floor in the rest of room 11 and might have served as a shelf within the domestic shrine. Other Minoan domestic shrines of LM III date are known from Kommos,[31] Gournia,[32]

29. Goat horn cores, most determined to have been from agrimi, also have been recovered from Chamalevri in western Crete (Andreadaki-Vlasaki 1994–1996, pl. 30, no. 2), where they probably represent animals that had been hunted for food. The significance of the goat in ritual activity is indicated in the visual arts by a rhyton from Zakros showing a scene with wild goats in a mountainous landscape with a shrine (Platon 1966, pl. 105). Numerous small-scale bronze statuettes of horned goats have been recovered from Minoan sanctuaries, such as the one at Ayia Triada (Platon 1966, pls. 23, 24). At least one sarcophagus of LM IIIA date from Armenoi was decorated with a scene of hunters pursuing a wild goat, along with a representation of a man holding a double axe (Mylona 2002, p. 67). For wild goats as Minoan cult symbols, see Gesell 1985, p. 41.

30. On domestic shrines in the LM III period, see Gesell 1985, p. 85. She describes them as being built of the same materials as habitation rooms and being used for both purposes. Rutkowski notes that they are generally small (usually one or two rooms), on either the ground or upper floor, and accessed from within the house; he also remarks that they do not occur in any fixed shape or place (Rutkowski 1986, pp. 139–140). Gesell (1985, p. 41) states that treasure deposits do not occur in cult rooms of LM III date. She also mentions that the cult objects themselves were made of plainer materials by this late date, and that while triton shells continued as cult objects, no stone imitations are known. For a further mention of the decrease in prestige ritual objects and emphasis on small "house shrines" in LM III, see Rehak and Younger 2001, pp. 456–457.

31. For the shrine in the Hillside House at Kommos, see Gesell 1985, p. 42. House X at Kommos was a far more elaborate building than the LM III complex at Chrysokamino-Chomatas. It was notable for its elaborate architecture and wall paintings, as well as for the presence of a domestic shrine. Finds from the shrine within the house included small juglets, numerous complete cups, and a complete triton shell. See Shaw and Shaw 1993, pp. 149–152; 2000, p. 166, fig. 217.

32. Building He (the "Great House" or the "Big House") at Gournia was conspicuous for possessing a room (room H 34) that yielded sacred horns. In addition, a bull's head was found nearby in the exterior space between the northwest and southwest corners of Buildings He and Hb (Fotou 1993, pp. 95–96), and it may have originated from room H 34. This room may have been a domestic shrine within the LM III Building He. A separate LM III shrine also existed at Gournia (just south of Building Fj, of LM IIIB date, for which see Russell 1979 and Fotou 1993, pp. 91–92). For the shrine at Vronda (Building G, of LM IIIC date), see Gesell, Coulson, and Day 1991, p. 162.

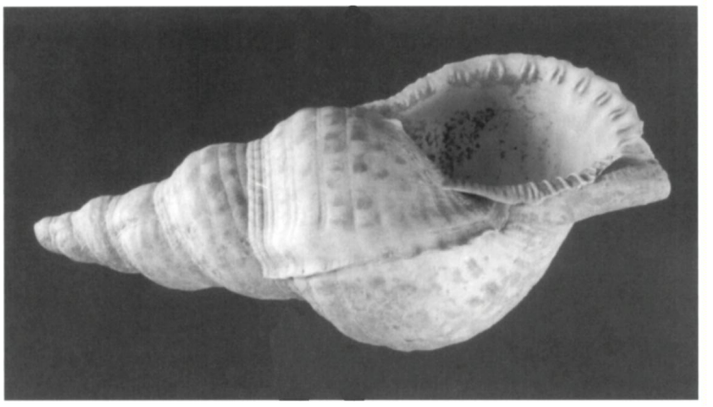

Figure 18. Triton shell (32) from room 11

and elsewhere (Chondros-Viannou, Katsambas, Gazi, Karphi, Palaikastro, and possibly Prinias).[33]

Traces of two floor levels were encountered in room 6. The lower floor, confined to the northwest portion of the room, was constructed in LM IB. This early floor was reused in LM IIIA when a foundation deposit was laid on it prior to the construction of the LM III complex (Fig. 19). Minoan foundation deposits were sometimes purposefully placed below the level of a floor that was to be built, perhaps as an offering or in hopes of ensuring the successful completion of the building campaign. Such deposits have been found, for example, at the Minoan sites of Palaikastro, Mochlos, Nirou Chani, and Phaistos, among others.[34] The deposit below room 6 consisted of a whole, inverted LM IIIA monochrome ogival cup, a triton shell, and a stone bowl that had been placed against an earlier, LM IB wall by the builders of the LM III complex. It appears to have been a foundation deposit because it was placed on an earlier floor, contained few items, and was purposefully covered over. The triton shell was missing a small piece, which, significantly, was found in a LM IIIA context within room 3, above room F2 of the LM IB building. Thus, this deposit most likely dated from the period of the construction of the wall dividing rooms 1, 2, and 3 from rooms 4, 5, and 6, because the cup was found against and partly under its eastern face.

The lack of architectural features or finds that herald specialized structures indicates that the LM III complex most likely served as a house. This interpretation is supported by the abundance of sherds from cooking and dining vessels and by the presence of ground stone hand tools. The preponderance of built features and hearths (both of stone and clay) suggests that the inhabitants were occupied with farming, animal husbandry, food procurement, food preparation and processing, storage, and perhaps other domestic industries. The isolation of the structure in the countryside with abundant land for farming and pasturage[35] further supports the hypothesis that the complex had an economy largely based on agricultural pursuits.

Most of the rooms in the building appear to have been emptied prior to its collapse, and no evidence for a violent destruction was encountered. The abandonment was probably gradual. The reason for the abandonment remains unclear, although it could have been related to the general movement away from the Cretan coastline at this time. The abandonment of

33. Daux 1958, p. 783; Gesell 1985, pp. 81–82, 132; Rutkowski 1986, p. 151; Åström and Reese 1990, p. 9.

34. MacGillivray et al. 1988, pp. 269–270; MacGillivray 1997, p. 277; Driessen 2001, p. 362. For an earlier consideration of foundation deposits from Kommos, see Betancourt 1990, pp. 46–48.

35. For the probable boundaries of the farmstead and for the tentative identification of plots used for gardens, fields, and animal husbandry based on surface survey, see Betancourt 2006, pp. 233–257.

