

The Greek–Swedish Excavations at Kastelli, Khania 2001:

*a preliminary report**

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During five weeks in June and July 2001 a small supplementary excavation was carried out at the Ag. Aikaterini Square.¹ The purpose of the excavation was to clarify some problems and test some ideas before the final publication of the forthcoming volumes of the Greek–Swedish Excavations (GSE).² For the Late Minoan IIIA:2/IIIB:1 period there was a question about the supposed north-western wall of Building 1, Space G.³ It was therefore decided to open a new trench (Trench 33) within the area 508-510/709.5-714 (Fig. 1) – a trench which would possibly also reveal further information on the two LM I destructions noted in House IV of the LM I period.⁴ For the LM I period there were three more objectives: (a) to find out whether House I, Room K (Fig. 1) incorporated a lustral basin in an earlier phase; (b) to investigate extensively the drainage system of the excavated buildings and their connection to the “public” drain running in the street between Houses I and II; and (c) to investigate the stratified remains from the MM and EM periods still left in the baulk between trenches 1 and 2 and 2 and 4, which

were excavated in 1970.⁵ But in opening two new areas important supplementary information was revealed, related to periods which were not directly under investigation. Here follows a presentation of the 2001 excavation, period by period from surface to bedrock.

1. The Post-Minoan Levels

Modern surface was excavated in Trench 33 and in Scarp 1/2 with no finds of particular interest, while the cleaning all over the site revealed a certain amount of Minoan pottery and two Minoan loom weights.

Two deposits appeared to be of very recent date. One contained the soil spread over the Agia Aikaterini Square in 1952 after the cleaning of the ruins at the site.⁶ Such a deposit was found in Scarp 1/2, over the demolished Venetian and Turkish walls. In Trench 33 another very recent deposit was discovered immediately below the surface layer, probably caused by modern gardening on the site. In connection with the investigation of the drain

* This report was written in 2001 and has only been updated with a few bibliographic references.

1 The excavation was under the general direction of Dr. Yannis Tzedakis, Athens and Professor, Dr. Carl-Gustaf Styrenius, Stockholm. Field directors were Dr. Maria Andreadaki-Vlasaki and Dr. Erik Hallager, and they were assisted on the site by Sofia Preve, Anthi Koukouraki, Annette H. Nielsen, Mette Schaldemose, Lena Jacobsen and Jan K. Jacobsen. Museum registration work was the responsibility of Dr. Birgitta P. Hallager. We wish to thank the Institute for Aegean Prehistory for the financial support which made the excavation possible, and we are most grateful to Professor Peter Warren for correcting the English text.

2 To date four volumes of the GSE have appeared: *The Greek–Swedish Excavations at the Ag. Aikaterini Square Kastelli, Khania 1970-1987*, I–VII, (E. Hallager & B.P. Hallager (eds.), Vol. I, *From the Geometric to the modern Greek period*, 1-2 (ActaAth – 4° XLVII:I:1-2), Stockholm 1997. Vol. II, *The Late Minoan IIIC settlement* (ActaAth – 4° XLVII:II), Stockholm 2000, Vol. III, *The LM IIIB:2 settlement* (ActaAth – 4° XLVII:II:1-2), Stockholm 2003. Vol. IV, *The Late Minoan IIIB:1 and IIIA:2 settlements* (ActaAth – 4° XLVII:IV:1-2).

3 See plan in e.g. Hallager & Tzedakis 1988, 38, fig. 20.

4 For these destructions see for example Hallager & Tzedakis 1986, 15-7.

5 Hellström & Styrenius 1971, 223-4.

6 GSE I, 79-86.

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Fig. 1. Plan of the site, all levels. The stippled lines indicates new trenches. Crosses indicate 1 m squares.

in the LM I, House I, Room I, a small deposit came to light in relation to the foundation pit of the modern Greek well: Well 3.⁷

Dated to the Turkish period a few small deposits were identified in both areas. These deposits contained mainly earlier pottery but a few characteristic vases of the later periods came to light (Fig. 2). The Venetian period was mainly represented by heavy wall foundations and their

foundation deposits. Concerning the architecture, the 2001 excavation confirmed in a general way what had already been noted earlier: the walls of the periods were only foundations, since no floors belonging to the walls were noted. From the original part of the Northwest Building two wall fragments were excavated: W1-001 and W1-003.⁸ No pottery was collected from inside the walls, while W1-001 had a narrow foundation pit on both the

7 GSE I, 94-6.
8 GSE I, 150-52.



Fig. 2. GSE 01-P 0058. Glazed bowl from the late Venetian–Turkish period.

north and south side. There were only a few sherds of the Post-Minoan period, among them the fragments of a Majolica plate (Fig. 3); while most belonged to the LM III period – probably originating from the large LM IIIB:2 pit, 1/2-Pit,⁹ into which the wall was constructed. From the foundation pit also came the fragment of a Mycenaean figurine of the Phi-type. From the later additions to the Northwest Building parts of walls W1-005 (western part) and W1-007 were excavated.¹⁰ W1-005 was seen to have a foundation pit at the north side around 515-516/171-718. W1-007 seems to have been disrupted west of 508.6, west of which was noted another “modern” wall-foundation called W1-034.

In summary the 2001 excavation revealed little new evidence compared to what was already known about the Byzantine to modern periods. It should, however, be pointed out that the south-western corner of the Northwest Building has probably been identified.

The Archaic to Byzantine periods were represented by a small, possibly Hellenistic deposit found in the very north-western part of Trench 33, while the north-eastern area of the same Trench revealed remains of a large pit of the Archaic period. Due to the narrowness of the area the pit could not be excavated to the bottom. It extended



Fig. 3. GSE 01-P 0302. Fragments of a Venetian majolica plate.

northwards and its full extent and purpose are not known. This pit is the first large deposit of the Archaic period yet discovered at the Greek–Swedish Excavations. It contained much broken pottery, and among the small finds an almost complete iron arrowhead was noted.

The Geometric period was – perhaps not surprisingly – well represented at the 2001 excavations. Fragments from five floors of the Late Geometric period, a productive pit of the same period, and an enigmatic structure were found.

From the evidence excavated in Baulk 1/2 it became clear that Room N from the LM IIIC settlement had been reused in the Late Geometric period,¹¹ as was also the case with other rooms of the LM IIIC settlement – Room E, for example.¹² The evidence from Room N comes in the form of deposits excavated above three floor fragments, two of which also produced Geometric pottery in and immediately below the floors. These floor fragments in the northern part were cut by a large Geometric pit. The extent of this pit is unknown but it was recognised within the area 513.3-513.8/718.5-720.8.

The other two floors of probable Late Geometric date were noted in Trench 33. These two were clearly

⁹ GSE III, 146-55.

¹⁰ GSE I, 154-55 and pls. 6-8.

