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# HESPERIA

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# EXCAVATIONS AT GOURNIA, 2010–2012

Κοιτάξαμε όλο το πρωί γύρω-γύρω το κάστρο  
αρχίζοντας από το μέρος τού ίσκιου εκεί πού η θάλασσα . . .  
μας δέχτηκε όπως ο καιρός χωρίς κανένα χάσμα . . .  
Κανένα πλάσμα ζωντανό τ' αγριοπερίστερα φευγάτα  
κι ο βασιλιάς της Ασίνης που την γυρεύουμε δυο χρόνια τώρα  
άγνωστος λησμονημένος απ' όλους κι από τον Όμηρο . . .  
G. Seferis, *The King of Asini*

## ABSTRACT

This article presents previous research at Gournia, the overall goals of our project, a new plan of the settlement, and our 2010–2012 excavations in eight areas: the Pit House, the Northwest Area, the North Cemetery, the North Trench, the Northeast Area, House Aa, several rooms in the palace, and House He. Analytical sections discuss the textual evidence; the painted plasters; and the botanical remains. Our excavations indicate that Gournia was first settled in the Final Neolithic period and grew into an industrial town by the Proto-palatial period. Following a Middle Minoan II destruction, the town was reorganized in Middle Minoan IIIA to include the palace, which in Late Minoan IB employed Linear A.

## INTRODUCTION

This report presents the results of three seasons (2010–2012) of excavation at the Bronze Age settlement of Gournia (Fig. 1).<sup>1</sup> It describes previous research at Gournia, our project goals, a new architectural plan of the settlement, and the excavations carried out in eight areas of the site. Analytical sections discuss the inscriptions, seals, and sealings; the painted plasters; and the botanical remains. The concluding section examines the wider cultural and historical implications of our findings.

Gournia, named locally after the many stone troughs, Greek γουρνιά, visible on site, is located in east Crete, on a low ridge about 400 m from the north coast on the Bay of Mirabello. The American archaeologist Harriet Boyd Hawes excavated at Gournia during three field seasons, in 1901,

1. For this article, project members wrote their own sections, which were edited by L. Vance Watrous. The Introduction was written by Watrous.

We wish to thank Anna Londou for granting permission to publish an extract from *The King of Asini*. We

would also like to express our gratitude to Edmund Keeley for his generous assistance in facilitating its publication. The translation by Edmund Keeley and Philip Sherrard, courtesy of Princeton University Press, is as follows:

“All morning long we looked around  
the citadel/starting from the shaded

side there where the sea . . . /received us  
like time without an opening in it/. . .  
No living thing, the wild doves gone/  
and the king of Asini, whom we've  
been trying to find for two years now,  
unknown, forgotten by all, even by  
Homer . . .”



Figure 1. Gournia site plan with 2010–2012 excavation areas and trench numbers. Drawing D. M. Buell and J. McEnroe

1903, and 1904. She uncovered the central portion of the Late Minoan (LM) I town, including many blocks of houses, cobbled streets, a central court, a Minoan palace, and a cemetery. Four years later she published a quarto volume, *Gournia, Vasiliki and Other Prehistoric Sites on the Isthmus of Hierapetra, Crete* (Philadelphia 1908), which detailed her excavations and described her finds from within the town.<sup>2</sup> From the beginning, her main focus was on the high point of Gournia, the LM I period (ca. 1750–1490 B.C.). As Boyd Hawes remarked, “The chief archaeological value of Gournia is that it has given us a remarkably clear picture of the everyday circumstances, occupations, and ideals of the Aegean folk at the height of their true prosperity.”<sup>3</sup>

Following Boyd Hawes’s work at the beginning of the 20th century, Gournia remained unexamined until the 1970s, when a resurgence of interest in the archaeology of the Mirabello region began. At this time excavations were started at Kavousi, Pseira, Mochlos, and Vasiliki.<sup>4</sup> In 1971, 1972, and 1976, Costis Davaras and Jeffrey Soles carried out cleaning excavations and conducted studies at Gournia of the tombs, the early town, and the palace.<sup>5</sup> By 1990, intensive surveys had been carried out in the Istron and Kavousi areas to the west and east of Gournia but not around Gournia itself.<sup>6</sup> For this reason, Vance Watrous decided to survey the area immediately around Gournia in order to link the two existing surveys. This was accomplished during 1992–1994.<sup>7</sup> Drawing upon the data from these surveys and site excavations, the Gournia survey documented the settlement history of the entire Mirabello region during the Final Neolithic–Late Roman period. During 2008–2009, Watrous organized a cleaning operation of the structures and walls along the coast at Gournia originally cleared by Boyd Hawes in 1901, revealing a monumental Neopalatial shipshed, two sets of fortification walls with towers, a cobbled street connecting the town with the harbor, and a series of Minoan agricultural terraces.<sup>8</sup> More recently, a dye-making installation near Gournia was excavated in 2008.<sup>9</sup> A website for the Gournia excavation, [www.gournia.org](http://www.gournia.org), was launched in 2012.

During the 2010 excavation (Fig. 1) at Gournia, trenches were excavated in Boyd Hawes’s dump west of the palace; in the North Trench, northeast of House Ea, dug by Edith Hall; in the area of Early House Remains noted by Boyd Hawes; and in the Pit House further north of House Ea. In 2011, three areas of the site were investigated. North of the LM I town, excavation focused on Boyd Hawes’s House Aa, the North Trench area, Protopalatial structures north of House Ea, the Pit House, the North Cemetery, and Protopalatial rooms north of House Ab. Within the palace, excavations were carried out in the Southwest Wing, in the palace center, in the northern “bathing room/lustral basin,” and at the megalithic north facade of the palace. At the south edge of the settlement, the Mycenaean period House He was reinvestigated.

2. This volume was coauthored with Blanche E. Williams, Richard B. Seager, and Edith H. Hall.

3. Boyd Hawes et al. 1908, p. 27. Harriet Boyd married in 1906 and changed her name to Harriet Boyd Hawes. Our references to her

1904–1905 publications appear under Boyd, and her 1908 volume under Boyd Hawes.

4. See Muhly and Sikla 2000, pp. 121–131 for a historical account of these excavations.

5. Davaras 1973; Soles 1979;

1991; 1992, pp. 1–40.

6. Hayden 2004; Haggis 2005.

7. Watrous et al. 2012.

8. Watrous 2012.

9. Betancourt, Apostolakou, and Brogan 2012.

In 2012, excavations were carried out in three areas of the site. North of House Ea, eight trenches exposed the LM IB structure found in 2010. In the area north of House Ab, four trenches investigated rooms lining a Protopalatial street. Six trenches were dug in the palace. In the central area, a large, early building under room 18 was further exposed (Fig. 20, below). In the Southwest Wing, Middle Minoan (MM) IIIA–LM IB levels were excavated.

## THE GOALS OF THE PROJECT 2010–2012

Our excavations focused on the town of Gournia in its formative, pre-LM I period. Our regional survey of the Mirabello area had shown that Early Minoan (EM) Mochlos was the wealthiest settlement in the region. By the succeeding Middle Minoan period, however, Mochlos seems to have been partially abandoned.<sup>10</sup> Pseira was settled then, but little is known about the site during this period.<sup>11</sup> On the other hand, the Gournia survey documented that it was in this period that Gournia grew in size, leading to its establishment as a palatial center in the Neopalatial era. Our excavations have been designed to try to understand how and why this happened at Gournia. Additionally, it is worth noting that the Mirabello region, as a whole, remains virtually unknown in the Protopalatial era; excavations at Mochlos, Pseira, Vasiliki, Priniatikos Pyrgos, and Gournia have produced relatively little evidence for this period.<sup>12</sup>

During our three field seasons, 2010, 2011, and 2012, six areas of the settlement were excavated. This report describes our work in the following order: (1) the completion of a new site plan of Gournia; (2) excavations in the settlement (at the Pit House; in the Northwest and Northeast Areas; at the North Trench and North Cemetery; at House Aa; at the palace; and at House He); (3) analysis of select finds (inscriptions, sealstones, sealings, signs, plasters, botanical remains); and (4) a concluding discussion.

## A NEW SITE PLAN OF GOURNIA

In her 1908 excavation volume, Boyd Hawes included a multicolored ground plan of the excavated site, which was created by Herr Sejk.<sup>13</sup> Three chronological sequences of occupation were represented by colored outlines: red for Middle Minoan, black for the “Town Period” (i.e., LM I), and blue for the “Reoccupation” period (LM III). Some architectural features included ashlar masonry, partition walls (both above and below the main entrances of buildings), as well as “cement” (i.e., plaster). Steps were also outlined on the plan by means of hatching or stippling. More recently it has been noted that the Boyd Hawes plan regularized and simplified the houses, walls, and streets of the settlement.<sup>14</sup> In her final plan, Boyd Hawes omitted many important details, including walls, built features, and in some

10. Seager 1912, p. 98; Soles and Davaras 2000, p. 28; Brogan and Koh 2011.

11. Betancourt, Davaras, and Hope Simpson 2005, p. 286.

12. For Mochlos, see Brogan and Koh 2011; for Pseira, see Betancourt, Davaras, and Hope Simpson 2005, p. 286; for Vasiliki, see Zois 1992, p. 279; for Priniatikos Pyrgos, see

Hayden 2004, pp. 82–83.

13. Boyd Hawes et al. 1908, p. 26.

This section was written by D. Matthew Buell and John McEnroe.

14. E.g., Soles 1991, p. 17.

cases, entire buildings. In addition, the size and shape of some buildings and spaces were inaccurately drawn. In light of these facts, it was clear that there was a pressing need for a new and more accurate settlement plan, which documented all its features—both ancient and modern. To this end, Buell and McEnroe began an architectural mapping project in 2011 (Fig. 1).

The architectural mapping project used the 1:5,000 maps and benchmarks of the Hellenic Army Geodetic Survey (HAGS) (formerly GYS) for its baseline.<sup>15</sup> Owing to the constraints of time and possible later modifications, it was decided from the outset to avoid drawing stone-by-stone plans (i.e., consolidation) of the walls since this would prohibit an accurate representation.<sup>16</sup> Instead, the length, width, and outline of existing walls and built features were documented. To achieve this goal, each wall and feature was entered on a standardized form and roughly drawn. Using a total station provided by the Institute for Aegean Prehistory (INSTAP), points were taken at 30 cm intervals along both faces of each wall. To obtain the outlines of more irregular features, such as rock piles, platforms, courtyards, and backfill, the edge of the feature was walked and points were taken every 30 cm. A GIS database (using ArcGIS) was established in order to check any inconsistencies or errors, and to record all walls and features. This procedure allowed for the whole settlement and palace to be accurately mapped over a 12-week period during 2011–2012. All the built features recorded on the coast in the recent mapping and cleaning project (i.e., the Gournia Harbor Project), as well as all the architecture uncovered by the current excavations, have now been tied into this plan to provide as complete a picture of the urban environment of Gournia as possible.<sup>17</sup> Such detailed documentation of the extant architectural remains at Gournia has revealed evidence for the existence of several buildings, walls, and features that had been previously undocumented. Additionally, construction sequences and modifications of some structures over time have also come to light.

## THE PIT HOUSE

The area west of the old guard house at Gournia forms a level shelf of land that steps down (north) to a terrace below.<sup>18</sup> In 1901 Boyd Hawes dug two spaces here, revealing part of a structure she labeled the Pit House. In her notebooks, Boyd Hawes provided a sketch and described the area as two spaces, the first a narrow passage with descending steps (the Pit), and the second a large room situated at a higher level.<sup>19</sup> In her 1993 publication of Boyd Hawes's notebooks, Vasso Fotou suggested that the Pit House might date to the Prepalatial period.<sup>20</sup> Given the focus of our project, the decision was made to reinvestigate the Pit House.

To date, these excavations have revealed the Pit House (Figs. 2, 3), a yard to the south, part of a building to the west, and a cobbled Proto-palatial street to the north (Fig. 4). Work in this area was conducted over three seasons in 11 contiguous trenches (4, 6, 8, 47, 48, 49, 50, 52, 57, 59, and 60). The Pit House is a structure with at least eight rooms in its final LM IB phase (Fig. 2). An additional unexcavated room may be located to the southwest, behind rooms 7 and 8. Two trenches were sunk to bedrock immediately east of the structure, but despite the presence of two east–west walls abutting the north–south exterior wall of the Pit House,

15. It should be noted that a team from the Mediterranean Section of the University of Pennsylvania Museum of Archaeology and Anthropology under the direction of David Romano carried out a limited architectural survey of some elements of the city and its hinterlands in 1995 and 1997; see Romano et al. 2003.

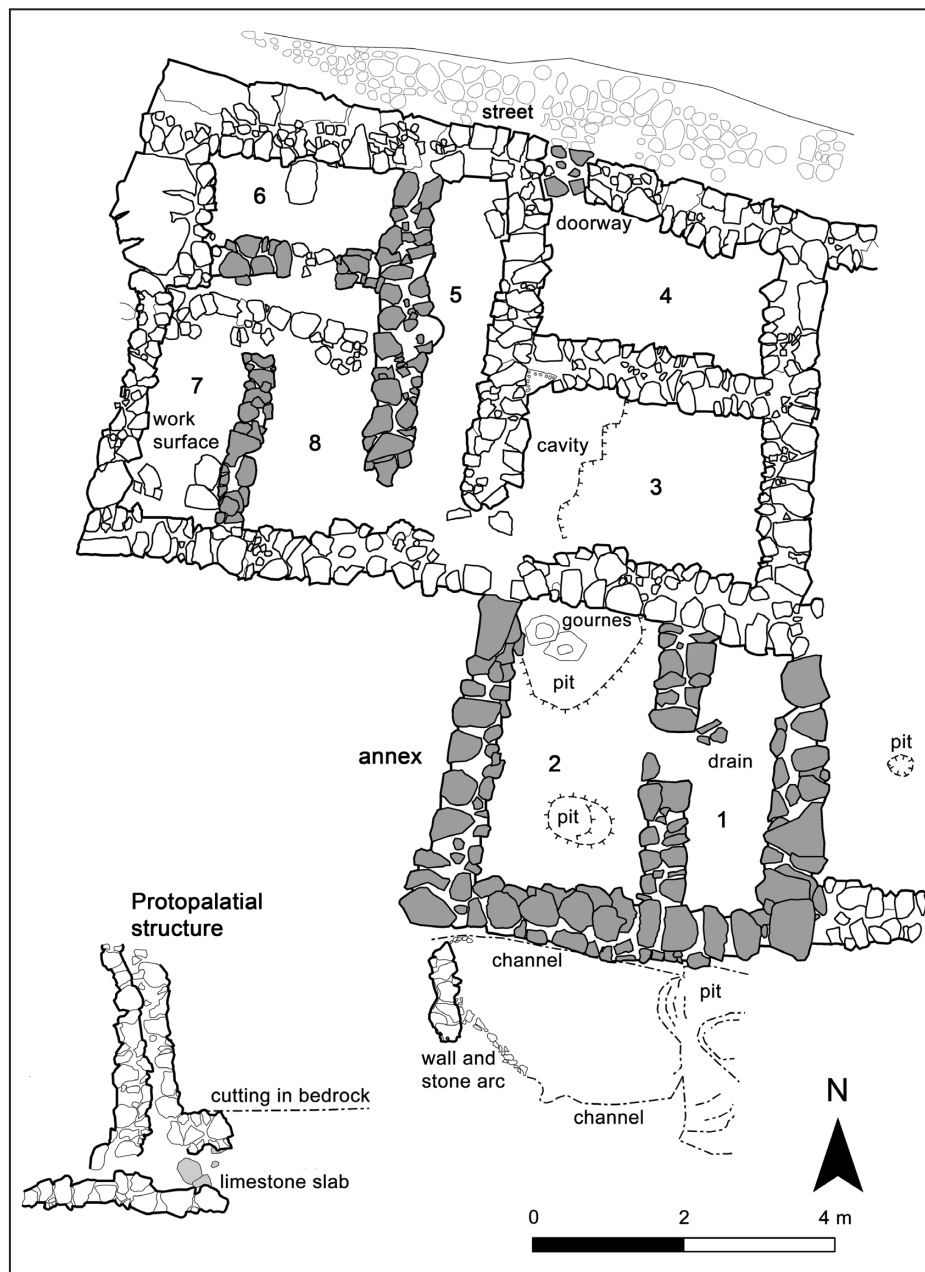
16. Indeed, some walls have been entirely rebuilt in consolidation work.

17. Watrous 2012.

18. This section was written by D. Matthew Buell.

19. Fotou 1993, pl. XXIII.

20. Fotou 1993, p. 27.



**Figure 2. Plan of the Pit House, with the annex.** Areas shaded in gray are LM IB; the remainder are Protopalatial. Drawing D. M. Buell and J. McEnroe

these trenches produced few artifacts. The building was constructed over three levels: the lowest rooms, 4 and 6; the next highest 3, 7, and 8; and the highest rooms, 1 and 2. Rooms 3–8 appear to have been constructed during the Protopalatial period on cut and leveled bedrock. At that point the building was rectangular in plan and was entered from a street on its northern side. In the LM IB period, two, perhaps three, new internal walls, along with a south annex were added to the building.

In most rooms the floor levels were sealed beneath stone, burned plaster, and mudbrick, which had fallen from the walls when the building was destroyed by fire at the end of the LM IB period. In several instances discrete units were identified as upper floors, indicating that the building possessed a second story in the LM IB period. Below the LM IB surfaces there was often a level of fill, which included architectural debris, soil, and





Figure 3. Aerial view of the Pit House, north at top. Photo C. Papanikolopoulos

sherds of varying dates. In several instances (i.e., rooms 4, 6, and 8) discrete Protopalatial floor levels, often resting on or just above the weathered granodiorite bedrock, were identified.

The walls of the Pit House were constructed of rubble, usually limestone fieldstones, with inner and outer faces of stones in irregular courses. Roughly worked limestone bedrock was incorporated into the walls on the northwestern corner of the structure. Particular care was taken with the wall facing the street: courses of stones, with their flat sides facing outward, produced an even, continuous facade (Fig. 4). The walls of the structure rested directly on the leveled bedrock. The maximum preserved height was 1.5 m. Uppermost wall courses were often found tumbled into the rooms. Much dissolved and burned lime plaster was found throughout the destruction layers of the building, demonstrating that in the Pit House's latest phase the stone and mudbrick walls had been plastered.



Figure 4. North facade of the Pit House, facing south. Photo J. Spiller

## ROOM 4

Excavation in room 4 revealed a discrete Protopalatial level resting on bedrock. During this period room 4 was entered from the street through a doorway with a flat stone threshold. Material recovered from an LM IB floor at an upper level included a stone bowl, fragmentary fine-ware cups, cookpots, and pithoi, as well as an obsidian blade, a multidirectional core, and a debitage flake.

Lying above the LM IB floor level was a layer roughly 20 cm thick, which has been attributed to a second-story collapse. One complete jug, fragments from another, and a complete pithos lid were found mixed within this layer. At a lower level, the ceramic assemblage from the LM IB floor level included two jars, a nearly complete tray, and a cup, all of which were smashed, possibly by the collapse. In addition, a stone bowl, a small fine-grained whetstone, and a handstone were recovered. Most of the objects were set along the walls of the room, presumably to keep the center clear for use. The whetstone and handstone suggest some sort of industrial activity. A small foundation deposit, which yielded a complete triton shell and a jar, was found immediately below the LM IB surface near the center of the western wall. During its final days in the LM IB period, the door of the building was blocked.

## ROOM 3

Room 3, which was on a lower level, appeared not to connect with room 4. It did, however, join with room 5 via an open space between the two rooms. No second-story collapse was identified. The eastern half of the LM IB floor consisted of hard-packed earth resting on top of cut and leveled bedrock. In the western section of the trench, the bedrock dropped sharply, forming a cavity that was found filled with much architectural debris composed of mixed pottery of various dates. Since Boyd Hawes excavated this space, the material in the cavity is likely to be backfill.<sup>21</sup>

An LM IB ogival cup from the floor serves to date its final period of use (Fig. 5).<sup>22</sup> Additional finds included a handstone, a juglet, a bridge-spouted



Figure 5. Ogival cup (11.091) from the Pit House, room 3. Scale 1:2. Photo C. Papanikolopoulos

jar, a restorable pithoid jar, and a conical cup. Boyd Hawes's excavation of the room had produced a large cup with handles, a mug with holes (i.e., a firebox or incense burner), and five smaller cups.<sup>23</sup> These vases suggest that room 3 may have served as a pantry. Its Protopalatial occupation level appears to have been removed in LM IB.

21. Fotou 1993, pl. XXIII.

22. Cf. Barnard and Brogan 2003, pp. 45–49, fig. 9.

23. Fotou 1993, pl. XXIII; Boyd Hawes et al. 1908, pl. II:44.

## Room 5

Room 5 is the long corridor excavated by Boyd Hawes, termed “the Pit.” This space produced loose soil and modern debris, suggesting that it was refilled following Boyd Hawes’s excavation. Her notebooks reveal that a four-handled pithos was found against the southern side of the western wall.<sup>24</sup> This corridor may have served as a storage area.

## Room 8

Room 8 was accessed via room 5. The destruction debris at a level over the LM IB floor held several nearly complete vessels, including a piriform jar, a conical cup, a juglet, and a cookpot, all of which had probably fallen from a second story. A serpentinite core (Fig. 6) found within the debris suggests that stone-vessel manufacturing may have taken place on the floor above. The LM IB floor was found immediately below the second-story collapse. This floor continued northward over the top of an earlier east–west wall. It produced a number of objects of high quality, including several locally made vessels decorated with abbreviated or stylized floral motifs. Two nearly complete jars were found smashed in the center of the room, while two decorated cups were located against the southern wall, perhaps having fallen from a shelf located higher up the wall. Another concentration of vessels included a tripod cookpot, a straight-sided cup, a tray, and a painted mini-lamp, along with a heavily abraded fine-grained (sandstone) whetstone and a stone libation table, all of which were found near the northeast corner of the room.<sup>25</sup> The material assemblage from room 8 appears to represent activities associated with the storage, cooking, and serving of food.



Figure 6. Stone-vessel core (12.690) from the Pit House, room 8. Scale 1:1. Photo H. Sigurdson

A small Protopalatial ceramic deposit was uncovered beneath the LM IB surface in between the north–south partition wall and the western wall of the corridor (room 5), near the center of the former. This Protopalatial deposit dates the east–west wall underneath the LM IB surface. As the western exterior wall of the Pit House was bonded to this early wall, it too should be of the same period. The deposit also ran underneath the north–south partition wall and the northern east–west partition wall, indicating their later date. In the Protopalatial period, room 8 was a large, rectangular room, one which included room 7 and part of the corridor.

## Room 7

Room 7 was a rectangular space connected with room 8 through the open space at the north end of the north–south partition wall, and with room 6 via a doorway in the northern east–west interior wall. The same second-story collapse was found overlying the LM IB floor. There were few finds here. A small flat stone, which was perhaps used as a work surface, sat on the LM IB floor in the southeastern corner. A pithos and a number of fine-ware sherds, including an alabastron, were found scattered on the floor. The room contained shell and bone, and a heavily abraded whetstone. Although limited, the floor assemblage suggests that consumables were stored and prepared in this space.