Figure 19. Foundation deposit in room 6, looking north (1996)

coastal sites during the LM IIIB period was not uncommon on Crete, and it often coincided with the establishment, reestablishment, or expansion of remote inland sites.[36]

The pottery from the LM III building includes examples of vessels from LM IIIA1 to LM IIIB-Early in a wide range of shapes, providing ample evidence for the activities of dining, food preparation, cooking, and storage. Shapes created in fine fabrics include handled cups, tripod cups, footed cups, kylikes, tankards, ladles, bowls, jugs, jars, stirrup jars, amphoras, bridge-spouted jars, thelastra, alabastra, kraters, and strainers. The forms present in coarse fabrics without phyllite were limited to medium to large jars, basins, amphoras, kraters, cooking dishes, tripod cooking pots, pithoi, and a few bowls. A wide range of forms is represented in phyllite fabrics: conical cups, a few handled cups, bowls, ladles, kalathoi, lekanes, basins, bowls, tripod cups, kylikes, a stand, beehive/graters, jugs, jars, kraters, amphoras, tripod cooking pots, cooking dishes, and cooking

36. Such sites include Chalasmenos and Katalimata at Monastiraki, Oreino-Kastri, and Kastro and Vronda at Kavousi. For information on the turmoil on the island in this late period, along with site destructions, abandonments, and establishments, see Pendlebury 1939, p. 241; Desborough 1972, pp. 112–113; Cadogan 1976, pp. 154–155; Kanta 1980, p. 326; Betancourt 1985, p. 159; Nowicki 1987, p. 233; 1990, pp. 167, 176, 179–180; Haggis and Nowicki 1993; Haggis 1996, pp. 409–410; Tsipopoulou 1997, p. 247; Tsipopoulou and Coulson 2000, pp. 103–105.

trays. Even a few fragments from LM III larnakes made of phyllite fabrics were recovered.

The transformation of the leg on tripod cooking pots from the LM I type with a thick oval section to one with a nearly round section by the LM IIIA1 period[37] was observed in the material at the site (compare, for example, sections of the tripod legs in Figs. 12:**14** and 20:**30**). In addition, a greater range in the size of the later cooking pots was noted, and LM III examples generally had a taller, more everted rim than their LM I counterparts. Most cooking pots from the site were rather pyriform in shape, although a few examples had straighter sides.[38]

By the LM IIIA2 period, the handled cup had greatly decreased in frequency, while the opposite was true of the footed cup and the kylix. Although a paucity of kylikes has been attributed to the eastern end of the island,[39] Chrysokamino-Chomatas has yielded considerable evidence for this vessel, of LM IIIA1–LM IIIB-Early date, including decorated pieces (see, e.g., Fig. 20:**24**, **25**). Both decorated and plain kylikes were also recovered in significant numbers from Chondros-Viannou, and a few examples have long been known from other sites in East Crete.[40] At Chrysokamino-Chomatas, numerous handled cups and conical cups continued to be produced even when the kylix was prevalent, suggesting perhaps a coexistence of drinking traditions, mainland and Cretan. Alternatively, they might have been used for the consumption of specific and differing beverages.

Although conical cups continued to be produced in significant numbers in the LM IIIA2–IIIB-Early period at the site, a difference in fabric can be seen. While conical cups were formed in fine fabrics both with and without phyllite during LM IB, by the time of LM IIIA2 they were made only with phyllite inclusions. In terms of shape, the LM IIIA–B examples are largely indistinguishable from their LM IB counterparts.

37. For other examples and mentions of this transformation, see Cadogan 1967, p. 264, fig. 5, no. 15; Betancourt 1980, passim; Andreadaki-Vlasaki and Papadopoulou 1997, p. 133, fig. 51; Mook and Coulson 1997, pp. 349, 355, 362; Tsipopoulou 1997, p. 216.

38. The two types of cooking pots (globular and straight-sided) correspond to Betancourt's types A and B (Betancourt 1980, pp. 3–5).

39. See, e.g., Popham 1969, p. 299 and n. 4; MacGillivray et al. 1992, pp. 123–124; MacGillivray 1997, p. 278; Mook and Coulson 1997, pp. 348, 354, 360; M. R. Popham, in Hallager and Hallager 1997, pp. 49, 299. Kanta perhaps best summed up the perceived infrequency of kylikes in the east: "Although the kylix is considered a shape of mainland rather than Minoan origin, it was in continuous use all over Crete from LM III to the Subminoan period. Its supposed rarity in east Crete is probably due to the paucity of excavated deposits, especially in settlements" (Kanta 1980, p. 265; see also Hallager 1997, p. 41, n. 217).

40. For kylikes from the LM IIIA2 site at Chondros-Viannou, see Platon 1959, passim; Kanta 1980, fig. 47:7, 8; Platon 1997, p. 369. Kylikes are also known from Palaikastro (Bosanquet, Dawkins, and Tod 1902–1903, p. 315, fig. 14; Bosanquet and Dawkins 1923, p. 85, fig. 68), Kritsa (Hallager 1997, p. 31, fig. 27), Episkopi-Ierapetras (Popham 1969, pl. 64:d; Kanta 1980, p. 65, fig. 29:1, 2), Zakros (Kanta 1980, p. 195, fig. 73:1, 4), the LM IIIA2 Building DA on Pseira (Banou 1999, pp. 274, 278, nos. 36, 37, 89), the LM III reoccupation levels at Petras (undecorated examples only, see Tsipopoulou 1997, p. 231), the LM III reoccupation deposits from Chalinomouri (Soles 2003, pp. 117, 120, nos. IA 3, IA 12), the phase I strata at the Kastro, Kavousi, where they occurred as earlier, LM IIIB material in an early LM IIIC phase (Mook and Coulson 1997, p. 348), and from the Vrokastro area, where they are dated to the LM IIIC period (Hayden 2003, pp. 28, 31, 33, nos. 30, 44, 53).

We do not agree that kylikes were not made in East Crete (see the comment by J. A. MacGillivray in Hallager and Hallager 1997, p. 80). Due to their near absence at Palaikastro, however, we are inclined to agree with Tsipopoulou (1997, p. 243), who has suggested that although Palaikastro was a chief producer of fine wares in East Crete in LM III, a second pottery-producing center must have existed in the region, thus explaining the numerous kylikes at Chrysokamino-Chomatas.