¹¹ GSE II, 71-5.

¹² GSE I, 213-6.



Fig. 4. GSE 01-P 0253. LM IIIB sherd with fish-motif found in a Geometric deposit.

also destroyed in the LG period when the “Pit in former Courtyard F” was created.¹³ Both floors had a thickness of c. 0.06 m. They were both of beaten earth, very hard and compact. In the south-western corner of one of the floors a layer of ash was noted. All the deposits contained mainly Late Geometric pottery of the type already known from the site, together with some LM III pottery – among them a small fragment from an intriguing LM IIIB vase decorated with a fish (Fig. 4).

If the suggested reconstruction of the Late Geometric period is correct, the situation closely recalls what was noted in the previous excavations, with reuse of LM IIIC buildings which were at a later point destroyed by large pits in these buildings. The “Pit with overlying deposit in Trench 5” is an example of this practice.¹⁴

The wall which had previously been considered the north-western wall of the LM IIIA/B Building 1, Space G, proved to be a structure probably belonging to the Geometric or Late Geometric period. It was an L-shaped structure with the south corner in 509.40/710.40 (Fig. 1). The NE-SW wall was constructed on the LM I destruction debris of House IV, Room H, and the foundation pit

of this wall had cut through both the LM IIIA/B floors of Building 1, Space G as well as the LM IIIB:2 floors of Room K, while none of the LM IIIC floors of Room K/H were preserved above the wall.¹⁵ The NW-SE wall had simply cut through the LM IIIB:2/IIIC wall of Courtyard F. It is thus obvious that the structure is of a date after the LM IIIC use of Courtyard F and Room K/H. It should also be noted that the upper stones of the NW-SE wall were at a somewhat higher level than the Geometric floor in the area and it may therefore be supposed that the structure was in use at the time of the Late Geometric floor. The use and function of this structure remains enigmatic.

2. The LM IIIC Settlement

For the LM IIIC settlement, the 2001 excavation involved work in the following spaces: Room K/H, Courtyard F, Space N, and Room M.

Nothing new was learned about Room K/H since all the LM IIIC deposits were destroyed during the Geometric and Turkish Periods and in the baulk 2/4 no remains of the floor of Room M survived because of Venetian walls with their foundation pits. The reconstruction of the dividing wall between Rooms N and M, 2-Wall 3, proved basically correct.¹⁶ The corner of baulk 1/2-2/4 proved to be the joining point for Late Minoan walls, as stipulated from previous excavations. After cleaning the walls it became clear that 1-Wall 3 and 3-Wall 3 were built together and formed a corner around 514.5/717.2. Built up against this on the northeast side of 1-Wall 3, 4-Wall 4 was found, which was in this area used both in LM IIIC and LM IIIB:2. At the north-western end of 4-Wall 4 the dividing wall between Rooms N and M was constructed. The latest sherd within the wall could be dated to LM IIIB – an observation which fits very well with other constructions of the LM IIIC settlement.¹⁷

Room N was – as noted above – both re-used and disturbed in the Late Geometric period, but it now seems certain that the reconstruction indicated on the plan of

¹³ GSE I, 220-8.

¹⁴ GSE I, 216-8.

¹⁵ GSE II, 49-61.

¹⁶ See GSE II, fig. 14 & pl. 1.

¹⁷ GSE II, 32, 192.



Fig. 5. GSE 01- P 0306. Intact small stirrup jar of LM III C date.

the LM III C settlement cannot be correct.¹⁸ The reason is that the large LM IIIB:2, Pit 1/2, in the area 722.7-724 starts at a level which is almost 0.50 m higher than the supposed LM III C floor! How the northwest and northeast walls of Space N really stood remains enigmatic since no further traces of walls were found in the Scarp 1/2 – perhaps Space N was just an outside area with floors/surfaces at different levels. One or possibly two more deposits within Space N are to be dated within the LM III C period. One is a deposit found partly below the Geometric floors and pit. It looked very much as if it might have been a destruction debris, while alternatively it may also be a “left-over” from building activity. Strangely enough, an intact small decorated stirrup jar was found among the stones (Fig. 5).

In Courtyard F the two walls 1-Wall 3 and 3-Wall 3 (Fig. 1) were – as mentioned above – built together, forming a corner. The recess – or narrow part – in 1-Wall 3 proved to be c. 1.00 m wide, while the wall in this area had a preserved width of c. 0.30 m. The top level of this narrow part is too low to indicate a window between Space N and Courtyard F and one would rather maintain the suggestion of a door or an opening.¹⁹ The east corner of Courtyard F was



Fig. 6. East corner of Courtyard F with both clay lining and plaster preserved in situ.

exposed and revealed very important evidence not previously seen in connection with the LM III C buildings. The construction technique was well preserved in this corner. Against the stones a rather pure yellow clay was fixed and on the yellow clay a c. 0.005 m-thick hard white plaster had been applied (Fig. 6).²⁰ Most likely both existing walls of Courtyard F were plastered likewise, but only lucky circumstances of fallen stones in the very corner preserved the evidence here.

3-Wall 3 and Courtyard F were also found in Trench 33. 3-Wall 3 actually continued almost all the way into the western scarp, where it probably met an LM IIIB:1 wall which would have constituted the south-western wall of the Courtyard, meaning that Courtyard F (in the LM III C and LM IIIB:2 periods) measured at least 5.50x7.90 m. In the LM III C period the floor of the courtyard slopes somewhat towards the southwest. The floor found in the area of Trench 33 was more even and lacked the small slabstones found in the northern part. Of small finds from the floor deposit, a steatite bead from the eastern corner and a polisher from the southern part were specially noted. In the floor of the courtyard LM IIIB:2 pottery was the latest noted.

¹⁸ GSE II, fig. 29.

¹⁹ GSE II, 132.

²⁰ Pure or almost pure clay seems rather unusual in that in most of the previous Minoan periods the clay lining had always been tempered with organic material.



Fig. 7. GSE 01-P 0387. Shoulder fragment from a large stirrup jar with possible Linear B inscription]ka[.



Fig. 8. GSE 80-P 1482+. LM IIIB:1 jar from Building 1, Room C restored from sherds found in the Rubbish Area North, cf. GSE IV, 56.

3. The LM IIIB:2 Settlement

Of the LM IIIB:2 settlement it was expected that supplementary evidence concerning Room K, Courtyard F, Room A, Room D, and the Rubbish Area North would be revealed.²¹

Room K: From this room no supplementary evidence was preserved, since – as was the case with the LM IIIC period (see above) – the floors had been destroyed during the Late Geometric and Turkish periods.