24. Fotou 1993, pl. XXIII.

25. The majority of objects recovered from the floor of this room await repair and conservation.



**Figure 7. Bird's nest bowl (12.054)  
from the Pit House, floor of room 6.**  
Scale 1:2. Photos C. Papanikolopoulos

## ROOM 6

Both rooms 7 and 8 communicated with room 6 through a doorway in the east–west partition wall. No second-story deposit was clearly identified in room 6, although it may have been mixed in a deep level of architectural debris above the latest floor. At least four smashed jars, two jugs, and a cup were found on the LM IB floor against the walls of the room. In addition, one complete serpentinite bird's nest bowl (Fig. 7) similar to the one found in room 4, a limestone handstone, and a limestone mortar were found on the floor. The contents of this room point to the storage and processing of food. Directly below the LM IB surface there was a layer of fill (ca. 24–30 cm) that had been laid in LM I, possibly to raise the level of the floor to correspond with the floors of rooms 7 and 8. One complete tripod cookpot was found standing upright at the bottom of this level, suggesting that this vessel was resting on an earlier surface. A small circular pit had been cut into the bottom of this level near the middle of the south face of the northern exterior wall. The pit was found filled with stones, burned mudbrick, and a number of fragmentary vessels, including a bowl, a jug, a jar, a discoid loomweight, and two limestone pounders.

Below the surface, a layer of fill rested on cut and leveled granodiorite bedrock directly below the second floor level described above. This level contained some sheep/goat bones, a number of murex shells, and much architectural debris, including large fragments of burned mudbrick as well as MM II–III sherds. The layer appeared to be contemporary with the construction of the second east–west wall, and it could signify a building collapse and a floor level belonging to the Protopalatial period.

## ROOM 1

Rooms 1 and 2 were later additions to the Pit House, as their walls abut the southern exterior wall of the house. The exterior walls of this annex, constructed with larger limestone fieldstones, often in a single course, are constructed more sturdily than those of the Pit House. Single large, thick (3–4 m) stones were used at the ends of the exterior walls to adjoin this unit to that further north. The two rooms of the annex communicated with each other through a doorway, which was framed by antae of large flat stones.

Room 1 to the east is a narrow rectangular space. The floor slopes down to a depression in the north end, where one complete conical cup, turned upside down, along with the fragments of two other conical cups and a rounded cup were found. A fragment of a U-shaped drainage tile was propped against two stones at the northwestern corner of the doorway, pointing toward the depression, which possibly served to keep room 2 dry.

## ROOM 2

Room 2 had a second story. An upper layer consisted of decayed mudbrick and plaster, fragments of two cookpots, a pithos, a chimney, and a limestone handstone and pounder that had fallen from the second story, suggesting that food preparation and/or consumption took place on the upper floor.

The lower LM IB floor consisted of hard-packed earth that was laid over leveled bedrock. The floor deposit included three large complete amphoras, one jar, and a fine, large, locally made stirrup jar, decorated with red horizontal bands and a band of stylized reeds (Fig. 8).<sup>26</sup> Fragmentary ceramics included a drain, a chimney, an amphora, a pithos, five jars, a stirrup jar, a jug, a Central Cretan rhyton, a cookpot, two basins, a rounded cup, six conical cups, two ogival cups, and one miniature tripod cup. A hole-mouth jar bore an incised sign that could represent the Linear A sign 69 TU (see Fig. 41, below). With the exception of one amphora situated in the center of the room, most of the vessels in the room were situated along the walls. Several ground-stone tools, which included three granodiorite saddle querns and four handstones, were found on the floor. The presence of large jars, basins, cups, amphoras, and the rhyton suggest that wine might have been produced, stored, and perhaps even consumed in this room.



Figure 8. Selection of pottery from the Pit House, room 2 (10.283, 10.370, 10.413, 10.414, 10.416).

Scale 1:15. Photo C. Papanikolopoulos and K. Iao

Two pits were cut into the LM IB floor. The first, situated in the northwest corner of the room, was filled with a loose, gravelly soil, architectural debris, two *gournes* (mortars), ceramic vessels, and one pig and three sheep/goat bones. Pottery included two complete conical cups, one ogival cup, a rounded cup, fragments of a bowl, a jug or jar, an alabastron, and two pieces of a U-shaped drain, similar to that found on the floor of room 1. The fragmentary state of the vases and mortars suggest that the depression had become a rubbish pit. The second, shallower pit to the south was filled with loose soil, architectural debris, and three fragmentary conical cups. A small foundation deposit similar to that from room 6 was

26. Cf. Barnard et al. 2003, p. 101, figs. 29, 58.

identified just below the LM IB surface near the center of the southern wall; it contained ashy soil, a complete triton shell sitting beside a sheep/goat bone, and a copper-alloy vessel handle.

To sum up, the Pit House forms a multilevel building, initially constructed in the Protopalatial period and substantially modified in the latter part of the LM IB period, with the addition of three new interior partition walls and an annex consisting of rooms 1 and 2. The production of stone objects (e.g., bird's-nest bowls) seems to have taken place on the second floor, while storage and food processing were conducted on the ground level of the building.<sup>27</sup> The Pit House and its annex were destroyed by fire at the end of the LM IB period.

### THE YARD SOUTH OF THE PIT HOUSE

Excavation south of the Pit House revealed a large open space bounded by a separate Protopalatial structure to the west. In this area, the sloping, weathered granodiorite bedrock had been cut to produce two flat surfaces, a lower one to the north and a higher one to the south. The lower section possessed a small north-south wall, a cut channel running alongside the annex to the Pit House south wall, and a pit to the east. A single coursed north-south wall of small irregular fieldstones with flat larnax (or pithos) sherds on its western face abutted the southwestern corner of the exterior wall of the annex. An east-west channel (20 cm deep) cut into the bedrock alongside the southern wall of the annex apparently collected run-off from the roof of the Pit House. Finds of LM IB pottery and the position of the channel suggest that this surface belonged to the LM IB period. Attached to the north-south wall was a single course of small stones set inside a cutting in the bedrock to form a northwest-southeast arc. This channel, like the one running alongside the annex to the east, terminated at a large pit that was 1 m deep. The bedrock surfaces, framed by the north-south walls, annex walls, and channels, slope gently to the east into the pit. The pit seems to have served as a receptacle for water.

### THE PROTOPALATIAL STRUCTURE

The two walls forming the perimeter of the western edge of the yard described above created a narrow, short corridor. Both walls of this multiphased structure rested on the cut and leveled bedrock surface. A flat slab of *kous-kouras* (decayed limestone) placed between the two walls and an LM I jar or amphora and an obsidian blade were found next to the slab. The two walls formed a 90-degree angle, representing one corner of a building. To the west the structure was filled with building debris, including stones, dissolved mudbrick, and some plaster that had presumably fallen from the walls. No floor level was identified. Pottery found on the bedrock within this interior space dates to the Protopalatial period. Finds here included a potter's rib and a loomweight, which suggests that the space might have been used for pottery production and weaving. Two nearly complete straight-sided cups and a limestone pestle were found just outside sitting on the bedrock, on the southern side of the building.

27. This arrangement is similar to the Atelier de sceaux at Malia; see Poursat 1992, pp. 21–23.

### THE PROTOPALATIAL STREET

Excavation revealed an east–west street located immediately to the north of the Pit House. The street was constructed from large cobbles specially selected for their blue–gray color from the river adjacent to the site. The large size and color of these stones were similar to those of the Protopalatial street revealed just north of House Ab (see Northeast Area, pp. 421–422, below). This street must have been constructed during the Protopalatial period, since it closely followed the north facade of the Pit House; it continued in use into LM IB. It may have run (about 30 m) to the house tombs situated to the east (Fig. 1).

### THE NORTHWEST AREA

Work was carried out in the Northwest Area (trenches 3, 12, 25, and 51) immediately north of House Ea (Fig. 1) with the aim of finding the Early House Remains recorded there by Boyd Hawes.<sup>28</sup> Excavation yielded the remains of three structures, called here the Early Building, the Northwest Building, and the Southeast Building (Figs. 9, 10).

#### THE EARLY BUILDING

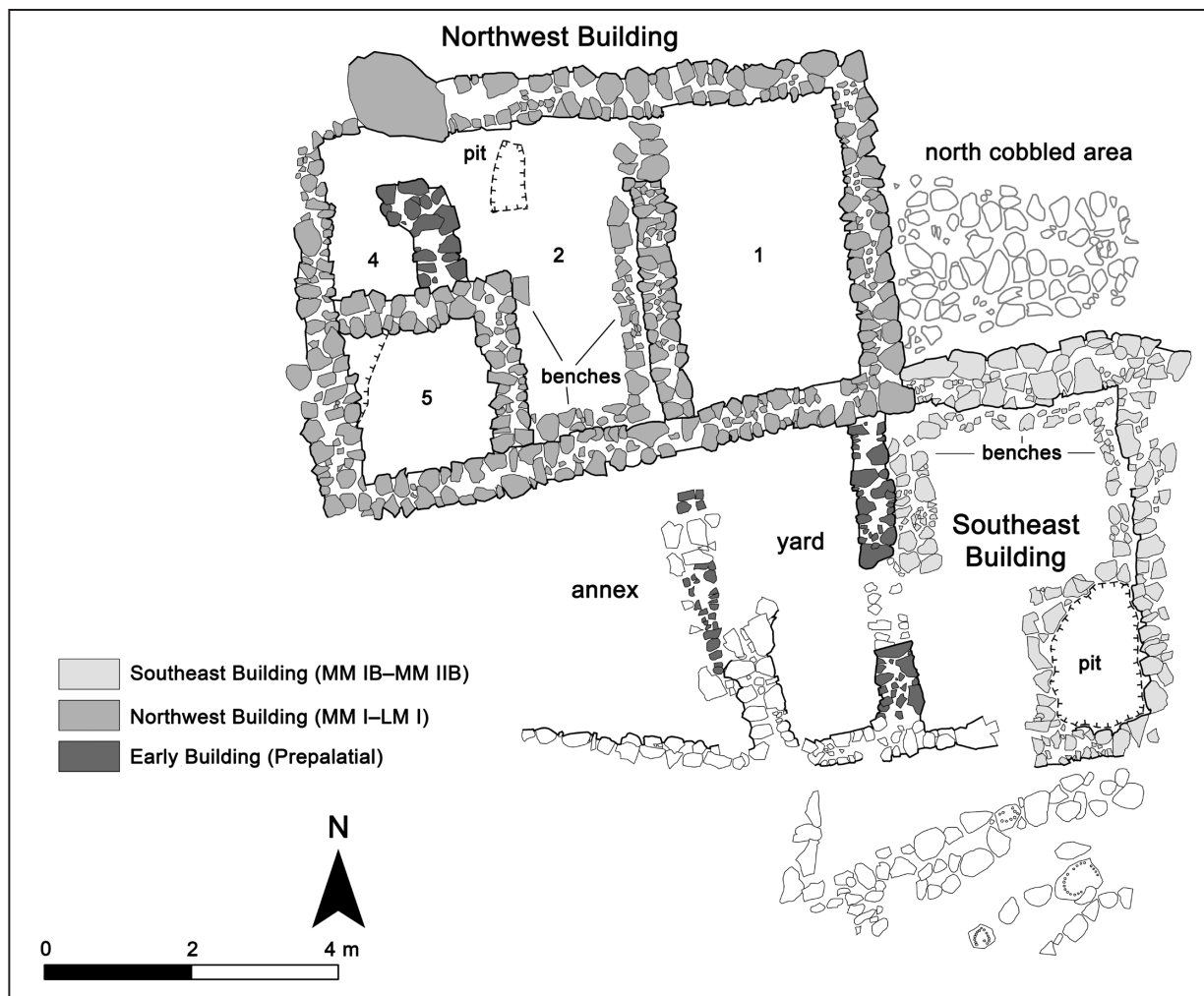
Excavation of this late Prepalatial structure has, so far, produced three walls. One wall lies on shaved granodiorite bedrock and was cut by a wall of the Protopalatial Northwest Building. Two additional walls comprise the Early Building in the yard. They are neatly built of small stones carefully laid, the lowest courses resting on the granodiorite bedrock. Running north–south, the Early Building has a western doorway and a similar eastern doorway; both thresholds are paved with small stones and topped with a thick layer of bright red clay. Few artifacts associated with this structure have as yet been found.

#### THE NORTHWEST BUILDING

The Northwest Building was constructed next, in the MM I period. The builders appear to have been aware of the Early Building's walls—the south footing trench of the Northwest Building's south wall contained late Prepalatial material. Originally, the building was a narrow rectangle, longer than that presently preserved. The north, east, and south walls, constructed of large fieldstones and waterworn boulders, all bond. The present western wall abuts the south wall, which implies that the building extended further to the west.

The interior of the Northwest Building presently consists of rooms 1, 2, and 5. Initially, the building would have looked like a shallow stoa with a broad east–west corridor in front. At some point room 5 was enclosed by a wall that cut through an earlier wall. Since room 5 has no entrance, it must have been entered from above, perhaps via a ladder. The floor of room 5 consists of a layer of bright red clay over the granodiorite bedrock

28. This section was written by John Younger.



and a deep pit filled with red clay and large sherds. Space 4, to the north of room 5, may have been open to the sky; it was bounded by small exterior walls on the west and northwest and a large limestone outcrop to the north. The doorway between rooms 1 and 2 appears to have been narrowed twice. If the cobbled area outside and east of room 1, which was 1 m higher, represents the Protopalatial habitation surface, it is likely that these excavated rooms were all basement-like areas. The cobbled area east of the Northwest Building might have functioned as part of the access to the first floor. There appears to have been an upper story to the Northwest Building, evidenced by the material that had fallen into the rooms below.

In the LM I period, the Northwest Building was cleaned out and reused. Excavations uncovered three rooms or spaces created by partition walls: room 1 in the east, room 2 in the center, and a third area in the west divided into two spaces, space 4 to the north and room 5 to the south. While rooms 1 and 2 communicated by a doorway, there was no doorway into room 5. No doorway into the building from the outside has yet been identified. Low benches lined the west, south, and east walls in room 2, which were similar in width and height to the low benches in the Southeast Building (see below) and could be original to the Protopalatial phase

**Figure 9. Plan of the Northwest Area.** Drawing D. M. Buell and J. McEnroe





**Figure 10.** Aerial view of the Northwest Area, north at top.  
Photo C. Papanikolopoulos

of the Northwest Building. A smaller but shorter bench, made of a single limestone block, was built against the north end of the western partition wall, next to the entrance to space 4.

Finds in room 2 make it clear what was originally on the floor and what had fallen into the room from above. Lying on the bedrock in the center of the room was a tripod cauldron, crushed, probably by the collapse of the upper story. Nearby were a handleless jar and a large lid. In the middle of the eastern bench was a tripod bowl; lying to the south was a handleless jug. An intact jug appears to have fallen on top of the tripod bowl. Situated on the southern bench, at its western end, was a small amphora surrounded by a bed of pebbles. The western bench was flanked by two deposits of triton shells; three with the fragment of a fourth were found in a cluster just south of the bench and another was found at the north end together with a tall jar. Other fallen pots were smashed and scattered, forming a thick deposit stretching north to south across the room: this debris comprised a tripod pot, a lekane, two jugs, two stands, several more vases, and the intact jug.

In room 5, a square earth platform bounded by stones filled the southwest corner, which perhaps served as the landing for a ladder linking this room to an upper story. Slightly south of the center of the room was a group of five vessels (three large pots and two smaller vessels): a tripod cauldron, a pyxis, a plain cooking pot with a painted lid, a side-spouted jug, and a burned pot. Against the west wall near the northwest corner, under the supposed ladder, was a moderate-sized pithos. Three of the large pots in this room contained smaller vessels: the pithos held a bridge-spouted jar,

a juglet, and three bowls; the tripod cauldron had a handled cup; and the pyxis had a side-spouted jar and two juglets.

An earth level in rooms 2 and 5 seems to have protected most of the ceramic material when the upper story collapsed. This fill, made of large patches of bright orange-red and burned black earth with a few blackened stones and the burned small pot in room 5, suggested a possible conflagration that may have destroyed the building.

Room 1 contained a different type of deposit. Digging halfway down into the room, we began to uncover sherd clusters and tools (especially querns), which became more dense and deeper toward the northwest corner. The upper level included stone querns, pounders, a pyxis lid, and a weight as well as pithoi, jugs, a basin, a bowl, a hydria, and a lamp. At a lower level, a bronze razor, a loomweight, a pierced clay weight, a jar, a cup, a jug, and a lid to a possible beehive were found.<sup>29</sup> Thus, the objects seem to have been deposited when the north end of the upper floor (and/or the roof) collapsed into the room. A large (door?) pivot block found upside down high up in the southwest corner of the room probably belonged to the collapse of an upper floor, while a terracotta gutter found at about the same elevation may have come from the roof. One of the last objects that appeared to have fallen into room 1 was a triton shell, which was found, intact, on top of the pottery deposit.

All three rooms produced a variety of tools: a bronze razor and querns were found in room 1, while potter's ribs were found in all three rooms. In addition, two stone objects resembling stone bowl lids (perhaps used as burnishers?) with knob handles were found in room 2. A third such object came from the pottery deposit in room 1; it was discovered next to a clay potter's rib.

In the LM I period the Northwest Building seems to have been associated with pottery production. Ribs used for burnishing were found in all three rooms. The pottery was in mint condition, and the cookpots showed no signs of burning. Room 2 held fine-ware vases, while room 5 appears to have been a store for domestic pots. It is possible that a cleared bedrock surface with water channels and a pit immediately to the north could have been related to the functioning of the Northwest Building.

## THE SOUTHEAST BUILDING

The Southeast Building appeared to have been constructed early in the Protopalatial period, probably in MM IB. The west wall was built on the east wall of the Early Building, including its doorway, with additional courses of larger stones over the wall. This top course gives the Southeast Building the appearance of abutting onto the southeast corner of the Northwest Building. The Southeast Building is impressive in size, with a single interior space of almost 14 m<sup>2</sup>. Walls were built of small stones set among occasional larger ones. These moderately thick walls and wide interior span imply that there was no second floor. There are two cobbled areas to the north and south of the Southeast Building. The cobbled area to the south belongs to Late Minoan structures, perhaps House Ea, but the northern one is Protopalatial and accessible from the Southeast Building

29. Anna Lucia D'Agata, pers. comm.; see also D'Agata and De Angelis 2014, pp. 9–16.



Figure 11. Vat (11.520) from the Northwest Area, in the yard of the Southeast Building. Photo J. Spiller

through a doorway that was later blocked. The main entrance to the building lies in the southwest, possibly reusing the east doorway of the Early Building. Large brick jambs flanked the entrance, and a substantial pivot stone for the door was found in situ against the north jamb, implying a left-hand door that opened inward to the left. From the northwest an earlier entrance from the cobbled area seems to have been in use for a time.

Inside the building, a pit dug into the bedrock in the southeast corner was lined on the north and west with large stones laid on their sides. Other cavities in the bedrock were filled with debris consisting of loose earth and large sherds, mostly late Prepalatial in date. This packing was then topped with thinner layers of bright red clay alternating with layers of *kouskouras* and flat, medium-sized stones, which were neatly laid out; on top was a final layer of *kouskouras*. Three short, shallow benches, one stone course each, were constructed along the north side of the room, blocking the doorway to the north.

Outside the building, the yard immediately to the west was also covered with a thick layer of bright red clay that formed a hard, compact surface. This area produced two spherical loomweights and one oblong loomweight made of the same bright red clay.

The Southeast Building had an earlier and a later floor. A layer of *kouskouras* above flat stones formed the earlier floor associated with the benches. On it and on the bright clay surface outside to the west were found scores of smashed vessels; around 30 or so had spilled from the yard through the open doorway into the Southeast Building. An additional 10 lay strewn in the northern part of the yard, which included a large spouted vat (Fig. 11), which might have slid off a stone platform in the northeast corner. This group of vessels consisted mainly of cups, cooking pots, and jugs (Fig. 12). Several of the cups were either identical or similar to one another. The cookpots showed no signs of any use, i.e., no evidence of burning was found on them. Thus the group might represent pots made for sale. Several loomweights and spindle whorls were found next to the vat. Two additional loomweights had apparently fallen into the vat, together with a stone tool.

Following the first destruction, a new surface appears to have been laid above the old floor inside the Southeast Building, again on a bedding of



Figure 12. Selection of pottery from the early floor of the Southeast Building (above: 11.317, 11.370, 11.815, 11.563, 11.369/11.371; below: 11.627, 11.315, 11.320, 11.366). Scale 1:5. Photo C. Papanikolopoulos and K. Iao

bright red clay, which, in this instance, covered the benches. On this later floor a few objects were found: a pierced stone weight, a clay stamp seal (see below, Fig. 34), a spool, and 10 restorable cups (e.g., Fig. 13). This assemblage appeared to be the result of a destruction in MM IIB. Outside in the yard, the vat and smashed vessels and the remains of the Early Building were covered by a jumble of stones. A new and rough construction to the west, the annex, was built in the Neopalatial period. A new doorway appears to have been built above the doorway of the Early Building, and a stone platform was set over the south doorjamb of the Early Building. This access might not have been in use for long, since the doorway was found blocked with stones. Large sherds of one complete larnax and half of another, with a lid fragment, were found in the annex. These probably belong to the period of the first floor. An upper level in the poorly constructed annex held two cups and a bowl. In the Neopalatial period the annex and the cobbled area to the north were used as a dump for earth and a considerable amount of pottery.

After its destruction, the Southeast Building was not subsequently cleared. The last constructions in the area consisted of two short, crude walls, one topping the north lining of the pit in the Southeast Building and one to the south. Otherwise, the immediate area appears to have been abandoned. During the LM III period, the annex was quarried for building material and fill: two sherds from trench 15, next to House He (Fig. 1), join our incomplete larnax.

The Southeast Building appears not to have been a house where people ate or cooked, since neither bone nor charcoal were found anywhere in the building. Instead, evidence points toward pottery production. None of the pottery shows signs of use, e.g., no traces of burning appears on the coarse-ware cooking vessels. The presence of a single type of vase (cups) in the second destruction assemblage also suggests specialized ceramic

Figure 13. Selection of cups from the late floor of the Southeast Building (10.240, 11.134, 11.133, 11.129, 11.123). Scale 1:5. Photo C. Papanikolopoulos and K. Iao



production. Similarly, the vat in the yard and the larnakes in the annex imply industrial activity. These larnakes were capable of holding quantities of water, and may have been used for the levigation of clay in the pottery-making process. Potting clay might have been stored in the lined pit in the southeast corner of the building. Several objects, such as a fragment of a potter's disk and wasters found in the dump over the north cobbled area, as well as potter's ribs from nearby, corroborate the identification of the Southeast Building as a potter's workshop.

