

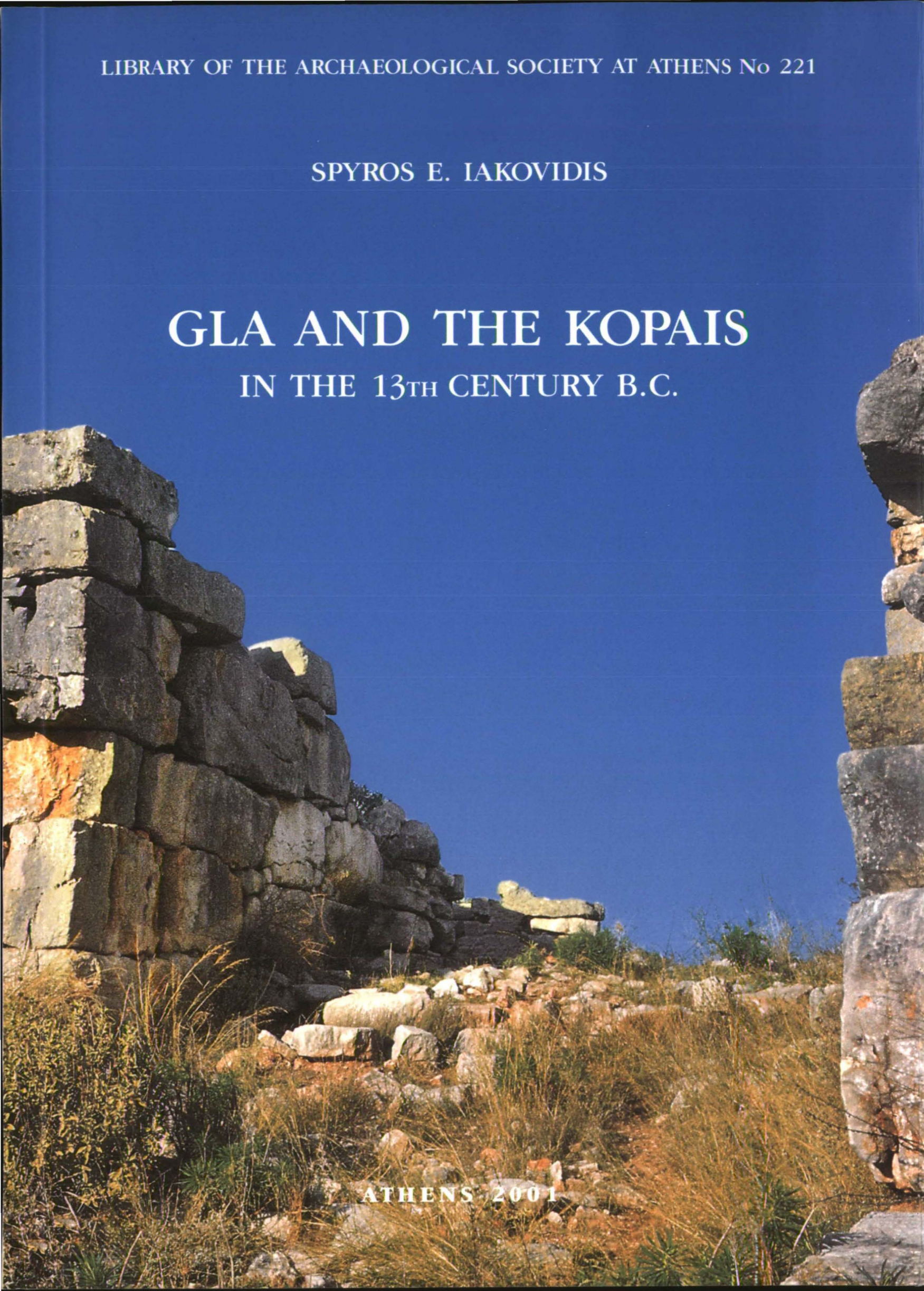
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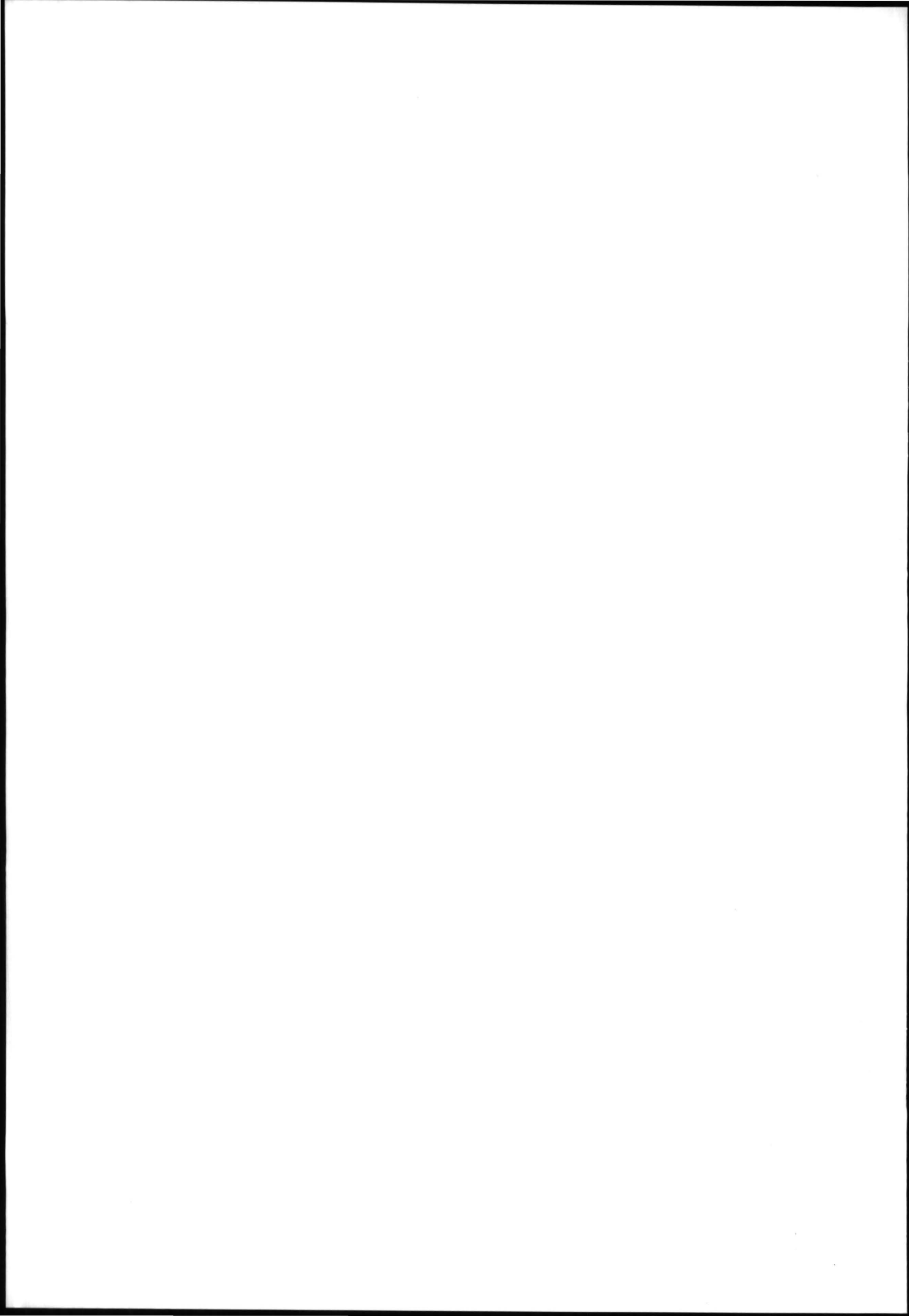
SPYROS E. IAKOVIDIS

GLA AND THE KOPAIS

IN THE 13TH CENTURY B.C.

ATHENS 2001





GLA AND THE KOPAIS
IN THE 13TH CENTURY B.C.

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PART THREE

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EDITOR'S FOREWORD

As soon as he completed the publication of the excavations on *Gla*, *Γλᾶς I, 'Η ἀνασκαφή 1955-1961* (1989) καὶ *Γλᾶς II, 'Η ἀνασκαφή 1981-1991* (1998) I asked, somewhat hesitatingly, Spyros Iakovidis to round out this great work of his with one more volume in which he would epitomize the findings of his predecessors as well as those of his own research on this notable Mycenaean site. I had no high hopes for my suggestion to be realized because I knew that he was pretty much absorbed in preparing the publication of the Archaeological Society's excavations at Mycenae. Soon, however, he produced the requested MS in English, since it was felt that this would make his extensive account accessible to those not familiar with modern Greek.

Beyond its value as a synopsis this new book of Spyros Iakovidis supplements his basic publication by adding some remarks on the buildings, their purpose and their contents as a whole, and a chapter on the function of the fortress as part of the drainage works of the Kopais in the 13th century B.C. It is hoped that this publication will contribute to the understanding of this important and, so far, unique site and to the appreciation of some less well known technological achievements of the Mycenaean civilization.

BASIL PETRAKOS

PREFACE

The fortress of Gla differs markedly in its lay-out and its function from the Mycenaean palaces and citadels as we know them. The latter began as the abodes of the local rulers and evolved with time into stately seats of authority which housed the powerful sovereigns and their complex administration and operated for centuries as the social and economic centres of their realms. Gla, short-lived, was merely a part of a vast undertaking, which aimed at the draining of the lake Kopais and included several more look-out posts and strongholds. The citadels were gradually filled with various structures (dwellings, workshops, storerooms, sanctuaries) built around the palace. On Gla the major part of the fortified area remained unoccupied to the end and the structures on it, built to serve two purposes only, are pretty uniform in their planning and arrangement. There is one main residential building, consisting of two identical not very large wings and two spacious administration and storage facilities stretched out, alike and parallel to one another, along both sides of an extensive central enclosure. It is obvious that the builder or builders planned the entire set-up as a whole, repeating two simple and efficient architectural models, one for the residential quarters and another for the storerooms, with no attempt to individualize them.

Because of these peculiarities one would expect Gla to arouse the curiosity and draw the attention of scholars of the Mycenaean age. But except for a general survey by F. Noack and a brief campaign by A. de Ridder, both undertaken in 1893, this did not happen till 1955, when J. Threpsiadis, on the instigation of S. Marinatos, started a systematic investigation of the site which he was not destined to finish and much less to publish.

My involvement with this neglected site began in 1972, when I obtained a permit from the Archaeological Service to study the material collected by Threpsiadis and kept in the Museum at Thebes. Shortly after that the Archaeological Society at Athens, on whose behalf the excavation had been conducted, asked me to give an account of the previous work on the site

and to continue the excavation. The fieldwork centred on the investigation of the east wing of the central enclosure, where the previous excavators had limited themselves to a few trial trenches. The study of Threpsiadis' material, of the recent field work and of the resulting finds, published in two volumes (Γλῶς I, Library of the Archaeological Society No 107, Athens 1989 and Γλῶς II, Library of the Archaeological Society No 173, Athens 1998), led me to understand and to define the purpose and the chronology of Gla, and made me realise that this gigantic stronghold was constructed in the 13th cent. B.C. to serve as a depository of the products of the Kopais, which had been turned over to cultivation after the lake was drained in the manner illustrated by Professor J. Knauss of the Technical University of Munich.

In this long and arduous task I enjoyed the help, encouragement and support of many people and several institutions. The Archaeological Society at Athens entrusted me with the conduct of the excavation, provided the necessary funds and published the two resulting volumes. This task was endorsed by the Society's two Secretary Generals, the late Professor G. E. Mylonas and his successor, B. Petrakos.

Volume I was prepared in the congenial surroundings of the Institute for Advanced Study in Princeton on a grant of the Gerda Henkel Stiftung (Düsseldorf). The preparation of volume II was aided by the Institute for Aegean Prehistory (New York).

The cataloguing and study of Threpsiadis' material and of the finds of the recent fieldwork was effected in the Museum of Thebes thanks to the friendly cooperation of its Directors, Drs K. Demakopoulou and A. Andreiomenou and the archaeologists of the 9th Ephorate M. Soutou, Chr. Piteros, V. Aravantinos and A. Christopoulou. The pottery finds were cleaned and mended by the technicians of this Museum P. Valmas and E. and Th. Krimtsialis. J. Michaelidis of the National Archaeological Museum restored the metal finds. The frescoes were cleaned and prepared for publication by E. Kiomisoglou, S. Symeonidou and S. Maninou of the Ephorate of Underwater Antiquities.

Shells were identified by Dr. D. S. Reese of the Field Museum, Chicago, and by Dr. E. Vardala-Theodorou of the Goulandris Museum of National History. Vegetable remains were studied and published by Professor Glynis Jones of Sheffield University. Pottery was examined for provenance by Mr J. E. Tomlinson of the University of Manchester and lead by Professors N. Gale and Z. Stoss-Gale of Oxford University. Plans were surveyed and drawn by J. Travlos and by the present author, assisted by the topographers

V. Alevisakos and M. Lane. Aerial photographs were taken by Eleanor and Wilson Myers and by A. Heafitz. Photographs of the site and of the finds are the work of J. Papachatzidakis, S. Meletzis, S. Tsavdaroglou, R. Levesque and E. Eliadis. Ink drawings of pottery finds were made by E. Simpson and by E. Olympios and frescoes were drawn in colour by A. Faklari.

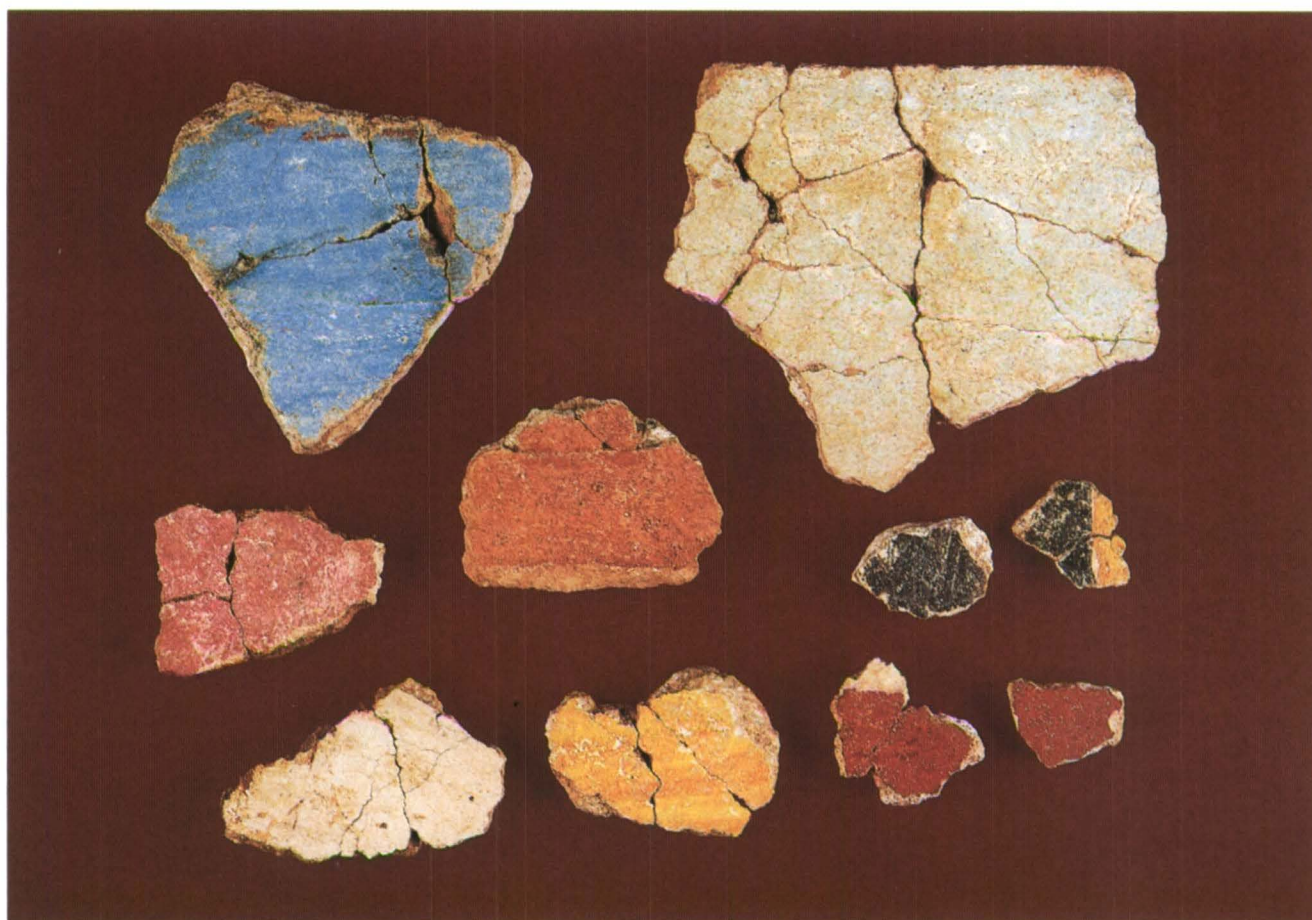
Special mention must be made of my close collaborators, the late D. Chaniotis who took care of all the everyday details in the field and made sure that the whole enterprise ran smoothly and efficiently, and Dr. D. Danielidou, whose contribution in preparing the manuscript (part of which she typed herself) in checking and coordinating references and in identifying and selecting illustrations has been invaluable.

Finally, praise is due to Mrs Electra Andreadi for her invaluable editorial assistance and to Mrs Lucy Braggiotti for organizing and supervising the artistic layout of the volume. In its present form the book has greatly profited from their expertise and their meticulous attention to detail.

Without the support and cooperation of the forenamed sponsors and individuals the excavation may have run into all sorts of grave difficulties and this book would not have been completed as it has. It is my pleasant duty to express to all of them my deep appreciation and my heartfelt thanks.

S. E. IAKOVIDIS

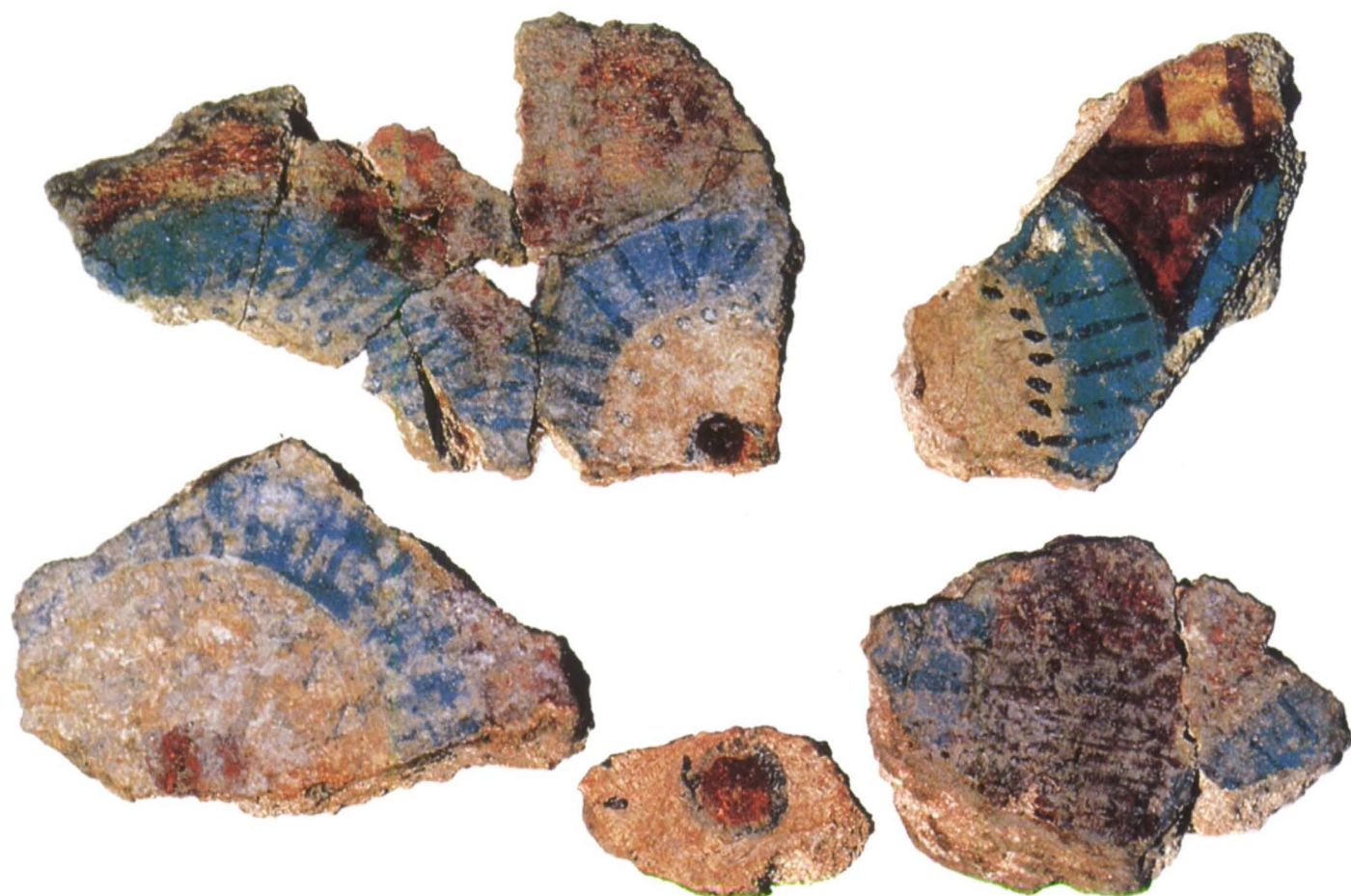
COLOUR PLATES



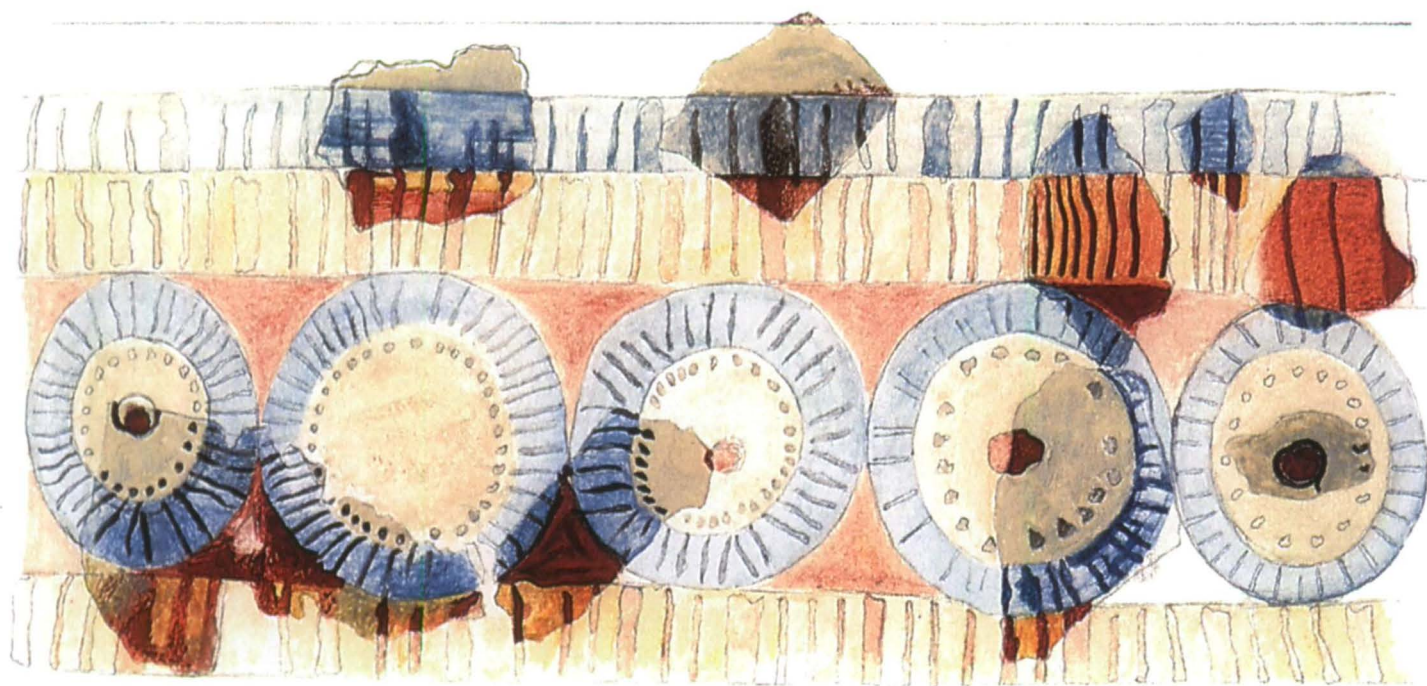
a. Colours used in the frescoes.



b. Fresco fragments from outside room **Z9**.



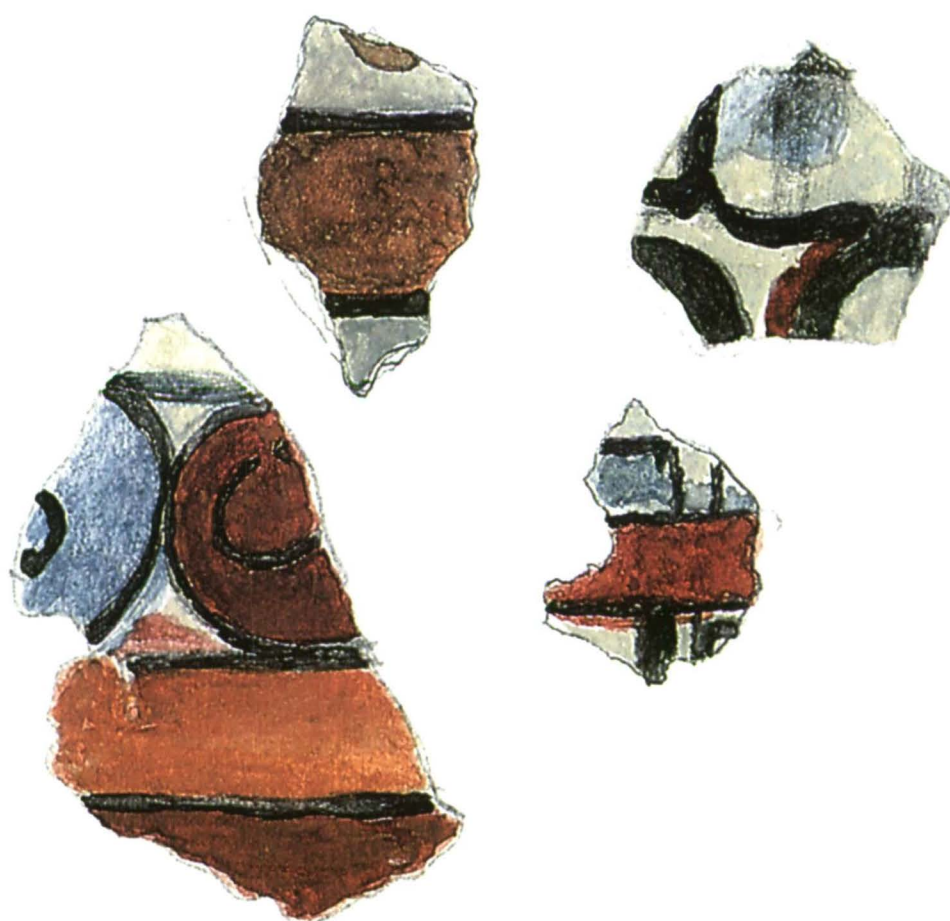
a. Room **H4**, rosette band, fragments.



b. Room **H4**, rosette band, reconstruction.



a. Room **H4**, dado, fragments.



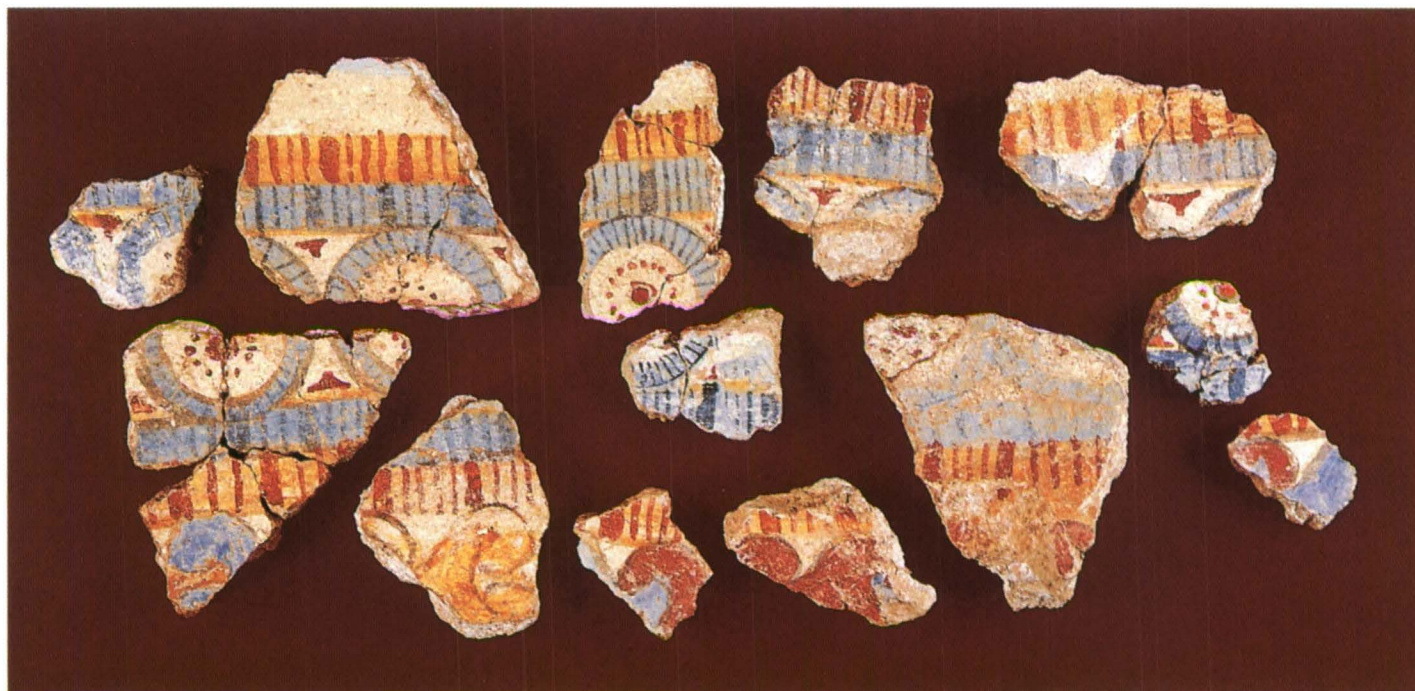
b. Room **H4**, entablature, fragments.



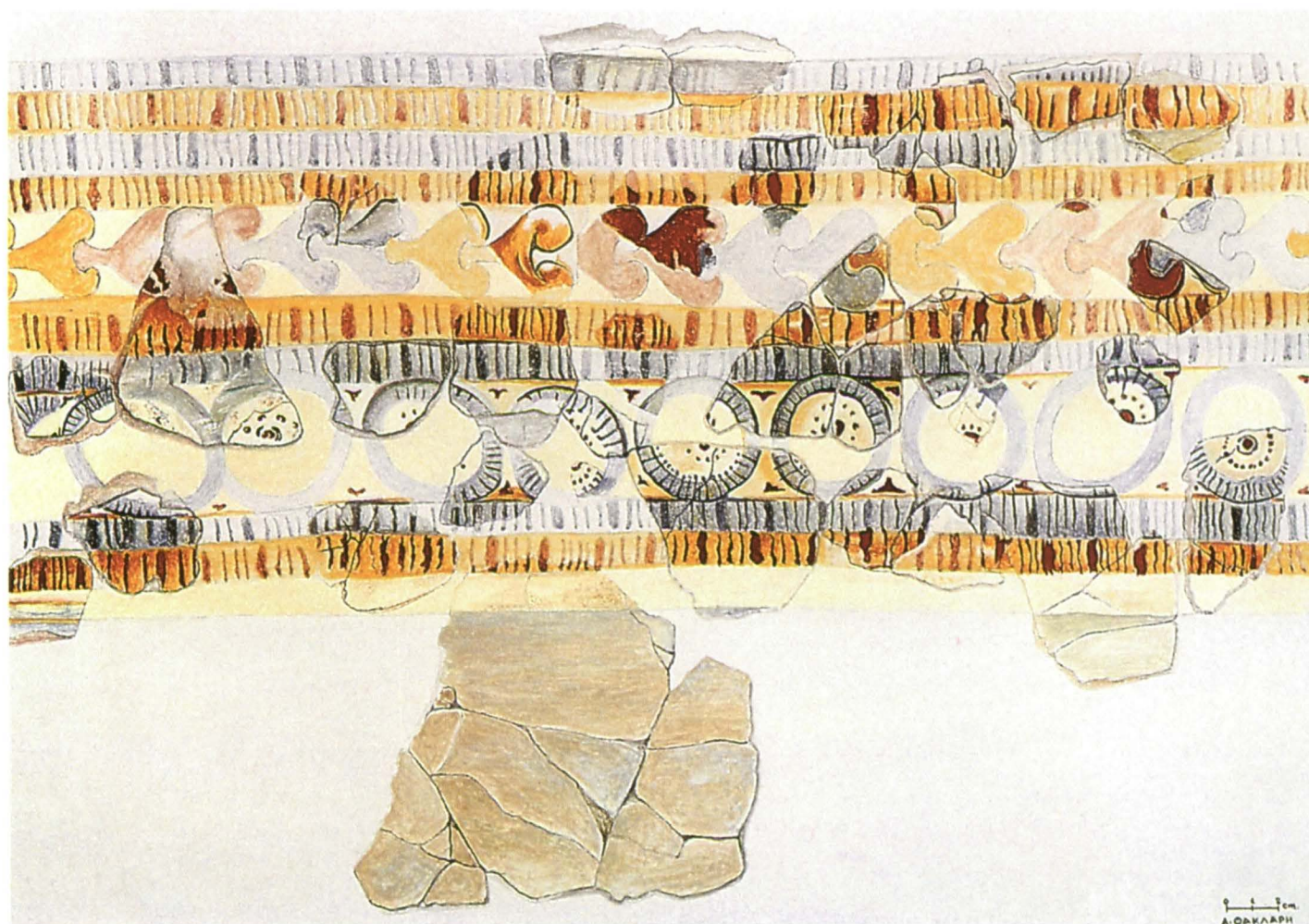
a. Room **H4**, cephalopod tentacles and striated blue ground.



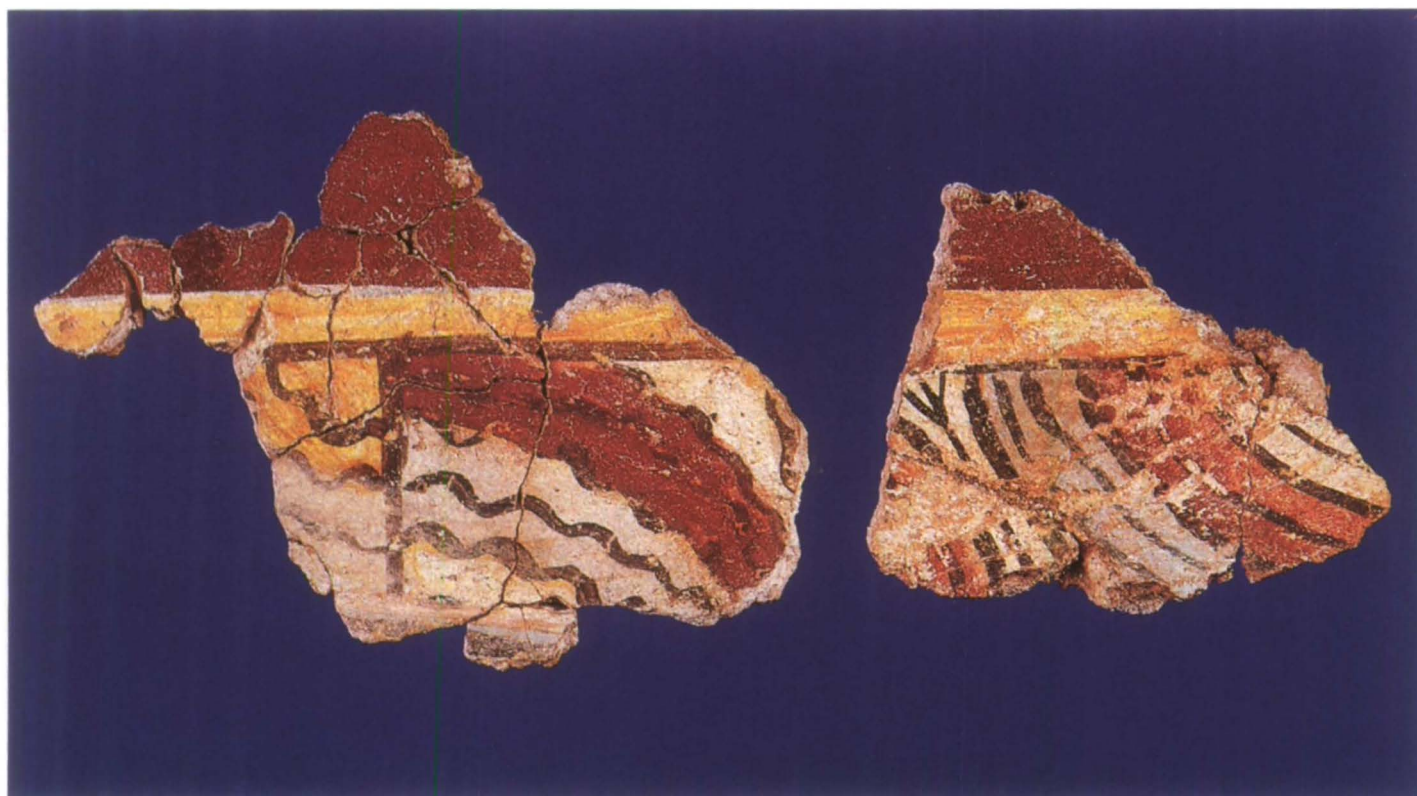
b. Room **H4**, womens' heads.



a. East of room N1, frieze, fragments.



b. East of room N1, frieze, reconstruction.



a. East of room **N1**, dado, fragments.



b. East of room **N1**, dolphins' eyes.



a. East of room **N1**, dolphins' bodies.



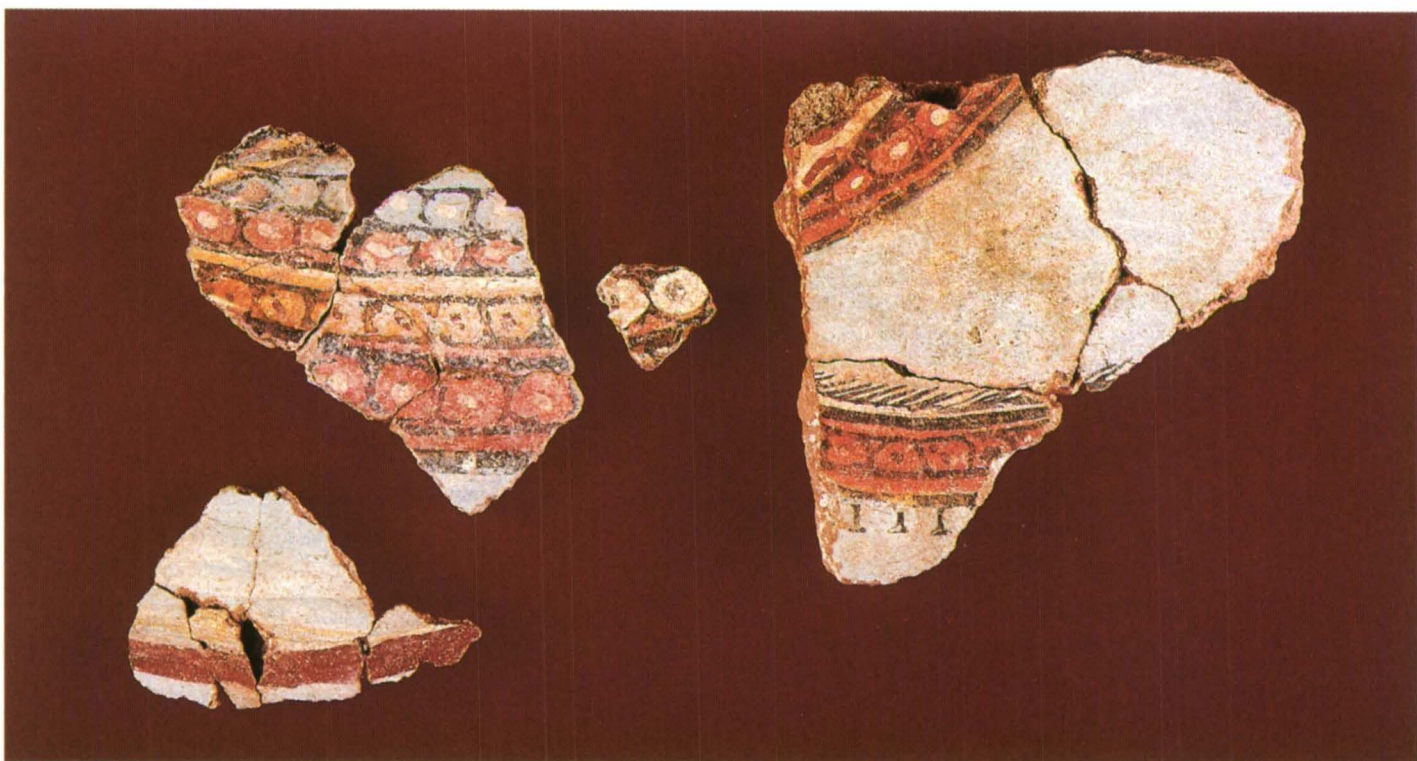
b. East of room **N1**, dolphins' bodies.



East of room N1, dolphins, tentative reconstruction.



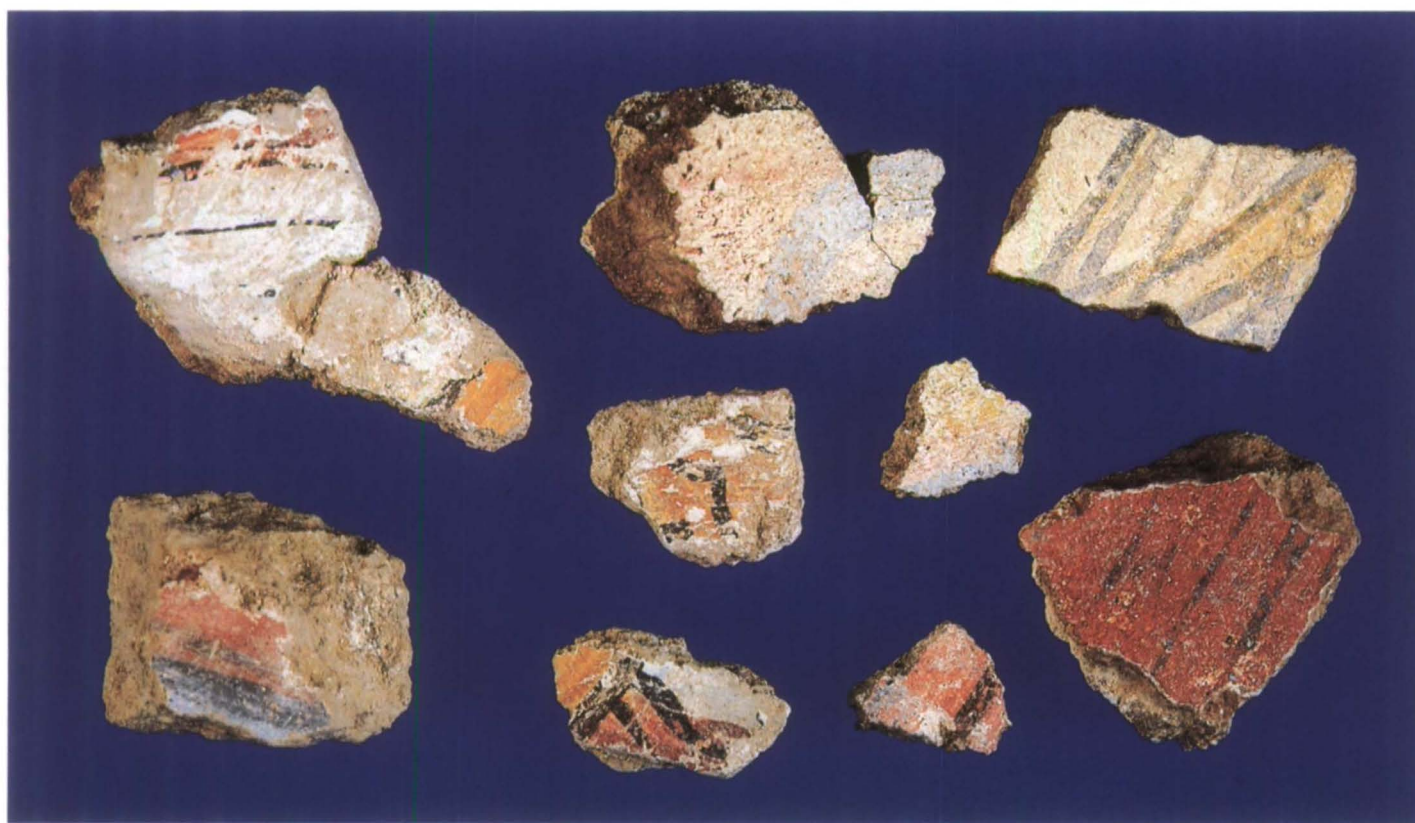
a. East of room **N1**, dolphins' bodies, tail fins.



b. East of room **N1**, argonauts, fragments.



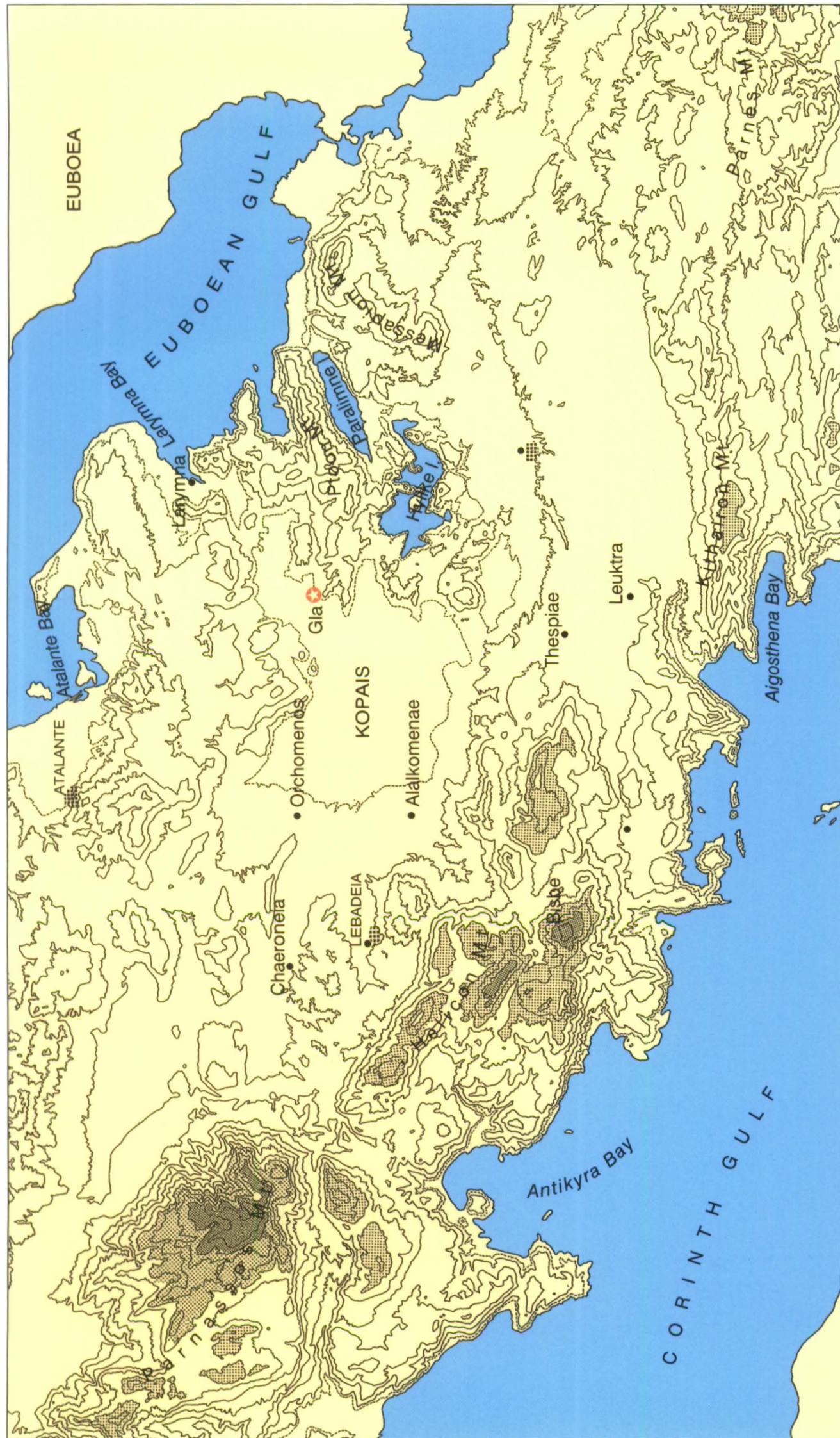
a. East of room **N1**, miniature patterns.



b. Room **M3**, plant motifs (?).

PART ONE

THE BUILDINGS AND THEIR FURNISHINGS



Map 1. Boeotia and the Kopais basin.

INTRODUCTION

THE SITE

In the northeast corner of the Kopais, near the point where the Mycenaean drainage dykes converge on the artificial canal and the natural sink-holes (katavothrai) which drained off the stagnant waters of the basin, a low pear-shaped rocky eminence rises from the surrounding plain (Map 1, Pl. 1). As long as the Kopais annually flooded and was transformed into a marsh or a lake depending on the time of the year, the rock was an island. But while the Minyan drainage system was functioning, it became the key point of the drainage works and of the fortifications built around the basin to protect the farmers of the plain and their crops.

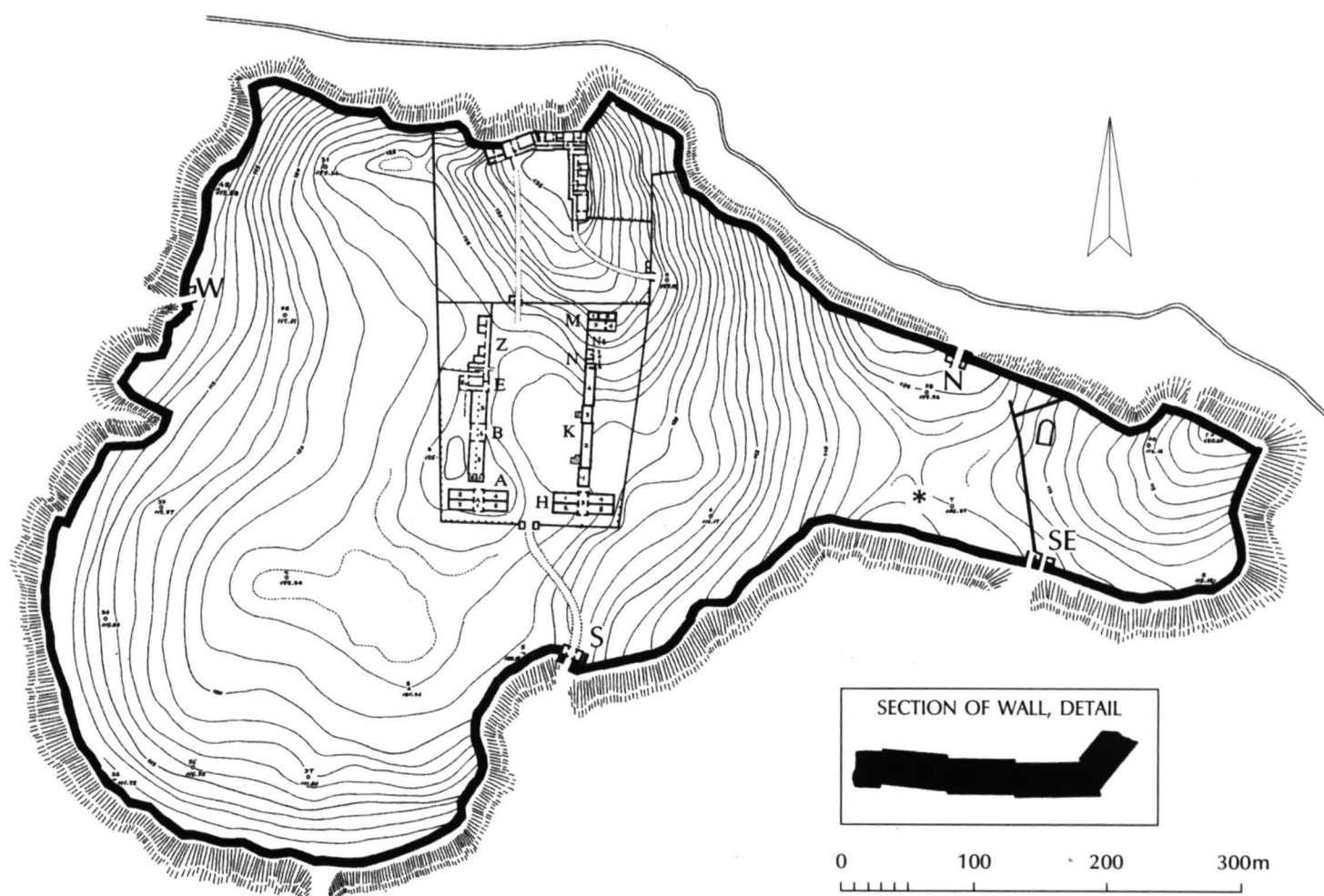
The rock is 900 m. long (from east to west), 575-125 m. wide and its surface measures 200,000 sq.m. (ca 50 acres). To the west it rises 15 m. from the surrounding plain, to the north 38 m., to the northeast 10 m. and to southeast 9.50 m. The grade, abrupt on the south and the northwest slope, less so on the west and more or less accessible on the northeast, is nowhere gentle.

The rock (then an island) was settled during the Middle and Late Neolithic period. Later, in Mycenaean times, a strong Cyclopean fortification wall was built along the brow of the rock (Pl. 2:2) surrounding the entire plateau on the summit — an area ten times greater than Tiryns and the Athenian Acropolis and seven times that of Mycenae.

Pausanias makes no mention of the site in his description of the area and its ancient name is unknown. To the nearby villagers it is known nowadays as Palaiokastro (ancient fortress) or Kastro (fortress). In archaeological literature it appears as Gla, the Albanian equivalent of its Greek name. Scholars of the past have attempted to identify it with one of the historical sites of the region (such as Kopai, Glechon, Phlegya, etc.) or with one of the four mythical cities of the Kopais (Athens, Eleusis, Midea, Arne) which, according to legend, were flooded when Heracles and the Thebans destroyed the drainage system built by the Minyans. But the historical sites were all situated outside the Kopais basin and Gla (which was not a city anyway) was never covered by the waters of the lake. These identifications — including the prevailing one with Homer's "Arne rich in vines" advocated by Noack and adopted by Threpsiadis¹ — do not apply.

The fortification contained several structures (Plan 1): a great residential building, the melathron (called by the excavators the "palace"), was constructed to the north of the plateau, and an extensive enclosure was put up around it and around two building complexes to the south (Noack's and Threpsiadis' "Agora"). In addition, there are two buildings to the northwest and the southwest of the central compound. One additional apsidal construction has been observed in the east section of the fortified area, beyond a strong cross-wall which separates this section from the main part of the fortress. The buildings show traces of repeated repairs and maintenance work. Ultimately they were destroyed by fire and were abandoned in the middle of the swamp which formed when the drainage system was neglected and choked up, or, more probably, was deliberately destroyed. There was never any systematic inhabitation of the citadel after this date. In Byzantine times a small church was built on the ruins of the residential building. During the Turkish occupation and afterwards, the site was used for grazing. In the Greek War of Independence it served as a stronghold for the inhabitants of the area, who captured it after a struggle and built a small chapel in it for the garrison and refugees. Its fortifications, though in ruins, are preserved for the entire circuit and began to attract the attention and interest of travellers and antiquarians from as early as the beginning of the 19th century, especially after Greek Independence. E. Dodwell, in 1805, W. M. Leake, in 1806, and

1. AM 19, 1894, 472-474.



Plan 1. Gla, general plan.

L. Ross, in 1834, all noted it as a fortified hill or island (depending on the season at which they saw it), but did not set foot on it. It was visited by H. N. Ulrichs and P. W. Forchhammer in 1837, and again by W. Vischer in 1853. Schliemann made an excursion on horseback to examine the place in 1881, while he was excavating at Orchomenos, but did not consider it worth investigating. Work on the site did not begin for another twelve years.

THE EXCAVATION

F. Noack was the first to undertake a systematic survey of the site; he visited it in May 1893 and drew plans of the rock, the circuit wall and the visible remains². One month later, in June of that year, the Frenchman A. de Ridder spent 22 days excavating what he called the palace and the buildings inside the enclosure³, which he thought were the residences of the garrison and the palace staff. He also studied the fortification wall and the gates and dated the entire site in the late Mycenaean period. In the summer of the following year, Noack completed his survey work and produced a topographical plan of the hill and the structures on it, which formed the basis of every publication concerning Gla for the following 60 years.

De Ridder and Noack revealed the existence of the Mycenaean fortress and the structures on it but left many problems concerning their precise form, their nature and their dating unsolved. Considerable progress was made by J. Threpsiadis who investigated from 1955 to 1961 on behalf of the Archaeological Society at Athens the four gates of the fortification and conducted supplementary excavations in the melathron, the central enclosure and the west building complex (buildings **A**, **B**, **E** and **Z**)⁴. He also succeeded in having the Greek Air Force take aerial photographs of the area and the Geographical Service of the Greek Army undertake a survey of the site. The untimely death of the excavator in 1962 put an end to the field work and to the study of the material. His brief preliminary reports were from then on the only available account of the work done on the site.

Finds are mentioned in the excavation notebooks in a general way and there is no record of the amount and nature of the material found or of what was discarded. What was kept was labelled according to the find spots and stored away in the Museum at Thebes. Between 1961 and 1976 the finds were subjected to repeated moves which caused bags to disintegrate and labels to get lost with the ultimate result that 38 out of a total of 442 lots could not be assigned to their particular find location. As

2. Op. cit. 405-440.

3. BCH 19, 1894, 271-310.

4. Praktika 1955, 121-124, pl. 40, 1956, 90-93, pls 26-28, 1957, 48-53, pls 13-15, 1958, 38-42, pls 32-33, 1959, 21-25, pls 16-22, 1960, 23-38, pls 7-21, 1961, 28-40, pls 11-16.

a result, except for a number of floor deposits, objects could not be attributed to layers and had to be dated by stylistical analysis rather than by stratification.

Visiting Thebes in 1972 I had a first tantalizing glimpse of the material. In 1977 the Archaeological Service and the Archaeological Society gave me the permission to publish Threpsiadis' excavation. With her customary kindness and generosity Mrs. A. Threpsiadis placed at my disposal her late husband's papers, including the excavation daybooks, drawings and photographs. In the summer of the same year I studied the finds in detail, numbering the lots as I saw them and assigning them as far as possible to their excavation contexts. In 1979, having been entrusted with the continuation of the excavation, I spent the summer on the spot, checking and completing the architectural survey of the buildings and drawing detailed plans of the gates, the melathron, the entrances to the enclosure and the structures in it. In doing so I designated buildings and rooms afresh by numbers and by letters common to both the Greek and Latin alphabets in order to avoid eventual confusion. Finally, in 1984, I reinvestigated building **A** to clarify an architectural point raised by the excavation of building **H**.

The excavation was resumed in 1981. The 1981-1983 and 1990-1991 campaigns were employed in investigating the counterpart of the **A - B - E - Z** building complex situated along the east side of the south enclosure and consisting of the structures **H - K - N1, 2, 3** and **M**. The earlier excavators had laid a number of trenches across the buildings, whose walls were partly visible above ground, not in order to excavate them but simply to determine the lines of the walls and the limits of the rooms, leaving them otherwise untouched.

The actual digging was carried out by mixed teams of students and workmen, supervised by the few graduate students who had already had some previous excavating experience, and who were asked, for training purposes, to keep excavation diaries for their sections. Different areas were excavated in different ways according to the special conditions encountered, but everywhere the digging proceeded by layers. With the exception of those formed by dissolving mudbrick, the layers, especially the upper ones, were not always easy to distinguish. The earlier trenches, however, when cleared of their dark-coloured loose fill, showed on their sides more or less clearly the stratigraphical profile of the fill into which they had been sunk. The investigation started therefore by removing the soil that had been dumped back into those old trenches and then fol-

lowing the revealed strata horizontally. Finds were kept separately according to date, section, layer and, for the more important ones, the exact find spot, marked also on the excavation plans. In building **H**, where the size of the rooms and the thickness of the accumulation allowed for such a provision, a 0.50-0.60 m. wide strip was left unexcavated along one of the long sides of each room to show the thickness and the consistency of the fill and to allow for future control testing of the stratification, should this prove necessary.

In building **K**, which had been completely denuded of fill, excavation was limited to the investigation of the dissolved mudbrick accumulated along its sides and to exposing the cross-walls which traversed the building and divided it into compartments.

In rooms **N1-N3** and in area **N4** the same method of observing the profiles of the earlier trenches was applied in order to establish and follow the existing layers. Here, however, as the rooms were small, trenches had taken up more space than elsewhere, the untouched areas were restricted and the layers, following the general slope of the ground, decreased in thickness southwards almost to extinction.

Building **M** presented additional difficulties. The fill in its area was either nonexistent or very thin. It was confined mainly within the rooms where it had been retained by the walls; so also outside, where the south and southeastern façades had protected it from being totally washed downhill. In many places the rock reached the surface and stones which had rolled off from their positions in the walls lay around thus obscuring their outline. Accordingly, the first step in was to clear a 2 m. wide zone around the building in order to clarify its plan. Along its south side the topsoil was succeeded by a thick brown layer full of stones. This, in turn, lay over a hard whitish deposit which went down to the foundation course, contained some pottery and covered the lead sheets found at the foot of the wall.

Stratigraphy within the rooms of building **M** was likewise revealed by the early trenches which, however, had caused real and extensive damage to the sparse fill. The accumulation, such as it was, was excavated to the extent possible and wherever preserved in layers, which were discernible by their colour, consistency and texture. A small exploration trench was also sunk into the stone fill beneath the floor of room **M2** in order to collect material for dating the construction of the building.

STRATIGRAPHY

In his excavation report A. de Ridder has nothing to say about stratigraphy if, indeed he was aware of it. Threpsiadis, on the other hand, attempting to clear the buildings located and partly uncovered by his predecessor, dug along the walls but did not always expose the floors of the rooms. In his excavation daybooks he noted the difference in colour between the surface soil and the layers below it. Also, he and his assistants, Ev. Pentasos and S. Symeonidis, often give the depth at which objects were found, but the measurements were taken from a variety of points not easily located and correlated. Floor deposits are usually but not always identified as such. Thus, the stratigraphical picture is neither clear nor complete.

In the 1981-1991 excavations every effort was made to study the fill accumulated on the buildings and to determine the succession of the strata formed on the site with the passage of time. The following remarks, based on the findings of these campaigns, reflect the conditions observed in the east wing of the central enclosure which were then investigated but apply, in all probability, to the entire built area on the rock.

The surface soil on Gla is red and very thin, leaving the rock for the most part bare. In time, the disintegration of mud-bricks from the walls of the buildings, moulded out of clay from the bottom of the lake, added a thick, irregular, whitish-gray layer the top of which, exposed to the elements and penetrated by roots of the local vegetation turned brown and crumbly. This soft topsoil was blown by the winds and washed downhill by the rains, piling up wherever it met with an obstacle such as a wall or a rock ledge and adding a fresh top to the former surface. This then was the basic stratification, formed with the passage of time after the site was abandoned. A few brief visits and limited activities in Hellenistic and Byzantine times left the accumulated fill for all practical purposes unchanged.

The first radical changes were wrought by the earlier excavators, especially by A. de Ridder. Their teams cut through the strata, and dumped the excavated soil along the sides of their trenches, telescoping the contents. They then threw some of the fill back into the trenches and scattered the rest around. Thus a new surface layer was created, that was arbitrarily formed and unrelated to the archaeological history of the site.

This lengthy process, partly natural and gradual, partly man-made and

expeditious, resulted in the accumulation of several distinct superimposed strata, differing from place to place in thickness and to some extent in colour, but not in substance.

On 0.20 m. top lay the reddish-brown accumulation, loose in texture, 0.20-0.50 m. thick, disturbed by weather conditions, vegetation and human agency. It covered the first more or less undisturbed layer, 0.10-0.30 m. thick, which had been formed over the years by natural agents and was to some extent contaminated by their action. Not very compact, it had a lighter shade of brown than the former one and yielded some pottery, a number of stones, fragments of plaster and mudbrick and broken roof tiles.

Next came the second, well-defined, close textured, uncontaminated off-white to greyish layer, whose thickness was 0.04-0.10 m. in the northern buildings and 0.40-0.60 m. at the southern end. It was formed by the disintegration of mudbricks after the collapse of the walls, mainly within but also outside the rooms, and contained fragments of mudbrick hardened by fire, roof tiles, but hardly any stones. It also contained many pottery sherds, most of them with edges worn. Similar sherds found in the preserved mudbricks show that such fragments, coming from already broken vases, were systematically worked into the mudbricks. They provide valuable chronological evidence for the construction of the buildings.

In building **H** this layer covered a very thin deposit of ashy soil mixed with scattered splinters of burnt wood and a great amount of carbonized wheat. Among the ashes lay burnt pottery sherds and partly calcined stones. This deposit was the result of a conflagration which destroyed the building and which therefore dates the destruction, as does also the pottery from the floor and threshold deposits from the very last phase of occupation.

The drains of building **H** yielded more pottery. Some of it belonged to vases, especially large stirrup jars, which could be mended. Some of the sherds, but not all, had been burnt. The vases therefore had been broken and discarded before the fire, to which some of them were subsequently exposed. The pottery from the drains belongs accordingly to the final occupation phase, as do the floor deposits.

In addition, a number of sherds came from the levelling rubble fill of the floors in buildings **H** and **M** and from the stones of the terrace of **K**. This material is obviously contemporary with or precedes the construction of **H**, **M** and **K**. It constitutes, with the contents of the second layer, a terminus post quem for these buildings.

THE STRUCTURES

THE FORTIFICATION

THE FORTIFICATION WALL

The most impressive feature of Gla is the fortification wall. It has a total length of 2,800 m. and encircles the hill in a continuous unbroken circuit, following closely the line of the brow of the rock (Plan 1, Pl. 2:2). Built as a single unit and never remodelled or extended, it is a uniform 5.40-5.80 m. thick throughout, with a preserved height ranging from 3 to 5 m. The limited thickness of the wall, together with the nature of the hill, makes it improbable that there were any galleries, rooms or similar structures within its thickness; if they had existed, they would be quite obvious at the height to which the wall is preserved.