Courtyard F: In Courtyard F the LM IIIB:2 floor in the whole area below the LM IIIC floor (see above) was found and the extent of the courtyard was the same as in the following LM IIIC period.²² The LM IIIB:2 floor was of beaten earth – hard and compact. Several stones were embedded in the floor and some of these may perhaps be the top of an underlying wall. The rough surface of this floor looks like an outside area. In the western part, part of a square(?) hearth was discovered, the surface of

which was covered with charcoal and ash.²³ From the floor deposit two bone pins deserve particular attention.²⁴

Space D is a small enigmatic area of which only very little was preserved and which existed only in the early LM IIIB:2 phase.²⁵

*Room A:*²⁶ A very small part of Room A was excavated in the area of baulk 2/4 and revealed clear evidence for the two different phases in this large room. In 2001 two more or less complete footed cups were found on the early floor.²⁷ It was also in the excavation of Room A that a scanty evidence for the use of mud-brick in the LM IIIB:2 constructions was noted.

From the *Rubbish Area North* the remaining part of 1/2-Pit was excavated.²⁸ It produced a little more than 80 kgs of pottery, among which was noted the greater part of a trick vase and a fragment from a large stirrup jar with

21 The entire LM IIIB:2 deposits have been included in GSE III.

22 In the east corner of Courtyard F excavation did not continue below the LM IIIC floor.

23 See GSE III, 81 and pl. 33.b.

24 GSE III, pl. 156c: 1 & 2.

25 GSE III, 58-62, figs. 15 and 45.

26 GSE III, 62-79, figs. 16-18.

27 GSE III, pl. 33a.

28 GSE III, 146-55, fig. 36.

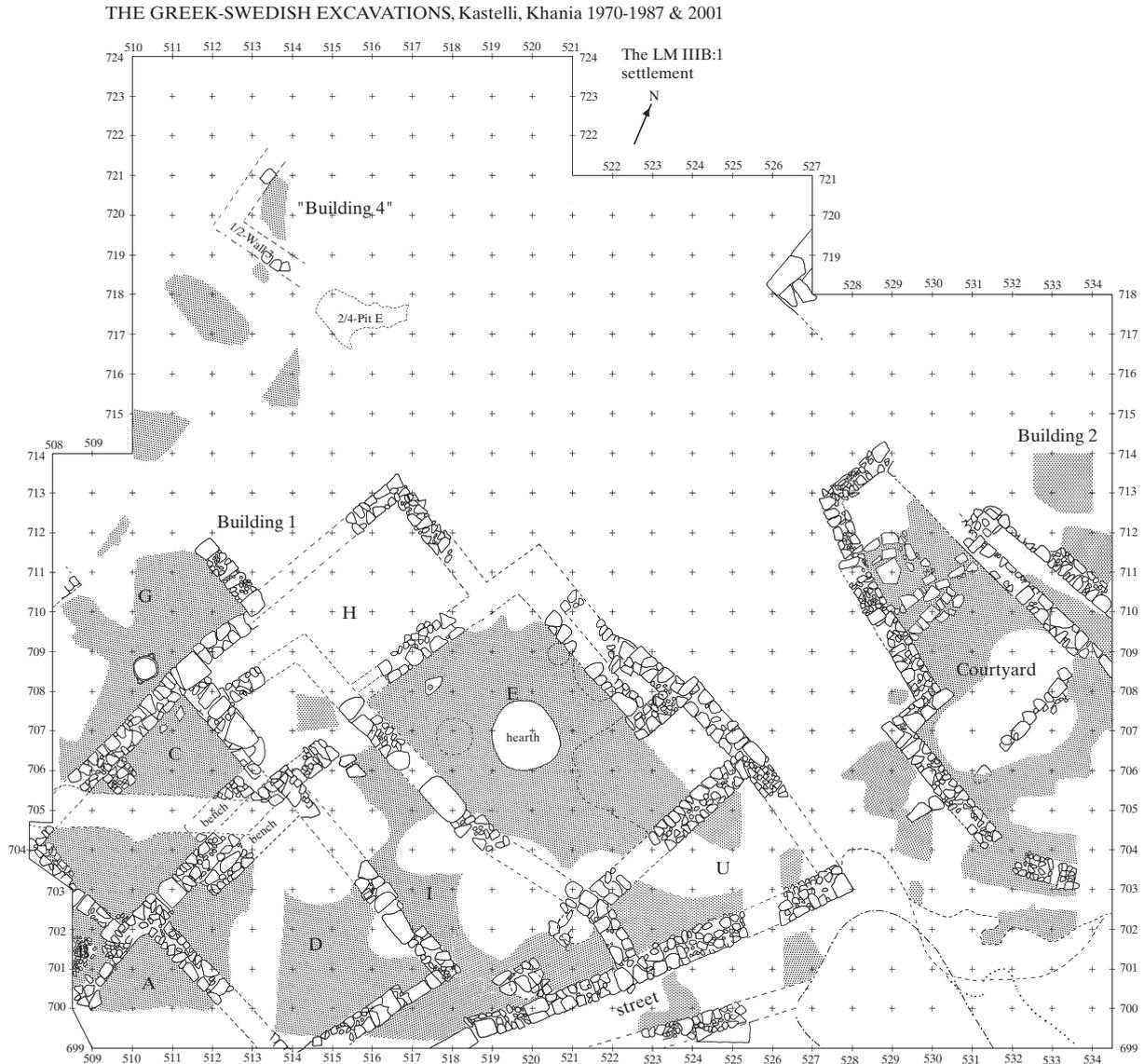


Fig. 9. Plan of the LM IIIB:1 settlement. Crosses indicate 1 m squares.

a possible Linear B inscription,]ka[(Fig. 7). Among the small finds from the pit was the fragment of a potter's wheel, the small fragment of a possible crucible, and a few stone tools. The fragment of a Mycenaean figurine mentioned above most probably also came from this pit. It may also be noted that sherds found in the pit enabled us to restore one of the decorated jars from the floor deposit of the LM IIIB:1 Building 1, Room C (Fig. 8).

4. The LM IIIB:1 Settlement (Fig. 9)

*Space G*²⁹: The main purpose in the opening of Trench 33 was to investigate the north-western wall of Space G. What had previously been considered the possible north-western wall proved to be part of a Geometric structure (see above). Within the square 508-509/710-711 there was, however, found the fragment of a wall facing Space G. This wall did not continue towards the northeast but must have

29 GSE IV, 82-94.

formed a corner with a wall running towards the north-west, which means that Space G must have been a kind of L-shaped space. This was also confirmed by the fact that all five floor levels of the room were found within the square 509-510/711.5-712.5 – precisely in the spot where the wall would have been if it had continued towards the north-east. In Trench 23 (south of Trench 33) five floors were recognised within Space G and they were, as mentioned, all found again in Trench 33 within 509-510/711.5-712.5, while in the southern area only the original, lower floor was found since all the later floors had been destroyed due to activities in the Geometric and Turkish periods. Except for a few stone tools nothing spectacular was found on the tiny floor fragments excavated in 2001.