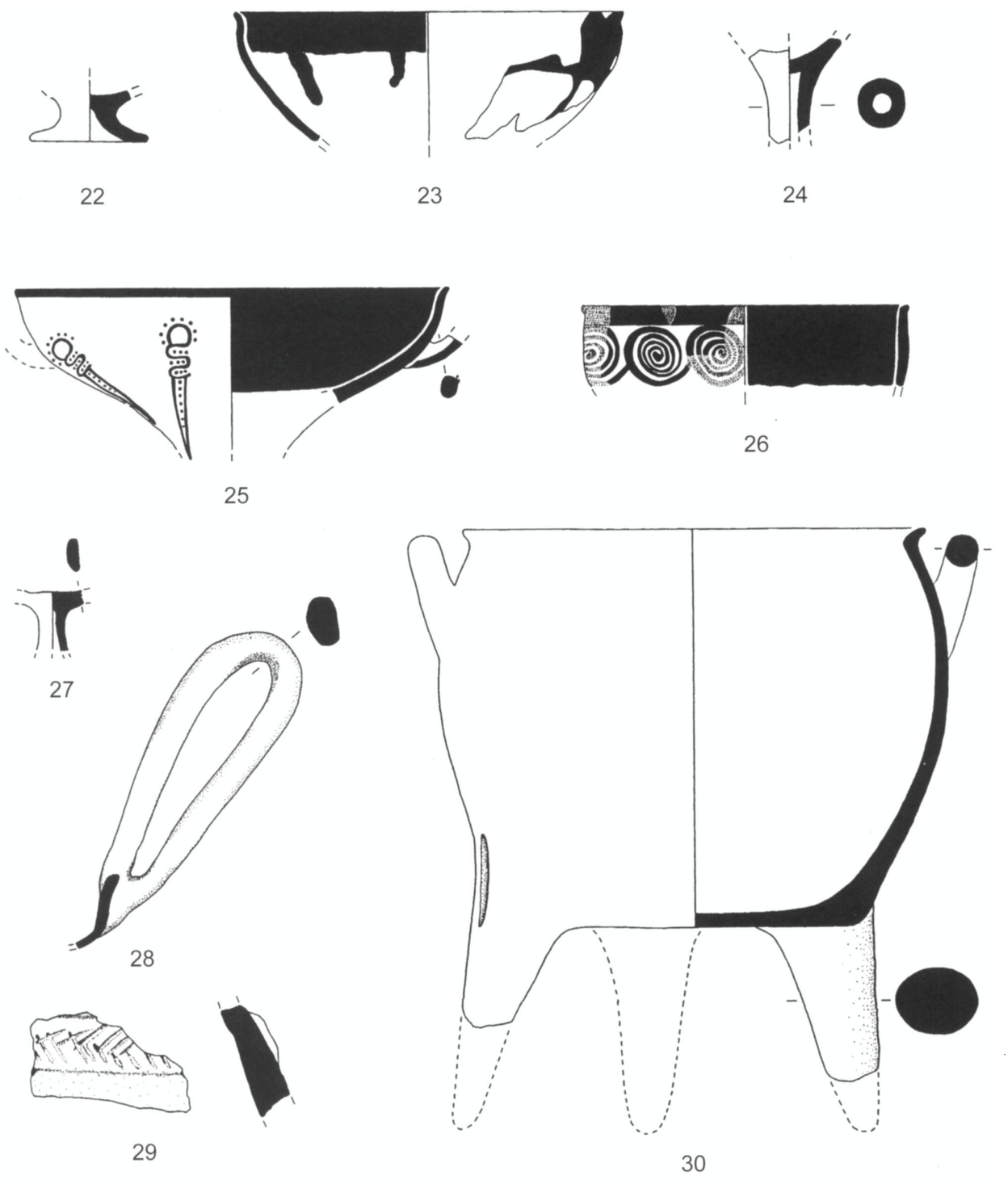

Figure 20. LM III pottery. Scale 1:3

Catalogue

22 Champagne cup Fig. 20

X 1399, XB-21-2. From a LM IIIA collapse stratum above space 10. Champagne cup, base and foot sherd. Diam. foot ca. 0.06 m. Concave profile; slightly domed, circular, hollow foot. Fine fabric.

For discussion of the shape, see Popham 1969. For East Crete, see Banou 1999, fig. 52, no. DA 2 (Pseira); Smith 2010, fig. 4, no. IIB.101 (Mochlos).

LM IIIA2.

23 Pulled rim bowl Fig. 20

X 1515, XB-47-4. From the LM IIIA floor packing in room 11. Pulled rim bowl, rim and body sherds. Diam. rim 0.20, Th. wall 0.003 m. Convex profile; thin, slightly everted rim. Fine fabric. Interior with dark slip. Exterior with rim band, globs, drips.

Cf. Smith 2010, fig. 11 (Mochlos).

LM IIIA.

24 Kylix Fig. 20

X 1264, XB-32-1. From the LM IIIA collapse stratum above space 10. Kylix, stem sherd. Max. dim. 0.062 m. Convex profile for bowl; stem with round section and central hollow. Fine fabric.

Cf. Popham 1970, pp. 74–76 and 101, fig. 7, nos. 6, 7, p. 103, fig. 9, nos. 1, 2 (Knossos); Smith 2010, figs. 7–9 (Mochlos).

LM IIIA2 to LM IIIB-Early.

25 Kylix Fig. 20

X 1648, XB-21-3. From the LM IIIA surface packing in space 10. Kylix, rim, handle, and body sherds. Diam. rim 0.22, Th. wall 0.003–0.007 m. Convex profile for bowl; thin, straight rim; high swung, vertical, coil handles with oval sections; thin wall. Fine fabric. Interior and exterior burnished, with pale slip; rim band, vertical whorl shells, traces on handles.

LM IIIB-Early.

26 Deep bowl Fig. 20

X 243, XB-3E-15. From the LM IIIA floor packing in room 3. Deep bowl, rim sherd. Diam. rim 0.16–0.18 m. Slightly convex profile; rolled, everted rim. Fine fabric. Interior with dark slip. Exterior with band at rim, tangent spirals below.

Cf. Smith 2010, fig. 16, no. IIB.473 (Mochlos).

LM IIIA to LM IIIB-Early.

27 Stirrup jar Fig. 20

X 1436, XB-29-4. From the packing below the LM IIIA surface in area 18. Stirrup jar, spout. Max. dim. 0.034 m. Concave profile; small, flat, false spout; vertical handles attached to false spout. Fine fabric. Exterior burnished, with pale slip(?); dark slip in traces.

LM IIIA to LM IIIB-Early.

28 Ladle Fig. 20

X 1559, XB-46-6. From the LM IIIA floor level in room 11. Ladle, handle attached to bowl sherd.[41] Max. dim. 0.185 m. Bowl with convex profile and thickened, slightly everted rim; large, long vertical loop handle with flattened, oval section. Groove on outer surface of handle. Fine fabric. Pale slip.

41. The ladle was first noted at Kommos as occurring in LM IIIA1, and it continues into the LM IIIB period. It disappears from the archaeological record by LM IIIC. The shape is ultimately Mycenaean in origin. It first appeared in Late MH contexts on the Greek mainland (Mountjoy 1993, p. 71). A Linear B ideogram referring to the ladle has even been identified (Mountjoy 1993, fig. 187), although the shape seems to refer more to a metal example. On the mainland, the form continues through the LH IIIC period. The ladles from Chrysokamino-Chomatas are closest in shape to the LH IIIA2–IIIB types on the mainland.

The bowl and handle of this vessel were formed from different fine fabrics and then pieced together. The pale slip applied all over the vessel may have been intended to hide this fact.

Parallels come from Mochlos (Smith 2010, fig. 25), Knossos (Popham 1964, p. 21, pl. 2:b; 1970, p. 110, fig. 16, nos. 4, 6, 8; Warren 1997, pp. 169–171, fig. 22, bottom left), Ayia Triada (La Rosa 1977, p. 338), Kommos (Watrous 1992, pp. 128, 134, 142, fig. 31, no. 742, fig. 41, no. 1008, fig. 47, no. 1267, fig. 49, no. 1315), and Malia (Farnoux 1997, p. 266, fig. 4).

LM IIIA to LM IIIB-Early.

29 Pithos Fig. 20

X 727, XB-3W-4. From the collapse stratum in the northwest quadrant of room 3. Pithos, body sherd. Max. dim. 0.092, Th. wall 0.018 m. Slightly convex profile; applied, plastic, horizontal band with incised herringbone motif. Phyllite fabric.