A second activity associated with the Northwest and Southeast Buildings is weaving. At least two large spherical loomweights<sup>30</sup> weighing as much as 450 g each and one rectangular pendant weight of about 318 g were found together as a single deposit in the bright red clay packing below the surface of the yard, just centimeters to the southwest of the subsequent vat. The entire area produced six stone weights, around 20 clay disk loomweights, and several clay spindle whorls. Two spherical loomweights were made of the same bright red clay as their surrounding packing.<sup>31</sup>

## THE NORTH CEMETERY

The North Cemetery of Gournia is located along a ridge of bedrock at the north edge of the settlement (Figs. 1, 14).<sup>32</sup> This area was explored by Boyd Hawes in 1901 and 1904 when she excavated Tombs I and II, the rock shelters, and the Western House Tomb (VII).<sup>33</sup> More recently, Soles and Davaras cleaned the tombs for consolidation in the 1970s; Davaras excavated Tombs III and IV and also sank a large long trench south of Tomb IV, which is now filled with stones.

We excavated five separate trenches in the North Cemetery to see if any other tombs remained in the area. On the top of the ridge a small shallow trench (14) encountered soil with little cultural material and bedrock. A second trench (16) sunk in an area of rubble concentration went uneventfully to bedrock. A third trial, a pair of slit trenches (28 and 30), investigated the expanse between House Tombs I and IV. Both ended on bedrock within 20 cm. A fifth trench (18) was placed over an undated 2.5 m wall, now consolidated, south of Tomb II. Soil east of the wall turned out to be Boyd Hawes's dump, extending down to bedrock. Finds included

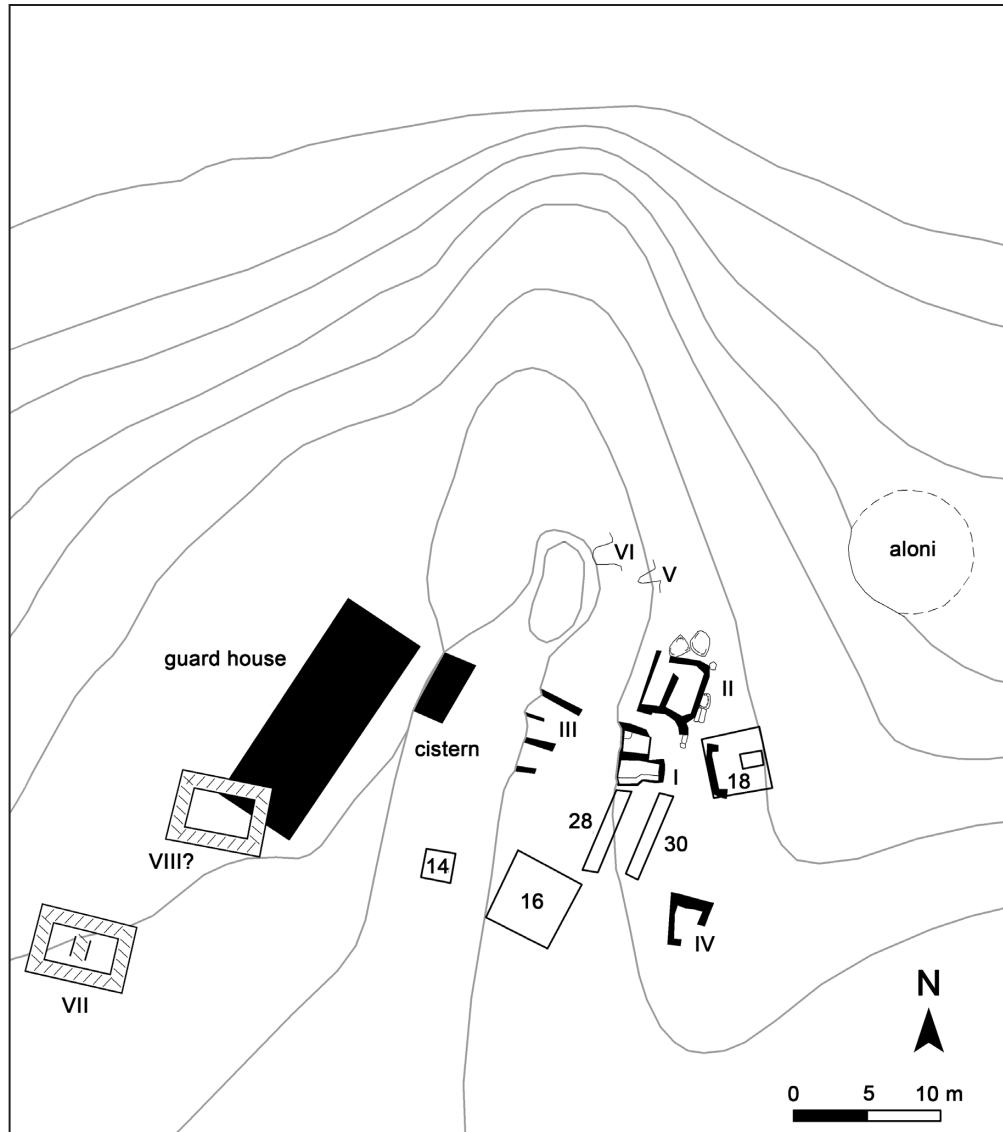
30. Similar spherical loomweights come from an LM I house on the acropolis of Knossos, similar in size and weight, but made from a levigated clay and fired (Catling, Catling, and Smyth 1979, esp. pp. 15–16, 61–65; Barber 1991, pp. 387–390). Others, impressed by seals, come from Malia (*CMS* II.6, nos. 202 from Mu III.11; 203 from Mu III.4; 207 from Mu, East street; 213 from the northeast border of the palace, room 3.3; 217 from the

northeast border of the palace, north plaza; and 218 from the northeast border of the palace, entrance 13). For a general discussion, see Burke 2003.

31. This is surprising since unfired clay is an unsuitable material for loomweights. See Barber 1991, p. 98.

32. This section and the next on the North Trench were written by Lee Ann Turner.

33. Soles 1992, pp. 1–40.



human bone, shell, mudbrick, charcoal, an obsidian scraper, and ancient to modern pottery. The wall may have been erected to keep Boyd Hawes's dump from eroding into the tombs.

Figure 14. Plan of the North Cemetery. Drawing D. M. Buell and J. McEnroe

## NORTH TRENCH

The North Trench (Figs. 1, 15) is the designation for an area excavated by Hall in 1904 that revealed a large deposit of "EM III–MM IA" pottery.<sup>34</sup> Hall illustrates the deposit as being located in a triangular hollow measuring around  $17 \times 17 \times 14$  m northeast of House Ea and adjacent to a large wall eventually labeled X-X' by Boyd Hawes.<sup>35</sup> The exact location of this trench, however, has been somewhat debated.<sup>36</sup> The corners of this deposit are shaded, leaving a T-shaped area in the center. On Boyd Hawes's final published plan a T-shaped area is depicted for the deposit at the eastern tip of wall X-X'. If the two illustrations are overlaid to scale (Fig. 15) and

34. Hall 1905.

35. Boyd Hawes et al. 1908, p. 27, plan.

36. Fotou 1993, p. 77.

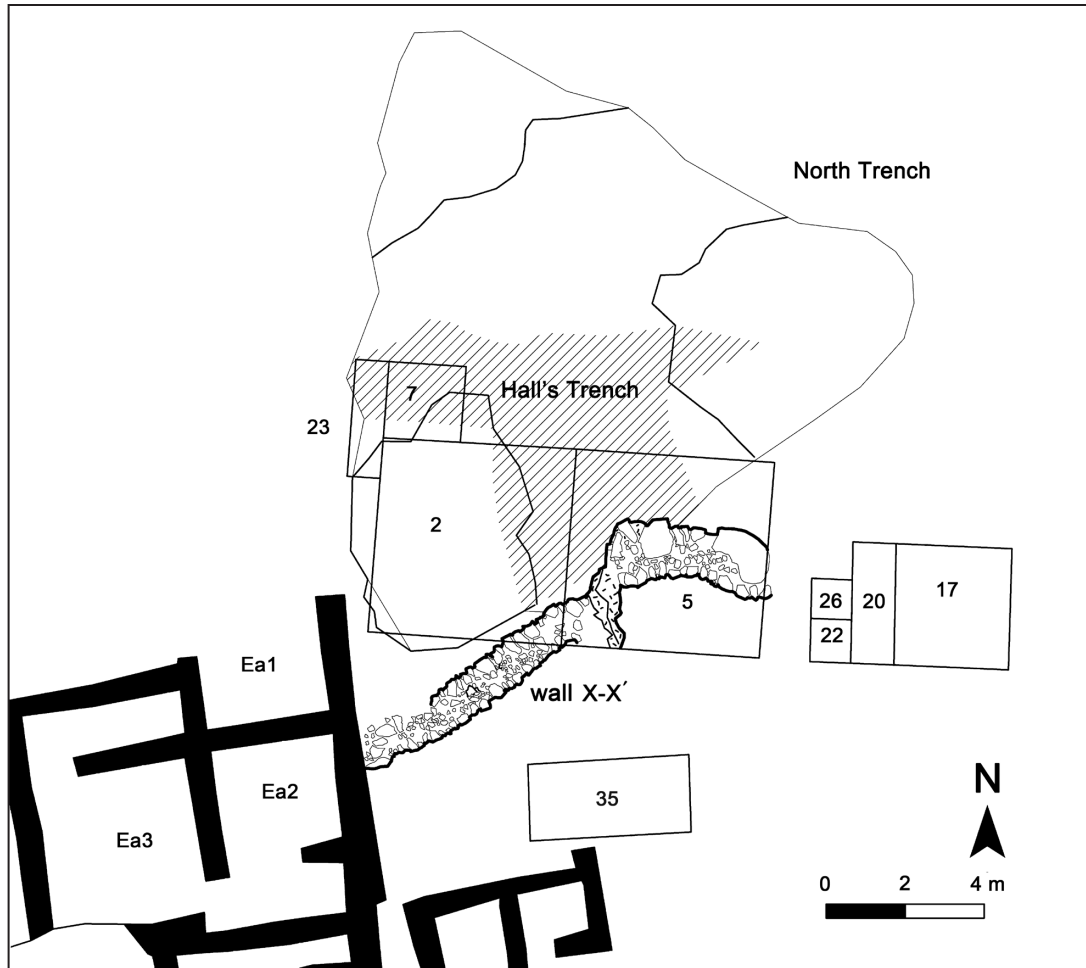


Figure 15. Hall's North Trench with 2010–2011 trenches. Drawing D. M. Buell and J. McEnroe

correlated with measurements found in Boyd Hawes's Notebook II, one sees that both are similar and are probably attempting to depict the extent of the entire deposit. The unshaded area in the southwest between House Ea, room 1 and wall X-X' on Boyd Hawes's plan may indicate Hall's actual trench, an interpretation supported by our findings (see below).

Describing the deposit in the North Trench, Hall reports that "at the end of a week [three men had] cleared two thirds of the space occupied by the waste heap, and had separated two hundred baskets of fragments."<sup>37</sup> The pottery deposit was thicker in the center, up to 1 m deep, and shallower around the edges. From this deposit no complete vessels were found. Over half of the pottery consisted of coarse unpainted vessels that were not studied, and out of the 3,000 fragments that were studied, just five joins were made. Hall illustrated 122 sherds, three of which are noted as coming from elsewhere on the site. In other words, sherds taken from the 200 baskets of material were the basis for her important study. Boyd Hawes reports elsewhere that the number of sherds was around 20,000, hence only 0.6% were published by Hall in what was to become the defining article for EM III/MM IA pottery for quite some time.<sup>38</sup>

In 2010–2011, nine trenches (2, 5, 7, 17, 20, 22, 23, 26, and 35) were opened in this area to recover the remaining parts of the North Trench deposit (Fig. 15). The first trench, trench 2, was located so that its

37. Hall 1905, p. 191.

38. Boyd Hawes et al. 1908, p. 22.



Figure 16. North Trench, view from trench 2 toward partially excavated trench 5, with wall X-X' on right, from the west. Photo J. Spiller

southwest corner was 1 m to the east of the northeastern corner of House Ea, room 1. The second trench, 5, was located directly to the east and was excavated in two sections: the western 2 m followed by the eastern 3 m. A section of wall X-X' ran through both trenches (Figs. 15, 16) and was subsequently excavated to its preserved extent in 2011, when it was found to end at a bedrock outcrop in trenches 20 and 26. This wall was identified as Protopalatial by Boyd Hawes, and our findings would agree with this date. It is wide (1.0–1.2 m), bifacial, and incorporates bedrock outcrops and large boulders. In some sections there are two to four courses of rounded stones preserved, often with smaller stones chinked in between within a soil matrix mixed with sherds. Portions rest directly on bedrock, while the eastern end in trench 5 rests on a hard clayey soil. Pottery from this clayey soil north and under wall X-X' in trench 5 dates to MM IB (Fig. 17). The latest pottery in the strata running up to the faces of the wall also dates to MM IB.

The function of wall X-X' is not entirely clear. Fill behind (south of) the wall consisted of MM IA–B pottery, bones, charcoal, mudbrick, and plaster. A pit dug into bedrock along the south face of the wall produced late Prepalatial pottery. The wall does not belong to a house or other structure, since no architecture was detected in the area excavated south of it. It resembles a circuit wall, although it is likely that the Protopalatial settlement extended beyond it to the north, and the wall stopped a short distance to



Figure 17. MM IB pottery from under wall X-X'. Scale 1:3. Photo A. Alexander





Figure 18. Prepalatial pottery from the North Trench deposit. Scale 1:3. Photo H. Sigurdson

the east. Its construction in MM IB may be associated with expansion of the site during this period. There is quite a steep drop in bedrock in the area north of the wall, and later structures to the south of the wall are built roughly on level with its highest preserved course. It would seem to have acted as a terrace wall, at least in later Neopalatial times. Although the western end has not been investigated, it appears to end at House Ea.

North of wall X-X' episodes of dumping were discernible. An MM IB rock pile directly on bedrock ran roughly parallel to the wall; hence, it seems likely that it was deposited after the wall was built. North and east of the rock pile was a large deposit of pottery. There was more pottery in this deposit than soil and it actually sounded hollow when tapped. It was easy to follow and excavate, and must be part of the North Trench deposit left by Hall. The deposit ran up close to, but did not touch wall X-X'. It sat atop the clayey soil on which a portion of wall X-X' was built: upslope near the wall the deposit was only 3 cm thick, downslope to the north it was up to 28 cm thick. Mixed in the deposit were some ground-stone tools, a few pieces of obsidian, shells, bone, and several terracotta objects (e.g., loomweights), as well as the occasional mudbrick or plaster chunk and fist-sized stone. The amount of pottery was enormous. Just from an area covering roughly  $2 \times 7$  m, crossing from trench 2 into trench 5, and with a depth ranging from 3 to 28 cm, 1,263 kg and an estimated 46,000 sherds were recovered, which is equivalent to 1.26 metric tons of pottery.

The nature of the pottery deposit was also striking. It consisted of worn sherds with almost no joins. The coarse-ware shapes consisted largely of cooking vessels (flat-bottomed cooking vessels, some tripod cookpots, dishes/trays), jugs, hole-mouth jars, and lids. Basins with incised interiors were also common. Among the fine-ware shapes, cups were most represented but formed a small proportion of the deposit as a whole (Fig. 18). This restricted range of shapes suggests that the pottery originated in some sort of specific area of usage. The presence of wasters and a potter's rib in the deposit might indicate that its original location was near to a pottery production source. Preliminary study dates the deposit primarily to the

EM III?–MM IA period. A few pottery sherds of MM IB date, however, are present and should indicate when the material was dumped in the area.

Following the deposition of this pottery, another layer of dumped material covered portions of the rock pile and the pottery deposit. It consisted of a mix of shell, ground-stone tools, some bone, occasional plaster, mudbrick chunks, and a couple of pieces of charcoal. The pottery from this dump was prolific, but the sherds were not as numerous as the main pottery deposit. The deposit's one distinguishing characteristic was the presence of many fist-sized angular stones. The latest datable material was MM IB.

The layers of dumped material (i.e., rock pile, pottery deposit, upper deposit) ended in a roughly diagonal line on the western side of trench 2. This corresponded to a dip in the terrain where the pottery deposit was quite shallow and where the rock pile became difficult to discern. We interpret this to be the eastern edge of Hall's trench, since a number of modern items were found just west of this line scattered in the layers almost down to bedrock. These finds consisted of glass bottle fragments, two buttons, an early porcelain electrical piece, and a plastic bottle cap. Hall's trench seems to have sliced through the rock pile, the pottery deposit, and the upper level of dump, going down nearly to bedrock, only to be backfilled at some later point in time. The presence of a porcelain electrical piece indicates that this backfilling must have occurred after electricity was introduced to the region. According to one of our workmen, electricity was introduced locally in the 1960s. The diagonal line discerned in excavation may align roughly with the indicated outlines of the North Trench published by both Hall and Boyd Hawes, as our Figure 15 suggests. Hall's shaded southwestern corner agrees with the blank area in Boyd Hawes's sketch and our excavation indicates that this corner was indeed the area Hall cleared.

The modern backfill in Hall's trench consisted of numerous lenses: some were ashy, others contained plaster and mudbrick. The finds from this backfill included not only modern material but also some fine pottery of the Pre- and Protopalatial periods, as well as some later material. At least two figurine fragments (a human foot/shoe and a bull's horn) were also found in this backfill. Where this material originated is unknown, but perhaps it was removed from one of Boyd Hawes's dumps when the site was being prepared for the public.

Both Hall's and Boyd Hawes's plans indicate another line within trench 7 where the tops of the T-shapes begin. A tree root crossed trench 7 in roughly this area and may have followed the edge of Hall's backfilled trench. The western edge of Hall's trench has not been certainly identified. The southeastern corner of trench 2 contained a great deal of stone; perhaps the continuation of the rock pile sliced through by Hall's trench. Trench 23 is rather narrow; it produced multiple lenses of ash, plaster, and mudbrick debris. No modern objects were found, even though the nature of the strata is similar to that excavated from Hall's backfilled trench on the western side of trench 2. Because the layers of dump material in trench 23 contained some wasters, the excavator suggested that there may have been a kiln in the vicinity. To the east and south of wall X-X', trenches 17, 20, 22, 26, and 35 yielded no evidence for its function.

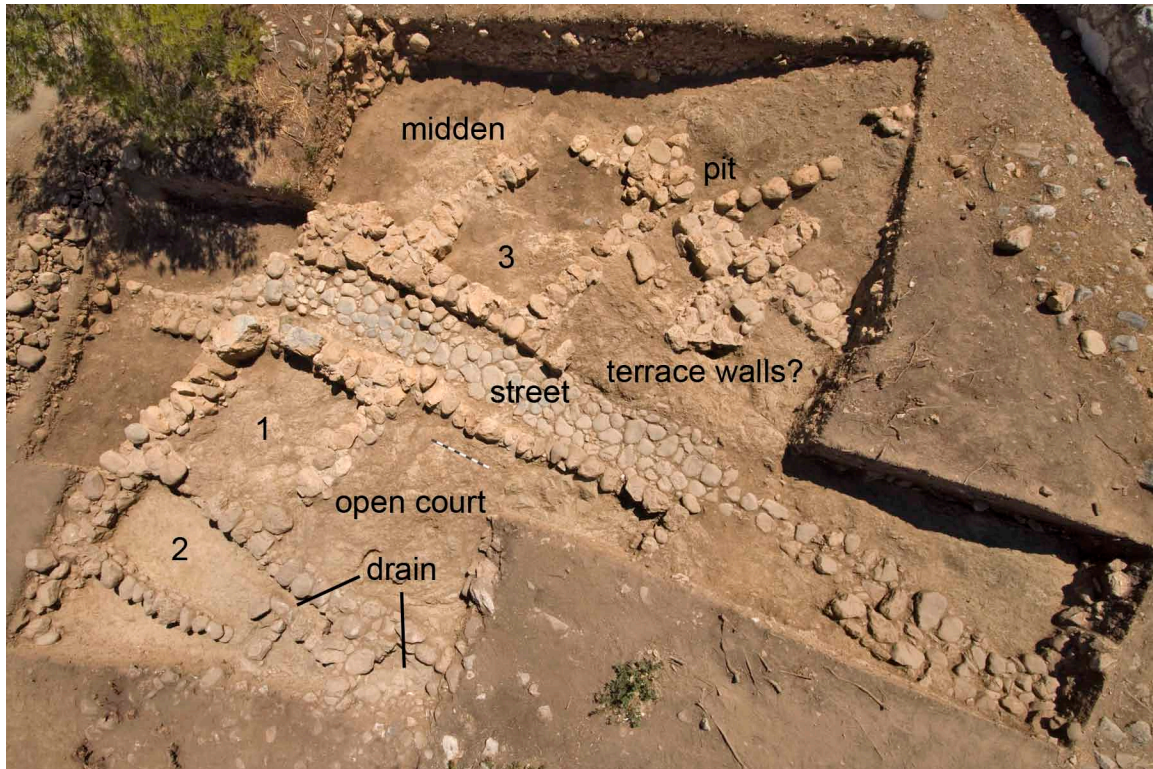


Figure 19. Aerial view of the Northeast Area, east at top.  
Photo C. Papanikolopoulos

## THE NORTHEAST AREA

The open slope north of the LM I House Ab was excavated in the hope of finding more of the Protopalatial settlement (Fig. 1).<sup>39</sup> Nine contiguous trenches (21, 29, 41, 44, 46, 58, 62, 63, and 64) revealed several rooms and an open court lying along a Protopalatial street (Fig. 19). The cobbled street runs southward up the slope in the direction of the later palace, at a lower level than the Neopalatial street cleared by Boyd Hawes. Trench 36 revealed that the pavers of the Neopalatial street rest on an MM IIB level, providing a terminus post quem for the street. These rooms were cleared out and reoccupied several times from the Protopalatial period onward until the final abandonment of the area sometime in the LM I period.

To the east and at the level of the street, room 3 consisted of rubble walls, preserved to one course. Two fragmentary terrace walls were found to the south, as well as a contemporary floor and midden deposit to the north. The room had a hard-packed earthen floor and leveling course just above the sloping bedrock, and traces of plaster and mudbrick along the inside face of the northern wall. Finds from the floor included a perforated gold disk, a triton shell, worked serpentine, a fragmentary potter's wheel, and worn sherds ranging in date from MM II through LM IA. The orientation of the room to the street suggests a Protopalatial date for its construction, while the latest pottery indicated an early Neopalatial date for its final phase of occupation.