“*Building 4*”³⁰: Within the area 513-514/718.5-721.2 very scanty evidence for the corner of a building or room in this area was found (Fig. 9). Around 513.3/721 there was one stone set in a NE-SW direction. Two floors ran up to this stone on the southeast side. In the area 513-514/718.5-719.1 there were three stones set in a NW-SE direction. These stones were facing the southwest and at the north-eastern side was a pit from the LM IIIB:2 period. It is probable that the stones belong to walls with the usual thickness of c. 0.55 m and if so it is possible to reconstruct the corner of a building with the outer west corner at c. 512/719.4 and the inner west corner at 512.6/719.9. The tops of the stones in the supposed walls were in both instances at a higher level than the two successive floors at 10.58 and 10.53 found inside the building. Outside the building on the southwestern side a fragment of a floor was found at a much lower level at 10.27, which corresponds roughly to the bottom of the 1/2-Wall 3. The outside floor continued below the LM IIIB:2 1-Wall 3 and would undoubtedly have joined the corresponding floors found south and east of this wall.

Towards the north “*Building 4*” was destroyed by the construction of Pit 1/2 in the *Rubbish Area North*,³¹ while the south-eastern part would have been destroyed by the LM IIIB:2 constructions of Space D and Room A.³² Only tiny fragments of floors from this building were preserved in baulk 1/2 and none of them revealed significant finds;

Neither did the floor fragment noted to the southwest of the building.

5. The LM IIIA:2 Settlement

Only one small deposit of this period was excavated. It was part of the large pit/rubbish area found to cover the LM IIIA:1 pit (4-Pit A). The pit, 2/4-Pit E (Fig. 9), is situated within the area 514.5-517/717-718; it was dug into the Middle Minoan layers while it was sealed by a LM IIIB:2 wall, a LM IIIA floor, and a LM IIIA deposit.

6. The LM IIIA:1 Settlement

Only a very small part of the settlement was excavated in 2001. Excavating in House I, Room K it was realised that Pit 5-003 had not been completely excavated in 1974. A small part of this pit was found within 520.3-521.1/703.4-704.5.

7. The LM II Settlement

19-Wall 13:³³ The remaining part of this wall was removed in connection with the investigation of the drain from House I, Room Q. The wall could be followed for a length of c. 1.30 m and had a width of c. 0.57 m. It was preserved in 1 or 2 courses and had a height of 0.33 m. The wall was built of unworked stones of varying sizes and shapes – two very large in the full width of wall.

Resettlement above House IV, Rooms H & G:³⁴ In Trench 33 three deposits which reflected the LM II disturbances in the destruction level of House IV, Room H were excavated. The same deposits were also noted in Trench 23 in 1987. They were all stratified below the levelling deposit of the LM IIIA:2/B:1 Building 1, Space G and placed on top of the undisturbed LM I destruction level. This was a c. 0.25 m thick layer in which were noted a few LM II sherds, while it mainly contained remains from the LM I destruction including several complete conical and semi-globular cups, but chiefly very many fragments

³⁰ GSE IV, 182-3

³¹ GSE III, 146.

³² GSE III, 56-64.

³³ See plan in Hallager & Tzedakis 1988, 35, fig. 18.

³⁴ Hallager & Tzedakis 1986, 18-9.

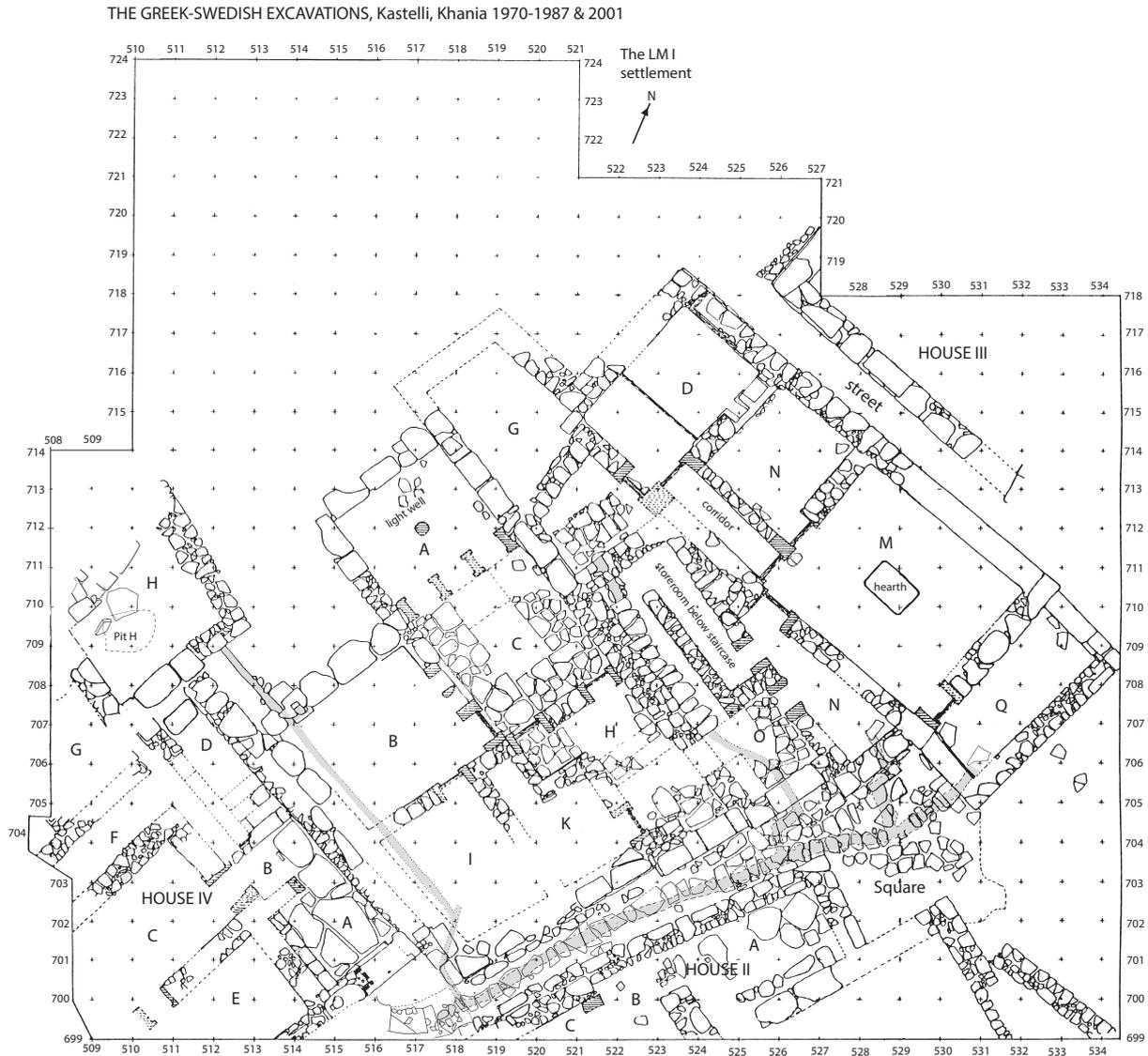


Fig. 10. Plan of the Neopalatial settlement. The drains are shaded light grey. Crosses indicate 1 m squares.

of the fresco which had once decorated one of the rooms in the LM I House IV.