This pithos fragment, decorated with an incised, applied plastic band, is similar to late LM IIIA2–IIIB examples from Petras (Tsipopoulou 1997, pp. 213–214, figs. 7, 8, no. 92.106.4) and Mochlos (Smith 2010, figs. 75, no. IIB.829, 77, no. IIB.835, 836). For pithoi with this type of decoration, see the remarks of A. Kanta, M. Vlasaki, J. A. MacGillivray, and L. V. Watrous in Hallager and Hallager 1997, p. 255. The presence of numerous pithos sherds of this type from LM IIIA2–IIIB-Early contexts at Chrysokamino-Chomatas correlates well with the date of the other known examples.

LM IIIA to LM IIIB-Early.

30 Tripod cooking pot Fig. 20

X 1152, XB-18-3. From a LM III floor in the northeast part of room 14, the probable "pantry" where cooking vessels were stored. Tripod cooking pot, complete profile. Diam. rim 0.23, p.H. 0.275, Th. base 0.006 m. Convex profile; everted rim; horizontal, coil handles with oval sections; legs with round sections and deep vertical slashes on exterior surfaces at juncture with body of vessel. Phyllite fabric.

Cf. Smith 2010, fig. 83, no. IIB.869 (Mochlos).

LM IIIA to LM IIIB-Early.

31 Hydria Fig. 21

X 1149, XB-22-3. From the floor packing within room 6. Bronze hydria; rim, handle, neck, and body sherds with rivets. Diam. rim ca. 0.09 m. S-shaped profile; thin, everted and flattened rim; tapering strap handle attached with two rivets to the underside of the rim; embossed, decorative row of dots on upper shoulder; handle tapers to shoulder where it was attached to vessel with one rivet.

This bronze hydria is similar to a type found at Mycenae (Grave Circle B, Shaft Grave B), Knossos (South House), and Palaikastro (room 14). See Matthäus 1980, pl. 25, nos. 210, 212, pl. 26, no. 217. Driessen and Macdonald (1997, p. 66) have noted that bronzes are rarely found in LM II–III domestic contexts.

LM IIIA to IIIB-Early.

32 Triton shell Figs. 17, 18, 21

X 1467, XB-46-6. From the northern part of room 11. Triton shell, complete. L. 0.281, max. W. 0.113 m. *Charonia sequenzae* collected alive. Very large specimen. Hole on lower body is man-made, possibly for suspension(?).

Part of the probable LM IIIA2 ritual deposit in room 11.

LM IIIA2 context.

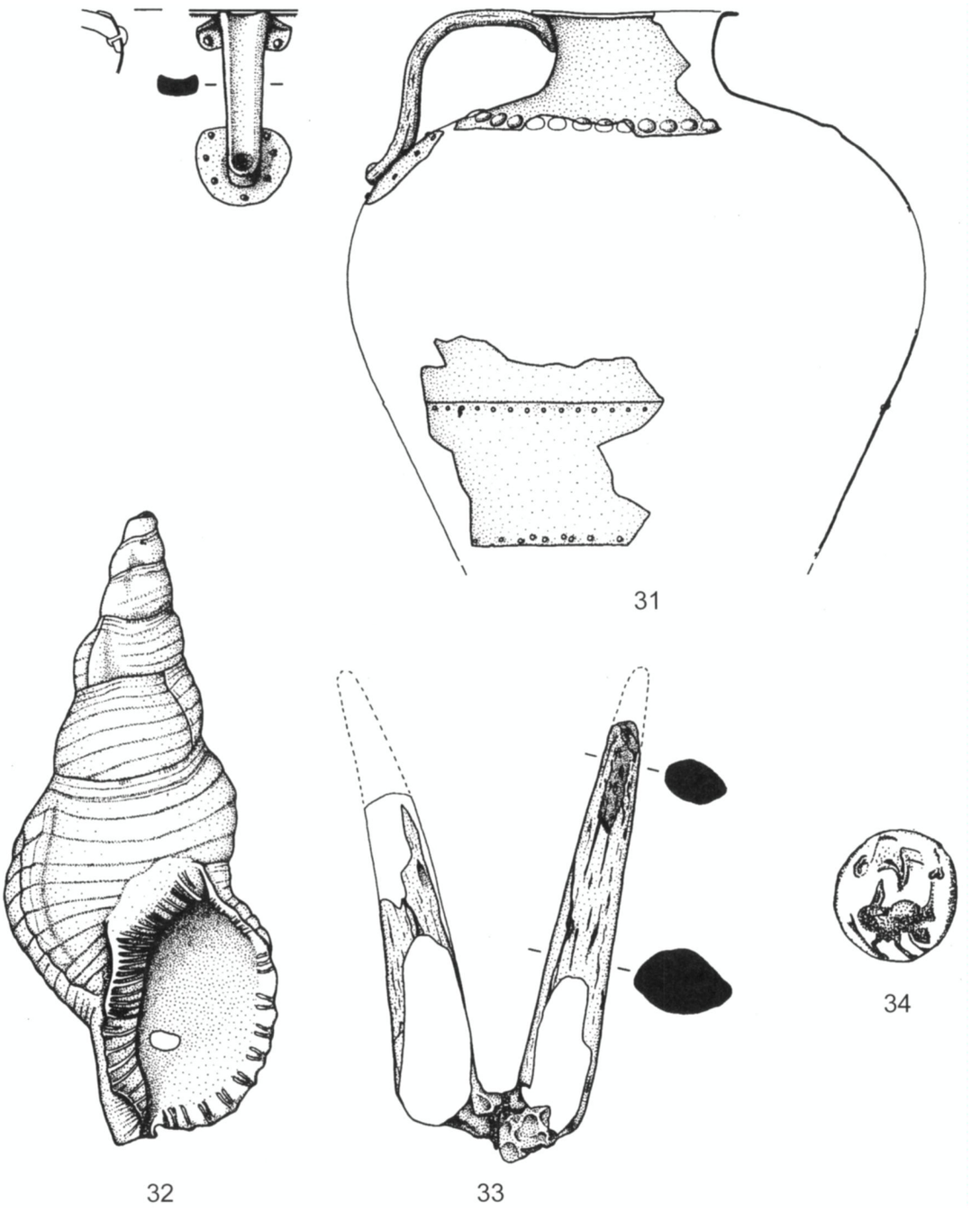

Figure 21. Bronze hydria, triton shell, goat horn core, and sealstone from the LM III building. Scale 1:3 for **31**, **32**, and **33**; 1:1 for **34**

33 Goat horn core Fig. 21

X 1652, XB-46-8. From the northern part of room 11. Horn core, complete pair. Max. p.L. 0.215 m (after conservation). Single sheep or goat horn core. Base of horn core has been cut to separate it from the skull. Found beneath another horn core.

Part of the probable LM IIIA2 ritual deposit in room 11.

LM IIIA2 context.

34 Sealstone Fig. 21

X 1460, XB-46-6. From the northern part of room 11. Sealstone, complete.[42] 0.019 × 0.019 × 0.005 m; Wt. 4 g. Lentoid sealstone with one hole pierced through the edge; elliptical section. Engraved on only one side. Motif uncertain. Possible motif of two quadrupeds. Worn and difficult to read. Serpentinite.

Part of the probable LM IIIA2 ritual deposit in room 11.

LM IIIA2 context.