The foundation technique, observed in the part of the wall adjoining the melathron terrace on the west where it was preserved only in its lower course, is the same as in all Cyclopean fortifications: the boulders of the façades and stones of the core fill were founded on an irregular layer of flat stones which created a more or less level surface for the first course to rest securely upon. On the other hand the fortification wall exhibits throughout its length a striking feature almost unique to Gla, otherwise observable on the Greek mainland only in the south-west circuit wall and Lower Citadel at Tiryns⁵. At intervals ranging from 6 to 12 m. (usually 9-10 m.), the outer face is broken by vertical offsets that project 0.10-0.60 m. and give the wall a serrated appearance (Plan 1, insert, Pls 2:3, 3:4), emphasized visually by the use of more or less regular rectangular blocks at the corners. This configuration of the outer face is duplicated on the inner, where the row of offsets is repeated in reverse. Between them, the wall is always built in a straight line, so that even in places where it is compelled by the formation of the rock to follow a

5. P. GROSSMANN, AA 1967, 100-101.

curving course, the curve is broken down into a number of short, straight sections. The prevailing view, as expressed by Noack, is that the offsets are not limited to the faces, but that the joints in the angles go all the way through the wall, thus dividing it into short, separate lengths which are contiguous but are not tied together. But a careful examination of a whole series in such offsets in the south wall, and the removal of a number of fallen or displaced stones, which obscured the lower courses preserved *in situ*, has shown that Noack's observation is not universally valid. Only the cleaning and study of the entire circuit of the wall will show whether there are in fact any joints that do run all the way through it. Where it has been examined so far, the joints on both the inner and outer faces, with a single exception, run no deeper than the face course of the wall, stopping when they come to the core fill, which is uninterrupted for the entire length of the circuit. In fact, some joints are even bridged on the façade by stones projecting into the next section of the wall.

The circuit is thus frequently punctuated by offsets, but, generally speaking, these do not penetrate the whole thickness of the wall. They were apparently dictated by the local material used in its construction: The limestone of which the rock consists is veined in such a way that, when quarried, it breaks into more or less regular rectangular blocks (Pl. 3:5). Because of their shape, these blocks have to be laid in straight horizontal pseudo-ashlar courses, the levels of which can not be maintained over long distances. By breaking up the façade of the wall into comparatively short sections the builders could more easily adapt its line to the curves of the rock and vary the levels of the courses from one section to the next, thus saving time and labour in dressing, placing and matching their material.

There are no drains running through the wall. The only structures remotely resembling such installations are the three drains in the court of the melathron, leading off the rainwater below the building and through the joints of the fortification wall.

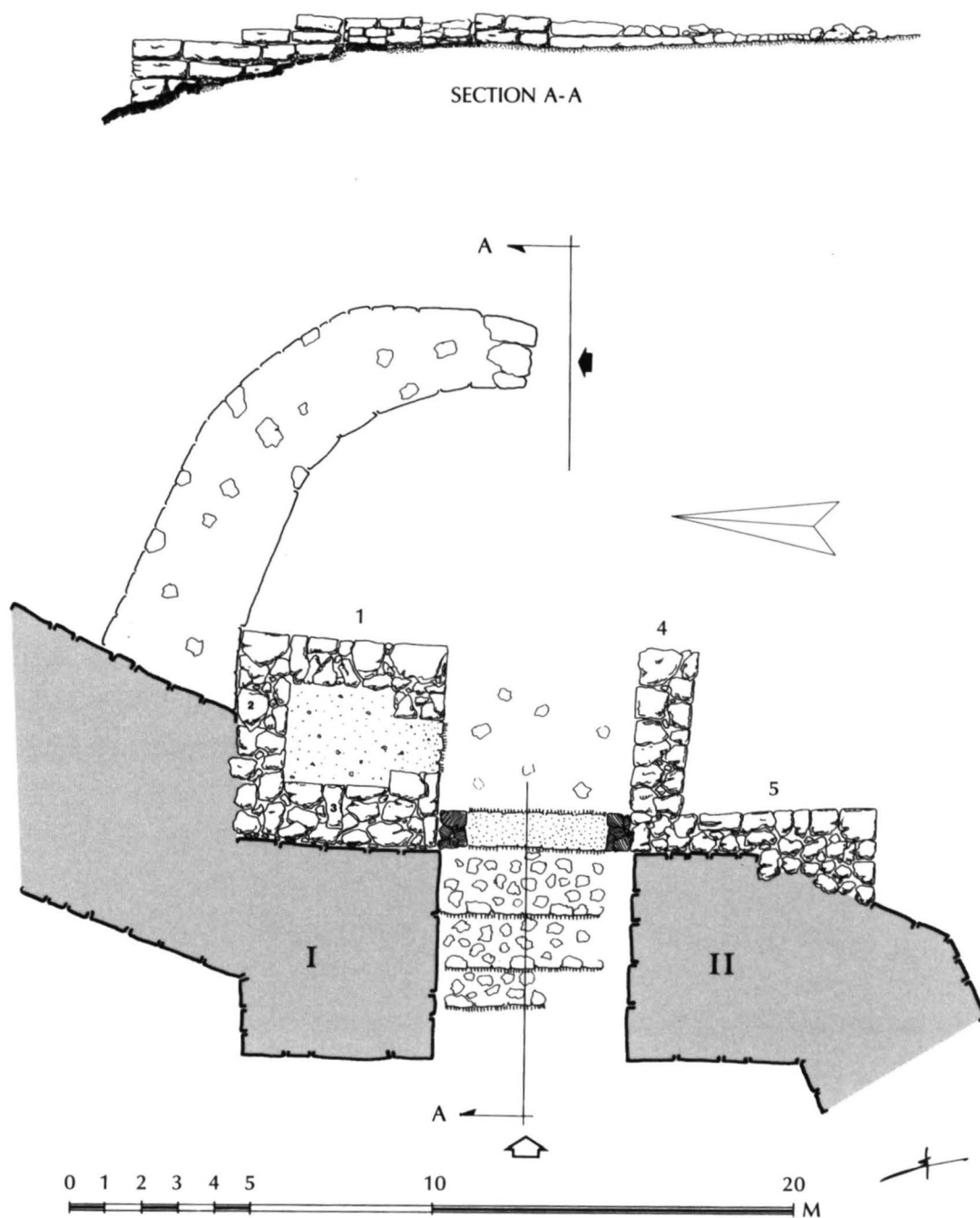
The circuit wall had four gates: one on the west side, a second approximately in the middle of the south side, a third, double gate near the southeast end and a fourth on the north side.

The South and Southeast Gates lay high above the plain. The former was approached by a ramp of Cyclopean construction, 100 m. long and 6-7.50 m. wide, the latter by a dykelike incline partly presented till 1957. The North Gate was reached by an uneven roadway, the West by a path twisting up the slope.

THE GATES

West Gate

The West Gate (Plan 2, Pl. 4:6) is flanked on either side by two rectangular bastionlike thickenings of the fortification wall, faced with long stretcher blocks. The fronts of the "bastions" project slightly from the line of the wall to which they are oblique leaving between them an open entrance court of 5.30×5.70 m. The floor of the court rose in four wide irregular steps and consisted in part of a rough pavement and in part of



Plan 2. West Gate.

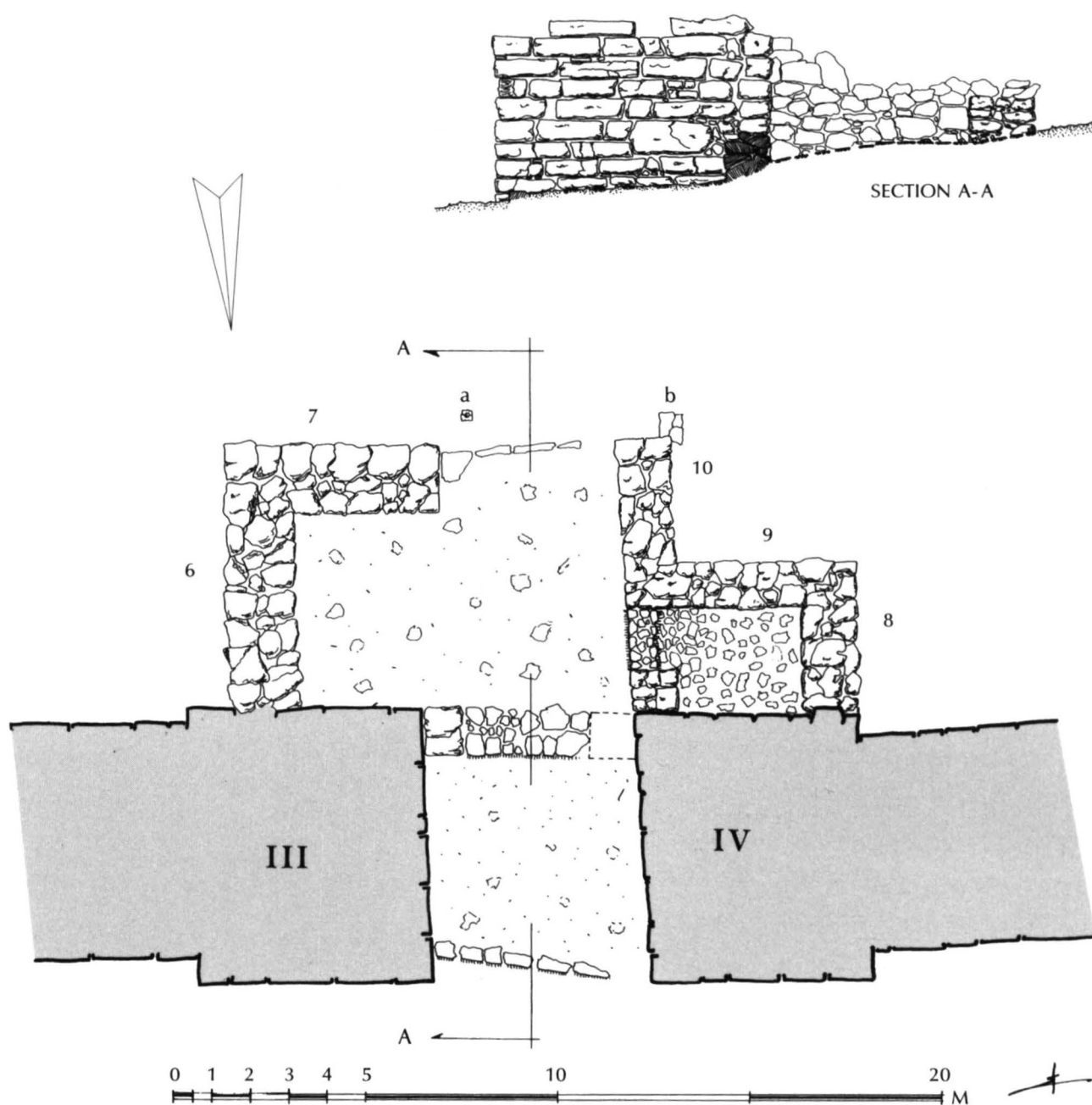
the levelled rock itself (Pl. 4:7). The court was closed by a 3.88 m. wide door which had a stepped, 0.20 m. high threshold built of stones and flanked by two strong jambs. In later times a path was cleared through the fill of the court, dated by Medieval sherds found practically on the rock. Beyond the threshold there is an inner court, 5.25-5.50 m. across and 4.54 m. deep, paved in the same manner. On the right (south) side it is bounded by a wall continuing the line of the south bastion. On the left (north) side there is a rectangular room, a guardroom, no doubt, which measures 2.70-2.89×3 m. and has a 1.50 m. wide door opening onto the court. Both the wall to the south and the walls of the guardroom are built of fairly large unworked stones and bond with the fortification. They are preserved up to 0.75-0.80 m. and seem to be the remains of stone socles built to support a mudbrick superstructure. Layers of ash and traces of fire were observed on the floor of the guardroom and at the foot of the wall.

Inside the gate there is a curving ramp (Pl. 5:8) which widens from 1.70 m. at the beginning to 3.34 m. at its preserved end. It led up to the fortification wall behind the guardroom. Only the lower one or two courses of the ramp have been preserved, built of huge boulders, the largest of which is 4 m. long.

To the north of the ramp an apsidal structure was uncovered, built of rubble and partly cut into by the construction of the fortification wall. Still further to the north lie the foundations of a small one-aisled Byzantine church, which has an almost square narthex and a shallow apse. The disturbed layers and the frequency of Medieval pottery in the area of the gate are due, no doubt, to this chapel.

North Gate

The North Gate (Plan 3, Pl. 5:9) was reached by a roughly paved incline leading to a low step between the thickened ends of the fortification wall, as in the West Gate. These "bastions" had 5.80 m. and 5.20 m. wide fronts and were built of well dressed large blocks laid in regular horizontal courses. Ten such courses, reaching altogether up to 4.66 m., are preserved on the east bastion (Pl. 6:10), and only six on the west (Pl. 6:11). They bounded a 5.50×7.20 m. entrance court paved with irregular slabs and faced with packed earth and pebbles. The court ended at a 0.63 m. high stone-built threshold which must have been reached by one or two not preserved steps.



Plan 3. North Gate.

Beyond the door, which seems to have been ca 3.25 m. wide, was an inner courtyard 5.48-4.70 m. wide and 7 m. deep. On its west side it was flanked by a 2.85×3.27 m. guardroom opening into it (Pl. 7:12), and by a wall built in continuation of the room's front for ca 3 m. On the east there was a rectangular shed-like space, presumably roofed, open along the side facing the courtyard (Pl. 7:13). The walls of the room and of the shed bond with the fortification. The floors of the courtyard, the room and the

shed had been originally paved and were later surfaced with packed earth and small stones like the outer court. On the floors were traces of fire, burnt mudbricks and blackened potsherds, all covered by the collapsed and dissolved mudbrick superstructure.

In two places, one near the end of the south wall of the shed, the other next to the freestanding wall beyond the guardroom, there were stone slabs surrounding burnt wood, possibly the supports of a scaffolding set up for the construction or, more likely, for repairs of the structures next to them.

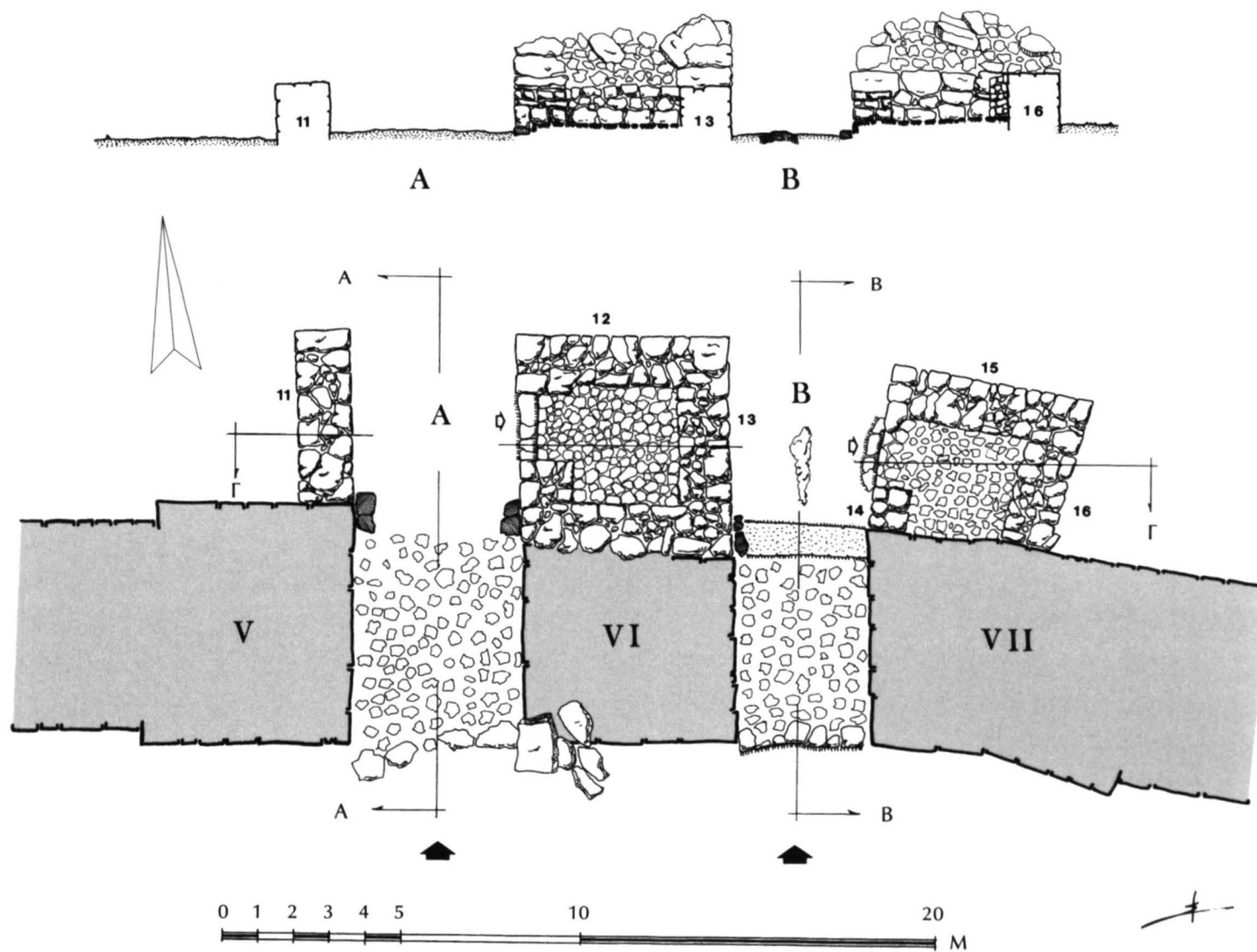
Southeast Double Gate

The Southeast Gate has two entrances separated by a strong rectangular tower, whose outer face stands on the same line as the two bastion-like ends of the fortification wall right and left of the gate (Plan 4A, A, B, Pl. 8:14). The east bastion and the central tower have each a small rectangular room attached inside, so that both entrances have a guardroom each. But the west bastion has instead a wall extending its flank and bounding the entrance on the west. The cross-wall which separates the east part of the citadel from the west abuts on the north, inner face of the central guardroom. The east entrance connects the east section of the hill with the plain, while the west entrance leads to the main citadel. The Southeast Gate is thus not strictly speaking a double gate, but rather two separate gates, side by side; they do not communicate with each other, but serve two different areas of the fortress.

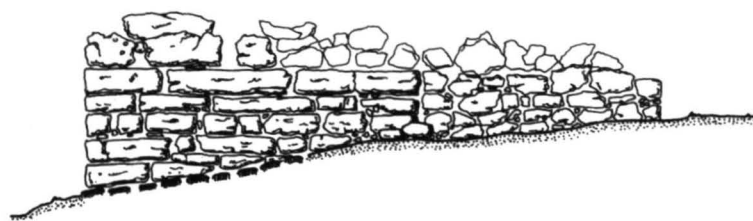
The two entrances, both surfaced with rough stone pavements interrupted here and there by the dressed bedrock, are divided by doors into outer and inner courts, as in the other gates. They had been blocked by an accumulation of dissolved mudbrick and of stones fallen from the bastions and the central tower.

The west bastion (Plan 4A, A, 4B, section A-A) 5.80 m. wide, preserves five almost regular courses of 3 m. total height. The tongue wall behind it, built of irregular unworked stones, does not bond with the bastion but forms a distinct joint with it. Along the wall, ca 0.50 m. above the floor, a layer containing traces of fire was observed.

The central tower, 6 m. wide at the front, has five Cyclopean courses left, reaching up to 3.50 m. Its southwest corner blocks have slipped from position, defacing to some extent its front (Pl. 8:15). The guardroom wall



A



B



Plan 4A, B. Double Gate.

behind the tower, built of large unworked stones, bonds with the tower's core (Pl. 9:16). The room itself measures 3×3.25 m., has 1.40-1.50 m. thick walls and a 1.77 m. wide door with a stepped threshold opening onto the west entrance. Blackened earth and ashes overlay its paved floor and the room was buried under the debris of its superstructure mixed with stones from the wall and with potsherds.

The east bastion has a long front, bent to follow the line of the fortification wall. Its preserved five courses are irregularly Cyclopean rather than horizontal (Plan 4B, section B-B). A small rectangular guardroom was built against it, whose walls, built of large irregular stones, do not bond with the bastion's inner face (Pl. 9:17). The door of the room, opening onto the east entrance, is stepped. The room's roughly paved floor was strewn with ash, burnt wood and bronze nails and was covered by the usual accumulation of earth and stones.

The outer court of the west entrance, 4.80 m. across and 6.11 m. deep, had a stone pavement surfaced with earth and pebbles. The inner court, an area of 4.60×4.35 m., was unpaved. The floor of the whole entranceway was covered by a layer of ashes and blackened earth, buried under the accumulated destruction debris. A narrow passage, dated by Hellenistic pottery, had been cleared through this accumulation.

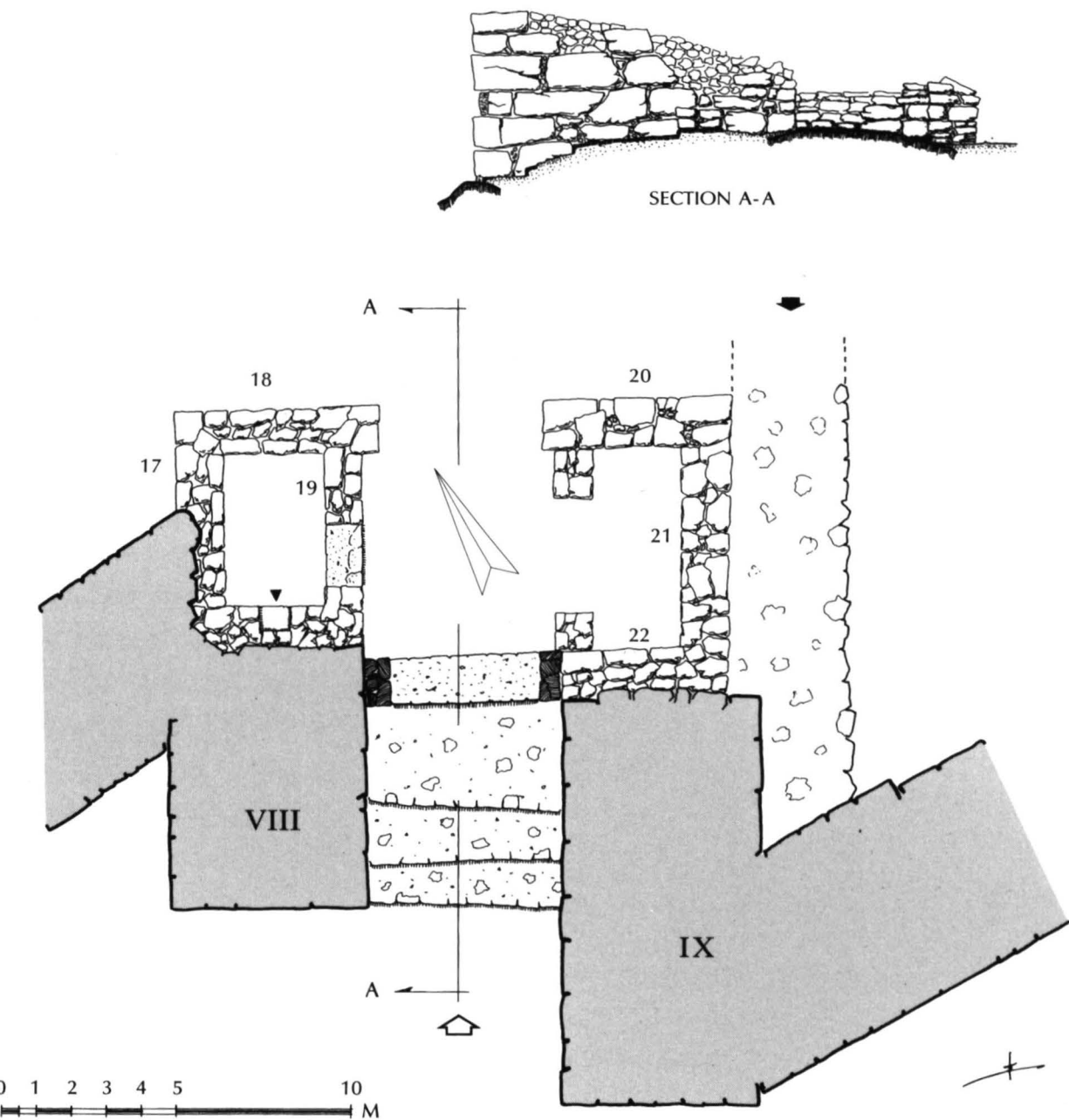
The east entrance has the same arrangement: A paved outer court measuring 3.82×4.50 m., a door with a stepped threshold and an inner unpaved court 5 m. deep and tapering from 4.75 to 3.75 m. across. The fill blocking the passage was similar to that of the west entrance as was also the layer of burnt matter on the floor. But here the floor deposit included strips of bronze plate, some pierced by nails (Pl. 10:18,19). Sherds, dating the construction of the gate, were collected from underneath the cobblestones of the pavement.

South Gate

The South Gate (Plan 5, Pl. 10:20) was protected by two true bastions, built at an angle to the fortification wall and projecting beyond it. The placing and the unusual length of the two bastions (the east one extends 5.90 m. in front of the other, flanking the approach on the right) seem to be due to a sharp bend of the rock and, correspondingly, to a change of the line of the fortification rather than to the builders' intention to enfilade the attackers. The effect, however, is the same and the South Gate of Gla may very well have inspired the builders of Tiryns, Mycenae and Athens.

Both bastions have 5.70 m. wide fronts. The west, 7.08 m. long, built of large blocks laid in horizontal courses (Pl. 11:21) is preserved up to 4.73 m. (6 courses). The east is 11.64 m. long and has 8 horizontal, almost ashlar courses, 4.50 m. high.

The outer entrance court rose in three wide paved steps, which were covered with stones calcined by fire, bricks hardened by the heat, burnt

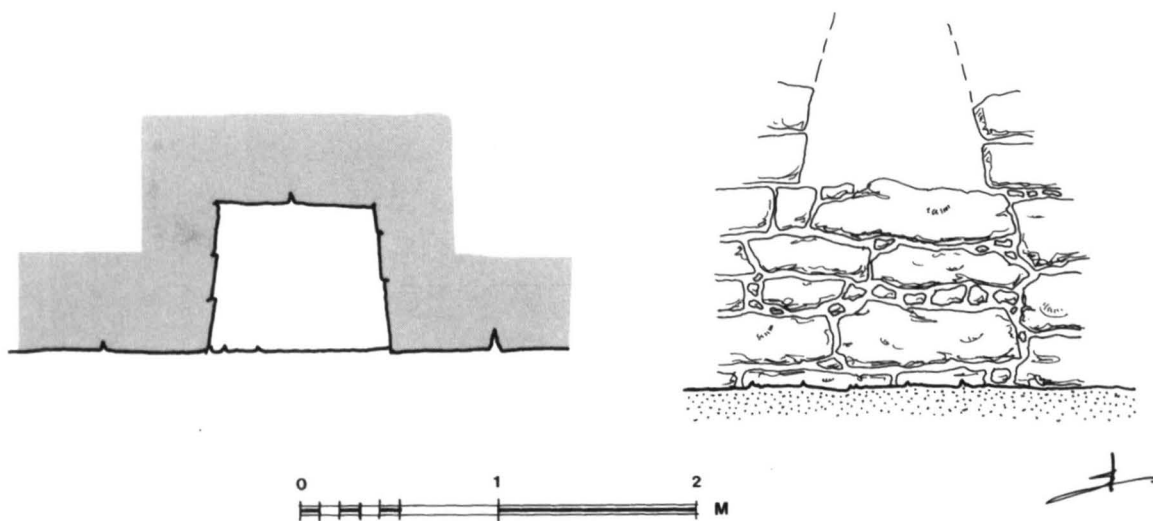


Plan 5. South Gate.

wood and white ash. Hellenistic sherds were found among the destruction debris.

A door, apparently 4.26 m. wide, divided the outer from the inner court, which was 5.50 m. wide and 7.20 m. deep and showed the same signs of a violent conflagration, buried under the dissolved mudbrick and stones from the superstructures. Here, as in the Southeast Gate, the excavation brought to light bronze nails (Pl. 11:22) and pieces of bronze plate with traces of burnt wood on them. One such fragment was found transfixed by a nail. Judging by the length of the nails, the piece of wood on which the bronze strips were attached must have been more than 0.07 m. thick.

The inner court is flanked by two guardrooms, one behind its bastion and bonding with it. The walls of the rooms, 1.20-1.45 m. wide, are built of fair-sized stones, dressed at the corners. The west room, 2.90 by 4.25 m., has a 1.80 m. wide door with a stepped threshold opening onto the court. The packed earth floor had the same signs of burning that were observed in the entranceway. A rectangular niche (Plan 6, Pl. 12:23), 0.92 m. wide and 0.70-0.76 m. deep, with corbelled sides and no preserved ceiling, had been reserved within the thickness of the south wall. It looks



Plan 6. Niche in South Gate guardroom.

like the entrance niches inside the Lion Gate and within the West bastion at Athens and, like those, it was most probably a gate shrine⁶.

The east room was probably originally a roofed space which was then converted into a chamber by the addition of two short walls along its

6. LH Citadels 31, 33, 39.

front, flanking a 2.95 m. wide opening. The chamber had a roughly paved floor and lay buried under the same accumulation that was found in the entranceway and the room opposite.

A 3.30-3.50 m. wide ramp, leading up to the top of the bastion and the entire gate complex, was built inside the fortification (Pl. 12:24). Neither its beginning nor its upper courses are preserved. It could have been hardly more than 15 m. long, however, and in order to reach the presumed height of the bastion (a minimum of 5-5.50 m.) its incline must have been so steep that it would have had to be stepped.

FISSURE IN THE ROCK BETWEEN THE DOUBLE GATE AND THE SOUTH GATE

Approximately 100 m. W. of the Double Gate and 15-20 m. N. of the fortification wall (Plan 1, asterisk) the rock is split by a deep natural fissure measuring at the opening 4.20-1.30 m. It was apparently thought to present a hazard and had been filled up with large stones and earth. This fill yielded some pottery, presumably from the time the citadel was occupied.

THE BUILDINGS WITHIN THE FORTIFICATION

THE CENTRAL ENCLOSURE

The main buildings of the citadel, the residential building (melathron) along the north wall and the long narrow halls to the south of it were erected within an enclosure which extends from the north side of the enceinte to a point 85 m. north of the South Gate, taking up practically the entire central part of the plateau (Plan 7). Being 260-287.45 m. long and 144-180 m. wide it has a slightly irregular rectangular shape. Its perimeter wall is preserved for its entire length. The few existing irregular gaps seem to be due to ruin rather than to the existence of passageways.

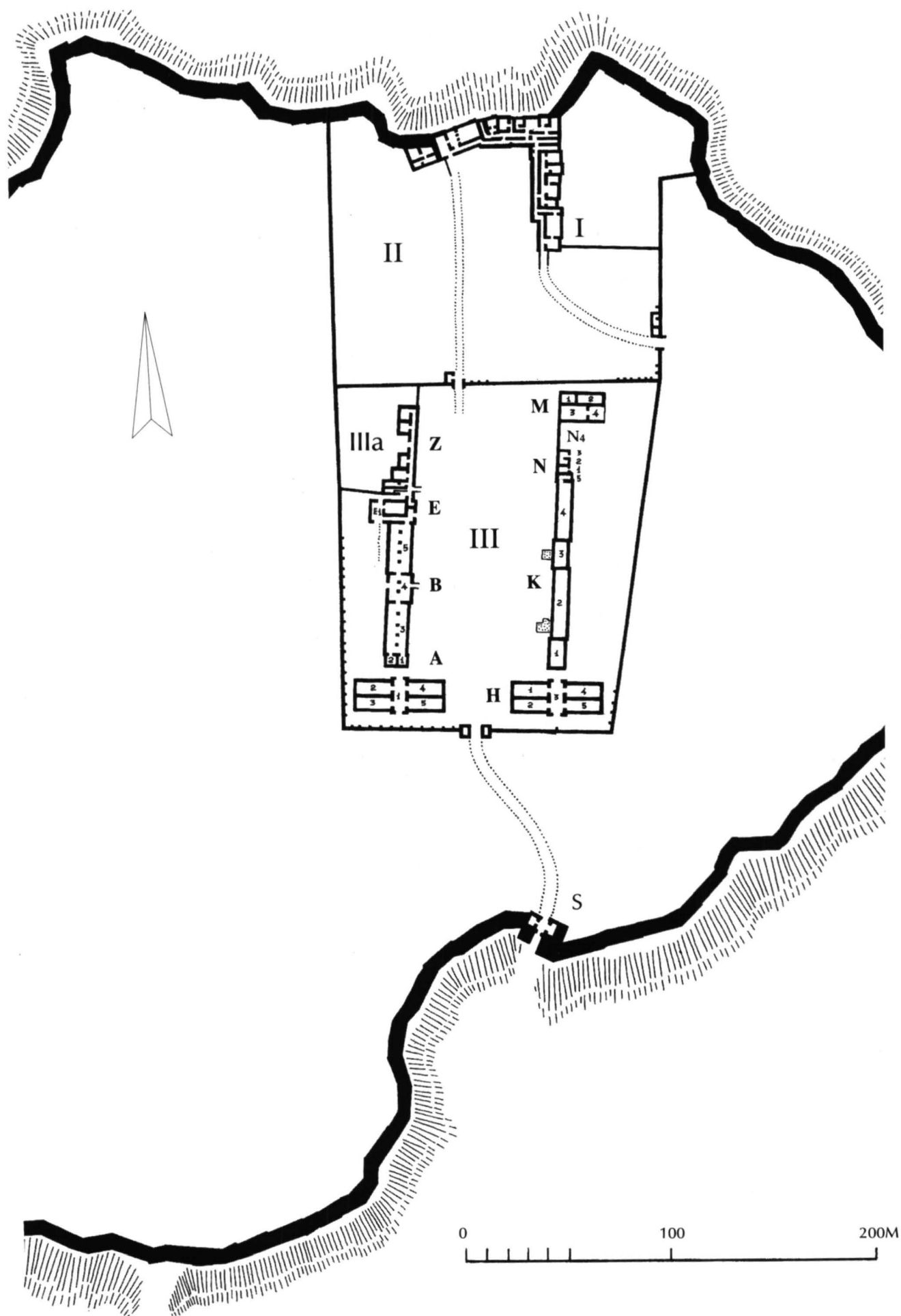
The west enclosure wall runs on a straight line starting from a point 50 m. west of the melathron. The east wall turns at its north end due east at a right angle, meeting the fortification on one of its bends 15 m. closer than if it had simply continued north. This northeast corner of the

enclosure (section **I**) is cut off from the main part by a dividing wall that abuts on the end of the east wing of the melathron. The segment communicated neither with the rest of the enclosure nor with the melathron. Along its east side there are one or two gaps which may or may not mark a passage to the east part of the plateau.

The main north section of the enclosure, an area of ca 15,000 sq.m. (section **II**) is divided from the south part by an east-west cross-wall. This section surrounded the melathron, to which it left plenty of room west and south. There was an entrance on the east side from which a road, surfaced with packed earth and small stones, led in a curve to the east entrance of the melathron. Another road starting from the north wing entrance of the melathron proceeded in a straight line to a gateway in the cross-wall, which gave access to the south section of the enclosure. This section (section **III**), an area of ca 51,000 sq.m., contained buildings **A**, **B**, **E** and **Z** to the west and the corresponding building complex **H**, **K**, **N1-3** and **M** to the east. Section **III** had another entrance to the south, approached by a paved road coming from the South Gate. The northwest corner of the section was cut off from the rest by a wall connecting building **E** with the perimeter wall to the west (section **IIIa**).

The enclosure wall abuts on, but does not bond with the circuit wall. It was, however, built around the structures within it, with which it belongs obviously together. Built of fairly large blocks, the perimeter wall of the enclosure is 0.40-1.70 m. thick except for its south part, where it does not exceed 1.15-1.20 m. It consists of a stone sockle whose varying height, ranging from 0.70 to 1 m., and irregular upper surface show that originally it must have been higher. At some points (e.g. outside building **H**) a few stone slabs were found 0.20-0.30 m. beneath its preserved top. They may well come from an upper course laid as a leveller to receive the mudbrick of the superstructure, for which there was ample evidence on both sides of the sockle, such as lumps of hard burnt clay.

The wall was built in sections. At a distance of 28 m. from its south-east corner, opposite the south entrance to **H3** it abuts on, but does not bond with one of the customary buttresses on its inner face. Its continuation forms a 0.23 m. offset and runs accordingly on a slightly different line than the previous segment. The difference is not significant. It shows simply that they did not bother to keep strictly straight building lines over great distances. At irregular intervals of 2.80 to 4.35 m. it was reinforced on the inside by roughly rectangular buttress-like additions, 1-1.78 m. wide at the front and projecting 0.30-0.70 m. from the wall. Some bond



Plan 7. Central enclosure.

with its inner face, others do not⁷. Threpsiadis thought that they might have been spanned with planks, widening the top of the wall to a sort of rampart walk for defenders⁸. But considerable lengths of the wall (the west side of IIIa, e.g.) have no such buttresses and a 1.20 m. thick mudbrick wall would not have been much of a bulwark in any case. The buttresses must have had some other justification, not readily apparent and difficult to explain.

A trial trench, 108 m. long and 1.50 m. wide, was laid in the middle of section III, between the two building complexes. It produced a little pottery of mixed date and showed that the vast area was free of structures.

East Entrance

Near the southeast corner of section II the perimeter wall is interrupted by two short transverse walls bonding with it and flanking a 4.95 m. wide, roughly paved entranceway (Plan 8, Pl. 13:25). A low threshold across the entrance marks the place of a door whose opening was no doubt considerably reduced by wooden jambs. It is a typical Mycenaean propylon, and was probably roofed. At a later date a porter's lodge consisting of two roughly rectangular rooms was built onto the inner face of the perimeter north of the gate, enclosing two of the wall's buttresses. The first room, next to the gate, measured 3.40×3.30 m. It opened onto the entranceway and was found to contain pieces of a terracotta tub, pithos fragments and sherds of a small krater decorated with oblique whorl shells and multi-stemmed papyri (Pl. 13:26). More sherds of this vase were recovered outside. The second room, 5×3.15-3.65 m., more irregular in plan, was accessible only from the north. Fragments of plaster offering tables (Sh. 13)⁹ and the bottom part of a jar full of lime were found on its floor.

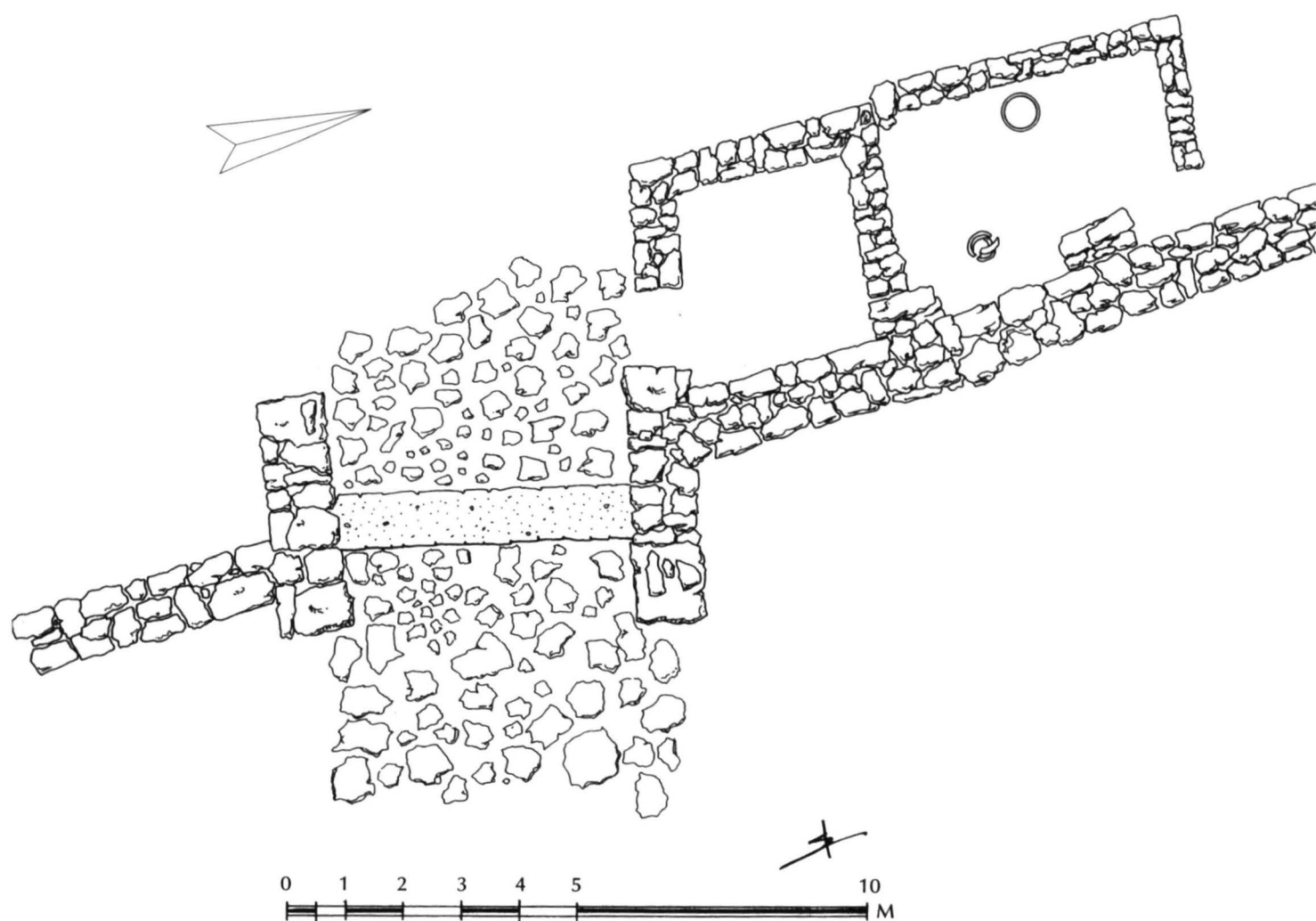
Cross-wall Gateway

Another propylon, similar in plan, was built in the wall dividing sections II and III (Plan 9, Pl. 14:27). This, too, was framed by two thick

7. Gl. I 80-81, 200.

8. Praktika 1960, 30.

9. N. POLYCHRONAKOU - SGOURITSA, *Ephemeris* 1982, 20f., esp. 24.



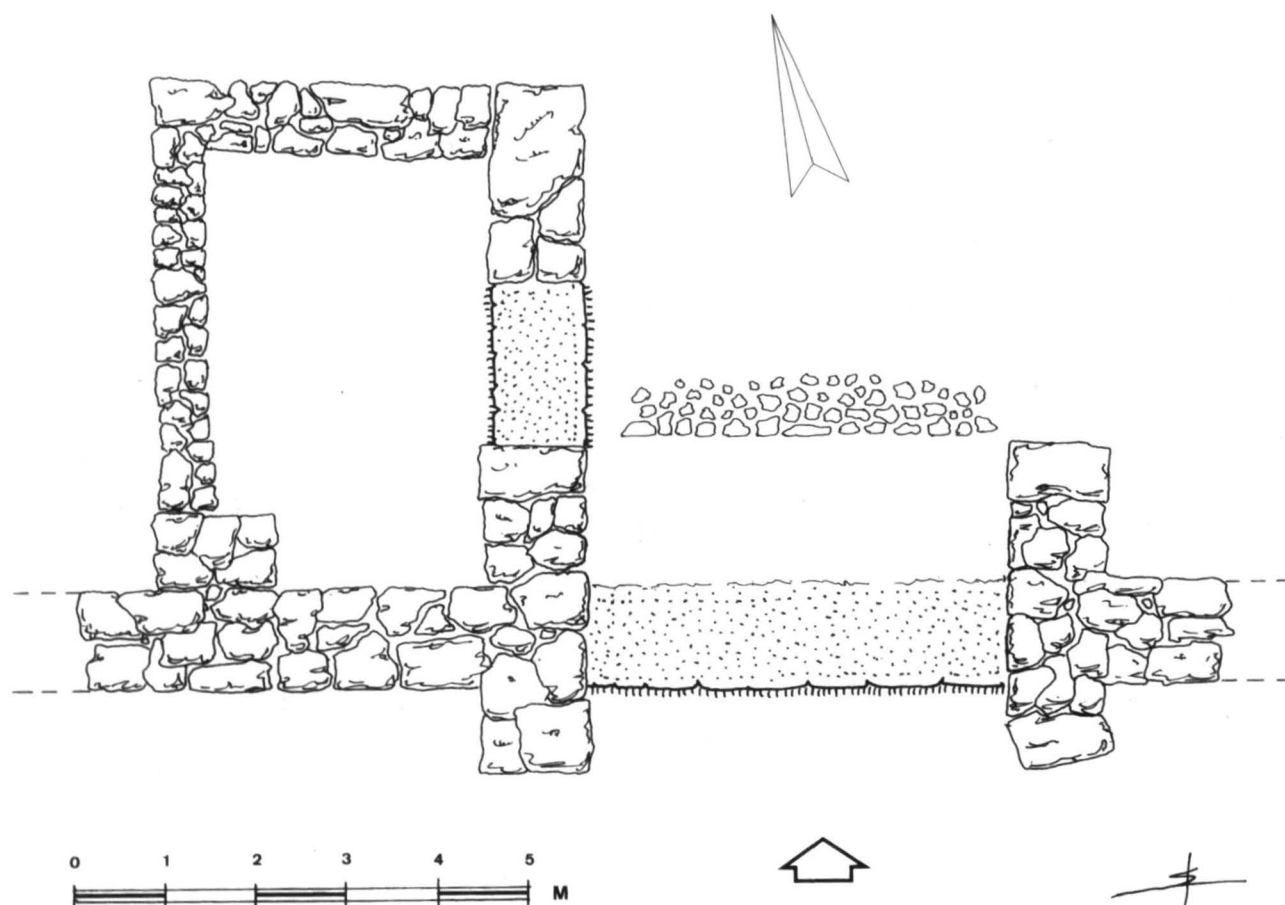
Plan 8. Enclosure, east entrance.

transverse walls, flanking a 4.60 m. wide passage cut across by a low threshold. A rectangular room measuring 2.85×4.70 m. was built on the west side of the entrance. It opened onto the passageway and had a floor plastered with clay and lime. The finds include coarse ware sherds and fragments of painted wall plaster.

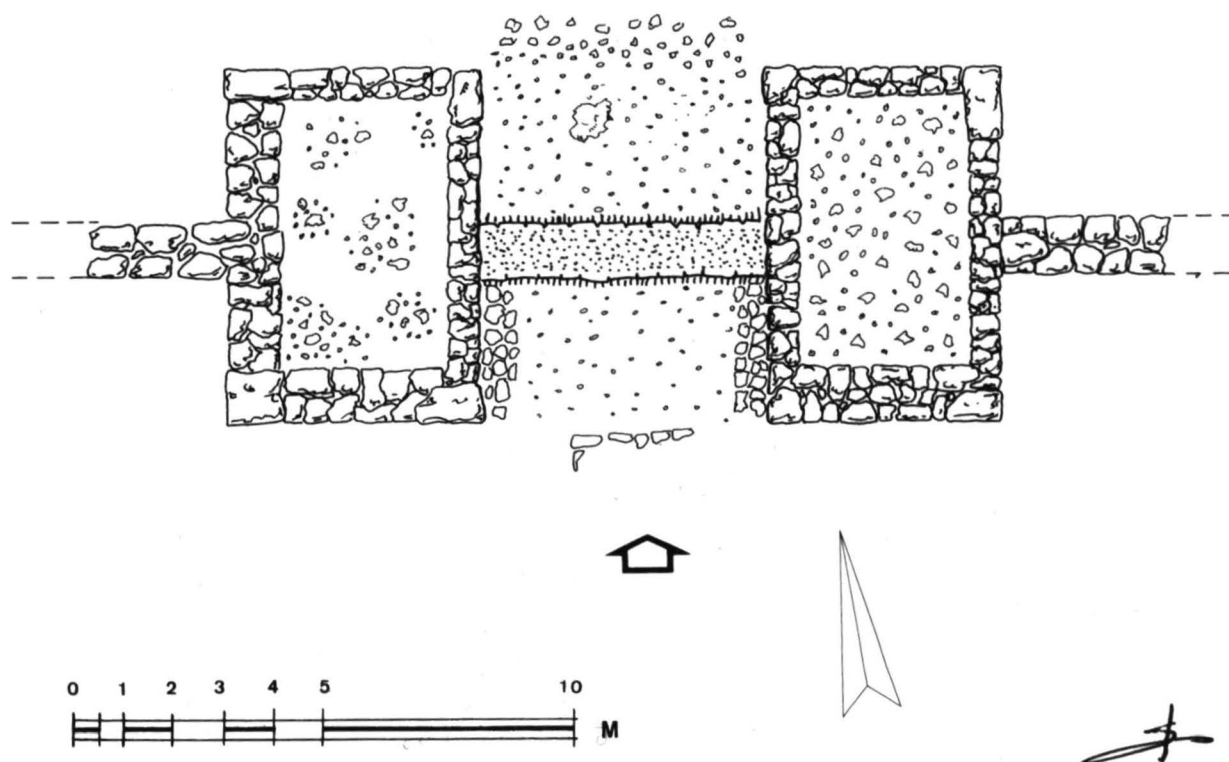
South Entrance

This, the main entrance to the enclosure, was situated in the middle of the south perimeter wall, opposite the South Gate (Plan 10, Pl. 14:28). It was flanked by two symmetrical rectangular rooms. The east room was 4.63 m. wide at the front and 7.05 m. long, the west measured 5.10 and

7 m. respectively. Their walls have two courses preserved, altogether 0.40-0.50 m. high with no signs of openings anywhere. The rooms were perhaps reached by doors set higher than the present level of the wall socles, probably accessible by wooden steps. On their floors lay fragments of a jar, mudbricks, various sherds and roof tiles. The gateway itself was 5.60 m. wide, closed by a door with a 0.35 m. high threshold. No trace is left of its jambs, which must have been wooden. The pavement of the road from the South Gate stops in front of the rooms and the floor of the gateway between them is surfaced with packed earth and pebbles, showing that the entrance was roofed. The fill over the entranceway yielded both plain and painted pottery, unpainted wall plaster, roof tiles, both flat and rounded, and fragments of a spouted basin mended with lead clamps.



Plan 9. Enclosure, cross-wall, propylon.



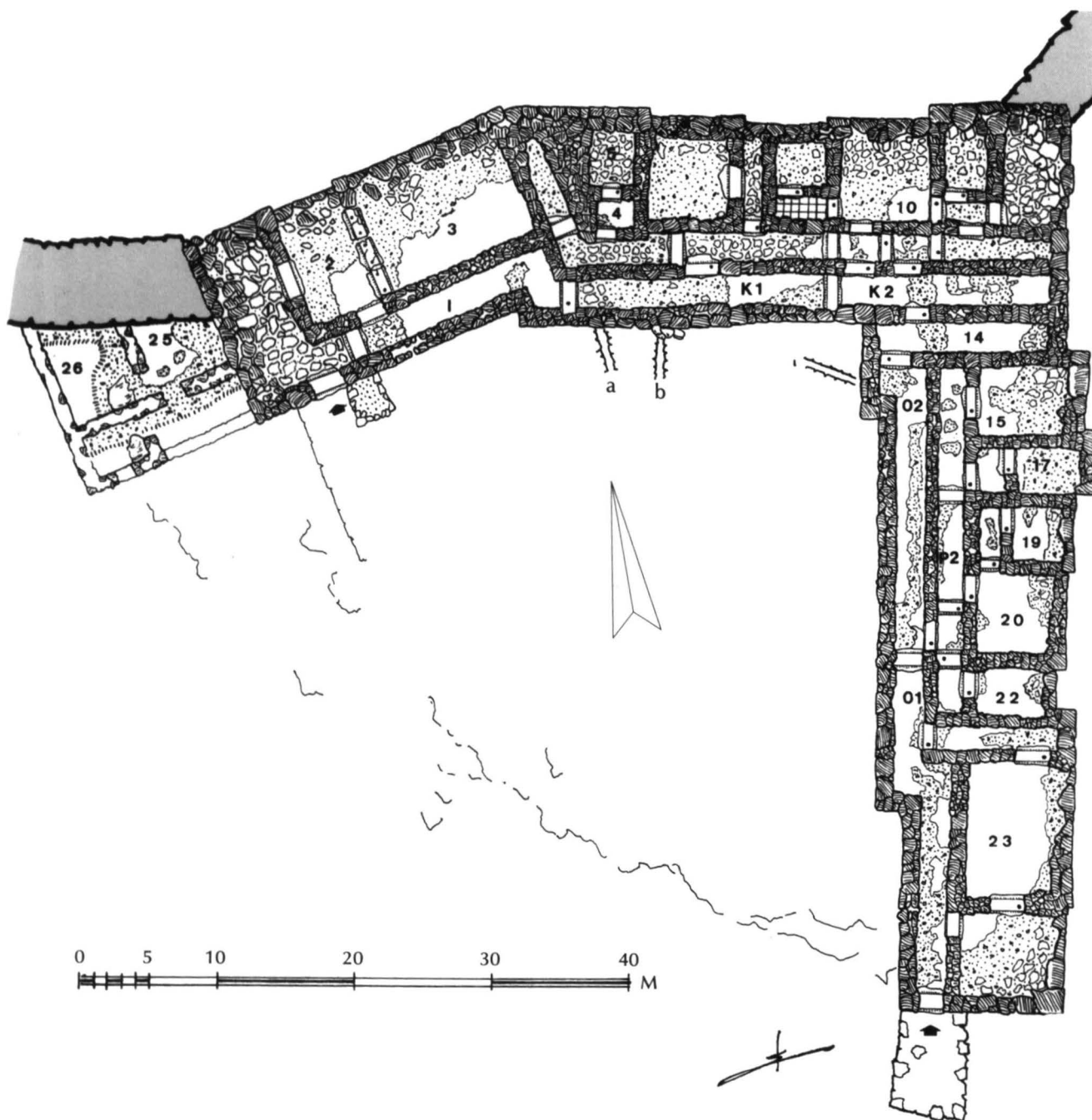
Plan 10. Enclosure, south entrance.

Moreover, in the corner formed by the east room and the enclosure wall, lay 89 fish net lead weights (Pl. 15:29) in a heap¹⁰.

THE MELATHRON

The main building of the citadel is the melathron (Plan 11) built on an artificial Cyclopean terrace covering 1,870 sq.m. It has two long narrow wings, each 63 m. long and 12 to 16.50 m. wide, that meet at right angles. The melathron was erected on the northern edge of the hill and bends slightly to follow the course of the brow of the rock. The north wing is incorporated in the fortification (Pl. 15:30), its outer face acting as the defense wall. The way this was effected is particularly clear at the west end of the melathron. The circuit and the retaining wall of the terrace meet at a point where the rock forms an open curve. The fortification wall, 5.85 m. thick, stops 1.37 m. short of the terrace leaving a triangular gap.

10. Lead weights similar in shape, size and numbers have been found in Enkomi, the cemetery at Phaestos, at Kamini on Naxos, at Perati, Brauron and the Cap of Chelidonia shipwreck (IAKOVIDIS, Perati B 355-356).



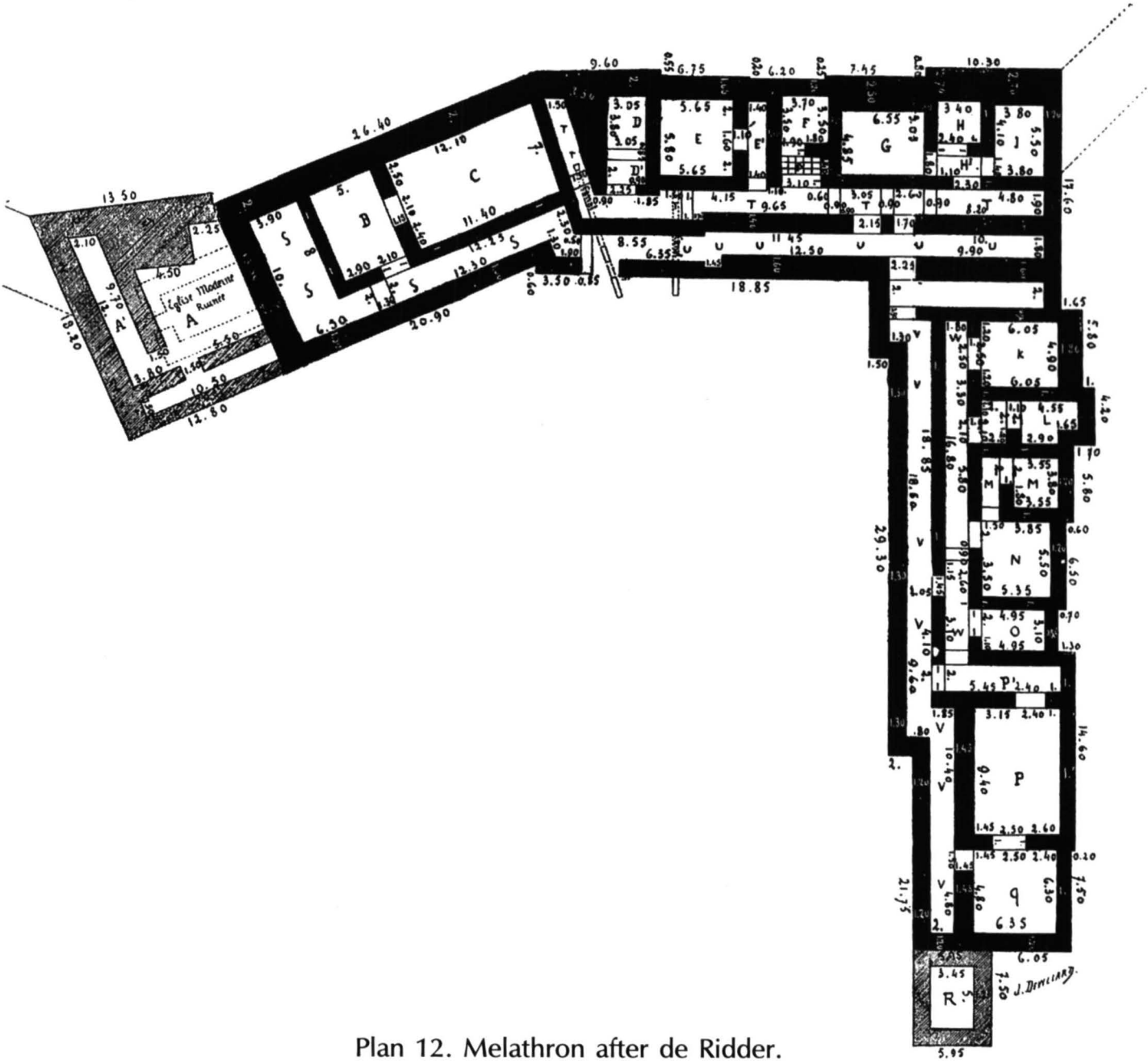
Plan 11. Melathron, state plan.

This was filled with a wedge-like Cyclopean construction which did not bond with either the fortification or the retaining wall. The wedge was later razed to its foundations, probably when the little Medieval church, afterwards dismantled by de Ridder, was built at this spot¹¹. The east wing runs in a straight line, leaving between the two wings an open triangular space with no clear boundaries, which served as a courtyard.

11. F.d.G. 276.

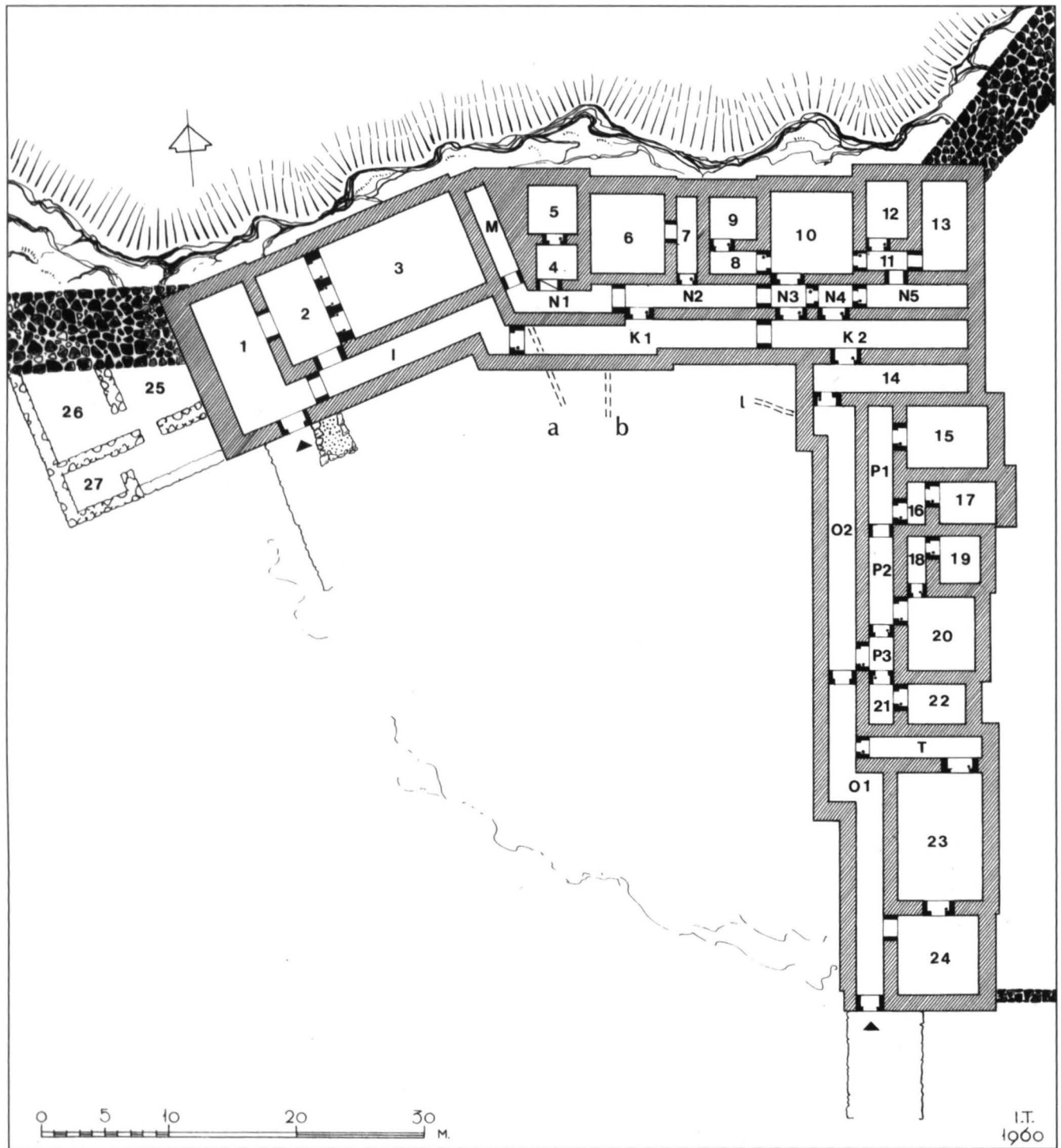
The complex was uncovered by de Ridder (Plan 12), who believed it to be a one-storied stronghold with a single entrance and bastions at both ends¹². He excavated it thoroughly, digging up the floors of most rooms and leaving little behind. Nevertheless, Threpsiadis was able to reveal new evidence and to correct several, sometimes fundamental, details of the plan.

The melathron (Plan 13) had two entrances, one at the end of each wing, similar in form and dimensions to the internal doors. The interior of the building consisted of a series of small separate apartments, each com-



Plan 12. Melathron after de Ridder.

12. Op. cit. 279-281.



Plan 13. Melathron, restored plan after Travlos.

prising two or three rooms (one serving usually as an antechamber to the others) and connected by a system of doors and corridors that allowed the apartments to communicate but also to be completely isolated from the others. Two main corridors ran along the inner side of each wing and met at the corner. Two shorter and narrower corridors ran parallel to the inner sides of the former. Most of the smaller apartments opened onto these inner corridors, which communicated with the outer ones by means of four doors, three in the north wing and one in the east. The north wing had five apartments; the east wing had four.

At a later date, though still during the period when the melathron was occupied, an apartment was added to the west end of the north wing, between the terrace and the fortification wall. It consisted of three rooms and a small forecourt facing onto the open courtyard in front of the melathron. The forecourt was sealed off by a wall built during the Byzantine period, when the small already mentioned single-aisled church was erected on the ruins of the building.

With the exception of the main rooms at the ends of the two wings, (1-3, 23-24) which have wide spans and no columns and could not support any additional loads, the building had undoubtedly a second storey. This is clear not so much from the discovery of mudbricks, for these may also come from the superstructure of the ground floor, as from the state of the walls in passages **M** and **K2-14**, the two places which served presumably as staircases: there, the top of the stone socle of the walls is still covered by a layer of calcined fragments of stone, which indicates that the fire at this point was particularly fierce fed, clearly, by the timber in the staircase. Still more evidence is provided by the thickness of the walls. The outer walls were exceptionally strong (1.20-1.70 m. thick) and the inner walls are at least 1 m. thick and in places even more, despite the fact that they are merely partition walls. They are thus much thicker than would be necessary for them to carry the roofs of the small rooms in the two wings, and were obviously designed to support upper storeys.

Half a horn of consecration, made of poros stone (Pl. 16:31), was found in the corner of the courtyard, at the point where the two wings of the building meet. It was 0.80 m. high and was probably originally attached to the cornice of the roof¹³.

The entrance at the south end of the east wing is approached by a

13. THREPSIADIS, *Praktika* 1960, 38, pl. 12α.

ramp of Cyclopean construction, 8.50 m. long and 5.18-6 m. wide (Pl. 16:32). Its upper courses have disappeared but the original incline of the ramp can be computed at a comfortable 16%.