8. The Neopalatial Settlement (Fig. 10)

House I

Room K: In 2001 Room K was further investigated in search of a lustral basin. The excavation was carried out in the western part of the room within the area 518.8-521.4/703.3-706.1. Here the continuation of 7/8-Pit

A was found in the southern part (see above) while north of 704.3 the floor of Room K, the floor packing and a levelling(?) deposit below the floor packing were excavated. The area was thus beside the south-western and north-western walls of Room K. From the top the excavation went 0.25 m down and since the walls only continued c. 0.10 m below the top of the floor, i.e., did not continue deeper, it was obvious that no lustral basin had existed in Room K and the excavation stopped here. Among the finds in this area should be noted a few complete conical cups and fragments of both painted and unpainted plaster



Fig. 11. *The drain below floor of Room I with deposit of conical cups at its southern end.*

all found in the floor packing. The latest pottery found below the floor was of LM I date, while LM IB could not be identified with certainty.

Room I: In Room I the trial tests of 1978 and 1980 were re-opened to expose the drain, which was investigated further towards the southeast in order to find the entire drain and its pipeline through the outer wall of the building.³⁵ In the room, above the drain, the floor and the floor-packing were excavated, and below this the drain was found. The cover-stones of the drain were not preserved, which means that it must have become disused when the floor was in use. That the drain had become disused at some point was also confirmed by the deposit of conical cups placed at the spot where the drain turned off to go through the wall (see below). Room I was re-used in the LM II and/or LM IIIA:1 period, so

two different scenarios might be imagined: (1) that the drain functioned throughout the entire LM I period and that it only became disused in connection with the re-settlement, or (2) that it became disused sometime in the LM IB period in connection with the construction of a new floor in the room in this period. Since northwest going part of this drain seems have gone out of use before the end of the LM IB period the first alternative seems preferable.

The drain: As mentioned, the cover stones of the drain were not preserved, but the side stones were. In this area the drain measures 0.09-0.18 m in width and the depth is c. 0.20 m. Around 518.0/702.20 the drain turned towards the south into the pipeline going through the outer wall of the room. Outside the wall and below the “bench” outside House IV the pipeline turned towards the southeast to join the main drain in c. 518.3/700. This pipeline had an approximate length of c. 2.0 m and it dropped 0.87 m from the bottom of the drain in Room I to the bottom of the main drain in the street. From the turning point around 518.0/702.20 the drain stepped upwards towards the northeast in the opposite direction of the pipeline, which means that the drain was also accessible from a hole in the floor of Room I at the position c. 518.1/702.5. The beginning of the drain is here situated 1 m north of the south-eastern wall and at least 0.45 m from the south-western wall of the room. What the constructions connected to a drain starting at such a place were remains enigmatic, since nothing was preserved. Within Room I the bottom of the drain sloped from 8.94 to 8.66 (0.08 m in 2 m). At the turning point of the drain were placed nine conical cups, which definitely blocked the entrance to the pipe-line (Fig. 11).

Room N: Outside Room N a side drain to the main drain was found, and a search for the beginning of the drain inside Room N was initiated. In the central part of the south-eastern wall an almost square shaft going down along the wall was discovered. A drainage had existed here at some time, but it obviously became disused before the end of the LM I period, since the passage below the wall was blocked with smaller stones.

Room Q: In Room Q the LM II wall, 19-Wall 13, was excavated in order to investigate the drain from the room



Fig. 12. Upright slab stones along southwestern wall of Room Q.

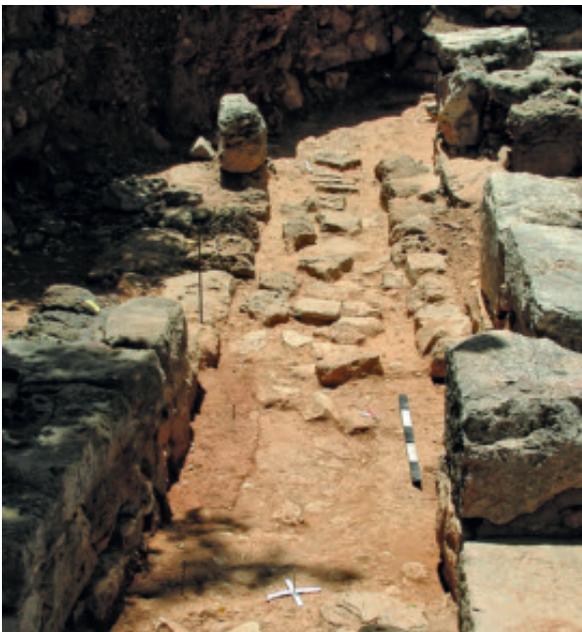


Fig. 13. Stepping stones in South Street.

(see above). The southwest wall of the room had a very unusual construction in that thin slab-stones were set upright along the lower part of the wall and then covered with clay lining (Fig. 12). Also in the actual corner against the southeast wall of the room a small, thin upright slab-stone was noted. The purpose of these stones is not clear, but it is suggested that they may have been constructed in order to resist pressure from water during heavy rainfalls. It would, indeed, protect the wall from being undermined. In the south corner of the room a much burnt limestone was noted covering the hole for the drain, which was covered with smaller un-worked stones.

The drain: The outlet for the drain was found in the south corner of Room Q. The drain dropped from a height of 8.94 m (bottom inside Room Q) to 8.61/8.57 m (bottom of drain just outside the wall). Two conical cups were found in the mouth of the drain in Room Q. Outside Room Q the three cover-stones were lifted in order to see the course of the drain going from the room



Fig. 14. "Three-step" cover slabs of the drain outside Room Q.

into the Main Drain of the south street. Some irregular and some worked lining stones were seen at the north side. Just inside the drain were found another two conical cups. The bottom of the drain contained smashed *kouskouras*.

Street between Houses I/IV and II

In order to investigate the main drain of the street, the different street levels southwest of c. 524 were excavated. The street was sloping slightly towards the southwest, and in the area outside House IV two street levels (Floors 17 and 17A) had accumulated on top of each other, probably because of erosion. Apart from this restricted area the street basically consisted of two layers before the original slabbed street with the cover stones for the drain was reached.