POST–BRONZE AGE REMAINS

Activity continued in this region after the Bronze Age. A modern sheepfold, measuring ca. 21 × 9 m in size, was located at the southwest corner of the site prior to excavations (Fig. 3). It was dismantled during the course of the explorations of the Minoan architectural remains.[43] Approximately 40 m to the south of the Minoan buildings was a large, elliptical enclosure (ca. 43 × 82 m in size), which may have functioned as a pen for livestock. A sherd recovered from inside the wall of this enclosure (X 1345) was from an 18th-century Ottoman flask with two handles.[44]

The post–Bronze Age ceramics were located generally at the surface or very near the surface. These late sherds do not always correspond to periods of building activity at the site, but they indicate the continued use of the general location, however irregularly, into modern times. No architecture from the Byzantine or Ottoman periods was discovered in the immediate vicinity of the Minoan buildings. The few sherds from the area represent either the remains of casual breakage by transient persons in the landscape or secondary deposition resulting from the movement of soil or manure from one location to another in association with post-Minoan agricultural practices.

Only a very small corpus of post–Bronze Age (Byzantine to modern) pottery (103 sherds total) was recovered from the site. The sherds did not mend into whole vessels. These pottery fragments were found above rooms and spaces over most of the site, rather than from any single portion of the buildings. The majority of the sherds are body fragments from modern closed vessels. The full range of vessel forms represented includes bowls, lekane, amphoras, and stamnoi. The single Byzantine vessel is a fragmentary, tempered amphora of 12th- to 13th-century date. The Ottoman examples include fragments of bowls or lekanes and a single flask, many of which were glazed. The modern vessel fragments came from stamnoi and a bowl.[45]

42. Lentoid sealstones of LM IIIA–B date are known from many LM III sites, including the cemetery at Armenoi (Tombs 18 and 115, Tzedakis 1969, 2002; Tzedakis and Martlew 2002, p. 256, nos. 249, 250), Archanes-Phourni (Kallitsaki 1997, p. 221; Sakellarakis and Sapouna-Sakellaraki 1997, vol. 2, pp. 698–701), Tylissos, Zaphor-Papoura, Kalyvia, Episkopi-Pediados, Malia, Poros-Iraklion, Milatos, Gournia, Mochlos, and Palaikastro (Pini 1985).

43. For an earlier plan of the modern *mandra,* see Haggis 1996, p. 413.

44. Poulou-Papadimitriou 2006, p. 394.

45. The Byzantine to modern pottery is being studied by N. Poulou-Papadimitriou.

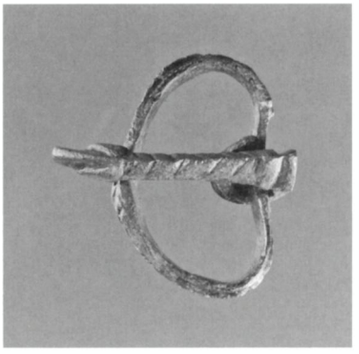

Figure 22. Early Byzantine bronze buckle 35. Scale 1:1

Catalogue

35 Bronze buckle Fig. 22

X 1026, XB-16-1. From a disturbed LM IIIA collapse stratum above room 5. Bronze buckle, partially complete. P.L. 0.031, max. W. 0.019, L. tongue 0.031 m. Ovoid clasp; hinged tongue. Incised cross-hatching on flattened, exterior surface of tongue. Tongue was cast and incised to resemble a claw or zoomorphic head on one end.

The buckle was probably once part of a large plaque-buckle.[46] A fragmentary Byzantine bronze plaque-buckle was recovered from Pseira (Poulou-Papadimitriou 1995, p. 1125, PS 224). That buckle, however, had the plaque portion of the object preserved, while the example from Chrysokamino-Chomatas preserves the tongue and clasp. Alternatively, the buckle from Chrysokamino-Chomatas could have been part of a tongue-shaped or horseshoe-shaped buckle, such as those found in graves at the early basilica at Tigani Mani (Drandakis, Gioles, and Konstantinidi 1980, pp. 255–256, pl. 149:ε, ζ; 1981, pp. 250–251, pl. 182:γ).

Early Byzantine (5th–7th centuries).

DISCUSSION AND CONCLUSIONS

The initial motivation behind the investigation of the habitation site at Chrysokamino-Chomatas was to determine its possible relationship to the nearby Minoan metallurgical installation, but no evidence for pre–LM IB architecture was found. The excavations uncovered a locale used from the Final Neolithic until the LM IIIB period, with enough Early Minoan pottery to demonstrate that the site was contemporary with the metallurgical installation. At least part of its appeal to Bronze Age inhabitants must have been its proximity to plentiful, agriculturally viable land.

The importance of understanding the effects of abandonment processes on the archaeological record has been amply illustrated at the site. While some rooms contained sets of objects left in situ, most presented a pattern that reflected refuse disposal that was both primary (at the location of consumption) and secondary (at a location other than where it was used). A gradual abandonment of the LM III structure is suggested by the nature and disposition of many of the fragmentary items of material culture that were recovered. Much of the material represents abandonment refuse resulting from activities prior to and during gradual site abandonment. During gradual abandonment, standards of cleanliness are often relaxed, resulting in the deposition of materials not normally discarded within houses, such as the small, highly fragmented sherds found on floor surfaces in the LM III building.[47] Several instances of de facto refuse disposal were noted as well. For example, the LM IB dagger blade from room A (probably hidden in hopes of retrieving it) and the LM IB stone bowl and unbroken cup (used later, in LM IIIA, to form a foundation deposit below room 6) suggest a

46. The buckle was studied by L. A. Labriola.

47. See Joyce and Johannessen 1993, passim, and esp. p. 138, for insights on the patterning of refuse materials at domestic sites. Their research has suggested that site abandonment functioned as one of the most significant processes that transferred materials from the behavioral to the archaeological realm (p. 151). See also Brooks 1993, pp. 178, 185–186, for a brief review of the study of abandonment processes and a consideration of the relationship of attributes of artifacts found on house floors to the nature of the abandonment process.

more rapid abandonment of the LM I structure. It is largely on the basis of discarded pottery fragments and other broken items that hypotheses on the basic nature of the spaces within the site are based.

The suggestion that the site and much of the surrounding landscape functioned as a Minoan farmstead remains the most likely explanation for the domestic economy at the site. An overwhelming majority of the finds recovered, as well as the organization of rooms, spaces, and features within the complex, were consistent with activities related to farming, animal husbandry, and produce processing. The building yielded substantial evidence for the production, processing, storage, and consumption of crops and animals. Weaving and possibly ritual activities are attested for the LM III complex as well. Objects such as the bronze hydria and the painted kylikes all suggest that the inhabitants of the complex remained in touch with other centers of production on the island, as no evidence for local pottery production or bronze working was found at the site.

The earlier building, initially built during the LM IB period, offers additional evidence for LM IB-Final occupation in eastern Crete. This phase has been recently identified at the sites of Mochlos and Pseira.[48] It represents a continuation of the LM I traditions along with several new elements in the pottery, including many ogival cups.