39. This section and the following on House Aa were written by Brian Kunkel.

North of room 3 and to the east of the street, a floor and a midden deposit were discovered, which appeared to be contemporary with one another and with the latest phase of occupation of room 3. The floor deposit consisted of a compact layer of soil that contained a large quantity of fragmentary LM IA pottery that might have come from a domestic context. Pottery found included amphoras, basins, jugs, internally scored basins, and pithoi. Cooking wares made up a large part of the deposit. Immediately north of room 3 and bordering the street, a small midden, perhaps associated with kitchen activities, produced mainly cooking pots and LM IA cups and bowls, an almost complete miniature juglet with a possible Linear A inscription (see Fig. 40:a, below), a miniature cup, and an incised sherd (see Fig. 42, below). The deposit also produced many animal bones and teeth, several chunks of pumice, and a large quantity of marine shells. One jar was found filled with limpet shells.

The western side of the street was lined by a basin (Fig. 19, 1) and an open court on bedrock separated from the street by a row of low curbstones. A second basin (Fig. 19, 2) was located immediately west of basin 1. Finds from this area suggest an early Protopalatial rather than Neopalatial date for the final phase of use. Basins 1 and 2 produced many MM IA–B sherds, along with a few stone grinders, obsidian blades, and a small quantity of shells and animal bones. Separating the two rooms was a wall with a doorway or partition built on top of a step cut into the bedrock.

Basin 1 had a large depression cut into the bedrock. The cutting spanned the entire space and was filled with loose soil and a large deposit of pottery, several stone grinders, a fragmentary quern, and limpet shells. The pottery from this considerable deposit was mostly MM IB. The basin formed a collecting pool, fed by the stone-lined drain discovered to the south. The water channel of this drain was cut into the bedrock and had two courses of stone lining on each side. Farther to the southeast the channel extended beneath two walls, where it was roofed with a pair of large lintel stones. To the south, this roofed section was a deep, partially excavated pit cut into the bedrock, from which water was channeled into the drain. The drain flowed down at a rather steep gradient along the western side of the open court and into basin 2, where water was collected, possibly for industrial purposes. The discovery of a potter's bat and overfired sherds here may point to pottery production in the area.

## HOUSE AA

House Aa was of interest because it was one of the few surviving Protopalatial buildings discovered in the early excavations (Fig. 1).<sup>40</sup> Boyd Hawes's excavation revealed several storerooms and a large space (room 4), which might have functioned as a room or court, based on the discovery of an impluvium and several kernos stones in the cobbled surface of the floor.<sup>41</sup> Benches lined the western and southern walls. A stone staircase originally led to an upper story.<sup>42</sup> Boyd Hawes designated the area immediately to the east of rooms 4 and 5 as room 6, but it was not as well documented or defined as the others.

40. Soles 1979, p. 154.

41. Boyd Hawes et al. 1908, p. 22.

42. See Fotou 1993, pls. X, XI.

Owing to the sloping bedrock, room 6 was at a slightly lower level than rooms 4 and 5. Boyd Hawes's original excavation of this room revealed a tarazza floor along with a small plastered partition wall that had once joined with the eastern wall of room 4.<sup>43</sup> This small partition wall extends westward from beneath a "later wall" which she also noted. The later wall runs north–south diagonally along the eastern edge of room 6; no remains of the house were found beyond it.<sup>44</sup> Two surface levels were discovered in room 6 between the western side of the "later wall" and rooms 4 and 5. The first was the tarazza floor previously excavated by Boyd Hawes. From this floor level came a saddle quern and some fragmentary pottery, most of which dated to the MM IIB period. Along both faces of the partition wall mentioned above ran a line of plaster, and just beneath it were remains of the floor. Although the eastern end of the wall was missing, a plaster outline linked it with a collapse of mudbrick and red-painted plaster—most likely the remains of the eastern wall of room 4.

Further excavation in this area revealed a slightly earlier level just below the first surface. The floor was constructed above a sloping outcrop of bedrock, which required a leveling course of small stones and packed earth. In this level a considerable amount of Protopalatial pottery was recovered, including several carinated cups, which helped to establish a date of MM IIB for this deposit. In addition, a well-preserved bronze knife was found to the southwest of the partition wall.

The small divided space between rooms 3 and 4 of House Aa was also dug. Boyd Hawes discovered a small paved alley that had been built over this area in the Neopalatial period.<sup>45</sup> Our excavations beneath the alley revealed two small cists, which could have been entered only from above.

In summary, the reinvestigation of House Aa, while confirming much of Boyd Hawes's original work, also revealed an earlier floor level in room 6, and some of our excavated material provided a more precise, MM IIB date for the building.

## THE PALACE: CENTRAL AREA AND STOREROOMS

The primary goal of excavations in the central portion of the Gournia palace (Fig. 1) was to uncover evidence that might allow us to reconstruct the history of the acropolis before the construction of the Neopalatial complex.<sup>46</sup> While ceramic finds on the site and burials discovered by earlier excavations had previously attested to the occupation of the Gournia ridge in EM II, traces of any actual settlement on the acropolis have, until now, remained elusive.<sup>47</sup> Excavation was conducted in two contiguous areas (Fig. 20): room 18 (trench 11) and room 20a (trench 53). In both areas, significant remains were brought to light that revealed architectural activity and occupation surfaces on the summit of Gournia during the Prepalatial (EM II) and Late Prepalatial (EM III–MM IA) periods. A group of basement storerooms (rooms 8, 10, 11, and 12a), located immediately behind the western facade of the palace and the paved corridor south of the west court, were also explored in 2011.

43. Boyd Hawes et al. 1908, p. 22.

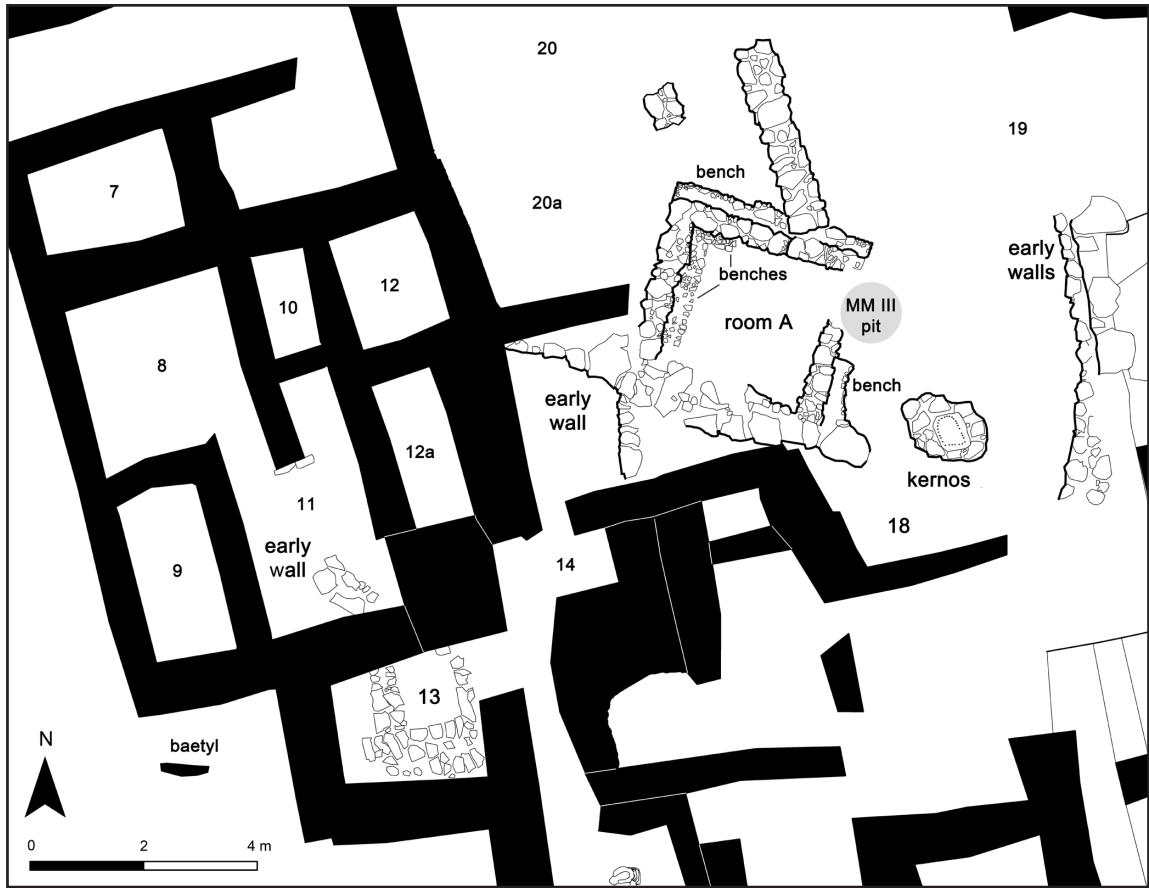
44. See Fotou 1993, pls. IX–XI.

45. Soles 1979, pp. 150–151.

46. This section was written by

Kevin Glowacki.

47. Soles 1979, p. 153.



a



b

Figure 20 (*opposite*). The central area of the palace: (a) plan; (b) aerial view, with room A in the center, north at top. (a) Drawing D. M. Buell and J. McEnroe; (b) photo C. Papanikolopoulos

### ROOM 18: “ROOM WITH THE KERNOs”

Room 18 is an L-shaped room located immediately west of the north portico on the main floor level of the palace. The east, west, and south walls of the room are relatively well preserved, but only the western section of its north wall remains intact today.<sup>48</sup> A doorway at the southeast corner of the room opens onto a narrow corridor that provides access to additional rooms in the palace to the south. A second doorway in the southwest leads to an L-shaped corridor (room 14) but at a lower level. The transition from room 18 to room 14 might have been via a ladder or staircase.<sup>49</sup> No other doorways were preserved in room 18, although Soles hypothesized passages in the east wall, allowing communication with the North Portico, and in the north wall, which enabled access to room 20a.<sup>50</sup>

The LM I floor level of room 18, reached by Boyd Hawes, is presumably indicated by several limestone paving boulders in the eastern portion of the room, upon which sits a large kernos, a cube-shaped boulder which had 32 depressions set in an irregular circle on its flat top face.<sup>51</sup> No other indications of the Neopalatial surface were preserved, and the uppermost strata throughout the room generally consisted of soft, friable, root-damaged soil above layers of fill and debris from earlier periods. Throughout most of the room to the north and east of the kernos, a deep deposit of backfill, (including fragments of rusted sieve-screen wire) was found, which tended to indicate that Boyd Hawes had tested beneath the level of the paving slabs. In the far western portion of the room, Boyd Hawes had apparently dug well below the LM I level to reveal a short stretch of a substantial early wall running below the north wall of room 18 but at a different orientation than the architecture of the later palace.<sup>52</sup>

Excavation in the western part of the room began at the level reached by Boyd Hawes, with the large early wall already visible. The wall is distinctive because of its great width (ca. 0.80 m) and use of large, unworked boulders in its solid construction. Founded on a layer of pebbly soil a short distance above bedrock, it appears to follow the natural contour of the summit, functioning as both a terrace wall and a supporting wall for a building of at least one room to the northeast. A small section of a previously unrecorded ancient wall, aligned north to south and abutting the large wall on the south, was also uncovered.<sup>53</sup> This new wall consists of one course of large and small boulders set in an earth mortar. Since a face is preserved only on its western side, it might originally have been a small terrace or retaining wall. Datable ceramic remains from ancient surfaces

48. The plan published by Boyd Hawes et al. in 1908 suggests that the eastern (but not the western) portion of the north wall was visible at the time of her excavations. Soles's plan (1991, p. 44, fig. 36, pl. 1), drawn in the 1980s, records the western segment and several isolated boulders along the projected line of the north wall, most of which were determined by our excavations not to belong to any built feature.

49. Soles 1991, p. 49.

50. Soles 1991, pp. 29, 59, figs. 15, 58.

51. Soles 1991, pp. 50, 78, no. 22, fig. 47.

52. Soles 1991, p. 21. On the Boyd Hawes et al. plan (1908), the location of this wall is marked by a single irregular line that normally suggests bedrock.

53. A small modern retaining wall

of dry-stacked stone was built directly on top of the north-south wall. This modern wall may have been added at the time of the late-20th-century consolidation of the site. It is visible, for example, in the 1981 aerial photograph published in Myers, Myers, and Cadogan 1992, p. 110, fig. 13:5; it is shown as a dashed line on the plan by Soles (1991, p. 44, fig. 36; pl. 1).

and fill strata associated with both of these walls included primarily Prepalatial sherds mixed with a few probable Protopalatial examples. Several fragments of obsidian representing both production flakes and tools were also recovered. The lowest level reached in room 18 consisted of a thick layer of water-rounded pebbles following the natural slope of the bedrock in this area. These pebbles, which must have been brought to the site from the nearby river bed or seashore, seem to represent a deliberate leveling fill across the entire area, possibly continuing even under room A in trench 11 to the south.

The large early wall extends from the northwest corner of room 18 toward the southeast for at least 6.7 m. A few boulders already visible at the modern surface level of the unexcavated area to the southeast appear in the same alignment, which may indicate the continuation of the wall in that direction. On the northern, upslope side of the large wall, the excavation revealed a small room (designated room A) with a central doorway in its northern side. Low, shallow benches or platforms line the western and northern interior faces of the room. Their rather flimsy construction, which consisted of a single course of angular cobbles and shallow dimensions, indicates that they could not have been used for seating, but perhaps functioned as stands or platforms for storage and/or display. More small benches of similar construction also appear along the northern exterior face of the building.

Within the room, a uniform layer of rounded, waterworn pebbles was discovered, apparently a leveling fill immediately beneath a thin, eroded earthen surface; the pebbles clearly extend beneath the north and east walls of the room, as well as below the western bench. The room appears to have been largely cleared of its contents, and no substantial floor deposit was preserved above the pebble stratum. Sherd material consisted primarily of worn but recognizable EM II and Late Prepalatial fine ware, granodiorite coarse wares, and cooking vessels in Mirabello fabrics, but with a few diagnostic early Protopalatial examples. Cooking and coarse ware predominated, together with a few larger fragments of pithoi and other jars. Several possible stone tools were also recovered from immediately above the pebbles and on top of the western bench. While excavations have not yet tested below the pebbles to confirm a date of construction, the latest datable pottery discovered indicates a Protopalatial date for the backfill and abandonment of the room. The northeast corner of room A had been disturbed by a large MM III pit, which probably represents debris associated with a construction phase or renovation of the palace. South of the MM III pit, excavations exposed another bench running along the eastern face of the east wall of room A; it is not yet clear if this bench indicates another room in this direction.

In the northeast corner of room 18, a sounding in 2011 removed a deep layer of backfill, apparently from Boyd Hawes's excavations. This operation revealed the tops of several small, rounded boulders, roughly parallel to the Neopalatial east wall of room 18 but at a lower level, which may represent earlier walls or even a cobble pavement similar to that observed in room 20a to the northwest.



### ROOM 20A

Palace room 20a is located immediately north of the western half of room 18 and west of room 19. Since doorways are not visible in any of the extant walls, it is not clear how this room was entered; Soles restored doorways on both the north and south, communicating with rooms 20 and 18, respectively.<sup>54</sup> A small segment, oriented north to south, of what might have been another Neopalatial wall was discovered just below the modern surface near the east wall. Unlike the east wall, it had no signs of having been consolidated in the mid-20th century. It does, however, lie in approximately the same position and at the same orientation as an otherwise unexplained dashed line that parallels the east wall of the room on Boyd Hawes's plan, and it is possible that its existence was noted at the time of her excavations, perhaps even extending farther south than it does today. No Neopalatial floor surface was found in the room.

A sounding in the southwest corner of room 20a revealed that the pebble layer found in room 18 extended nearly as far as the Neopalatial west wall, where a possible foundation trench cuts into the stratum. In the northern section of room 20a, the pebbles appear to have been deposited on top of and around a stratum of tightly packed cobbles and boulders, possibly the remains of an earlier paved area, such as a courtyard. Several small concentrations of burned and unburned animal bones also appeared immediately on top of the pebble layer, and primarily along the eastern edge of the area.

Above the pebbles, excavation revealed successive layers of fill and refuse that had accumulated over what were probably exterior surfaces north of room A. Datable pottery from these levels included many small and worn fragments dating to EM II and the Late Prepalatial period, but always with recognizable examples of Protopalatial material. Numerous pieces of obsidian (flakes and blade fragments) were also recovered, suggesting that stone-tool production might have taken place here or nearby. Other notable finds included three terracotta figurines: a fragment of a crude human(?) figure, the prow of a flat-bottomed boat with red-slipped and burnished surfaces, and the upper half of a schematic human figure wearing a hat and carrying an oblong object in both arms close to its chest.

### ROOM 8

Room 8 is the largest of the storerooms. The only visible means of access was by a doorway in the southeastern corner that communicated with room 11. Removal of the modern surface soil revealed only bedrock throughout the eastern half of the room. The northern wall, shared with room 7 and the eastern wall, shared with room 10, were founded on this bedrock, which appeared to have been slightly trimmed in places to create a more level surface. In the western part of the room, however, several flat-topped boulders were uncovered, probably paving stones of the Late Minoan surface level that had been reached by Boyd Hawes in the early 20th century.

54. Soles 1991, pp. 29, 59, figs. 15, 58.

Although room 8 appeared to have been entirely cleared of its contents, the stratigraphy preserved in the southwest corner of the room provided important information about architectural phasing. The west wall was founded on bedrock or on a compacted soil immediately above the bedrock. An initial Neopalatial floor surface, with a millstone on top, extended to the west face of the wall. Above this surface, a layer of soft fill contained a mixture of worn Pre-, Proto-, and Neopalatial material that formed the bedding for both the paving boulders and the south wall. This layer was shared with room 9. A more compact layer of soil with flecks of decayed plaster was found above this fill, probably representing a floor surface that was used after the addition of the south wall and pavers. A fragment of a terracotta animal figurine was recovered from this floor. The observed architectural sequence and stratigraphy suggested that room 9 to the south was the result of a later remodeling of a large room that originally combined the floor areas of rooms 8 and 11.

### ROOM 10

To the east of room 8, room 10 is a small, narrow corridor. This space probably functioned as a stairwell to provide access from the main level of the palace to this group of basement storerooms. A stone and mudbrick partition found (preserved) toward the southern end of the passage, where it opens onto room 11, could represent the foundations for one of the steps.<sup>55</sup> Cleaning within the northern portion of the corridor brought to light a uniform layer of fill, which consisted of chunks of bedrock, broken mudbrick, and small amounts of worn pottery and other cultural material (shell, bone, and a few possible stone tools). The scant ceramic remains recovered were all small and worn, representing Pre-, Proto-, and Neopalatial wares. Our excavations in this small space did not completely remove the fill or reach the bottom of the walls.

### ROOM 11

Room 11 is a rectangular space south of rooms 8 and 10, east of room 9, and west of room 12. A doorway on the north side of room 11 provided access to room 8. Another doorway that once connected rooms 11 and 9 was identified by Boyd Hawes as having been blocked with rubble, but was not cleared.<sup>56</sup> The removal of the modern surface soil revealed traces of a plaster floor, presumably the level at which Boyd Hawes had ceased her excavations. Excavation below the decayed floor surface clarified the location of the original passage into room 9 in the southeast corner of the room, where the Neopalatial plaster flooring can be observed below the level of the later rubble, which had been cemented in place during the late-20th-century consolidation of the wall.

In the southern portion of the room, excavation also uncovered part of an earlier wall, oriented northwest to southeast, upon which the south wall of the Neopalatial room was constructed. This earlier wall is founded on bedrock and consists of one course of unworked boulders set in two

55. Soles 1991, p. 40.

56. Boyd Hawes et al. 1908, p. 25; Soles 1991, pp. 40–41.

distinct faces with earth packed in between. The wall is ca. 0.6 m wide and is preserved for a length of at least 1.25 m from the south wall of the room. Several small boulders projected in roughly the same orientation toward the northwest corner of the room and may also have once belonged to this wall. A row of small, flat boulders running parallel to the western face of the wall could represent paving stones of a contemporary surface extending to the west toward room 9. The small and worn pottery recovered from the strata associated with this wall suggested a Late Prepalatial terminus post quem for its construction and use.

### ROOM 12A

Room 12a is located immediately to the east of room 11. This small room constituted an enclosed space without a preserved doorway, so that access might have been by means of a trapdoor from the room above.<sup>57</sup> The removal of fill beneath the level of modern consolidation in the late 20th century exposed a narrow bench or shelf along the face of the northern wall and an earth floor. Apart from an obsidian blade, no floor deposits were found. It was unclear if this surface represented the level that Boyd Hawes reached in her early-20th-century excavations.

A sounding in the southeast corner of the room brought to light a small portion of an earlier Neopalatial floor surface, but with little associated cultural material. Below the level of this earlier surface, several layers of fill were excavated down to bedrock, on which both the east and south walls of the room were established, without a foundation trench. Most of the small and worn pottery associated with the strata below the earlier surface was undiagnostic, but there were recognizable Pre- and Protopalatial fragments. A fragmentary conical cup and part of a triton shell in the fill near the south wall could be a foundation deposit beneath the earlier floor.

Excavation in room 12a did not reveal any continuation of the large, early (Late Prepalatial or Protopalatial) wall observed in room 18 immediately to the east. The wall either did not continue into this area or was dismantled during the construction of this suite of rooms.

## THE PALACE: SOUTHWEST WING

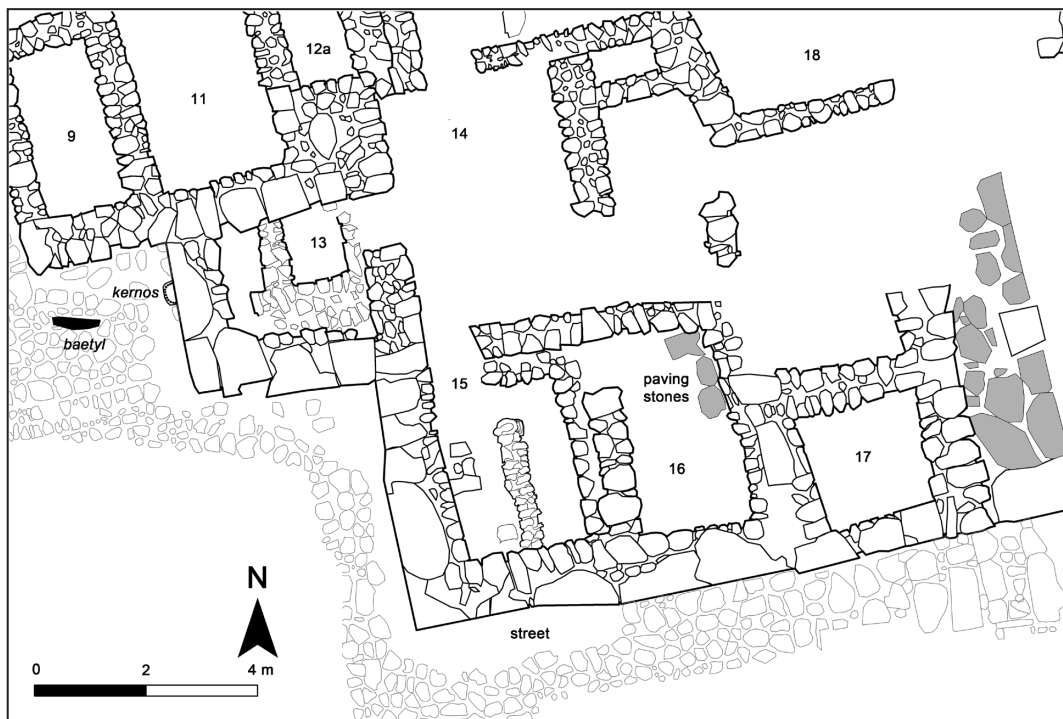
Our investigations in the Southwest Wing of the palace focused on rooms 13–17 (Fig. 21).<sup>58</sup> The aim was to define the date of these ashlar additions to the palace and the functions of its rooms. Excavation below the levels associated with the ashlar walls produced evidence for the existence of several MM III–LM IA rooms.