Street, upper layer: Floor 17/17A was recognised in the entire excavated area. While excavating, some stepping stones became visible and an area of red clay along the



Fig. 15. GSE 01-P 1083. Collared jug from 33-Pit H. MM IIIB.

outer wall of House II. A similar sized area appeared along the wall of House I, Room K – only this layer seems dark brown and containing clay comparable to that of Floor 17. The sherds were very worn and small from the action of running water/rain through the street. Also the stepping stones are quite worn from the rain and from use. The visible stones at the top of Floor 17 lie in a row in the middle of the street, as seen on Fig. 13. Apart from the small worn sherds a few fragments from stone vases were noted in these layers.

Street, lower layer: This layer down to the original paving of the street consisted of large patches of floors with a few underlying deposits. In a few places the soil was very hard and here and there bits of charcoal were noted.

The Drainage System

The entire drainage system connected to House I was investigated. It was known from the old excavations that at least three drains from House I had an outlet to the main

drain in the street; those from Rooms Q, F and B/I (Fig. 1) and the 2001 excavation proved that in an earlier phase there had also been a drain running from Room N (see above, 184). The outlets of these four drains were slightly different, as were their connections to the main drain. In connection with Room Q the drain went straight below the wall and out into the main drain, which outside the room was covered by three stone steps (Fig. 14), as also noted in the storeroom below the staircase where the drain from Room F came out. In the case of Room N a shaft was dug along the inner wall-face of Room N and the drain sloped below the wall and came out at such a deep level that no special cover arrangement was needed. Out in the Square the drain ran in an L-shape to meet the main drain, first turning southwest along the wall and then almost at a right angle towards southeast to meet the Main Drain. The outlet from the drain from Room F had a similar L-shaped connection to the main drain outside the house, while there was no shaft, but a gradual slope for the entire drain. The outlet of the drain from B/I was the most complicated, going in a very sloping open L-shape through the outer wall of the house (see above, 184).

The holes going through the walls were in all cases the smallest dimensions of the drainage system, while the side drains were somewhat larger, although not as large as the Main Drain. In all cases the drains had a slope which was more than sufficient for the water to flow (according to modern standards), and in all cases the “critical point”, i.e. the narrow part below the walls, always sloped considerably. Excavating the Main Drain and the side drains was consistently done in two stages. The “Upper layer” consisted of taking out the cover stones followed by cleaning down to the top of the side stones in the drain and the top of the undisturbed soil in the drain, while the “Lower layer” consisted of removing the uncontaminated soil found inside the drain.

The drains were all built with more or less un-worked smaller stones set at the edge to carry the cover stones. The bottom was always easy to identify, and it seems that it was laid with broken *kouskouras*. There were no signs of plaster anywhere in the whole drainage system. Worthy of note is also the fact that the Main Drain – as far as it could be investigated – only functioned in connection with House I. The outlet from possible drainage systems in House II would presumably be found south of that house, while drainage outlets from House IV would prob-



Fig. 16. GSE 01-P 0943. Sherd from small jug(?) with a single sign incised. MM IIIB.

ably also have been serviced by the Main Drain in the street.

The Main Drain

Upper layer: In the upper layer, i.e. between the cover stones and immediately below, the soil was different shades of brown – mainly dark brown and generally rather pure. The thickness of this layer is in general c. 0.20 m and the cover stones were of different thicknesses with an average of around 0.10 m. The top of the cover stones in the eastern part was at 8.82 m and in the western part at 8.32 m, which means that the level dropped 0.50 m in the c. 14 m investigated.

Lower layer (in drain): In the entire length of the main drain the soil in the lower layer was dark brown, loose, sandy, occasionally with small pieces of charcoal and almost no small stones and few sherds. The thickness of this layer was 0.10-20 m and it sloped in the east from 8.61 m to 7.91 m, which means that the bottom of the drain slopes 0.70 m in the excavated c. 14 m. The bottom of the drain was coated with *kouskouras*, as were also some of the side stones. In the drain two complete conical cups and a small piece of bronze were found.

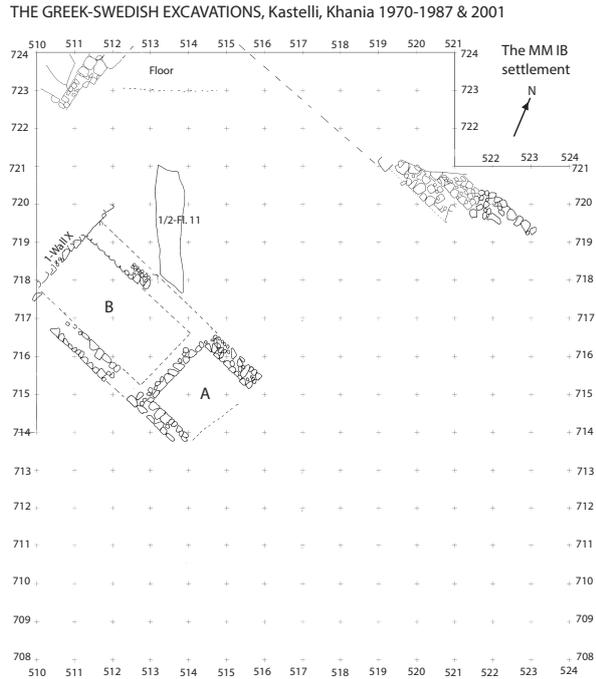


Fig. 17. Plan of the MM IB remains. Scale 1:200.

House IV, Room H

In 2001 the same layers within Room H were found as those excavated in 1987.³⁶ There was a badly defined floor (23-Floor 12) at level c. 9.00/8.78 m, above which was found a floor deposit with a thick layer of fallen debris. Below 23-Floor 12 was found a rather sloping floor, 33-Floor 10 at level c. 8.66 m, which covered a large MM III B pit.

The fallen debris excavated within Room H was that north of 709.5 within 508-509 up to 711 and within 509-510 up to 521. The area was excavated at levels from 9.62-9.36 m down to 9.29/9.10 m. The deposit was characterised by very many fallen stones. At the east side of the trench a large slab was found, standing almost vertical and sloping towards the east. Another similar slab appeared on the south side. These slabs were part of an upper floor. In this deposit were noted LM IB, LM IA and a few earlier (MM/EM) pieces. Several pieces of fresco were also noted.

The floor deposit was excavated in the whole area below the fallen debris, but the floor was not clearly defined in all places. Only few bits of charcoal and a few small stones were noted. Two conical cups were found in this deposit.

23-Floor 12 was a hard and compact beaten earth floor. It was excavated at levels from 8.93-8.79 m down to 8.66-8.65 m, which was the top level of the underlying 33-Floor 10. In the floor were noted LM IA and MM sherds with two doubtful pieces of the LM IB period.