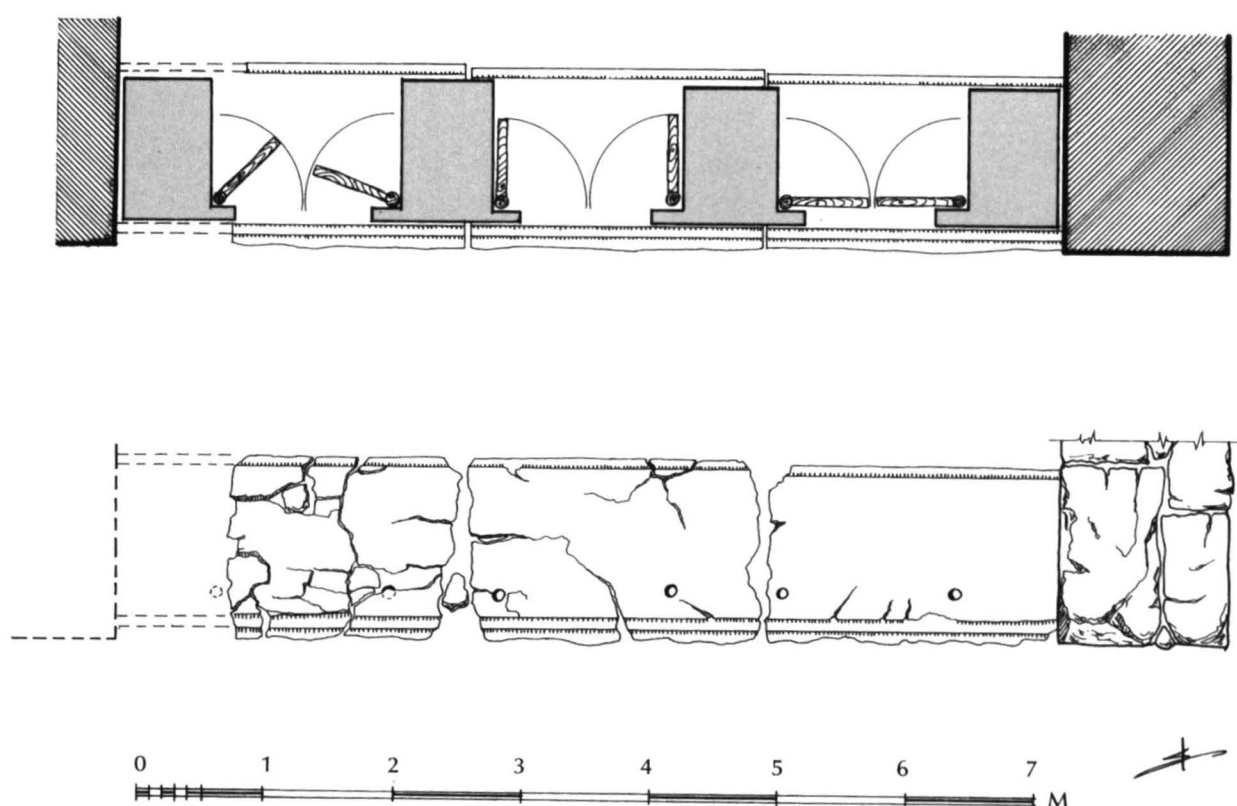
There were three stone drains fed by three circular inlets of corresponding dimensions, designed to lead off the rain water from the triangular courtyard under the terrace, and discharge it outside the residential area. Two of them (Pl. 17:33) ran under the north wing and issued on the north slope of the hill, while the third began in the north-east corner and ran southeast. The first from the west, **a**, was 0.45 m. wide and 1.10 m. high. It was cleared and its course followed for ca 11 m. under the floor of the melathron. The second, **b**, a little wider (0.50 m.) and higher (1.45 m.) than the former, was followed for 3.20 m. Of the third, **i**, 0.43×1.15 m., only the part built in the fill of the courtyard was investigated. They all yielded pottery from the time the melathron was occupied.

The façades of the melathron, both the exterior (north and east) and the interior (towards the courtyard) are interrupted by projecting and receding offsets (Pl. 17:34) which jut out as much as 1.82 m. (near the south end of the east wing) and as little as 0.25 m. (at the joint of rooms **23** and **24**) and have no apparent practical purpose. The whole melathron is founded on one uniform massive terrace, so the offsets do not indicate any difference in date between the parts of the building. Nor do they follow any curves or bends of the rock, especially in the east wing. In fact, the offsets on the interior face do not even match those on the exterior. The offsets towards the courtyard are fewer and correspond, although not very precisely, to the apartments of each wing. Those along the outer face, however, reflect the succession of rooms, virtually one by one. Such serrated façades are not limited to Gla. They occur in Crete (Knossos, Malia, Tylissos) and on the Mainland (Mycenae, Tiryns, Pylos) but are as a rule less frequent and less pronounced¹⁴.

North Wing

The entrance to the north wing, 4.80 m. from the south-west corner of the building, is marked by its threshold, a 2.33×1.44 m. monolith with a nearly sawn straight edge on its north, inner side. To its east side, on the level of the courtyard, there is a 3×3 m. raised square platform

14. J. W. GRAHAM, *The Palaces of Crete* 162-164, C. W. BLEGEN, *PN I* 50-51.



Plan 14. Room 3, triple door.

outlined by a single course of unworked stones, most probably a sentry post beside the doorway¹⁵. The door itself had a clear span of 1.70-1.80 m. and opened onto a large, 10.80×4.50 m. room, room 1, which communicated with room 2 (7.30×4.20 m.) to its east and with corridor I through a door in its southeast corner. The back wall of room 2 was broken up into three contiguous double doors leading into room 3 which was 11.10 m. long and 6.90 m. wide. The thresholds of the double doors were well dressed, with sharp, straight edges and round sockets for the pivot shoes of the door leaves (Plan 14, Pl. 18:35). They bear traces of having been exposed to a violent fire as does also the south wall of 3. The walls and the floor of this room were faced with two layers of stucco. De Ridder reports that he found fragments of small fluted half columns made of plaster, 0.07-0.08 m. in diameter, attached to the surface of the walls¹⁶.

15. Similar, but smaller, lower and better built are those found in the Palace at Pylos (PN I 68, 74-75).

16. In rooms 14, 15, 17, 19, 20 and 23 and corridors N and K. Unfortunately he did not keep any examples.

Rooms **1**, **2** and **3** form the largest apartment of the building, a megaron-like unit of which room **1** would be the antechamber (aithousa), **2** the vestibule (prodomos) and **3** the main room (domos). But the analogy with Mycenaean palaces stops there. The antechamber is closed all around and the main room has no hearth, no columns (which, structurally speaking, it did not need) and no trace of a throne platform on its preserved floor plaster.

Behind the megaron there is a 1.65 m. wide passage, **M**, whose length could not be determined because its rear wall is ruined. Its floor was not stuccoed as it is in the rest of the wing, but consisted of packed earth. It seems to have been a staircase, leading to a second storey ca 3.50 m. higher.

After **M** the north wing changes slightly its orientation, following the curve of the rock. The change of axis leaves between **M** and the rest of the wing a narrow triangular space which was packed with stones and served probably as a landing for the staircase in **M**. It is succeeded to the east by the remaining apartments of the wing. They did not communicate with the outside but were accessible only through the corridors to their south.

The first of these corridors, 2.20 m. wide, runs along the entire length of the south façade following its indented outline. Two doors with monoliths for thresholds divide it into three sections, the west, **I**, the middle, **K1**, and the east, **K2**. Its floor was covered with two layers of lime plaster which in **I** showed traces of burning. In **K2** de Ridder found fragments of his fluted half columns. The inner corridor, **N**, has the same length as **K1** and **K2** combined and runs parallel to them. It is divided by doors into five sections, **N1**, **N2**, **N3**, **N4** and **N5**, of which **N2** communicates with **K1** and **N3** as does **N4** with **K2**. The doors have all the same dressed monolithic thresholds with pivot shoe sockets in their corners (Pl. 18:36), which indicate clear spans of 1.10-1.20 m.

The first section of the corridor is 2.20 m. wide; the rest narrows down to 1.65 m. The threshold of the door between **N1** and **N2** had been calcined by fire. The floor, preserved in spots, had two layers of lime plaster and de Ridder uncovered fragments of decorative half columns in **N1** and **N4**.

The first apartment east of **M** consists of room **5** (3.20×3.70 m.) and anteroom **4** (1.95×3.05 m.) opening south onto corridor **N1**. The threshold of this door was burnt and de Ridder found next to the door strips of lead, probably intended to fasten the wooden door jambs to the wall. One

such strip showed "traces of iron"¹⁷. The floor in room **5**, originally decorated with violet lines according to de Ridder, was also burnt. The next apartment, oriented east-west, was composed of room **6** (5.64×5.78 m.) and its narrow antechamber **7** (5.78×1.50 m.), opening on **N2**. Their outer, north wall was 1.30 m. thick but the inner walls did not exceed 0.90-1.02 m. Part of the mudbrick superstructure, burnt hard, had survived on the stone wall socle near the door to the corridor. The third apartment, rooms **8**, **9** and **10**, has the same orientation as the first one, namely north-south. It is accessible from **N3** through a door leading into room **10** (6.38×5.50 m.), the largest in this wing save the megaron. The floor, preserved next to the door, had three layers of plaster. Near the north wall Threpsiadis found a bronze pivot shoe (Pl. 19:37) with a little carbonized wood from the door pivot preserved inside it¹⁸. Room **10** communicates with **8**, a small narrow chamber (3.70×1.50 m.) from which de Ridder reports burnt pottery and wall plaster decorated with a dado pattern and a papyrus and spiral design¹⁹. Its floor was paved with regular 0.64×0.47×0.12 m. limestone slabs set in lime mortar, torn up by de Ridder who thought they were covering a tomb (Pl. 19:38). The slabs have disappeared. Room **8** led to chamber **9** (3.70×3.20 m.), floored with plaster. Threpsiadis mentions that he found in it fragments of dressed conglomerate, meaning probably some finely cut and polished conglomerate pieces, 0.07-0.08 m. thick which, according to their labels, come from the "palace". One of them, broken in antiquity, had been mended with a cylindrical lead clamp. Their material and their thickness do not agree with de Ridder's description and the possibility of their being parts of the floor of room **8** is very remote.

The last apartment of the wing, rooms **11**, **12** and **13**, occupies the northeast corner of the building. A door on the north side of the corridor **N5** gave access to the narrow passage **11** (1.40×3.20 m.) which opened on three sides onto rooms **10**, **12** and **13**. The doors have a clear span of 1.16 m. The exact measurements of rooms **12** and **13** could not be obtained because their north walls were completely ruined. Room **13**, at the corner where the building joins with the continuation of the fortification wall was practically buried under blocks fallen from this wall. At the door

17. F.d.G. 293.

18. S. E. IAKOVIDIS, TUAS 3, 1978, 47-49.

19. F.d.G. 290 and note 3.

between **11** and **13** de Ridder found a bronze pivot shoe like that discovered by Threpsiadis²⁰.

East Wing

Except for a few details the east wing of the melathron is a replica of its north counterpart. It is divided into apartments which exhibit the same change in axis from north-south to east-west and are, generally speaking, similar in plan and dimensions. Here, too, the main entrance leads to a megaron-like apartment and to an outer corridor, **O**, which runs the whole length of the wing. It is 2.10 m. wide and has four coats of plaster on its floor. A door with a clear span of 1.90 m., whose threshold is perhaps the best preserved in the building, divides the corridor into two parts, **O1** to the south and **O2** to the north. Section **O1** serves the megaron complex. The south end of **O2** communicates with the inner corridor, **P**, and its north end with passage **14** between the two wings. The door to **14** has a span of 1.50 m. Its threshold and the walls of the passage bear traces of a fierce conflagration. Corridor **P** is divided by a succession of doors into three sections, **P1**, **P2** and **P3** which open onto the apartments of the wing. The threshold of the door between **P1** and **P2** had suffered severely from fire and so had the walls and the stucco on the floor of the south part of **P1**. Moreover, the floor of **P2** had two layers of stucco of which the first was stained by fire, showing that this part of the corridor had been damaged while the building was occupied and had been then repaired with a fresh coat of plaster.

The entrance to the wing at the southwest corner of the building has an equally enormous threshold block as has the door to the north wing. It is 2.10 m. long, 1.50 m. wide and its two edges, inner and outer, are cut straight and sharp. The massive wooden jambs left a clear span of 1.03 m. The door led into corridor **O1** and, from there, into the megaron unit, made up of a square antechamber, **24**, the rectangular main room **23** and a narrow passage, **T**, behind the megaron proper. Near the door from **O1** to **24** another of de Ridder's bronze pivot shoes was found²¹. Room **24** (6.25×6.20 m.) has a very strong outer wall built of large blocks, one of which was wider than the wall. The part of the block which

20. Supra, n. 18.

21. Supra, n. 18, 20.

projected into the room had been cut down to the level of the floor which was covered by two stucco layers, one of lime and sand on top and one of lime and pebbles underneath. In the middle of its north wall a door with a carefully sawed threshold opens into room **23** (Pl. 20:39), the largest room of the wing (9.80×6.35 m.). Its west wall had a triple coat of plaster painted with bands and curved lines and decorated with fluted half columns. The plastered floor was blackened by fire. At its northwest corner a door with a well-cut but broken threshold leads into passage **T**, 8.65 m. long and 1.70 m. wide, accessible also from corridor **O1**. The walls and the floor of the passage were coated with stucco showing traces of fire. The plaster on the floor and the doors at both ends of the passage indicate that **T** could not have been a staircase as was, most probably **M**, its counterpart in the north wing.

Behind **T** lies an apartment made up of two small rooms, **21** and **22** of which **21** (3.10×1.70 m.) is in fact an extension of corridor **P3**. Room **21** has two doors, one opening into **P3** and another giving access to **22**. Near it de Ridder found one more bronze pivot shoe²². Both thresholds have traces of burning. The walls and the well-preserved floor of room **21** had two coats of plaster of which the inner one on the wall had been blackened by fire like the floor of **P2**. Traces of the final conflagration were observed in the northwest corner of **21**. Room **22** (4.50×3.10 m.) looks west. Its walls were standing two to three courses high. Its floor plaster, on which kylix sherds were found, was still in good condition. The next apartment combines rooms **20**, **18** and **19** (Pl. 20:40) and is served by corridor **P2** through a door with a clear span of 1.13 m. which opens onto **20**. De Ridder's fourth bronze pivot was discovered next to this door²³. Room **20**, the largest of the three (5.85×5.20 m.), was in a good state of preservation. The floor had three coats of stucco and so had the walls which were decorated, moreover, with fluted half columns. A fragment of lead plate was found on the floor. A door, 1 m. wide, led to antechamber **18**, which is a narrow passage (3.60×1.40 m.) connecting rooms **20** and **19**. Its plaster floor had been preserved almost entirely. The threshold to **19**, very carefully sawed and polished, was slightly raised from floor level and belonged to a door with a clear span of 0.92 m. Room **19**, the smallest in the entire building (3.65×3.10 m.),

22. Supra, n. 18, 20, 21.

23. Supra, n. 18, 20, 21, 22.

has the same kind of parpen block in its outer wall, cut back as in room **24** to fit the thickness of the wall. The double coat of lime plaster on the floor was preserved only partially as were also fragments of fluted half columns according to de Ridder, and a strip of lead, distorted by fire. The following apartment is composed of two rooms: an oblong antechamber, **16**, measuring 3.10×1.40 m. and room **17** (4.35×3.20 m.). The former opens onto corridor **P1** through a 1.40 m. wide door with a burnt and cracked threshold block. Another similar door with a particularly well-preserved threshold gives access to room **17**. The north wall of **16** is the highest preserved in the entire melathron, reaching up to 0.85 m. from floor level. It was coated with three layers of stucco of which the middle one has been stained by fire. On the floor lay lumps of calcined lime adhering to its stuccoed surface. Room **17** yielded some fragments of fluted half columns. But its main interest lies in the way its east wall was built (Plans 11, 13): it projects outwards to create an offset. At the southeast corner the outer wall stops short from bending at right angles to complete the offset so that the ends of the two walls forming the sides of the angle touch without overlapping, limiting their point of contact to their respective vertexes. Room **17** is followed by **15**, a single rectangular chamber 4.85 m. long and 6.20 m. wide. A door with a span of ca 0.70 m. opens onto corridor **P1**. The north wall of the room preserves traces of a particularly violent fire. The east wall has the same cut-black block as rooms **19** and **24**. The floor had a double coat of plaster as had the walls, which were also decorated with fluted half-columns. Threpsiadis collected here a few sherds of kylikes and other domestic vessels.

Beyond room **15** and the ends of corridors **O2** and **P1** comes **14**, a narrow transverse passage 11.94 m. long and 2 m. wide, which separates the two wings of the building and communicates with both by means of their outer corridors, **O** and **K**. It has 1.35-1.38 m. thick walls of which the back one is preserved to a height of 0.25 m. without a trace of an opening onto court **I**. Passage **14** and corridor **K2** (Pl. 21:47) formed probably the main staircase of the building. During the conflagration which destroyed finally the melathron, the flames from the wooden steps of this staircase hardened the mudbricks found adhering to the floor of **14** and calcined the top of the stone socle of its walls.

The recorded finds from the melathron are not many. De Ridder reports a few bronze and lead objects and some sherds, which he did not keep. Threpsiadis collected some more pottery, which is neither numer-

ous nor very significant. The really interesting finds are the bronze pivot shoes, the conglomerate, the stone fragments with the V-shaped joints, the decorative fluted half-columns and the roof tiles.

The West Extension

At a later date, though still while the melathron was occupied, an apartment was added to the west end of the north wing, in the corner formed by the circuit and the retaining wall, 2.50 m. below floor level of the melathron (Pl. 21:42). It consisted of three rooms and a small forecourt facing the melathron courtyard. Only room **27** is regularly rectangular; **25** and **26**, built against the fortification wall, are trapezoidal. The 1960 excavation left a strip along the west side of room **26**, the inner face of room **27** and the forecourt undug.

The forecourt opened onto rooms **25** and **27**. The former, 5.70 m. long and 3-5.10 m. wide, had a rather uneven lime plaster floor. The latter, accessible through a door with an unworked but level limestone block for a threshold, measures 4×3.20 m. and was surfaced with packed earth, on which a few sherds and fragments of roof tiles were found. Room **26** was 4.90-5.70 m. long and 5.37-7 m. deep. It was accessible from **25** and had no floor other than a layer of earth or, at places, the bedrock. As to the forecourt, it was eventually sealed by a flimsy wall, built on the Mycenaean destruction fill.

The walls of the west extension were of rubble, less carefully selected and put together than in the melathron. Only one room, **25**, had a plastered floor and only one door (forecourt **27**) had a stone threshold, which was an unworked slab. The construction of the rooms does not indicate whether they were built to serve as living quarters or for some other purpose.

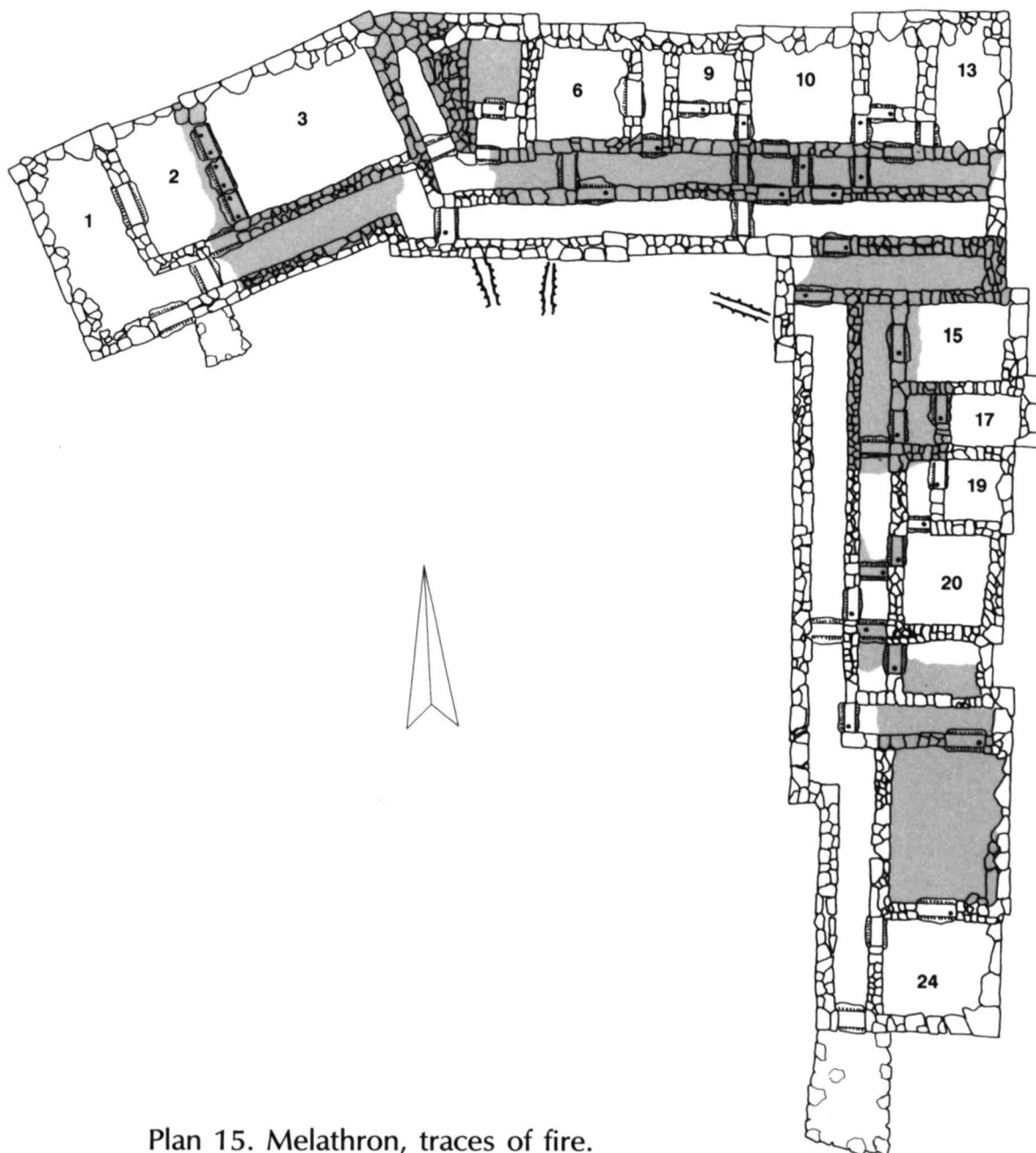
FUNCTION AND HISTORY OF THE MELATHRON

The melathron differs in many respects from all known Mycenaean palaces. To begin with, it is considerably smaller than they are, in spite of the area available, which is neither limited nor unsuitable for building: the palace at Pylos is three times as large, that at Tiryns 4.5 times and that at Mycenae five times. More specifically the two megara of the melathron are not quite half as large as those at Pylos and Myce-

nae and less than $3/4$ of the main megaron at Tiryns²⁴. Furthermore, the megara at Gla did not possess the permanent hearths or the thrones found in the palaces. The rooms of the apartments are of approximately the same size as their counterparts in the palaces but are far fewer. There are no external factors to circumscribe the extent or the lay-out of the building, so that its size and its peculiarities must have been the result of deliberate intention on the part of the architect. Moreover the melathron, small as it is, is not even a single unit but is clearly meant to combine two practically identical but functionally independent residences which could, but did not have to communicate. Their close similarity is not confined to the number and size of the rooms in each wing, but resides mainly in the repetition of the architectural arrangement arrived at by the builders, who aimed at combining a number of small apartments, built in a row, in a way which would ensure that they could easily communicate with each other, while at the same time retaining their privacy. They solved the problem by devising the system of double corridors and internal doors, which made it possible to seal off and isolate one or more apartments in different combinations. This device was duplicated in an identical fashion in both wings, with no attempt to break the monotony of the plan. The person who commissioned the building and his architect obviously contented themselves with this essentially functional plan, and did not attempt to give prominence to any particular areas, or to achieve a gradation of rooms based on a hierarchy of function. The melathron at Gla was not intended to be the residence of a mighty anax and his family and retinue, nor was it the home of a private person but was obviously designed for two high officials, whose rank and competence must have been basically equal.

Whoever they were, these people resided there permanently. So much is clear from the pottery described by de Ridder and kept by Threpsiadis, which consists mainly of domestic wares. It is further supported by the fact that the building was repaired on at least one occasion after a fire: in corridors **O2**, **P1**, **P2**, **P3** and in room **16** the stucco on the walls had been burnt and then plastered over. Also, the lead strip encircling the uprights of the door jamb in room **9** bore traces

24. Room **3** is 76.30 m.² in area, room **23** 62.23 m.² The megaron at Pylos is as much as 141.90 m.², that at Mycenae 148.35 m.² and at Tiryns it reaches 114.45 m.²



Plan 15. Melathron, traces of fire.

of burning on the inside, so that it, too, was probably part of the repairs done to the building²⁵.

The final destruction was by fire (Plan 15). De Ridder noticed blackened walls everywhere. Threpsiadis saw fire-stained floors in corridors **I**, **N** and **14**. The threshold blocks of the doors between **2** and **3**, **N1** and **N2**, **P1** and **P2**, **P2** and **P3**, **P2** and **20**, **21** and **22**, **P1** and **16** and **O2** and **14** cracked from the intense heat and started flaking. Judging by this evidence the worst damage occurred along the south side of the north wing, the corridors of the east wing and around the point where the two

25. F.d.G. 293, Praktika 1960, 37.

wings meet but was by no means contained there. The conflagration devastated the whole building, which was then abandoned and left to decay.

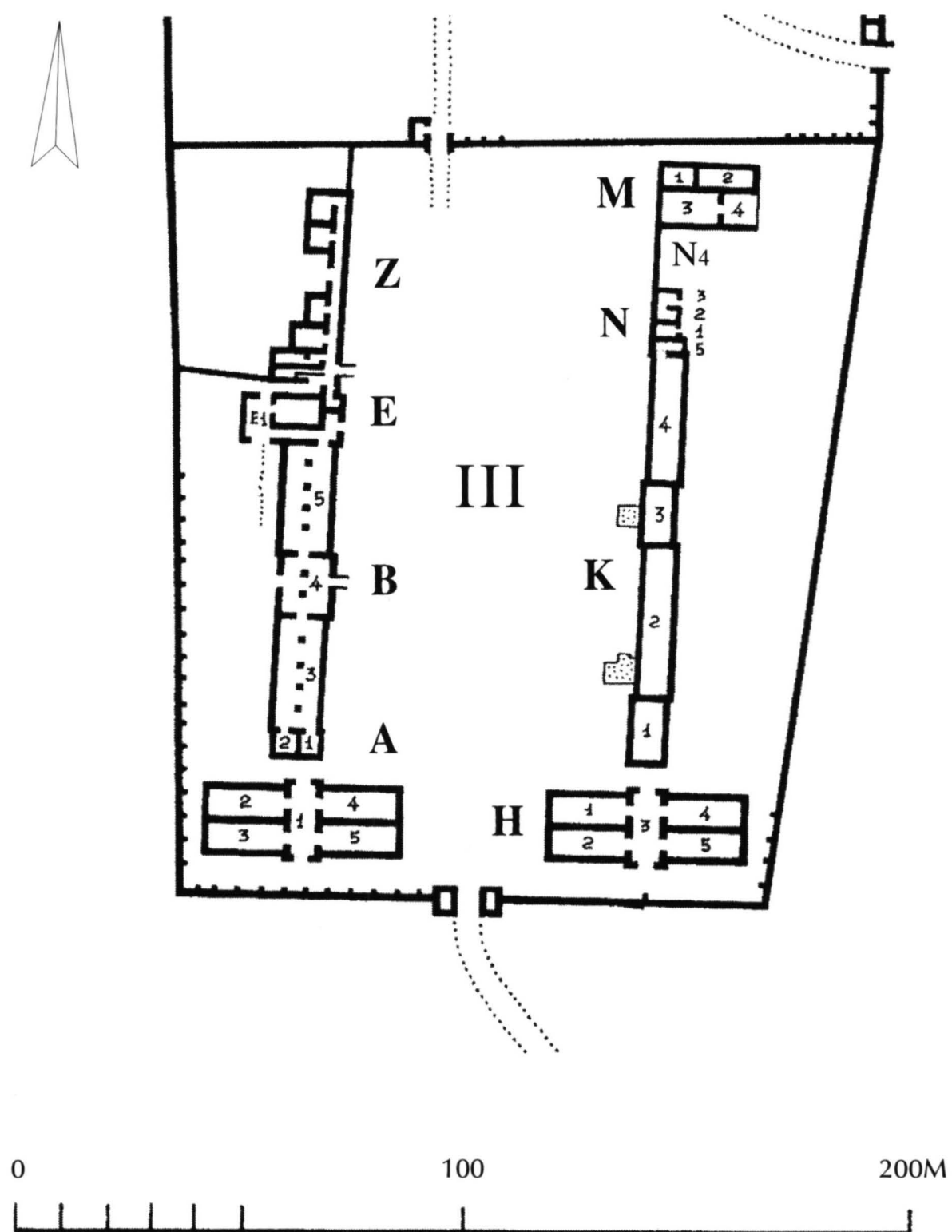
THE BUILDINGS IN THE SOUTH ENCLOSURE

Both sides of the central enclosure on Gla are occupied by building complexes similar in plan and practically equal in size but differing from one another in architectural details and in construction methods (Plan 16). The west one was investigated in a cursory fashion by de Ridder and then cleared by Threpsiadis. Its counterpart to the east was tested by both, but systematic excavation was taken up in 1981.

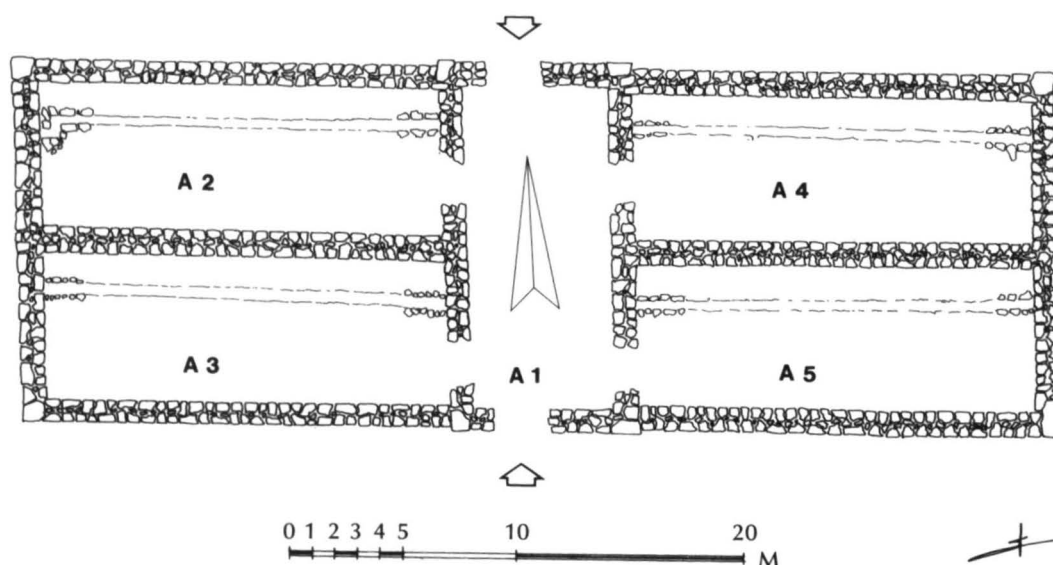
The buildings to the south, **A** and **H**, stand by themselves, and are identical in orientation, plan and dimensions. They are followed to the north by long narrow halls, **K** in the east wing and **B** to the west. **K** is followed by rooms **N1-N3** built in a row, **B** by the apartment **E** and rooms **Z**. Rooms **N1-N3** are succeeded by an open area, **N4**, corresponding to **Z10**. **N4** is followed by building **M**, built on an E.-W. axis at a right angle to rooms **N1-N3** and extending 14.10 m. further to the east. Although functionally independent, the buildings of each complex are connected and form continuous 127 and 130 m. long wings extending almost to the cross-wall of the central enclosure.

Similarities between the two rows of buildings are such and so many as to show beyond doubt that they served the same purpose. Their differences, such as they are, are clearly due to the configuration of the ground on which they were erected.

The west part of the enclosure is practically level. The buildings are everywhere founded on the rock which, dressed or coated over at places, serves by and large as the floor. In the east part, however, the rock slopes markedly from N. to S. and from W. to E., so that building **M** is founded 9 m. higher than **H**. In particular, floor levels in **M** follow a decline of 1.50 m. from N. to S., while rooms **N** are founded 1.50 m. lower and slope down for 2 m. to the point where they join **K**. The foot of the wall of **K** at its south end and therefore the floor level of **H** lies 4 m. lower than that. Building **H** follows a less marked slope of 0.40 to 0.60 m. from W. to E. In other words, the buildings of the east wing of the enclosure were built in tiers from N. to S. on an underpinning of rubble or on artificial terraces flanked by strong walls and filled with sizeable stones up to the level of the intended floor.



Plan 16. Central enclosure. S. part.



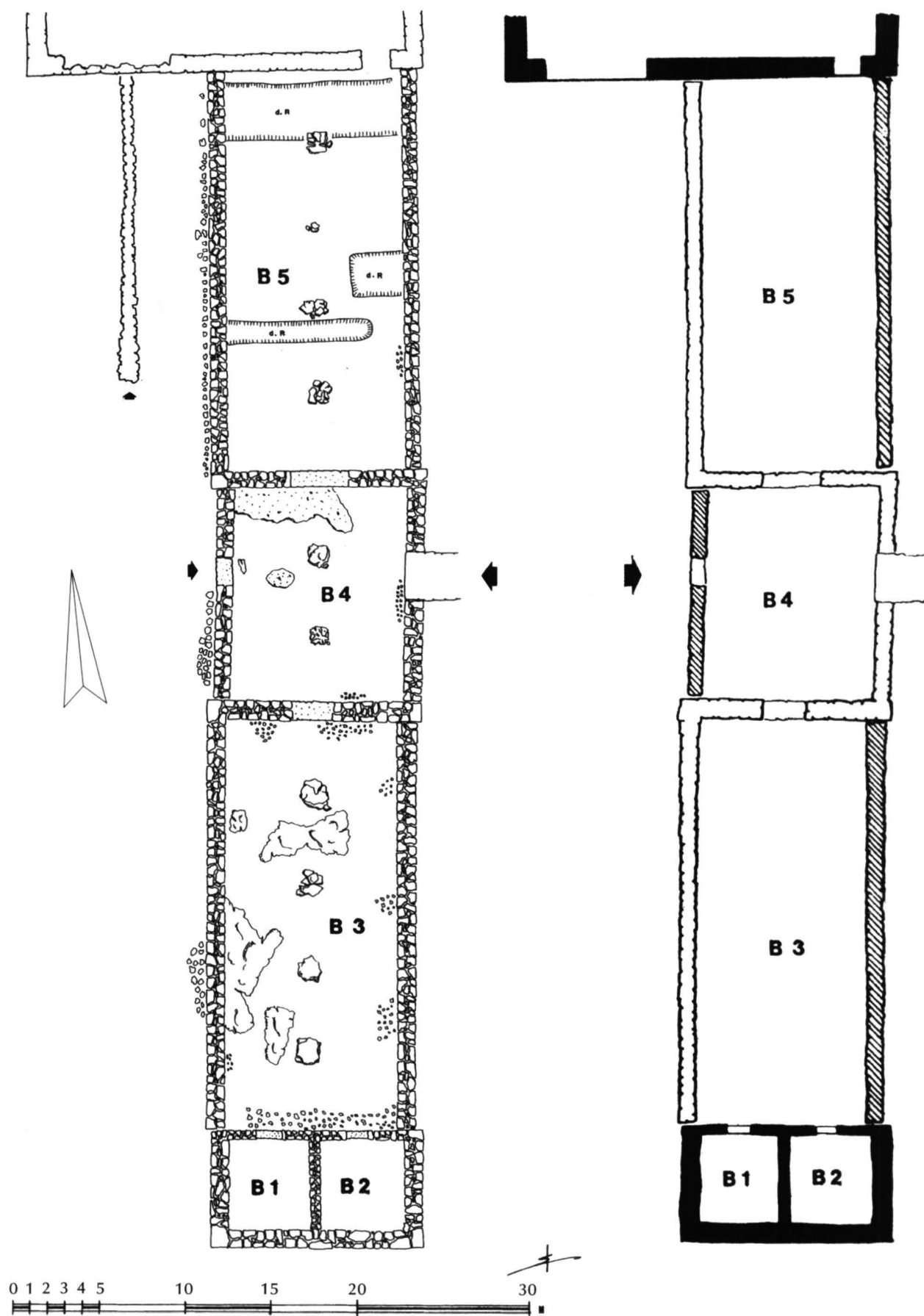
Plan 17. Building A.

THE WEST WING

BUILDING A

Building A (Plan 17, Pl. 22:43) is an oblong rectangular structure built in the southwest corner of the enclosure, 8 m. from the south perimeter wall and parallel to it. Its plan is strictly symmetrical. A central north-south passage (A1), 13.90 m. long and 6.90 m. wide, marked on the outside by shallow offsets, divides the building into two equal parts, each subdivided into two 17.50×6.30 m. rooms, two to the west (A2, A3) and two to the east (A4, A5). The rooms open separately onto the central passage which alone communicates with the outside through two 2.50 m. wide entranceways at its ends. The walls, 1.10-1.15 m. thick and preserved up to 0.80-1 m., are built of rubble with large square blocks at the corners. The superstructure was mudbrick, fragments of which were found in the fill. All four rooms were provided with 0.25-0.30 m. wide and 0.35-0.40 m. deep open drains, built 1.25-1.50 m. from the north walls of the rooms and parallel to them. The 1961 excavation had stopped short of them. In 1984, after the discovery of such an installation in building H, the counterpart of A to the east, the rooms in A were tested for drains²⁶. Their ends were uncovered and cleared and it was noticed that the west end of the drain in room A2 does not run straight but follows a double bend. The sides of the drain are built of flat stones, reaching down

26. Gl. I 169-170, plan 15.



Plan 18A. Building **B**.

Plan 18B. Building **B**, construction phases.

to bedrock. They have no incline and no outlets but are limited to the interior of the rooms.

The floors of the building consisted of packed earth which, in room **A2**, was covered at places with ash. The finds include fragments of mudbricks, painted wall plaster, roof plaster, roof tiles, pithoi and domestic pottery sherds, two of them decorated with whorl shell patterns.

BUILDING B

This building (Plan 18A-B) is a 69.12 m. long and 12 m. wide hall oriented almost exactly N.-S. and divided by cross-walls into four parts: **B1-B2**, **B3**, **B4** and **B5**. It begins ca 5 m. north of building **A**. A party wall separates its northern end from building **E**. Its outer walls are 1.10-1.20 m. thick; the inner walls are thinner. The façade projects and receds from room to room by 0.25 to 0.30 m. Some walls bond at the corners and some do not, showing that the hall was not built wall by wall or room by room but on a meander pattern, closed at the sides by additional straight walls. Not being continuous the front walls deviate a little from the building line but the deviations are so slight that they are scarcely perceptible on the plan and not at all on the site.

The southern end of the wing, separated from the rest by a cross-wall, is divided into two square rooms, **B1** (4.85×5.25 m.) and **B2** (4.75×5.25 m.), isolated from each other and communicating only with hall **B3** by two doors whose thresholds are built of small stones. The rooms yielded fragments of pithoi, mudbricks, kylikes and a few sherds decorated with whorl shells and other patterns.

B1-B2 is continued northwards by the long hall **B3-B5**. Because of its span (10 m.) and of its great length (61 m.) the roof structure of the hall needed central support, provided by posts placed every 3.20-3.80 m. in a row down its centre (Pl. 22:44). Of these posts (pillars, columns or, more probably, plain tree trunks) only the bases remain, ten large unworked stone slabs with naturally smooth surfaces (Pl. 23:45,46) measuring 0.50×0.60 to 1.50×1.75 m. They have all been damaged by fire, five of them to the point of cracking (Pl. 23:47,48). At three different places outside the west wall there are remains of a 0.50-1 m. wide paved strip put down to keep the soil from being washed away and to prevent the formation of muddy pools of water rather than to protect the foundations which lay directly on the bedrock at no great depth below the surface.

B3, 24.50 m. long, has four bases along its middle axis. It communi-

cates with **B1-B2** to the south as described and with **B4** to the north through a 2 m. wide door with a low, rubble-built threshold. **B4**, the middle compartment, is almost square (12.45×10 m.) and has two bases. Its floor was coated with rough lime plaster over a layer of packed reddish clay and pebbles. **B4** was the only part of the hall with direct access to the outside: a 1.45 m. wide door led west to the narrow space between the building and the perimeter wall of the enclosure. Another 3 m. wide entrance, accessible by way of a low stone ramp, opened onto the central yard.

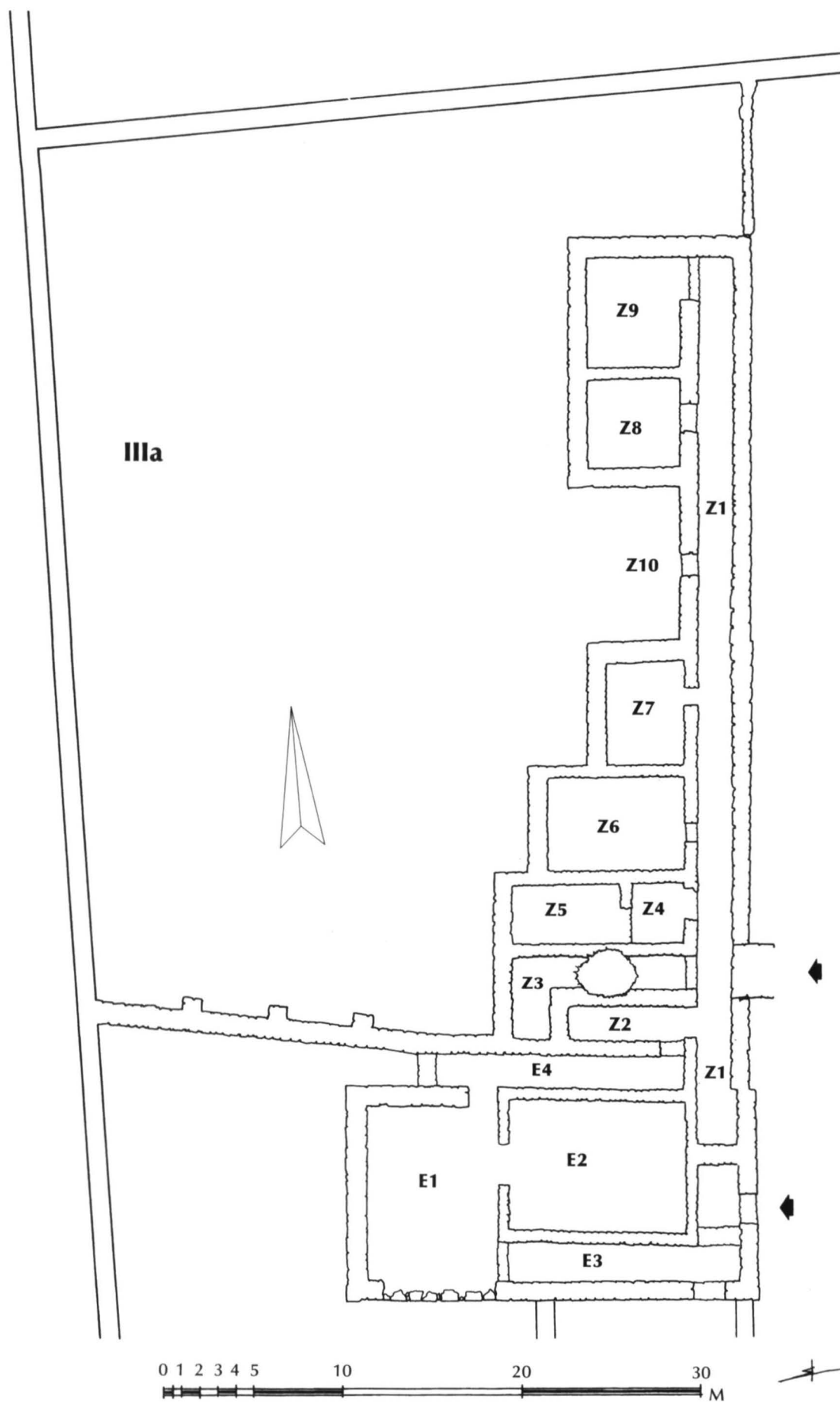
B4 was followed by **B5**, the counterpart of **B3** in size (23.20 m. long) and arrangement (four bases along its axis). In addition to the doorway in its south wall, **B5** had one more door in its northeast corner, 1.70 m. wide, connecting it with apartment **E**. One of de Ridder's trenches, laid in the northern part of the hall, had broken through the lime plaster of its floor, exposing the packed earth and stone fill underneath.

The finds are mainly fragments of mudbricks and sherds of pithoi, kylikes and plain, domestic ware. A sherd with a lead mending clamp was found in **B5**.

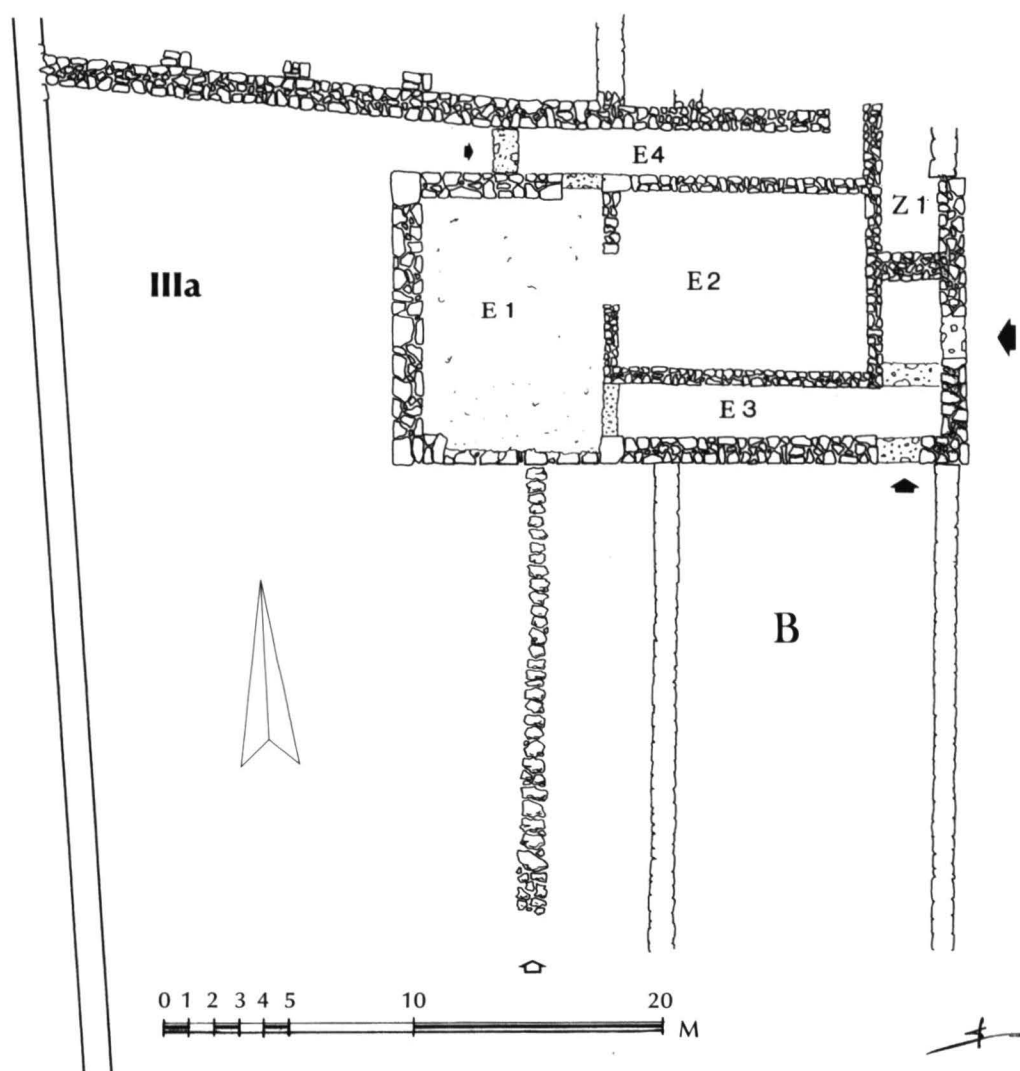
APARTMENT E

Building **B** is succeeded by apartment **E** and the set of rooms **Z** (Plan 19) which continue northwards on the same building line as the long halls. **E** and **Z** have a common east façade. They share also a long corridor running behind their east front (**Z1**) and are separated by the north wall of **E** which continues westward up to the perimeter of the enclosure, walling off the courtyard west of **Z** (**IIIa**) from the open space **III** around buildings **B** and **E**.

E is a megaron-type apartment facing west (Plan 20, Pl. 24:49). It is composed of a 9.42×7.25 m. large vestibule (**E1**) with doors at its sides but not on the façade and of a practically equally large main room, **E2** (9.90×7.05 m.). There are two corridors along the sides: **E3** to the south and **E4** to the north. The apartment has five different approaches. First, the door at the east end of **E3** by which it communicates with **B5**. Second, a ca 5 m. wide doorway with a 0.25 m. high stepped threshold, occupying practically the whole south front of **E1** and giving access to the open space west of **B**. It was approached by a paved causeway, 17.80 m. long and 0.60-0.90 m. wide, running parallel to **B** and suitable for pedestrians or beasts of burden but too narrow for wheeled carriages. Third, a 1.60 m. wide door leading west to the central yard. Fourth, another door



Plan 19. Buildings E-Z.

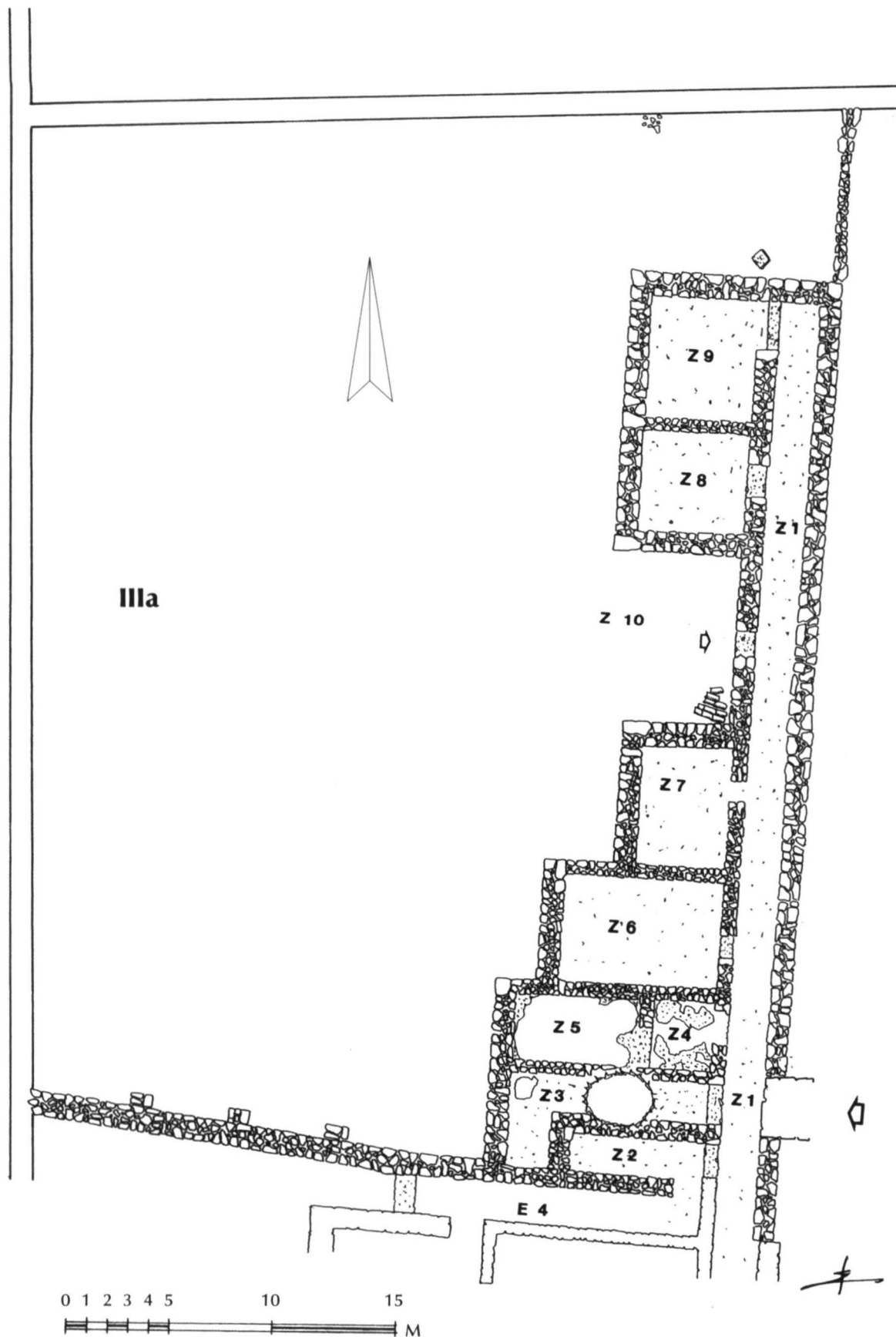


Plan 20. Building E.

from vestibule **E1** to corridor **E4**, and, finally, one more connecting **E4** with wing **Z**.

The vestibule was excavated only along its four walls, of which no more than one or two courses were preserved. It had a floor of reddish packed clay. On it lay a deposit dating from the time of the building's destruction and abandonment: fragments of roof tiles and pithoi, sherds of domestic ware and a smashed small globular stirrup jar decorated with a flower pattern on the shoulder and plain bands around the belly (Pl. 24:50,51). Room **E2** had a lime-plastered rubble threshold and a clay floor, broken through in the middle. Among the pottery recovered from this intrusion were a few Medieval glazed sherds.

Corridor **E3**, 1.95-2.20 m. wide, proceeded from **E1** eastwards and turned north behind the rear wall of **E2**, ending against a cross-wall which separated it from **Z1**. A threshold marks the intersection of its two



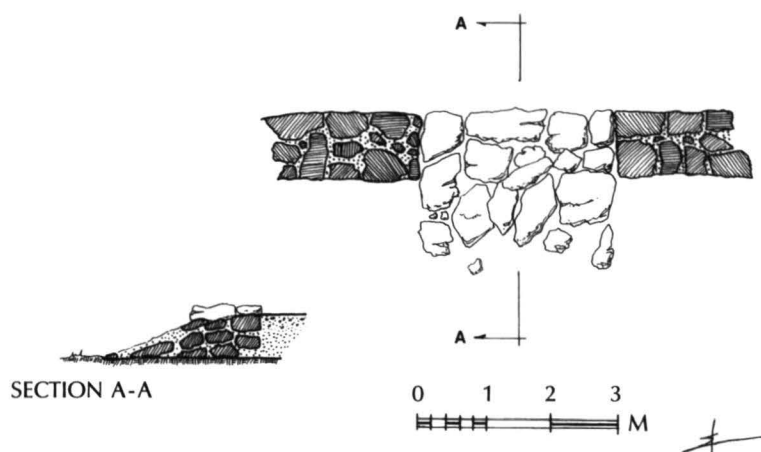
Plan 21. Building Z.

branches, the shorter of which has a door opening onto the east yard. The corridor was floored with reddish clay. Corridor **E4**, 1.80 m. wide, connects the apartment with the open space to the west and with wing **Z** to the north. Fragments of pithoi and kylikes, a few plain and decorated sherds and a sea shell were recovered from its fill.

SET OF ROOMS **Z**

It consists of eight rectangular rooms (**Z2-Z7** and **Z8-Z9**) built in a row along a 48.50 m. long and 1.97 m. wide corridor (**Z1**) and interrupted by an 8.20 m. long open space (**Z10**) (Plan 21, Pl. 25). All rooms face corridor **Z1** with which alone they communicate and whose exterior wall is aligned with the façades of **B** and **E**. The rooms are different in depth and their back walls are accordingly staggered. The building has only two openings to the outside: a 2.88 m. wide doorway reached from the east yard, by way of a 0.60 m. high ramp (Plan 22, Pl. 26:53), and a comparatively narrow (1.15 m.) door to the west connecting **Z1** with **Z10** and courtyard **Illa**.

Z2-Z3 is an oblong space divided by a strong, 1.10 m. thick L-shaped wall into a narrow compartment to the south (**Z2**) and a bent passageway around it to the north and west (**Z3**). The doors to **E4** and to corridor **Z1** have rubble thresholds coated with clay. **Z2** had no floor other than a layer of earth but **Z3** seems to have had a coat of lime cement. The layout of the space, the especially strong inner wall and the lack of a floor coating in **Z2** suggest that these two compartments formed a two-flight staircase accessible from both **E4** and **Z1** and leading to an upper floor some 3.40 m. above ground level. In the midst of **Z3** de Ridder noted



Plan 22. Building **Z**, ramp.

an irregularly circular pit in the stone packing under the floor, wide enough to damage the walls of the room. He reports also a stone-built conduit and a child's grave covered with tiles not far away. Threpsiadis noted the disturbance but found no conduit, much less a grave, so de Ridder's assertion could not be verified. The connection, if any, of these constructions with building **Z** is not clear, but their description suggests a later, probably Hellenistic date. The finds from the area belong to different periods, including a few Medieval sherds. According to de Ridder there were also some fragments of fluted half columns (from the upper storey?) like those found in the melathron²⁷.

Z4 and **Z5** form an apartment of which **Z4** (3.70×3.15 m.) is the antechamber and **Z5** (5.95×3.15 m.) the main room. The door from **Z4** to corridor **Z1**, 1.65 m. wide, has a stepped threshold coated with lime plaster. **Z4** has preserved some of its floor stucco, especially around the walls. In **Z5** the floor was practically intact (Pl. 26:54), its plaster turning up at the corners to continue on the face of the walls. **Z4** and **Z5** seem to have been residential quarters.

The next rooms, **Z6** and **Z7**, 7.60×5 m. and 5.80×4.35 m. respectively, have clay floors and rubble thresholds. They yielded some undecorated ware and **Z6** had a few painted sherds. **Z8** (5.25×4.75 m.) and **Z9** (5.25×5.90 m.) were equally simply built, although **Z9** seems to have had stucco on its walls. The rubble threshold of the door to corridor **Z1** is half as broad as the thickness of the walls flanking it. The finds are similar to those of the other rooms, including some decorated sherds from **Z8**.

The open space **Z10**, 8.20 m. long, provided some of the most important finds of the whole excavation: a heap of half-cylindrical cover tiles 0.46 m. long, with diameters of ca 0.165 m. at one end and 0.215 m. at the other. They were stacked against the wall of the southeast corner of **Z10** (Pl. 27:55). Threpsiadis emphasizes that they were found in an undisturbed layer²⁸.

After **Z9** the line of the east façade is extended by a thinner, less solid rubble wall to the cross-wall of the enclosure between parts **II** and **III**. This extension sealed off section **IIIa** completely and turned it into a compound accessible only through **Z**. From near the foot of the north wall of **Z9** Threpsiadis recovered a square dressed slab of conglomerate

27. *Supra*, n. 16.

28. *Praktika* 1961, 37-38.

(Pl. 25:52, arrow), bits of painted wall plaster, fragments of tiles and pithoi, sherds of kylikes and other domestic pots, plain and painted, and a strip of lead.

THE EAST WING (Plan 23, Pl. 27:56)

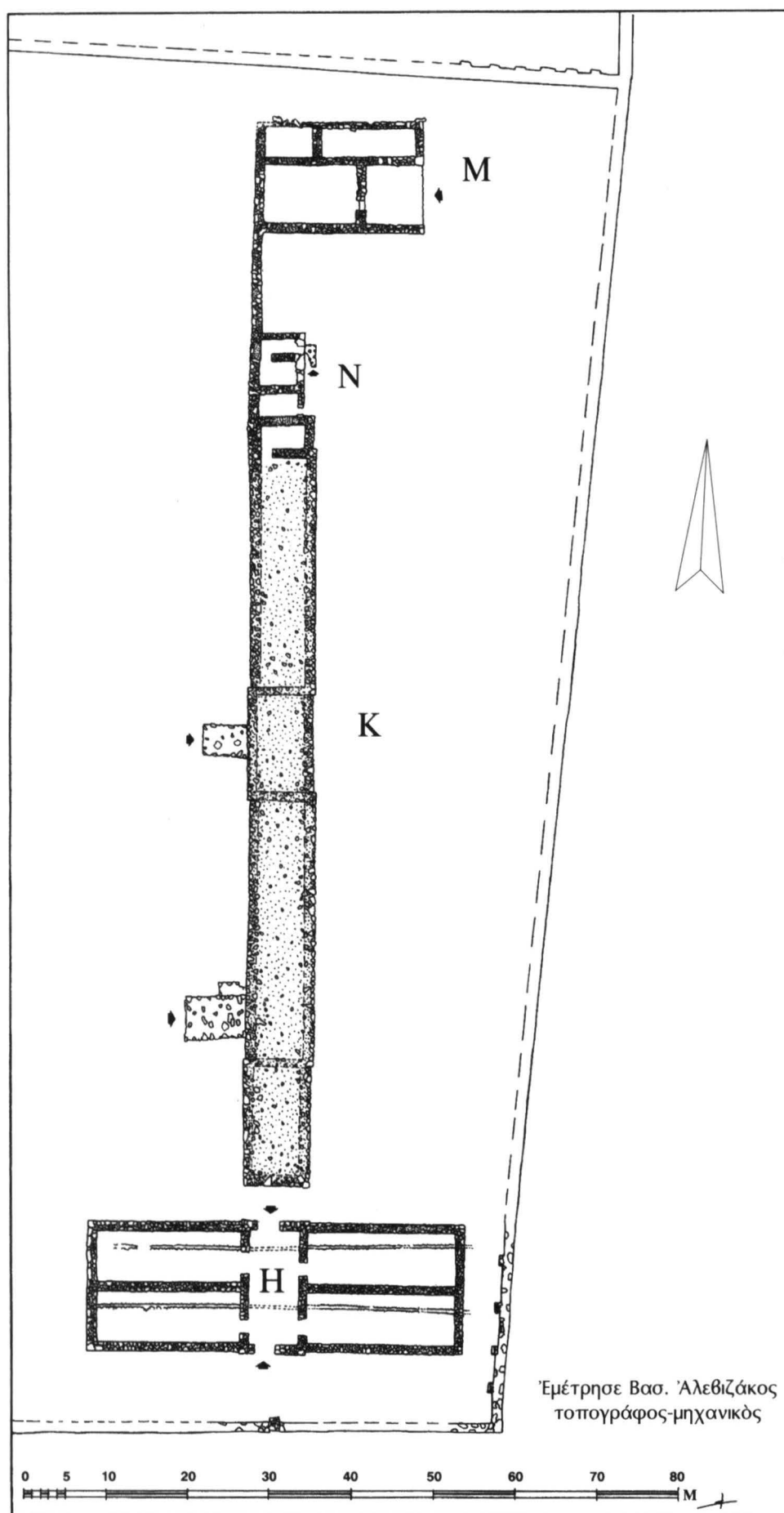
BUILDING H

Built in the southeast corner of the central enclosure, at a distance of 4.30 m. from the east enclosure wall and of 8.30/8.46 m. from its continuation to the south, building **H** (Plan 24, Pl. 28:57) is an exact replica of building **A** to its west (Plan 4). Oblong and rectangular, it has an overall length of 45.89/46.25 m. and is 15.80/16.5 m. wide. A central north-south passage, **H3**, 13.90 m. long and 6.20 m. wide, divides the building into two equal parts, each subdivided into two 17.80×6.30 m. large rooms, **H1** and **H2** to the west and **H4** and **H5** to the east. These rooms open separately onto the central passage, which alone communicates with the outside through an entranceway at each end, 2.95 and 2.60 m. wide, both off centre to the west. Their part of the façade is offset by 0.15 to 0.60 m. from the long walls of the building. The doors leading from the rooms to the passage have thresholds built of slabs bedded in yellow clay, with a surface a few centimeters higher than the floors. The door openings, 2.60-1.50 m. wide, are also located off centre to the south, probably in order to avoid the drains which run, 0.19-0.37 m. wide and 0.35-0.75 m. deep, parallel to the north walls of the rooms at a distance of 1.20 to 1.90 m. from them. The drains, open within the rooms but covered in the passage, reach down to bedrock and have a gentle irregular incline of 1.30 m. to the east where their outlets are located. Their sides, built of flattish stones, stood up to 0.20-0.35 m. above the floors. Thus, whatever their purpose, they clearly were not meant to drain the rooms²⁹.

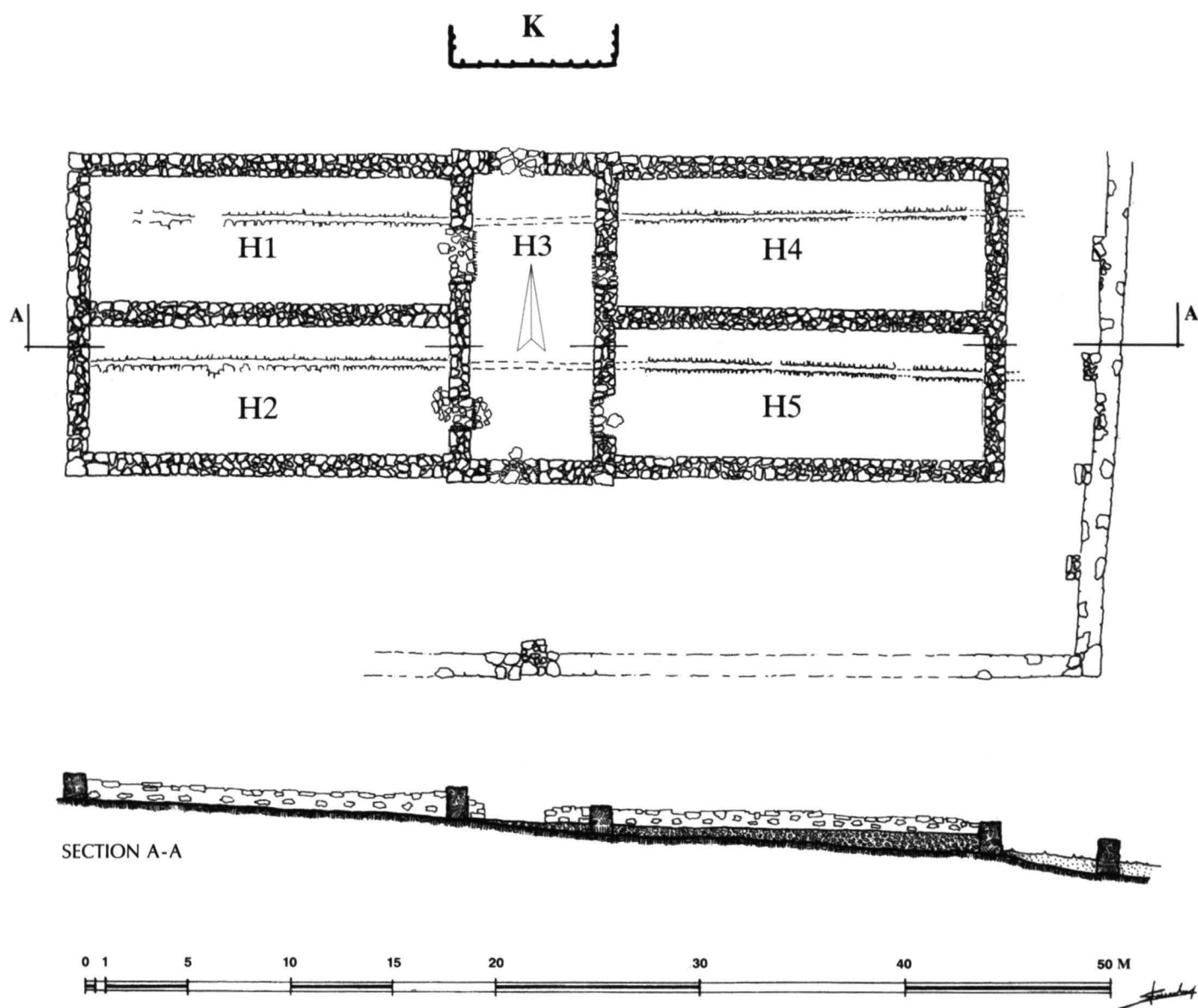
The walls of the building, 1.10-1.23 m. thick, consisted of a strong stone socle founded on the rock and preserved up to 0.90-1 m., and a superstructure of mudbrick, which had collapsed and filled the rooms.