### ROOM 13

Excavation in room 13 (trench 10) of the palace began at the level left by Boyd Hawes. The room located in the southwestern corner of the palace is trapezoidal in shape and is entered through a doorway from the east.

57. Soles 1991, pp. 41, 59.

58. This section was written by Scott Gallimore and Angus Smith.



**Figure 21. Plan of the Southwest Wing of the palace.** Drawing D. M. Buell and J. McEnroe

The western and southern walls of the room are built in part of monumental ashlar masonry; both walls have been interpreted as part of a later, LM IB addition (which also includes rooms 15, 16, and 17) to the south side of the palace.<sup>59</sup> Room 13 produced two levels of cult deposition: an upper LM IB layer and a lower MM IIIA level associated with three rubble walls.

Soles believed that room 13 had not been completely excavated by Boyd Hawes.<sup>60</sup> This proved to be correct. Almost immediately after excavation began, at a depth of only 5 cm, a large deposit of intact conical cups, other serving vessels, plaster, ash, pumice, and animal bone was found. The stratigraphy of this deposit associates it with the walls of the later palace, and its LM IB ceramic date supported this view. Evidence from room 16 (see below), however, suggests that this deposit of about 300 vases represents an earlier phase of the LM IB palace. The ceramic material (Fig. 22) would fit well with the latter view, since the pottery can be dated to an early phase of LM IB. The vast majority of the material consisted of undecorated conical cups. More rare, bell-shaped cups and ogival cups are suggestive of a date early in LM IB.<sup>61</sup> Also of note was a fragmentary stemmed cup rhyton (Fig. 22, center) imported from east Crete.

This deposit also contained animal bones, mostly sheep/goat and a few possible pig bones. These contents point to drinking and feasting. Additionally, its location in the southwest corner of the palace, just on the other side of the ashlar walls from the well-known baetyl and kernos, supports a ritual interpretation. Ash, particularly two concentrated deposits—one found against the north wall, the other extending into a mass of cups in the southwest corner—may be the remains of burned shelves upon which the vessels had been stored. They could also be associated with feasting. Pumice in and around the conical cups, some of which were inverted,

59. Soles 1991, pp. 26–28.

60. Soles 1991, p. 50.

61. Barnard and Brogan 2011, pp. 431, 435–440, figs. 4, 5.



Figure 22. Vessels from the LM IB deposit in the palace, room 13 (above: 11.006, 11.181, 11.276; below: 11.152, 11.029). Scale 1:3. Photos C. Papanikolopoulos and K. Iao

suggested ritual similar to the “crisis cults” that followed the Thera eruption late in LM IA.<sup>62</sup> The botanical remains from pomegranates and grapes (wine) from this level (see pp. 455–456, below) would corroborate this interpretation.

Below the LM IB deposit, an earlier deposit of pottery, ash, and animal bones was discovered associated with three rubble walls (Fig. 23). The larger of these walls runs east–west, abutting the MM IIIA eastern wall of the room, and running toward the later western wall. The smaller wall runs north–south and abuts both the earlier northern wall of the room and the early southern east–west running wall. They form a small interior space in the northeastern corner of room 13 and a smaller exterior space in the northwest corner. The northern wall of the room represents the south facade of the early palace, as Soles suggested.<sup>63</sup> The two lower walls predate the ashlar walls of the southwest extension of the palace. It appears that the thicker east–west wall originally formed a small open alcove that faced west toward the open area of the baetyl and kernos, and that the small north–south wall was constructed later, blocking off the alcove and creating a second smaller space to the west.

A second lower group of pottery, ash, and animal bones had been deposited in both the interior and exterior spaces that had been created by these walls. The majority (ca. 80%) of this MM IIIA pottery deposit was found in the small interior space in the northeast corner of room 13 (Fig. 23:a). The rest were found resting up against the west face of the small north–south wall that sealed off the space (Fig. 23:b). Some 60% of the animal bones, however, were found on this western, exterior side of the wall. The pottery on both sides of the wall was remarkably similar and appeared to be a single deposit of 294 vases, mostly cups and bowls (Fig. 24). Animal bones were much more numerous and of a greater variety in this deposit than in the LM IB deposit above, and consisted of sheep/goat, cattle, pig, and fish. Stylistically, this earlier pottery deposit can be dated to MM IIIA and therefore gives us a terminus ante quem for the earlier walls. The most common shapes among these vessels are undecorated ledge-rim bowls and bell-shaped cups, each representing around 20% of the total number of ceramic objects. Less common were the undecorated conical cups and shallow bowls, which represented about 8% each of the total.

62. Driessen 2001; Driessen and MacDonald 1997; Artzy 1991.

63. Soles 1991, pp. 26–27, fig. 37.



a



b

Even less common were decorated straight-sided and rounded cups, which can be divided into a variety of forms and decorative styles. Included among the forms were the ridged variety, solidly slipped in a dark monochromatic style, and a shorter variety with slightly concave walls and slightly flaring rims. The latter were decorated in different ways, the most common of which is a light-on-dark style with linear decoration and running spirals. Also present were examples with a dark-on-light splash-decoration.<sup>64</sup> Rounded cups with strap handles are decorated with

Figure 23. MM IIIA deposit from the palace, room 13: (a) overview; (b) detail of pots against the western face of the north-south wall. Photos J. Spiller

<sup>64</sup> Cf. Warren 1996; Haggis 2007, p. 737, fig. 16.

Figure 24. Cups and bowls from the MM IIIA deposit in the palace, room 13 (above: 11.488, 11.494; below: 11.506, 11.287). Scale 1:3. Photos C. Papanikolopoulos and K. Iao



light-on-dark style running spirals. Several of these rounded cups were of exceptional quality and should fall into MacGillivray's "precision grooved ware" category; they could be Knossian imports.<sup>65</sup> Other more specialized vessels from the deposit include bridge-spouted jars, an incense burner, a large "chalice" decorated with light-on-dark dots, and a number of miniature vessels, including conical cups (one found with a small piece of pumice), bowls, and scoops, some with barbotine decoration around their rims.

The MM IIIA pottery and walls abutting the south wall of the palace provide a date for the initial construction of the palace at Gournia. The MM IIIA deposit seems to have involved the sealing up of a space and the creation of a corner of the structure to which it was attached; it is possible that this was a ritual that was connected to the foundation of the MM IIIA palace. The placement of the deposits, in the area of the palace closest to the location of the baetyl and the kernos, supports a ritual interpretation.<sup>66</sup> The nature of the deposits, consisting of animal bone, ash, and large numbers of serving/drinking vessels, as well as a smaller number of specialized ritual vessels (cup, rhyton, miniature vessels, incense burner), suggest that both were the remains of drinking and feasting rituals involving large numbers of participants. The chronology of the deposits, placed at the beginning of the Neopalatial period (when the palace was first constructed) and at the beginning of the LM IB period (just after the Theran eruption), indicates that these rituals took place at times of crucial transition.

## Room 14

Room 14 is an L-shaped corridor providing access between rooms 13, 15, and 18 (Fig. 21). Boyd Hawes published two LM IB vases from room 14.<sup>67</sup> The latest levels discovered during the current excavations were LM IA fills and destruction deposits. In 1991, Soles noted a stone anvil at the north end of the corridor.<sup>68</sup>

Ancient construction in the area of the northern doorway, between rooms 14 and 18, began with a series of fill layers comprising soft, loose soil with pebbles placed directly on bedrock. These fills acted as the foundation for the wall at the north end of the room. Other finds from the fill included part of an animal figurine, a ceramic counter, two sherds with incised lines, several pieces of obsidian, bone, and shell. Three flat stones in the entrance could have been part of a staircase leading from room 14 up to room 18. Soles had suggested that a staircase or ladder was necessary to move between these spaces.<sup>69</sup>

65. MacGillivray 1998, pp. 57, 71, 76, 77.

66. Warren 1990; La Rosa 2001.

67. Boyd Hawes et al. 1908, pls. VII:13, G:1.

68. Soles 1991, p. 49.

69. Soles 1991, p. 49.

In the central part of room 14, excavation discovered a fill layer of pebbles, which provided a foundation for both the eastern and western north–south walls. This fill covered the eastern face of the north–south MM III wall in room 13. The entrance also had a series of thick, flat stones partially built into the walls that could represent the foundations for a door frame. Above all of these layers was a series of destruction levels comprising burned mudbrick, charcoal, burned plaster, and ashy soil. Based on ceramic evidence, these levels appear to date to the LM IA period, and are perhaps related to the Thera eruption. In the entrance to room 13, a small concentration of pumice and nearly complete conical cups, datable to LM IB, may have been a foundation deposit.

A wall in the narrow transition space between rooms 14 and 15 marks the earliest activity in room 14. Little ceramic evidence is available to date it, but the style of construction, unworked stones bonded by earth mortar, and proximity to MM III walls in rooms 13 and 15 suggest it is contemporary. Only 0.7 m of its length is preserved before continuing under the later walls of the Southwest Wing. A lack of floor surfaces or fills associated with this wall suggests that these levels were cleared before room 14 was constructed. Inside the walls of this part of the room was a layer of loose soil containing numerous pebbles and pottery datable to LM IA. Above this fill layer were several destruction levels characterized by burned mudbrick, burned plaster and ash, pumice, and a few fragments of conical cups. These destruction levels continue beneath a small rubble blocking wall situated approximately 1 m north of room 15. This rubble wall, comprised of unworked stones and earth mortar, suggests an addition during the LM IB period when a number of the rooms in the Southwest Wing were remodeled and access to room 15 was blocked.

## Room 15

Room 15 is a small rectangular space in the southwest corner of the Southwest Wing of the palace. Boyd Hawes stopped her excavations in this room at the level of a stone-paved surface. This surface, with some pavers still visible against the north wall, is assumed to date to LM IB. Pottery from the fill directly beneath the surface, however, also included some LM IB vases, as did similar paved floors in rooms 16 and 17. The earliest evidence for occupation in this space is an MM III wall constructed of unworked stones and earth mortar running north to south through the center of the room (Figs. 21, 25). Built directly on bedrock, it may be associated with the MM III walls uncovered in rooms 13 and 14. Plaster floors were present on both sides of the wall. At the southern end of the western floor, a thin, square limestone plaque may have served as a small platform. Scraps of MM III pottery recovered from the floors comprised mostly cup fragments.

When constructing room 15, the Neopalatial builders shaved parts of the plaster floors down to bedrock and may have removed other earlier walls. The walls of room 15 sit on bedrock, including the eastern wall, which extended for the entire length of room 15 in its earliest phase, indicating that there was no doorway between rooms 15 and 16 when the Southwest Wing was first built. In her notebooks, Boyd Hawes reconstructed a





Figure 25. MM III wall in the palace, room 15. Photo J. Spiller

doorway between the two rooms at the northern end of this wall, although she does not include it in her final plan of the palace.<sup>70</sup> Excavations in room 16 (see below) show that a doorway was added in LM IB where Boyd Hawes had suggested. Along the interior of the south wall an open drain ran through the west wall into room 16. It was carved from the bedrock and originally may have been associated with an earlier street, some cobbles of which, adjacent to the drain, are visible under the south wall of room 16. This supports the hypothesis of Soles that the southwest corner of room 15 had an opening leading to a terracotta drain preserved in the road west of the room.<sup>71</sup> That this feature continues into room 16, and perhaps room 17, could indicate that it was used for draining these spaces.<sup>72</sup>

After the walls of room 15 were constructed, a series of fill layers consisting of soft, loose soil were dumped onto the plaster floors. Finds of conical cups and cups decorated with tortoise shell ripple design, datable to LM IA, provide a terminus ante quem for the construction of room 15. From these layers came an ingot fragment of tin (Fig. 26, bottom right), similar to a tin ingot from Mochlos.<sup>73</sup> Overlying these fills were several collapse levels. These comprised soft, loose soil, large chunks of faced mudbrick, wall and floor plaster, a few pieces of pumice, and small patches of burned soil, all of which was concentrated in the eastern part of the room. Most of the pottery in these layers was fine ware, including conical cups and cups with spiral decoration; also found were a large pithos rim, obsidian blades, and two bronze rivets. The latest pottery dated to LM IA, suggesting that the collapse occurred during that period. Only a few small patches of burned soil were found, so perhaps the destruction was due to an earthquake. Around the same time there was also a deliberate attempt

70. Boyd 1904–1905.

71. Soles 1991, pp. 50–52.

72. Similar drainage systems existed at Knossos (Evans 1921, pp. 225–226), where several smaller drains in different parts of the palace connected to larger main channels.

73. Soles 2008, p. 153; this piece is similar to the later tin ingots from the Uluburun shipwreck; see Pulak 2000, pp. 150–153.



Figure 26. Metal slag and ingots from the palace, rooms 15 and 16 (above: copper ingots 12.124, 12.061, 12.127, 12.025; below: copper ingot 12.126, iron slags 12.060 and 12.036, tin ingot 12.254). Scale 1:3. Photo C. Papanikolopoulos

to block the drain in the southeast corner of the room. It was packed with debris, including angular stones and a large fragment of floor plaster. A similar blockage was visible in the southeast corner of room 16, which suggested that the drain was no longer in use.

Above these collapse levels was a series of fills that supported the LM IB stone-paved floor cleared by Boyd Hawes. Along the western wall a stone bench ran level with this surface. The floor level in room 15 was lower than those in adjacent rooms, suggesting that the space was cleared of debris before the floor was laid down. This clearing appears to have eliminated many of the LM IB levels. Perhaps contemporary with this LM IB floor was a hollow semicircle of fire-hardened clay (probably for a column base) sitting on top of the northern end of the MM III wall.

## Room 16

Room 16 is a rectangular space situated between room 15 to the west and Room 17 to the east. A small recess was built into the west wall in the northwest corner of the room. As in room 15, Boyd Hawes stopped her excavations at the level of an LM IB stone-paved floor. Pavers from this floor were still in situ in the northeast corner. Construction of room 16 followed a sequence similar to that of room 15. First, the builders erected the north, east, and west walls on bedrock, and set the south wall on top of an earlier cobbled street, incorporating the drain also present in room 15; wooden beams were set into vertical niches in the north, east, and west walls. Next, they dumped in a leveling fill to create a surface of compact earth. Pottery recovered from the fill mostly consisted of LM I coarse wares. Other finds included a spindle whorl, 15 pieces of obsidian, and a fragment from an iron needle. The floor surface was devoid of finds except for the top half of a large ceramic jug.

Overlying the floor was a layer of debris from a fire, including burned soil, carbonized wood, burned mudbrick, and melted plaster. Destruction debris also clogged the opening to the drain in the southwest corner of the room. In the southeast corner the drain appears to have been deliberately blocked with angular stones in similar fashion to room 15. An additional

pile of angular stones in the southwest corner next to the drain may have been an intended blockage of that opening. Pottery recovered from this destruction layer was consistently LM IB. Since the final LM IB destruction level excavated by Boyd Hawes is attested at a higher stratigraphic level in this room, room 16 must have suffered from at least two LM IB destructions.<sup>74</sup> Other finds from the destruction debris included a fragment from an inscribed Linear A tablet, a roundel with Linear A markings, and two nodules (see Figs. 32, 33, 37, 38, below).

Approximately 70 pieces of metal scraps were also recovered from this room (Fig. 26). In her notebooks Boyd Hawes described finding a mass of melted bronze in the recess of room 16 (labeled as room 15 in her text).<sup>75</sup> Our assemblage consisted mainly of copper and copper alloy pieces, including drips, ingot fragments, and broken objects (rivets, handles, strips). Similar collections, identified as foundry hoards, have been recorded at Mochlos.<sup>76</sup> Three iron slag fragments were also recognized, adding, along with the iron needle found in a lower level of the room, to the small corpus of iron objects from Bronze Age Crete.<sup>77</sup> The presence of these metal finds in room 16 indicates that one of its functions was to serve as a storeroom for raw materials associated with metalworking. Room 15 may have served a similar function, based on the finds of the bronze rivets and the tin ingot. The anvil noted in room 14 also points to metalworking associated with this area of the palace.

It is possible that when rooms 15, 16, and perhaps room 17 were first constructed (see below), they were a connected set of storerooms, possibly for the storage of nonperishable goods, such as metals.<sup>78</sup> Room 16 was not cleared of debris following its early LM IB destruction. Rather, a layer of rubble fill, including burned mudbrick and fragments of plaster floor, was deposited in it. This could explain why room 16 alone produced a large quantity of metal objects and two administrative texts. If all three spaces were storerooms, much of the relevant material might have been removed from rooms 15 and 17 when they were cleaned out in LM IB. The fill in room 16 leveled the room for a floor surface of paved limestone slabs. Finds from this fill included a document sealing possibly from Knossos (see below, Fig. 37), a copper alloy knife fragment, and a ceramic vessel decorated with painted double axes (Fig. 27), which is similar to a jar found by Boyd Hawes in room 14.<sup>79</sup> The western wall was remodeled at a later date. This new narrower wall covered the top of the drain in the southwest corner

74. Two stratified LM IB destructions have also been identified at Kato Zakros (Platon 2011, pp. 611–612) and Palaikastro (Hemingway, MacGillivray, and Sackett 2011, p. 530) in eastern Crete. Other sites, such as Mochlos (Brogan, Smith, and Soles 2002, p. 116; Barnard et al. 2003, p. 108; Barnard and Brogan 2011, p. 436), have produced at least two stratified phases of LM IB, even when evidence for destruction is absent. One site in the region of Gournia and Mochlos with

contrasting evidence is Pseira (Betancourt 2011, pp. 408–410), where only one main phase of LM IB, followed by a postdestruction final phase, has been documented.

75. Boyd 1904.

76. Soles 2008, pp. 146–147.

77. Waldbaum (1978, p. 19) catalogues four sites from Bronze Age Crete with finds of iron: (1) cube of worked iron from MM II tomb at Mavrospelio; (2) 20-pound piece of meteoric iron with traces of saw marks

at Ayia Triada; (3) LM I–II decorative nail from Knossos; (4) plain iron ring and ring laminated with gold, bronze, and iron from an LM tomb at Phaistos.

78. A similar group of three connected rooms (XII.1–3), interpreted by van Effenterre (1980, p. 342) as storerooms for textile products, is visible on the eastern side of the central court at the palace at Malia.

79. Boyd Hawes et al. 1908, pp. 44, 60, pl. G:1; Soles 1991, p. 77, no. 5.



Figure 27. LM IB vase (12.460) from the palace, room 16. Photo C. Papanikolopoulos

and restricted the size of the recess, which was converted into a doorway between rooms 15 and 16. Before acting as a doorway, this recess might have held a wooden ladder for entering the room, since it produced large pieces of charcoal.

### Room 17

Room 17 is a small, rectangular space abutting the portico on the northwest corner of the central court. The room shares its western wall with room 16. Boyd Hawes ceased her excavation on reaching an LM IB stone-paved floor. One of these pavers was found in the center of the room. The lowest layer reached in room 17 in 2012 was 0.4 m below the surface; it was hard and compact with a strip of burned soil stretching from east to west. While the burning suggests a fire, no burned mudbrick, burned plaster, ash, charcoal, or other indications of destruction were preserved in overlying levels. Instead, the room seems to have been cleared of all destruction debris, and a series of leveling fills were dumped into the room. Builders first introduced a thin layer of soft, loose soil, followed by a rubble-filled layer comprising mainly fist-sized angular stones. Another thin soil layer was added to create a flat surface. Some scraps of LM IB pottery found just above this surface provide a rough *terminus ante quem* for the remodeling. These fills, which raised the floor level of the room, served two functions. First, they provided a foundation for the paved LM IB stone floor described above; they also acted as a foundation for the north wall of room 17. This wall separated room 17 from a small space to the north, left unlabeled by Boyd Hawes.<sup>80</sup> Two courses of medium-sized, rectangular stones bonded with earth mortar sat on top of the uppermost leveling fill, at the same level as the paved floor. When combined, these two spaces created a room almost identical in size to rooms 15 and 16 to the west. Thus, room 17 was larger when originally constructed and was built with the same floor plan as the other rooms in the Southwest Wing.

Artifacts recovered from the leveling fills consisted mostly of many worn, but restorable, MM III vessels (Fig. 28), including conical cups, Vapheio cups, straight-sided cups, and ledge-rim bowls, as well as red-painted fragments of incense burners, including one miniature version.<sup>81</sup>

80. Boyd Hawes et al. 1908, p. 25, fig. 10.

81. Boyd Hawes et al. (1908, p. 30, no. 47) published one incense burner of the same type.



Figure 28. MM III cups and bowls from the palace, room 17 (back row: 12.1146, 12.092, 12.1114, 12.1123, 12.1128; front row: 12.1130, 12.1152, 12.1149). Scale 1:4. Photo C. Papanikolopoulos and K. Iao

A large, flat ceramic slab with burnished surfaces, evidence of red paint, thick raised edges, and signs of burning might have been a portable hearth. At least five fragmentary plaster tables were found, including examples of both Type A (rounded) and Type B (rectangular) tables based on Shaw's classification of finds from Kommos.<sup>82</sup> A few small LM IB sherds point to the date of deposition. This distinctive deposit likely originated from an accumulation near or in the palace.<sup>83</sup> Its inclusion in LM IB levels could indicate that these fills were acting as refoundation deposits associated with the remodeling of room 17 into two distinct spaces. The MM III material seems to point to activities that occurred in the area of the palace that included ritual drinking.

The remodeling of room 17 might also have served as a reorientation. Soles had speculated that a trapdoor or doorway no longer preserved along the north wall granted access to the room.<sup>84</sup> There is no evidence for either, and another option is that the room was open to the north in its final phase. Directly adjacent to the east wall was a platform with at least one preserved pillar base. The platform and wall are at the same level and may have formed a contiguous surface between room 17 and the public court. While the stone-paved LM IB floor in room 17 is 0.25 m lower than the top of the east wall this would be a modest drop even if some type of step were not in place.

## HOUSE HE

After its final LM IB destruction, the site of Gournia was partly reoccupied.<sup>85</sup> Boyd Hawes noted that, "The greater part of our site was never reoccupied after the Town's sudden demolition at the close of the first Late Minoan period. Only a few scattered dwellings on the old acropolis were in use."<sup>86</sup> Since the date of Gournia has not been established stratigraphically,<sup>87</sup> one of the goals of our investigations was to date the construction of House He, the most prominent LM III building at Gournia (Figs. 1, 29). We excavated the area of House He in trenches 9, 15, 24, and 37. A second goal of our investigation was to explore the relation of the massive thresholds at the entrance to House He.