The Kavousi area in general has many fewer LM II and LM IIIA2–IIIB sites in comparison with the earlier LM IB period.[49] Because few LM IIIA–IIIB habitation sites have been excavated, especially in the eastern part of the island, the LM III complex affords a special opportunity to study a class of site that is poorly understood. One notion that may have to be reevaluated, or dismissed, is that the inhabitants in the eastern end of the island used few kylikes, and virtually no painted examples. Chrysokamino-Chomatas has yielded many examples of kylikes, several of which were intricately painted. The relative infrequency of the vessel form in the east may have more to do with the nature of the LM IIIA–IIIB sites that have been excavated (mostly tombs or specialized sites with very limited strata and highly fragmentary vessels, within sites of primarily earlier date) than with any reality in the archaeological record.

The presence of superimposed LM IB and LM IIIA architectural remains allowed for a comparison of habitation structures and building techniques within the same region over time (pre- and post-Mycenaean arrival). Although only partially preserved, enough of the LM I building existed to indicate that the basic design, organization, and construction practices differed considerably from those of the later structure, although the materials immediately available and utilized remained unchanged.[50] Changes in building practices involved new masonry techniques (with the later builders using larger stones, thicker walls, and very poor foundations) as well as new building practices (axial orientations, rooms opening off of a courtyard), and new features (bins and stone hearths). Many traditional Minoan styles, including conical cups, kalathoi, and the basic cooking pot and cooking dish forms, continued alongside new Mycenaean forms, such as the kylix, the footed cup, the krater, the ladle, and the thelastron. It is hoped that further pottery studies will expand our knowledge of changing consumption patterns for ceramics from Neopalatial to Postpalatial times.

48. Barnard and Brogan 2003; Floyd 2009.

49. Haggis 1996, p. 408. It would appear that, as suggested by Haggis (p. 410), a small local population remained in the Kavousi area throughout the LM III period and developed new subsistence patterns following the collapse of the Minoan palatial system. According to Driessen and Macdonald (1997, p. 118), during LM II–III there was a "gradual decrease in sophistication in architecture and the arts, a change which must have accompanied a new social change."

50. See Mook's brief consideration of regional, vernacular architecture in the Kavousi area (Mook 2000, passim).

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REFERENCES

Andreadaki-Vlasaki, M. 1994–1996. "Αρχαιολογικές ειδήσεις 1992–94," *Kritiki Estia* 4, pp. 251–264.

Andreadaki-Vlasaki, M., and E. Papadopoulou. 1997. "LM IIIA:1 Pottery from Khamalevri, Rethymnon," in Hallager and Hallager 1997, pp. 111–149.

Åström, P., and D. S. Reese. 1990. "Triton Shells in East Mediterranean Cults," *JPR* 3–4, pp. 5–14.

Baltzinger, F. 2002. "Chamalevri: The Sea-Shells," in Tzedakis and Martlew 2002, pp. 71–72.

Banou, E. 1999. "Building DA, the Pottery," in *Pseira* IV: *Minoan Buildings in Areas B, C, D, and F* (University Museum Monograph 105), ed. P. P. Betancourt and C. Davaras, Philadelphia, pp. 270–279.

Barnard, K. A. 2003. "A Macroscopic Analysis of the Neopalatial Fabrics," in Barnard and Brogan 2003, pp. 3–11.

Barnard, K. A., and T. M. Brogan. 2003. *Mochlos IB: Period III. Neopalatial Settlement on the Coast: The Artisans' Quarter and the Farmhouse at Chalinomouri. The Neopalatial Pottery* (Prehistory Monographs 8), Philadelphia.

Betancourt, P. P. 1977. "Some Chronological Problems in the Middle Minoan Dark-on-Light Pottery of Eastern Crete," *AJA* 81, pp. 341–353.

———. 1979. *Vasilike Ware: An Early Bronze Age Pottery Style in Crete: Results of the Philadelphia Vasilike Ware Project* (*SIMA* 56), Göteborg.

———. 1980. *Cooking Vessels from Minoan Kommos: A Preliminary Report* (*UCLAPap* 7), Los Angeles.

———. 1984. *East Cretan White-on-Dark Ware: Studies on a Handmade Pottery of the Early to Middle Minoan Periods* (University Museum Monograph 51), Philadelphia.

———. 1985. *The History of Minoan Pottery,* Princeton.

———. 1990. *Kommos* II: *The Final Neolithic through Middle Minoan III Pottery,* Princeton.

———. 1999. "Area BR: The Pottery," in *Pseira* IV: *Minoan Buildings in Areas B, C, D, and F* (University Museum Monograph 105), ed. P. P. Betancourt and C. Davaras, Philadelphia, pp. 141–154.

———. 2006. *The Chrysokamino Metallurgy Workshop and Its Territory* (*Hesperia* Suppl. 36), Princeton.

———. 2008. *The Bronze Age Begins: The Ceramics Revolution of Early Minoan I and the New Forms of Wealth That Transformed Prehistoric Society,* Philadelphia.

Betancourt, P. P., and C. R. Floyd. 2006. "Edith Hall's Excavations in the Theriospelio Cave," in Betancourt 2006, pp. 215–220.

Betancourt, P. P., C. R. Floyd, and J. D. Muhly. 1997. "Excavations at Chrysokamino, Crete, 1996," *AJA* 101, pp. 374–375 (abstract).

Betancourt, P. P., J. D. Muhly, and C. R. Floyd. 1998. "Excavations at Chrysokamino, Crete, in 1997," *AJA* 102, p. 391 (abstract).

———. 1999. "Research and Excavation at Chrysokamino, Crete, 1995–1998," *Hesperia* 68, pp. 343–370.

Bevan, A. 2002. "The Rural Landscape of Neopalatial Kythera: A GIS Perspective," *JMA* 15, pp 217–255.

Bosanquet, R., and R. M. Dawkins. 1923. *The Unpublished Objects from the Palaikastro Excavations, 1902–1906* (*BSA* Suppl. 1), London.

Bosanquet, R., R. M. Dawkins, and M. N. Tod. 1902–1903. "Excavations at Palaikastro II," *BSA* 9, pp. 274–387.

Boyd, H. 1901. "Excavations at Kavousi, Crete, in 1900," *AJA* 5, pp. 125–157.

Brooks, R. L. 1993. "Household Abandonment among Sedentary Plains Societies: Behavioral Sequences and Consequences in the Interpretation of the Archaeological Record," in *Abandonment of Settlements and Regions: Ethnoarchaeological and Archaeological Approaches* (New Directions in Archaeology), ed. C. M. Cameron and S. A. Tomka, Cambridge, pp. 178–187.

Cadogan, G. 1967. "Late Minoan IIIC Pottery from the Kephala Tholos Tomb near Knossos," *BSA* 62, pp. 257–265.

———. 1976. *Palaces of Minoan Crete,* London.

Daux, G. 1958. "Chronique des fouilles en Grèce en 1957," *BCH* 82, pp. 646–798.

Demargne, P. 1945. *Fouilles exécutées à Mallia: Exploration des nécropoles, 1921–1933* (*ÉtCrét* 7.1), Paris.

Desborough, V. R. d'A. 1972. *The Greek Dark Ages,* London.

Drandakis, N. B., N. Gioles, and C. Konstantinidi. 1980. "Ἀνασκαφὴ στὸ Τηγάνι τῆς Μάνης," *Prakt* 1980, pp. 247–258.