In rooms **H1** and **H2** the undressed bedrock, filled in here and there, served as a floor. In **H3**, **H4** and **H5**, where the rock slopes to the east, floors consisted of one or two clay layers spread on a course of unworked flat stones with a rubble underpinning of varying thickness.

29. Supra, n. 26.



Plan 23. South enclosure, east wing.



Plan 24. Building H.

The building was destroyed by a conflagration that left its marks everywhere: fragments of mudbrick in the fill, fired hard (Pl. 28:58), calcined stones in the wall socle, especially near the doors where the wooden jambs went up in flames, traces of burnt wood on the thresholds and an ashy layer on the floors.

The surface layer, which covered more or less uniformly the entire building and had been greatly contaminated, produced much LH pottery, two NL sherds, a polished NL stone celt, roof tile fragments and a lump of clay with twig impressions on one side, that came from the clay packing on which the roof tiles had been laid.

Room H1

The northwest room of the building, similar in plan and equal in size to the other three (Plan 25). The threshold extended into the room by one additional square slab, somewhat thicker than the others (Pl. 29:59). The drain along the north side of the room did not occupy its whole length but began at a distance of ca 2 m. from the west wall where the rock did not quite reach floor level. De Ridder's workmen had dug two trenches across the room which cut through the fill but did not reach the floor. The first, upper layer of this fill, 0.15-0.20 m. thick, contained two intrusive black-glazed Hellenistic sherds, a great number of late Mycenaean pottery (chiefly kylix fragments), roof tiles and one lump of clay from the roof preserving on one side the impressions of the reeds on which it had been packed. The second, decayed mudbrick layer, 0.30-0.40 m. thick, uniform and uncontaminated, yielded more than 3,000 Mycenaean sherds (Pl. 29:60), plain (kylikes, shallow bowls, jugs) and decorated (skyphoi), roof tile fragments, broken hardened mudbrick and one more piece of fire-hardened clay packing from the roof, with impressions of twigs with the bark still preserved. This layer covered a 0.03 m. thin deposit of ashy earth mixed with scant bits of carbonized wood, almost 2,000 Mycenaean sherds of all kinds (kylikes, shallow bowls, jugs, basins, cooking pots, a roof tile, small stirrup jars, skyphoi) many of them burnt, all clearly dating from the destruction of the building (Pls 30, 31:62,63). The same kind of pottery was collected from the area of the threshold.

The most important find however, one which revealed beyond doubt the function of room **H1**, consisted of 14 little heaps of carbonized wheat, which lay on the floor next to one another in the west part of the room (Pls 32, 33:65). Clearly these were the remains of grain loads stored closely together in containers, most probably sacks, which had burned away leaving no trace³⁰. One of them had been propped up by the base of a large vessel. Nearby lay fragments of a pithos and of a large stirrup jar (Pl. 33:66), mostly burnt; enough pieces were recovered for the jar to be mended.

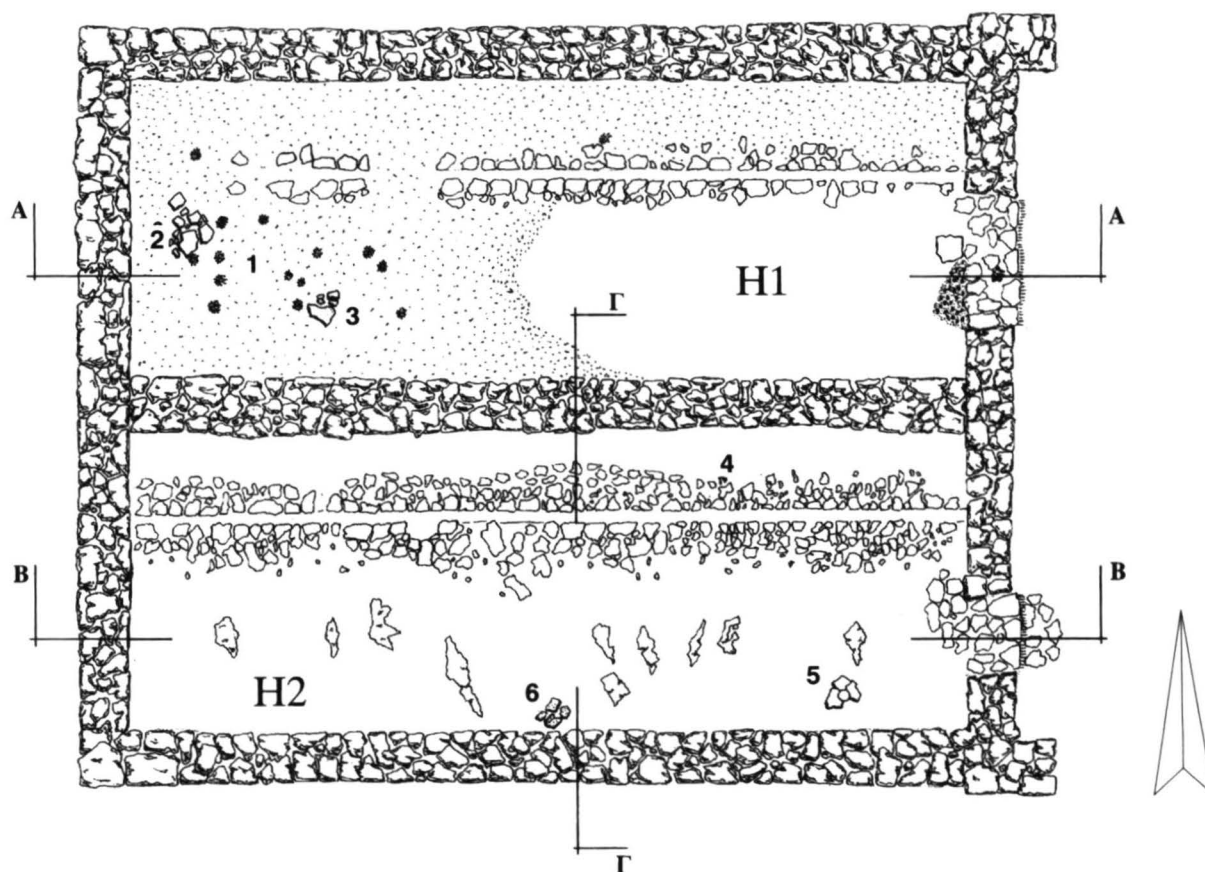
30. The villagers of nearby Kastro had a similar experience during World War II, when the occupation forces burned down their houses and the wheat stored in them. The upper part of the sacks disintegrated into ash while low down the contents turned into hard lumps of carbonized grain.



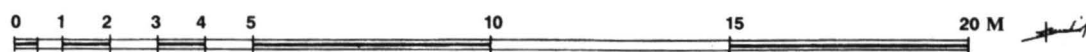
SECTION Γ-Γ



SECTION A-A



SECTION B-B



Plan 25. Rooms **H1** and **H2**.

Room H2

The southwest room, separated from **H1** to the north by a 1.15-1.20 m. thick party-wall (Plan 25). It, too, had been investigated by de Ridder in two trenches which stopped short of the floor. The door to **H3** had the same kind of threshold as **H1**, likewise with an additional extension of rough slabs to the inside (Pl. 34:67). The drain, carefully built of flat stones, ran through the whole length of the room into **H3** and beyond. The floor consisted of reddish earth packed with pebbles over the undressed bedrock which surfaced in places.

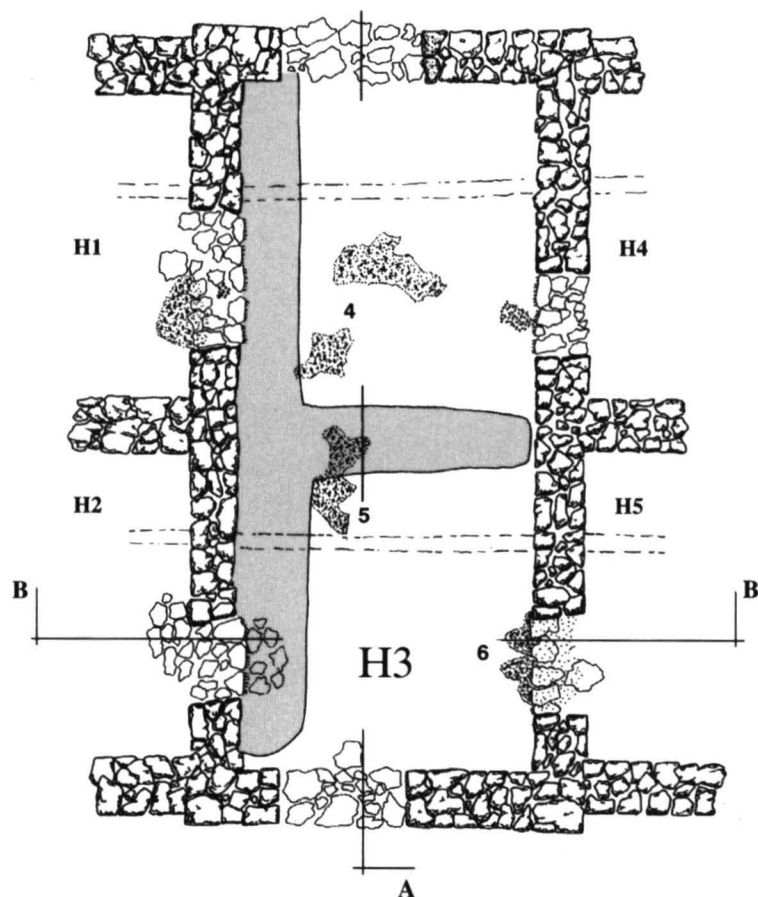
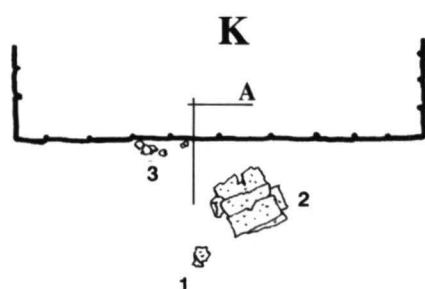
The first layer contained Mycenaean pottery sherds, plain and decorated, one intrusive fragment of a black-glazed Hellenistic vase and eight shapeless lumps of molten lead. The second, mudbrick layer yielded a great many mudbrick fragments mostly blackened by fire, including a broken, almost complete specimen (Pl. 34:68), roof tiles, some scraps of lead plate, a well-preserved pair of bronze tweezers (Pl. 35:69) and some 6,500 pottery sherds (Pls 35:70,71, 36:72,73, 37:74). In the ash deposit lay small calcified stones, roof tiles and more than 2,000 Mycenaean sherds, including fragments of a skyphos decorated with multiple hooked stems (Pl. 37:75). Finally, the finds from the floor and from the threshold include one grape pip, ca 100 sherds from small vases together with the base and many fragments, some burnt, from the lower body of a pithos decorated with a relief band on the shoulder. The fragments, found lying together, were not enough for the reconstruction of the vessel.

Passage H3

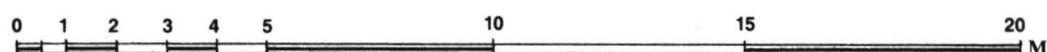
This hallway (Plan 26, Pl. 38:76), running N.-S. across the building, served as an entrance hall to the rooms whose functions it did not otherwise share. The threshold slabs of the two main entrances were coated with yellow clay similar to that, turned gray with use, which formed the floor and covered the drains running through the passage. Between the thresholds to **H1** and **H4**, next to the drain **H2-H5** and in front of the entrance to **H5** the clay had ash stains. De Ridder had dug one trench along the west wall and another one at right angles to it, both down to the floor. The fill in the passage was the same as in the rest of the building. The first, brown layer contained one NL and one Medieval sherd, fragments of pithoi with decorative bands on the shoulders, a small flint blade with serrated edges and some 500 LH sherds plain and decorated, including fragments of small stirrup jars with bands of hatched lozenges and



SECTION A-A



SECTION B-B



Plan 26. Room **H3**.

zig-zag on the shoulder (Pl. 38:77). The second layer, 0.48-0.79 m. thick, yielded roof tiles, pithos fragments (one burnt to vitrification), a fragmentary obsidian blade and about 1,000 LH sherds, including some decorated with spirals and pendent antithetical lines (Pls 39:78,79, 40:80,81). The ash layer produced a few sherds among which were fragments of a skyphos decorated with a narrow zig-zag triglyph and of a small krater with an upright whorl shell pattern (Pl. 41:82). The floor deposit consisted of a few roof tile fragments, pieces of sheet lead, and pottery (Pl. 41:82,83) including the upper part of a small stirrup jar ornamented with a spiral on the disc and flowers with quirk centres and dotted corollas on the shoulder (Pl. 42:84).

The space between the north door of **H3** and building **K** had been filled by dissolved mudbrick from the walls of both structures. The upper part of this accumulation had been hopelessly mixed up by de Ridder and Threpsiadis. The lower part, compact and undisturbed, contained mudbrick hardened by fire, stones at different levels up to 0.60-0.85 m. above ground, and a number of slabs fallen from above, most probably from the top of the stone platform of **K** (Pl. 42:85). At the foot of the wall lay a fragmentary stamniskos (Pl. 43:86). On the ground some lead sheets lay as they had originally been placed. One was irregularly shaped, with incisions on one side in preparation to its being cut into small squares (Pl. 43:87)³¹. Three more large rectangular sheets, each measuring ca 1×0.50 m., had been stacked, partly covering one another, and having one or both of their long sides folded back (Pl. 43:88, Plan 26:1,2).

Another trial trench was dug between the other entrance into **H3** and the south enclosure wall. The stratification and the finds were more or less the same as elsewhere. Among other sherds, the mudbrick layer yielded kylikes, skyphoi and the shoulder of a small stirrup jar decorated with angular flowers (Pl. 44:89/3).

Room H4

The northeast room of the building, **H4**, is very much like the others (Plan 27, Pl. 44:90). It has the same plan, the same size and the same kind of threshold, built of two parallel rows of slabs, large on the outer

31. Gla I 100 and n. 87. The incised squares are 4×4.5 cm., 3.8×3.2 cm. and 3×4.2 cm. in size. If folded they would measure 4×2 to 3×2 cm. The net weights range from 4×3 to 3×3 cm.



SECTION E-E



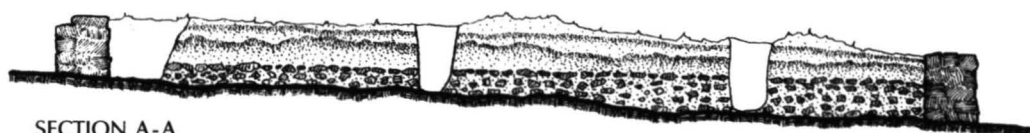
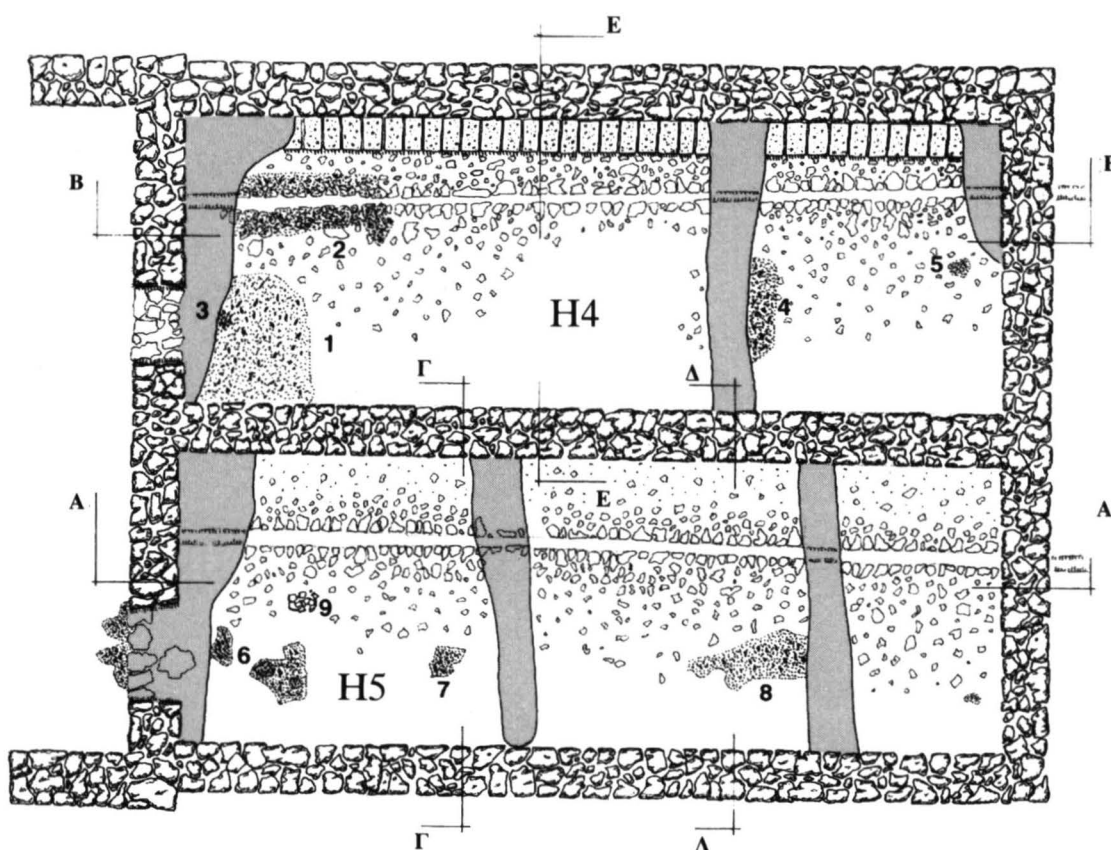
SECTION Γ-Γ



SECTION Δ-Δ



SECTION B-B



SECTION A-A



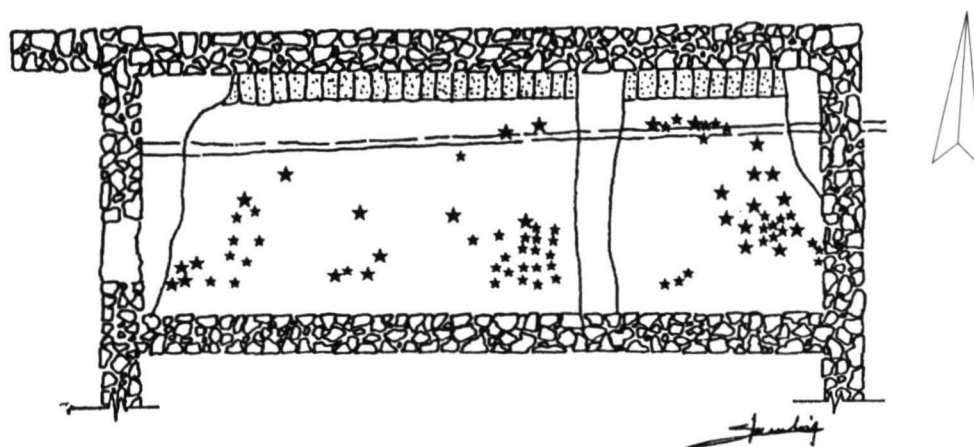
Plan 27. Rooms **H4** and **H5**.

side, smaller on the inner side and coated with white clay. Its floor consisted of red soil, spread over the foundation stone packing into which the drain, coming from **H1** and **H3** and running out under the east wall of the building, was built. As in the rooms of the west wing the bedrock served as the bottom of the drain, the sides of which were 0.15-0.20 m. higher than the floor.

In one respect, however, room **H4** differed from the others: A bench, 0.65-0.71 m. wide and originally higher than the preserved 0.75 m. had been built along the north wall in level courses of crude mudbrick, seven of which had survived (Pl. 45:91). The bricks, 0.08-0.10 m. high, 0.35-0.46 m. long and 0.63-0.75 m. wide, were bedded in clay. The bench, too high for a seat, must have served as a shelf for special substances or objects in keeping with the function of the room which, as shown by the finds, was likewise a granary.

The fill of the room, which rose to about the preserved top of the wall, had been penetrated by de Ridder's team, who had cut into the bench and gone through the floor in three places: along the west wall, across the room at about two thirds of its length and at the northeast corner. The accumulation they disturbed was the same as in the other rooms. The top layer contained some 150 sherds of kylikes, shallow bowls and skyphoi, all LH. The second layer, full of broken mudbrick, fifteen chunks of which were coated with white plaster, yielded about 1,400 sherds of LH plain and decorated ware, among which were kylikes and shallow bowls, jugs, skyphoi decorated with bands and spirals, small stirrup jars and one fragmentary roof tile (Pl. 45:92). This layer covered the thin ash deposit spread over the floor in patches: two large ones near the door, two in the east part of the room and one more next to the east wall. Their core was composed of many carbonised wheat grains which had stained both the floor below and the mudbrick layer above them. The pottery in this deposit consisted of one NL sherd and more than 900 pieces of all kinds of LH ware including kylikes, shallow bowls, part of the shoulder of a large stirrup jar and skyphoi decorated with spirals (Pl. 46:93). There were also fragments of a pithos and a roof tile.

The sherds of the floor deposit, partly blackened by the ash on top of them, were few and undistinguished. But the whole south half of the floor was covered as far as 2.30-3.20 m. from the south wall with broken and scattered pieces of plaster averaging 0.02-0.015 to 0.03-0.02 m. in size (Plan 28). More than a hundred were painted. On a few the painted surface had been coated and painted afresh. Some show traces of burning.



Plan 28. Room **H4**, findspots of frescoes.

Some were monochrome (dark red, orange, yellow, blue, brown and black) but many show decorative motifs or pictorial compositions (dado, architectural friezes or bands of rosettes) (Colour pls II, III, IV). One, the largest of all (0.064×0.05 m.) bears two female heads, one larger than the other, both in profile to the right, representing the familiar theme of "women at the window"³² (Colour pl. IVb). The average thickness of the fragments is 8-10 mm. but may vary from 4 to 18 mm. The paint had penetrated uniformly into the plaster and had nowhere peeled off, showing that the paintings had been laid on the wall *al fresco*. Most of the fragments but not all lay on the floor face down, leaving no doubt that they came from the south wall which had toppled into the room at the start of the conflagration which destroyed the room and its contents.

A great many pottery sherds were found in the drain, mostly near its outlet, which had been stopped by a piece of lead sheet wedged between the stones of the east wall. Except for the ubiquitous kylikes and shallow bowls and a few skyphoi fragments decorated with spirals and a motif of vertical lines with an oblique top (Pl. 46:94), the drain contained pieces of two large stirrup jars which could be partly mended (Pl. 47:95,96). The taller of the two preserves part of a painted Linear B sign which could be a *wa-*, a known abbreviation of *wanakatero*³³. Some of the fragments of

32. EVANS, PM II 600f., figs 373c, 375, RODENWALDT, AM 36, 1911, 222f., pl. 9, 2, WACE, Mycenae (1944) 64, fig. 98a, RODENWALDT, Tiryns II (1912) 108, fig. 45, SPYROPOULOS, Deltion 26, 1971, 104f., pl. 21α, β, Praktika 1969, 12, pl. 7α. Published by S.E. IAKOVIDIS, Festschrift für N. Himmelmann (Mainz 1989) 7-9, pl. 1.

33. See S. E. IAKOVIDIS, Ariadne 5, 1989 (Festschrift St. Alexiou) 39-43.

the painted vases were totally burnt, others partially so and the rest not at all. They were obviously exposed to the fire after they had been broken and discarded and had accordingly been in use during the last phase of the building.

Room **H4** was thus a storeroom with a bench for special commodities, large storage jars for liquids (oil, most probably) and grain in very large amounts. At least one wall of this storeroom was richly decorated with frescoes, preserved from total disintegration by the fall of this same wall, which smashed them but at the same time covered and protected them.

Room H5

The southeast room of the building (Plan 27, Pl. 48:97) was identical in plan and equal in size to the others. The door to the passage **H3**, opening off centre in the south part of the partition wall, had a wooden frame which had burned. The fire hardened the clay mortar that fastened it to the jambs, calcined the stones next to it and left a large deposit of ash inside the room. The irregular slabs which formed the threshold (Pl. 48:98) together with their clay coating had been partly removed by de Ridder's workmen. The drain, continuing its course from **H2** and **H3**, ran through the stone packing of the floor to its exit under the east wall. Here, too, the sides were higher than the surface of the floor. It was found full of mudbrick from the walls, dissolved or preserved in chunks, which shows that at the time of the destruction the drain was open. Except for a thin layer of white clay, mainly in the west part of the room, no special floor coating could be detected. Indeed, the ash lay at places directly on the stones of the rubble packing of the floor. The accumulation in the room was composed of the same layers as in the rest of the building: beneath the much disturbed surface came first a 10-20 cm. thick, virtually uncontaminated layer, a second, 50-60 cm. thick, compact fill consisting of disintegrated mudbrick and finally the thin, only partially preserved and mostly burnt floor deposit.

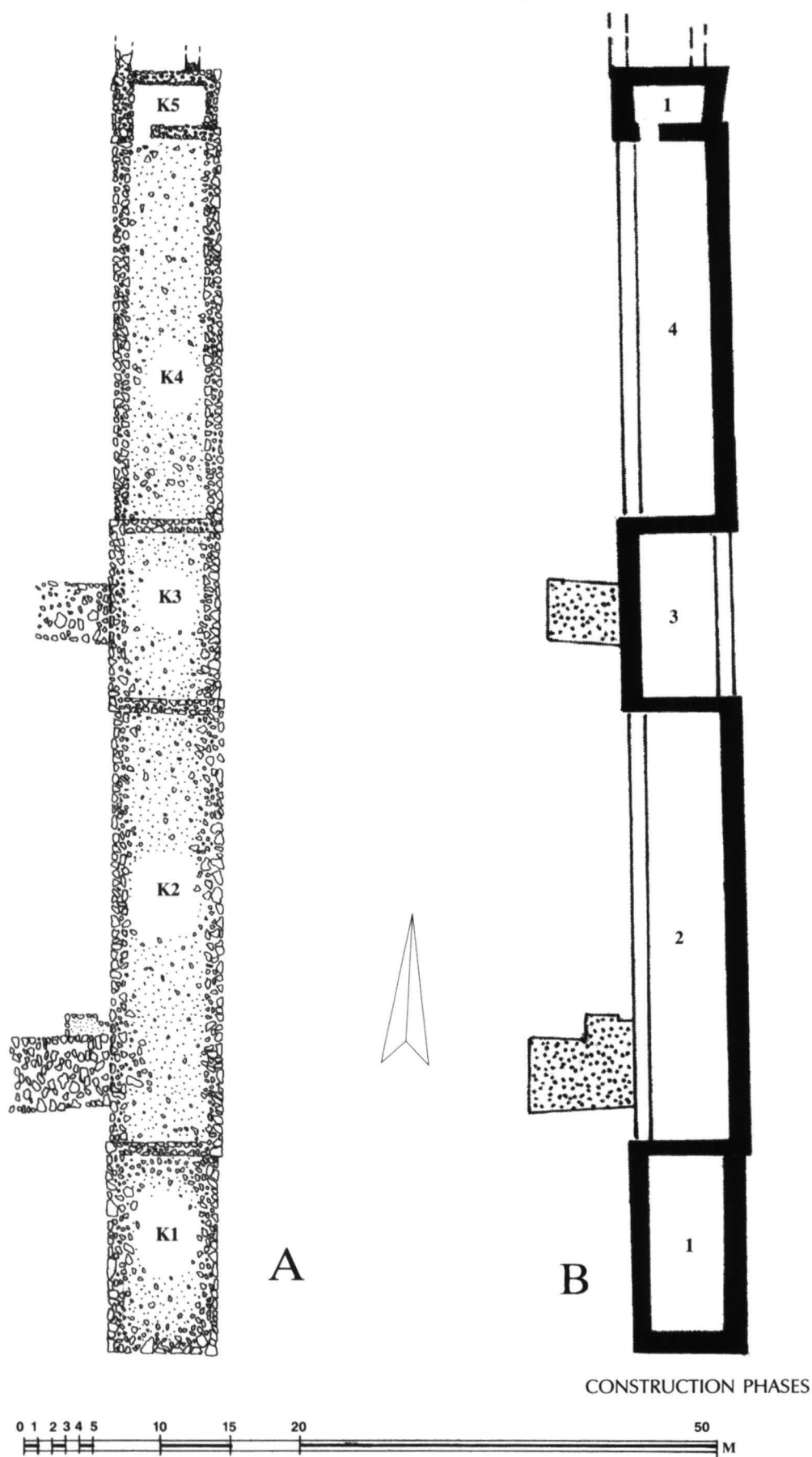
The French excavation trenches had cut through the entire accumulation and even into the rubble packing under the floor (Pl. 49:99), which made it possible for us to collect some ceramic evidence from among the stones of the packing (172 sherds in all, of which 44 from kylikes, 1 from a carinated bowl, one or two from an open-shaped vase and a fragment of a stirrup jar). In itself, the pottery is of little significance. It provides, however, a date for the construction of the building. The surface soil

contained mixed plain and decorated pottery, predominantly kylikes, carinated bowls, jugs and skyphoi. The first layer produced some 1,500 sherds coming from 140 kylikes, 30 carinated bowls, some jugs decorated with horizontal bands, skyphoi, the ring base of a small stirrup jar, roof tile fragments, a flint blade, a steatite button and a small fragment of an ostrich egg with a piece of bronze wire attached to it (Pl. 49:100). The mudbrick of the second layer yielded ca 2,000 plain sherds, together with 500 fragments of kylikes, 80 of carinated bowls, 25 of domestic ware such as dippers and three-legged cooking pots, 22 of painted ware including the shoulder of a stirrup jar decorated with dotted circles, numerous fragments of two-handled jars, a spout with painted bands along its sides, several skyphoi including two monochrome, and a T-shaped piece of hard baked clay from a joint between mudbricks (Pl. 49:101). In addition there were two NL sherds and half an *Arca Noae* shell. The floor deposit, partly covered with the ashy remains of wooden roof beams, included a grape pip, the fragments of a smashed two-handled jar, broken and mended in antiquity (Pl. 50:102), sherds from three more jars, kylikes, angular bowls and skyphoi decorated with wavy lines, zig-zag and triglyphs of vertical lines, pieces from the shoulder of a small stirrup jar and part of a pan tile. The sherds were mostly burnt. A great amount of carbonized wheat grain lay scattered all over the floor (Pl. 50:103) but was mainly concentrated in four shapeless heaps, large and small.

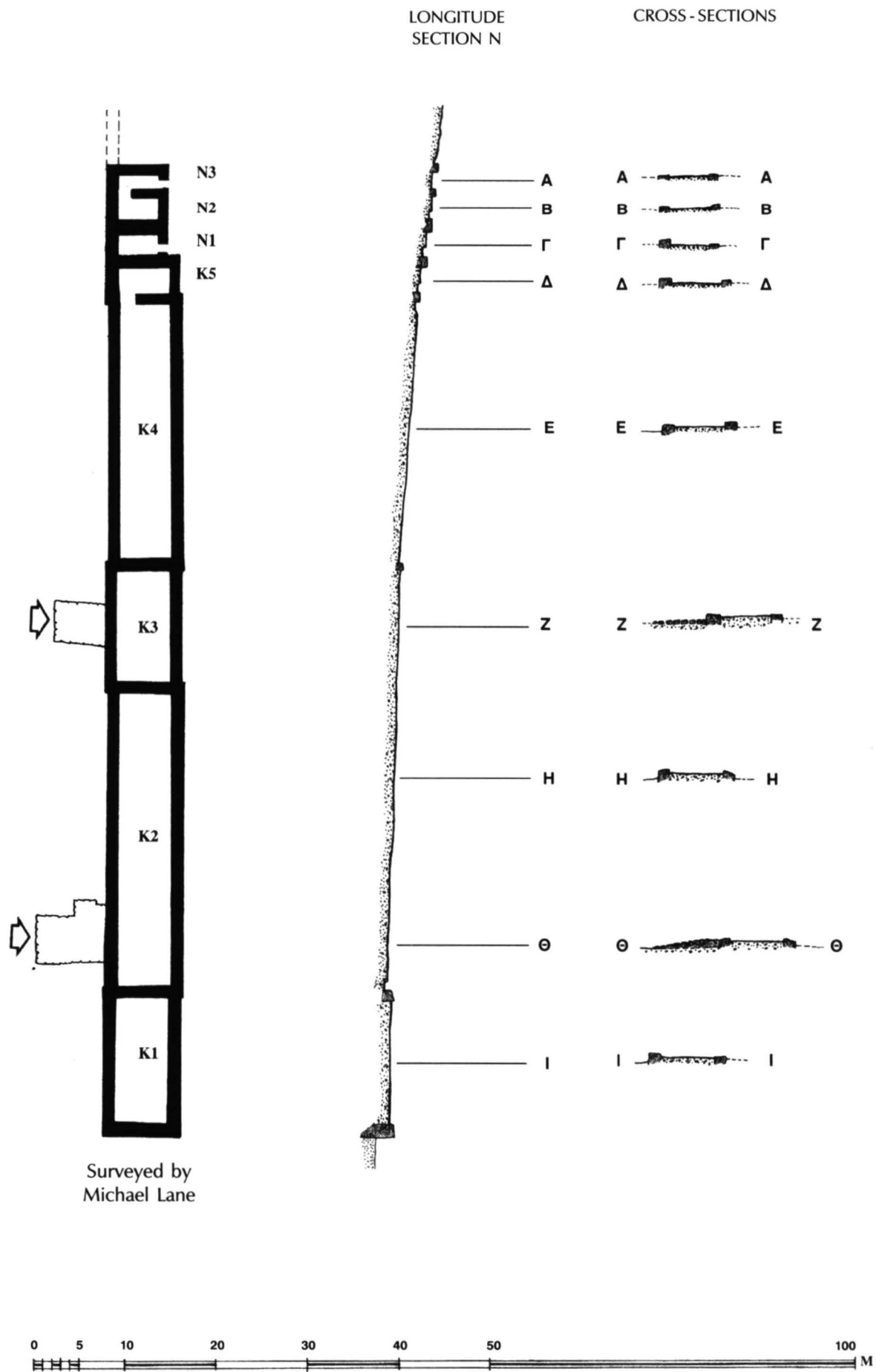
The drain contained some additional pottery, burnt and / or covered with a saline deposit. Among it were fragments of kylikes, carinated bowls, cooking pots, monochrome skyphoi, part of the shoulder of a stirrup jar decorated with concentric semicircles, a dipper (Pl. 51:104), fragments of a pithos and of a pan tile and four burnt pieces of a long animal bone.

BUILDING K

This 8 m. wide structure (Plans 29, 30, Pl. 51:105) extends for ca 90 m. northwards leaving between its south end and building **H** a 4 m. long open space. The only part preserved is a levelling terrace which rises from bedrock level at its north end to a preserved height of 2 m. at the south. The terrace, founded everywhere on the rock, has 1.35-1.40 m. thick retaining walls at its sides, built of undressed boulders, and a compact filling of smaller stones and rubble. Judging by the large number of boulders lying along its sides, the original level of the terrace must have been at least two courses higher, especially at its south end where the top lies



Plan 29, A, B. Building K, plan, construction.



Plan 30. Building K, sections.

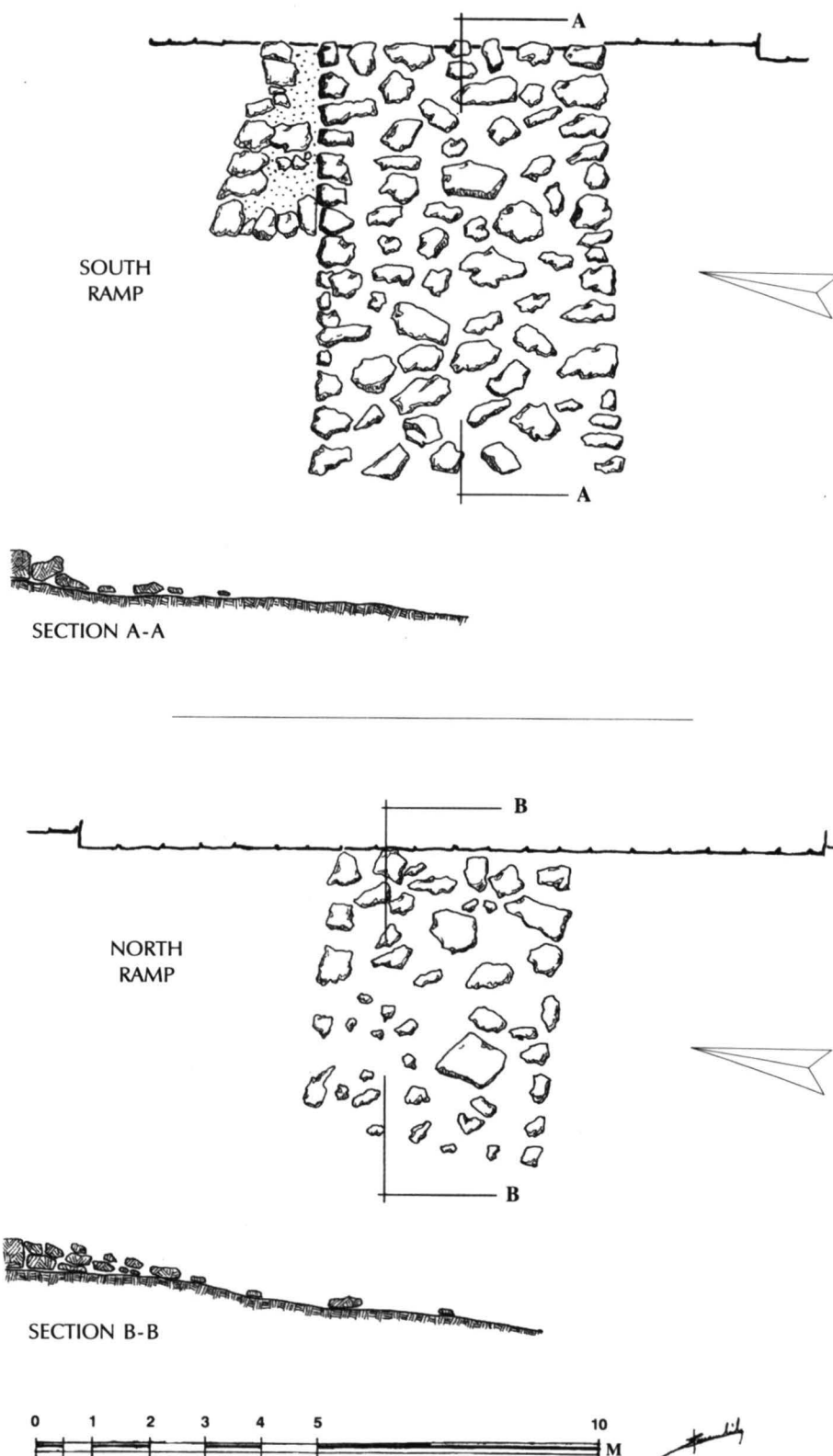
at present 4 m. lower than at the north. The thick accumulation of white clay, moreover, which surrounded the building and still lay here and there on the top of the terrace shows that the superstructure, no longer preserved, was built of mudbrick which had not been burned (as it was in building **H**) and had therefore dissolved into a shapeless mass of clay. The south retaining wall of the terrace turns north on both sides for about 15 m. At this point the west wall turns at a right angle and runs across the building, joining but not bonding with the east length of wall. From here it continues northwards for 32.60 m., where it takes another turn to the west. This is repeated after 13.47 m. and again after the last 24.96 m. At the turning points the wall projects and recedes by 0.20-0.25 m. In other words, the retaining wall was built on a meander pattern (as it was in building **B** of the west wing)³⁴ whose open sides were closed by equally thick rectilinear walls to form a straight façade. This was broken at the recesses, thus dividing the building into four compartments, numbered **K1-K4** from S. to N., alternating in length from 14-15 m. to 25-32 m.

Two ramps provided access to the building from the central court (Plan 31). The first and larger one, 7.72 m. long and 5.12 m. wide at its meeting point with the façade of the building is located near the south end of **K2** and is built of large flattish stones bedded in white clay (Pl. 52:106). Some of the stones of the upper course preserve their original sloping position indicating that the ramp had an incline of 11.5%, which could otherwise have easily been negotiated with 3-4 comfortable steps. At its northwest corner an additional level platform, 3.50 m. long and 1.80 m. wide, was accessible from within rather than from outside the building. It was very like the "sentry's platform" at the north entrance of the melathron³⁵. Clearly, from this place traffic could be controlled into and from the compartments **K1** and **K2**. The second, smaller, ramp (5/5.75×4.10 m.) leads into **K3** (Pl. 52:107). It is less well preserved than the first one but enough remains to show its original incline, which was 14%, again a matter of 2-3 steps.

The ramps are the only approaches to the building, both leading to it from the central court, and showing that the building was divided into at least two parts. The mudbrick superstructure having altogether disappeared, we cannot say with any degree of certainty whether this was the

34. *Gla* I 177-189.

35. *Ibid.* 109-110. Also *PN* I 68, 74-75.



Plan 31. Building K, ramps.

only internal division. Given the 90 m. length of the building, however, it is more than likely that the rooms into which this vast structure was actually divided corresponded to the compartments as defined by the cross-walls.

Threpsiadis made a cursory investigation of the terrace. He opened a trench outside its southwest corner, in which he observed three different layers. He collected some sherds, both plain (kylikes, cooking pots, part of a plate) and painted (jugs, a basin, skyphoi) as also fragments of roof tiles, part of a roughly dressed circular slab of green stone and a few intrusive sherds of Megarian bowls. He also located the south ramp and dug cross-sections into the fill of the terrace, something already attempted at places by de Ridder. Between them these two excavators opened nine such trenches at irregular intervals, one of which uncovered the cross-wall between **K1** and **K2** (Pl. 53:108). These sections had created damage enough to the structure and it was obvious that more digging would add very little evidence to that already known. Further research, therefore, was limited to one trench opened into the terrace fill along the presumed cross-wall dividing **K3** from **K4**, to the study of its architectural and structural features and to the investigation of the pottery contained in the dissolved mudbrick from its walls that had accumulated along its sides. In addition to the ubiquitous kylikes and carinated bowls this accumulation yielded fragments of cooking pots, pithoi, basins, plates, jugs, monochrome skyphoi, pan- and cover tiles (Pl. 53:109), an isolated sherd from a Byzantine vessel with horizontal striations, fragments of unpainted plaster and two cockle shells. The **K3-K4** trench revealed the cross-wall and yielded both plain and decorated sherds from kylikes, carinated bowls, jugs, a skyphos preserving a decoration of bands and stripes, pan- and cover tiles and a cockle shell. After the excavation all trenches were filled in with their own excavated material and the surface of the terrace was restored as far as possible to its original condition.

A small room, **K5** (Plan 32, Pl. 54:110,111), was attached to the north end of **K4**. Its east wall recedes by 0.35 m. from the east façade of **K**. Room **K5** communicates with **K4** through a doorway whose threshold was paved with slabs bedded in clay. **K5** is roughly rectangular, 5.25/5.35 m. wide and 2.63/2.90 m. long and its floor, made of white clay over a rubble fill is at the same level as the top of the fill of **K4**, i.e. some 4 m. higher than the floors of building **H**. Threpsiadis had dug a trench along the south wall of the room, telescoping the layers and cutting into the rubble fill of the floor.

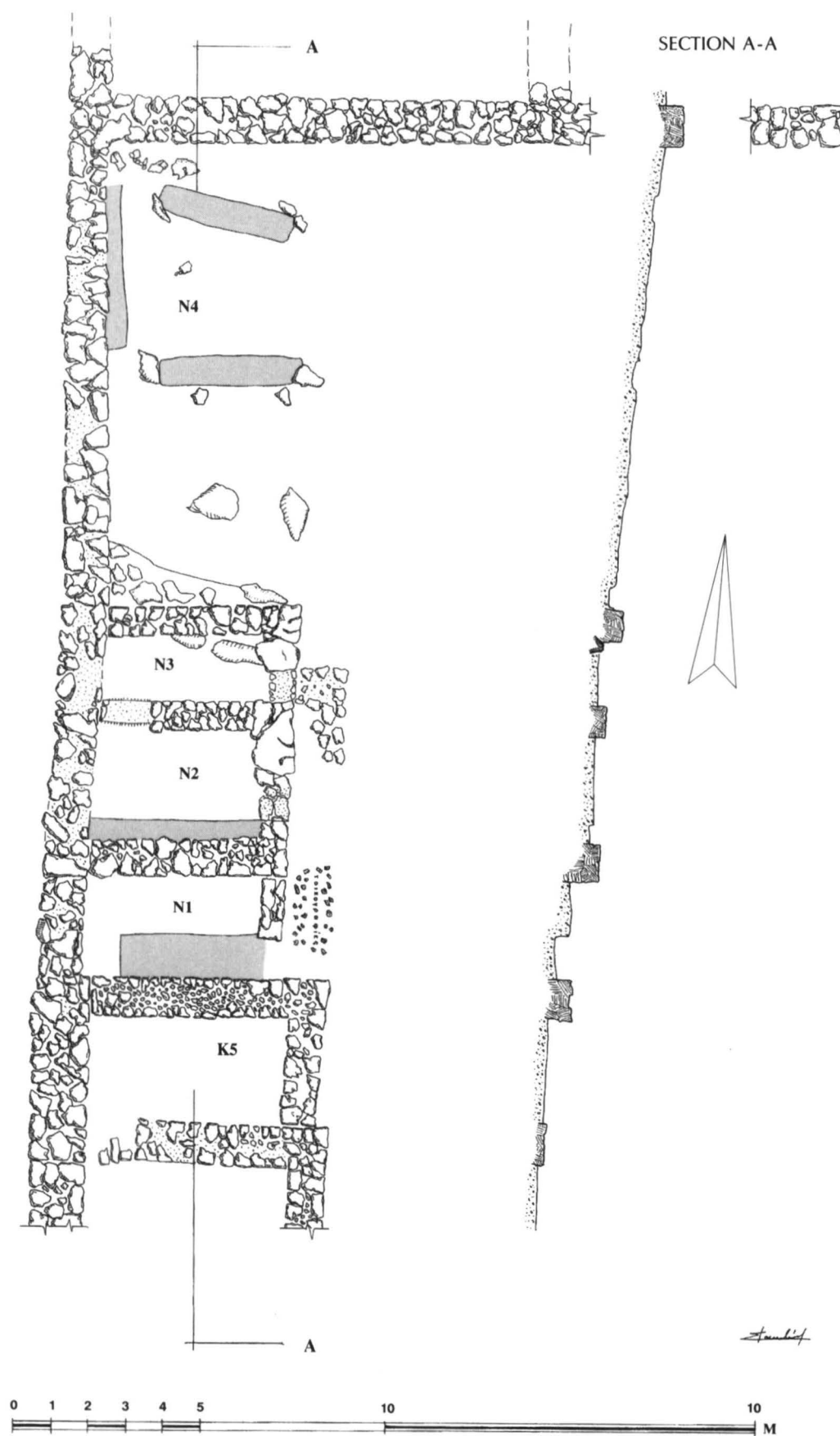
The room was filled with the usual accumulation of top soil, a first, 0.40 m. thick brown layer along the north wall diminishing to 0.10 m. in the middle and south section and a second, whitish one, 0.04-0.10 m. thick, which lay on the clay coating of the floor. The first layer produced a few shapeless lumps of lime plaster, fragments of roof tiles and some pottery sherds from kylikes, carinated bowls, cooking pots, a round perforated plate, fragments of small cup-shaped sieves, part of an oval pan pierced at the bottom and a solitary sea shell. Neither the second layer nor the floor yielded any finds.

Room **K5** is followed to the north by three rooms in a row, **N1-N3**, an open area, **N4** (Pl. 54:110,111) and, finally, building **M**. Both **M** and the rooms are built against the continuation of the west retaining wall of **K** thus sharing a common west façade which they abutt without bonding. Due to the southward slope of the rock they are built at descending levels with as much as 1.50 m. difference from **N3** to **N1**.

SET OF ROOMS **N1-N3** – AREA **N4** (Plan 32)

Room N1

The east side of **N1** recedes by 1.40 m. from the façade of room **K5**, with which it does not communicate. It measures ca 2.70×4.85 m. and has a 1.02 m. wide doorway in the east wall, leading to the space between the buildings and the enclosure wall to their east. The room was filled with the usual accumulation, partly destroyed by an earlier trench dug along its south wall. The first, disturbed, layer, brown in colour and 0.30 m. thick, yielded a few sherds among which were 2-3 kylikes, a fragment of a sieve (like the one in **K5**) and part of a cover tile. The second whitish layer formed by the dissolved mudbrick had the usual fragments of kylikes, carinated bowls, part of the shoulder of a small stirrup jar with stripes between bands and the handle of a large such storage jar with broad stripes painted across it. This layer covered a thin brown fill with some stones in it, obviously accumulated after the room was abandoned and before the mudbrick walls collapsed. The pottery from this fill includes kylikes, carinated bowls, fragments of plain household ware among which a strainer (Pl. 55:112/2) (see rooms **K5** and **N1**), fragments of a pithos and part of a cover tile. The floor, 0.50 m. higher than that of **K5**, was made of white clay mixed with coarse black sand. Along the foot of the west and north walls lay fragments of unpainted plaster



Plan 32. Rooms N1-N3, area N4.

and a stone of the north doorjamb preserved traces of whitewash. Seven pieces of a pithos, a sherd of a skyphos decorated with a vertical whorl shell, some sherds of domestic pottery and five pieces of lead sheet lay on the threshold. Some broken cover tiles were recovered from the earlier trench.

More pottery (kylikes, carinated bowls, various domestic ware including the handle of a dipper, fragments of a krater and of a skyphos decorated with chevrons) was found outside the east wall of room **N1**. The pottery lay scattered on top of a 1×2 m. large pile of fresco fragments varying in size from 6×9 mm. to 24×6 or 20×14 cm. These were jumbled with practically no earth between them throughout no less than four layers. The breaks are so worn that very few joins could be effected. A hundred and thirty eight of the fresco fragments were unpainted (19 showed traces of burning), 352 were painted blue, 9 black, 7 red, 30 yellow and 18 showed a dull magenta colour, unknown so far in Mycenaean wall paintings. A hundred and thirteen preserved more than one colour, 39 bore some kind of incomplete motive and the remaining 183 were decorated with recognisable representations of dado (2), argonauts (3), bands of rosettes and ivy leaves (86), dolphins (ca 80) and a few floral patterns. Twelve more fragments were painted in miniature, such as the head of a man and part of the entablature and door jamb of a building decorated with spirals (Colour pls V, VI, VII, VIII, IX, Xa). Apparently one or more rooms were decorated with a dado on the lower part of the wall, a frieze of rosettes and ivy leaves on the top and argonauts, dolphins and sea plants in between. They are too fragmentary, too scattered and too few to belong to a wall that had toppled, keeping bits and pieces of its decoration more or less together. They come in all probability from the decoration of one or more rooms which had somehow been damaged (the burnt white fragments suggest a fire) and they had been dumped into a hollow of the rock outside room **N1**. The few plaster remains found inside the room imply that this decoration was eventually renewed, as was usual in Mycenaean buildings.

In addition to the fresco fragments the pile contained four undecorated rim fragments of offering tables made of lime plaster³⁶.

Next to room **N1** are rooms **N2** and **N3** which communicate, forming a small apartment. They were buried under a fill whose top, common to

36. *Supra*, n. 9.

both rooms, contained ca 100 sherds of plain domestic ware, 8 pithos fragments, part of a pan tile and three *Arca Noae* shells.

Room N2

A small quadrangular room, 2.75×4.17 m., divided by a party wall from **N1** to its south. The north wall has a doorway leading to the next room, **N3**, whose threshold had a coating of white clay. The east wall had the usual stone sockle which was stepped to accomodate the slope of the rock. In the angle thus formed remains of a mudbrick of the superstructure were preserved.

The floor, 0.70 m. higher than that of **N1**, was made of the same lime and sand mix as in room **N1**, spread on a levelling fill of rubble. Two exploratory trenches had been dug along the west and south walls, virtually obliterating the accumulated fill. The floor deposit included some domestic ware sherds (kylikes, carinated bowls, jars, pithoi etc.), cover tiles, a small piece of lead, a few small lumps of hard baked clay, one bit of unpainted lime plaster and some sea shells.

The room had no door to the outside. It communicated only with room **N3** to its north.

Room N3

The room is 2 m. long and 4.10/4.50 m. wide. In addition to the doorway connecting it to **N2**, there is another one, 0.97 m. wide, in its east side, as in room **N1**. The threshold is built of small slabs in two parallel rows and coated with white clay and pebbles. The entrance was approached from the outside by a short paved footway ascending along the east façade of **N2** and turning onto the threshold of **N3** (Pl. 55:113). The floor, at about the same level as that of **N2**, consisted of a levelling fill of rubble coated with a layer of reddish clay. Underneath the topsoil was a uniform 0.30 m. thick fill of white clay mixed with a few small lumps of plaster, obviously the remains of the mudbrick superstructure and its lime plaster coating. In the fill were fragments of pithoi, a piece of a cover tile and a sea shell. More pottery was found outside the room in two strata, separated by a thin layer of brown earth. The upper one contained a few disparate sherds, most probably washed at times down the slope. The second produced sherds of household ware (kylikes, carinated bowls, handles) fragments of skyphoi, part of a cover tile and two lumps of run lead.

Area N4

A 12.33 m. long area, open to the east but bounded to the west by the wall shared by the buildings of this wing, to the south by the north wall of **N3** and to the north by building **M**. The floor is simply bedrock which projects in places, slopes down from north to south by 1.50 m. and is roughly levelled with a mixture of red earth, small stones, worn pottery sherds and small lumps of lime plaster. The area was found covered by an uneven fill, thicker at the south end where it had accumulated against the wall of **N3** and thinner at the north from where it had been washed down the slope. The top layer produced a great number of pithos fragments, cooking pots and other domestic vessels, among which was part of a terracotta grilling stand. Underneath this layer was a 0.15-0.20 m. thick deposit of dissolved mudbrick, which yielded kylikes, handles of various vases, cooking pots, some 50 pithos fragments and the ribbed rim of a tankard. More pottery lay scattered on the ground: fragments of domestic and kitchen ware, two pieces of a grilling stand (Pl. 56:114), the handle of a dipper, part of a small strainer (Pl. 56:115), cups, the handles of a large stirrup jar, shoulders of pithoi decorated with relief bands (Pl. 57:116,117), sea shells and, in a row along the south wall of building **M**, sheets of lead of irregular shape (Pls 57:118, 58:119,120), similar to, but smaller than those in the space between **H3** and **K**, their rims likewise folded back. One of them had a hole driven by a nail into its rim.

The area had been investigated by the former excavators who dug four trenches along its west wall and across its width in search of the nonexistent east wall (which nevertheless appears on their plans). From the fill of those trenches some pottery was recovered: kylikes, carinated bowls, cooking pots, skyphoi decorated with vertical whorl shells, pithoi with relief shoulder bands ornamented with impressed zig-zag lines and concave dots between them, one more piece of a grilling stand and, finally, two fragments of the same (?) tankard, one from the rim, the other from the waist, both ribbed.

BUILDING M

A large rectangular structure at the north end of the wing (Plan 33, Pl. 59:121). It is parallel to, but ends 6 m. short of the cross-wall dividing the north from the south section of the central enclosure. Towards the central court it is bounded by the continuation of the west façade wall of



SECTION A-A



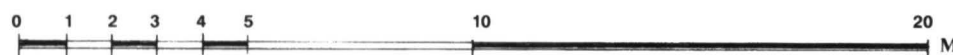
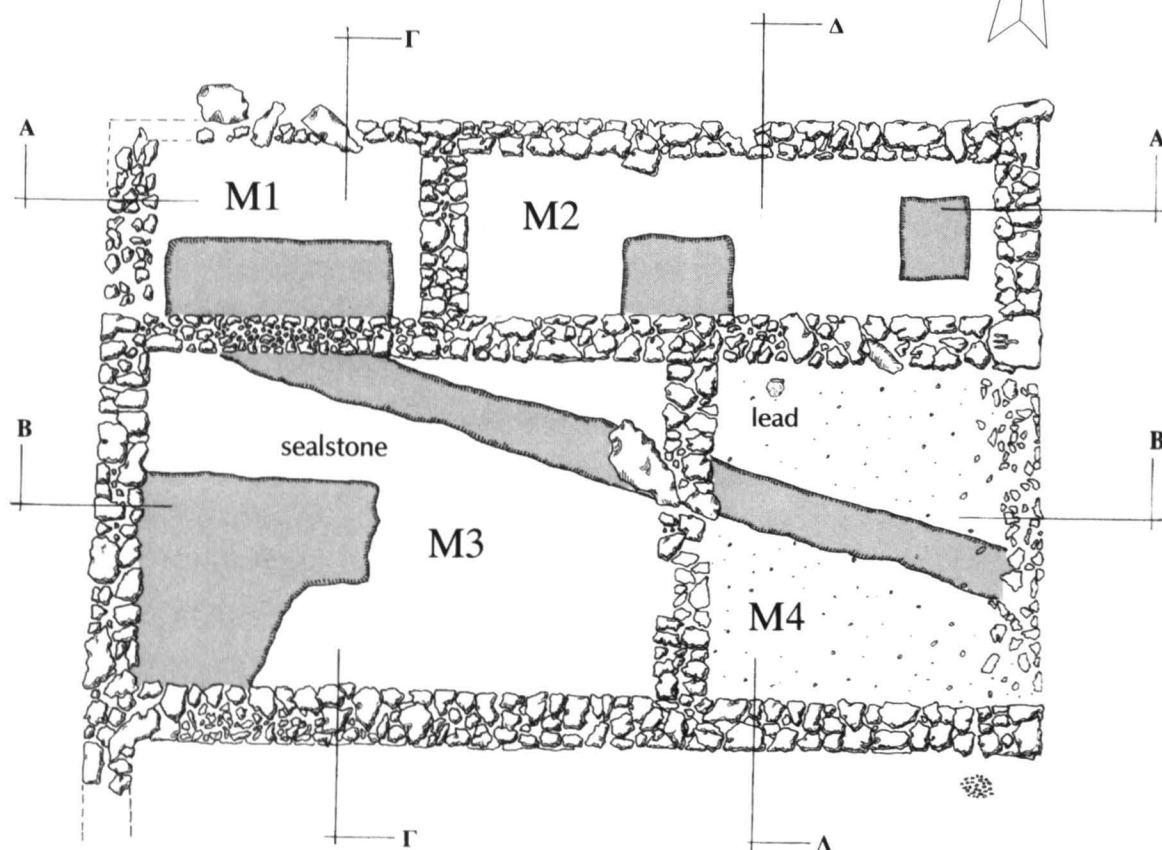
SECTION B-B



SECTION Γ-Γ



SECTION Δ-Δ



Plan 33. Building M.

the **K-N** complex, with which it bonds. Clearly the entire east wing was planned as a whole and built at the same time.

M measures 20.35/20.57 m. from E. to W. and 13.10/13.50 m. from N. to S., projecting by 14.10 m. to the east of the **K-N** building line. It is divided by cross-walls into four rooms of unequal size, two (**M1**, **M2**) to the north and two (**M3**, **M4**) to the south. The inner and outer walls are 1.20-1.30 m. thick and were all built of boulders which span at places the entire width. They rest everywhere on a foundation layer of small stones packed in earth and are less well preserved at the northwest corner of the building than elsewhere. The stone sockle is now preserved for 2-3 uneven courses, but it would originally have been higher. Depending on the gradient of the rock the floors are either at bedrock level (**M1**) or rest on a fill of large stones and rubble.

The entrance to the building was at the east and occupied the entire width of room **M4**. Traffic between the rooms of the south part, **M3** to the west and **M4** to the east, was effected through a 1.35 m. wide doorway. It is not clear how the other rooms communicated, unless they had doorways with sills at a level higher than the floor, a practice known from other Mycenaean buildings. There is no trace of a staircase to an upper floor, nor do the shapes and dimensions of the rooms allow for such an arrangement.

The previous excavators had dug trial trenches in four different places in order to establish the exact plan of the building; this they achieved only partially. From their dumps within the rooms some plain pottery, fragments of pan tiles and a number of sea shells were collected. One more trench measuring 1.30×2 m. was added by us, dug into the floor along the east wall of **M2** in the hope of finding material for dating purposes. The yield, however, was poor: it consisted of some kylix and carinated bowl sherds, part of a skyphos with traces of red paint and fragments of a cover tile and of a pithos with a relief decorating band on the shoulder.

The fill which had accumulated in the rooms and which had been for the most part washed down the slope was thin, loosened both by rain and vegetation. It barely covered the floor and the party walls between the rooms. Beneath the brown topsoil was an uneven layer containing a few stones, some pottery and lumps of greyish clay coming from the mud-brick of the walls. This accumulation lay on a coating of earth mixed here and there with pebbles, and was packed on the levelling rubble fill in the rooms, forming the floor.

Room M1

The northwest corner room of the building, 5.75 m. long and 3.80 m. wide. The walls, especially at the northwest corner, are barely preserved and the floor is simply the undressed bedrock. A thin and uneven fill, preserved mainly along the south wall, produced a few sherds from kylikes, storage vessels and pan tiles together with some sea shells.

Room M2

The northeast room, 11.40 m. long, 3.50 m. wide. The foundation courses of its walls are well preserved. The floor, through which the undressed bedrock protruded at places, consisted of a 0.05 m. thick coating of hardpacked clay over a levelling fill of large stones and rubble. The topsoil produced some sherds from kylikes and carinated bowls, the spout of a basin, 22 *Arca Noae* shells, 10 cockle shells, a bovid's tooth and a burnt bone from an animal's limb. On the floor lay 34 pieces of pan tiles, sherds of domestic ware and part of the shoulder of a pithos with relief band decoration. The fill of an earlier trench dug along the south wall of the room added some pan tile fragments, a few sea shells and four pieces of a circular plate or tray with traces of a vertical border that had broken off.

Room M3

The southwest room of the building, the largest of all (11.21/11.31×7.25 m.). The walls, 1.10-1.28 m. thick, retained a levelling fill of rubble, sloping slightly to the south, with a coating of white clay spread on top. The coating was stained at places by large greyish spots, some of which preserved traces of fire and burnt slivers of animal bones. There were also lumps of clay hardened by fire. Clearly small fires were being lit in the room in connection with its function. The accumulation was the same as in the rest of the building. On top there was a disturbed layer containing pottery sherds, pieces of roof tiles and animal teeth and bones. Then came the second layer of whitish clay, so thin that it could hardly be distinguished from the actual floor deposit. It yielded a great number of finds: hundreds of kylix and carinated bowl fragments, a variety of handles, cooking vessels, pithoi, a small circular terracotta pellet, jugs, skyphoi, a small circular lid painted with irregular dots (Pl. 59:122/2) and a fragment of a tankard ribbed at the waist (Pl. 59:123). There were also some twenty fragments of wall paintings, mostly monochrome, a few preserving what

may be plant motifs (Colour pl. Xb). Found too were various animal bones, the lower jaw of a pig, bovid teeth, a piece of an antler, and more than 400 edible sea shells (Pl. 60:124,125) (*Arca Noae*, cockles, pinnae, *cardium* and *spondyli* <*gaederopus*>). Finally, a perforated lentoid gem of banded milky agate was found. The reverse is plain. Engraved on the obverse are two antithetic goat-like animals with recurved horns (Pl. 61:126). The animal in the foreground partly covers the other one, of which only the head and neck, one hind leg and two forelegs are visible. The bodies of the animals are stylized and conventional but carefully cut, with naturalistically rendered bodies, triangular hooves and circular knee joints which do not interrupt the line of the leg. It is in all probability somewhat earlier than the context in which it was found.

The *stricto sensu* floor deposit, which marks the time at which the room was used, consisted of the usual kylix and carinated bowl sherds, part of a dipper and fragments of a skyphos decorated with a curved band (Pl. 61:127,128).

Two trenches had been dug into the room, one at the southwest corner and another diagonally across **M3** and **M4**, which demolished part of the wall between the two rooms. The disturbed fill contained some more kylikes, carinated bowls and sea shells.

Room M4

An almost square room (6.12×7.25 m.) with the usual strong walls on the north and south sides, a party wall with a door leading to **M3** and to the east no wall at all. This side of the room was open to the area towards the east enclosure wall and consisted of a low stepped threshold built of small oblong undressed stones, chosen to have one more or less straight narrow side. This was turned to the outside, forming the 0.10-0.15 m. high riser of the step³⁷, which was bounded on each side by a massive boulder, occupying the place of the door jamb. The floor, through which the bedrock protruded here and there, consisted of red and white hard packed clay over a levelling fill of rubble. The top layer of the accumulation inside the room yielded fragments of pithoi and pan tiles. The floor deposit consisted of a few kylix sherds, pieces of pan tiles and part of a cover tile in addition to lead sheets broken into more than 700 fragments varying in size from 22×23 to 5×10 cm.

37. A similar arrangement was observed in room **E1**.

FUNCTION AND HISTORY OF THE SOUTH ENCLOSURE BUILDINGS

De Ridder believed that the enclosure was a stronghold within the fortification and that the buildings served the garrison both as barracks and as a last line of defence. Noack, thinking in terms of the city states of historical times, called it an "Agora". Threpsiadis, following Noack, expressed the view that wing **Z** was the home of a dignitary and that buildings **A**, **B** and **E** served as assembly halls for religious, trade and political purposes. In other words he thought the building complex was the local meeting place of a governing body of citizens, ἀγορὴ ἀνδρῶν βουλευφόρων as he calls it after Homer, something completely different from the political and administrative system in Mycenaean Greece.

The buildings served, however, a different purpose, which becomes apparent from the study of those features they have in common, due no doubt to their specific roles which determined their design and are suggested by their contents.

The two wings (Plan 16) are built on similar plans. Their buildings had virtually the same form and size and, clearly, the same function. Building **H** is an exact replica of building **A** and has an analogous position in its building complex. Its continuation to the N., building **K**, is erected on a massive stone platform made necessary by the slope of the ground. It is longer (90 m.) but narrower (8 m.) and therefore smaller by ca 100 m.² than its shorter but wider west counterpart, **B**. **K**, moreover, has a room, **K5**, attached to its north end while **B** has two similar rooms, **B1** and **B2**, added to its south end. Rooms **N1-N3** have the same regressed outline as **Z3-Z7** but the latter are more in number and five times as large. The open area **N4** has its counterpart in **Z10**. Finally, **M**, built at an angle to the longitudinal axis of the entire wing, is practically a replica of **E**, although **E** is inserted between hall **B** and rooms **Z** whereas **M**, one and a half times the size of **E**, is the last structure at the north end of the wing. Yet these differences are due mainly to the slope of the ground in the east and the consequent need to avoid terracing wherever possible. They are thus not basic differences and the plan of both wings is the result of combining the same components.

Building **H** is the counterpart of **A**, as noted above. Their four rooms communicate only with their central passages, which have entrances at both ends opening off centre. Their thresholds are paved with unworked

stone slabs bedded in yellow clay. The doors to the rooms, 1.70 m. to 2.70 m. wide, likewise open off centre, evidently to avoid the drains running through the length of the rooms. These drains, whose borders are considerably higher than the floors, are based on bedrock or are built on the earth and stone packing of the floors and have a barely perceptible W.-E. incline of 2.8%. They could not, therefore, receive liquids spilt on the floors nor would such liquids flow off. Except for where they ran under the floor of the central passage they were uncovered, as shown by the fact that they were found full of broken and dissolved mudbrick fallen from the walls. The purpose of the drains is not clear.