82. Shaw 2006, pp. 762–764.

83. Schiffer (1987, p. 65) defines such provisional refuse as waste kept for later discard. This deposit lay undisturbed for some time before being used in the remodeling of room 17.

84. Soles 1991, p. 49.

85. This section was written by Panagiota Pantou.

86. Boyd Hawes et al. 1908, p. 23.

87. The LM III settlement is known mostly from scattered finds. An LM III burial was found in E 58. A larnax (Boyd Hawes et al. 1908, pl. X:45), a composite

vessel (Boyd Hawes et al. 1908, pl. X:6), and a figurine (Boyd Hawes et al. 1908, pl. X:11) were also reported. The pyxis (Boyd Hawes et al. 1908, pl. X:5) possibly comes from this context. Evans (1927, p. 139, fig. 70) also shows an LM IIIA1 stand from Gournia.

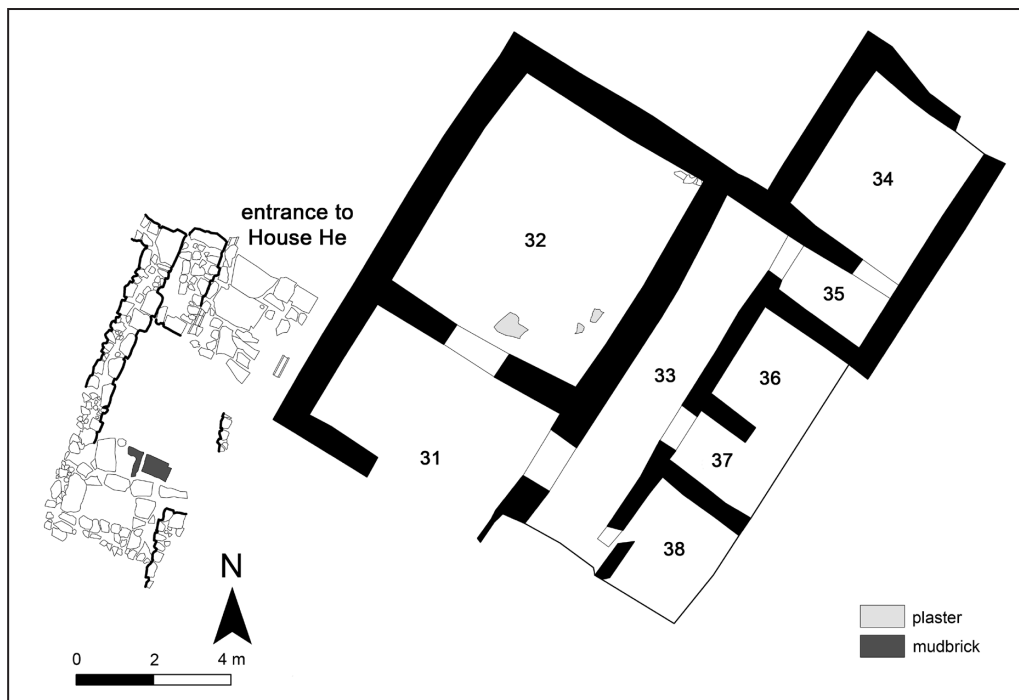


Figure 29. Plan of House He. Solid walls are from Boyd Hawes's 1908 plan. Drawing D. M. Buell and J. McEnroe



Figure 30. Plaster on an LM IIIA floor of House He, room 32. Photo J. Spiller

House He was built near the southwest corner of the public court. First dug by Boyd Hawes, the complex consists of at least eight rooms: a large, two-roomed megaron unit (rooms 32 and 31), a corridor (room 33) providing access to the smaller rooms 34–38. House He can be classified as a typical Mycenaean “corridor-building.”<sup>88</sup> It was laid out with great care in straight lines and with walls built at right angles. The walls of the megaron unit were built of large, partially trimmed boulders laid roughly in courses. Smaller stones were set in the interstices. All doorways had cut limestone or schist thresholds. Timber was used for doorjambs resting on the thresholds. Compacted pebble floors were found in most rooms. Boyd Hawes found that room 32 possessed a plaster floor (Fig. 30). She also uncovered two massive stone entrance thresholds flanking the west side

88. On Mycenaean “corridor buildings” see Pantou 2011. The non-value laden term “corridor building” is preferred here over Hiesel’s (1990, pp. 111–112) *korridorhaus* to avoid the domestic/residential connotation.

Figure 31. LM IIIA pottery from House He (above: 11.406, 11.611, 11.471; center: 11.408, 11.405, 11.404; below: 11.407, 11.612, 11.413). Scale 1:2. Photo C. Papanikolopoulos and K. Iao



of the house. In 1984, Davaras continued the excavation of House He, which had been previously hindered by the deep deposits and boulders in the south part of the building. Davaras opened four trenches south of the porch and uncovered the south wall of rooms 38 and 33, and the south end of the east wall of room 31. This excavation also revealed that the porch (room 31) was bounded on the southwest by an ashlar wall about 2.10 m long.<sup>89</sup> Pottery from his excavation (Fig. 31) provides an early LM IIIA date for the building's construction.

### ROOM 32

Trench 9 was set diagonally into room 32 to find evidence for the construction date of House He, to investigate possible earlier surfaces, and to search for traces of a hearth and/or column bases. Cleaning revealed a few small preserved patches of Boyd Hawes's plastered floor. The matrix of the white plaster contained small blue pebbles of various sizes that had been carefully selected to provide an impression of decoration on the surface.

The packing for the uppermost plaster floor contained a few MM I–LM IIIA sherds, tightly packed chunks of mudbrick, small stones, and a few pieces of painted wall plaster different from Boyd Hawes's floor. Underneath the mudbrick was another layer of pebbles that was carefully laid out with larger pebbles below and progressively smaller ones on the top. In some areas, small pebbles found on the upper surface of this layer were mixed with white plaster. Although pieces of a flat floor surface were not actually found, the traces of white plaster below the mudbrick layer indicated the existence of an earlier surface that might have been destroyed or removed and replaced with the floor found by Boyd Hawes. Underneath these pebbles was a third level of fill containing large stones, pottery, stone tools, mudbrick, bones, seashells, and charcoal. Pottery in this fill ranged from the Prepalatial period to the LM IIIA1, and possibly the LM IIIA2 period. This layer also contained a Knossian clay sealing of the LM I period (see Fig. 36, below). Underneath the fill, near the northeast corner of room 32, bedrock and a hard floor surface with a wall and MM II pottery

89. Boyd Hawes's plan of the site depicts a nonexistent wall stretching along the entire south side of room 31.

were uncovered. In sum, our investigations revealed that two floors existed in room 32, with the earlier room dating to LM IIIA1, or possibly LM IIIA2, when House He was first built. The remodeling of room 32 probably took place within LM IIIA, as no LM IIIB sherds were uncovered.

### ENTRANCE OF HOUSE HE

At the southwest corner of House He, cleaning exposed a monumental entrance with a double stone threshold and a stone-paved floor, which had been first exposed by Boyd Hawes.<sup>90</sup> The outer threshold of white limestone was trapezoidal. The saw-cut inner threshold of gray limestone had two pivot holes drilled in its north face. On the west, east, and south of the two large thresholds, a stone-paved floor was uncovered. This entrance was bounded on the west by a wall and on the east by the west facade of House He, rooms 31 and 32. The wall created an interior court at the southwest corner of House He. Water channels ran along the east and west side of the doorway. The court had no proper floor surface; instead, we found a layer of packed brown earth on top of mudbrick chunks and stones, which can be dated to LM IIIA. Below the stone pavers were traces of a plastered floor.

Below this level a large concentration of sherds, loose soil, small stones, bones, and broken stone tools was interpreted as a waste pit. LM IIIA sherds from the pit suggest that the plastered floor was contemporary with House He. Thick stone slabs were placed next to the thresholds, but further south mudbricks and stones were used as a leveling course for the upper packed-earth floor. This evidence reflects two architectural/occupational phases in the area southwest of House He. In the first phase, the area would have been an open space with a plastered floor. In the second phase, an interior court would have been entered from the north through a monumental entrance and bounded on the west by a wall. It is likely that these phases correspond to the two architectural phases observed in room 32.

Further excavation in the courtyard revealed two preserved mudbrick slabs, placed side by side, which formed a low bench at its south end, while behind them a low wall marked its south edge. To the west of the west wall there was a huge pile of rocks, the latest material from which was dated to LM I. To the south of the court, a clay floor surface with a pebble bedding produced a complete LM IB ogival cup.

### ROOM 31

The ashlar spur wall at the southwest corner of room 31 abutted the west wall and used a different masonry from the other walls of the megaron unit and House He. The absence of a similar spur wall on the east side of the porch also suggested that this wall was part of remodeling rather than being part of the original plan. The small wall was built with poros ashlar blocks, presumably quarried from the Minoan palace.<sup>91</sup> It was also built in the typical Minoan fashion with different exterior and interior faces (ashlar on the south and rubble on the north).<sup>92</sup> Investigations in room 31 did not reveal evidence of a plastered floor; rather, we found a hard

90. Recently, Cucuzza and Hellner (2009) identified an LM IIIA monumental entranceway (propylon) at Ayia Triada. Unlike Gournia, the LM IIIA entranceway at Ayia Triada provided access to a large public space (the Piazzalle) and the entrance was marked by a row of four stones forming some sort of a threshold.

91. This wall was uncovered during Davaras's excavation (1973). Boyd Hawes's plan of the site incorrectly depicts a wall stretching along the entire south side of room 31.

92. See Nelson 2007, p. 159.



surface of clayey earth and small patches of pebbles scattered throughout the porch.

The function of House He is difficult to establish on the basis of architectural evidence alone. During the first architectural phase, accommodating group gatherings could have been one primary purpose. Architecturally, this is suggested by the size and accessibility of the structure, the spacious room 32, the open porch (room 31), and the paved area southwest of the megaron unit, all of which were suitable for large-scale social interaction and communal ceremonial activities. In this period, House He may have played an important role in the organization of the new LM IIIA community. House He seems to have been remodeled later in LM IIIA to include the interior of room 32 and the construction of an exterior entrance and a paved court. The addition of the ashlar wall in room 31 could have been part of the same remodeling. Such architectural changes appeared to monumentalize House He and so reduce its accessibility.

In the second architectural phase, House He shifted from a shared administrative/ceremonial center to something closer to a “palace” through a series of exclusionary architectural strategies.<sup>93</sup> In this phase, the exterior and interior boundaries of House He were defined. The ashlar wall in the porch seems to have been part of the remodeling in the second occupational phase of the “Minoanized” House He. The “Minoan” style ashlar wall was placed strategically for maximum visual impact at the entrance of the megaron unit.<sup>94</sup> A horns of consecration made of stone found by Boyd Hawes in room 34 also points to the elite status of House He during the second architectural phase.<sup>95</sup>

Published finds from the latest floor deposit in House He are consistent with assemblages from elite houses of the time and reflect industrial, storage, and trading activities associated with wine and/or olive oil. Boyd Hawes, Kanta, and Fotou have additionally reported a total of four stirrup vases, a transport amphora, and a small bull figurine outside the north facade.<sup>96</sup>

## ADMINISTRATIVE FINDS

This section presents the administrative objects, Linear A tablet, sealstones, seal impressions, and other inscriptions found during the excavation.<sup>97</sup> *CMS* and *GORILA* formats are followed here.

### INSCRIPTIONS

1 GO 2, fragment of a Linear A page tablet<sup>98</sup>

Fig. 32

12.174, from palace room 16, LM IB context.  
H. 0.027; W. 0.029; Th. 0.004 m.

93. On exclusionary architectural strategies, see Blanton 1998, p. 160.

94. For the symbolic significance of this ashlar in Mycenaean-style architecture, see D’Agata and Moody 2005.

95. Boyd Hawes et al. 1908, p. 48;

Fotou 1993, p. 96.

96. Boyd Hawes et al. 1908, p. 23, pl. X; Kanta 1980, pp. 139–140; Fotou 1993, pp. 95–96.

97. This section was written by John Younger.

98. I wish to thank Jean-Pierre Olivier and Maurizio Del Frio for their insightful comments on the Gournia tablet. All references to Linear A material may be found in Younger 2000.

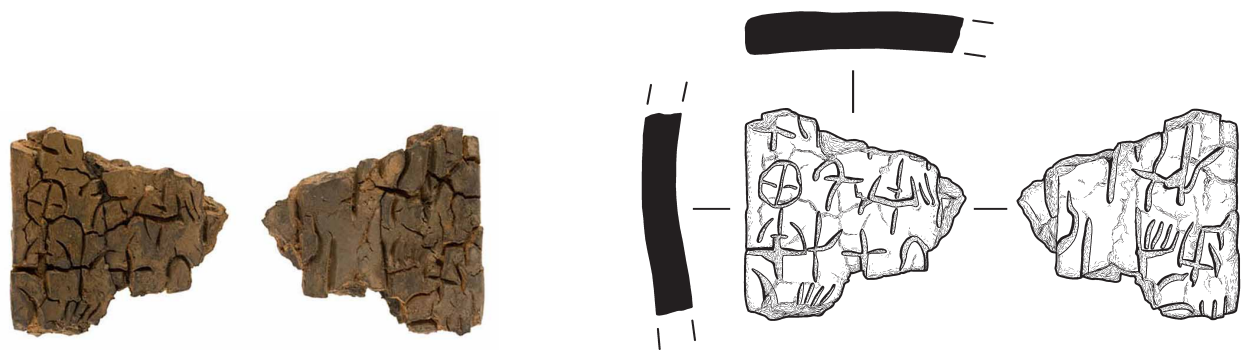


Figure 32. Linear A tablet 1, recto and verso, from the palace, room 16. Scale 1:1. Photos C. Papanikolopoulos; drawing D. Faulmann

Red-brown clay, badly burned, and deeply cracked.  
The tablet is unlined, its recto left edge is smoothed, and it is inscribed on both sides (opisthographic).

## RECTO

*sup. mut.*

r01.	041[	SI[
r02.	077 A705 041 2 001[	KA F SI 2 DA[
r03.	041-001-002 A704[	SI-DA-RO E[
r04.	•-009[	•-SE[

*inf. mut.*

r01: perhaps RQ[; SI on line 2 makes the horizontal elements with one stroke  
r02: perhaps KA-A021<sup>f</sup>-SI-DA[ or KA-QI<sup>f</sup>-SI-DA[  
r03: perhaps SI-DA-RO-KQ[  
r04: perhaps DA-SE[ or RO-SE[

## VERSO

*sup. mut.*

v01.	] 1 A705 001	] 1 F DA
v02.	]Q27 1 vac. 009-041	]RE 1 vac. SE-SI
v03.	vest.	vest.

*inf. mut.*

v01: perhaps ]--ZA-SA  
v02: perhaps ]RE--SE-SI  
v03: perhaps ]23[

The normalized tablet could read:<sup>99</sup>

Line	Statement	RECTO Logogram	Number	Fraction
<i>sup. mut.</i>				
r01.		SI[		
r02.		KA		F
r02.		SI	2	
r02.		DA[		
r03.	SI-DA-RO			E[
r04.	•-SE[			
<i>inf. mut.</i>				

99. The process of normalizing a typical Linear A tablet involves transcribing its text to look like the itemized lists of typical Linear B tablets, with the information that appears on the Linear A tablet in continuous text broken into separate lines containing, in separate columns, names (of persons or places), commodities (usually as logograms), and quantities. Godart and Olivier (1976–1985) first present photographs of the tablets, then facsimile drawings, and then normalized drawings—they do not give numerical or phonetic transcriptions of the signs.

		VERSO		
Line	Statement	Logogram	Number	Fraction
<i>sup. mut.</i>				
v01.		]	1	F
v01.–v02.		DA[		
v02.		RE	1[ ]	
v02.	SE-SI[			
v03.	<i>vest.</i>			
<i>inf. mut.</i>				

This normalization, while perhaps making the text too comprehensible, at least serves to interpret it as a typical Linear A text<sup>100</sup>—if we do not recognize numbers or fractions we would see this text as one of a rare group of texts that lists just sign groups.<sup>101</sup>

r01, 02: SI is used alone in the company of \*303, a grain (KH 7b.3, 22.2, 76.1), and as a ligature OVIS+SI (ZA 9.2–5). Schoep<sup>102</sup> suggests that OVIS+SI and SUS+SI are abbreviated ligatures for ANIMAL+SI-A<sub>2</sub>-RO (*si-a<sub>2</sub>-ro* in Linear B, as on, e.g., PY Cn 608; Greek σίαλος, a fat hog; cf. my commentary to PH? 31),<sup>103</sup> meaning an animal for “fattening.” The logogram SI in conjunction with \*303, a grain, then make sense: \*303 perhaps being a fodder used in the fattening of animals.

r02: KA occurs frequently in the ligature VIR+KA<sup>104</sup> and might designate women in personnel tablets (HT 28a.4, 88.1, 97a.1, 100.1; cf. HT 11b.2, 85b.3, 93a.9, 140.4, Wa 1322–1470, Wc <3018>a). KA also appears in a variety of other ligatures (e.g., JA+KA on HT 24b.2, E+KA on HT 33.3 and 34.7, KA+A on HT 38.2–3, \*118+KA on HT 140.2); and it occurs once ligatured to SI (SI+KA or KA+SI on KH Wa 1027, 1028). Perhaps KA primarily designates females, either workers in the personnel tablets or animals “to be fattened,” KA+SI.

r02, v01: DA appears by itself on a variety of objects (HT Wa 1031 sealing, Zb 162bis sherd, and Zf 163, 164, and 168 oxhide ingots), while ligatured GRA+DA is found on HT 133, \*330+DA appears on HT 22.2 (perhaps another grain or foodstuff, since HT 22.1 ligatures GRA+L2), and DA+KA appears on HT Wa 1001–1005. Again, DA may refer to food (as in rations) or to a weight (as on the ingots). The other occurrences of ligatured DA provide few clues as to its meaning: HT 22.2: \*330+DA;<sup>105</sup> HT 93a.1–2: DA+RE+SE 43J; HT 127a.3: ]\*304+PA-DA-\*47-KU[ 1. The fraction F is 1/4.

r02: SI-DA-RO, *hapax legomenon*. SI-DA-RE occurs on HT 17.3, connected with VIN, and on HT 122a.5 in a list of personnel. The area around Cape Sidero (also spelled Sidaro), the extreme northeastern tip of Crete, is a tempting identification, even if it was a pre-Hellenic place name, but it is doubtful that Gournia would be auditing disbursements so far away. The fraction E is 1/4.

v02: RE occurs most coherently with whole numbers referring to people<sup>106</sup> and alongside comestibles like VIN and GRA (HT 27a.2 and b.2, 5, 6) and \*304 (HT 41a.3). Otherwise, it occurs in the ligature RE+SA and DA-RE+SA on HT 93 and in the complicated ligature Q<sub>A</sub>+[\*?]+PU+RE (with or without the PU) on HT 12.6, 23a and b, 32.1–2, 34.3, 45b, and 60.2.

100. To GO 2, compare HT 27, 51, 94, 100, and 110b, KH 8 and 11, and ZA 11a for their mix of names, logograms of simple syllabograms, numbers, and fractions.

101. Compare the two fragmentary tablets from Khania KH 79+89 and 98 with PH? 6.

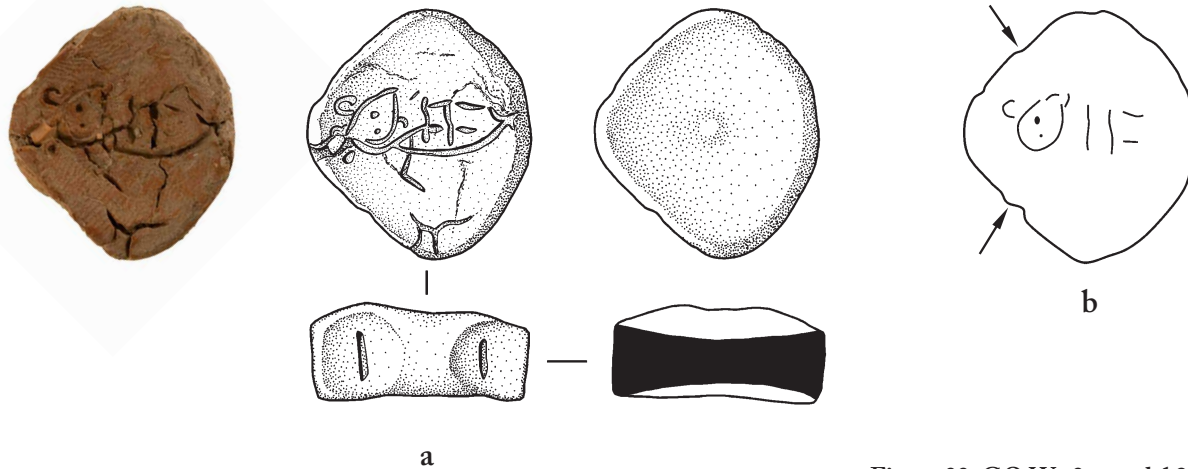
102. Schoep 2002, p. 120.

103. Younger 2000, *misctexts.html*, s.v. PH? 3.

104. Schoep 2002, p. 113.

105. Schoep 2002, p. 137.

106. Valério 2007.



v02: SE-SI occurs in ligature, SE+SI or SI+SE, on HT 42[+]59.1 (as a heading, preceding TE OLE), HT 99b.1 (heading, preceding FIC), HT 116a.3 (preceding GRA), and HT We 1021a. It could be a transaction word. From Palaikastro, a sherd gives SE-SI-ṬA[ on PK Zb 19; if -ṬA is related to -TE, the inscription could read “from/of” SE-SI.<sup>107</sup> Compare, then, the Petras document that gives U-KA-RE A-SE-SI-NA as a heading to PE 1.1–2; if the prefix A- also denotes “from,”<sup>108</sup> this heading could read “Ukare from Sesi.” The rest of the tablet then lists two contributions (from KU-PA-RI and E-KE[) of VIR and GRA+PA, presumably rations in a ratio of 2:1 under the primary responsibility of the heading (“Ukare from Sesi?”). Given the relative proximity of the two sites Petras and Palaikastro to Gournia, it may be no coincidence that SE-SI occurs on three documents from this general area. A place name SE-SI is not impossible: there is a Classical Sesi near Marathon in Attica and a Late Bronze Age Sisi east of Malia (currently being excavated by Jan Driessen).<sup>109</sup>

A general interpretation of the Gournia tablet would thus have it concern small quantities of comestibles for people and animals (fodder for fattening?) being listed against places in the region, including SI-DA-RO on the recto and SE-SI on the verso. Because of the small quantities it is possible that the tablet concerns disbursements from the Gournia palace out to the places listed.