The lower floor, 33-Floor 10, was also a hard and compact beaten earth floor. Only the part covering the MM III pit was excavated, i.e. within 509.4-510/708.8-709.8. The floor was 0.04 m thick and excavated at levels 8.66/8.65 m to 8.65/8.62 m. It contained no pottery later than MM III. 33-Pit H: proved to be a very large deep pit, a small part of which was excavated in 1987;³⁷ and the excavation of which was not finished in 2001 partly because the large obliquely standing slab-stone had to be left *in situ*. The pit was excavated within the area 509.3-510.6/708.85-709.85,



Fig. 18. GSE 01-P 0755, 0756, 0765, 0757. MM I cups from upper floor in northern area.

³⁶ Hallager & Tzedakis 1986, 15-7.

³⁷ Then thought to be part of a levelling deposit, cf. Hallager & Tzedakis 1986, 16-7.

but it continues towards the north and west. In the excavated part the bottom was reached everywhere and was seen to slope considerably from the edge at c. 8.63 m towards a point in the north-western part at c. 509.5/709.7, where the bottom was reached 1 m further down at 7.63 m. The content of the pit seems to be pure MM III(B). 250 kg of pottery was collected. The pit contained several complete conical cups and an almost intact collared jug (Fig. 15), many more or less complete lamps, and many fragments from possible beehives. Many sherds also had polychrome decoration with light on dark. Apart from a few stone tools the pit did not contain many small finds. The most important single find, however, is undoubtedly the inscribed sherd 01-P 0943 (Fig. 16) with the incised NI, which palaeographically might be either Linear A or Cretan Hieroglyphic. This is the oldest inscription so far found in western Crete, and it is until now the only one found incised on pottery.³⁸

9. The Middle and Early Minoan Settlement

During the 2001 excavation the stratigraphy, architecture, and chronology of the pre-palatial settlement was somewhat clarified. There were four major phases, of which the youngest deposits, found below the LM III deposits of baulks 1/2 and 2/4, were of the MM IB period, while the oldest excavated was a pit of the EM II period.

10. The MM IB phase (Fig. 17)

Within the area 510-516/714-719 there are remains from two rooms, the building of which partly consisted of reused walls from the MM IA building and partly consisted of new constructions. One of these was the north-eastern wall of Room B, which is situated below the LM IIIB:2/IIIC wall 1-Wall 3 (Fig. 1).³⁹ This wall, of course, could not be exposed, but it could be cleaned on both sides, whereby it became clear that it was built up against and not into the MM IA wall, 1-Wall X. The bottom of the wall could also be measured and it was seen to be at a higher level than the MM IA floors of the area. In the wall was noted an “opening” close to the north-western end c. 0.32

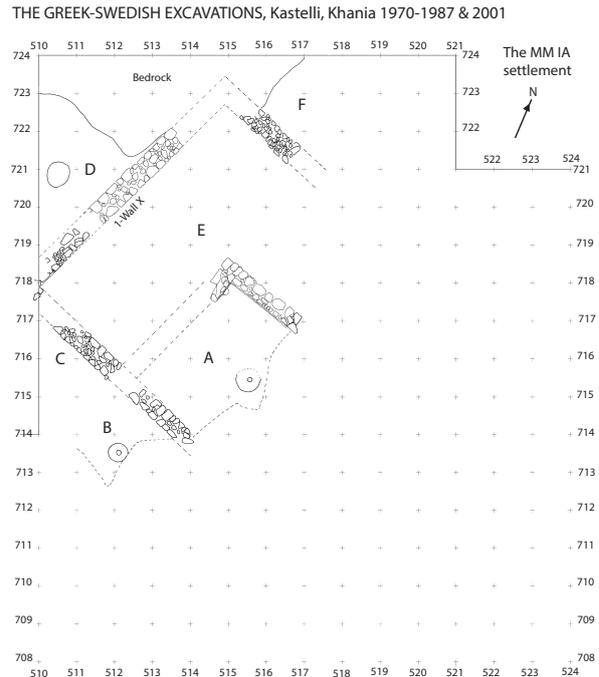


Fig. 19. Plan of the MM IA remains. Scale 1:200.

m wide. The soil in this opening was very soft – timber perhaps or a small cupboard.

The north corner of the MM IA structures was destroyed during the MM IB period when two floors/surfaces were constructed and where quite a few complete cups were discovered above both floors, which at the southern end were destroyed by an LM IIIB:2 pit. The upper floor was found at level 10.16 m while the lower surface was found at 9.87 m. In the northernmost part of the upper floor four small cups (Fig. 18) were excavated, and close to them was found a horn from a cow.

Below the upper floor were four deposits with the common feature that they were densely packed with small stones (“more stones than soil”). On the lower floor were found five complete cups as well as a large number of sizable bones and a single stone tool. The so-called “lower floor” was situated partly upon bedrock and it partly sealed the cavity in the bedrock which was filled with EM II pottery (see below, 192).

³⁸ Andreadaki-Vlazaki & Hallager 2007, 15-7.

³⁹ Cf. GSE III, 83-84.



Fig. 20. Handmade burnished, handleless cup from earliest floor of the MM IA period in situ. In the foreground right is seen the clay lining/plaster of the underlying EM wall.

North of Room B was found, below the LM IIIB deposits, a floor fragment of the Middle Minoan period which was not identified in the 1970 excavation. The surface of the floor was at 10.00/10.04 m and might well have been connected to the floors excavated a bit further to the north, even though the construction was slightly different. Not much was found on this floor, though there was one stone tool and a few pieces of obsidian *in situ*. A small part of the floor seemed coated with plaster.

The MM IB settlement partly covered and partly reused the architecture of the MM IA settlement and it seems that the area north of the building with Rooms A and B was an open space in this period.

11. The MM IA Phase (Fig. 19)

The northern part of the MM IA settlement was built up against bedrock with an enclosure wall(?). It formed a large L-shaped open area (Space E) south of which three rooms (A-C) were known from the previous excavations. In 2001 the work in this part of the settlement was only concerned with Room A and Space E.

Room A: The most important discovery in this room was the identification of the northern corner in 515.2/718. This means that the room had a width of 3.70 m and a length of more than 2.85 m – probably close to 4.0 m if the well-constructed circular hearth with sunken centre was placed in the middle of the room. During the excavation it was also realised that there were three thin floor layers inside the room. It was likewise noted that the inner faces of the walls were coated with good, hard plaster 0.02-4 m thick. There were no significant finds from the floor of the room.