A first indication of the function of buildings **A** and **H** is provided by the plan itself: the inaccessibility of the rooms except through a single and easily controlled passage, their size and the width of the doorways, better suited to moving large objects than to the circulation of people, make it clear that they were not residences. The contents of **H**, loads of cereals and large storage vessels, show beyond doubt that it was a store-room for foodstuffs and possibly for other commodities as well. The mudbrick bench in **H4** was too high to serve as a seat and will have been built for storing goods kept in containers smaller than those used for the grain that was found on the floor. This room had, moreover, a distinctive feature which may well have been shared by the other rooms where the evidence has been obliterated by the collapse of the walls: the south wall was decorated with wall paintings of which were preserved remains of an ornamental zone, a dado, architectural representations and two miniature female heads (Colour pls II, III, IV). Admittedly, a granary (or granaries) decorated with frescoes seems strange, but the evidence is unequivocal.

Buildings **H** and **A** were destroyed by fire, as shown by the traces of burning on their floors and on the thresholds of rooms **H1**, **H4** and **H5**, by the pieces of mudbrick hardened by fire, the calcined stones of the wall sockle next to the wooden door frames, by the burnt and discoloured potsherds scattered in the fill and in the drains, by the ash layer and splinters of burnt wood on the floors and, last but not least, by the great amount of charred wheat spread over the floors of **H**.

Building **K** rests on a stone platform. Its plan is the same as that of building **B**: the outer walls are built on a meander pattern, with its openings closed by similar thick walls, thus creating a uniform oblong structure, measuring 90×8 m. The cross-walls of the meander divide the structure into four halls, which have been numbered from south to north **K1** (15 m. long), **K2** (32.60 m.), **K3** (13.50 m.) and **K4** (25 m.) similar in plan

and size to halls **B3**, **B4** and **B5**. Room **K5** (5.30×2.80 m.) is a continuation of **K4** with which alone it communicates.

Building **K** has two entrances only, approached from the central court of the enclosure by two stone-built ramps, one leading to **K2** and, through it, to **K1**, the other to **K3** and thence to **K4** and **K5**, comparable to the single ramp serving **B4**. The ramps had to surmount a difference in height of 0.90 m., 0.70 m. and 0.30 m. respectively, which could easily have been managed with 1 to 4 steps. The fact that they chose to build ramps indicates that they were coping with loads both bulky and heavy, easier to manhandle up or down an incline than a flight of steps. The top of the platform of **K** has not been preserved, so that its floors and with them its contents have disappeared. But a 90 m. long structure with only two approaches designed for loads rather than for people was clearly no dwelling. Like its counterpart, **B**, it was a depot for large quantities of goods, probably a granary like **H**. The stones of the platform show no signs of fire and the accumulation of dissolved mudbrick along its sides did not contain any burnt and hardened bricks. **K** did not burn down, as did **B**, **A** and **H** beside it, but was abandoned and collapsed gradually over the years.

Rooms **N1-N3**, were most probably built as habitation for those responsible for the storerooms and their contents or as workshops. Area **N4** and building **M** were built against the wall continuing the west façade of **K** northwards. They face east, communicating not with the central court but with the space between them and the east enclosure wall. The east façades of **N1-N3** are set back from that of **K5** as are those of rooms **Z** from the compound **IIIa**. **N2** and **N3**, being connected by a door, formed a small apartment, as did **Z2-Z3** and **Z4-Z5**.

N1, a small rectangular room independent from the others, had a floor plastered with lime and small pebbles. Its walls and its north door jamb preserve traces of plaster. Outside the room lay a heap of fresco fragments (see above, p. 73) topped by a few sherds and pieces of offering tables. Apparently the painted wall plaster of **N1** and, possibly, its neighbouring rooms **N2** and **N3** had been discarded into a convenient hollow outside in preparation for a renovation. The rooms of the suite were not destroyed by fire but were left to decay. The new wall decoration then disintegrated, leaving no traces other than a little unpainted plaster at the foot of the walls.

Area **N4**, 12.33 m. long, is the counterpart of the slightly smaller **Z10** in the west wing. For a floor it has the roughly levelled ground. The pithos fragments scattered all over it and the lead sheets along its north side mean perhaps that it was a temporary storage — and, presumably, working space.

The last building to the north, **M**, although occupying a different relative position, corresponds to apartment **E** in the west wing. Both project from the other buildings of their respective wings and both are entered over a low stone-built riser occupying the whole width of an ample anteroom. **M** has more rooms but a simpler plan than **E**. The building, or at least room **M3**, had painted walls. It contained the only sealstone found on Gla. This is of especial interest, since room **M3** had a floor covered with patches of ash underneath which the packed earth layer was hardened by fire. It also contained burnt animal bones, many fragments of cooking pots and hundreds of shells from edible marine molluscs. Fresco-decorated room **M3** clearly was the kitchen and probably the dining room of the building complex. **M1** and **M2** were too denuded to provide any clues for their contents and their function. Some pithos fragments in the anteroom **M4**, may mean that it served as a temporary depot for incoming goods, something which could well apply to **E1** as well. No evidence has been recorded as to the use of the rest of building **E**.

To sum up: The unpretentious construction of the buildings of both wings sets them apart from the stately residence that is the melathron. At the same time their sheer size and spaciousness show that they could not have been living quarters. An indication of their use is furnished by their main distinctive feature, namely their approaches, few and easy to control. The intent to control traffic and to prevent illicit comings and goings is obvious. Access was clearly limited in order to stop unauthorized persons from getting at the contents of these spacious structures, not to ward off enemy attacks. The buildings were not strong enough for that.

Then, their contents: Large storage vessels and, in building **H**, quantities of wheat. They were evidently storehouses, of a total capacity of approximately 2,500 metric tons in which the produce of the area around Gla, i.e. the Kopais, was gathered and kept. Small residential apartments or workrooms (**E**, **Z**, **N**) were attached to their north ends, together with at least one facility (**M**) for the storage and preparation of food.

B, **E**, **Z** and the enclosure wall were built together. So were **H**, **K**, **N** and **M**. The buildings are structurally continuous and the buttressed extension of the north wall of **E** bonds with the perimeter wall of the enclosure to its west. Also, the enclosure makes no sense without the buildings within it, including the melathron, which is incorporated into the fortification wall. In other words, all the structures on Gla were built at one and the same time, as parts of a single construction plan.

There is no indication of localized damage and repairs as in the

melathron. The evidence — the ashes on the floor of **A2**, the cracked bases in **B**, the burnt pottery sherds in **B** and **E**, the fragments of mudbricks hardened by fire, the carbonized wheat and the ashes in **H** — shows that the whole west complex and part of the east one burnt down. The scant fill which covered the remains and to some extent the surface of the rock consists entirely of the light grey and yellow-white clay from the plain around the hill and comes from the dissolved mudbricks of the superstructure of the buildings and of the perimeter wall itself. The destruction was clearly final and was not followed by restoration. The gutted ruins were left to decay and were eventually buried under their own debris.

PART TWO

COMMENTARY

THE FINDS

THE POTTERY

Practically all the pottery is related to the construction and the occupation of the fortress. There is, however, a certain amount of Neolithic sherds, some Hellenistic, a few Medieval and two fragments of a late Geometric vase. Wace and Thompson³⁸ mention some Minyan ware, but do not specify their source of information. It may well be that this ware was nothing else than LH sherds burnt grey.

The ceramic material was collected in 1955-1961 and 1981-1991. De Ridder affirms that he found no more than 30 sherds in the whole melathron. On the other hand Threpsiadis kept no record of the overall amount of his finds or of the number and nature of those he discarded. He brought to the Museum at Thebes one small stirrup jar and 3,047 sherds. It is impossible under the circumstances to know to what extent the pottery kept represents in number or in kind the pottery found, and which criteria led to the decision to keep what was kept and to reject the rest. So, although some shapes and types of decorations are conspicuously predominant, any statistical considerations or stylistical analyses and generalizations based on the material available would be risky at best.

The records for the excavation of the east wing, however, are comprehensive and the material collected, numerous and stratified as it is, allows such conclusions to be drawn. In the following all references to numbers, frequency and stratigraphical allocation of shapes and classes of vessels will be based on the find patterns in this wing, numerous and comprehensive enough to make them truly representative.

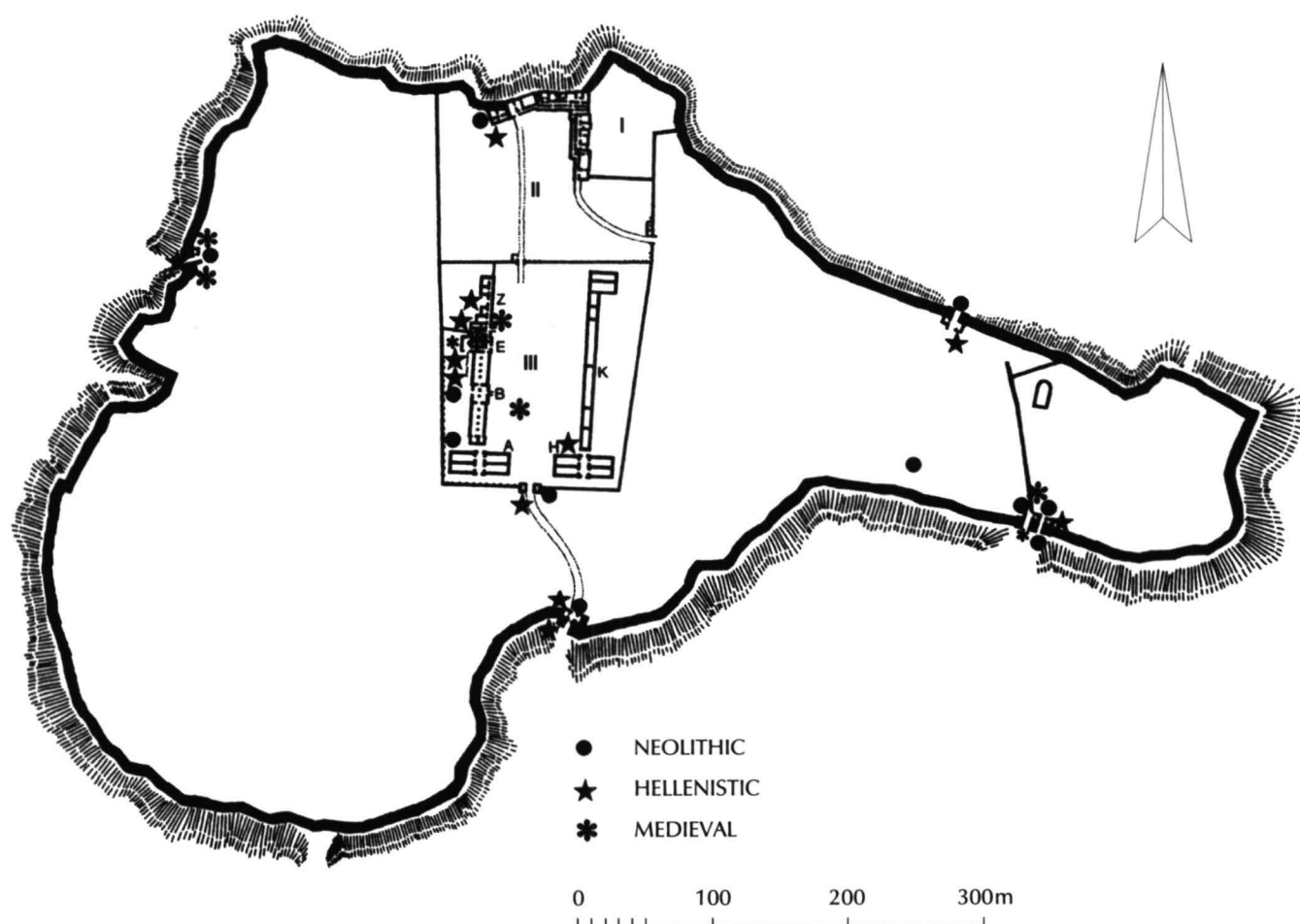
No intact vases were found. There are, in all, 26 more or less complete examples put together from fragments and restored with plaster: three large stirrup jars from **H1** and from the drain of **H4**, one small stirrup jar from **E1**, nine kylikes from **N4**, **M3** and an unspecified find spot,

38. Prehistoric Thessaly 193.

a round bowl and a skyphos from **H2**, the latter decorated with triple hooked stems, a two-handled jug (amphora) from **H5**, six angular bowls from the South Gate, from buildings **A**, **Z6**, from the drain of **H5** and from an unknown find spot, two dippers from the South Gate and from the drain of **H5**, an incomplete piriform jar from the area between **H** and **K** and a cup from **N4**. In addition 45,962 sherds were collected and recorded from the buildings of the east wing. Of these 9,771, which preserved enough of their shape to identify it or showed part of their decoration or both, were kept and catalogued. Of these diagnostic sherds 7,582 came from building **H**, 338 from **K**, 396 from rooms **N1-3**, 561 from area **N4**, 889 from building **M** and 5 from the enclosure wall. More specifically, the mixed surface layer on top of building **H** produced 673 diagnostic sherds, plain or decorated, out of a total of 3,370. The first, partially disturbed layer gave 722 out of 4,943 in building **H**, 27 out of 51 in building **K**, 15 out of 43 in rooms **N1-N3**, 52 out of 73 in area **N4** and 24 out of 146 in building **M**. From the next layer, undisturbed but not entirely free of intrusions, which had accumulated over the ruins of **H** and **N1-N3**, 4,169 diagnostic sherds were collected in **H** and 11 in **N1-N3** out of a total of 17,992. The decomposed mudbrick layer produced 1,300 diagnostic sherds out of 6,331 in **H**, 30 out of 74 in **N1-N3** and 808 out of 5,855 in building **M**. Finally, the floor deposits yielded 162 out of 401 in building **H**, 40 out of 131 in rooms **N1-N3**, 313 out of 986 in area **N4** and 39 out of 223 in building **M**. The rest, diagnostic or not, were found in areas not specifically connected with any of the buildings.

NEOLITHIC

The Neolithic sherds, 148 in all, come chiefly from the area of the Double Gate (93) and the North Gate (23) but a few more were collected from the West Gate, the South Gate, the west extension of the melathron, the south entrance, the west part of the enclosure, building **H** and, finally, from the fissure of the rock between the Double and the South Gates (Plan 34, Pls 62:129,130, 63:131,132, 64:133,134). They were found, that is to say, in every place and in all layers not excavated by de Ridder. They are made of buff, brown or gray-black gritty clay, fired to a spongy fabric, pitted on the surface. Deep carinated bowls and biconical rather than globular collared jars predominate. There is the everted rim and part of the neck of an open bowl, nine fragments of a pot with a rounded rim



Plan 34. Find spots of NL, Hellenistic and Medieval pottery.

and a roughly burnished surface, one vertical ribbon handle, a crescentic lug handle, a vertical perforated lug and a lug of triangular shape. Rims run to edges, and bases are shaped like depressed discs or rings. Half the sherds are plain. The other half show the usual patterns of plastic or painted decoration: to the first category belong rims with incisions or small knobs and a sherd with applied oval pellets. There are as many as 12 black-burnished examples, some with mend holes, and two or three black Urfirnis sherds. A few pieces are covered with white slip, some of them being further decorated with red, black, brown or pink oblique parallel lines, inverted triangles inside the rim or chequerboard. There is also one sherd showing a variation of Late Neolithic black-topped decoration and a body sherd of a closed vessel painted in brown.

Both the number (much smaller, no doubt, than the actual quantity) and the spread of this ware over so many places on the plateau prove that the rock — then an island — had been settled in Neolithic times. The pottery, which has its parallel in the great Neolithic centres of Mainland Greece and more specifically in Chaeronea, Elateia (mainly its second phase) and Orchomenos³⁹, dates the settlement in the Middle and Late Neolithic periods, that is to say in the 5th and the beginning of the 4th millennia B.C.

LATE HELLADIC

The Late Helladic diagnostic sherds belong to pithoi, stirrup jars large and small, drinking vessels (kylikes, angular bowls, skyphoi, cups, tankards, feeding bottles, one small krater), domestic ware (plain and three-legged cooking jars, dippers, broiling pans, strainers, plates, grill stands), basins plain and spouted, stamnoi and stamniskoi, collar-necked jars, alabastra, lids, a rhyton and a few more isolated examples. Drinking vessels are by far the majority, followed by storage and domestic vessels, a few examples of perfume pots, some vases of general use (kraters, basins) a limited number of pieces of special function (lids, feeding bottles), two of indeterminate purpose (such as a terracotta pellet) and four misfired examples. They belong mostly to ordinary, plain everyday ware. There are also fragments of four figurines and of two terracotta chairs. Burnt sherds, not counting those of cooking vessels which would be normally blackened by fire, were found in all excavated areas. The overall amount, distribution and stratification of this pottery, especially that from the east wing helped, in conjunction with the other finds, to establish the function, the chronology and the history of the buildings.

Kylikes. They represent virtually 53% of the total amount. The percentage varies from one building to another, being 86% in building **K** and 49% in area **N4**. This is due less to their high rate of service than to the fact that, being fragile and in constant use, they provided more sherds than did other shapes to be kneaded ultimately into the mudbrick of the

39. SOTIRIADIS, *AM* 1905, 120f., *Ephemeris* 1908, 63f., WEINBERG, *Hesperia* XXXI, 1962, 158f., Orchomenos II 1ff.

superstructure. Almost half of the kylikes come from this part of the fill while the surface layers yielded less than 1/7 of their total number and the floor deposits 1/3.

The shape is well known: a shallow bowl with one (sometimes two) strap handles, supported by a thin cylindrical stem growing from a round base (Pl. 61:127). Only one in ten have bases which are flat underneath. Most are domed and have circular depressions in the middle (Sh. 1), sometimes deep enough to reach the underside of the stem, a feature noted also at Mycenae (Cult Centre, Cyclopean Terrace, Prehistoric Cemetery) and Thebes⁴⁰. Stems are normally as high as 1/4 or 1/5 of the diameter of the bowl (Pl. 64:136, Sh. 2) but some are considerably shorter, not exceeding 1/10 of it (Pl. 64:135, Sh. 3). On Gla four in five kylikes have carinated rims (Sh. 4:1), while the remaining 1/5 show a continuous rounded profile (Pl. 64:136, Sh. 4:2). No chronological difference between the two types could be detected but the first is by far the most popular.

As a rule, kylikes are undecorated. Only 8 painted sherds were found. A few are monochrome inside and out. It should be noted that monochrome kylikes elsewhere⁴¹ are believed to occur no earlier than LH IIIC. These sherds show that on Gla at least they appear at an earlier date. One sherd is painted inside and plain outside. Another one has a painted circle inside and bands around the stem, a motive which occurs on the stems of three more examples. Another three are decorated with upright whorl shells. Three more have concentric rings on their bases and there is one monochrome base from the floor deposit of **M3**.

Shallow angular bowls. The next most frequent shape on Gla, amounting to 12.5% of the total. Only three examples preserve their entire profiles. The rest are represented by sherds from all parts of the vase. They have carinated or (rarely) rounded rims, angular loop handles and a flat bottom (Pls 64:137, 65:138,139, Sh. 5:1,2,3). They are all roughly made of imperfectly levigated clay and are plain, unslipped and unpainted. The

40. Such depressions appear already in LH IIIA1-2 (MPI 69, Nos 147, 149, p. 79, Nos 181, 182), become the rule in LH IIIB (ibid. 89, Nos. 223, 224, 226) and continue to be made as long as kylikes are used, i.e. till mid - LH IIIC (ibid. 94-95, Nos. 245, 252). See also Gla I 236, n. 279.

41. Phylakopi, Schimatari, Lefkandi, MDP 148.

shape is common in LH IIIB and later contexts at Mycenae, Pylos, Thebes, Orchomenos, Drachmani and elsewhere⁴².

One more small vessel from the mudbrick layer of **H2** is rather similar to those bowls (Fig. 1). The base is missing. Four mended sherds show that the bowl is hemispherical with an everted rim. It is decorated with bars across the rim, a circle inside and two bands outside. The shape, rather unusual, is known from two other Boeotian sites, Orchomenos and Drachmani - Piperi.

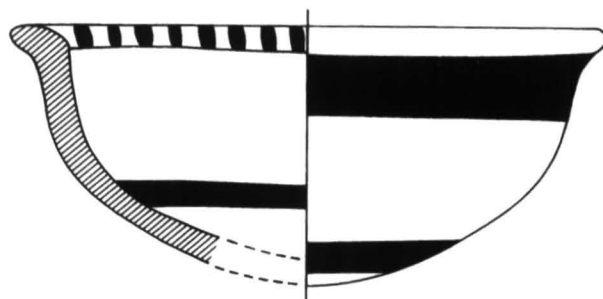


Fig. 1. Room **H2**, second layer, rounded bowl.

Pithoi. They are represented by 231 fragments to which 88 more kept by Threpsiadis should be added. Only one was found *in situ* on the floor of **H2**, smashed to pieces. It cannot be restored since the upper part is

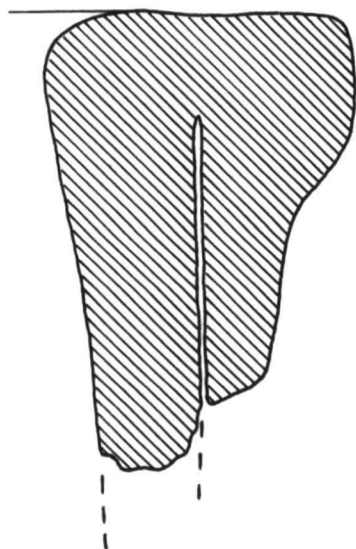


Fig. 2. Area **N4**, pithos rim (section).

missing. The rest are disparate sherds from rims (Fig. 2, Sh. 6), shoulders, bellies and bases, scattered throughout every building and layer, but mainly in area **N4**. They were evidently set up in the various storage rooms and their exposed tops, once broken, were mixed with the surface layers or washed down the slope.

Pithoi were made of coarse, micaceous reddish clay. Their rugged surface is sometimes roughly polished by hand.

42. The shape is known from Mycenae (E. FRENCH, BSA 57, 1962, 175f., fig. 18, K. WARDLE, BSA 64, 1969, 290, fig. 11:111, 114, P. MOUNTJOY, BSA 71, 1976, 100, fig. 13:170-172), from Pylos (PN I 356, shape 4, figs 349, 350) and nearer to Gla, from Thebes (Kadmeia I 29, fig. 27:217), Orchomenos (Orchomenos V 42, fig. 14:314-319) and Drachmani (Orchomenos V 57, fig. 21:101, 103). See also MPI 84, fig. 89:255.

Some pithoi have 42-80 mm. wide decorative relief bands around their shoulders. Eleven of those bands are plain (Pls 65:140, 57:117/1). Three are decorated with a row of finger-impressed circles (Pl. 57:116, 117/2,3), and two or three more have impressed wavy lines with similar circles between their curves.

The preserved fragments are too small and were too dispersed to indicate the overall shape of the vessels. Their bases, however, are broad enough to show that they did not belong to the prevalent type with a wide shoulder and a very narrow base (FS 13). Nor do they provide clues as to their contents. In all probability they were used for storing liquids (e.g. oil) as well as solids⁴³, such as grain.

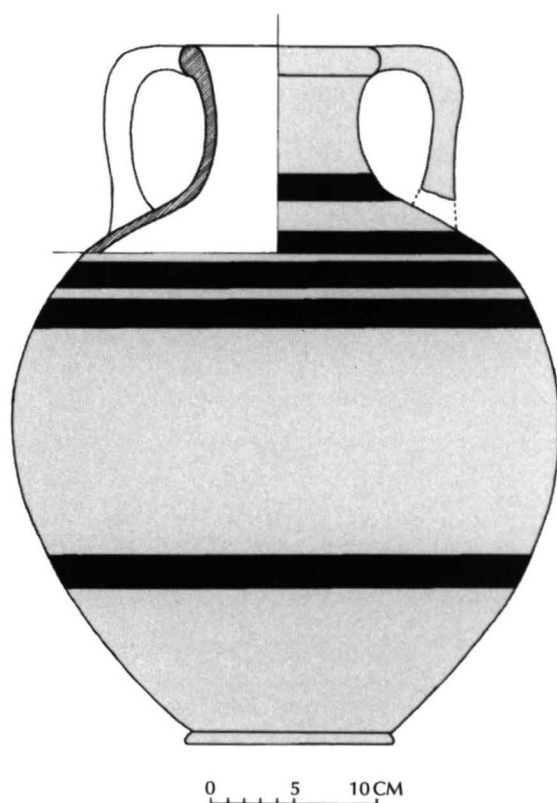


Fig. 3. Room **H5**, floor deposit, two-handled jug.

Jugs. There are 104 sherds of this shape kept by Threpsiadis, plus 184 more (150 from building **H**) including 3 juglets from building **M**, a two-handled jug (amphora) from the West Gate and another one from the floor deposit of **H5**, which had been broken in antiquity and mended with lead clamps (Pl. 50:102, Fig. 3). It was restored from many fragments. Jugs are made of imperfectly levigated and sometimes coarse gritty clay, covered with a thin yellow slip. They have somewhat baggy oval profiles, cylindrical necks, everted rounded rims, vertical handles attached to the shoulder and rim or to the middle of the neck, and low disc or ring bases. The



Fig. 4. Room **H2**, second layer, rim of jug.

43. As noticed by G. E. MYLONAS (Praktika 1968, 6-7) a pithos in the N. storeroom at Mycenae had been broken, mended and continued to be used, which would not have been possible if its contents were liquid.

decoration is standardized: the rim is painted, sometimes unevenly (Fig. 4). There is a band around the joint of neck and shoulder, more bands, usually three, on the belly, and one more above the base. Some examples are painted around the shoulder joint and on the back of the handle. Similar jugs have been found at Tiryns, Mycenae, Zygouries, Orchomenos and many other sites⁴⁴.

Skyphoi (Deep bowls). Of this type of vessel there is one almost complete example, mended and restored in plaster (Pl. 37:75) and a variety of some 185 fragments, mostly from building **H**. Building **K**, rooms **N1-N3**, area **N4** and building **M** produced a few sherds each and four more were found unrelated to any particular building. Another 111 sherds were collected by Threpsiadis. The shape is well known. The Gla examples have globular profiles with slightly everted rims, ring bases and two oblique loop handles (Fig. 5) one of which, from **M3**, has a little knob at the top (wishbone handle, Pl. 59:122/4)⁴⁵. They are made of fine levigated clay, fired hard, are covered with a slip, mostly yellow and are decorated in

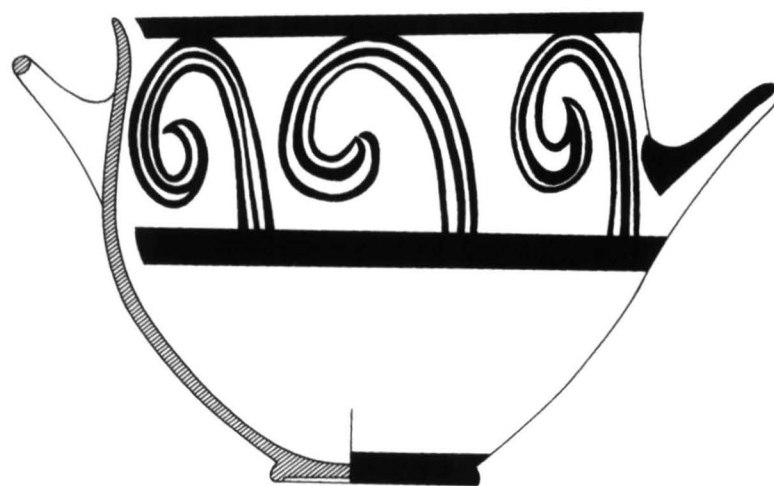


Fig. 5. Room **H2**, floor deposit, skyphos.

44. Gla I 236. Also Mycenae, Cult Center (K. WARDLE, BSA 64, 1969, pl. 129), S. House Causeway (K. WARDLE, BSA 68, 1973, 307, fig. 6), Panagia Houses 108, pl. 31, fig. 19, Tiryns (Epichosis 145, shape 6, 1, PODZUWEIT, AA 1978, fig. 34 Nos. 10, 11, 15, 18), Zygouries (Zygouries 155, fig. 149), Orchomenos (Orchomenos V 18, fig. 5:84, 86). See also MPI 84 No 191, 88 No 216, MDP 100, fig. 120.

45. MP 95.

reddish, brown or black paint. Generally speaking, there are some monochrome examples and a few which were painted inside but the majority were decorated only on the outside, in either the open (A) or the filled style (B). The decorative patterns are applied to the handle zone between bands or groups of fine lines (so-called Boeotian stripes). Handles have splashes of paint at the roots and on top (Pls 45:92, 61:128). Bases are banded. The open style decoration includes vertical whorl shells (Pl. 41:82/1, Figs 6, 8, 9), single or framing a laddered column; spirals, isolated (Fig. 14), running (Pls 45:92/3, 46:93/1, 94/1), pendent (Figs 10, 11) or loop-stemmed antithetic (Figs 12, 13); narrow columns filled with a ladder pattern (Fig. 15) or chevrons (Fig. 16); columns of vertical lines fringed with spikes; quirk (Pl. 65:141/6); a broad wavy band (Pl. 61:128). The filled style is best represented by a specimen from the destruction level of the North Gate whose handle zone is divided into panels bordering opposing pendent semicircles, or diagonally quartered and filled with a spiked horseshoe pattern (Fig. 17)⁴⁶. These motifs occur on skyphoi from Mycenae (Prehistoric Cemetery, South House, Cult Centre, Building Γ, Panagia House II), Tiryns (West Wall Deposit), Pylos, Thebes, Orchomenos, Drachmani, Schimatari and Eutresis, except for the spiked horseshoes which have otherwise been observed, so far, only on a stand from Orchomenos⁴⁷.

Of the well stratified examples in the east wing 13 come from the surface layer over building **H**, 15 from the next, partly contaminated accumulation, 59 from the mudbrick fill of **H**, **K** and **M** and 40 more from the floor deposit of **N1**, **N4** and **M3**, as also from the drains of building **H**.



Fig. 6. Room **H5**, first layer, sherd.



Fig. 7. Room **H3**, ash layer, skyphos sherd.



Fig. 8. Skyphos sherd from room **A3**.

46. Gla I 31, fig. 5.

47. Orchomenos V 28, fig. 8:188.

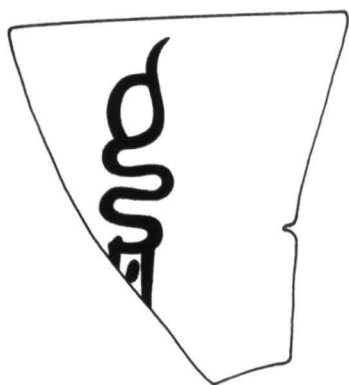


Fig. 9. North Gate, skyphos sherds from inner court.

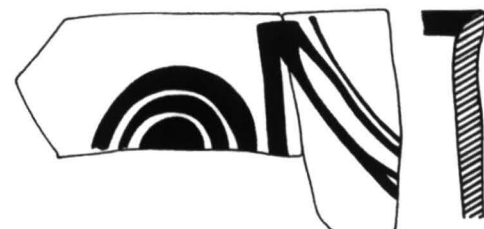


Fig. 10. Skyphos fragment from corridor E3.

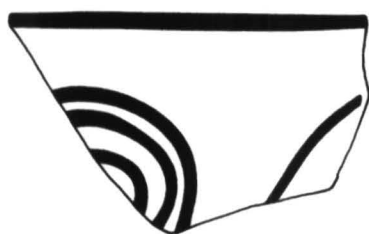


Fig. 11. Skyphos sherd from North Gate.



Fig. 12. West Gate, sherd from area between walls 4 and 5.

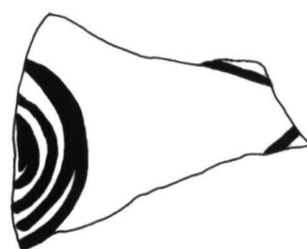


Fig. 13. Room H3, floor deposit, skyphos sherd.



Fig. 14. Double Gate, sherds from area N. of east guardroom.

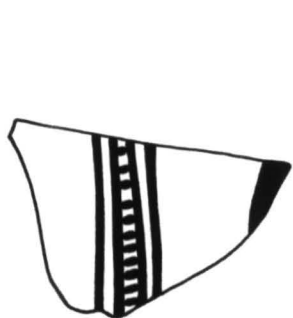


Fig. 15. North Gate, sherd from floor of shed.



Fig. 16. Room H3, second layer, skyphos body.



Fig. 17. N. Gate, sherd from floor of shed.

The sherds from the top layer of **H**, being a mixed lot, show a variety of decorative styles; two are monochrome. Another four have monochrome interiors and on the exterior flowers, a vertical whorl shell, vertical lines and wavy bands. There are two more with pendent curved lines and spirals.

The first layer, accumulated gradually after the abandonment of the buildings, produced rims painted with both narrow and broad bands. Three are painted inside and banded outside. Handle zones are decorated with spirals or vertical whorl shells. Monochrome interiors and broad rim bands imply that some examples belong to the filled style (style B), as developed in the Argolid in LH IIIB2 rather than to the somewhat earlier open style (style A).

The mudbrick layer yielded many more examples. As a rule they have slim bands around and inside the rim (Pls 36:72/5, 40:80/1) and five of them have a circle on the bottom. Three are monochrome. Six have painted interiors and patterns between bands outside, such as the quirk (Fig. 18) known from Tiryns, Mycenae and the Fountain of the Athenian Acropolis, chevrons (Pl. 40:80/1), wavy bands with parallels in the House of the Tripods Tomb at Mycenae, simple and antithetical spirals and vertical dotted whorl shells (Fig. 19), observed likewise at Drachmani, Tiryns and Mycenae. There is also a sherd painted inside and decorated with a zig-zag between bands on the exterior, a combination found on a LH IIIB1 example from Mycenae. Triple hooks on vertical stems joining at the top and capped by a small crescent (Pl. 36:72/5, Fig. 20) are also represented. The clusters of curved lines growing from a broad band below the painted rim of another skyphos fragment are probably a variant of the same motif.

The ash layer in **H** and the floor deposits of all the buildings produced many more examples. Three from **H4** are monochrome and another three

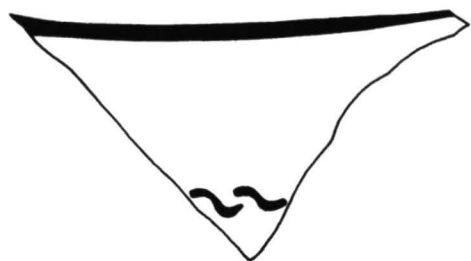


Fig. 18. Room **H2**, second layer, sherd.

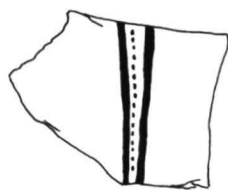


Fig. 19. Room **H3**, second layer, sherd.



Fig. 20. Room **H2**, second layer, skyphos sherd.

are painted inside and decorated outside with bands, spirals and zig-zag. Rims are banded deeply both inside and out. Some sherds are decorated with patterns too fragmentary to be identifiable. A thin wavy line occurs on a fragment with monochrome interior, similar to a sherd from the Pre-historic Cemetery at Mycenae. Another one has a plain interior and a broad curved line under a deep rim band outside, a pattern found on a late LH IIIA2 bowl (Mountjoy, MDP). Spirals are represented by one example with untidy coils and two more sherds with a running spiral whose fine, symmetrical coils occupy the entire width of the handle zone, as also on examples from Thebes, Tiryns, Mycenae and the Dymaeon Wall. The best preserved pattern occurs on the skyphos mended from sherds found on the floor of **H2**. The vessel has an unpainted interior with a circle above the bottom and triple hooked stems outside (Pl. 37:75, Fig. 5), like an example of type B dated to LH IIIB2 from Mycenae. Another sherd from the floor of **H5** has a thin band on the rim with four pendent vertical lines forming a narrow panel, similar to pieces from Orchomenos and Schimatari. Two sherds from the floor of **H3** have the same A-type of decoration. One has a zig-zag column between double vertical lines (Fig. 21), a motif known from Thebes, Tiryns and Mycenae. The other one has similar columns of joining semicircles (Fig. 22), a pattern observed also at Mycenae, where it continues well into LH IIIC.

To recapitulate: The second, construction layer produced 3 monochrome examples, 7 of the open style (style A), 2 of the filled style (style B) and 1 which may be attributed to LH IIIA2. In the destruction layer the proportions are reversed: there are 3 monochrome specimens and one which could be dated to LH IIIA2, but there are 3 type A sherds as against 6 of type B. The buildings were constructed while the open style was prevalent and were destroyed when the filled style had been established.

Special mention must be made of the large skyphos (or small *krater*) whose fragments were found in and

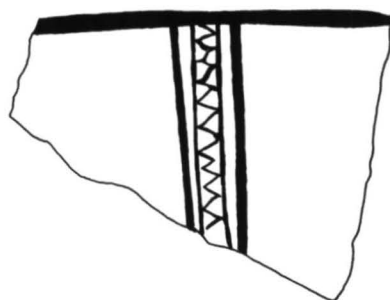


Fig. 21. Room **H3**,
ash layer, skyphos rim.

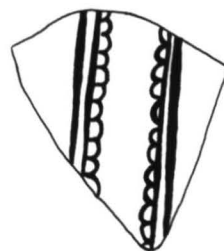


Fig. 22. Room **H3**,
floor deposit, skyphos sherd.

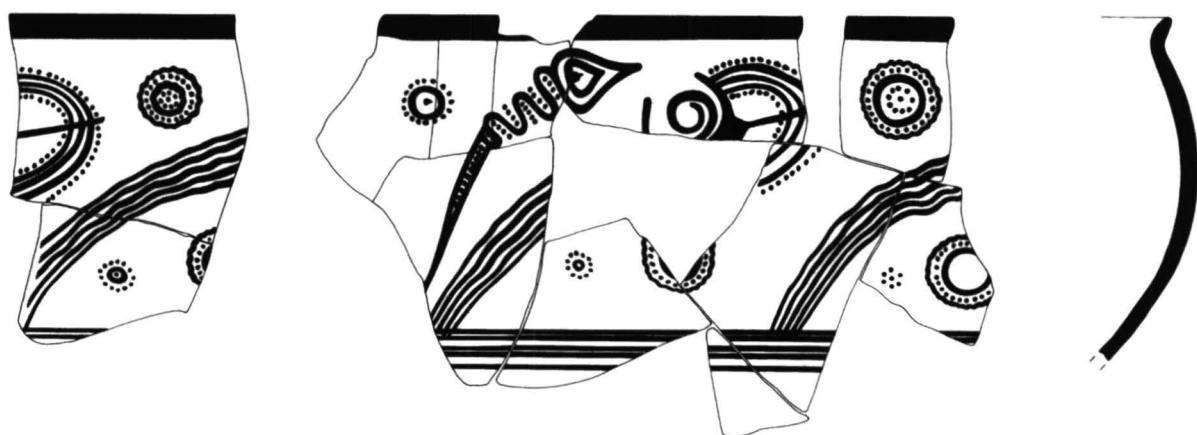


Fig. 23. Krater from east entrance to enclosure.

around the east entrance of the enclosure (Pl. 13:26, Fig. 23). Its quality is not up to Argive standards and it looks very much like a local product. The decoration painted between a band around the rim and five stripes below the handles consists of oblique multistemmed voluted papyri in pairs and equally oblique curved whorl shells. Dotted circles and rosettes with wavy borders serve as fill ornaments. Both the choice and arrangement of these motifs show that the krater is earlier than the rest of the pottery. The papyri have their counterparts in examples from the dromos of tomb 505 at Mycenae and on a kylix from Eutresis, dated in LH IIIA2. The same applies to whorl shells of this type recorded from Mycenae (dromos of tomb 505, fill below Panagia House II), Orchomenos, Drachmani and Thebes, and Furumark assigns rosettes of the wavy border type to this same period. Equally early, if not earlier, are a couple of sherds from the West Gate and the courtyard of the melathron.

Small stirrup jars. Thirteen examples were collected from the wall, the West, North and South Gates, the melathron and buildings **B** and **E**. Twenty nine more stratified pieces were found in building **H**, one in **N1** and **M3** each and four more out of context. The clay is well refined, the slip smooth and glossy. The sherds are mostly handles and base and body fragments having the usual features common to specimens of the late 14th, 13th and early 12th cent. B.C.: monochrome ribbon handles, some with reserved triangles at the top, concentric circles or a spiral on the flat or slightly convex disc, a running pattern of fine stripes between bands on the shoulders, stripes and bands around the belly, low painted ring base. The main motif is on the shoulder, between the spout, the disc stem and the handles.

Fragments from five different stirrup jars were recovered which had decorated zones below the shoulder and five more which preserve their shoulder patterns. The causeway to **E1** produced fragments decorated with a hatched zone below the shoulder (Pl. 66:142). The surface layer of building **H** yielded an example of a zone of hatched lozenges (Pl. 38:77/1). The first layer contained 6 more such sherds and another three with a running zig-zag pattern (Fig. 24). The



Fig. 24. Room **H3**, first layer, stirrup jar, sherd.

mudbrick layer in the space between **H3** and **K** produced one more specimen of hatched lozenges and two fragmentary shoulders. The first, from the trench between **H3** and the south enclosure wall (Pl. 44:89/3), has loops around the rim of the spout, its base and the stem of the disc. The handle is painted. On the disc is a spiral with a solid central circle. On the shoulder is an angular flower pattern. Of the second shoulder only a fragment is preserved, showing a small dotted circle. Two more shoulder fragments come from the destruction layer. One, from the drain of **H5**, has concentric circles on the disc, a loop around its stem and multiple semicircles, now barely visible, on the shoulder. The other, from the floor of **H3**, is much better preserved. The backs of the handles have a reserved triangle on top. On the disc is a spiral. The spout and the stem are looped. The shoulder pattern is the doubly dotted flower with a quirk centre (Pl. 42:84). Finally, one more shattered but almost complete example was part of the floor deposit of room **E1** (Pl. 24:50,51). Like some others from Mycenae (Panagia House II), Pylos and Orchomenos⁴⁸, it has a low globular profile, an oblique spout and a flat top disc. The belly is covered with bands, but there is no ornamented zone around the shoulder. It has also concentric circles on the top disc, a loop connecting the spout and the disc stem, and angular flowers on the shoulder, a motif occurring on stirrup jars from Tiryns (West Wall Deposit), Mycenae (Prehistoric Cemetery, West House), Pylos, Eutresis and Orchomenos. This last one is exactly

48. Panagia Houses 101, pl. 28:118, fig. 16:118, PN I 407, fig. 65c, figs 391, 392, Orchomenos V 21f., fig. 6:109.

like the stirrup jar from Gla. All these examples belong to the second half of the LH IIIB period rather than to the first but, although the contexts of the fragments are clear, they are too few and too fragmentary to allow for a more precise dating.

Storage stirrup jars. These large vessels are represented by three examples, mended and restored from fragments coming from the floor of **H1** and the drain of **H4** (Pls 33:66, 47:95,96, Figs 25, 26, 27, Sh. 7). Ten more fragments come from the North Gate, the Southeast Gate, the south entrance to the central enclosure, the courtyard of the melathron and building **B**. In addition, 15 more sherds were found in **H1**, **N1**, **N4**, the area between **H3** and **K** and that between **H3** and the south enclosure wall. Most are body sherds or fragments of handles and top discs. The fabric is coarse, gritty but well fired. The surface is sometimes covered with a thin slip and the decoration is applied in red, brown or white paint. Spouts are vertical with everted rims, disc stems are short, discs slightly concave, handles are tubular in shape and vertically attached. Two examples have tubular stems with the disc affixed on top like a lid. The interior of the stirrup jar from **H1** is uneven, showing deep overlapping finger-marks (Pl. 33:66) which indicate, as do also certain irregularities of its profile, that the vase was not thrown on the wheel but shaped by hand. The three restored specimens belong each to a different type of vessel: That from **H1** has a slightly irregular baggy profile (Pl. 33:66, Fig. 25). One

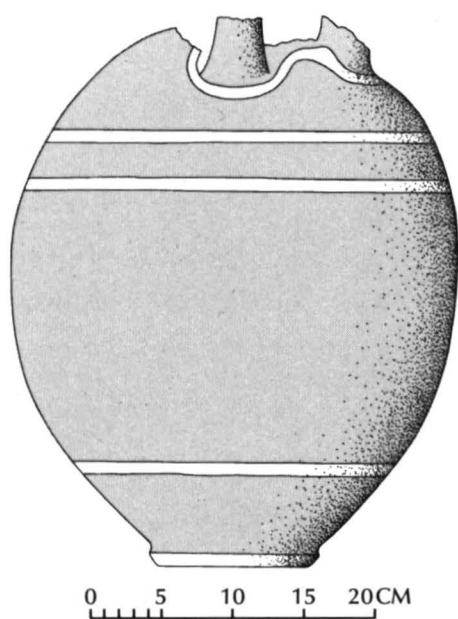


Fig. 25. Room **H1**, ash layer, stirrup jar.

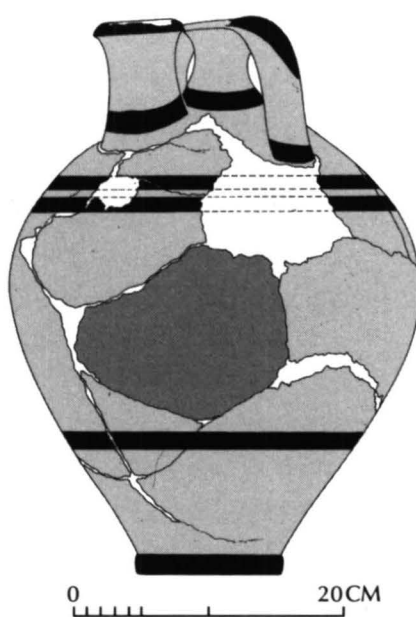


Fig. 26. Room **H4**, drain, stirrup jar.

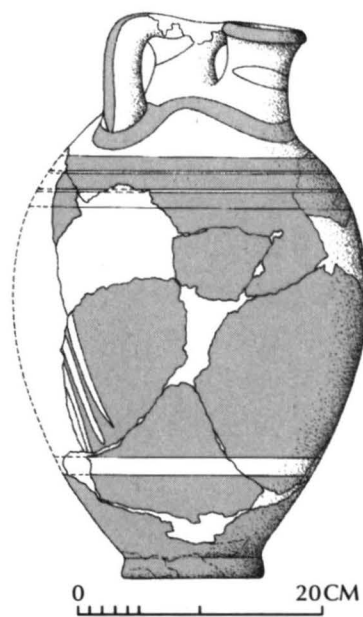


Fig. 27. Room **H4**, drain, inscribed stirrup jar.

from the drain of **H4** is regularly and typically ovoid (Pl. 47:95, Fig. 26), the other one, with parallels from the House of the Oil Merchant and from Thebes, is elongated, tapering towards the top and the base (Pl. 47:96, Fig. 27).

The decoration is standardized. They have bands around the base, the lower part of the belly and the shoulder. Circular loops are painted around the rims and the bases of the spouts as also around the disc stems (Fig. 26). The **H1** specimen and one from the drain have wavy loops encircling spout, stem and handles (Pls 33:66, 47:96, Figs 25, 27). Discs are decorated with circles around a cross (Pl. 66:143) or a spiral. Handles have bands along the backs or the sides or brush strokes across them (Pls 31:63, 56:115/2,3). The fragmentary elongated example from the drain of **H4** has on the preserved part of its belly three parallel brush strokes of white paint (Pl. 47:96, Fig. 27). It is highly improbable that these strokes belong to a potter's mark, which normally would have the form of a circle with three or four spokes, painted below the spout. Clearly it is the lower part of a Linear B syllabic sign, such as *pu*, *du* or *wa*, the end of a group painted on the missing part of the vase. None of the known vase inscriptions, which consist normally of a name in the nominative (the sender), a place name, also in the nominative (the place of origin of the vase or its contents) and a name in the genitive (the recipient)⁴⁹ end in such a syllable. On the inscribed stirrup jar from Eleusis, however, the inscription ends in *wa*⁵⁰, clearly separated from the preceding text by dividers and standing for *wanakatero* (belonging to the Fanax). Stirrup jars inscribed with *wanakatero* are known so far to come from the Kydonia area in West Crete⁵¹. Thus, if the sign on the stirrup jar from **H4** is really *wa*, standing as an abbreviation for *wanakatero*, the vessel and its contents should be products of West Crete sent to the Fanax of the Kopais region, i.e. of Orchomenos, whence it was brought to Gla, there eventually to be broken and discarded. This type of stirrup jar is known from Mycenae (Lion Gate Staircase, layer I, Ramp House, House of the Oil Merchant, West House, North Storeroom, Cult Centre,

49. J. T. HOOKER, *Linear B*, 180, E. HALLAGER, *The Inscribed Stirrup Jars: Implications for Late Minoan III B Crete*, *AJA* 91, 1987, 178-9.

50. G. MYLONAS, *Ephemeris* 1936, 61-100, A. SACCONI, *Corpus delle iscrizioni vascolari in Lineare B* (1974) 110, pl. XXI, E. BENNETT, *Φίλια Ἔπη* A 143.

51. *Inscribed Stirrup Jars and Regionalism in Linear B Crete* (*Studi Micenei ed Egeo-Anatolici*, fasc. XXV, 1984, 193).

Plakes House), Zygouries, Prosymna, Tiryns, Pylos, Eleusis, Thebes, Orchomenos and building **H** at Gla⁵².

A small disc from the guardroom of the North Gate and another one from the second layer of **H3**, chipped off from a jug, may well have been used as stoppers for large stirrup jars, such as those found in the Houses of the Oil and the Wine Merchants at Mycenae⁵³.

Kraters, large and small. This shape, very much like a skyphos, but bigger and sometimes stemmed, is represented on Gla by 8 fragments of normal, large kraters and 7 more from smaller examples. All were found in building **H** except one which lay outside **N1**. They are too few, too fragmentary and too dispersed to allow for typological and chronological conclusions. A fragment with a circle around the handle and three bands below it was found in the surface layer of **H**. The first layer produced another one decorated with spirals. The mudbrick layer contained two



Fig. 28. Room **H1**, second layer, krater sherd.

sherds: one, with a markedly everted, horizontal painted rim and the beginning of two groups of pendent lines (Pl. 40:80/2, Fig. 28) and another, broken and mended with a lead clamp in antiquity, decorated with a triple pendent curved line and a spiral with no obvious connection between the

52. Mycenae, L.G. Staircase, first stratum (WACE, BSA 25, 1921-23, 20f., fig. 5), Ramp House (WACE, op. cit., 80f. fig. 19a), House of the Oil Merchant (WACE, BSA 48, 1953, 13, pl. 11a, c), West House (VERDELIS, Praktika 1958, 161, pl. 127β), North Storeroom (MYLONAS, Praktika 1968, 7, pl. 3α), Cult Centre (MYLONAS, Praktika 1975, 156, pl. 131β), Plakes House (MYLONAS, op. cit., 160). Zygouries, Potter's Shop (Zygouries 149f., fig. 140). Prosymna (Prosymna 451f., fig. 529 No 1025). Tiryns (EVANS, PM IV 743, fig. 726). Pylos (PN I, shape 65a, 403, fig. 389 No 402). Eleusis (KOUROUNOTIS, Deltion 1931-32, Parartima, 23, fig. 26). Thebes (KERAMOPOULLOS, Praktika 1922-23, 30, 31). Orchomenos (EVANS, PM IV 739, Orchomenos V 32, fig. 11, 21-22, fig. 6 No 120) and Gla, building **H** (Gla II 21-22, 50-52, 151-153, pls 15a, 35a,b, figs 8, 37, 38).

53. WACE, BSA 48, 1953, 13, pl. 7, 17, pl. 11d.

two motifs (Pl. 29:60/1, Fig. 29). Three more sherds come from the floor of **H3**: one, with three bands and the remnants of a broad curved line above them, a combination known from Boeotia and Pylos, another one with two bands and the ends of three vertical lines and a third decorated with an upright dotted whorl shell, as it appears on kraters from Boeotia, Tiryns, Mycenae and Pylos⁵⁴. The sherd found outside **N1** has two parallel bands.



Fig. 29. Room **H3**, second layer, krater sherd.

Basins (also named kalathoi or conical bowls). The shape imitates metal prototypes and sometimes has a spout below the rim. Threpsiadis kept sixteen such sherds. Seventeen more rim, belly, base and spout fragments were found in the east wing (12 in building **H**, 1 in **K**, 2 in **M** and 2 in the Threpsiadis trench at the SW. corner of **K**). Twelve are plain, 4 have painted decoration and 1, from the floor of **H3**, has seven finely incised lines around the rim. The painted examples have bands around the base and on the body, circles on the inside of the bottom, and wavy lines or hatching across the rim. Three are spouted (Pl. 67:144/1)⁵⁵. As a rule, therefore, basins on Gla were plain. The spouted and the painted variety are exceptional.

Stamnoi and stamniskoi. Five specimens of the former and 3 of the latter come from the Threpsiadis excavation. Six more were found in the east wing, all undecorated: three fragments of mouths, necks and shoulders and the lower part of a piriform example (Sh. 9). There are also 2

54. Orchomenos (Orchomenos V 17, fig. 4:69, 25, fig. 7:150, 151), Drachmani (Orchomenos V 53, fig. 19:51, 52-55, fig. 20:73), Thebes (DEMAKOPOULOU, AAA 7, 170, fig. 12, Kadmeia I fig. 26), Tiryns (Epichosis 143, shape 5:1), Mycenae, Dromos of tomb 505 (E. FRENCH, BSA 60, 1965, 164, fig. 2:504, 549, 172, fig. 5, 193, fig. 10:2), Room of the Idols (K. WARDLE, BSA 64, 1969, 270-72, fig. 5:25), South House (MOUNTJOY, BSA 71, 1976, 84, fig. 4:16, 17), and Pylos (PN I 2, fig. 387:1151). Also MDP 84, fig. 99:9, 109, fig. 136:2, 127, fig. 156:2.

55. FS 300, 301. See also PN I, shape 6, 357, fig. 351, 352 (Pylos), E. FRENCH, BSA 62, 1967, 151, fig. 2:52-211, 52-212 (Mycenae, House of the Oil Merchant), Prosymna II fig. 333:734, 258:680 (Prosymna), MDP 91, fig. 111:1, 2, 118, fig. 145 (Mycenae, Vourvatsi).

pieces from the shoulder and the beginning of the neck of another one with bands along the handle and around the joint of neck and shoulder and one more from the Threpsiadis trench decorated with spirals.

Alabastra. There is one sherd from the NE. Gate and 6 more fragments of straight sided, funnel necked, two or three handled alabastra, all from

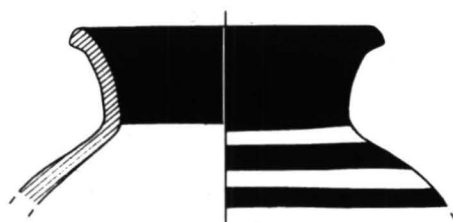


Fig. 30. Room **H2**, second layer, neck and shoulder of alabastron.

H2: one plain and one banded shoulder piece from the first layer, two rims and two necks and shoulders, banded, from the mudbrick fill (Fig. 30).

Tankards (mugs), one-handled, cylindrical with concave sides. Two sherds of this shape come from the North Gate and building **E**. Three more come from area **N4** and from the decomposed mudbrick nearby. A fourth was found in the white clay layer on the floor of **M3**. Two of the specimens from **N4** are undecorated but have a double ridge at the rim (Fig. 31). The third, from the waist of the vase, is also ridged (Pl. 59:123, Fig. 32). The last one, from **M3**, comes also from the waist and has the same two ridges. On this example the grooves between the ridges are painted. Above them is a band and a vertical line, framed at its base by



Fig. 31. Area **N4**, tankard rim.

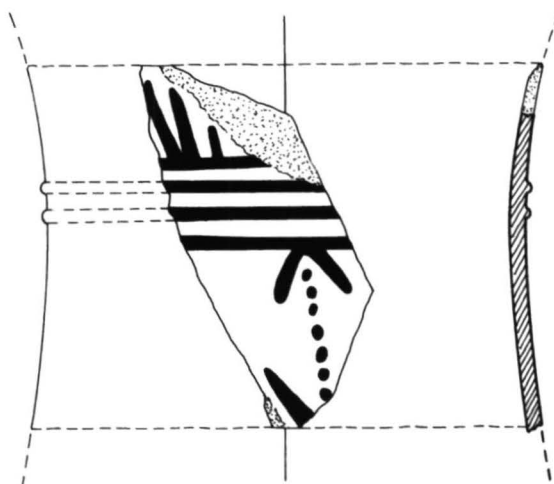


Fig. 32. Room **M3**, second layer, tankard sherd.

two oblique strokes. Below the ridges is an upright row of painted dots. The motif, a dotted line framed between antithetical angles at each end, looks like a double pointed arrow and is, so far, unique.

The chronologically important feature of these sherds are the ridges at rim and waist of the vessels. They appear in LH IIIA2, continue into LH IIIB1, disappear first from the rim and later, in LH IIIB2, from the waist as well, leaving the profile of the vase unbroken⁵⁶. The examples on Gla come from the construction fill and belong, accordingly, to the beginning of LH IIIB1.

Cups. Two fragments (part of a rim and a strap handle), both plain, were found in **H4** and **H5**. Another handle painted along the sides and two examples which show the shape of the vessel were recovered from the floor and from an earlier trench in **N4**. One of them, undecorated, preserves virtually the entire profile from the everted rim down to the missing base. The other one, mended from 19 fragments, is almost complete. The exterior is undecorated, the interior monochrome (Pl. 67:145). The shape is common enough and has been found at many sites in Boeotia, Euboea, Attica, Athens and the Peloponnese⁵⁷. The examples from Gla, coming from disturbed contexts, cannot be dated more closely than LH IIIB.

Lids. Two lids of cylindrical type were found in the fill along **K** and in the mudbrick layer in **M**. The first is unpainted. The second, 45-47 mm. across, is decorated with serried vertical lines on the periphery and irregularly placed dots on the top (Pl. 59:122/2). The shape, known from

56. MDP 86, fig. 101:3, MPI 71, Orchomenos V 63 (Schimatari), 86 (Eutresis), E. FRENCH, BSA 60, 1965, 169, 176 (Mycenae), MDP 112, MOUNTJOY, BSA 71, 1976, 86. — But they do not appear, e.g., on tankards from Pylos (PN I 31), Tiryns (Epichosis 148) or from the House of the Oil Merchant (BSA 62, 1967, 169). Later examples such as those from Mycenae (Panagia Houses 82) and Athens (O. Broneer, *Hesperia* VIII, 1939, 372-375, fig. 55) are few and far between.

57. Boeotia, Orchomenos V 27, fig. 8:183, 184, 186, 36, fig. 12:243, 49, fig. 17:19, 57, fig. 21:97, 74, fig. 29:110, 90, fig. 36:92, 93, SPYROPOULOS, *Deltion* 28, 1973, B, pl. 212γ, Euboea, MOUNTJOY, BSA 85, 1990, 248, fig. 6, Mycenae, E. FRENCH, BSA 60, 1965, 169, fig. 4:4, 176, BSA 61, 1966, 223, BSA 62, 1967, 156, fig. 7:53-182, K. WARDLE, BSA 64, 1969, 276, 282-285, MOUNTJOY, BSA 71, 1976, 92-93, 95. Pylos, PN I 360, shape 12, figs 353, 354, Attica, POLYCHRONAKOU - SGOURITSA, *Deltion* 43, 1988, 16 pl. 7:3, Athens, Agora XIII 128-129, pl. 67:V-23, 474.

14th-12th cent. B.C. contexts in Athens, Attica and the Argolid⁵⁸, being strictly utilitarian, did not change with the passage of time. Its decorative schemes likewise remained constant.

Cooking and domestic pots and utensils. Such pottery is often found, occasionally mentioned but rarely, if at all, published. On Gla, one hundred and seventeen diagnostic fragments were collected but a far greater number of non identifiable pieces was found in every room and in all layers. Their fabric, coarse, gritty and often micaceous, remained unchanged through the years.

Forty four sherds of pots exposed to cooking fires, whose exact shape could not be determined, were collected by Threpsiadis. Others were found in buildings **H** (12 pieces) and **K** (7), in rooms **N1-N2** (5), **N3** (5) and in area **N4** (10). Five more lay in contexts not connected to any building in particular. But the greatest concentration, 26 such fragments, was located in building **M**. There are, moreover, 80 feet broken off *tripod cauldrons* (Pl. 30:61/1), some preserving also part of the body. The greatest number (18) comes from building **H**. The shape, with its open mouth, convex body and three sturdy feet is well known from most Mycenaean sites⁵⁹.

Seven fragments of *dippers*, of the semiglobular type with a high swung loop handle (Sh. 8:1,2), all plain, were discovered in the trench between **H3** and the south enclosure wall (2 examples), outside **N3** (3), in area **N4** (1) and room **M3** (1). One complete example (mended), lay in the drain of **H5** (Pl. 51:104). Another one was put together from fragments founded outside the west guardroom of the South Gate (Pl. 67:146). They are similar to those coming from the South Gate and the west extension of the

58. Athens, AVAA 17, n. 180, Agora XIII 140, BRONEER, Hesperia VIII, 1939, 385, fig. 65, Attica, STUBBINGS, BSA 42, 1947, 47, pl. 13:7, 8, BENZI, Ceramica micenea in Attica (Milano 1975) 98-99, the Argolid, E. FRENCH, BSA 59, 1964, 250, fig. 2:14, BSA 62, 1967, fig. 163:47, K. WARDLE, BSA 64, 1969, 276, fig. 7:73, MOUNTJOY, BSA 71, 1976, 93, fig. 9:94, Zygouries 153f., fig. 146, Deiras 162, pl. LX:6, Asine 414, fig. 270:14, Tiryns, PODZUWEIT, AA 1981, figs 53:12, 55:14, 1982, fig. 2:8, 9, Epichosis 148.

59. Mycenae, Ivory Houses 92-93, pl. 14e, f., Panagia Houses 110-111, pl. 33:145, Cult Centre, K. WARDLE, BSA 64, 1969, 291, fig. 8:82, S. House, MOUNTJOY, BSA 71, 1976, 103, ONASSOGLOU 72, fig. 22α, Cyclopean Terrace, E. FRENCH, BSA 56, 1961, 87, pl. 13d, Pylos, PN I 414, shape 70, figs 395:650, 396:971, Asine 385, fig. 250:3, Attica, STUBBINGS, BSA 42, 1947, 35, pl. 8:12, 13, BRONEER, Hesperia II, 1933, 371, fig. 45, VIII, 1939, 398, fig. 81, Agora XIII 140.



Fig. 33. Area **N4**, floor, strainer, bottom part and base.



Fig. 34. Room **K5**, first layer, strainer rim.



Fig. 35. Room **N1**, first layer, strainer sherd.

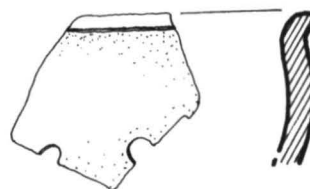


Fig. 36. Area **N4**, first layer, strainer rim.

melathron at Gla as also to a great number recorded from Mycenaean sites in Boeotia, Attica and the Peloponnese⁶⁰.

Rooms **H4**, **K5**, **N1**, **M2** and area **N4** yielded 8 fragments of small vessels with multiple perforations, *strainers*. The fragments are neither large nor well enough preserved to show their exact shape (Pl. 55:112/2). One little piece preserves the disc base, 35 mm. across, with the attached lower part of the wall of the vessel (Pl. 56:115/1, Fig. 33); there are, moreover, three rim fragments (Figs 34, 35, 36). Taken together they suggest a small open vessel, rather like a conical or semiglobular cup, with a disc base and perforated sides. The holes, 3-4 mm. in diameter, driven in uneven rows through the walls of the vessels before firing, are very close to one another. No handles were found. The fabric is fine, well levigated and well fired with no slip or paint. Strainers of various shapes and sizes are known from several EB or MB sites such as Troy II, Poliochni, Lerna, Kirra, Asea and Malthi. Later examples are recorded from Asine and Eleusis. There are also strainers from the Fountain of the Acropolis at Athens and two perforated dippers from Mycenae and Pylos, but no exact parallels to the Gla specimens have yet been discovered.

60. Boeotia, Orchomenos V 38, fig. 13:262, 264, 79, fig. 32:149, SPYROPOULOS, AAA 3, 1970, 326, Attica, Agora XIII 140, BRONEER, Hesperia II, 1933, 370-371, fig. 44, VIII, 1939, 383, fig. 64j-m, MYLONAS, Eleusiniaka 135, fig. 114, Mycenae, Ivory Houses 85, pl. 13a, K. WARDLE, BSA 64, 1969, 285, fig. 9:95, BSA 68, 1973, 322, fig. 14, MOUNTJOY, BSA 71, 1976, 102, fig. 16:184, ONASSOGLOU 72, pl. 22β, 116, pl. 51α, Asine, Asine 304, fig. 209:1, Boreas 2, 1978, 86, fig. 75, Zygouries, Zygouries 142, fig. 133, 153, fig. 144, Malthi, N. VALMIN, The Swedish Messenia Expedition 331, pl. X:18, 19, Pylos, PN I 364, shape 21, figs 357, 358.

Fragments from 8 *plates* or plate-like vessels were found in buildings **H**, **K** and **M** (Pl. 68:148). Three of them, from **K**, are shaped like flat round (2) or ellipsoid (1) discs with their upper surface burnished and no border along their edge. A fourth example from **K5**, mended from three fragments, has a slightly raised edge and suspension hole near its periphery (Pl. 68:147). Three more had a raised edge and the last one, from the fill along the east wall of **K**, had an 8 mm. high side, feet and one or more handles, being comparable to plates from Zygouries and Asine⁶¹.

Four pieces of circular *broiling pans* (Sh. 12) with low vertical rims and flat honeycomb bottoms were collected by Threpsiadis from the court of the melathron, the south entrance to the enclosure and the area between buildings **A** and **B**. Some are recorded from Mycenae but the shape⁶², although well known and often found is seldom published.

The pottery from area **N4** includes fragments of 3 *grilling stands*, hand made of coarse micaceous clay fired hard. The shape, which is not standardized, is known but not common. The better preserved fragmentary and partly mended example, from the floor of **N4** (Pl. 56:114, Sh. 11:1, 2), consists of a square horizontal plate, 1.6 cm. thick, with raised edges at the sides, attached to an upright back with notches for the spits on top and a horizontal ribbon handle behind. The back is supported by broad, sturdy 4 cm. high feet. The placing of the handle shows that the preserved part is about half of the entire utensil, which would accordingly be 35-40 cm. wide and would accommodate 10-12 spits. The other two stands seem to have been somewhat larger. Comparable but differently shaped examples are known from Thera, Mycenae and Pylos⁶³.

Two large cylindrical and two flat *perforated handles* were found in buildings **H** (Pl. 36:73/3) and **M**. The perforations are 8-10 mm. in diameter. Made of coarse clay, the handles clearly come from domestic vessels which could be hung up. Such handles have been found in Zygouries, Pylos, Mycenae, Gla⁶⁴ and, no doubt, elsewhere, but they are rarely described or even mentioned.