———. 1981. "Ἀνασκαφὴ στὸ Τηγάνι Μάνης," *Prakt* 1981, pp. 241–253.

Driessen, J. 2001. "Crisis Cults on Minoan Crete?" in *Potnia: Deities and Religion in the Aegean Bronze Age. Proceedings of the 8th International Aegean Conference* (*Aegaeum* 22), ed. R. Laffineur and R. Hägg, Liège, pp. 361–369.

Driessen, J., and A. Farnoux, eds. 1997. *La Crète mycénienne. Actes de la Table ronde internationale organisée par l'École française d'Athènes, 26–28 mars 1991* (*BCH* Suppl. 30), Paris.

Driessen, J., and C. F. Macdonald. 1997. *The Troubled Island: Minoan Crete before and after the Santorini Eruption* (*Aegaeum* 17), Liège.

Driessen, J., and J. A. MacGillivray. 1989. "The Neopalatial Period in East Crete," in *Transition: Le monde égéen du Bronze moyen au Bronze récent. Actes de la deuxième Rencontre égéenne internationale de l'Université de Liège (18–20 avril 1988)* (*Aegaeum* 3), ed. R. Laffineur, Liège, pp. 99–111.

Farnoux, A. 1997. "Quartier Gamma at Malia Reconsidered," in Hallager and Hallager 1997, pp. 259–272.

Floyd, C. R. 1998. *Pseira* III: *The Plateia Building* (University Museum Monograph 102), Philadelphia.

———. 1999a. "The Minoan Scoop," in *Meletemata: Studies in Aegean Archaeology Presented to Malcolm H. Wiener as He Enters His 65th Year* (*Aegaeum* 20), ed. P. P. Betancourt, V. Karageorghis, R. Laffineur, and W.-D. Niemeier, Liège, vol. 1, pp. 249–258.

———. 1999b. "Observations on a Minoan Dagger from Chrysokamino," in *Polemos: Le contexte guerrier en Égée à l'âge du bronze. Actes de*

la 7^e rencontre égéenne internationale, Université de Liège, 14–17 avril 1998 (*Aegaeum* 19), ed. R. Laffineur, Liège, vol. 2, pp. 433–443.

———. 2000. "Chrysokamino, the Habitation Site," in Muhly and Sikla 2000, pp. 65–69.

———. 2006. "A Summary of the Habitation Site at Chrysokamino-Chomatas," in Betancourt 2006, pp. 205–213.

———. 2009. "Pottery from Block AF," in *Pseira* X: *The Excavation of Block AF* (Prehistory Monographs 28), ed. P. P. Betancourt and C. Davaras, Philadelphia, pp. 39–94.

Foster, K. P. 1978. "Mount Holyoke Collection of Minoan Pottery," *TUAS* 3, pp. 1–30.

Fotou, V. 1993. *New Light on Gournia: Unknown Documents of the Excavation at Gournia and Other Sites on the Isthmus of Ierapetra by Harriet Ann Boyd* (*Aegaeum* 9), Liège.

Gesell, G. C. 1985. *Town, Palace, and House Cult in Minoan Crete* (*SIMA* 67), Göteborg.

Gesell, G. C., W. D. E. Coulson, and L. P. Day. 1991. "Excavations at Kavousi, Crete, 1988," *Hesperia* 60, pp. 145–177.

Haggis, D. C. 1993. "The Early Minoan Burial Cave at Ayios Antonios and Some Problems in Early Bronze Age Chronology," *SMEA* 31, pp. 7–33.

———. 1996. "Archaeological Survey at Kavousi, East Crete: Preliminary Report," *Hesperia* 65, pp. 373–432.

———. 2005. *Kavousi* I: *The Archaeological Survey of the Kavousi Region* (Prehistory Monographs 16), Philadelphia.

Haggis, D. C., and M. S. Mook. 1993. "The Kavousi Coarse Wares: A Bronze Age Chronology for Survey in the Mirabello Area, East Crete," *AJA* 97, pp. 265–293.

Haggis, D. C., and K. Nowicki. 1993. "Khalasmenos and Kataleimata: Two Early Iron Age Settlements in Monastiraki, East Crete," *Hesperia* 62, pp. 303–337.

Hall, E. H. 1904–1905. "Early Painted Pottery from Gournia," *University of Pennsylvania Transactions of the Department of Archaeology, Free Museum of Science and Art* 1, pp. 191–205.

Hallager, B. P. 1997. "Terminology: The Late Minoan Goblet, Kylix, and Footed Cup," in Hallager and Hallager 1997, pp. 15–47.

Hallager, E., and B. P. Hallager, eds. 1997. *Late Minoan III Pottery: Chronology and Terminology. Acts of a Meeting Held at the Danish Institute at Athens, August 12–14, 1994* (Monographs of the Danish Institute at Athens 1), Athens.

Hawes, H. B., B. E. Williams, R. B. Seager, and E. H. Hall. 1908. *Gournia, Vasiliki, and Other Prehistoric Sites on the Isthmus of Hierapetra, Crete: Excavations of the Wells-Houston-Cramp Expeditions, 1901, 1903, 1904,* Philadelphia.

Hayden, B. J. 1990. "Aspects of Village Architecture in the Cretan Post-Palatial Period," in *L'habitat égéen préhistorique. Actes de la Table ronde internationale organisée par le Centre nationale de la recherche scientifique, l'Université de Paris I et l'École française d'Athènes (Athènes, 23–25 juin 1987)* (*BCH* Suppl. 19), ed. P. Darque and R. Treuil, Paris, pp. 205–213.

———. 1997. "Evidence for 'Megalithic Farmsteads' of Late Minoan III through Early Iron Age Date," in Driessen and Farnoux 1997, pp. 195–204.

———. 2003. *Reports on the Vrokastro Area Eastern Crete* 1: *Catalogue of Pottery from the Bronze and Early Iron Age Settlement of Vrokastro in the Collections of the University of Pennsylvania Museum of Archaeology and Anthropology and the Archaeological Museum, Herakleion, Crete* (University Museum Monograph 113), Philadelphia.

Joyce, A. A., and S. Johannessen. 1993. "Abandonment and the Production of Archaeological Variability at Domestic Sites," in *Abandonment of Settlements and Regions: Ethnoarchaeological and Archaeological Approaches* (New Directions in Archaeology), ed. C. M. Cameron and S. A. Tomka, Cambridge, pp. 138–153.

Kallitsaki, H. 1997. "The Mycenean Burial Enclosure in Phourni," in Driessen and Farnoux 1997, pp. 213–227.

Kanta, A. 1980. *The Late Minoan III Period in Crete: A Survey of Sites, Pottery, and Their Distribution* (*SIMA* 58), Göteborg.

———. 1997. "LM IIIB and LM IIIC Pottery Phases: Some Problems of Definition," in Hallager and Hallager 1997, pp. 83–101.

La Rosa, V. 1977. "La ripresa dei lavori ad Haghia Triada: Relazione preliminare sui saggi del 1977," *ASAtene* 55, pp. 297–342.

MacGillivray, J. A. 1997. "The Reoccupation of Eastern Crete in the Late Minoan II–IIIA1/2 Periods," in Driessen and Farnoux 1997, pp. 275–279.