## 2 GO Wc 3, disk roundel<sup>110</sup>

Fig. 33

12.183, from palace room 16, LM IB context.

H. 0.020; W. 0.023; Th 0.007 m.

Buff clay, probably local, badly burned and deeply cracked.

Inscribed on one face only.

Two impressions on the rim were made by one cushion seal (L. 0.013, W. 0.009 m); each impression is countermarked with a short vertical stroke (the number 1?).

RECTO

logogram 2 (20)

VERSO

*vacat*

Figure 33. GO Wc 3 roundel 2 from the palace, room 16: (a) recto and rendering of all faces; (b) sketch of logogram, with arrows indicating where the impressions are located on the rim. Scale 3:2. (a) Photo C. Papanikolopoulos; drawing D. Faulmann; (b) drawing J. Younger

107. Valério 2007.

108. Schoep 2002, p. 132.

109. Driessen et al. 2009.

110. I wish to thank Erik Hallager for his insightful comments on this Gournia roundel. GO Wc 1 from house Cf room 25 (Younger 2000, /misc texts.html) is much larger, inscribed on both sides, and of dark gray clay, probably also local. If GO Wc 1 is of local clay, then it may have recorded commodities going out, in this case five bulls, under the supervision of one individual, perhaps the resident of the house.

The roundel belongs to Hallager's small class.<sup>111</sup> The inscription was written across the face of the roundel; the two seal impressions pinched the roundel at the left side, top and bottom, giving it a point there. While most roundels orient the inscription upright to the point between the two seal impressions (cf. KH Wc 2018),<sup>112</sup> a few have the inscription as it is here, with the point to the left (cf. KH Wc 2066).<sup>113</sup>

The two seal impressions are nearly illegible but they may preserve the raised hindquarters of a quadruped running right (cf. *CMS* XII, no. 15D). Microscopic inspection reveals the same cushion seal made the two impressions; thus, one person would have been responsible for the removal of the commodity denoted by the logogram.

The logogram is new to the Linear A corpus: a circle, drawn counterclockwise from the top ending in a divot of clay, and two dots inside, one above the other. To the right of the logogram are two vertical strokes, the number 2, complementing the two seal impressions and the two countermarks, if they each represent the numeral 1.<sup>114</sup> There are also two, apparently deliberate, short horizontal strokes farther to the right, which would otherwise be interpreted as the number 20.

The two sets of numbers may explain the logogram. The circle with two dots looks similar to Cretan Hieroglyphic signs \*074 (with two internal dots) and \*075 (with three dots) on Knossos bar #053;<sup>115</sup> there, the two signs obviously function as collectives for 20 and 30 commodities, apparently BOS (bovines). If the circle with two dots on GO Wc 3 is also a collective, i.e., 20, that would explain the added two horizontal strokes, clarifying that the two vertical strokes refer to the two dots in the circle, but since these are actually tens, the scribe added the two horizontal strokes to refer to the collective 20. What the actual commodity might have been is not known, but bovines (as on GO Wc 1) would again be appropriate.

The two impressions are each countermarked by a short vertical slash, probably the number 1. Such countermarks over inscriptions are rare.<sup>116</sup> Most similar to GO Wc 3 is the roundel from Pyrgos (PYR Wc 4) that is inscribed with a unique logogram (perhaps a doubled version of the Linear B logogram for gold, AURUM), and impressed five times with two seals on the rim, each impression countermarked with a short vertical stroke. More distant are sealings from Kato Zakros (in an LM IB context) that have a long slash over their impression: *CMS* II.7, no. 103 on HMs 67/1–16 and no. 237 on HMs 67/1–6 and 9–15.<sup>117</sup> It is possible, therefore, that countermarking seal impressions on roundels with the number 1 might be a practice peculiar to east Crete.

111. Hallager 1996, vol. 1, pp. 87–88.

112. Hallager 1996, vol. 2, p. 57.

113. Hallager 1996, vol. 2, p. 104.

114. Hallager 1996, vol. 1, pp. 100–101, 229.

115. The inscription is given at Younger 2005, /KNtexts.html (update 22 December 2011, accessed 20 December 2012).

116. I am grateful to Judith Weingarten for drawing my attention to this connection between numbers and impressions on roundels.

117. And even more distant are sealings that have a fraction written over their seal impression: JE ( $\frac{3}{4}$ ) on HT We 1021, and E ( $\frac{1}{4}$ ) on HT We 1020, 1023, and 1024. Compare two

roundels that also carry fractions: HT Wc 3001 incised with PA-SE-JA on one side and impressed three times (*CMS* II.6, no. 142), with the fraction J incised over only one of those impressions (=  $3\frac{1}{2}$ ?); and HT Wc 3019 incised with TELA<sup>3</sup> on one face and E ( $\frac{1}{4}$ ) on the other face and impressed three times on the rim (=  $3\frac{1}{4}$ ?).

Roundels are receipts kept in an administration building to document an object or commodity that has left the building under the supervision of people who are responsible for the safe delivery of the object and, if relevant, its return.<sup>118</sup> The number of seal impressions on the rim corresponds to the number of objects leaving the building, while the seal impressions themselves correspond to the individuals in charge of the objects.

Thus GO Wc 3 would refer to two individual items or 20 items in two sets leaving the jurisdiction of Gournia under the supervision of one individual.

## SEALSTONES

The two seals catalogued here add to the corpus of 19 seals found previously at Gournia.<sup>119</sup>

- 3 Stamp seal with flanged handle (“hammerhead” signet) Fig. 34  
11.138, from the Southeast Building, later floor deposit, MM IIB context.  
H. 0.025; Diam. 0.024–0.026 m.  
Buff to light red-brown clay, moderately levigated.  
Motif: from the impression, a spiral retorts back on itself to form a simple maze.

The “hammerhead signet” is a rare shape, almost exclusively of dentine, dating to the Early Minoan period.<sup>120</sup> In the Middle Bronze Age, clay seals were rare on the mainland,<sup>121</sup> and nonexistent in Middle Minoan Crete—except at Gournia, which has produced four clay stamps: one curious bell-shaped stamp, one stalk signet, and one unique bifacial disk (*CMS* II.1, nos. 464–466, respectively), plus the present hammerhead signet. Perhaps the existence of clay seals parallels the pottery industry at Gournia. The retorted spiral or maze of the Gournia stamp has few parallels on seals and none is exact or dated to the Middle Bronze Age;<sup>122</sup> the more familiar labyrinth pattern does not occur until the Late Bronze Age.<sup>123</sup>

118. Hallager 1996, vol. 1, p. 117.

119. Other seals excavated from Gournia or Sphoungaras by Boyd Hawes are as follows:

MM I–II: *CMS* II.1, nos. 465 (clay stamp: rosette, findspot unknown), 466 (clay disk with stringhole parallel to the vertical line on side a: lines and dots and encircled cross and dots, from “early” house D2; Anastasiadou [2011, p. 143, “stamp cylinder”] relates it to her MM II group Platanos Prism with the Cable Devices; cf. the stamp from Ayios Stephanos [see Taylour 1972, p. 243, pl. 51:e, f]), 467 (steatite conoid: wavy lines); *CMS* II.2, nos. 247 (“haematite” [steatite], disk: rosette), 248 (“green jasper,” Petschaft: floral, precise findspot not known), 272 (chance find; three-sided prism by the Malia Workshop).

MM III: *CMS* II.1, no. 468 (rock crystal conoid said to be from Gournia:

quadruped); *CMS* II.3, nos. 231 (sardonyx three-sided prism, from Palace G3: “Talismanic” class), 232 (sard amygdaloid: “Talismanic” class), 233 (sard amygdaloid: “Talismanic” class), 234 (sard lentoid, House Hb: “Talismanic” class), 235 (rock crystal amygdaloid: double ax).

MM III–LM I: *CMS* II.1, no. 464 (broad clay stamp: three quadrupeds, from the LM I house Fh; this is a unique piece—note how the face seems to be added to the conoid stamp; D-stringhole; Pini 1984, pp. 75–76); *CMS* II.3, no. 238 (basalt cushion, unfinished: bull against an architectonic background).

LM I: *CMS* II.1, nos. 236 (serpentine lentoid, excavated 1904: two women process), 237 (green jasper: butterfly and dragonfly); *CMS* II.4, nos. 60 (serpentine lentoid: lion), 61



Figure 34. Stamp seal 3, profile and face, from the late floor of the Southeast Building. Scale 1:1. Photos C. Papanikolopoulos

(serpentine lentoid: griffin), 204 (serpentine lentoid, excavated 1904: woman “carries” quadruped).

120. Yule 1981, pp. 81–82. *CMS* II.1, no. 413 and IV, no. 65 are of steatite.

121. Younger 1992.

122. For example, there are fairly straightforward maze designs on a Neolithic pintadera (*CMS* V, no. 514) and on two EH II seal impressions, a broken maze-like pattern from Ayia Irini, Kea, and an interrupted set of concentric circles from Corinth (*CMS* V, nos. 466 and 502, respectively).

123. A floor fresco from Knossos (Evans 1921, p. 357, fig. 256); a grafitto on the reverse of Pylos tablet CN 1287 (Blegen and Lang 1958, pp. 183, 190, pl. 46); and a Minoanizing wall fresco from Tell el-Daba (Bietak, Marinatos, and Palyvou 2007, pp. 43, 56–59, figs. 36, 59A, B, 60).

Figure 35. Lentoid seal 4 from the Pit House: (left) seal; (right) sealing. Scale 3:2. Photos C. Papanikolopoulos



#### 4 Lentoid seal

10.452, from the Pit House, northeast corner, chance find.

Diam. 0.019; Th. 0.007 m.

Red-brown limestone.

Stringhole horizontal.

Goat stands left in Pose Type 1A,<sup>124</sup> with double jagged horns. In front, a vertical line; below, a large dot above a smaller one: animal face or simple bucranium without horns.

Horizontal stringholes can signify special qualities for seals,<sup>125</sup> but a good parallel for the seal in shape, material, motif, and style comes from Episkopi Pediados (*CMS* II.4, no. 21, MM III–LM I context), and it too has a horizontal stringhole.

Style: Cretan Popular Group (LM I).<sup>126</sup>

Fig. 35

### SEAL IMPRESSIONS

Our seal impressions add to the large number of impressions already known from Gournia.<sup>127</sup>

#### 5 Conical, or dome-shaped, *nodulus*<sup>128</sup>

11.090, from floor fill of House He, room 32, LM III context.

H. 0.018; Diam. face 0.018; Diam. seal 0.017 m.

Fired, dark brown, finely levigated clay.

Impression of a lentoid seal of hard stone: two bulls addorsed run in Pose Type 36 clockwise, their heads stretched forward, bellowing.<sup>129</sup> For the composition,

Fig. 36

Figure 36. Conical *nodulus* 5, face and profile, from House He, room 32. Scale 3:2. Photos C. Papanikolopoulos



124. Younger 1988, pp. 1, 4–15.  
125. Younger 1977.  
126. Younger 1983.  
127. The following seal impressions were also excavated at Gournia by Boyd Hawes: *CMS* II.6, nos. 155 (pierced conoid sealing: dolphins impressed by a dentine stamp seal [EM III–MM I], Sphoungaras Deposit A, MM III), 156 (*nodulus* impressed by a serpentine amygdaloid prism[?], Sphoungaras: dotted circles, LM I), 157 (flat-based nodule impressed by

an amygdaloid, from palace magazine 4: “Talismanic” class, MM III–LM I), 158 (eight *noduli* impressed by an amygdaloid, House Fg. 30: agrimi, MM III), 159 (roundel impressed five times by a lentoid, from palace magazine 4: quadruped, LM I), 160 (three *noduli* impressed by a lentoid, one from palace magazine 3, another from the street west of the palace: lion, LM I), 161 (*nodulus* impressed by a gold ring, from palace magazine 3?: bull-leaping [the same ring

also impressed *CMS* II.6, no. 43 from Ayia Triada, 259 from Sklavokambos, and 7, no. 39 from Kato Zakros]), 162 (flat-based nodule, probably of Knossian clay, impressed by a gold ring, from palace magazine 3: bull-leaping [the same ring also impressed *CMS* II.6, no. 44 from Ayia Triada and 255 from Sklavokambos]).

128. For a general account of *noduli*, see Hallager 1996, vol. 1, pp. 121–133.

129. Younger 1988, pp. 2, 96–98.

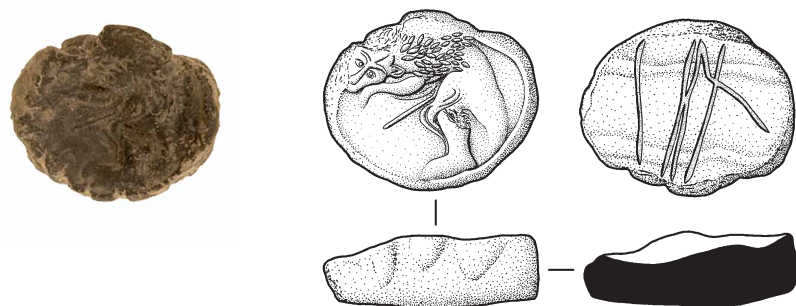


Figure 37. Flat-based nodule 6 from the palace, room 16. Scale 3:2. Photo C. Papanikolopoulos; drawing D. Faulmann

cf. *CMS* II.8, nos. 522, 523, 525, all from Knossos, and the lentoid *CMS* I, no. 53 from Mycenae ChT 10.

The surface of the *nodulus* shows the imprint of fingerprints. The shape of the *nodulus* derives from the way it was held when the seal was making its impression. The fine, dark brown clay almost certainly is Knossian (*CMS* II.8, p. 94–100, probably belonging to group A1).

The seal that impressed the *nodulus* was palatial in quality. The style of the engraving is in transition from Almond Eyes to Dot Eyes (LM I–II).<sup>130</sup> One bull (the top bull in Figure 36) has an almond-shaped eye, while the other bull has a large dot-eye. Both bulls also have a shallow but large dot on the jaw (“Mumps,” a distinctive feature of Almond- and Dot-Eye seals). Compare *CMS* I, no. 140 from Mycenae T. 515, LH IIB context.

*Noduli* are not sealings since they are not attached to anything. Instead, they are more likely to represent receipts for commodities delivered to the administration by individuals who kept the receipts, many of which are found in private houses, like the eight *noduli* found in Gournia House Fg.

6 Flat-based, recumbent nodule of Class V<sup>131</sup> Fig. 37

12.184, from palace room 16, LM I context.

W. 0.016; L. 0.018; Th. 0.006; Diam. lentoid 0.016 m.

Fired, dark red-brown, finely levigated clay (Knossian?).

Impression of a lentoid of hard stone, probably close to or in the Mycenae-Vapheio Lion group, LM I:<sup>132</sup> lion in Pose Type 12, recumbent to left, head between outstretched forelegs,<sup>133</sup> hind leg up to scratch out the spear in the animal’s belly/chest. For an almost exact parallel but reversed, see *CMS* I, no. 248, fig. 57, a lentoid from the Vapheio Tholos cist (LH IIA context): the lion is facing right with two arrows in its flank and small dots for vegetation.

Reverse shows the imprint of the parchment or leather document that was folded up (probably no more than four folds) and tied with thread. The seal impression is oriented so that its scene is upright to the document’s width.

Flat-based nodules are thought to have sealed small parchment or leather documents. Since they are often found together with one-hole hanging nodules (see 7, below) and occasionally with tablets (see 1, above), they too may have secured written documents, though of some other medium (papyrus?).

7 One-hole hanging pendant nodule<sup>134</sup> Fig. 38

12.002, from palace room 16, LM I context.

L. 0.025; L. of seal 0.014; Th. 0.0125; W. 0.009 m.

Fired, dark brown, finely levigated clay.

Impression of an amygdaloid seal of hard stone (amethyst?), close to the Kamilari Agrimi group, MM III.<sup>135</sup> Part of the string on which the seal was strung imprinted the sealing on the right.

Short-horned caprid walks right, regardant, short dashes (vegetation?) surround the scene.

130. Younger 1985, 1989.

131. Hallager 1996, vol. 1, pp. 135–158.

132. Younger 1978; 1984, esp. pp. 46–48.

133. Younger 1988, pp. 1, 58–60.

134. Hallager 1996, vol. 1, pp. 159–199.

135. Younger 1993, pp. 166–167.



Figure 38. One-hole hanging nodule 7, face and back, from the palace, room 16. Scale 3:2. Photos C. Papanikolopoulos



Reverse shows a palm print.

One- and two-hole nodules occur at few sites (Ayia Triada with the most has 957, Zakros has 60, Knossos has produced at least 18, Phaistos five, and Tyllissos one). They are thought to have “sealed” a knot tied at the end of a string that secured “small-sized high-value goods.” Since they are often found with flat-based sealings, which sealed written documents, and occasionally with tablets, one-hole nodules may also have secured written documents (e.g., papyrus documents sealed by similar nodules in Egypt).<sup>136</sup> The Gournia sealing is the largest known pendant one-hole nodule, similar in size to two-hole nodules from Zakros. Like other hanging nodules it was cut off from whatever it sealed and brought into the archive in the Gournia palace.

## INSCRIPTIONS ON MISCELLANEOUS OBJECTS

### 8 Large bowl Fig. 39

11.872 from Southeast Building, annex, MM IB–MM II context.

L. 0.121; W. 0.115; Th. 0.0014 m.

Fragment of shoulder. Dark, gray-black clay.

If the rim is placed on its left side, we see a sgraffitto.

The lower sign may be Linear A \*318. Compare its appearance on PH 8b.1 (Fig. 39:b). Here, \*318 is in ligature with another sign that consists primarily of a vertical line. A break across the top right of the tablet obscures the top part of the ligatured sign.

Linear A sign \*318 appears seldom but mostly as an adjunct, modifying another sign, either \*305 (HT 45a3 and b3) or \*306 (HT 94a4). The second sign is not preserved on HT 126a.1.

### 9 Miniature juglet Fig. 40

11.759 from Northeast Area, LM I context.

H. 0.027; W. 0.028; Diam. base 0.020 m.

Two vertical handles, now missing. Handmade; buff clay.

On one side, two signs can be made out in brown wash.

If this is Linear A,<sup>137</sup> the upper sign may be \*302, a type of grain, the lower sign may be \*067 KI, as the ligature \*302+\*067 is somewhat common, being numbered separately by *GORILA*: \*617–\*620. Compare the ligature’s appearance on HT 44a.2.

### 10 Hole-mouth jar Fig. 41

10.451 from room 2, Pit House, LM I context.

L. 0.112; W. 0.075 m.

Two joining body sherds. The sign (three strokes that meet below at a single point, like three fingers) is at the top left edge. If the sign belongs to Linear A, it could be sign 69 TU, missing its top horizontal and central vertical stroke (Fig. 41:b, left). Linear A 69, however, is generally small in comparison to other signs around it and low down, and, when inscribed on vessels, always has curvilinear outer sides that reveal its origin as a depiction of an ivy leaf (*vel sim.*). If the context of the vase is disregarded, however, the sign most resembles Hieroglyphic sign 31

136. Hallager 1996, vol. 1, pp. 197–198.

137. A remote alternative is a variant on Hieroglyphic sign \*027, a single branch. Note its similar appearance on *CHIC* 319, an incised pithos lid.

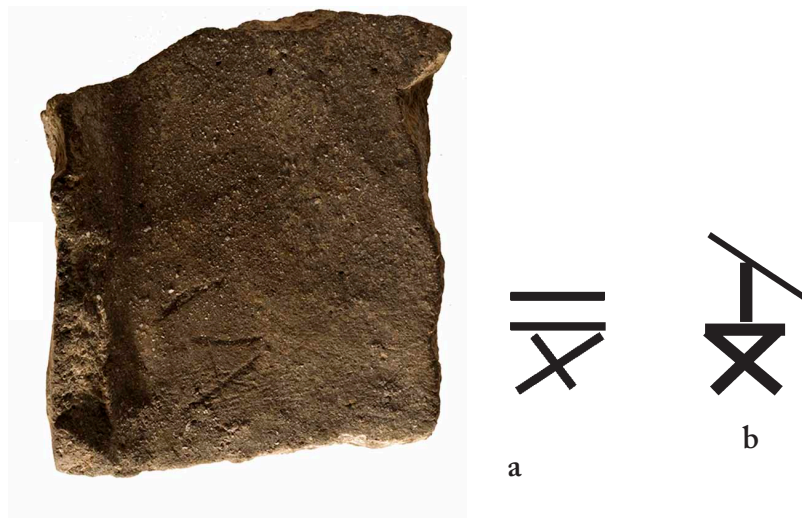


Figure 39. (a) Sign on fragment of large bowl 8 from the annex of the Southeast Building; (b) Linear A sign on PH 8b.1. Scale (a, photo) 1:2; (b) not to scale. (a) Photo C. Papanikolopoulos; (a, b) drawings J. Younger



Figure 40. (a) Miniature juglet 9 with Linear A from the Northeast Area, midden; (b) ligature sign HT 44a.2. Scale (a, photo) 2:1; (b) not to scale. (a) Photo C. Papanikolopoulos; (a, b) drawings J. Younger

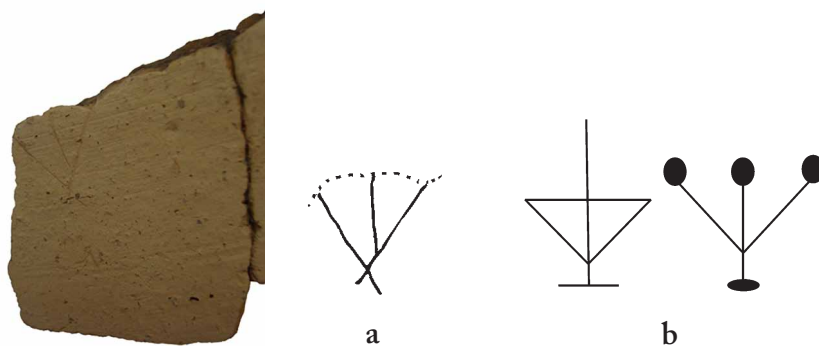


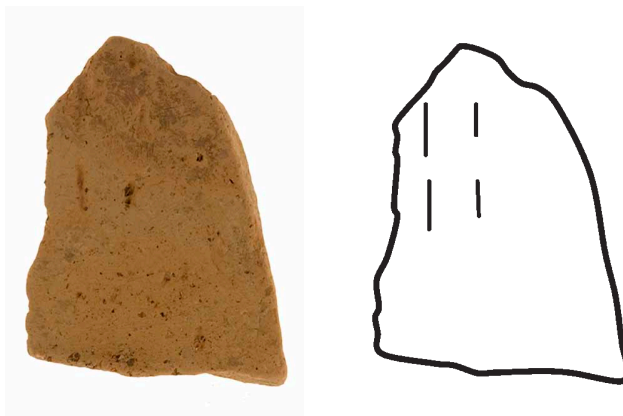
Figure 41. (a) Detail of fragment of hole-mouth jar 10 from the Pit House, room 2, with an incised sign; (b) Linear A sign 69 TU (left) and Hieroglyphic sign 31 (right). Scale (a, photo) 1:2; (b) not to scale. (a) Photo D. M. Buell; (a, b) drawings J. Younger

(Fig. 41:b, right) probably *RE*, which occurs inscribed on two documents exactly as we see it on the Gournia jar: *CHIC* #32 from Knossos and #80 from Malia. The sign could also be a simple pot mark, a variation on the common arrow. The placement of the mark, on the side of the pot, is common in MM II–LM I Crete.<sup>138</sup>

138. For the shape of the mark, cf. Bikaki 1984, p. 27, pls. 10, 22, V-6 (late Middle Bronze Age); p. 40, pl. 28, VIII-2 (Late Bronze Age), both from Ayia Irini and Kea; see also Bailey

2007, p. 445, no. 001/P170, fig. 10: 15, dated Early Cycladic II. For the location of marks on the sides of pots in Crete, see Bailey 1996, pp. 189, 192, 195, 196.