There are two more fragmentary *vessels of uncertain overall shape and use*. They come from the surface layer of **H1** and the first layer of **K5**.

61. Zygouries 164, fig. 160, Asine 305, fig. 209:3.

62. E. FRENCH, BSA 64, 1969, 85, fig. 12:24, MYLONAS, Praktika 1973, 106, pl. 125β.

63. Thera II 44-45, pl. 38:2, K. WARDLE, BSA 68, 1973, 327, fig. 17:149, PN I 348, 349, 418, shape 79, figs 397, 398.

64. Zygouries 101, PN I 411, 412, K. WARDLE, BSA 64, 1969, 291, Gla I 92.

The first preserves part of a collar neck and the rounded upper part of the body. It could have been a cooking pot but for the fact that it is made of a greenish-yellow rather soft clay covered with a yellow slip. The other one, made of reddish coarse gritty clay, is oblong, rounded at the preserved end, with a 4.6 cm. high vertical side perforated 8 mm. above the vessel's flat underside. Its identification as some sort of fish kettle might be possible were it not for its comparatively low side and the hole(s?) so near the bottom.

Four more parts of pots and a small terracotta object should be mentioned. They are the tip of a *rhyton* from the SE. Gate (Pl. 68:149/2), the cylindrical spout of a *feeding bottle*, the lower part and ring base of a *pedestalled amphoriskos* from **N3** and a fragmentary *tube-like object* from the ash layer of **H1**. It is 6.2 cm. long and has a diameter of 1.6-2.5 cm. One end is closed and rounded, the other, wider end is broken (Pl. 30:61/2). It could have been the hollow foot of a vase or, perhaps, the casing for the handle of a bronze cooking pot, protecting the hand from the heated metal. In addition a small round terracotta *pellet* with slightly concave sides, possibly a game pawn, was recovered from the second layer of room **M3**.

Lead clamps

Four such clamps for mending broken pottery were recovered on vase fragments from the east and the north entrances to the enclosure and from building **B** (Pl. 69:150). The best preserved, that from the east entrance, is made of two strips of lead connecting the conical rivets which went through the holes drilled on either side of the break (Pl. 69:151). Apparently, after the rivets were welded to the outer strip and put through the holes, the inner strip was heated and welded on, holding the broken wall of the vessel together⁶⁵. Another two sherds from the south entrance and room **H1** (Pl. 29:60/1), had holes with remnants of such clamps in them. Three more from the North Gate and the two-handled jug from **H5** preserved the perforations but not the actual clamps (Pl. 50:102).

65. Lead clamps for mending vases are known from many sites and almost all periods. See N. VALMIN, *The Swedish Messenia Expedition* 373, pl. XXV: 19 (EH, MH, LH), *Agora XIII* 62, 75, 79, 89 (MH), W. KUMMER - E. SCHOFIELD, *Keos III* 57, 65, 67, 69 (MH), 98, 117, 119, 127 (LH II), H. SCHLIEMANN, *Tiryns* 158 (LH III), O. BRONEER, *Hesperia VIII*, 1939, 401, fig. 83g-j (LH IIIB-C), S. IAKOVIDIS, *Perati B* 64-65 and n. 1 (LH IIIC and later).

Figurines

Three fragmentary human figurines were found in the Double Gate area and one more in the fissure of the rock west of it. One of the former, a female of the Psi type, preserves its torso complete with extended arms and pellets for breasts (Pl. 68:149/1). The painted features include a braid on its back, a high waist and four vertical stripes down its columnar stem. Another has a hollow stem with four wavy lines painted along it (Pl. 68:149/3). Of the other two only the columnar stems survived with the usual vertical stripes painted on them. Their types are not clear, but all four belong to the LH IIIB period⁶⁶. There are also two seat fragments of terracotta thrones. One clearly had no seated figure applied to it. The other which has a festoon painted along its perimeter (Pl. 68:149/12) is too fragmentary to show whether or not there was a figure attached to it. Thrones are known from late IIIA2 to early IIIC contexts⁶⁷.

Discards

Finally three misfired and deformed fragments of kylikes were found, worked into the clay mixture of mudbricks in rooms **H1**, **H2** and **H5**, and a body sherd of a pithos, vitrified from overfiring (Pl. 39:79/4). These sherds confirm conclusions drawn from the study of the pottery clays (Gla II, Appendix 205-209), that the pottery from Gla was largely of local manufacture.

Roof tiles

A stack of complete cover tiles was discovered heaped against the wall in **Z10** (Pl. 27:55), left over from the construction of the roof or intended for repairs. Many more examples as well as a great number of pan tiles were found in fragmentary condition. Both pan tiles and cover tiles were recovered from the Double Gate, the south entrance to the enclosure, buildings and building complexes **E**, **Z**, **H**, **K**, **N** and **M** (Pls 53:109/1,2, 69:152/2,153, 70:154,155/2, 71:157/2). The North Gate, the west side of the enclosure, the melathron and building **B** yielded only pan tiles (Pls 69:152/1, 71:158, 72:159,160).

66. E. FRENCH, *Development of Mycenaean Terracotta Figurines*, BSA 66, 1971, 124, 126, 128, 131-132.

67. *Ibid.* 167, 173.

In other words, tiles were found everywhere. The number of preserved pan tiles is roughly four times that of cover tiles.

They are all hand made, not pressed in moulds. As a result no two of them measure exactly the same. Pan tiles are flat terracotta plates, 0.01-0.025 m. thick. Their long sides have upright borders 0.033-0.06 m. high, with rounded corners at their ends (Sh. 10). The edges of their short sides curve smoothly downwards. No complete examples were found and therefore no exact overall measurements are available, but some fragments are large enough to show that their short sides were unequally long, giving the tiles a trapezoidal shape. They are made of coarse gritty clay mixed with chaff. Their upper surfaces were roughly burnished with the open hand or a wet rag, which left its marks here and there. One example from the second layer in **H1** preserved traces of a thin white slip. Their undersides were left rough, showing that the tiles were shaped on wooden boards or even on a level piece of ground. There is no indication, such as fissures after firing or smoothing over at the joints, that the borders were added to the main body of the tiles. Most probably the slabs were flattened and cut to the desired form and dimension much as were the mudbricks, after which the sides were turned up to form raised borders.

They were fired well enough, but the quality of their clay was so poor that their surface cracks and they break easily.

Cover tiles were made of reddish, yellow, greenish or buff well levigated clay. They were thrown on the wheel as slightly flaring tubes with everted rounded rims which were then cut lengthwise to form two tiles with unequal diameters at their ends. Complete tiles are 0.46 m. long, 0.009-0.020 m. thick and their diameters measure 0.14-0.16 m. at one end and 0.175-0.215 m. at the other. Their curve alternates from the narrow, horseshoe-shaped (**N2** floor) to the almost half cylindrical (Sh. 10). Their outside surface, often covered with a white or yellow slip, is smooth, but inside they show the parallel grooves which are the markings of the wheel (Pls 27:55, 53:109/2) and distinguish Mycenaean cover tiles clearly and unmistakably from the mould-pressed later examples.

HELLENISTIC POTTERY (Plan 34)

Ca 30 examples were kept by Threpsiadis, coming from the four gates, the central enclosure, its south entrance and buildings **A** and **Z**. They are mostly black-glazed sherds of poor quality. Among them are a fragment

of a skyphos with relief bands outside and incised decoration inside, part of the rim and handle of a jug and the bottom of an open vase ornamented inside with serried fingernail impressions. The truly representative pieces are a small fragmentary palmette lekythos (Pl. 72:161), fragments of a ribbed black glaze kantharos (Pl. 73:162) and parts of Megarian bowls with pine cone, figural and petal decoration. The lekythos has very good parallels in Olynthos dating to the middle of the 4th century B.C. The kantharos belongs to a type appearing shortly before that and produced almost till the end of that century. To those the surface layers of rooms **H1** and **H3** added three black glaze sherds of rather poor quality, belonging to open vases. In the trench dug by Threpsiadis at the SW. corner of building **K** four more small sherds of Megarian bowls were found, similar to those recovered elsewhere. The Hellenistic sherds, very few but spread all over the rock, show that in the second half of the 4th century B.C. Gla, although not occupied, was visited at times, probably by people involved in the attempt of Crates of Chalkis to drain the Kopais. The Megarian bowls, dating from the second half of the 3rd to the end of the 2nd century B.C., imply that the site had not been entirely deserted even then⁶⁸.

MEDIEVAL POTTERY (Plan 34)

The finds include 34 small Medieval sherds, mostly from open vessels. They are not attributed to any particular context. Ten are labelled as coming from the area of the West Gate and from the little church next to it, six from the intrusion into the floor of **Z3**, four from the west entrance of the Double Gate and three from the west part of the enclosure. Ten are ridged or grooved, the rest have their interior glazed dark red (3 examples), yellow (9) or green (12). One of the last named preserves a black line drawn on the green background, another has matt brown splashes on its outer surface. The excavation of the east wing of the central enclosure on Gla added two small ribbed sherds to this meagre collection. The sherds are too few and too small for precise dating. The combination of the grooved ware with the described types of glaze, however, seems to place them after the 12th century A.D., probably in the Frankish period⁶⁹.

68. S. IAKOVIDIS, EYMOYΣIA (Festschrift A. Cambitoglou) 131-134.

69. Gla I 244-245.

OTHER FINDS

METAL OBJECTS

The metal objects found on Gla are lead and bronze tools and implements.

Lead had a variety of uses on Gla. It has been found in the form of clamps for mending pottery and for joining parts of a conglomerate slab from the melathron. There are also fishing net weights and scraps from sheets. In the east wing lead finds are less varied but far more numerous. There are shapeless lumps of run lead from various layers of **H1**, **H2**, **H5** and outside **N3**, the remains of a mending clamp on a krater sherd from **H2**, whole sheets 1-2 mm. thick from the area between **H** and **K** and along the south wall of **M** and a great number of sheet fragments from different layers in **H2**, **H3**, **N1**, **N2** and **M4**.

The *net weights* (Pl. 15:29) were attached to a fish net of a simple shallow-water type known in antiquity and still used today. They are small rectangular pieces of 0.015 m. thick lead sheet, folded oblong or square around the cord at the sides of the net. The oblong examples measure 0.035-0.05×0.023-0.033 m., the square 0.03-0.034×0.03 m. Sixty five are complete, 24 are fragmentary⁷⁰. The *scraps*, run and distorted, were found at the North Gate, the east and the south entrance to the enclosure, in the buildings of the west complex, in and around the melathron and outside the entrance to **N3** (Pl. 73:163). The largest measures 0.21×0.13 m.; the smallest is coin-sized. None comes from a vessel or from any recognizable object. They are, most probably, fragments of large *sheets* of lead of standard shape and size⁷¹, like the three rectangular 1.03×0.45 m. sheets found between buildings **H** and **K** (Pl. 43:88), which had their long sides folded back, and had been carefully stacked on the ground, partly cover-

70. Gla I 100, 249, pl. 36α. Also, G. BASS, Transactions of the American Philosophical Society 58, 8, 1967, 131, fig. 139, P. DIKAIOS, Enkomi I 279, 296, Illa pls 135/75, 163/56, 168/23, F. HALBHERR, MA 14, 1904, 548, N. ZAPHEIROPOULOS, Praktika 1960, 337, J. PAPADEMETRIOU, Praktika 1956, 86, pl. 24α, S. IAKOVIDIS, Perati A 453, 455, B 355, Γ pl. 135β, COURTOIS, Alasia III (Paris 1984) 47, 49, fig. 15:15, pl. 21:19, T. DOTHAN - BEN TOR, Qedem 16, 1983, 113, 114, fig. 52:2, FLINDERS PETRIE, Ancient Gaza III, BSAE 55, 1933, 6, pl. IX:34, C. PULAK, AJA 92, 1988, 32, BASS-PULAK, AJA 93, 1989, 7, 9.

71. S. IAKOVIDIS, Gla II 39-40, fig. 32, plan 6:1, 2, pls 27, 28. Also folded lead sheets from the Kadmeia, Deltion 29, 1973-74, B, 440, 30, 1975, B, 132.

ing one another. Next to them lay another, fragmentary sheet. In the centre of its upper surface an irregular double circle had been incised, bisected by a diameter and three more lines across it. The meaning of this pattern is obscure. It could be the mark of the storekeeper charged with keeping it or of the artisan who had already started working on it. Along the long side of the sheet two parallel lines had been incised, divided by cross cuttings into small squares (Pl. 43:87, Fig. 37) which, if folded, could be turned into net weights like those already found on Gla (see above), at Phaestos, Naxos, Brauron, Perati, Enkomi, Athienou, Tell el-Ajjul and in the Cape Chelidonia and Ulu Burun wrecks⁷². Similar to this sheet, shapeless and fragmentary but unmarked, were those laid along the wall of building **M** (Pls 57:118, 58:119,120). The rest, especially the fragments from **M4**, were found either isolated or in heaps of fragments of different sizes. There is no doubt that they came as raw material to be worked into shape as required.

Eighteen such specimens, analysed by Professor N. H. Gale of the Department of Geology and Mineralogy at Oxford University, were found to come from the Laurion mines.

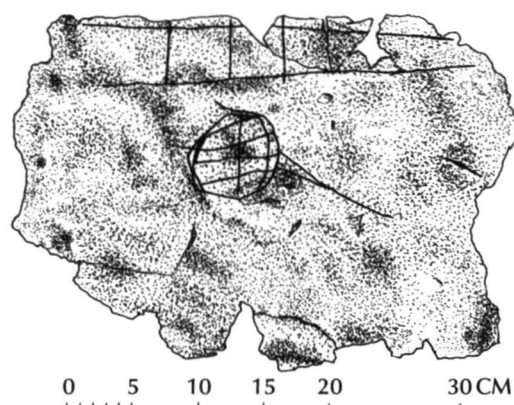


Fig. 37. Room **H3**, north trench, incised lead sheet.

Bronze objects are few but important: without being unique or novel they are, like the roof tiles, significant examples of their kind and contribute substantially to the understanding of the technology of their age. They consist of a pair of tweezers, a fragmentary knife blade, nails, scraps of bronze plate and the pivot shoes from the doors of the melathron.

The *tweezers* (Pl. 35:69), found in the second layer of **H2**, green with patina but otherwise intact, belong to the usual LH type which has a cir-

72. Supra, n. 70.

cular loop at the top and downcurving arms. They are known from Mycenae, Tiryns, Argos, Prosymna, Midea, Attica and, at the end of the period, from Perati⁷³.

The *knife*, from the south entrance to the enclosure, is represented by a 32 mm. long fragment of its corroded blade. The longest part of its haft end and its point are missing.

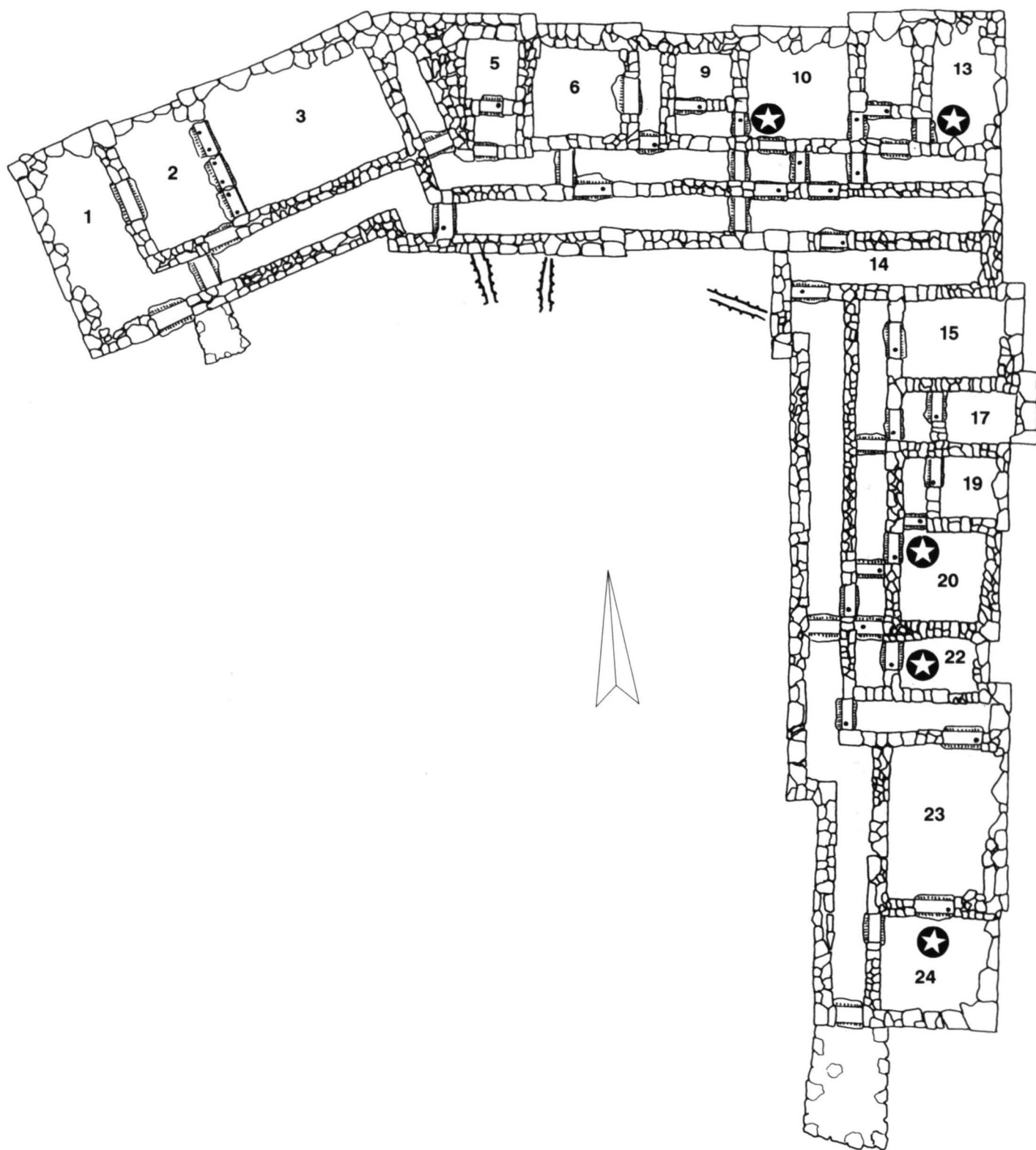
All *nails* were forged. One, from the West Gate, is 0.045 m. long, sharply pointed and has carbonized wood still sticking to it (Pl. 73:164). In addition, thirteen complete and five fragmentary specimens were found in the inner entrance court of the South Gate. They are 0.032-0.054 m. long, their flat or slightly convex heads are 0.01-0.02 m. across and their points are flattened to a two-sided chisel-shaped cutting edge (Pl. 11:22). Similar nails have been reported from beneath the threshold of the tholos tomb of Atreus at Mycenae, from Midea, Pylos and Dorion⁷⁴.

Two hundred *bronze scraps* come from within the threshold of the South Gate and 20 more from the east entrance of the Double Gate. They are 0.001 m. thick and measure from 0.18×0.11 m. to 0.009×0.006 m. A fragment which preserved both lateral edges indicated that they had originally the form of strips 0.124 m. wide (Pl. 10:18). Their surfaces bear traces of wood to which they were attached firmly by nails, as shown by nail holes on some of them and by the nail actually driven through one of the strips (Pl. 10:19). The length of the nails suggests that the wood must have been more than 0.06 m. thick. In all probability the strips are the remains of the bronze sheathing of the door leaves or the doorjambs of the gates.

The find spots of the five door pivot shoes are clearly specified by the excavators (Plan 35). De Ridder found his at or near the doors of rooms **13** to **11**, **20** to **21**, **20** to corridor **P2** and **24** to corridor **O1**. Threpsiadis'

73. TH. SPYROPOULOS, 'Υστερομυκηναϊκοὶ ἑλλαδικοὶ θησαυροὶ 38-40, figs 72, 73, 48, SAKELLARIOU 59, 69, 70, pl. 9:1, 82, 110, 145, pl. 40:2385, 174, 200, pl. 88:2929, 273, pl. 135:4556, Chamber Tombs 61, 105 (pl. VII), 191 ns. 1-3, K. WARDLE, BSA 68, 1973, 337, fig. 22:60-19, Tiryns VI 54, pl. 29:1, Deiras 95, 96, 202, 243, pl. LXXXIX:8, Prosymna 349f., fig. 58, RT 89-90, fig. 62, NT 9, fig. 6, Perati B 284 n. 4, S. IAKOVIDIS, The Mycenaean Bronze Industry, Early Metallurgy in Cyprus (Nicosia 1982) 223, fig. 35.

74. BSA 25, 1921-23, 348, fig. 76, NT 11, PN I 90, fig. 270, 109, fig. 278:14, 246, fig. 296:18, 285, fig. 302:8 and 336, N. VALMIN, The Swedish Messenia Expedition 371, fig. 47:a.



Plan 35. Melathron, findspots of bronze pivot shoes.

specimen was lying next to the west wall of room **10** (Pl. 19:37, Fig. 38)⁷⁵. The pivot shoes are all alike. They have the form of tubes open at the top and closed at the bottom, the underside of which is somewhat concave and has a slightly rounded edge. The upper part of the tubes is cut away vertically so that only the lower one third is a complete cylinder. The example from room **10** is 0.087 m. high, 0.063 m. across and has an internal diameter of 0.056 m. The others are

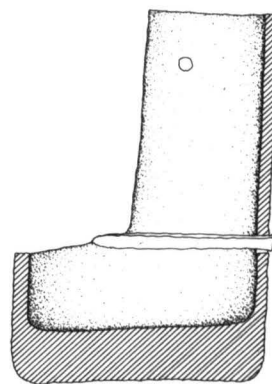


Fig. 38. Room **10**, bronze pivot shoe.

0.09-0.11 m. high and their respective diameters are 0.065-0.074 m. and 0.055-0.06 m. (Pl. 74:165). This is in keeping with the dimensions of the pivot sockets in the building. Those on the thresholds of the east wing (where de Ridder's casings were found) have an average diameter of 0.09-0.10 m. as compared to the 0.07-0.08 m. of the sockets in the north wing, where room **10** is located. All the pivot shoes contained a little carbonized wood and they were all transfixed by bronze nails similar to those described above. These secured the casing to the foot of the wooden pivot pole which burned when the building was destroyed, leaving the ash inside its bronze sheath. The measurements of the casings show that the poles must have been 0.052-0.055 m. across and that the wooden door leaves, morticed onto the poles and projecting through the cut-away part of the shoe were some 0.05 m. thick.

Three of de Ridder's casings had three nails each, two near the top at right angles to each other and one more lower down, placed opposite to the aperture of the cylinder. The fourth casing preserves only the bottom nail but the top part where the others would be is damaged and partly missing. The casing from room **10** has an upper and a lower nail. A third hole, exactly opposite the top nail, was marked on both sides of the casing but was not pierced through.

The system of doors hinged on the threshold and the lintel and revolving on both ends of their pivot pole is well attested in antiquity, down to Roman times, but very few pivot shoes have actually survived, es-

75. S. IAKOVIDIS, *TUAS* 3, 1978, 47ff.

pecially from Bronze Age sites in the Aegean. From the Mainland there is only one complete specimen, found *in situ* on the threshold of the Little Megaron in Tiryns (Fig. 39:1)⁷⁶. It is larger and squatter than the one from Gla and has a rounded bottom with a protruding flange which helped to

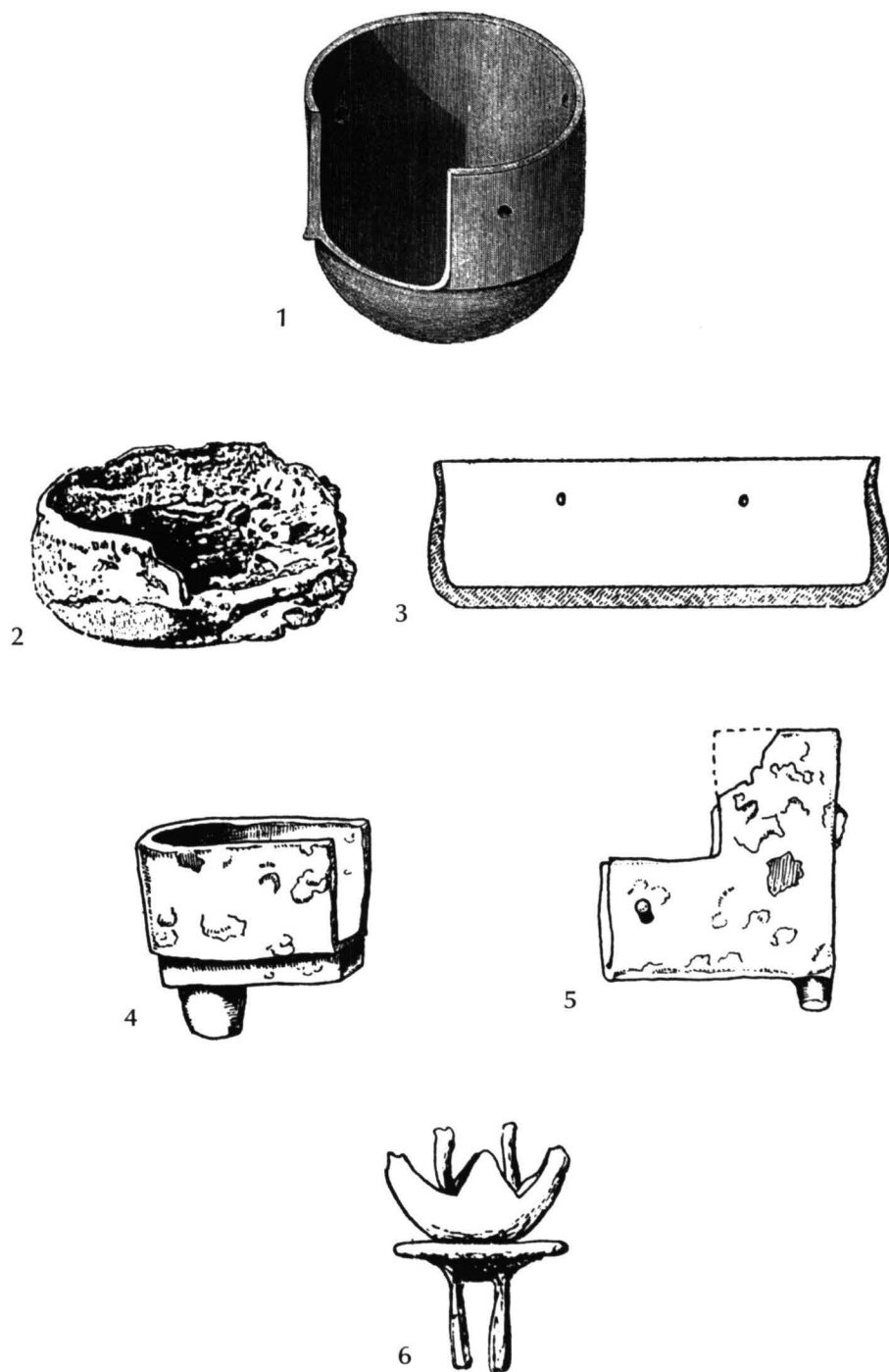


Fig. 39. Bronze pivot shoes from Tiryns (1), Phaestos (2), Malia (3), Egypt (4, 5) and Alalakh (6).

76. DÖRPFELD in SCHLIEMANN, Tiryns 320f., fig. 120.

adjust the shoe in its socket and to keep it correctly balanced. To judge by the holes on its sides, it was fastened to the pivot pole by three nails. Fragments of a similar shoe were discovered by Tsountas in the anteroom to the megaron at Mycenae⁷⁷.

A different type of pivot casing was used in Crete. It was shaped like a shallow bowl (Fig. 39:2,3) with a slightly protruding rim and had the same height all around, equal to about one third of its diameter. It had as many as five holes, circularly arranged, for the nails which attached it to the pivot pole. The five known specimens come from palace buildings and were made for considerably thicker poles than those on the Mainland⁷⁸. Pivot shoe shapes differ still more in Egypt (Fig. 39:4,5)⁷⁹, where the bronze casing sheathed not only the end of the pivot but the lower corner of the door leaf as well and in the Levant, as represented by the door hinge discovered at Alalakh (Fig. 39:6)⁸⁰. It comes from a door with a wooden sill and was hemispherical, fixed to the bottom of the hinge pole. It revolved in a corresponding shallow bronze cup secured by two tenons to the threshold.

The pivot shoes from Gla belong to a simpler, less perfected type than those from Tiryns and from Mycenae. Both those palaces were in constant use till the end of Mycenaean times and the fixtures in them, such as their door hinges, must have been maintained and replaced as the need arose. We may assume, therefore, that the pivot casings of Gla were more primitive not only because they belonged to a more modest building — which they did — but also because they were considerably earlier.

STONE OBJECTS

The stone finds are a NL stone celt, two flint blades, scattered fragments of obsidian blades and flakes, four LH "buttons", a semicircular roughly worked fragmentary piece of green schist found by Threpsiadis in the trench at the southwest corner of building **K**, nine fragments (three

77. *Praktika* 1886, 66.

78. J. D. SHAW, *Annuario* 49, 1971, 225. Also J. W. GRAHAM, *The Palaces of Crete* 171f.

79. FLINDERS PETRIE, *Objects of Daily Use* 50, pl. XLIV.

80. L. WOOLLEY, *Alalakh* 118, fig. 48.

of them joining) of conglomerate slabs from the melathron and an agate sealstone. The *celt*, found in the surface layer of building **H**, is a small polished axe of green stone, ovoid in section, symmetrically bevelled, with a rounded butt and a slightly damaged bit (Pl. 74:166). It belongs to Tsountas type A⁸¹. The *blades*, obviously intrusive, come from the first layer of **H5** and from de Ridder's trench in **H3** (Pl. 74:167). The first, symmetrically triangular with a straight butt, serrated edges and a sharp point served clearly as a scraper, as some similar MNL implements from Elateia⁸². The second is roughly shaped, has sharp edges, a less sharp point and a rough butt, difficult to grasp. It may have been attached to a wooden shaft and used as a spear point⁸³. The *obsidian blades* are fragmentary with parallel sides and sharp edges. The "*buttons*", made of black steatite, have the usual conical shape and are perforated. The stone found by Threpsiadis, 11.7 cm. in diameter, has a badly flaked surface and is shaped like a thick half disc or column drum. It was found out of context. Its purpose is unclear and it cannot be attributed to any particular place or building. The *conglomerate slabs* to which the fragments belonged were sawn into a rectangular shape with slightly oblique edges (the typical Mycenaean joint, Pl. 75:168) and were polished at the top and the sides. The joining pieces broke at the point where a cylindrical hole filled with a lead stem had been driven into the slab (Pl. 75:169).



Fig. 40. Room **M3**, sealstone.

The *sealstone* (Fig. 40, Pl. 61:126), a banded milky agate lentoid, has two antithetic goat-like animals engraved on the obverse (supra, p. 79) and belongs to the style called "Erstarrender Stil" by Biesantz and "Style B"

81. Αἱ προϊστορικαὶ ἀκροπόλεις Διμηνίου καὶ Σέσκλου 307-308, fig. 232. Also D. THEOCHARIS, *Neolithic Greece* fig. 224 and S. WEINBERG, *Hesperia* XXXI, 1962, 206, pl. 70a, where he dates this kind of celt in Middle NL. Similar examples were found in NL Lerna (CASKEY, *Hesperia* XXVI, 1957, 157, pl. 49e).

82. S. WEINBERG, supra n. 81, 206, pl. 70g.

83. Ibid. 326, pl. 42:14, 18.

by A. Sakellariou, in which stylisation has already set in but forms are still true to nature. The same motif appears on a gem from the tholos tomb at Dendra, on another from chamber tomb 88 at Mycenae, on a third from the palace area of Englianos and on a fourth, considerably later, from a tomb in Salamis⁸⁴. There are many more examples of animals carved in this same style. They all date the seal to LH IIIA or, at the latest, to the beginning of LH IIIB⁸⁵.

MISCELLANEA

Under this heading come an ordinary biconical terracotta "button" from inside the North Gate and two luxury items: Fragments of a ribbon vase handle made of opaque blue glass, found in front of the north wing entrance to the melathron and a 2 cm. long fragment of an *ostrich* egg from the first layer of **H5** (Pl. 49:100). It has a bronze wire attached to it which may have served to join pieces of the same (broken) egg or to fasten on it accessories like fayence or metal fittings which would turn the egg into a decorated rhyton. Such egg rhyta are frequent in the Aegean. Those from the royal shaft graves at Mycenae, the tholos tomb at Dendra and the two examples from Thera are the best known specimens. There are also some at the National Museum at Athens, and many more from the citadel and the Cult Centre at Mycenae, from Ag. Stefanos, Phylakopi, Ialysos, Knossos, Isopata, Gypsades, Kato Zakro, Palaikastro, the Stratigraphical Museum in Crete and the wreck of Ulu Burun⁸⁶. They were very popular and were often imitated in stone or terracotta in Crete and in Mainland Greece.

84. RT 32-33, pl. XIX, CMS I, No 187, SAKELLARIOU 249, pl. 120:3155, CMS I, No 124, PN III 59, fig. 118, CMS V 1, No 308, TSIRIVAKOS, *Deltion* 23, 1968, B, 113, CMS V 1, No 118.

85. SAKELLARIOU 111, 117.

86. G. KARO, *Schachtgräber von Mykenai* 114, 139, 146, 147, 238-239 and n. 2, pls CXLI, CXLII, RT 14, 37, 54, fig. 14, pl. III, Thera V 35f., pl. 81, I. KILIAN, *JRGZM* 40, 1993, 349-50, J. SAKELLARAKIS, *Thera and the Aegean World III*, I, figs 41, 43, D. REESE, in KARAGEORGHIS - DEMAS, *Excavations at Kition V, II* (Nicosia 1975) 372, 373, C. RENFREW, *The Archaeology of Cult, The Sanctuary at Phylakopi* (London 1985) 42, 138, 140, 141, figs 4, 17, pl. 64:a-b, A. EVANS, *PM* I 169-170, fig. 120, MAIURI, *Annuario VI-VII*, 1923-24, 165, n. 27, N. PLATON, *Zakros, The Discovery of a Lost Palace of Ancient Crete* (N.Y. 1971) 136, 159, DAWKINS, *BSA* 10, 1903-4, 192-226.

Another object difficult to place is the small pellet from the second layer of **H5**, whose purpose is obscure.

FOODSTUFFS

Gla is a 2.30' to 3 hours walk from the sea. No wonder that its residents turned seaward to enrich their diet. The net weights and the sea shells collected by Threpsiadis have shown as much. No fish bones were found, but a Noah's Arc shell (*Arca Noae*, Linnaeus 1758) was discovered at the North Gate (Pl. 75:170) and two more at the east enclosure entrance⁸⁷. Moreover, the buildings of the east wing yielded ca 450 shells of five different species of edible marine molluscs, 333 of which came from room **M3** (Pl. 60:124,125). To be specific, the second layer of **H5**, the fill of rooms **N2-N3**, area **N4** and the early trench in **M1** contained a few valves of *Arca Noae* shells. Twenty six such valves were in **M2** and more than 200 in **M3**. The accumulation along building **K**, the trench inside it, the floor of **N4** and the early trench in **M1** produced some *Venus Verrucosa* L. shells. **M2** had 11 and **M3** 144 more. Fan shells (*Pinna nobilis*) are represented by 51 fragments, all from **M3**, along with 6 valves of thorny oysters (*Spondylus gaederopus* L.) and 2 cockle shells (*Cerastoderma edule* L.). Apart from some *Arca* and *Venus* valves, most of the sea shells were concentrated in the north part of the east wing and particularly in **M3**, on the floor of which a few animal bones and a number of small pyres were found. No doubt this was the place where foodstuffs were collected and meals were prepared.

Seafood had always been popular with the peoples of the Aegean islands, Crete and Mainland Greece. The tablets do not record it but excavations have brought to light much evidence. Some specimens, among which a cockle shell valve, are recorded from the Agora at Athens. More such shells were found in the fill of the royal shaft graves, in a chamber tomb and in Panagia House II at Mycenae⁸⁸. Wace has found oyster and

87. Franchthi, Kitsos cave, Saliagos (NL), Lithares, Lake Vouliagmeni, Perachora, Corinth, Lerna and Ag. Stephanos (EH). This information was communicated to me by Dr. D. S. Reese, who has personally examined most of these finds.

88. Agora XIII 208, MYLONAS, Royal Shaft Graves Circle B at Mycenae (Athens 1973) 37, 110, 158, 262, SAKELLARIOU 165, Panagia Houses 31, 146.

mussel shells in the Grand Staircase and the Pithos area⁸⁹. More were observed in tombs at Prosymna and Zygouries⁹⁰. Level VII at Lerna yielded cardium, thorny oysters (*Spondylus gaederopus* L.) and fan shell valves⁹¹. More spondyloi are reported from Asine⁹². Cardium, arca, venus, spondyloi, limpet and fan shell valves were discovered at Nichoria⁹³; cardium, dog-cockles (*Glycymeris glycymeris* L.) and limpet shells at Kition⁹⁴. The finds from Gla add considerably to the evidence and show that, at least along and near the seaboard, molluscs were a staple food commodity.

Faunal remains other than shellfish are very few. A fragment of a tortoise shell was found in the fill of room **Z4**. The drain in **H5** contained four fragments of a burnt femur, probably from a sheep. The surface layer of **M2** yielded a bovid tooth and a bone fragment, also burnt, and **M3** produced bovid teeth, splinters of small animal bones and a piece of a pig's mandible.

Vegetable remains are less varied. There are a few splinters of burnt wood and weeds from building **H** and two single grape pips from **H2** and **H5**, indicating the presence of wine rather than grapes. The main discovery, however, was charred grain in quantities, spread over the floors of **H1**, **H4** and **H5**. In the west part of **H1** the floor was covered by 14 small compact heaps of carbonized wheat, 35-40 cm. apart (Pl. 32:64), obviously the remains from the bottoms of closely stowed sacks of grain, one of which had been propped up with the broken base of a large vessel. The floors of **H2** and **H3** had traces of burning but no seeds were preserved. **H4** had four large patches of ash: one, 0.40 m. wide, inside the entrance, another one, near the drain, a third one partly obliterated by an earlier trench and one more, 0.50 m. across, near the east wall. Four more such burnt areas were found in **H5**: one near the entrance, one 2.60 m. to the east of the first, a third, very large, next to de Ridder's trench (Pl. 50:103) and a fourth, small, next to the east wall. All these patches, large and small, contained a large amount of charred cereal grain (Pl. 33:65) which had been stored in the rooms in perishable (not wooden) containers. Unlike the other rooms in which the heaps had merged with each

89. WACE, BSA 25, 1921-23, 157, 178.

90. Prosymna 464-5, Zygouries 47.

91. Lerna I Catalogue, p. 7.

92. REESE in DIETZ, Asine II, fasc. I, App. II.

93. Nichoria II 770, 773, 774.

94. REESE in KARAGEORGHIS-DEMAs, Excavations at Kition V, II, App. VIII, 341.

other, in **H1** the heaps remained separate and the grains from the individual sacks were thus not mixed. There were identified, studied and analyzed by Dr. Glynis Jones of Sheffield University⁹⁵. Dr. Jones found that the grains she examined belonged to the glume wheat types einkorn (*Triticum monococcum* L.) and emmer (*Triticum dicoccum* Schübl). Almost all grains showed lines of ventral compression, which may indicate an einkorn variety with two grains per spikelet. She stresses that the assemblage of Gla is the only one of monococcum in Mainland Greece in which two-seeded spikelets predominate. Apparently a greater number of wheat types were cultivated in LH Greece than might be deduced from the entries in the Linear B tablets. The Gla specimens were free of chaff or weed seeds; this was grain fully threshed and sieved, ready for consumption. Einkorn is better represented than emmer and the two types seem to have been stored separately.

Wild one-grained wheat was indigenous to Greece and the Balkan peninsula. The two-grained type seems to have been introduced from Persia and the Middle East⁹⁶. The transplantation to Greece, however, and the domestication and cultivation of both types as well as of a third, bread wheat (*Triticum aestivum* L.), go back at least to the beginning of the NL in Crete and elsewhere⁹⁷. Both einkorn and emmer (especially the later) continued to be cultivated during the Early, Middle and Late Bronze Age and are recorded from settlements in Macedonia (Nea Nikomedeia, Assiros, Kastanas) Thessaly (Pefkakia, Argissa Magoula, Gendiki) and the Peloponnese (Lerna, Tsoungiza, Tiryns)⁹⁸. They are low-yield but hardy

95. G. JONES, Charred Grain from Late Bronze Age Gla, Boeotia, BSA 90, 1995, 235-238.

96. K. MOHS, Die Behandlung, Trocknung und Bewertung des Getreides (Berlin 1931) 321-322.

97. G. M. JONES, The Plant Remains in M. R. POPHAM, The Minoan Unexplored Mansion at Knossos (BSA Suppl. XVII, 1984) 303-306, M. C. AMOURETTI, Le pain et l'huile dans la Grèce Antique, Centre de Recherche d'Histoire Ancienne, vol. 67 (Paris 1986) 36, R. PALMER, Wheat and Barley in Mycenaean Society, Mykenaiika (BCH Suppl. XXV, 1992) 476 and note 2.

98. VAN ZEIST, BOTTEMA, Plant Husbandry in Early NL Nikomedeia, Greece, Acta Botanica Neerlandica 20 (5), 524-538, J. RENFREW, The Archaeological Evidence for the Domestication of Plants, Methods and Problems in P. J. UCKO and G. W. DIMBLEBY, The Domestication of Plants and Animals (Chicago 1969) 149-172, HANSEN, Agriculture in the Prehistoric Aegean: Data versus Speculation, AJA 92, 1988, 42, 43, KROLL, Kulturpflanzen von Tiryns, AA 1982, 468.

and can be raised on calcareous mountain slopes, common in Greece.

Linear B tablets mention the word for wheat, *sitos*, and several derivatives (*sitokowo*, *sitopotinija*). The word seems, however, to have had a broader meaning, encompassing other cereals (barley, e.g., which is also referred to as *kirita*) as well as bread and food rations in general, including figs. There are, moreover, two ideograms, *120 and *121, one for wheat and one for barley, but so far there is no certainty as to which is which⁹⁹. The evidence from Gla does not, unfortunately, help to clarify the issue.

99. R. PALMER, *Mykenaiika* (BCH Suppl. XXV, 1992) 475-497, 481, ns 38 and 67, V. ARAVANTINOS, *Old and New Evidence for the Palatial Society of Mycenaean Thebes: An Outline*, *Aegaeum* 12, Politeia, Liège 1995, 621, HALSTEAD, *Late Bronze Age Grain Crops and Linear B Ideograms*, *65, *120 and *121, BSA 90, 1995, 233.

CONSTRUCTION

The construction methods employed on Gla do not differ from those known from other Mycenaean sites. The same materials, i.e. stone, clay, wood and lime were used, with greater care in the melathron and, in a rougher form and in a simpler fashion in the buildings of the south enclosure. The walls consisted of a stone sockle and a mudbrick superstructure and the roofs were covered with terracotta tiles. Some floors and walls, as in **Z5**, were more elaborately surfaced with cement plaster or stucco, sometimes painted, and de Ridder reports from **Z3** fragments of fluted engaged columns like those in the melathron. But the standard of elegance or at least of careful workmanship suggested by these last details does not apply everywhere, especially not to the bases in building **B**: they were irregular, unworked slabs of different shapes and sizes that simply happened to have a level upper surface on which a column or a pillar could stand and were much larger than the normal Mycenaean column bases with their dressed round surfaces (Pl. 23:45,46). Functional considerations were clearly predominant in the construction of the southern buildings though a degree of comfort and some simple aesthetic effects were not entirely overlooked.

FOUNDATIONS

Foundations were set on bedrock or on a stone terracing laid for that purpose. As a rule the stones of the first course lay directly on the surface of the rock. They were, however, sometimes placed on an underpinning of small stones or of clay mixed with pebbles. Along the north wall of **M2** this underpinning is wider than the wall itself. The stones of the inner face of the west wall of **M3** intrude over the white clay coating of the floor, which was therefore laid before the wall was erected.

The melathron stands on a terrace built of stones packed with pebbles and earth and covered with a levelling layer of irregular slabs. This core was retained to the west, north and east by strong retaining walls, built of partly dressed large blocks laid in fairly straight courses (Pl. 17:34), bonding with the terrace fill and preserving between their joints traces of white clay. The walls of the building are founded on this terrace.

Buildings in the west wing were founded on bedrock whose projections were hammered off wherever necessary and cavities were levelled with a fill of small stones. But in the east wing the strong downward slope of the rock led to terracing of variable thickness depending on the degree of the incline. In building **M** and rooms **N** the fill consisted of stones of varying size (Pl. 76:171) covered with packed earth or plaster. **K**, however, was erected on a massive stone platform bordered by strong walls, 1.30-1.40 m. thick, built with boulders and filled with rubble and earth. In the two long buildings, **B** and **K**, the walls of the façades project and reced in a meander-like pattern, whose open sides were closed with additional straight walls (Plans 18, 29)¹⁰⁰. In **K** the cross-walls of the meander divided the weight of the terrace fill, thus lessening the thrusts exercised on the south wall of the platform, a mode of construction which may be observed also in the bastion of the west entrance of the Acropolis at Athens¹⁰¹. At the north end of the platform (Plan 29, Pl. 53:108) the boulders of the wall supported a few slabs which levelled off at the top. Similar slabs, obviously fallen from above, lay in the fill at the foot of the south wall of **K** (Pl. 42:85, right). Such slabs appear to have been used to create a level course for the mudbrick superstructure of the building.

WALLS

The foundations supported a 0.50-1 m. high wall socle of large undressed stone-blocks or boulders measuring 0.60×0.60 to 0.40×0.80 m. and laid as a rule in two parallel rows with smaller pieces filling the gaps (Pl. 48:97). At places boulders large enough to occupy the whole width of the wall had been used. The outer walls, 1.35-1.40 m. thick, are made of large blocks, some as long as 2 m. The thickness of the walls ranges from 1.10 to 1.15 m., on an average, but in building **B** it reaches 1.20 m., in **H** 1.23 m. and in room **N1** as much as 1.35-1.40 m. By contrast, the inner partitions are narrower (0.60-0.70 m.). The party wall between **N2** and **N3** does not exceed 0.75 m. Boulders measuring 0.90×0.90 m. or 1.30×1.60 m. were employed at the corners and the northeast corner of **N2** is occupied by a 1×1×0.60 m. large block (Plan 32, Pl. 54:110).

100. Gl a I 179.

101. S. E. ΙΑΚΟΒΙΔΗΣ, Ἡ μυκηναϊκὴ Ἀκρόπολις τῶν Ἀθηνῶν 107-108.

The partition walls were also thick and strong. They were built of roughly dressed stones laid usually in two parallel bonding lines and having their more even surfaces turned outwards. Regularly dressed blocks were used at the corners. In rooms **14**, **15**, **19** and **23** the builders had employed parpen blocks thicker than the wall and had cut them accordingly back and down to floor level, where the protruding parts were covered by the floor plaster. The walls were preserved for two or three courses, 0.35 to 0.85 m. high, at which level some had kept their flat levelling course. They clearly formed a stone socle for a crude mudbrick superstructure, partly preserved at the southwest corner of room **7** and the east wall of room **N2**. The top of the stone socle, often calcined, implies the use of timber frame construction, laid on the socle without going through it and tying the brick part of the wall together.

The surface of the walls was roughly plastered over with clay, which in turn was covered by a double or triple coat of stucco. The inner coat was thicker (0.015-0.04 m.) and not as even as the outer (0.01-0.035 m.) which was often painted.

The walls do not necessarily bond where they meet. In building **H**, e.g., the walls of the side rooms form joints with those of the central passage. So does the party wall between **H1** and **H2** where it comes together with the east and west walls of these rooms. The meander-shaped terrace wall of **B** forms joints with the lengths of wall that close the openings between its bends. So does the similar wall in **K**. The same applies to the west wall of **E** at its joints with building **B** to the south and its east wall where it meets building **Z**, as also to the walls of rooms **K5**, **N1** and **N3** where they touch the common west wall of the **K-N-M** complex. Finally, in building **M** the party wall separating the north from the south rooms, as also the one between **M3** and **M4** do not bond with the walls that frame them.

MUDBRICK

Above the stone socle the walls were continued upwards in a construction of crude brick, held together by a timber framework. That crude brick was used may be inferred from the accumulations of mud which formed everywhere the main layer of the fill in and around the buildings. The clay came from the sediment of the drained lake and was quite different in colour and texture from the scant reddish earth covering the rock. It had been carried up in quantities vastly exceeding what was

needed for mortar or for plastering the walls. Additional evidence is provided by the fragments of brick hardened by the fire that must have fed on the wood of the timber frame (Pl. 28:58)¹⁰² and, finally, by the remains of such crude bricks in room **H2** (Pl. 34:68) and in the angle of the stepped stone sockle of the east wall of room **N2**¹⁰³. The bricks were made of the sediment clay mixed with pebbles, pottery sherds (Pls 76:172, 77:173,174) and chaff (Pl. 77:175) or twigs. Many fragments of such bricks were preserved but the only dimension which could be ascertained is their thickness, averaging 8-9 cm. but reaching at times 12 cm. The broken but well enough preserved example in room **H2** (Pl. 34:68) measures 42×52 cm. The bricks, most probably laid in double rows to span the thickness of the walls, were bedded in 2-3 cm. of clay mortar, a few pieces of which, showing impressions of both horizontal and vertical joints, have been preserved by the fire which hardened them as it did the bricks (Pl. 49:101).

Further evidence is provided by the mudbrick bench in room **H4** (Pl. 45:91). The bricks are made of the same sediment clay as those in the walls. On an average they are 44-45 cm. long, 63 or 71-72 cm. wide and 8-10 cm. thick but these measurements may vary from 35 to 46 cm. for the length, 63 to 75 cm. for the width and 7 to 11 cm. for the thickness¹⁰⁴. The clay mortar in which they are bedded is 4-5 cm. thick in the level joints, obviously laid on by the builders in an attempt to even up the courses made of bricks of irregular thickness. The vertical joints, which coincide every so often from course to course, are no more than 1.5 cm. thick.

The great variety in size shows that bricks used in Mycenaean con-

102. This has been observed in buildings which happened to burn down, such as the South House, the NE quarter, the Lion Gate Stairway and the palace at Mycenae (WACE, BSA 25, 1921-23, 87f.), Tiryns (DÖRPFELD in SCHLIEMANN, Tiryns 292f., MÜLLER, Tiryns III 180f.), Midea and Pylos (PN I 37f.).

103. *Supra*, p. 74.

104. Few such examples have been published. DÖRPFELD (SCHLIEMANN, Tiryns 296) gives a few measurements of mudbricks from Tiryns (47-48, 36-37, 52-53 and 43 cm. long, 36 and 21 cm. wide and 9, 10 and 12-13 cm. thick) and from Mycenae (35 cm. wide and 8-9 cm. thick). Wace (BSA 48, 1953, 12) mentions one example from the House of the Oil Merchant at Mycenae (40×25×15 cm.). Blegen found in Pylos one whole mudbrick measuring 52×38×9 cm. Along the Processional Road and in the South House at Mycenae mudbricks of different sizes (39/40×23×8/10 cm. and 53/55×40/44×7/9 cm.) were observed.

struction were made specifically for each building and clearly not in moulds. The clay was probably spread more or less uniformly on a large flat surface, perhaps a level piece of ground, then cut into roughly equal blocks according to specifications, and left to dry.

Walls were coated with mud- or lime plaster, this latter applied thickly and unevenly in order to smooth over the rough stone or mudbrick surfaces. This first coat was daubed with another one, 4-7 cm. thick, which in turn was covered by 1-2 mm. of fine stucco, more often painted than not.

FLOORS

In the melathron floors were surfaced in essentially the same way as the walls. Only room **8** was paved with slabs¹⁰⁵. Elsewhere flat stones were laid down to level the terrace fill, and a layer of packed earth and pebbles, 0.13-0.16 m. thick, was spread on top of it. This was cemented with plaster mixed with gravel and this, in turn, was covered with one or two coats of almost pure lime reinforced with a little sand (Pl. 78:176). The lime plaster was still well preserved when uncovered by de Ridder but had considerably deteriorated by the time it was reexcavated by Threpsiadis.

Traces of cement plaster were also observed by de Ridder at the foot of the walls in the open courtyard, probably intended to form a protective border along them.

In the buildings of the south enclosure floors vary in materials used as also in construction, sometimes from room to room in the same building. In rooms **B1-B2**, **Z3**, **Z4** and **Z6** they consisted of lime plaster over a thin underpinning of earth and small stones (Pl. 26:54). In hall **B3** the rock had been levelled and its cavities filled with a little earth. In **B4**, **B5**, **E1-E4**, **Z1**, **Z2**, **Z6**, **Z7** and **Z9** floors were coated with clay, packed over a layer of rubble. In room **H1**, the floor was formed partly of packed white clay and partly by smoothing over the natural red earth that covered the rock (Pl. 28:57). In **H3** it consisted of 2-3 layers of white clay (Pl. 78:177). In **H4** and **H5** the rubble underpinning of the floor was covered with unworked irregular slabs overlaid with a packing of red earth (Pl. 76:171).

105. F.d.G. 285.

In **K5** the floor was made of white clay packed over a rubble fill. In **N1** and **N2** this fill was evened over with red earth covered with a mixture of white clay, lime and coarse black sand. Room **M1** had no floor other than the bare rock. In rooms **M2**, **M3** and **M4** floors were surfaced with a layer of packed whitish clay, only partly preserved.

In other words, with the exception of a few rooms which seem to have been residential quarters and which had floors coated with lime plaster, floors in the buildings of the south enclosure consisted of a durable and renewable insulating material (clay) laid wherever necessary over a leveling packing of slabs or rubble. The surfacing varies from a simple red earth layer to coatings of white clay, reinforced at places with lime and sand.

DRAINS

The drains underneath the melathron had walls built of large stone slabs laid in horizontal courses (Pl. 17:33). On their surface de Ridder noticed traces of a coat of plaster¹⁰⁶, obviously applied to make them waterproof. The rock, at places evened out with similar slabs, served as the bottom. The walls of the drains converge slightly towards the top and carry a roof made of smaller slabs, except where the drains run underneath the walls of rooms, where they are covered with rectangular stone blocks strong enough to support the increased load of the superstructure.

The drains in buildings **A** and **H** were not dug into the soil. Rather, they ran through the rubble filling beneath the floors of the buildings. Their vertical sides are built of rough stones (Pl. 79:178) and the undressed rock forms a bottom. Their edges are unbroken throughout their length and they rise 0.20-0.25 m. above floor level (Pl. 48:97), so that no liquid spilt in the room could flow into them. In fact, in passage **H3** they were covered by the floor. They were built in the simplest possible manner for a purpose now unclear.

DOORPOSTS

The doorposts were made of wood. No stone bases for the posts familiar from palace buildings were found, not even in the two main entrances or in the doors of the "megara". The vertical wooden posts clearly

106. Ibid. 291.

reached down to floor level, and it appears from the position of the door pivots that they rested on the threshold ends, which they covered completely. De Ridder claims to have found ca three dozen strips of lead at various points of the building, invariably near the thresholds. Some of them were still attached to the coating on the wall surface and at least one, in room **6**, projected at right angles to the wall¹⁰⁷. This led him to the conclusion that the function of these strips was to hold the wooden posts in position and tie them to the walls, and that to this end they encircled the wooden uprights, with their ends set into the wall surface. This is a convincing interpretation, but it does not explain how the lead plates retained their shape and their position, despite the fact that the building was destroyed by fire. One possible explanation is that parts of the building escaped the flames, or were smothered by falling debris before burning down, but the excavations have produced no certain evidence on this point. It is clear, however, that the doorposts were made entirely of wood, and did not need stone bases since almost all the doors were inside the building and therefore protected from the effects of moisture; the two outer doors stood on the terrace, higher than ground level.

The walls on both sides of the door openings have the same thickness (0.70-1.20 m.) throughout, with no indication of built doorjambs. It is not clear whether the wooden doorframes were equally thick or had only the thickness necessary to border the doorleaves or even simply to face the sides of the wall in cases where the entrances might simply have been curtained off or were not closed at all.

DOORS

Doors were made of wood. They varied in width according to the size of their openings and had single or double leaves held in position by the pivots on which they swung. In the *melathron* the pivots turned in the sockets cut for them in the thresholds and lintels and were protected from the effects of continuous friction by bronze pivot shoes. De Ridder discovered four such shoes in rooms **13**, **20**, **22** and **24** (Pl. 74:165). Threpsiadis found one more casing in room **10** (Pl. 19:37). They were cylindrical in shape with a flat bottom; part of the side of the tube was cut away

107. Op. cit. 292-293.

to receive the door leaf. The sockets are not very regular in shape or size. They all have larger diameters than the corresponding pivot shoes, sometimes by as much as 3-3.5 mm. Most doorleaves must have wobbled considerably while turning.

Neither doors nor doorframes were preserved. In the buildings of the south enclosure all they left behind is burnt matter spread on the floor near the doorways, which are spanned on floor level by thresholds, indicating both their placement and their width. The walls framing the openings, moreover, preserve in places calcined stones, lumps of baked clay and fragments of hardened mudbrick, all signs of the fire which consumed the doors themselves and their wooden frames. The width of the openings is nowhere the same. In building **A** the outer doors have a span of 2.50 m. That of the inner doors varies from 1.75 to 2 m. In **B** the doors between the halls as also the outlet over a stone ramp to the central yard were 3-3.30 m. wide. Almost equally wide (2.88 m.) is the entrance from the yard to rooms **Z**, while the openings of the inner doors in buildings **E** and **Z** measured 1-2.10 m. The same variety is to be found in the east wing. The entranceways to **H3** are 2.95 and 2.60 m. wide. The span of the **H1-H3** doorway was approximately the same (2.63-2.80 m.). The other door openings in building **H** vary from 1.69 m. (**H4-H3**) to 1.96 m. (**H5-H3**). In the other buildings they were narrower, measuring from 1.02 m. (entrance to **N1**) to 1.40 m. (doorway between **N2** and **N3**). If these spans are reduced by 0.10-0.20 m. for each jamb, it appears that **H3** would have had two main entranceways ca 2.20 m. and 2.50 m. wide, and would thus have needed doors with two leaves. It would also have had a similar inner door leading into **H1**, and another three with 1.40-1.70 m. spans connecting the passage with rooms **H2**, **H4** and **H5**. Doors in buildings **K**, **N** and **M** would have been 0.80-1.20 m. wide and have had single leaves. Generally speaking, entrances into and inside storehouses **A**, **B**, **H** and **K** are considerably wider (2-3 m.) than those into the smaller buildings **E**, **Z**, **N** and **M**, which seem to have been residences and/or workrooms.

THRESHOLDS

The melathron had 45 doors of which only the thresholds are preserved. They are all monolithic, 0.25-0.30 m. thick, firmly founded on the terrace fill and carefully levelled (Pls 19:38, 20:39). Their sides and bot-

toms were left rough. Their functional surface, raised by 0.05-0.06 m. from the floor, was narrower than the slab itself, and as wide as the walls framing the door (0.80-1.50 m.). It had two sharp straight edges cut with the saw and was carefully dressed and polished. The unworked part of the block was covered by the floor plaster. Generally speaking, the thresholds are well preserved and do not show the sign of wear resulting from constant use over a long period of time. At the corners they have mostly one and sometimes two shallow circular sockets for the door pivots (Pl. 18:36). The distance between the end of the side wall and the socket indicates the width of the doorpost, which is usually quite substantial. If duplicated on the other side of the threshold, this width gives the clear span of the door itself, which varies in the melathron from 0.95 to 1.90 m., with an average of 1.10 m.

In contrast to the melathron, no monolithic thresholds were used in the buildings of the south enclosure. Most (**B1, B2, B3, Z6, Z7**) consisted of rubble, sometimes coated with clay or lime, level with the floor or slightly raised. Some thresholds in the east wing were made of several, not very well dressed, irregular slabs, bedded in clay with wide joints between them (Pl. 29:59). The slabs, at a slightly higher level than the floors, were sometimes (**H2-H3, K4-K5, M3-M4**), but not always, coated with the same yellow clay or a mixture of clay with lime and sand (entrance to **N3**) as were the floors. The threshold of the **N2-N3** doorway was simply a slightly raised coating of white clay.

No impressions on the clay or residue of burning were observed to indicate that some thresholds might have been covered with wood.

ROOFS

Terracotta roof tiles were recovered from every building and stratum (Pl. 69:152). A total of 185 flat pan tiles (Pls 71:156,158, 72:159,160) and 183 half-cylindrical cover tiles (Pl. 70:154, Sh. 10) was found, coming from the North Gate, the Southeast Gate, the south entrance to the central enclosure, the melathron and its west extension, and all the buildings in the central enclosure. They are indeed all fragmentary but there is no doubt as to their shape and function, and their measurements, as far as ascertainable, agree more or less with one another. They show beyond any doubt that roofs were covered with a combination of wide flat pan tiles with semi-cylindrical cover tiles, which means that they were sloped.

The tiles may have been attached to the roof in either of two ways. The simplest arrangement would have been to lay them straight on a lattice of reeds or laths over rafters fastened to the ridge pole (Pl. 81:184).

The alternative, providing better insulation from temperature changes and the weather, would be to bed the tiles in clay packed on a sheathing of reeds or twigs spread over a lattice and forming a sort of ceiling (Pl. 81:185). The surface layer of **H**, the first layer in room **H1** and the second layer in room **H2** yielded lumps of clay baked hard by the fire which destroyed the building and bearing the impressions of reeds or brushwood with the bark still on (Pl. 79:179). Two similar finds from the melathron¹⁰⁸ and four from elsewhere on the site (Pl 80:180,181,182,183) show that most, if not all the buildings on Gla had been covered with this second kind of roof.

The tiles from Gla are not the first Mycenaean ones to be found and published. In 1917 Keramopoulos had already described pan tile examples from Thebes. Then Valmin discovered some more at Dorion, Broneer added two fragments from the fill of the underground fountain at the Acropolis of Athens and Åkerström brought to the general attention four practically complete pan tiles and fragments of many others together with a few cover tile pieces from Berbati¹⁰⁹. Based on these finds, E. B. Smith and W. B. Dinsmoor, following Middleton, von Reber, Fiechler, Leroux, Keramopoulos and Åkerström expressed in 1942 their conviction that Mycenaean megara had sloping roofs¹¹⁰. In 1945, however, Blegen, an exponent of the flat-roof theory, along with Dörpfeld, Perrot-Chipiez, Holland, Wace and K. Müller¹¹¹, rejected Smith's and Dinsmoor's arguments and explained the pan tiles away as sections of shallow water channels¹¹². His arguments were widely accepted and the whole question was more or less shelved. But the discovery on Gla of pan tiles as well as cover tiles which could not possibly be mistaken for drains shows that the roofs of the melathron and the other buildings at Gla were covered with tiles and had therefore to be sloped. Since then more tiles of both kinds were dis-

108. Praktika 1960, pl. 12δ.

109. Deltion 3, 1917, 76f., fig. 58, Swedish Messenia Expedition (1938) 174, Hesperia VIII, 1939, 409, figs 90, 91, Op. Arch. II, 1941, 164f., figs 4-7, and 170, fig. 8.

110. AJA 1942, 112ff. and 370ff.

111. SCHLIEMANN, Tiryns 310-312, AM 1899, 95f., Histoire de l'Art 691 and n. 1, fig. 302, pls 10, 11, AJA 1920, 332f., BSA 25, 1921-23, 196, fig. 38, Tiryns III (1930) 190.

112. AJA 1945, 35f.

covered at Mycenae (on the citadel and at the site called Chania), Midea, Tiryns and Thebes, and fragments of pan tiles were located in the settlement of Chalandritsa near Patras. This widespread body of evidence proves that Mycenaean roofs were sloped and covered with flat pan tiles and semicircular cover tiles, arranged rather like the Sicilian system in historical times (Fig. 41)¹¹³.

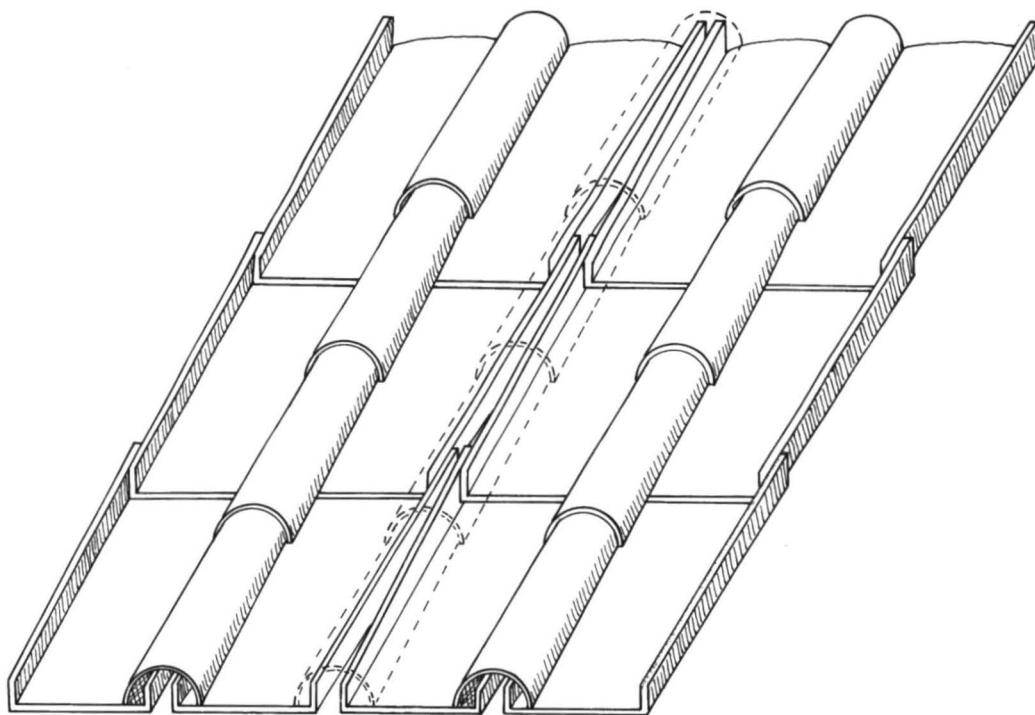


Fig. 41. Tiled roof, reconstruction drawing.

113. S.E. IAKOVIDIS, *L'habitat égéen préhistorique* (BCH Suppl. XIX) 147-160.

DECORATION

The repertoire and the quality of the frescoes found on Gla, as also their find spots, i.e. the buildings which they decorated, make them one of the most interesting discoveries made on the site.