MacGillivray, J. A., H. Sackett, J. M. Driessen, and S. Hemingway. 1992. "Excavations at Palaikastro, 1991," *BSA* 87, pp. 121–152.

MacGillivray, J. A., L. H. Sackett, J. M. Driessen, C. Macdonald, and D. Smyth. 1988. "Excavations at Palaikastro, 1987," *BSA* 83, pp. 259–282.

Matthäus, H. 1980. *Die Bronzegefässe der kretisch-mykenischen Kultur* (Prähistorische Bronzefunde 2.1), Munich.

McEnroe, J. C. 1982. "A Typology of Minoan Neopalatial Houses," *AJA* 86, pp. 3–19.

———. 2001. *Pseira* V: *The Architecture of Pseira* (University Museum Monograph 109), Philadelphia.

Mook, M. S. 2000. "Traditional Architecture and Archaeological Reconstruction at Kavousi," in Muhly and Sikla 2000, pp. 94–99.

Mook, M. S., and W. D. E. Coulson. 1997. "Late Minoan IIIC Pottery from the Kastro at Kavousi," in Hallager and Hallager 1997, pp. 337–365.

Mountjoy, P. A. 1993. *Mycenaean Pottery: An Introduction* (Oxford University Committee for Archaeology, Monograph 36), Oxford.

Muhly, J. D., and E. Sikla, eds. 2000. *Crete 2000: A Centennial Celebration of American Archaeological Work on Crete (1900–2000),* Athens.

Myer, G. H., K. G. McIntosh, and P. P. Betancourt. 1995. "Appendix A. Definition of Pottery Fabrics by Ceramic Petrography," in *Pseira* I: *The Minoan Buildings on the West Side of Area A* (University Museum Monograph 90), ed. P. P. Betancourt and C. Davaras, Philadelphia, pp. 43–153.

Mylona, D. 2002. "Chamalevri: The Bones of Suckling Animals," in Tzedakis and Martlew 2002, pp. 64–67.
Nodarou, E. 1998. "Soils and Sediments from the Habitation Site at Chrysokamino, East Crete: A Geoarchaeological Study" (M.S. thesis, Univ. of Sheffield).
Nowicki, K. 1987. "Topography of Refuge Settlement in Crete," *JRGZM* 34, pp. 213–234.
———. 1990. "The West Siteia Mountains at the Turn of the Bronze and Iron Ages," *Annales d'archéologie égéenne de l'Université de Liège* (*Aegaeum* 6), Liège, pp. 161–182.
Pendlebury, J. D. S. 1939. *The Archaeology of Crete: An Introduction,* London.
Pini, I. 1985. *Die Siegel der Nachpalastzeit* (*CMS* II.4A), Berlin, pp. 1–129.
Platon, L. 1997. "Caractère, morphologie, et datation de la Bourgade postpalatiale de Képhali Chrondrou Viannou," in Driessen and Farnoux 1997, pp. 357–373.
Platon, N. 1959. "Ἀνασκαφὴ μετανακτορικοῦ μινωικοῦ συνοικισμοῦ εἰς Κεφάλι Χόνδρου," *Prakt* 1959, pp. 197–206.
———. 1966. *Crete,* Cleveland.
———. 1971. *Zakros: The Discovery of a Lost Palace of Ancient Crete,* New York.
Popham, M. R. 1964. *The Last Days of the Palace at Knossos: Complete Vases of the Late Minoan IIIB Period* (*SIMA* 5), Lund.
———. 1969. "The Late Minoan Goblet and Kylix," *BSA* 64, pp. 299–304.
———. 1970. *The Destruction of the Palace at Knossos: Pottery of the Late Minoan IIIA Period* (*SIMA* 12), Göteborg.
Poulou-Papadimitriou, N. 1995. "Le monastère byzantin de Pseira: La céramique," in *Akten des XII. Internationalen Kongresses für christliche Archäologie, Bonn, 22.–28. September 1991*) (*JAC* Suppl. 20), ed. E. Dassmann and J. Engemann, Münster, pp. 1119–1131.
———. 2006. "The Byzantine to Ottoman Pottery from the Survey," in Betancourt 2006, pp. 393–397.
Rehak, P., and J. Younger. 2001. "Neopalatial, Final Palatial, and Postpalatial Crete," in *Aegean Prehistory: A Review* (*AJA* Suppl. 1), ed. T. Cullen, Boston, pp. 383–466.
Russell, P. 1979. "The Date of the Gournia Shrine," *TUAS* 4, pp. 27–33.
Rutkowski, B. 1986. *The Cult Places of the Aegean,* New Haven.
Sakellarakis, Y., and E. Sapouna-Sakellaraki. 1997. *Archanes: Minoan Crete in a New Light,* 2 vols., Athens.
Shaw, J. W., and M. C. Shaw. 1993. "Excavations at Kommos (Crete), 1991–1992," *Hesperia* 62, pp. 129–190.
———. 2000. "Kommos," in Muhly and Sikla 2000, pp. 160–178.
Smith, R. A. K. 2010. *Mochlos IIB: Period IV. The Mycenaean Settlement and Cemetery: The Pottery* (Prehistory Monographs 27), Philadelphia.
Soles, J. 2003. *Mochlos IA: Period III. Neopalatial Settlement on the Coast: The Artisans' Quarter and the Farmhouse at Chalinomouri: The Sites* (Prehistory Monographs 7), Philadelphia.
Strasser, T. F., and C. G. Fassoulas. 2003–2004. "Granodiorite Axes from Knossos and Their Implications for Neolithic Trade on Crete," *Aegean Archaeology* 7, pp. 9–12.
Tsipopoulou, M. 1997. "Late Minoan III Reoccupation in the Area of the Palatial Building at Petras, Siteia," in Hallager and Hallager 1997, pp. 209–252.
Tsipopoulou, M., and W. D. E. Coulson. 2000. "Halasmenos–Kataleimata," in Muhly and Sikla 2000, pp. 102–115.
Tzedakis, Y. 1969. "Ἀνασκαφὴ ΥΜ III A/B νεκροταφείου εἰς περιοχὴν Καλαμίου Χανίων," *AAA* 2, pp. 365–369.
———. 2002. "Armenoi, Rethymnon," in Tzedakis and Martlew 2002, p. 56.
Tzedakis, Y., and H. Martlew, eds. 2002. *Minoans and Mycenaeans: Flavours of Their Time,* Athens.
Warren, P. M. 1969. *Minoan Stone Vases* (Cambridge Classical Studies), Cambridge.
———. 1972. *Myrtos: An Early Bronze Age Settlement in Crete* (*BSA* Suppl. 7), London.
———. 1997. "Late Minoan III Pottery from the City of Knossos: Stratigraphical Museum Extension Site," in Hallager and Hallager 1997, pp. 157–184.
Watrous, L. V. 1992. *Kommos* III: *The Late Bronze Age Pottery,* Princeton.
Wilson, D. 1985. "The Pottery and Architecture of the EM IIA West Court House at Knossos," *BSA* 80, pp. 281–364.
Zielinski, J. P. 1998. "Cyclopean Architecture in Minoan Bronze Age Crete: A Study in the Social Organization of a Complex Society" (diss. State Univ. of New York at Buffalo).

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