Figure 42. Sherd 11 from the Northeast Area, midden. Scale 1:1. Photo C. Papanikolopoulos; drawing J. Younger



11 Sherd

Fig. 42

11.882 from the midden, Northeast Area, LM I context.  
H. 0.046; W. 0.035 m.

Two rows of two vertical strokes each may constitute a number in Linear A: ]4, perhaps 6 or, better, 8 or 9.

The signs could also be simple pot marks.<sup>139</sup>

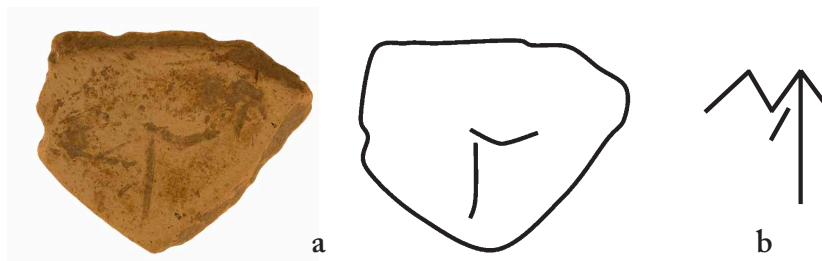
12 Fragment of a bowl

Fig. 43

12.175 from Northwest Building, MM IB–LM I context.  
H. 0.030; W. 0.037 m.

The sign looks like a simple, though reversed, form of AB 22. It is probably a pot mark.

Figure 43. (a) Fragment of bowl 12 from the Northwest Area, Northwest Building; (b) sign AB 22 PI<sub>2</sub>. Scale (a) 1:1; (b) not to scale. (a) Photo C. Papanikolopoulos; (a, b) drawings J. Younger



## THE PLASTERS

In her excavations, Boyd Hawes observed plaster in a variety of archaeological contexts: in doorjambs, applied as protective coatings over mudbrick and rubble walls, as a component of ceiling/roof construction, and as flooring material in the form of smooth fine plaster and *tarazza* (a mixture of plaster and waterworn pebbles which Boyd Hawes also referred to as “cement” and “concrete”).<sup>140</sup> Plaster was found extensively in the remains of the palace, but as posited by Boyd Hawes, the heat of the destruction fire recon-verted much of it to unslaked lime, which subsequent rain reformed into a “petrified mass” encasing vases, stones, and other materials.<sup>141</sup> No fresco

139. Cf. Bikaki 1984, p. 18, pls. 7, 20, IV-71 from Ayia Irini, Kea, early to middle Middle Bronze Age.

140. Boyd Hawes et al. 1908, p. 24. Boyd Hawes mistakenly believed *tarazza* to be comprised of “unburnt gypsum, pounded and mixed with small

pebbles and ‘Santorini earth.’” For an overview of *tarazza* (Minoan cement) floors, see Shaw 2009, pp. 149–150.

This section was written by Anne Chapin.

141. Boyd Hawes et al. 1908, p. 21. A similar substance was found in the

ruins of Vasiliki, Malia, Kato Zakros, and Phaistos, where the Italian excavators identified it as *calcestruzzo*, a filling material. See Shaw 2009, pp. 155–156, for a review and further references.

decoration was found in the early excavations at Gournia, either figural or decorative, except in room 5 of Building Ha, where faint yellow and red bands were reportedly found in a lustral basin.<sup>142</sup> Elsewhere, Boyd Hawes noted light bluish gray and deep red monochrome plasters, and published drawings of tools used for painting and plastering: a fragment of a clay color box for mixing pigments, a four-legged clay table, a stone palette for grinding colors, and a heavy plasterer's float made of steatite, probably used to polish plaster floors.<sup>143</sup>

The new excavations confirm and clarify much of what Boyd Hawes reported and add further information. Floor, wall, and construction plasters were found at Gournia in Protopalatial, Neopalatial, and LM III contexts. The Protopalatial (MM II) House Aa, situated on the northeast slope (Fig. 1), was partially excavated by Boyd Hawes, who described House Aa as having “thin, firm lime plaster [which] gave an excellent finish to their walls.”<sup>144</sup> Our excavation confirmed the presence of this plaster and additionally identified monochrome red paint on a soft lime plaster with mud backing.

For Neopalatial contexts, Boyd Hawes identified a smooth plaster floor without pebbles laid over earth in hall 21 of the palace and floors made of *tarazza* in two open-air spaces, the public court and the loggia—a north–south corridor adjacent to the Minoan street on the west side of the palace.<sup>145</sup> The new excavations within the palace uncovered fragments of fine *tarazza* paving in the LM IB fill of room 13. The best preserved were flat and even on both upper and lower surfaces, about 4 cm thick, and comprised off-white/pale gray plaster mixed with gray and black waterworn pebbles of uniform size. On the finished surface, plaster was applied flat as a “skim coat” 0.2 cm thick and polished smooth to make an attractive paving; beneath this were preparatory layers of plaster mixed with somewhat larger pebbles. One fragment of *tarazza* features a reverse color scheme—dark gray plaster with tiny white (granular) pebbles, uniform in size and, again, applied in a thin skim coat and polished smooth. A fragment from the adjacent room 14 was more conspicuous in its color contrast: its dark gray plaster skim coat was mixed with bright white pebbles of assorted sizes. The smoothed surface appeared to imitate a variegated stone such as conglomerate or breccia. Room 16 yielded *tarazza* fragments with a layer of mud backing still preserved under the plaster/pebble matrix; other pieces bore impressions of straw from the mudbrick, which has now disappeared. These bits of flooring were similar to fragments found by Evans in open areas of the Knossos palace (especially light wells), and the Caravanserai, where they fell from an upper floor.<sup>146</sup>

The Neopalatial wall plasters were extremely fragmentary, but a variety of colors can be identified from pieces excavated from the south end of the palace (rooms 13–16). In addition to polished, but unpainted, white wall plaster and monochrome bluish gray and red (including a dark “Pompeian red”) reported by Boyd Hawes,<sup>147</sup> fragments were found that were painted Egyptian blue, yellow ochre, black, gray, and brownish tan. Some pieces were highly polished. No figural designs were recognized, but one small fragment from room 13 had gray and white bands defined by impressed string lines. A tiny fragment from room 14 had preserved red, yellow ochre, and white bands separated by impressed string lines. In addition,

142. Boyd Hawes et al. 1908, p. 26; discussed by Soles 2002, p. 125, pl. XXXV:b (in which spirals are added).

143. Boyd Hawes et al. 1908, pp. 21, 32, pl. III:35, 42, 43, 56.

144. Boyd Hawes et al. 1908, p. 21.

145. Boyd Hawes et al. 1908, p. 25.

146. Evans 1927, p. 107, fig. 185.

147. Boyd Hawes et al. 1908, p. 21.



Figure 44. LM IIIA floor plasters from House He. Scale 1:2. Photo C. Papanikolopoulos

the fragments of at least five painted plaster tables—two rectangular and three rounded—were identified in room 17 (see p. 439, above).

An LM IIIA pebble/plaster floor first exposed by Boyd Hawes was found in situ in the megaron of House He (Fig. 30). The floor probably bore a passing resemblance to the fine *tarazza* floors of the Neopalatial era. Like the earlier floors, its surface comprised unpainted lime plaster mixed with pebbles, but the pebbles were more varied in size and were more randomly embedded in the plaster. The plaster layer was significantly thinner and more irregular in its construction than the Neopalatial *tarazzas*.

Four types of floor plaster, all thinner than their Neopalatial counterparts, were identified in the LM IIIA fill underneath the in situ floor of House He. One group of floor plasters, represented by the fragment pictured in Figure 44 (top left) had a smooth, lightly polished light gray surface over a plaster/pebble matrix. A plaster floor painted Egyptian blue was represented by one small fragment (Fig. 44, top right). This piece was recognizable as floor plaster by the pebbles embedded in its underside. Fragments of floor plaster similar to the Neopalatial *tarazzas* have small dark pebbles laid into an unpainted lime plaster surface (Fig. 44, bottom left), but these floor plasters are thinner and less regular in their construction than their Neopalatial counterparts from room 13 of the palace. Finally, fragments of a striking floor plaster with a black surface sprinkled with white calcite granules are represented by Figure 44 (bottom right). Each of these fragments illustrates the variety of decorative floor plasters used in prehistoric Crete.

## THE PLANT REMAINS

The 2010–2012 sampling of organic remains at Gournia was meant first to record the spatial distribution of the plant remains within the site; second, to interpret and compare specific areas and buildings; and third, to identify changing patterns in the data over time that would shed light on the economic and social development of Gournia.<sup>148</sup> Plant remains were recovered using a modified flotation machine and processed using nets with a mesh size of 300  $\mu$ . This preliminary report is based on approximately half of the samples collected during 2010–2012. Species identification was carried out using the reference collection housed at the INSTAP East Crete Study Center and seed atlases.<sup>149</sup>

148. This section was written by Evi Margaritis.

149. For the Center's reference collection, see Margaritis 2009. Seed atlases: Cappers, Neef, and Bekker 2009; Neef, Cappers, and Bekker 2011; Zohary, Hopf, and Weiss 2012.

Species present at Gournia are barley and emmer, lentils, and peas, all of which were recovered in limited quantities. Barley grains were so poorly preserved that distinguishing between hulled and naked is not possible. Emmer is identified on the basis of grains only. All species are common elsewhere in east Crete, such as at Mochlos, Papadiokampos, and Petras,<sup>150</sup> but are present in low quantities at Gournia. Cereals and pulses represent refuse accumulated after the consumption of food and discarded in fires in various areas of the site.

Room 13 in the palace is an exception in that it produced the most numerous finds: there, the cereals and pulses were replaced by figs, grapes, and pomegranates. Figs were present as seeds—no whole fruits or parts of fruit have been recovered. Grapes were represented by seeds, and more commonly, endosperms, due to their exposure to high temperatures.<sup>151</sup> The latter may be identified as they keep the characteristic shape of the grape seed. An interesting subset of the grape seeds were those recovered surrounded by grape skins in two samples from the palace, in room 13. The limited number of pressed grapes might indicate that they were the residue of wine, the skins having escaped the sieving process so that they ended up in the vessels of the stored wine.<sup>152</sup>

The most striking finds of the botanical assemblage were the pomegranates found in large numbers in the LM IB level in room 13. These represent the second example of this tree found in the archaeobotanical record of Crete, the other having been found at the site of Monastiraki.<sup>153</sup> The wild forms of pomegranate are found today in northeastern Turkey and the south Caspian regions. It has been suggested that the cultivated form (*Punica granatum* L) originated from that area of the world.<sup>154</sup> The pomegranate may, therefore, have been naturalized in the Mediterranean region after its introduction from further east.<sup>155</sup> Ward discusses the two main categories of evidence for pomegranates.<sup>156</sup> The first consists of vases, pendants, and beads resembling the shape of a pomegranate. These objects, often of ivory or gold, usually come from elite residences, tombs, burials, and shipwrecks from Iran, Turkey, Egypt, the Levant, Cyprus, and Greece, dated from the 4th to the 2nd millennium B.C. The second category comprises archaeobotanical remains. They come from Arad, Tell es-Saidiyeh, Tell Gezer, Tell Hesi Jericho, Tell Brak, Shiloh, Tell el-Daba, Tomb of Djehuti, Thebes, Hala Sultan Tekke, and the Uluburun shipwreck. These latter sites, dating from the early 3rd to the 2nd millennium B.C., provide an idea of the expansion route of the tree and its products into the Mediterranean and Greece.<sup>157</sup>

Prior to this, the earliest iconographic evidence for the pomegranate in the Aegean came from Middle Bronze Age contexts. The first archaeobotanical finds were discovered in a 1200 B.C. elite residence at Tiryns.<sup>158</sup> Pomegranate charcoal has been recognized at Akrotiri<sup>159</sup> dating from the Early to the Late Bronze Age. The presence of wood charcoal indicates the actual cultivation of the tree on Thera.

The pomegranate seeds from the palace at Gournia may have come from trees in nearby gardens or orchards. The fruit had, and still has, strong religious associations with fertility and rites of passage.<sup>160</sup>

150. These sites are under study by Margaritis.

151. Margaritis and Jones 2006.

152. Margaritis 2006; Margaritis and Jones 2006.

153. Sarpaki and Kanta 2011.

154. Zohary and Spiegel-Roy 1975.

155. Blondel and Aronson 1999.

156. Ward 2003.

157. See Ward 2003, table 1 for a detailed account of the evidence.

158. Ward 2003.

159. Asouti 2003.

160. Ward 2003.

## DISCUSSION AND CONCLUSIONS

Our three years (2010–2012) of excavation have produced significant, new information about the development of the Gournia settlement.<sup>161</sup> I will present some of that information chronologically in what follows.

The initial foundation of the Gournia settlement has usually been dated to the EM II period.<sup>162</sup> Final Neolithic sherds found at the bottom of several of our trenches suggest, however, that Gournia was settled earlier, by the Final Neolithic period. By EM II, the settlement was substantial in size, measuring at least 150 m north–south. EM II occupation levels have been revealed in the Northwest Area and around the palace. South of the palace, Boyd Hawes's excavation produced a whole EM II jug from room D 59.<sup>163</sup>

Since 1907, when Vasiliki ware was first recognized, it has been identified with the site of Vasiliki.<sup>164</sup> In 1979, however, Betancourt suggested several production sources for Vasiliki ware.<sup>165</sup> A more recent study has concluded that there was a single major source in the northern Isthmus area.<sup>166</sup> Our discoveries suggest that this major source was located at Gournia. These granodiorite-tempered vases have also been found on sites across east Crete, and at Malia and Knossos.<sup>167</sup> The hypothesis that Vasiliki ware was produced at Gournia is based on the large amounts of the ware found at the site,<sup>168</sup> and the fact that Gournia sits directly on a single massive outcrop of granodiorite that stretches westward for about 2 km. By the late Prepalatial period, more direct evidence for local pottery manufacture has come from the North Trench deposit, discussed on pp. 416–420, above.

At the beginning of the Protopalatial period (MM IB), the settlement shows signs of energetic new construction projects. The central area of the Neopalatial palace seems to have been partially covered with a cobble-paved courtyard, which was occupied by a large structure retained along the southwest by an extensive terrace wall. The settlement expanded northward, adding new workshops, houses, open industrial areas, terraces, and a system of paved streets. The construction of the paved court and street system may suggest that the settlement of Gournia possessed some sort of centralized authority in the Protopalatial period. Our excavations north of the LM I town revealed by Boyd Hawes have consistently uncovered MM IB–II remains, so it appears that the town reached its largest size in the Protopalatial period. What is striking about these remains is that they are consistently industrial in nature. The Pit House yielded little of its original Protopalatial floors, so we cannot be sure about its function in that period, although the later, LM I residents there produced stone vases. Most important, the large basins, and many MM I–LM I potter's ribs, wheels, pivots, overfired sherds, and wasters found in the Northeast Area, the North Trench, and the Northwest Area, identify the complexes found there as pottery workshops or industrial yards associated with the production of cooking vessels, large jars, amphoras, jugs, and other shapes. These vases have granodiorite inclusions, and based on this shared characteristic have been labeled "Mirabello ware."<sup>169</sup> Mirabello ware imports have been securely identified at other sites across Crete—at Malia, Lasithi, Pseira, Mochlos, and Petras in Siteia.<sup>170</sup> The specific source of Mirabello ware,

161. This section was written by L. Vance Watrous.

162. Soles 1992, p. 1.

163. Boyd Hawes et al. 1908, pp. 37–38, pl. VI:1.

164. Seager 1907, p. 117.

165. Betancourt 1979, p. 27.

166. Whitelaw et al. 1997, p. 268.

167. Day, Wilson, and Kiriati 1997, p. 285, n. 74.

168. Over 300 Vasiliki ware sherds have been noted in the excavations. Some 40 of the better-preserved examples have been catalogued.

169. For Mirabello ware, see Day 1991, pp. 219–222; 1997, pp. 224–225; Myer, McIntosh, and Betancourt 1995, pp. 144–146.

170. Knappett 1999, p. 632; Hayden 2004, p. 99.

however, has remained elusive.<sup>171</sup> The discovery of these ceramic workshops on the site now suggests that Gournia was the primary production source for Mirabello ware.<sup>172</sup>

At the end of the Protopalatial period, the town seems to have suffered a major destruction—not just a small earthquake. Several local sites, including Pseira, Mochlos, Myrtos/Pyrgos, Vasiliki, and Pefka Pacheia Ammos, were either destroyed or abandoned at this time.<sup>173</sup> Vasiliki was burned down in MM IIB. Occupation of the refuge site at Katalimata high above the Cha Gorge in the northern isthmus of Ierapetra in the MM IIB period suggests warfare might have been a cause.<sup>174</sup>

At the beginning of MM IIIA, Neopalatial Gournia seems to have been completely reorganized. At this time, the palace was built and the houses and street system exposed by Boyd Hawes were laid out. On the coast, a monumental shipshed was constructed and joined to the town via a cobbled street.<sup>175</sup> The settlement apparently suffered a disturbance in LM IA; destruction debris including mudbrick, plaster, and burned material of this period has been found in the palace and north of the Pit House. Like many Minoan communities, the people of Gournia reacted to the Theran eruption with renewed religious fervor in LM IB. Cult offerings of food and wine were made inside the palace in room 13 during LM IB, next to the baetyl.

Our excavations have shed new light on the palace at Gournia. In terms of its chronology, we now know that the palace was first constructed in MM IIIA, not LM I as Boyd Hawes believed.<sup>176</sup> Boyd Hawes's excavation produced no evidence for writing in the palace. Our finds, however, indicate that the palace at Gournia was a literate administrative center in LM IB, when records were written on tablets in the Linear A script, and kept in archives organized by sealings, together with a system of receipts—and possibly borrowings and/or exchanges—using inscribed and stamped roundels similar to those in other Cretan palaces. A large assemblage of MM III vases redeposited in room 17 of the palace consisted almost entirely of decorated fine-ware cups, amphoras, and several tripod incense burners, which point to ceremonies marked by drinking and cult that were probably held in the palace or the central court. Evidence for similar activities exists at other palaces, notably at Zakros.<sup>177</sup> The LM IB cache of some 70 fragments of copper, copper alloy, and three pieces of iron from room 16 of the palace point to the palace's involvement in metalworking. Additionally, we can now recognize two separate phases of occupation at Gournia during the LM IB period, as have been recognized at Mochlos.<sup>178</sup> Unlike Mochlos, however, the Gournia site seems to have experienced destructions both in the early and the late LM IB periods.

Our finds continue to indicate the wider and possible international connections of Gournia during the Neopalatial period. We have identified vases imported from east Crete (Palaikastro?), Knossos, the Mesara, and Melos. Copper ingots came from either the Kythnos/Laurion area or Cyprus. The piece of raw tin found in 2012 takes us further afield. The only presently known source of tin for the eastern Mediterranean is Afghanistan. Tin would have traveled via Mesopotamia to the Syrian coast, to places

171. Hayden (2004, p. 99), for example, argues for Priniatikos Pyrgos as a production center.

172. See Watrous and Heimroth 2011 for the identification of 18 separate pottery workshops in LM I Gournia.

173. For Pefka, see Brogan and Koh 2011.

174. Nowicki 2008, p. 20.

175. Watrous 2012.

176. Boyd Hawes et al. 1908, p. 24.

177. Platon 1971, pp. 115–173.

178. For Mochlos, see Soles and Davaras 1996, p. 200.



such as Ugarit, where records mention Cretan traders. Ships from Gournia may well have made that trip.

After its destruction in the LM IB period, Gournia seems to have been sparsely settled. Our trenches along the north edge of the site have produced almost no LM III sherds. House He, built in the LM IIIA1/2 period, and used in LM IIIB, may have been the administrative center of Gournia in this final period of the site's occupation.

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In 2010, trenches were supervised by D. Matthew Buell (State University of New York at Buffalo), Lee Ann Turner (Boise State University), Panagiota Pantou (State University of New York at Buffalo), and Ben Costello (State University of New York at Buffalo). In 2011, trenches were excavated by Turner, Pantou, Costello, Kevin Glowacki (Texas A&M University), Laura Harrison (State University of New York at Buffalo), Sarah Hauck, Brian Kunkel (Temple University), Jon Snyder (State University of New York at Buffalo), and John Younger (University of Kansas). In 2012, trench supervisors were Turner, Pantou, Costello, Glowacki, Kunkel, Snyder, Younger, Gallimore, Schaus, Tristan Barnes (University of Missouri), Dave Blome (Cornell University), Jennesa Dyck (Brock University), Matthew Dysart (State University of New York at Buffalo), Brian Hammer (Daemen University), Charlie Harper (Florida State University), Kevin Kochan (Brock University), and Damian McDonnell. Excavators were Vangelis Fiorakis and students from the Universities of Buffalo, Kansas, Brock, Wilfred Laurier, and other universities.

Buell supervised the daily excavations in the field; Iao was the project registrar at the East Crete INSTAP Study Center. Buell and John McEnroe were the project architects. The processing of pottery was carried out under the supervision of Anne Chapin (Brevard College), Rita Letrud, Dean Mobley (Winthrop University), and Agnes Kaliszewska (University of Warsaw). Pottery specialists were Watrous and Smith. Architectural mapping, drafting, and GIS were carried out by Buell and McEnroe. Drafting and inking of finds has been done by Doug Faulmann and Lily Bongo

(INSTAP); photography by Chronis Papanikolopoulos (INSTAP). Field photographs were taken by Janet Spiller; study photographs were by Spiller (2010–2011) and Hannah Sigurdson (2012). Finds were conserved by Kelly Caldwell (2010) and Katharine Hall (2011–2012, INSTAP); site conservation was supervised by Kleio Zervaki (24th Ephorate), and Stephania Chlouveraki (INSTAP).

Botanical studies are currently being conducted by Evi Margaritis (The Cyprus Institute); faunal analysis is directed by Matthew Dysart. Chapin is studying the plasters. Buell is responsible for the lithics. In 2012 Stavroula Flouri (University of Bologna) examined and identified the metals.

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