From the space north of room **Z9** Threpsiadis recovered ten fragments of painted plaster, three of which, pieced together, come from a frieze of rosettes between hatched bands (Colour plate 1b). Also, clearing the melathron of the few pockets of fill left by the previous excavation, he collected from room **23** and from the drains more such red, blue, yellow and grey fragments, suggesting that the walls of the melathron were painted. Actually, what little we know about the decoration of the building is due to de Ridder's observations. He records monochrome surfaces, curved lines, probably from dado fragments, and faint violet lines from room **5**. He is more explicit about the decorative pattern in room **8**, where he found a design of papyri between spirals known to him already from Tiryns and from the ceiling of the side chamber of the tholos tomb at Orchomenos. The motifs, picked out with red paint, were outlined in dark or reddish brown against a yellow and blue background. Furthermore, de Ridder reports a form of relief decoration which he describes as fragments of engaged fluted columns, 0.07-0.08 m. in diameter, made of whitish lime plaster crumbling to the touch. They had mostly rounded profiles but some were rectangular with rounded edges or flat with regular striations. A few were square with two sides of an angle grooved and the other two plain, obviously intended for corners. They were found in corridors **N1**, **N4** and **K** and in rooms **3**, **14**, **15**, **17**, **19**, **20** and **23**, in other words practically everywhere. Three fragments at least were still attached to the walls but they were too few and too scattered to show a pattern. This type of decoration is particular to Gla and has not been observed so far in any other Mycenaean building.

The 1981-1991 excavation produced more than a thousand non-joining fragments, all of which were kept, cleaned, mended, studied and reproduced both in their present state and in restored drawings. They come from three main find spots: room **H4** (a granary), the hollow outside the residential room **N1** (supra p. 73) and room **M3** (a cookroom). Thanks to their numbers and to their sizes, they form a sufficiently broad base for determining the repertoire, technique and quality of the wall paintings on Gla.

The wallpainters palette included black, blue, yellow, brown, orange-red, dark red, white for picking out details on other colours and a light purple tint of madder, magenta, not known so far from other sites (Colour pl. Ia). The colours were applied on wet plaster (*buon fresco*) and do not peel off. Some fragments have two superimposed layers of painted plaster showing, as do also the discarded pieces outside **N1**, that the decoration had been at times renovated or changed.

Most fragments, especially the smaller ones, preserve only one or two colours with no discernible motif. The remainder show a variety of themes, both strictly decorative and pictorial.

The recognisable material from **H4**, some 100 fragments, represent at least five different patterns. There are pieces from a zone of white rosettes with red centres and blue hatched rims framed by blue and pink hatched bands (Colour pl. IIa-b), clearly part of a frieze along the top of a wall. To the lower part of the wall belong fragments of a dado motif of pink and yellow ground striated with black and red curved lines (Colour pl. IVa, right). From the decoration of the wall between those two patterns come parts of the entablature of a building (Colour pl. IIIb), tentacles of cephalopods (octopods or argonauts), striated blue ground and a fragment preserving two miniature womens' heads in profile to the right (Colour pl. IVb), a variant to the motif known as "women at the window" (*supra*, p. 63, n. 32).

By far the greatest and most varied group is that of the fragments that had been discarded outside room **N1**. Most probably they were parts of its decoration or of that of the adjacent rooms **K5**, **N2** or **N3**. They come from three different sets of decorative patterns. Their arrangement on the wall was determined by comparison with compositions from other Mycenaean buildings. First, there is a frieze composed of 11 superimposed bands, represented by many fragments (Colour pl. Va-b): four narrow alternating blue and yellow hatched bands on top of a broad zone of blue, yellow and red ivy leaves painted in pairs. This is followed by two more such bands and a zone of large rosettes with blue hatched rims, small red centres and dots around the perimeter inside. The spaces between the rosettes are occupied by small red triangles. The zone is supported by the last two hatched bands. Some fragments of the lower one preserve parts of a white band, followed below by a light blue background surface, the field of the main composition. This combination of zones between bands is a typical crowning of Mycenaean walls, painted above the pictorial themes. Equally typical is the dado, represented by two large fragments

(Colour pl. VIa): a broad white zone striated with oblique wavy lines is bordered above by a yellow band surmounted by the remains of a broad red field. The spaces between some of the striations are painted red or yellow, in imitation of a rock surface.

Another fragment shows the inverse arrangement: the yellow band has on one side the same red colour as on the preceding two but on the other side it is adjoined by the light blue of the background, as preserved below the frieze. We have here obviously the two motifs, the upper (the frieze) and the lower (red zone, yellow band, rock pattern) bordering the central composition.

The main theme of this composition has been preserved on 90 fragments, each showing a small part of the dominant pictorial representation (Colour pls VIb, VII): white almond-shaped eyes in profile painted on yellow ground (therefore animal), black bodies with white and yellow bellies, and fringed tails and fins. They have been positively identified as belonging to at least seven dolphins, painted as they leap over the waves of the sea, symbolized by the blue background (Colour pl. VIII). The reconstruction is hypothetical but should not be far off the original.

Another marine decorative element, the argonaut (*argonauta argo*), is represented by three fragments (Colour pl. IXb) which seem to depict two such large cephalopods with yellow shells, barely preserved, and multi-coloured tentacles. The quality of the plaster, the kind of blue background and the common find spot suggest that they, too, may have been part of the same composition as the dolphins, probably painted in a row along the foot of the wall above the dado, an arrangement known from Pylos and elsewhere. The mural may also have included some plant stems found in the same place, larger than those from **M3**, probably the remains of marine vegetation painted among the swimming dolphins. Finally, the heap outside **N1** produced a few fragments painted with miniature patterns (Colour pl. Xa), such as the head of a youth and part of the entablature and the doorjamb of a building, probably tripartite, decorated with a strip of spirals running down from a horizontal beam. This composition, painted against a white background, showed lavish use of the magenta colour that appears rarely, if at all, on Aegean wall paintings.

The few surviving fragments from room **M3** are painted with linear patterns suggesting plant motifs (Colour pl. Xb).

The excavation evidence from the melathron and from the heaps outside **N1** indicates that some, at least, of the frescoes of Gla had been renewed during the life of the buildings. They are not great works of art

and their patterns are neither original nor unusual. Their main interest lies in the fact that virtually every building seems to have been decorated, including guardrooms, granaries and cookhouses, that the slightly incongruous choice of patterns seems to have been made with no reference to the function of the rooms they decorated and that they form a chronologically close group, datable within the first half of the 13th cent. B.C.

CHRONOLOGY

It has been stressed already that the degree to which the pottery stored at Thebes by Threpsiadis reflects the amount and the nature of the ceramic material found at the 1955-1961 excavation is problematic. In any case the fill covering the buildings within the walls had been removed or disturbed by de Ridder and the accumulations elsewhere, especially at the gates, were not thick enough to contain a succession of strata or even to protect the lower levels from later intrusions. Thus, Medieval sherds had penetrated into the Mycenaean layer of the pavement at the West Gate and Hellenistic pottery was found among the destruction debris inside the North Gate. The only stratification recorded on the excavation labels is the difference between the brown surface layer and the deeper and lighter fill created by the dissolved mudbricks of the wall. The very thinness of these accumulations and the lack of successive strata indicate in themselves that the fortress and its buildings could not have lasted very long.

The 1981-1991 excavation brought to light more than 45,000 stratified pottery sherds, of which ca 10,000 were diagnostic, thus permitting stylistic as well as chronological conclusions to be drawn. The excavation evidence showed that in building **H** and in rooms **N1-N3** and **M3** there were two well-defined, uncontaminated strata corresponding to the construction of the buildings and to their final destruction or abandonment. The first, thick and uniform, distinguished by its texture and colour, was formed by the collapse and disintegration of the mudbrick walls which had a large amount of sherds mixed in the clay of the bricks. To this group should be added a few sherds, collected from the stone and earth packing of the floors of **H5** and **M2**. The second, thin stratum contained the floor deposits which in building **H** lay in the ash layer produced by the conflagration that destroyed the building. There is, moreover, the pottery from the higher, more or less contaminated strata near or on the surface, evidence from which is admittedly dubious, but which may occasionally corroborate stylistic judgements made on the evidence of the two basic groups.

The earlier such specimen is the large skyphos or small krater from the east entrance to the enclosure. Its decoration scheme places it in the advanced phase and possibly at the end of LH IIIA2¹¹⁴. There are two more

114. *Supra*, p. 98f.

sherds which seem to be equally early: one from the West Gate, decorated with a broad ring of paint around the missing handle, a hook-like motif next to it and two thin wavy lines bordered with dots lower down (Fig. 42)¹¹⁵. The other, found in the courtyard of the melathron, has a wavy ornament below a horizontal band and a thin oblique wedge-like tip between them (Fig. 43)¹¹⁶. All three, however, are isolated examples, no more than *termini post quos* for the bulk of the pottery of Gla.



Fig. 42. West Gate, sherd from area between walls 4 and 5.



Fig. 43. Sherd from court of melathron.

Be that as it may, the two groups, construction and destruction, are best represented by their skyphoi and small stirrup jars which reflect, more than do other vases, the stylistic development of the pottery within the established stratification sequence. The construction phase is illustrated also by a couple of tankard fragments, while floor deposits yielded a characteristically decorated krater sherd. Domestic pottery is poorly, if at all, decorated and does not show any meaningful changes in shapes. This category includes kylikes which, although abundant, remain unchanged from beginning to end, differing only in the shape of their rims (carinated or rounded) which, however, has no chronological significance.

The first, the construction group, includes a few monochrome kylikes known already in LH IIIA2¹¹⁷ and some skyphoi, monochrome inside-out or with painted interiors and open style decoration outside. Style A examples predominate, with thin bands on the rim and various motifs (chevrons, quirk, spirals, zig-zag) loosely arranged in the handle zone. There is also a specimen with a broad wavy line between bands which

115. Gla I 20, fig. 2.

116. Op. cit. 108, fig. 20.

117. MDP 90.

has parallels in LH IIIA2¹¹⁸ and another, decorated with triple upright hooks joined at the top, which may be thought to reflect an incipient filled style arrangement (Style B). There is in addition a wishbone handle from a skyphos¹¹⁹.

Small stirrup jars of this group have separate loops around spout and disc stem, angular flowers with dotted corollas on the shoulder and narrow zones of hatched lozenges below it, all typical of early LH IIIB. There are, moreover, fragments of two tankards with double ridges on the rim and around the waist, likewise typical of the same period¹²⁰.

The buildings, therefore, were erected while skyphoi were decorated predominantly in the open style, while stirrup jars had isolated loops around their spouts and disc stems, flowers on the shoulder and narrow ornamental zones below the shoulder and while tankards had ridged rims and waists. All these features belong to an early LH IIIB1 phase, which preserves a few characteristics of the previous LH IIIA2 period but has already established its own shape and decorative patterns.

Floor deposits and destruction levels include, too, numerous kylikes and shallow angular bowls of the same type and the same proportions as the construction pottery, but their very existence dates the end of the buildings well within LH IIIB. Here again skyphoi provide the best evidence. There are three monochrome examples. The others have deep bands around the rim which are continued inside, some merging with a painted interior. On the outside more or less the same motifs are employed with the addition of narrow columns of vertical zig-zag or joining semicircles, but the arrangement of the patterns is closer. Spirals are large, serried and connected with short stems (running), occupying the whole width of the handle zone. Triple hooked stems are close to each other, and reach up to the rim band. There are still a few open style (Style A) examples, but those of the filled style (Style B) predominate. Stirrup jars are no different. They have the same loops around spout and disc stems, dotted flowers with quirk centres or dotted circles on the shoulder and reserved triangles on top of their handles. They seem to belong to a more developed type, but the preserved examples are too few and too fragmentary for any definite conclusions to be drawn. There is also a frag-

118. Ibid. fig. 112:4.

119. LH IIIB according to FURUMARK, MP 95.

120. Supra, n. 56.

ment of a small krater with a highly stylized dotted upright whorl shell.

Finally, there is the stirrup jar from the floor deposit of room **E1** which has counterparts at Mycenae (Prehistoric Cemetery, West House, Panagia House II, second phase), the West Wall deposit at Tiryns, the settlements at Orchomenos and Eutresis and the Palace at Pylos. Put together, this evidence places the pottery of the final phase in the advanced, but not late LH IIIB.

Jugs with everted rounded rims and storage stirrup jars fit easily within these chronological limits. Small strainers can not be attributed to a definite chronological phase. Variants of grilling stands cover almost the whole LH period from Thera down to the South House at Mycenae and the Englianos palace. Domestic ware, such as tripod cauldrons, dippers, plates etc. were produced with no appreciable changes throughout the LH period.

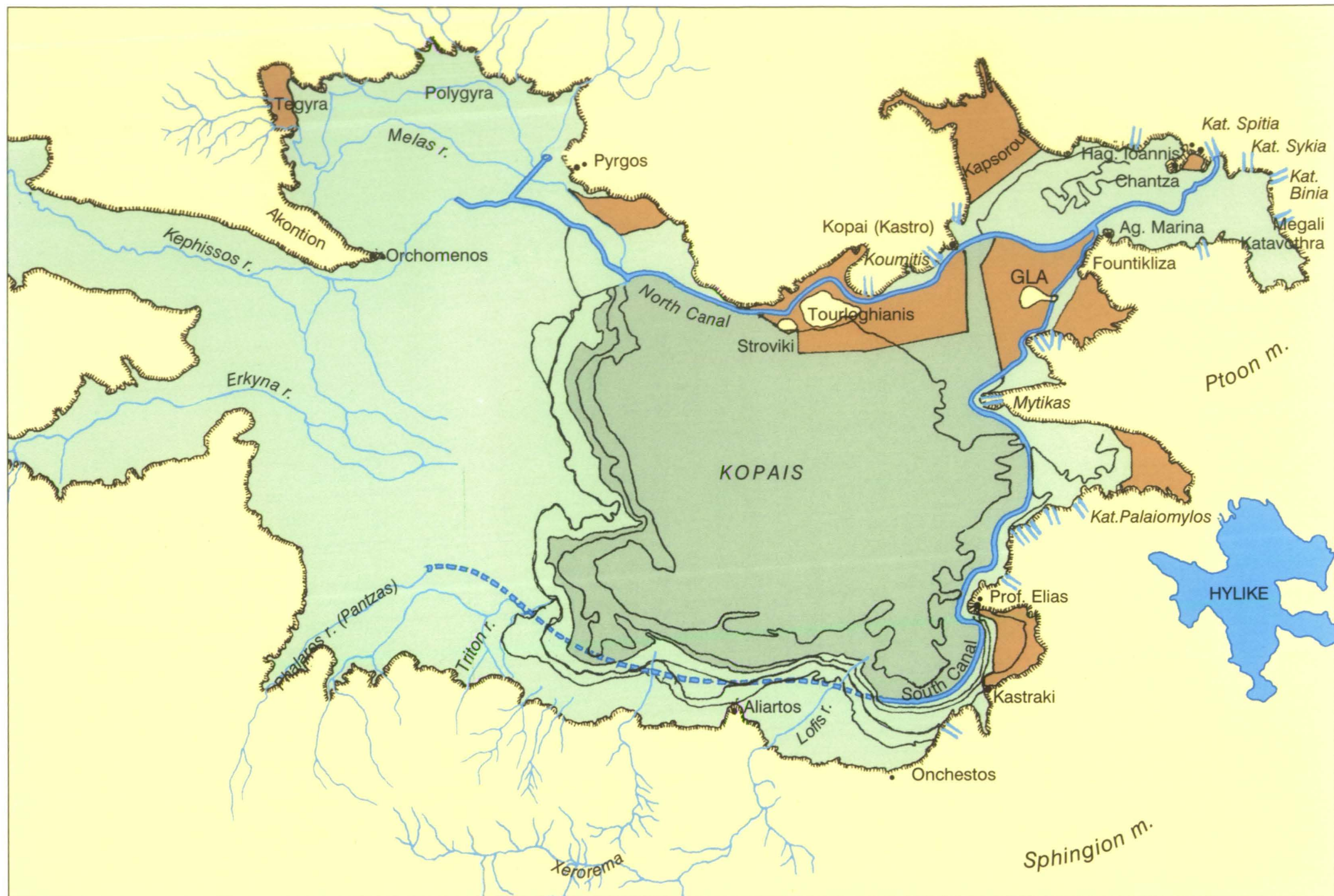
To conclude: according to the chronological system now followed¹²¹ — to which nothing of value has been added so far by scientific methods¹²² — the buildings of the east wing of the central enclosure at Gla were erected at the beginning of LH IIIB1 and were continually occupied till they were violently destroyed at a time when LH IIIB2 pottery styles were already common all over the Greek Mainland. In other words the fortress was built at the end of the 14th cent. B.C. and lasted for about one hundred years until its destruction and abandonment shortly before 1200 B.C.

121. P. WARREN-V. HANKEY, *Aegean Bronze Age Chronology* (Bristol 1989) 154f., 169, Table 3,1.

122. Samples of carbonized wheat from room **H1**, which lay under a 0.50-0.60 m. thick undisturbed fill of the late 13th cent. B.C. were sent to Beta Analytic Inc. (Coral Gables, Florida USA) and Harwell C.14 Group (U.K.) for C14 dating. The chronologies arrived at by both laboratories were 307 ± 90 B.C. and 190 ± 140 B.C. respectively. These dates, while differing between them more than a century, although based on the same sample, are, moreover, some 1000 years off the established archaeological date of ca 1200 B.C. Obviously, the C14 method is liable to serious margins of error and is therefore totally unreliable.

PART THREE

KOPAIS IN THE 13TH CENTURY



Map 2. The Mycenaean drainage system.

THE FORTRESS AND THE LAKE

The vast fortress of Gla, with its fortification wall, its living quarters for the officials established there and its storehouses of a capacity unknown elsewhere in Mycenaean Greece clearly had one single purpose: the exploitation of the Kopais plain. The ancient name of the site is not known but it was second only to Orchomenos in the area. As long as the Kopais was a lake — or a swamp, according to the time of year — Gla emerged from the waters as a rocky islet, with a NL settlement on its top. When the LH drainage system, however, went into effect, the rock became accessible from the surrounding plain. It was then fortified with a strong, 3,000 km. long Cyclopean wall, with one double and three single gates, protected by bastion-like thickenings of the wall, rather like the early fortification gate at Tiryns, which preceded the development of the proper Mycenaean gateway with flanking bastion. The fortress communicated with the plain over a system of causeways, the last of which survived until 1958, when it was levelled by the modern Kopais Company.

The approximately 20 hectares large space within the walls was divided into two unequal parts by an oblique cross-wall running from the SE. gate in the south to the N. wall: the west part, which occupies 9/10 of the whole area, and the much smaller east part, where no real investigation could be made since bedrock is at the surface practically everywhere and there is thus no fill to excavate. F. Noack, who surveyed the rock in 1893, noticed the foundations of a large apsidal building of unknown date and function¹²³ and an opening in the cross-wall which he assumed to be an entranceway connecting the two parts.

The west part was better populated. There are two rectangular buildings which were excavated in 1971 by the then local Ephor of Antiquities, Dr. Th. Spyropoulos, who never published or mentioned them, and the large central enclosure surrounded by a wall which extends from the north fortification wall to a short distance from the South Gate (see above, p. 21ff., Plan 7).

The enclosure is divided by an E.-W. cross-wall into two main parts,

123. F. NOACK, *Arne*, AM 19, 1894, 424.

north and south (Plan 7). In the north section there is a double residence, the melathron, built on a levelling stone terrace. It has two wings virtually identical in size and plan, which meet at a right angle and communicate through a corridor situated between them. The north wing is incorporated into the north fortification wall, with which it shares its north façade. Each wing has at its free end its own entrance, leading to a large megaron-like hall complete with anteroom but with no columns, no hearth and no throne. The remaining space in the wings is divided into small single or two-room apartments, connected by a system of double corridors providing communication but at the same time isolating them from each other. With their wide spans and lack of roof supports the two large halls had to be single storied but there are reasons to assume that the rest of the building had a second storey. The walls consisted of a strong stone sockle and a mudbrick superstructure tied together with a timber frame. The doorways had dressed stone thresholds and wooden doors, turning on pivots protected by bronze shoes. The surface of the walls was faced with lime plaster, painted more often than not and, according to de Ridder, decorated at places with thin, engaged, fluted columns.

Thus the melathron consisted of two communicating but separate residences, both much smaller, less luxurious and far simpler in plan than a Mycenaean palace. They were built not for an anax and his entourage but for two persons of equal rank but different responsibilities.

While the Kopais was under water there was no reason to fortify the rock. Once the lake was drained, however, and cultivation initiated, the need for a fort to serve as the main control point and general storage area became vital. The ramps and causeways which connected it to the dykes and its proximity to the main natural sinkholes which helped to drain off the stagnant waters made it the key point of the drainage system and of the strongholds built around the basin to protect the farmers of the plain and their crops. Thus, one of the residents of the melathron was beyond doubt the official in charge of the safety and maintenance of the drainage works. The responsibilities of the other one are suggested by the buildings in the south enclosure.

This part of the fort is connected directly with the main approach to the rock, the South Gate, and has along its east and west sides two building complexes separated by a large empty court. At the south end of each complex there is a rectangular building divided into four large rectangular rooms, two on each side of a central passage, which is their only

outlet. Both wings are continued to the north by two long and narrow halls, each one accessible from the central court by two low ramps. Attached to the north ends of each hall is a row of rooms, some of which may have been residences or workshops.

The function of those vast complexes, each ca 150 m. long and difficult of access, is best indicated by their contents, namely storage vessels (pithoi, large stirrup jars and jugs), hundreds of shells of edible molluscs and large quantities of charred wheat. The buildings were depots, mainly granaries, with a total capacity of about 2,000 tonnes, comprising ca 660 m.² of residence rooms with workshops attached.

The buildings and their contents depended for protection on the enclosure and the enclosure, whose ends abut the fortification wall, has no meaning without them. It is evident that the entire establishment, namely the fortification, the enclosure, the melathron and the depots, was built at the same time (therefore dating each other) as part of a far-reaching project for supervising the drainage works and storing far greater quantities of agricultural products and of other raw materials (lead, e.g.) than would be needed by the residents of Gla and, indeed, by the palace at Orchomenos to which Gla obviously belonged. The other resident of the melathron was without doubt the intendant general, responsible for gathering and storing the crops of the plain.

Another remarkable feature of the structures on Gla is that although they had a purely practical function, they were richly decorated. For the melathron this is not surprising. But fragments of frescoes, many with bits of pictorial compositions, were found in buildings **H** and **M** and outside room **N1**. Similar evidence, if only in the shape of coloured stucco, is reported from the guardroom between the north and south enclosure, from rooms **A3**, **Z2** and **Z3**, the fill above the causeway leading to **E1** and from the open area outside room **Z9**. In addition, de Ridder mentions finding a piece of a fluted plaster half column in the area of room **Z3**. Most buildings, therefore, had painted walls and probably so had also those where no such remains were found.

Thus Gla, regardless of its size and the extent of its structures, was not the seat of authority of the region. This will have been where archaeological evidence and tradition places it, at Orchomenos. Homer remembers the site as one of the richest kingdoms of the heroic past¹²⁴. Strabo

124. Homer I 381-382.

refers to the same tradition¹²⁵, adding that Orchomenos had imposed a tribute on Thebes, that its proverbial wealth was due to the cultivation of the drained lake and that it kept its leading position until Heracles blocked the sinkholes, causing the lake to be flooded. In other words, ancient tradition¹²⁶ associated the wealth and might of Orchomenos with the drainage and the cultivation of the Kopais.

Archaeological research has helped to corroborate and to clarify these dim memories. The excavations of H. Schliemann in 1880¹²⁷, of A. de Ridder in 1893¹²⁸, the German Archaeological Institute (1903-1905)¹²⁹ and the Archaeological Service (Faraklas 1969, Spyropoulos 1973)¹³⁰ as also the tholos tomb with its side chamber have all shown that the Akon-tion hill, where the 9th century Byzantine monastery with the well-known church of the Dormition of the Virgin and the village of Skripou were later built, had been settled from 3000 to 1100 B.C. as also later, in historical times. The prehistoric settlement left four distinct thick occupation layers. These yielded plenty of pottery but meagre EH architectural remains, such as single apsidal buildings and some circular structures, probably silos. A few walls of MH square houses were also observed. The LH remains have provided better evidence. The most important relic is the tholos tomb, the so-called treasury of Minyas, much admired by Pausanias, and in all respects an excellent counterpart of the "tomb of Atreus" at Mycenae. Such a tomb implies a large and luxurious palatial establishment similar to those at Mycenae, Tiryns and Pylos. Yet the German excavations revealed nothing of this sort apart from a few scattered fresco fragments with no significant context. Spyropoulos, digging in the precinct of the church, uncovered a complex of rooms which he considers, on very little and dubious evidence, to be megara with vestibules, anterooms, central hearths and so on. Later interference has obliterated their destruction layer, leaving as the only evidence a few pots of everyday use together with some pictorial stucco frag-

125. IX 2, 40.

126. Pausanias IX 17, 2, Diodorus IV 18, 7.

127. JHS 1881, 122-163.

128. BCH 18, 1893, 631.

129. Orchomenos I, Orchomenos III. Also Orchomenos V.

130. N. FARAKLAS, *Deltion* 24, 1969, B1, 179, TH. SPYROPOULOS, *Deltion* 26, 1971, B1, 218-219, AAA VI, 1974, 313-324.

ments¹³¹. The excavator dates his finds to the end of LH IIIB and reports the discovery of an isolated guardroom of the palace which had been abandoned a century earlier. The illustrations of his brief mention of the excavation and the remains *in situ* show that these buildings have the same small rooms and the same flagstone or lime plaster thresholds as do houses around the citadels, such as the Panagia and Oil Merchant groups at Mycenae or the houses of the Lower City at Tiryns. The small finds, however, were far fewer. The excavated rooms might conceivably be outbuildings of a palace. The actual residence of a real king such as implied by tradition, by the palaces at Mycenae, Tiryns, Pylos and Thebes and, last but not least, by the tholos tomb, has yet to be found.

Orchomenos, then, was a big and important centre, owing its legendary wealth to the cultivation of the drained lake. The Kopais basin is surrounded by abrupt limestone cliffs pierced at places by sinkholes (katavothrai) ranging in size from simple fissures in the rock (Pl. 82:186) to caves, large enough to accomodate an apartment building (Pl. 82:187). In the past, these sinkholes drained off part (but not all) of the waters of the lake fed to it by the rains and, chiefly, by the streams flowing into it. The largest, Boeotian Kephissos, Melas and Herkyna flow from the west, and were supplemented from the south by the watercourses of Phalaros, Triton and Lophis. Inside the basin, next to the north bank, are the rocky knolls of Stroviki, Tourloyiannis and Kastro (anc. Kopai), and, standing by itself in the middle of the east bay, Gla.

As long as the Kopais was submerged, human presence was limited to a few places on its banks, where NL, EH, MH and LH settlements have left their traces¹³². These settlements increased considerably in the advanced LH period, when the lake was drained off and the plain was under cultivation. The only interest of these remains, however, pottery sherds, tombs, wall foundations and makeshift fortifications, is as indications that in the late Mycenaean period the area was much more thickly settled than before.

131. The published excavation photographs show rooms in a row with doors opening off centre near the corners, "chambers" smaller than their "antechambers", a wide corridor between "antechamber" and "chamber" and cross-walls oblique to the long side wall of the building.

132. R. HOPE SIMPSON and O.T.P.K. DICKINSON, *A Gazetteer of Aegean Civilization in the Bronze Age*, I, SIMA LII (Göteborg 1979) 237-38, 240-42, G2-7, 10-14, F. NOACK, *Arne*, AM 19, 1894, 441-448, fig. 9, N. FARAKLAS, *Deltion* 23, 1968, B1, 223.

All that was known in antiquity about the way the lake had been drained was that the Orchomenians had stopped the waters from inundating the basin by directing them to the sinkholes¹³³, until Heracles and the Thebans blocked the outlets and caused it to flood again. Remembered also was that other attempts had been made at times to drain the lake. Some were limited to cleaning and repairing the old works. In the days of Alexander the Great, however, a mining engineer, Krates of Chalkis, cleared the sinkholes, dug a drainage ditch through the middle of the lake, and started boring a tunnel into the cliff of the east bay. Tradition has it that the Boeotians stopped him from completing his work. Only after 3200 years would the Kopais be drained again.

The first half-hearted attempt in modern times was made in the reign of King Otto (1837) when the Regency Council ordered a lieutenant of engineers, Eduard Lufft, to deflect the course of Kephissos and clear the sinkholes. The attempt, only partly successful, had to be abandoned for lack of funds¹³⁴. The French Company who undertook to drain the lake in 1883 deflected the waters of the Kephissos, the Melas and the Herkyna to a canal running S. and E., leading them through a tunnel to lake Hylike. This was not sufficient and the English Company who took over in 1889 dug a close net of drainage ditches which converged at a central main ditch and thence to Hylike. This resulted in drying out the bottom of the lake, in the subsequent sinking of its level and thus in revealing the remains of the ancient works which, however, were gradually destroyed by modern cultivation.

Our knowledge of them is based on the somewhat hasty publications and surveys made by the engineers of the French Company M. Cambanis and G. Lallier, who plotted what they saw¹³⁵, and to the research done by E. Curtius¹³⁶, A. Philippson¹³⁷ and F. Noack¹³⁸, who tried to supplement

133. *Supra*, n. 125.

134. CHARIKLEIA DEMAPOYPOYLOY, Πποσπάθειαι άποξηράνσεως τής Κωπαϊδος κατά την Όθωνικήν περίοδον, *Annual of the Society of Boeotian Studies*, B, β, 843-848.

135. M. KAMBANIS, Le dessèchement du lac Copais par les anciens, *BCH* 17, 1893, 322-342.

136. E. CURTIUS, Die Deichbauten der Minyer, *Sitzungsbericht der Berliner Akademie der Wissenschaften, Philosophisch-Historische Klasse*, Bd 55, 1892, 1181-1193.

137. A. PHILIPPSON, Der Kopais-See in Griechenland und seine Umgebung, *Zeitschrift der Gesellschaft für Erdkunde zu Berlin*, Bd 29, 1894, 1-90.

138. F. NOACK, *Arne*, AM 19, 1894, 405-484.

the information available and to collect and interpret the data. Between World Wars I and II, when the surviving remains had been almost entirely obliterated, interest was revived and much was added by A. Kenny¹³⁹, U. Kahrstedt¹⁴⁰ and S. Lauffer¹⁴¹. After the war Lauffer continued his research on the spot, to which small scale investigations by Th. Spyropoulos¹⁴² and J. M. Fossey¹⁴³ added a few details. Finally, J. Knauss¹⁴⁴ and his team collected all the existing data, studied them from their point of view, that of the hydraulic engineer, visited the place and managed to clarify many hitherto obscure points and to reach firm and factual conclusions.

The Mycenaean drainage system (Map 2) combined two basic operations: deflecting the courses of the rivers from the basin toward the banks and thence to the katavothrai, and constructing polders protected by embankments which prevented their flooding. To be specific, the Kephissos and Melas were led to a wide canal built along the north bank which conducted them to the big katavothrai of the east bay. The Herkyna was diverted to a canal to the south which received in addition the waters of Phalaros and the other southern watercourses and led them to the katavothrai along the SE. bank. The canals were flanked by 2 m. high and 30 m. wide dykes, built at a distance of 40-60 m. from the cliffs. Their inner sides were faced with 2-2.50 m. thick Cyclopean revetments which made them fairly watertight and protected them from the wash of the waters.

139. A. KENNY, *The Ancient Drainage of the Copais*, *Annals of Archaeology and Anthropology*, University of Liverpool 22, 1935, 189-206.

140. U. KAHRSTEDT, *Der Kopaissee im Altertum und die "minyschen" Kanäle*, *AA* 52, 1937, 1ff.

141. S. LAUFFER, *Topographische Untersuchungen im Kopaisgebiet*, *Deltion* 26, 1971, B, 239-240; 29, 1979, B, 449-454, *Wasserbauliche Anlagen des Altertums am Kopaissee*, Leichtweiß-Institut für Wasserbau der Technischen Universität, Braunschweig, Mitt. Heft No 71, 1981, 239-265.

142. TH. SPYROPOULOS, *AAA* VI, 1973, 201-214.

143. J. M. FOSSEY, *The End of the Bronze Age in the Southwest Copais*, *Euphrosyne* VI, 1973, 7-21, *Mycenaean Fortifications of the Northeast Copais*, *Op. Ath.* XIII:10, 1980, 155-162.

144. J. KNAUSS et al., *Die Wasserbauten der Minyer in der Kopais*, Institut für Wasserbau etc. O. v. Müller-Institut in Obernach, Technische Universität München, Bericht No 50, 1984, *Die Melioration des Kopaisbeckens durch die Minyer im 2. Jt. v. Chr.*, Bericht No 57, 1987.

North of Gla and for about 200 m. the canal left the bank and crossed the bay in two parallel branches, one heading towards the large sinkholes of Binia and the Big Katavothra and the other to those at Vristika. According to modern estimates 2 million m.³ of earth had been moved to build the dykes and 250,000 m.³ of stones were used to revet them. The overflow of the main canal has been reckoned at 100 m.³ a second.

Similar embankments closed the bays around the lake, turning them into polders, which drained off through their respective katavothrai. More polders, bordered by strong earthworks, were created in the basin itself, one of them surrounding Gla. Air photographs of these areas revealed below the surface of the plain traces of buildings separated by roads. These have not yet been investigated but they could well be the remains of those mythical "cities" (Athens, Eleusis, Midea, Arne) which, according to legend, were inundated after the destruction of the drainage works.

It is very likely that the crowns of the dykes were used as roads and the canals as waterways for small craft to move heavy loads.

No dating material has been collected from these earthworks. The early scholars, who in any case did not conduct excavations, did not know what to look for, and those coming after them had no undisturbed fill to work with. Spyropoulos mentions briefly that in a section he dug into an embankment he found sherds which he thinks date to the MH period. The few examples he illustrates cannot be dated from the photographs with any accuracy except for one which belongs to a type of vessel not made before LH IIIA2. This agrees with the chronology of Gla, the only part of the entire system which was not interfered with in later times and which has been systematically investigated.

This great fortress was built as part of the drainage works. Indeed without these it would have served no purpose. At some point during the time of its use the melathron was damaged by fire and was immediately repaired. Later, however, this building, the guardrooms at the gates and the depots burned down, were abandoned and fell into ruin. Their pottery is abundant but ordinary. With a few exceptions it consists of domestic ware, mainly kylikes and angular bowls, jugs and cooking pots. The earlier sherds are late LH IIIA2 or incipient LH IIIB1. The destruction layers contain nothing later than advanced LH IIIB2 examples. In other words, Gla and all the constructions associated with it were built at the turn of the 13th cent. B.C. and were destroyed and abandoned a little before 1200 B.C. As far as we can judge by the scanty information available their destruction pottery matches the floor deposits of the structures at

Orchomenos. It is therefore more than likely that both the seat of the anax, wherever situated, and the vast storage structures on Gla met the same end due to a common cause. It is noteworthy that after the end of the 13th cent. B.C. the pottery from Orchomenos has no longer the same variety of shapes and quality¹⁴⁵, and that Gla shows all the signs of a violent destruction by human agency. Legend has it that the drainage works of the Kopais were destroyed by Heracles and the Thebans. Heracles is, of course, a mythical figure. On the other hand investigation of the remains of Mycenaean Thebes has shown that it continued to exist long after Gla met its end, thus corroborating after a fashion these quasi-historical memories.

145. See Orchomenos V 28-43.

ABBREVIATIONS

Agora XIII:	S. A. IMMERWAHR, The Athenian Agora, XIII. The Neolithic and Bronze Ages (ASCS, Princeton, NJ, 1971).
Asine I:	O. FRÖDIN - A. PERSSON, Asine, Results of the Swedish Excavations 1922-1930 (Stockholm 1933).
AVAA:	B. GRAEF - E. LANGLOTZ, Die antiken Vasen von der Akropolis zu Athen (Berlin 1925).
Boreas:	INGA and ROBIN HÄGG, Excavations in the Barbouna Aerea at Asine, Boreas Fascicle 2, Uppsala 1978.
Deiras:	J. DESHAYES, Argos, Les fouilles de la Deiras, Études Peloponnésiennes IV (Paris 1966).
Epichosis:	N. ΒΕΡΔΕΛΗΣ - E. and D. FRENCH, Τίρυνς, Μυκηναϊκή επίχωση εξωθεν τοῦ δυτικοῦ τείχους τῆς ἀκροπόλεως, Ἀρχαιολογικὸν Δελτίον 20, 1965.
F.d.G.:	ANTOINE DE RIDDER, Fouilles de Gha, BCH 18, 1894, 271-310.
F.S:	FURUMARK, Shape.
Gla I:	Σ. ΙΑΚΩΒΙΔΗΣ, Γλᾶς I, Ἡ ἀνασκαφή 1955-1961 (Βιβλιοθήκη τῆς ἐν Ἀθήναις Ἀρχαιολογικῆς Ἑταιρείας ἀρ. 107, Ἀθῆναι 1989).
Gla II:	Σ. ΙΑΚΩΒΙΔΗΣ, Γλᾶς II, Ἡ ἀνασκαφή 1981-1991 (Βιβλιοθήκη τῆς ἐν Ἀθήναις Ἀρχαιολογικῆς Ἑταιρείας ἀρ. 173, Ἀθῆναι 1998).
Histoire de l'Art:	G. PERROT - C. CHIEPIEZ, Histoire de l'Art dans l'antiquité: IV. La Grèce primitive, l'art mycénien (Paris 1894).
HOOKEr, Linear B:	J. T. HOOKER, Linear B, An Introduction (Bristol Classical Press 1980).
Kadmeia:	S. SYMEONOGLOU, Kadmeia I: Mycenaean finds from Thebes, Greece. Excavation at 14 Oedipus Street (Göteborg 1973 [SIMA 35]).
Lerna I:	N.-G. GEJVALL, Lerna I: The Fauna (Princeton, New Jersey 1969).
LH Citadels:	S. E. ΙΑΚΟΒΙΔΗΣ, Late Helladic Citadels on Mainland Greece (Leiden 1983).
MDP:	P. A. MOUNTJOY, Mycenaean Decorated Pottery: A Guide to Identification (Göteborg 1986 [SIMA 73]).
MPI:	P. A. MOUNTJOY, Mycenaean Pottery, An Introduction (Oxford University Committee for Archaeology, Monograph No 36, 1993).
Nichoria II:	W. A. Mc DONALD - N. C. WILKIE, Excavations at Nichoria in Southwest Greece, Vol. II (The University of Minnesota Press 1992).
ONASSOGLOU:	A. ΩΝΑΣΟΓΛΟΥ, Ἡ Οἰκία τοῦ Τάφου τῶν Τριπόδων στὶς Μυκῆνες (Βιβλιοθήκη τῆς ἐν Ἀθήναις Ἀρχαιολογικῆς Ἑταιρείας ἀρ. 147, Ἀθῆναι 1995).
Orchomenos I:	H. BULLE, Orchomenos I, Die älteren Ansiedlungsschichten (München 1907).
Orchomenos II:	E. KUNZE, Orchomenos II, Die neolithische Keramik (München 1931).

- Orchomenos III: E. KUNZE, Orchomenos III, Die Keramik der frühen Bronzezeit (München 1934).
- Orchomenos V: P. A. MOUNTJOY, Orchomenos V, Mycenaean Pottery from Orchomenos, Eutresis and other Boeotian Sites (München 1983).
- Panagia Houses: IONE MYLONAS SHEAR, The Panagia Houses at Mycenae (Philadelphia 1987).
- PN I: CARL W. BLEGEN - MARION RAWSON, The Palace of Nestor at Pylos in Western Messenia I (Princeton University Press, Princeton 1966).
- SAKELLARIOU: ΑΓΝΗ ΞΕΝΑΚΗ - ΣΑΚΕΛΛΑΡΙΟΥ, Οί θαλαμωτοὶ τάφοι τῶν Μυκηνῶν ἀνασκαφῆς Χρ. Τσούντα (1887-1898) (Paris 1985).
- TUAS: Temple University Aegean Symposium.
- Φίλια Ἑπη: Φίλια Ἑπη εἰς Γεώργιον Μυλωνᾶν (Βιβλιοθήκη τῆς ἐν Ἀθῆναις Ἀρχαιολογικῆς Ἑταιρείας ἀρ. 103, Ἀθῆναι 1986-1990).

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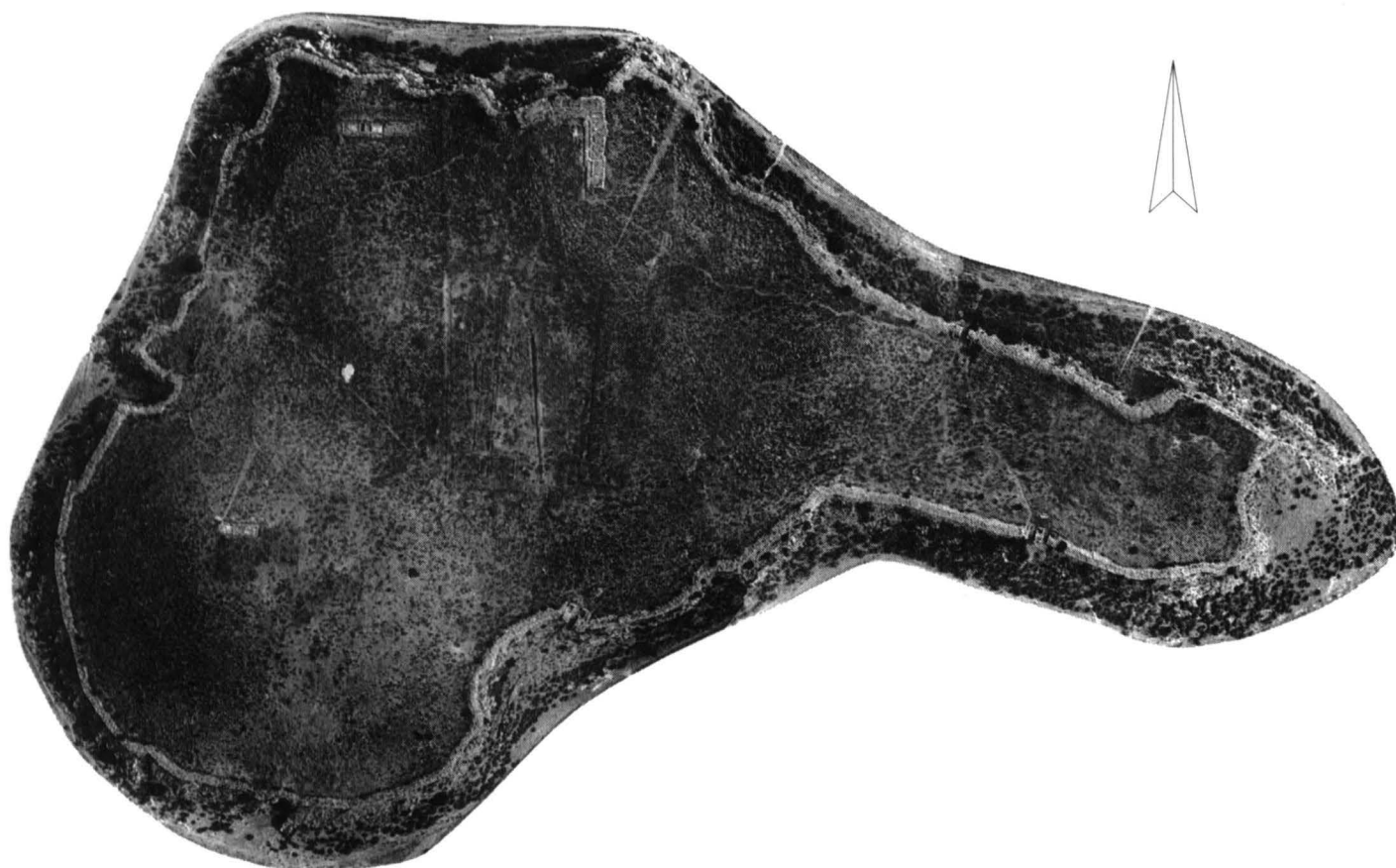
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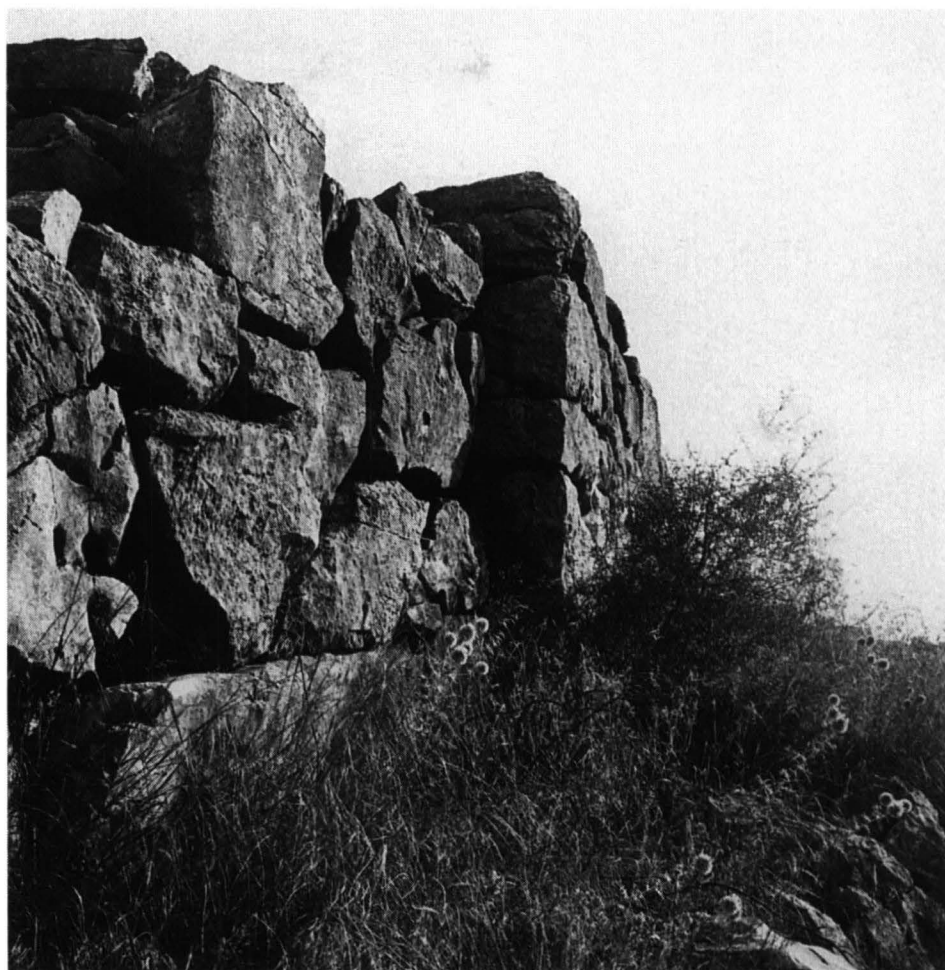
1. Gla, aerial view.



2. Gla, aerial view (photomosaic W. Myers).



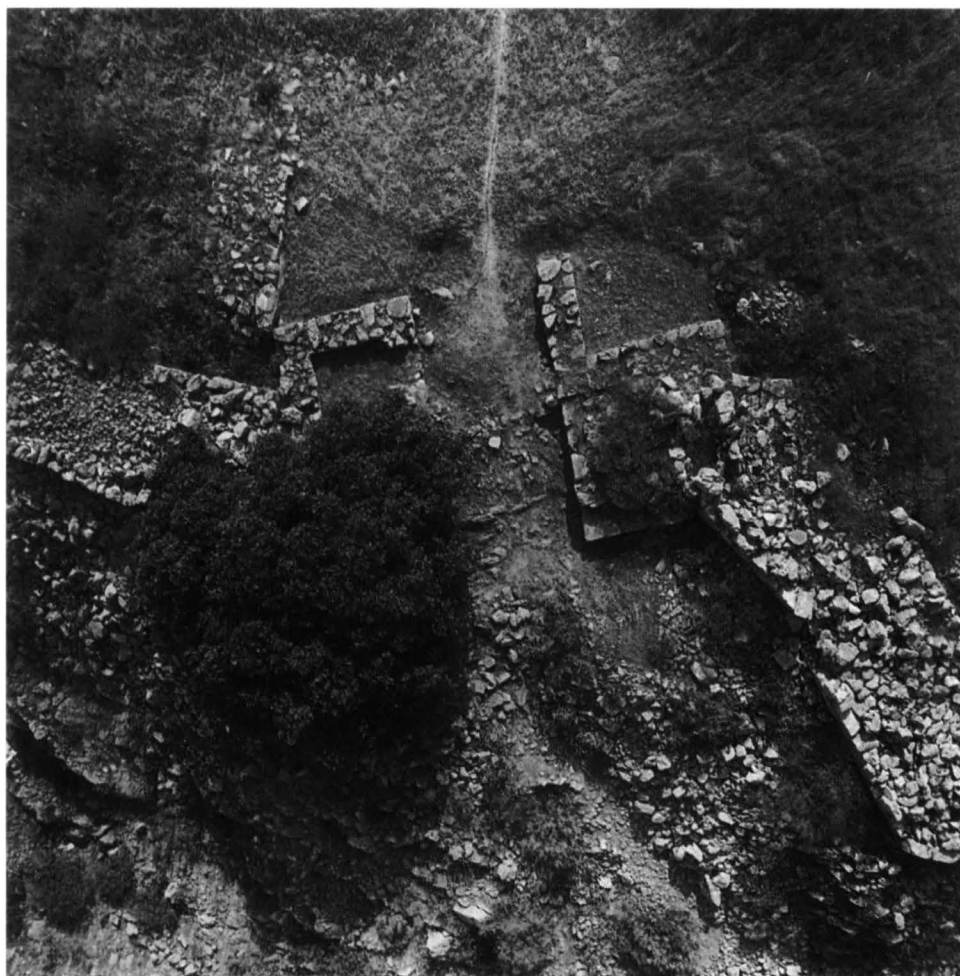
3. South wall, offsets.



4. South wall, offset (detail).



5. Gla, rock formation.



6. West Gate, aerial view (W. and E. Myers).



7. West Gate, bastion I and entrance court.



8. West Gate, wall 1 and ramp from E.



9. North Gate, aerial view (W. and E. Myers).



10. North Gate, bastion **III** from W.



11. North Gate, bastion **IV**, construction.



12. North Gate, west bastion.



13. North Gate, open shed.



14. Double Gate, aerial view (W. and E. Myers).



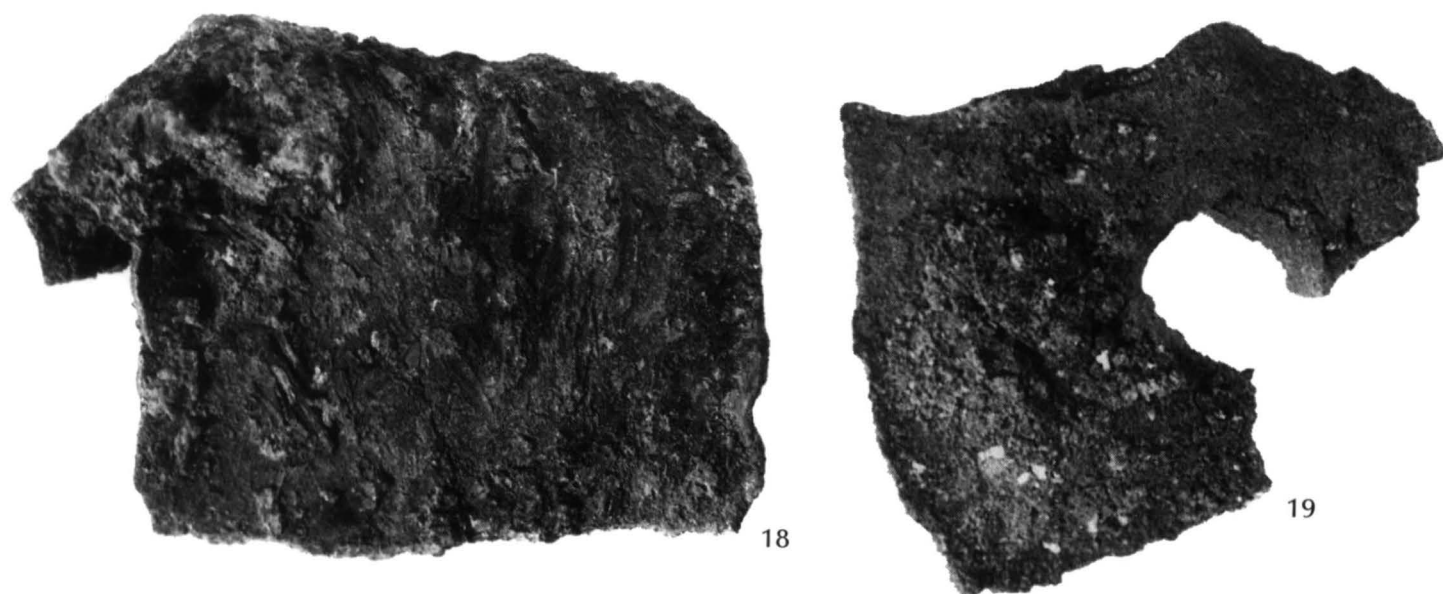
15. Double Gate, corner of bastion VI.



16. Double Gate, middle guardroom.



17. Double Gate, east guardroom, joint in masonry.



18, 19. Double Gate, west entrance, bronze plate scrap.



20. South Gate, aerial view (W. and E. Myers).



21. South Gate, west bastion.



22. Bronze nails from entrance of South Gate.



23. South Gate, west guardroom, niche.



24. South Gate, ramp.



25. Enclosure, east entrance, porter's lodge.



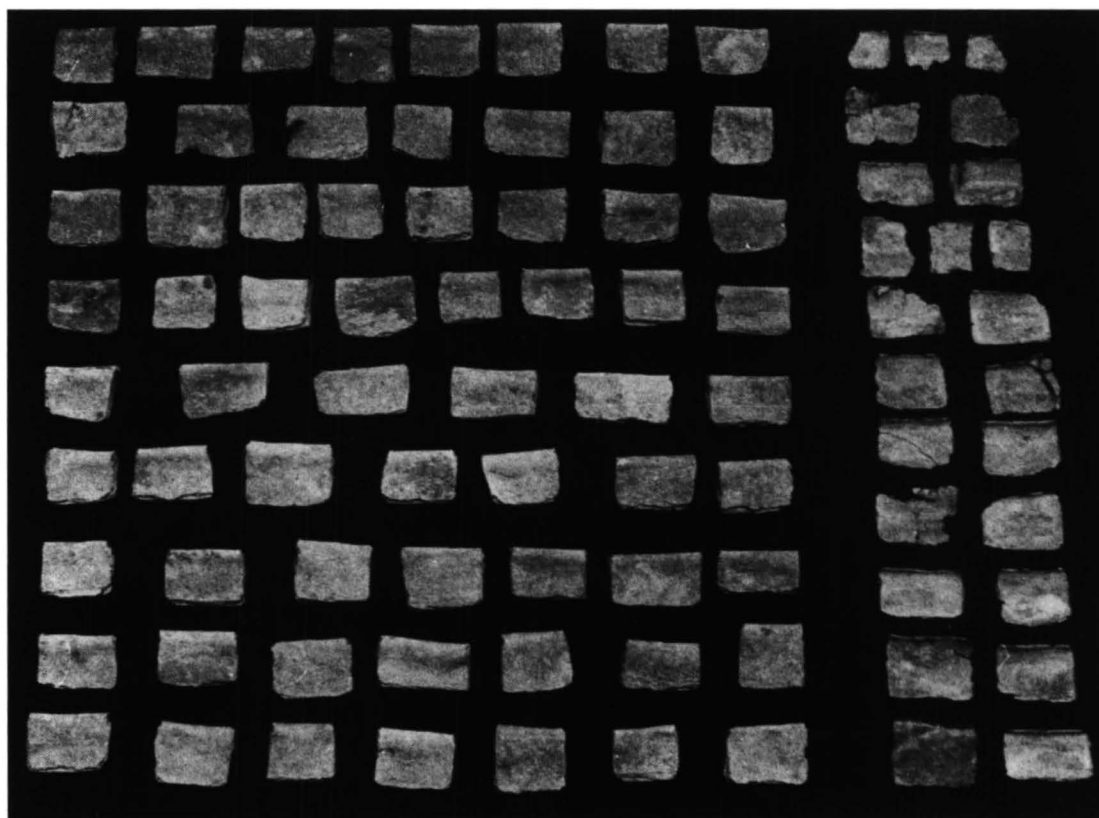
26. Krater from east entrance of enclosure.



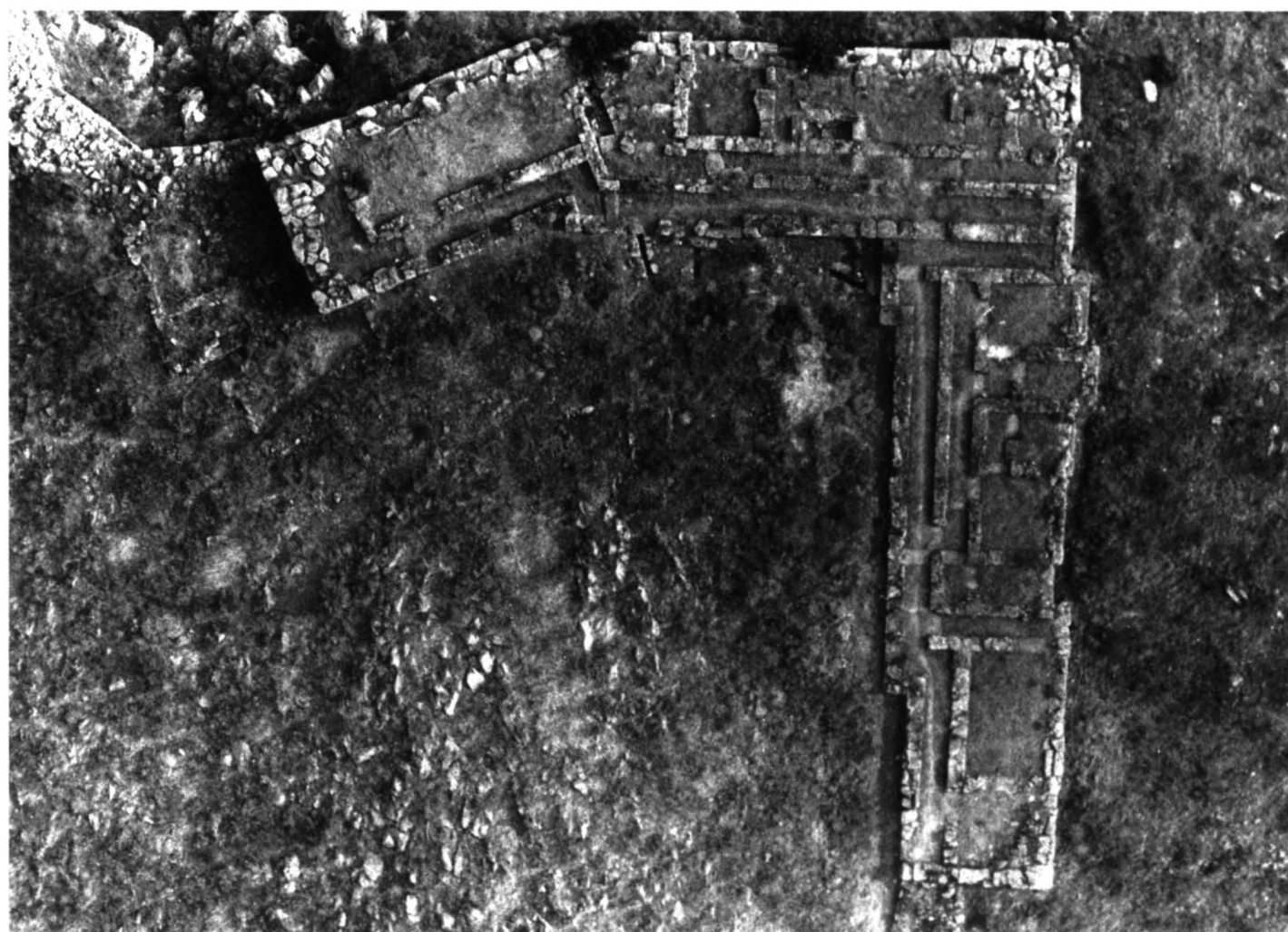
27. Enclosure, cross-wall, propylon.



28. Enclosure, south entrance.



29. Net weights.



30. Melathron incorporated into fortification wall (W. and E. Myers).



31. Horn of consecration from melathron court.



32. Melathron, east ramp.



33. Melathron, drains **a**, **b**.



34. Melathron, east retaining wall with offsets.



35. Melathron, rooms 2-3, corridor I.



36. Melathron, threshold.



37. Bronze pivot shoe from room 10.



38. Melathron, rooms 6-7-8-9, corridors N1, N2.



39. Melathron, rooms 21-22-23, corridors T, O1.



40. Melathron, rooms 18-19-20, corridors O2, P1-P2.



41. Melathron, east wing. Corridor **K2** and passage **14** in foreground.



42. Melathron, west extension from W.



43. Building **A** from S. with building **B** in the background.



44. Building **B** from N.



45. **B3**, first base from S.



46. **B3**, second base from S.



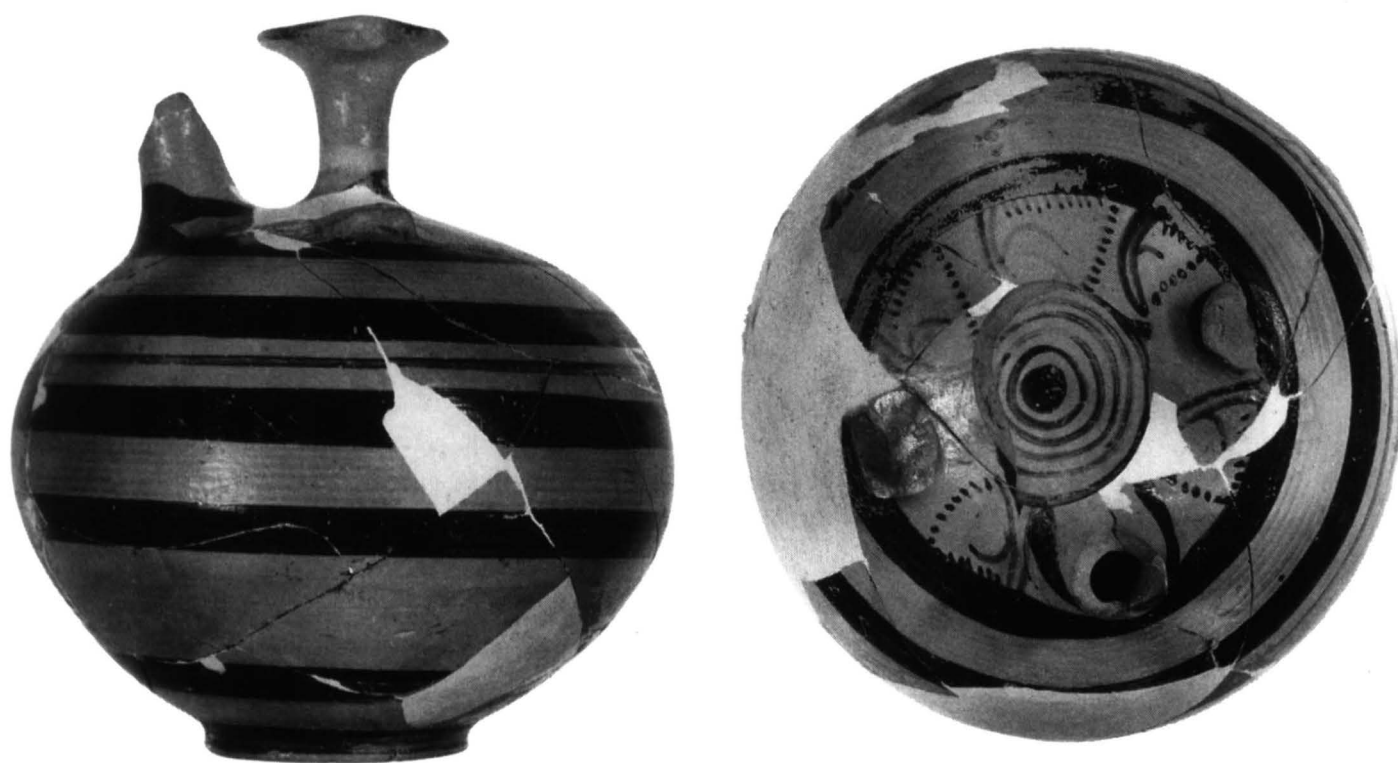
47. **B5**, first base from S.



48. **B5**, second base from S.



49. Buildings **E** and **B** from N.



50-51. Stirrup jar from floor of room **E1**.



52. Building Z from N.



53. Ramp to Z.



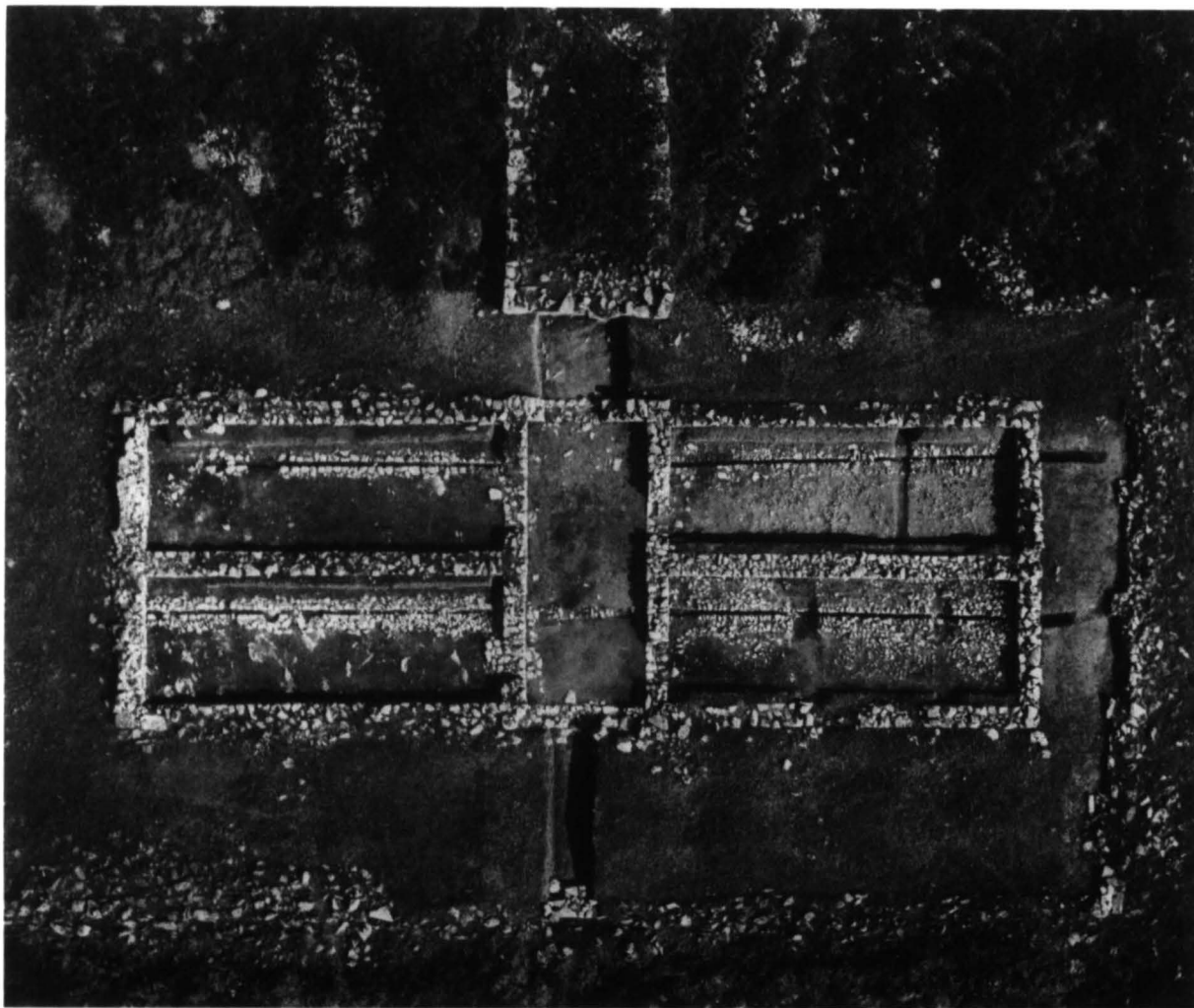
54. Apartment Z4-Z5.