Space E: After the discovery of the north corner of Room A it became clear that Space E was a large L-shaped area. In the north-western part most of the wall was preserved, while only smaller fragments were found to the north-east and to the southeast. This area thus measured 6.90 m x 3.00 m (20.7 m²). The size of the remaining part, flanked by the walls of Room A and Space F, remains uncertain, but it would have measured 2.70 m x at least 3.50 m (9.45 m²). Whether this sizable area was roofed or whether it was an open area remains uncertain. The

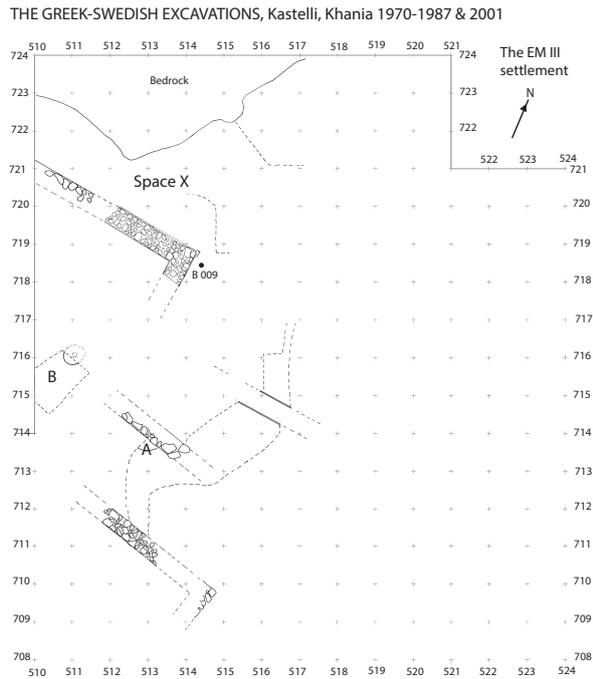


Fig. 21. Plan of the EM III remains. Scale 1:200.

many floor levels found within the area would rather suggest an open area.

On top of the latest floor three deposits had accumulated which were then sealed by the MM IB floor, 1/2-Floor 11 (see above, 189). These three deposits contained mainly MM IA pottery including several fragments of egg cups, bits of plaster, and quite a few pieces of obsidian. Within Space E five floors were excavated in a depth of 0.18 m. They were all of beaten earth containing a few small stones and *kouskouras*. Due to the thinness of the floor layers they contained only small sherds (of the EM III and MM IA date) and several pieces of obsidian. The only exception to this general pattern was the find of an almost complete burnished cup set in a circular or oval structure on the earliest floor of the period (Fig. 20). This structure was left unexcavated.

The earliest floor of the MM IA phase seemed to contain only EM III pottery and it may well be that this part of the settlement was constructed at the very end of the EM III period.



Fig. 22. GSE 01-B 009. Decorated ivory plaque.

12. The EM III phase (Fig. 21)

What characterizes the change from EM III to MM I is that the EM building became disused and was overbuilt by the MM IA structures (see above, 190-1). From the EM building the outer eastern corner in 514.3/718.8 was exposed in 2001. The north wall was preserved with a length of 4.70 m and a width of c. 0.55 m; its preserved height was c. 0.50 m. (The wall is unexcavated, but its bottom could be measured at the eastern corner). The wall was very well constructed with small stones set in a good earth mortar. Both faces were coated with a thick layer of good, hard plaster. One to three metres north of the wall was bedrock – probably exposed at the time when the wall was in use – and between bedrock and the building and a little to the east of the building nine floors were noted, set on top of each other and all belonging to the exposed wall. All the floors were sloping slightly from north to south and from west to east. It is assumed that the area between bedrock and the building was an outside area.

All the floors in this area, Space X, were uneven and/or of rough beaten earth with few smaller stones and *kouskouras*, and very often with bits of charcoal (Fig. 21). As was the case in the following period these thin floor layers contained almost exclusively small sherds of the EM III period with a few earlier pieces embedded. These nine floors, however, contained very few pieces of obsidian compared to the MM IA layers. The only floor which had a real de-

posit was the latest upper one and it was in this deposit – at the position 514.40/718.20, i.e. very close to the corner of the EM wall – that a unique plaque of ivory came to light divided into six fields with decoration (Fig. 22).⁴⁰ This is undoubtedly an import from the Near East for which we have not yet been able to find close parallels. One might, however, consider the possibility that it could have been a gaming board or part of one.

13. The EM II phase (Fig. 23)

Only one deposit of the EM II period was excavated in 2001: the fill found in a deep cavity in the bedrock. The cavity had a diameter of 0.85 x 0.75 m with its centre in c. 513.35/722.25. This seems to be a pit deliberately cut into the bedrock. No architecture is immediately connected to it and it was sealed below the MM IA wall and the MM IB stony structure found in the northernmost part of the excavated area. The pit as such was excavated at levels from 9.68/9.67 m down to the bottom at 9.05 m and it consisted of a loose, dark brown soil with bits of *kouskouras*, several stones, pottery, some bones, and shells. 5.805 kg of pottery together with a few pieces of burnt clay used in the buildings and many pieces of obsidian were collected.

The Greek–Swedish Excavation 2001 was undertaken in order to answer a number of specific questions to assist of the forthcoming volumes of the final publication. Most questions were answered and all evidence concerning the LM IIIB:2 period has – with the exception of the faunal remains – been included in *GSE III*, while the detailed new evidence concerning the LM IIIC and Post-Minoan periods is planned for a future separate publication.

The major achievement of the 2001 excavation concerned the Middle and Early Minoan periods. Thanks to the large amount of material found in Trench 33-Pit H, including inscribed material, the MM IIIB period is now better understood than previously. Good evidence for the MM II period is still lacking, while the MM IB period and three major phases of the Prepalatial period covering EM II through MM IA can now be studied in some detail.

THE GREEK-SWEDISH EXCAVATIONS, Kastelli, Khania 1970-1987 & 2001

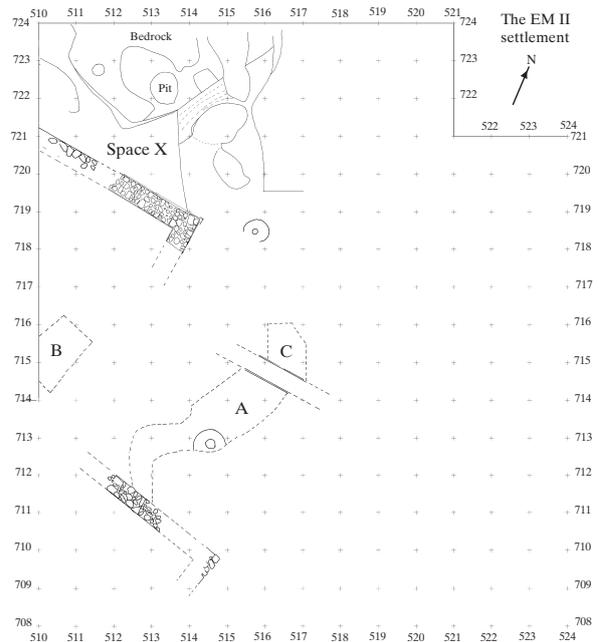


Fig. 23. Plan of the EM II remains. Scale 1:200.

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