55. **Z10**, SE. corner, cover tiles as found.



56. East wing, balloon photograph (A. Heafitz).



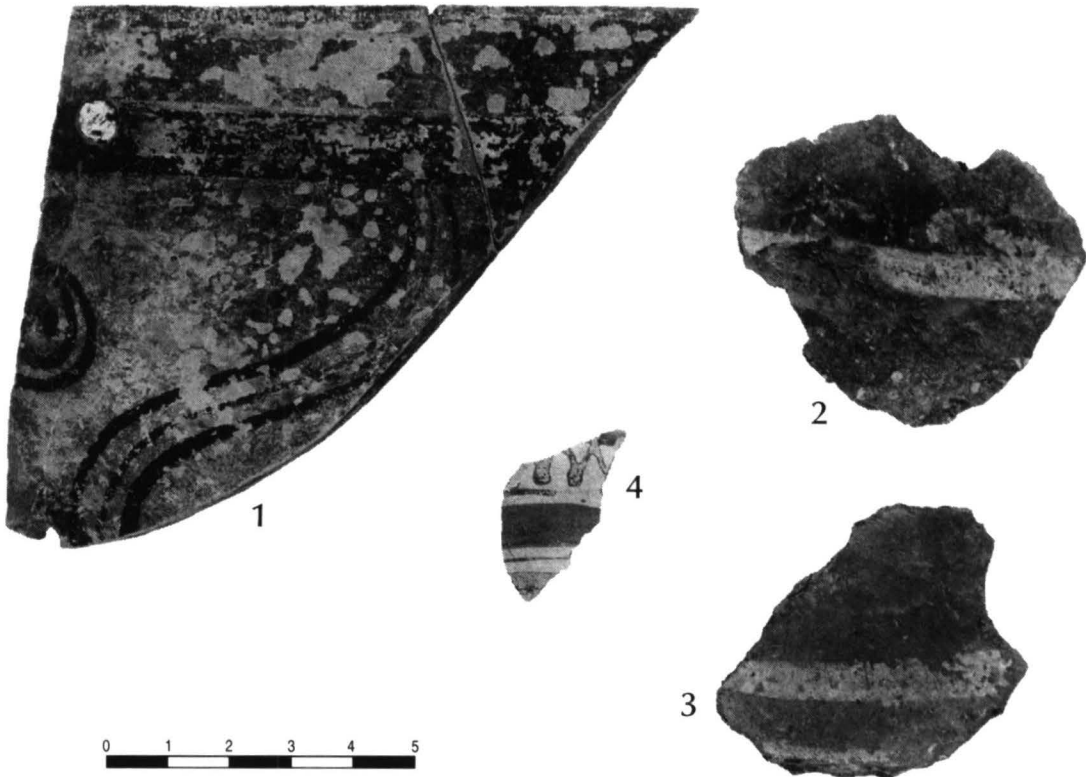
57. Building **H**, balloon photograph (W. and E. Myers).



58. Room **H5**, mudbrick in fill.



59. Threshold between rooms **H1-H3**.



60. Room **H1**, second layer, sherds.



61. Room **H1**, ash layer, sherds.



62. Room **H1**, ash layer, sherds.



63. Room **H1**, ash layer, sherds.



64. Room **H1**, heaps of charred wheat.



65. Room **H1**, charred wheat grains.



66. Room **H1**, ash layer, stirrup jar, mended.



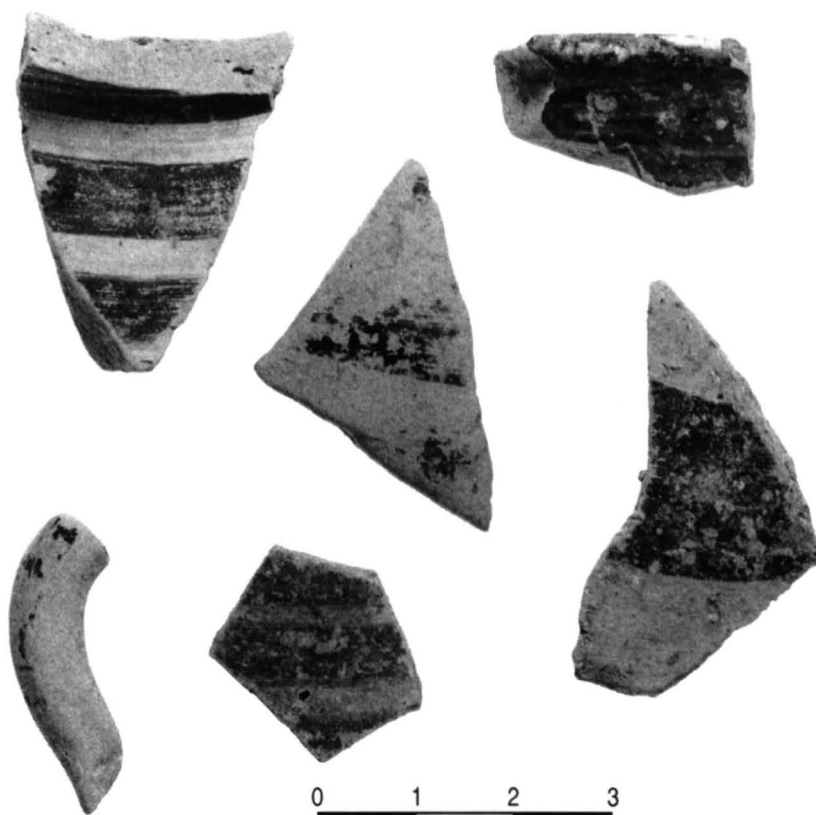
67. Threshold between rooms **H2-H3**.



68. Room **H2**, second layer, mudbrick.



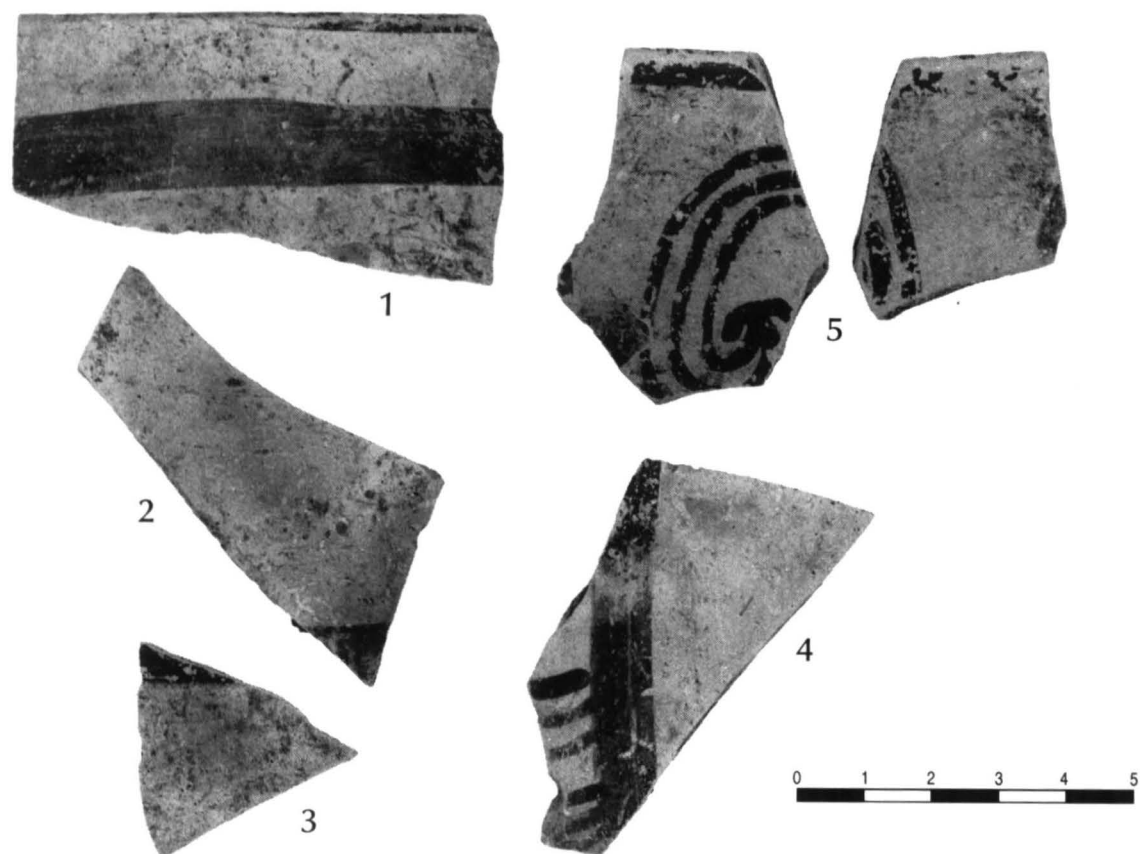
69. Room **H2**,
second layer, tweezers.



70. Room **H2**, second layer, sherds.



71. Room **H2**, second layer, sherds.



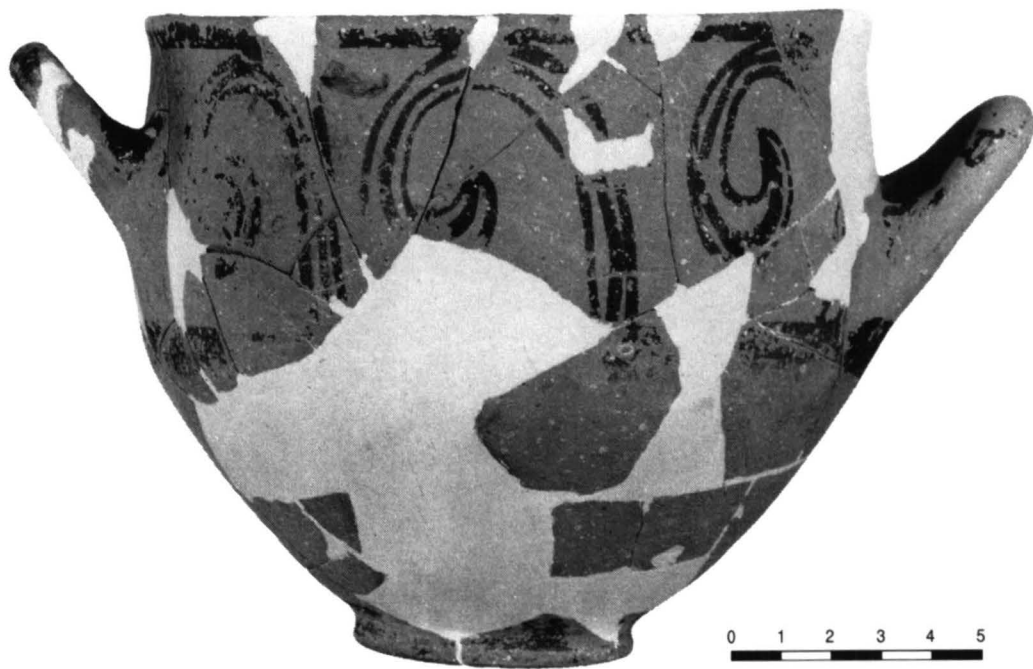
72. Room **H2**, second layer, sherds.



73. Room **H2**, second layer, sherds.



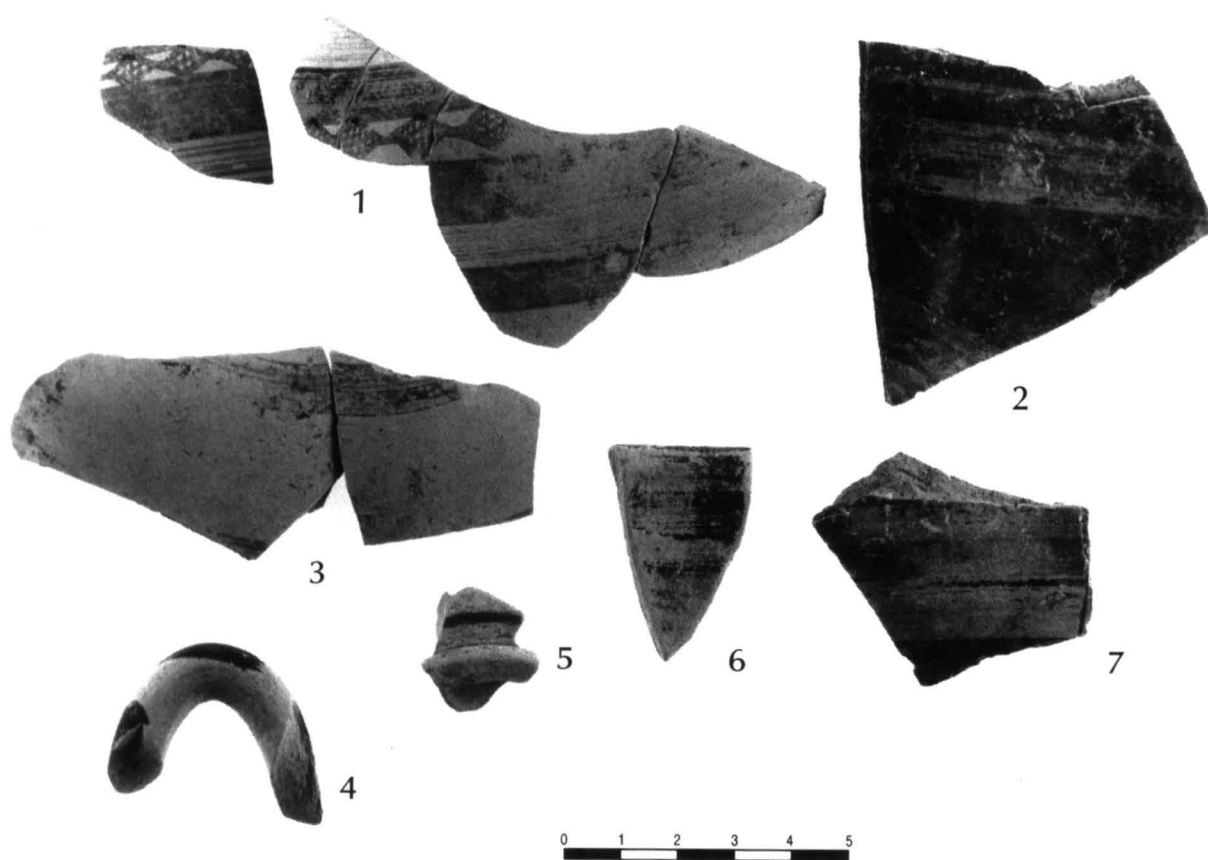
74. Room **H2**, ash layer, sherds.



75. Room **H2**, ash layer, skyphos.



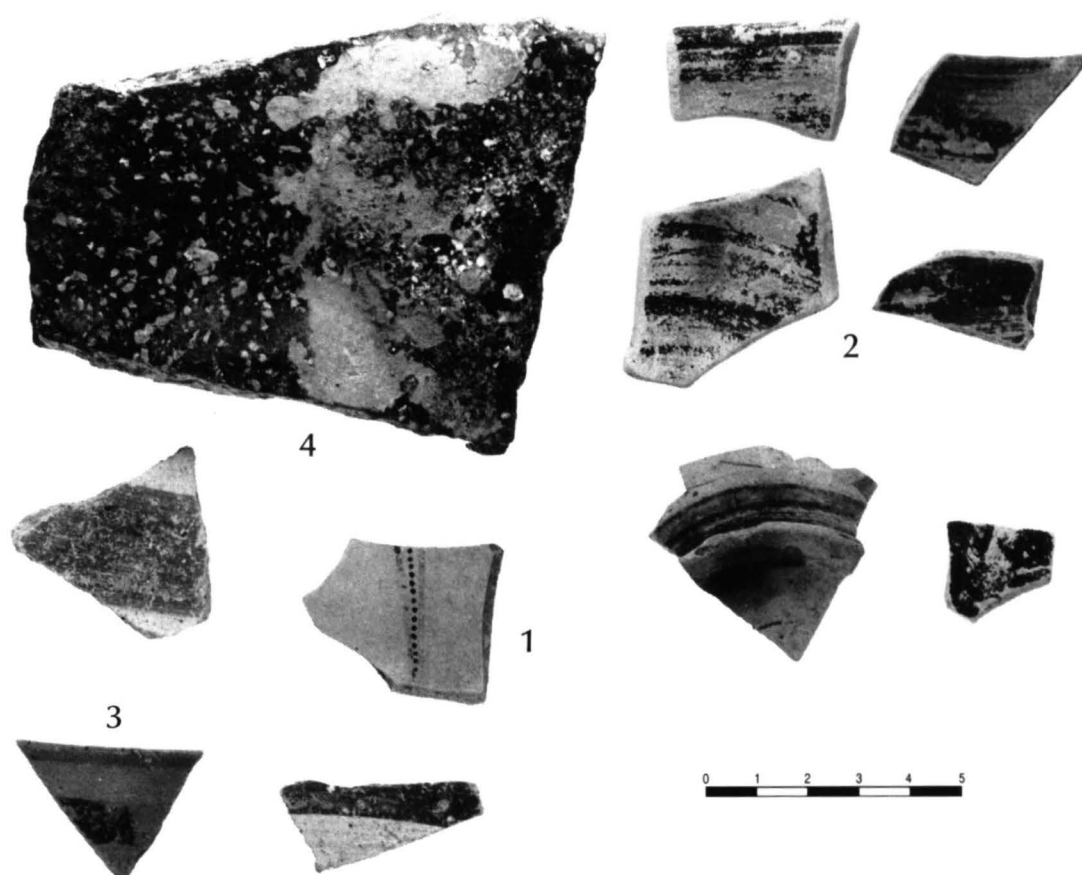
76. Room **H3**, from N.



77. Room **H3**, surface layer, sherds.



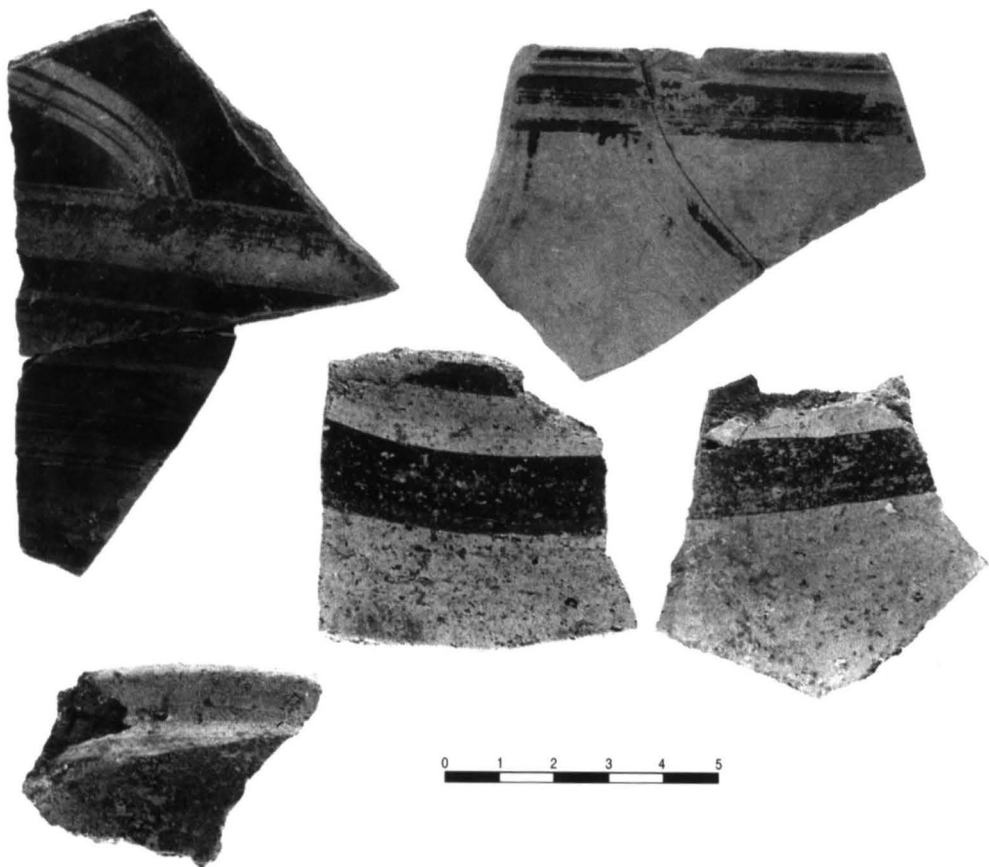
78. Room **H3**, second layer, sherds.



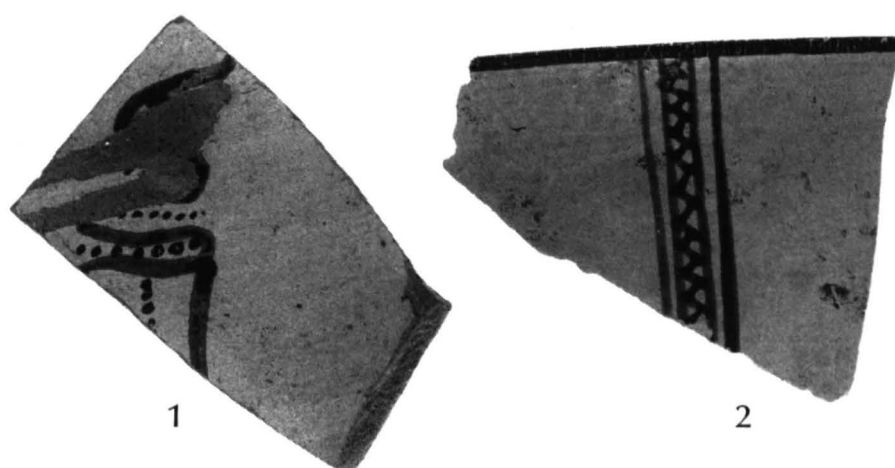
79. Room **H3**, second layer, sherds.



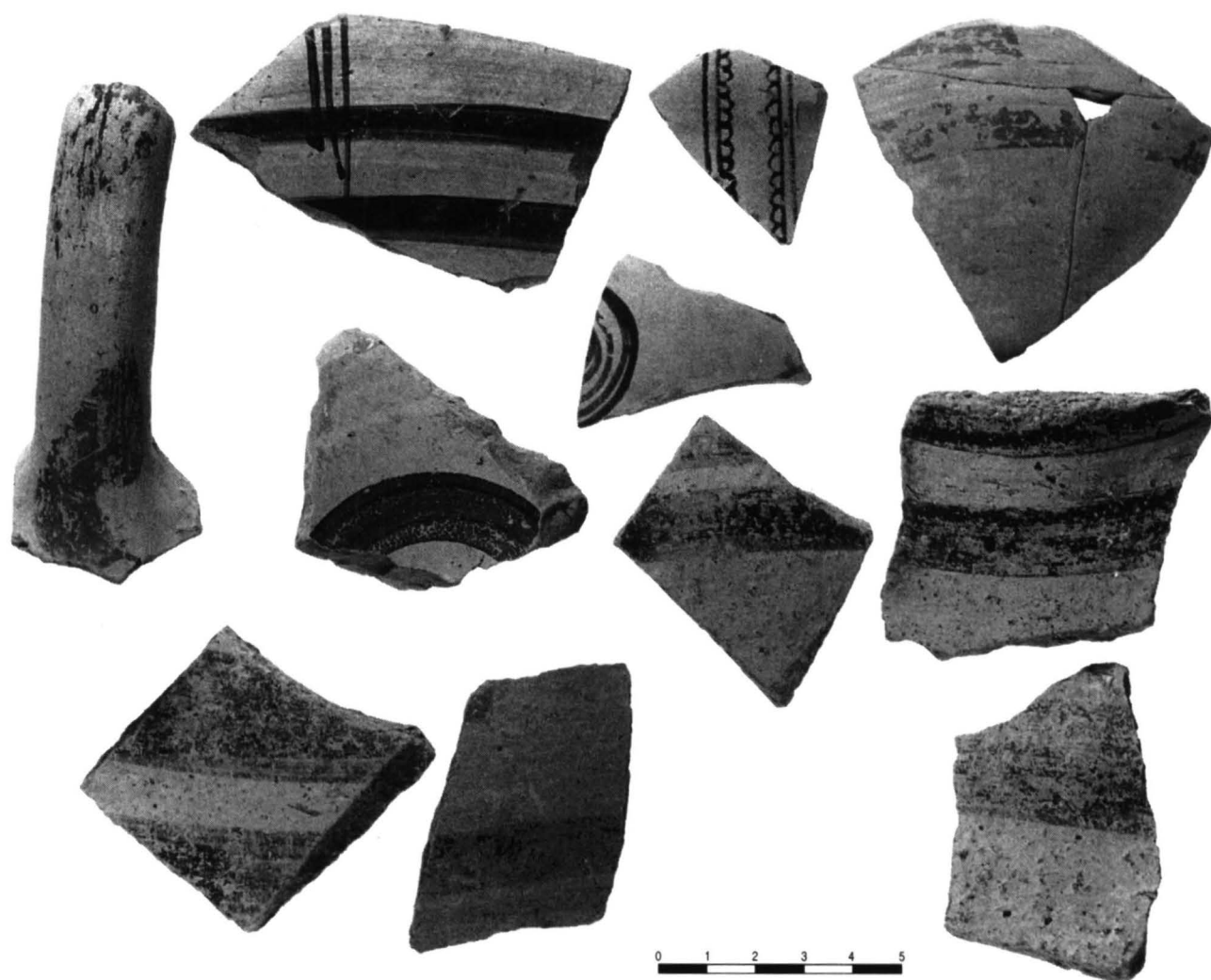
80. Room **H3**, second layer, sherds.



81. Room **H3**, second layer, sherds.



82. Room **H3**, floor, skyphos sherds.



83. Room **H3**, floor, sherds.



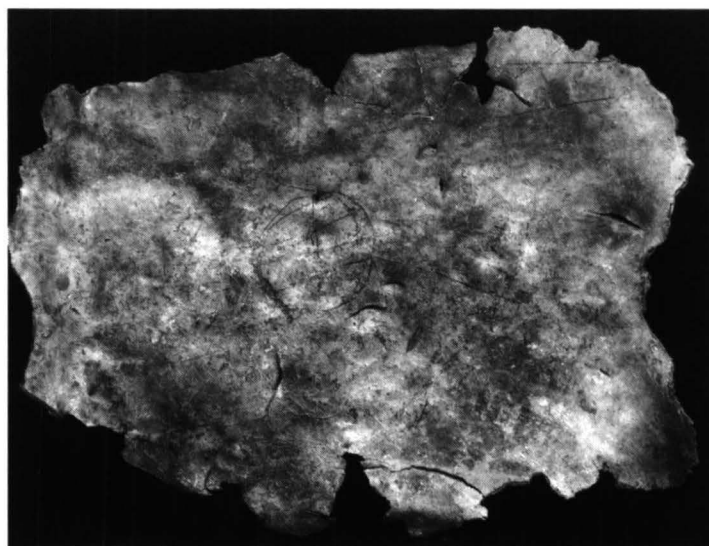
84. Room **H3**, second layer, shoulder of stirrup jar.



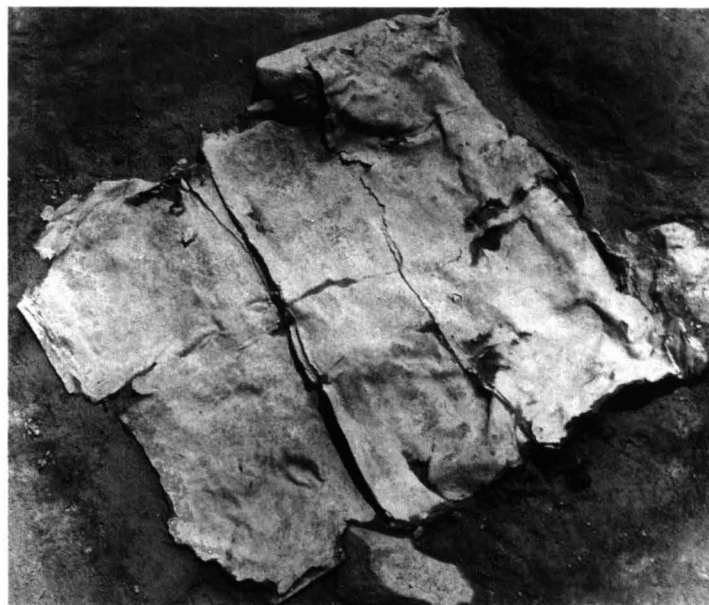
85. **H3**, north trench, layers.



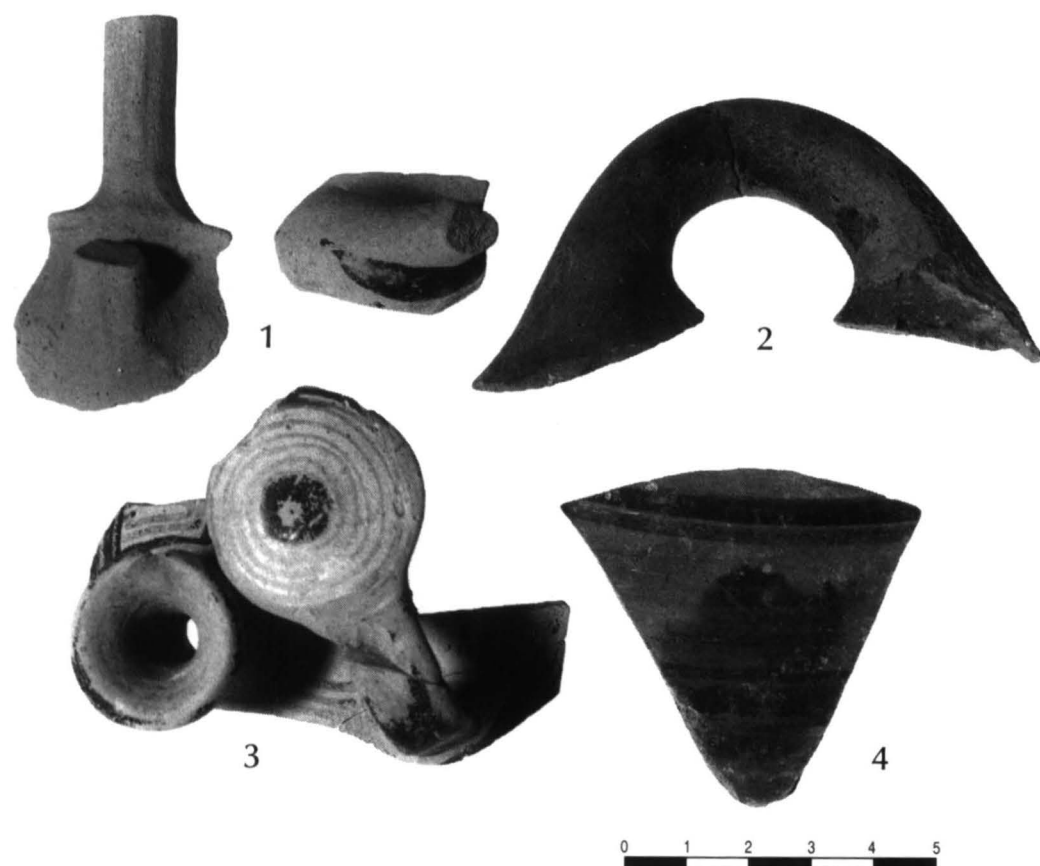
86. **H3**, north trench, vase *in situ*.



87. **H3**, north trench, incised lead sheet, cleaned.



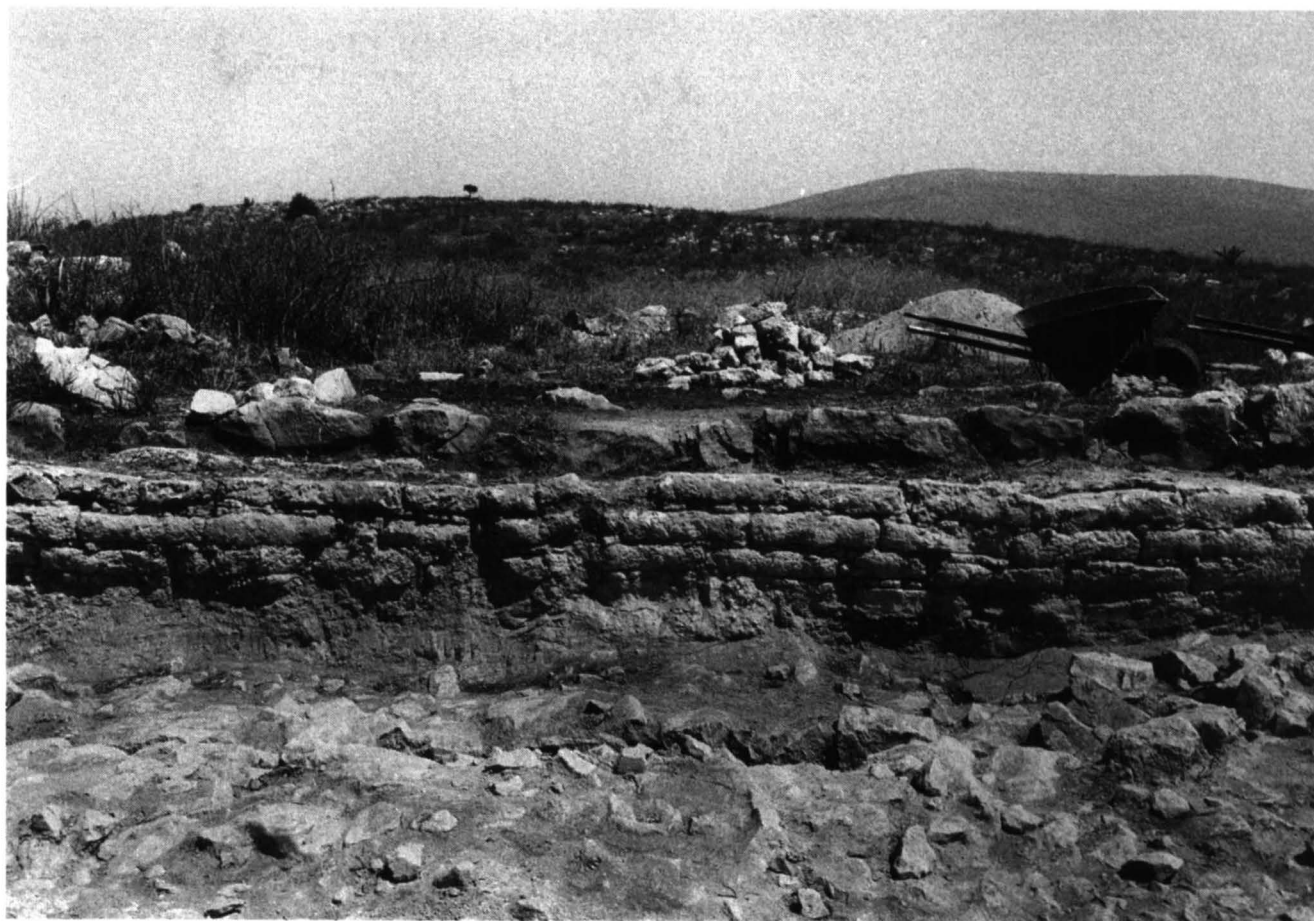
88. **H3**, north trench, lead sheets *in situ*.



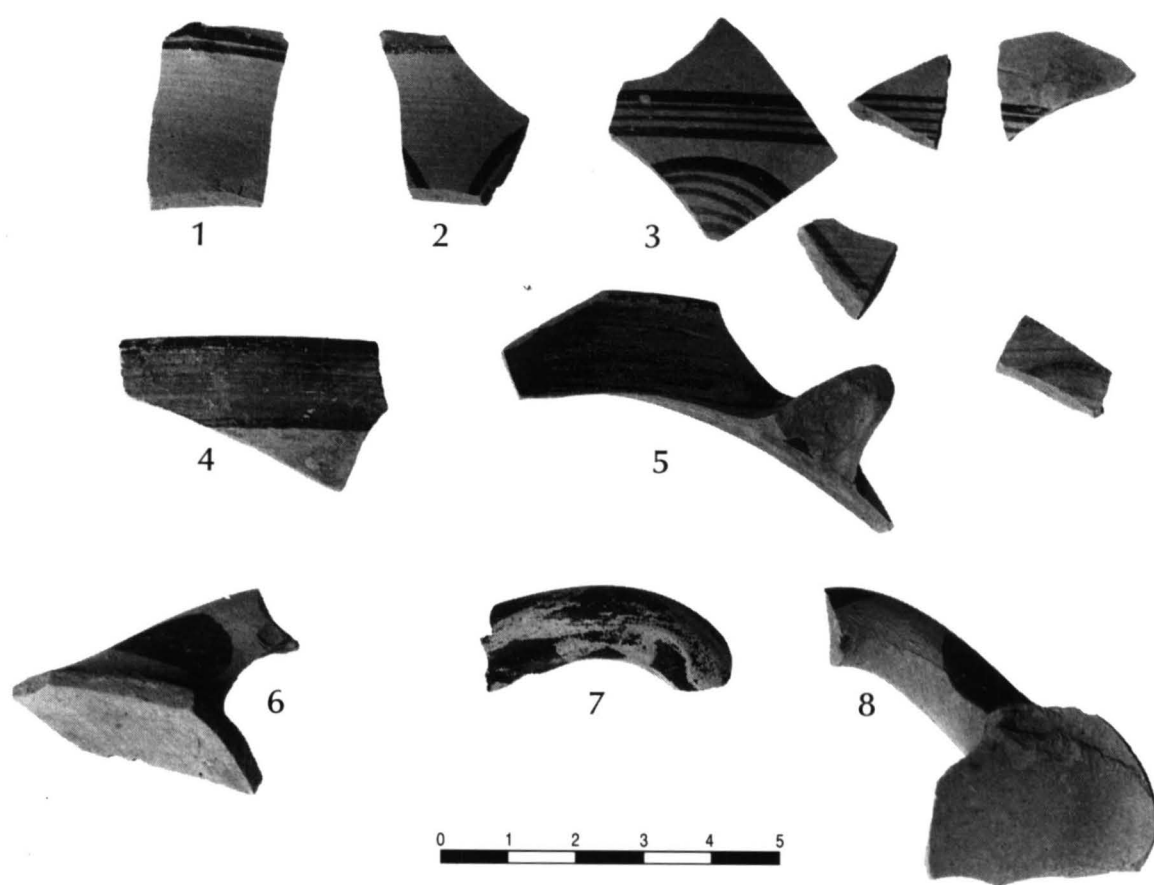
89. Room **H3**, north trench, fallen mudbrick, sherds.



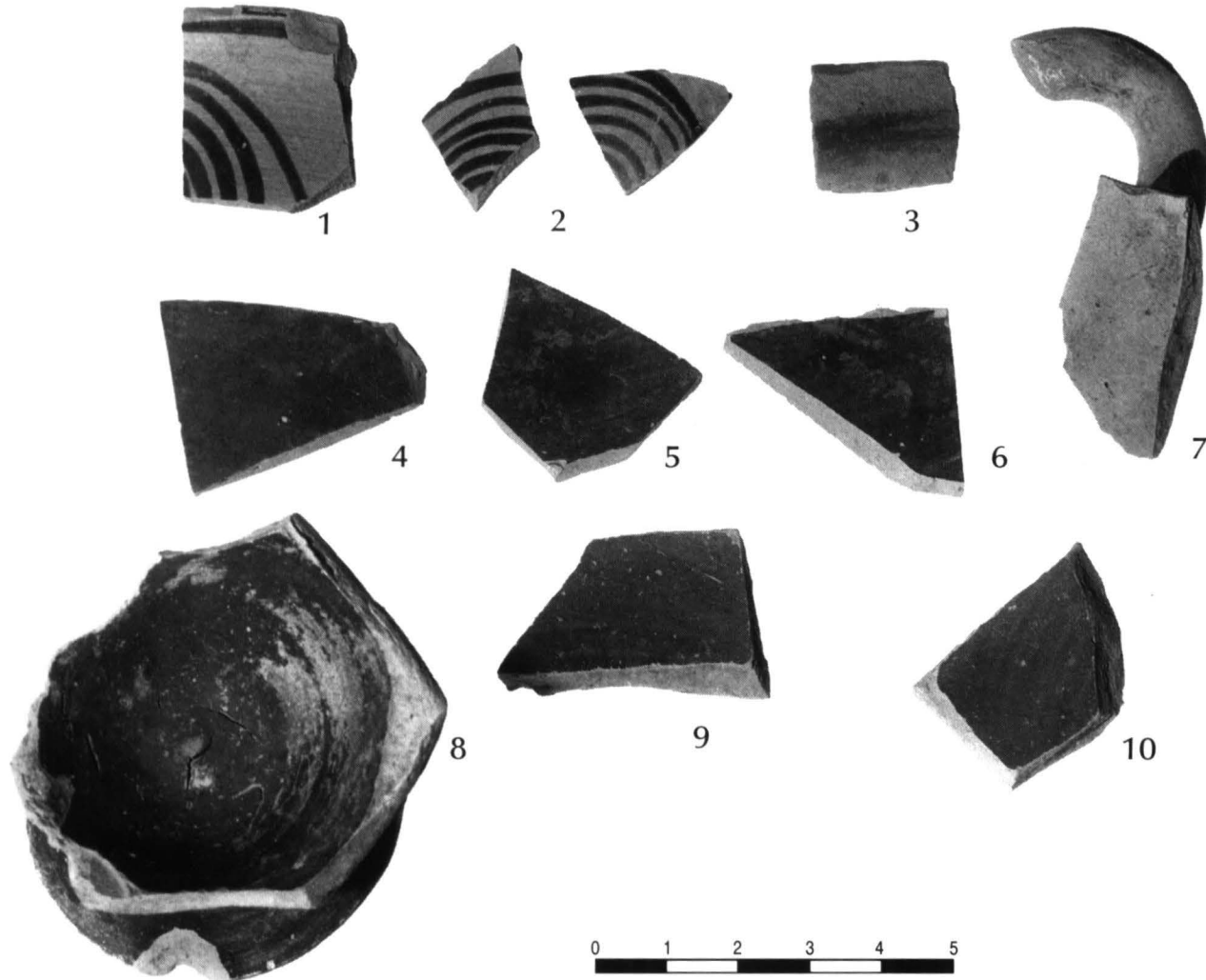
90. Room **H4**, from W.



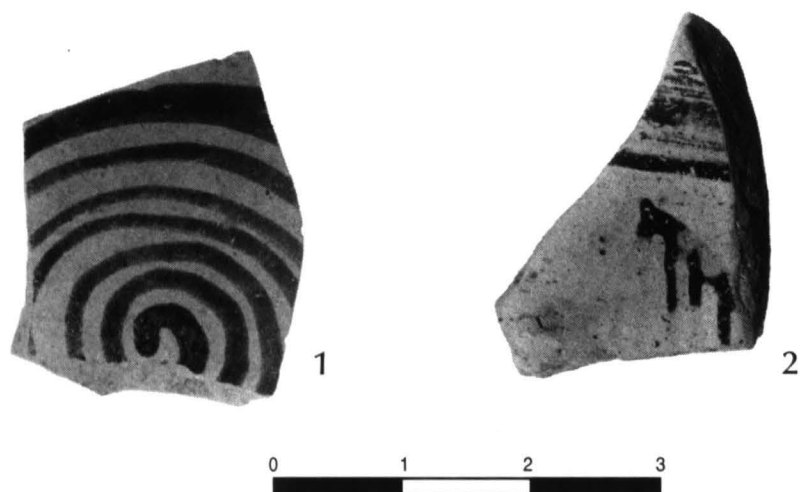
91. Room **H4**, mudbrick bench.



92. Room **H4**, second layer, sherds.



93. Room **H4**, floor deposit, sherds.



94. Room **H4**, drain, sherds.



95. Room **H4**, drain, stirrup jar.



96. Room **H4**, drain, inscribed stirrup jar.



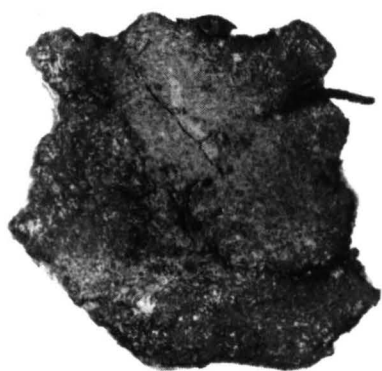
97. Room **H5**, from W.



98. Room **H3**, north threshold.



99. Room **H5**, de Ridder's trench in profile.



100. Room **H5**, first layer,
ostrich egg fragment.



101. Room **H5**, burnt clay joint
from mudbrick wall.



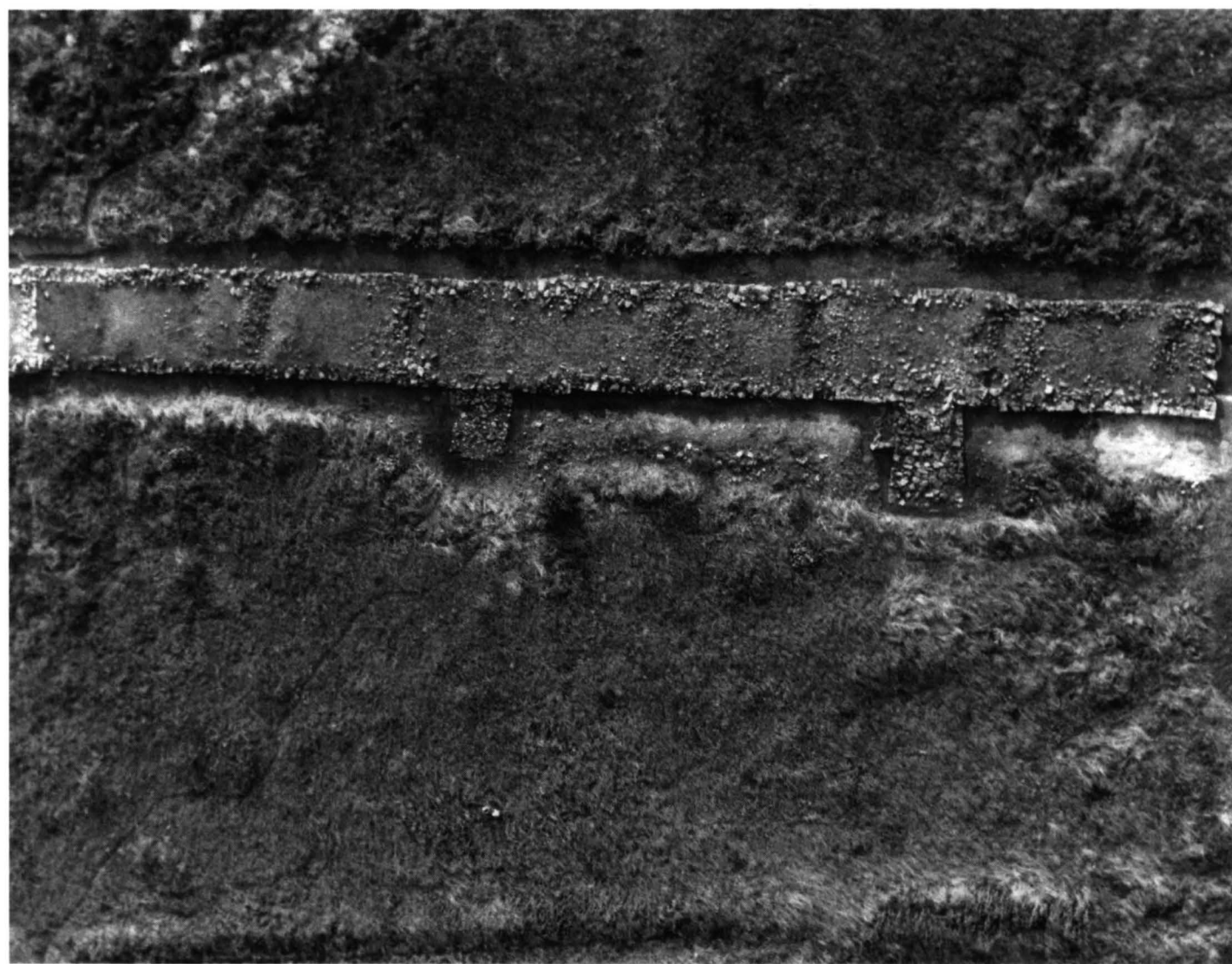
102. Room **H5**, floor deposit, two-handled jar, mended.



103. Room **H5**, floor, charred wheat.



104. Room **H5**, drain, dipper.



105. Building **K**, balloon photograph (A. Heafitz).



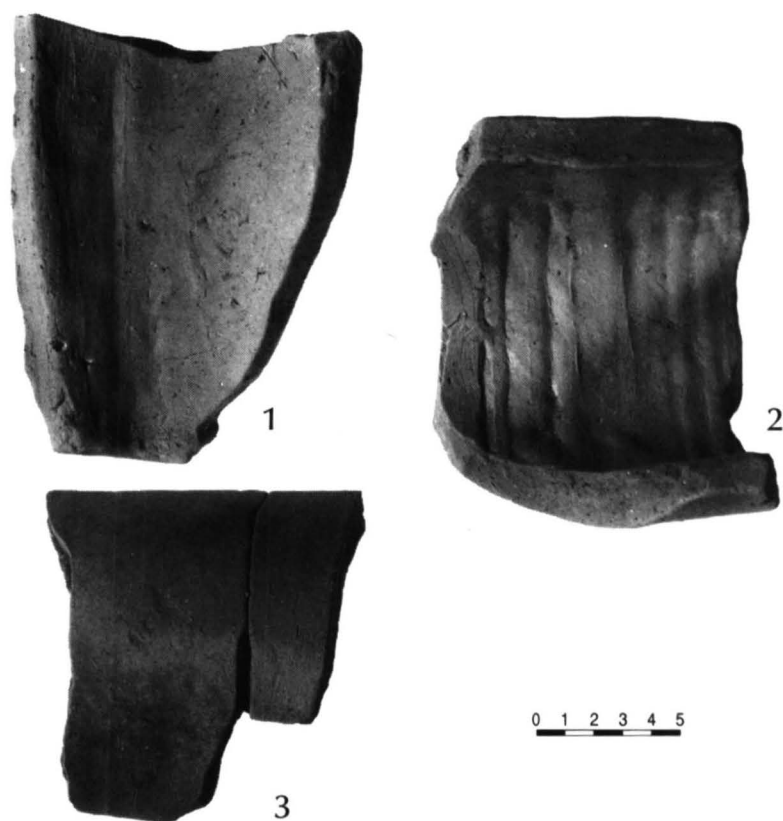
106. Building K, great ramp.



107. Building K, small ramp.



108. Building K, cross-wall.



109. Room N2, floor, pithos and roof tile fragments.



110. Rooms **K5**, **N1-N3** and area **N4**, balloon photograph (A. Heafitz).



111. Rooms **K5**, **N1-N3** and area **N4**, from S.



1



2



3



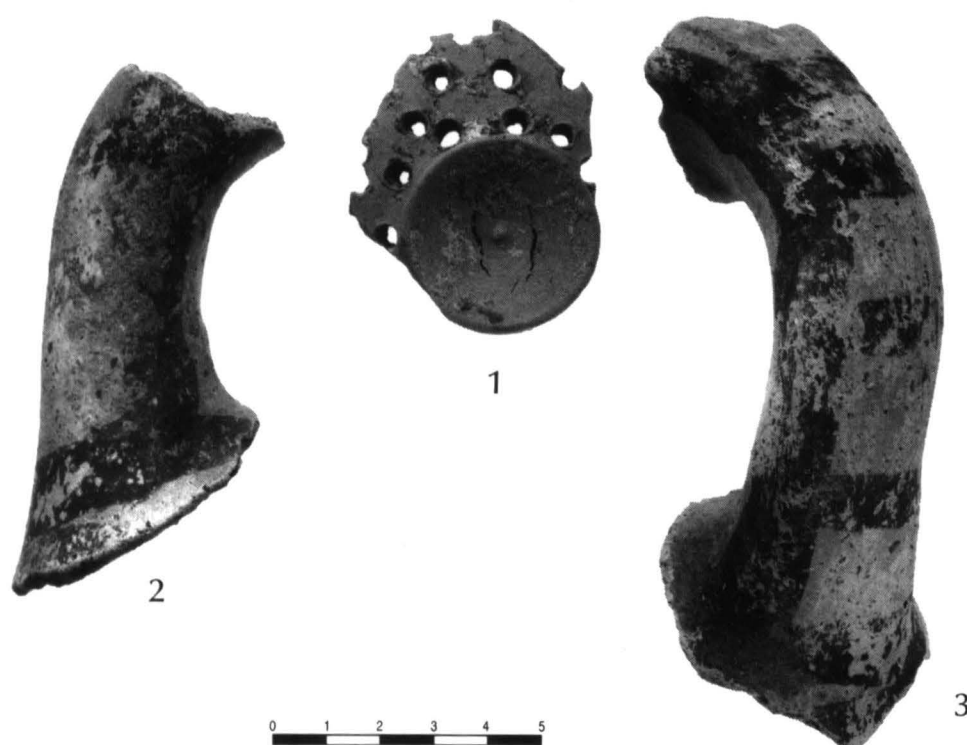
112. Room N1, floor deposit, strainer.



113. Room N3, pavement and entrance.



114. Area **N4**, floor deposit, grilling stand and sherds.



115. Area **N4**, floor deposit, stirrup jar handles and strainer fragment.



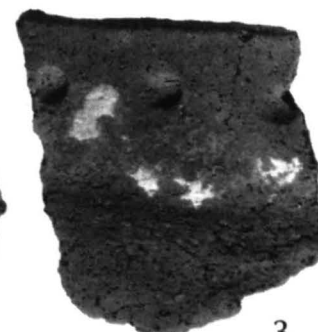
116. Area **N4**, pithos shoulder fragment.



1



2



3



117. Area **N4**, pithos shoulder fragments.



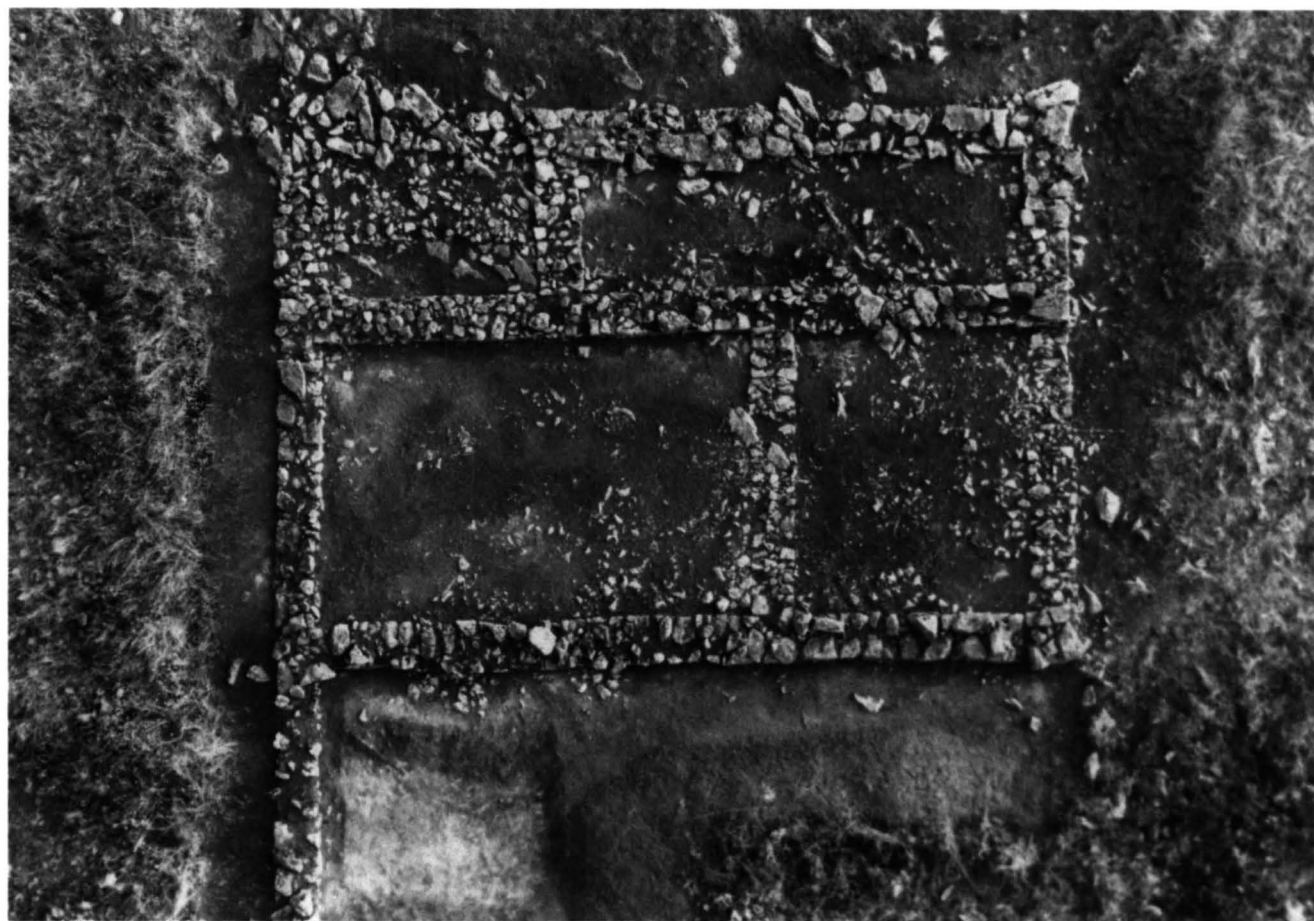
118. Area **N4**, lead sheets and sherds *in situ*.



119. Area N4, lead sheets and sherds *in situ*.



120. Area N4, lead sheets, *in situ*.



121. Building **M**, balloon photograph (A. Heafitz).



122. Room **M3**, second layer, sherds.

123. Room **M3**, second layer,
tankard, sherd.



124. Room **M3**, sea shells.



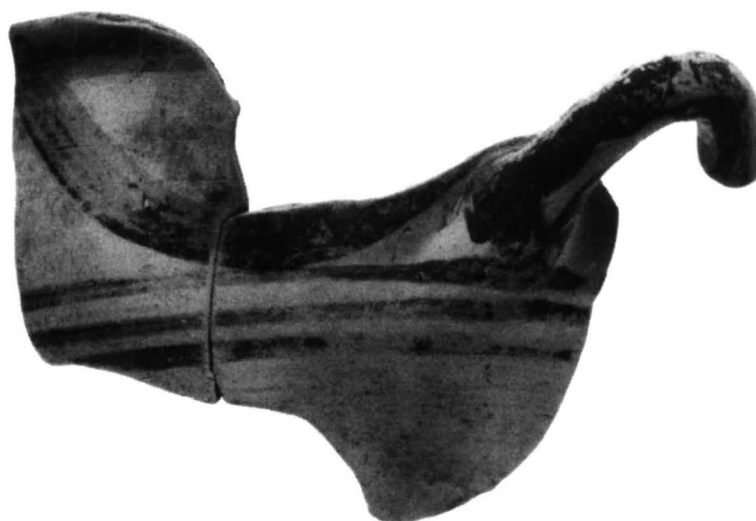
125. Room **M3**, sea shells.



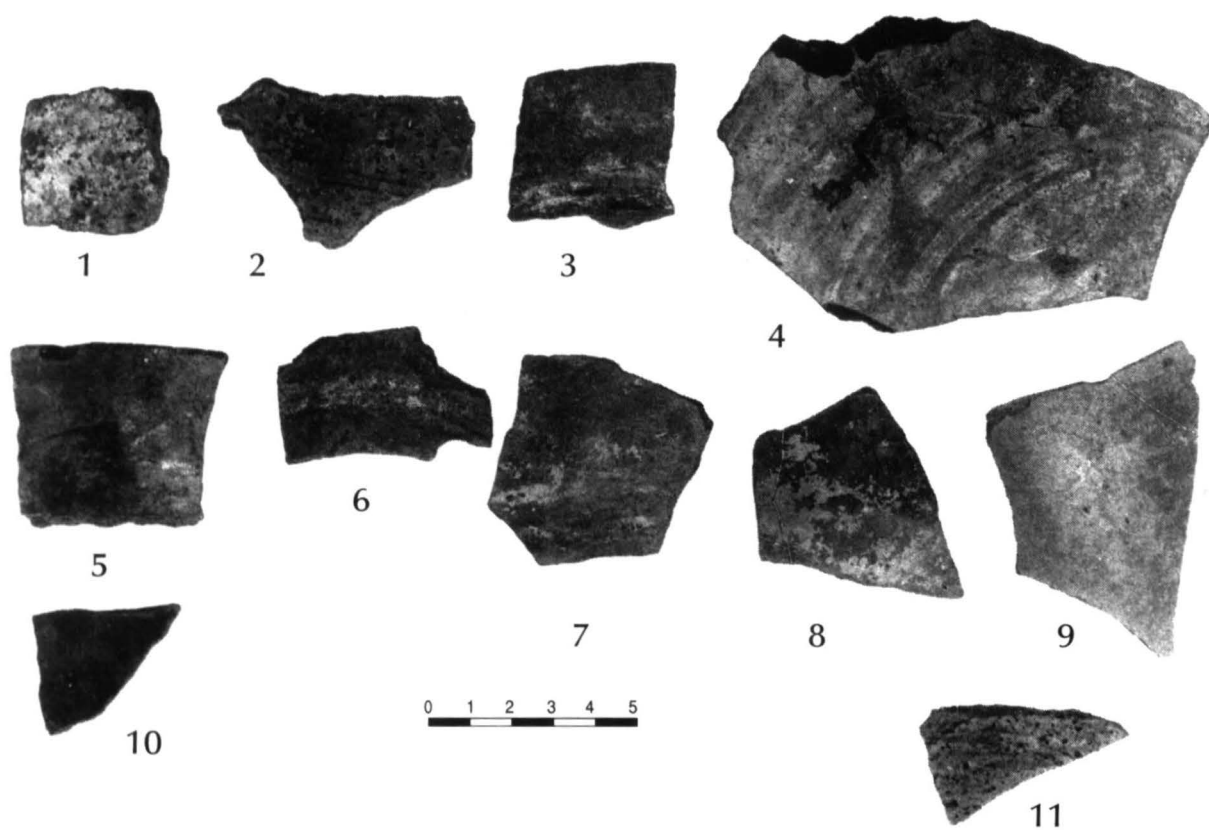
126. Room **M3**, sealstone.



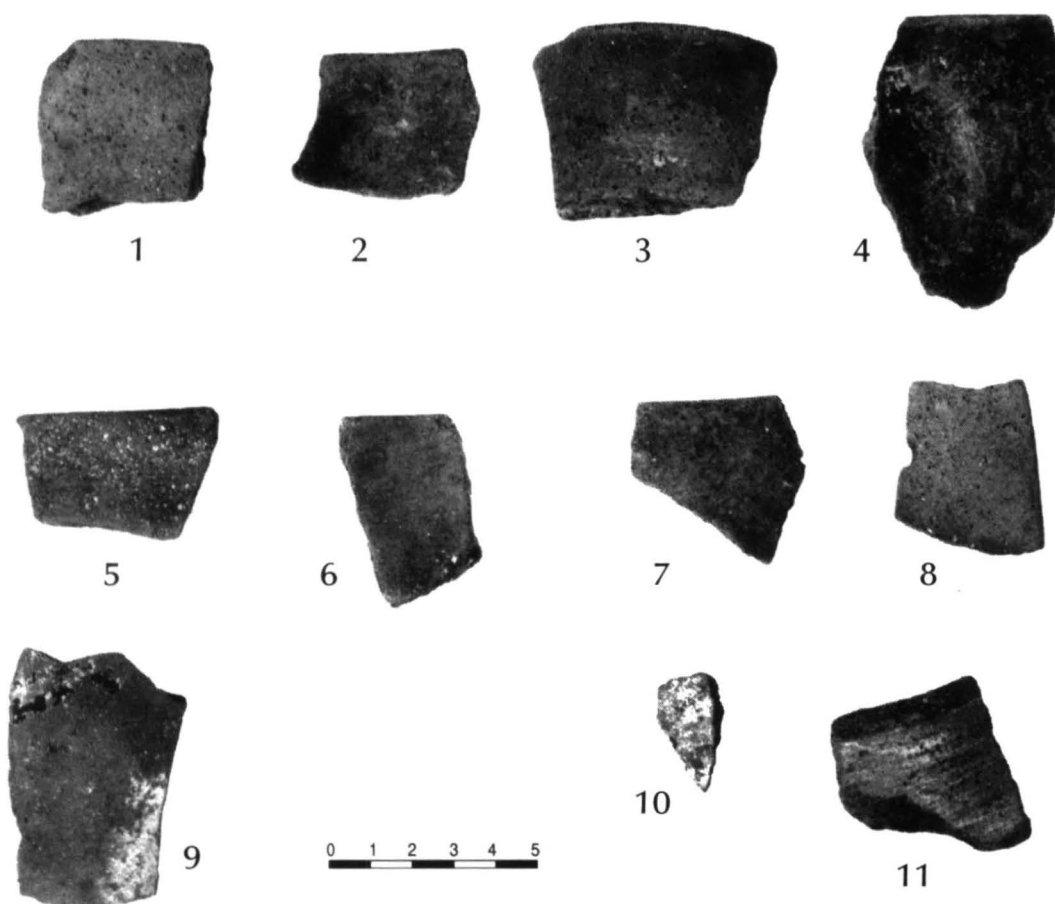
127. Room **M3**, floor deposit, kylix.



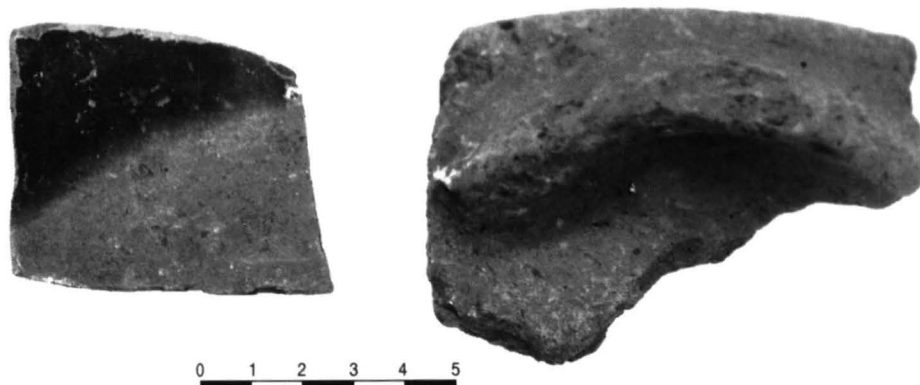
128. Room **M3**, floor deposit, skyphos fragment.



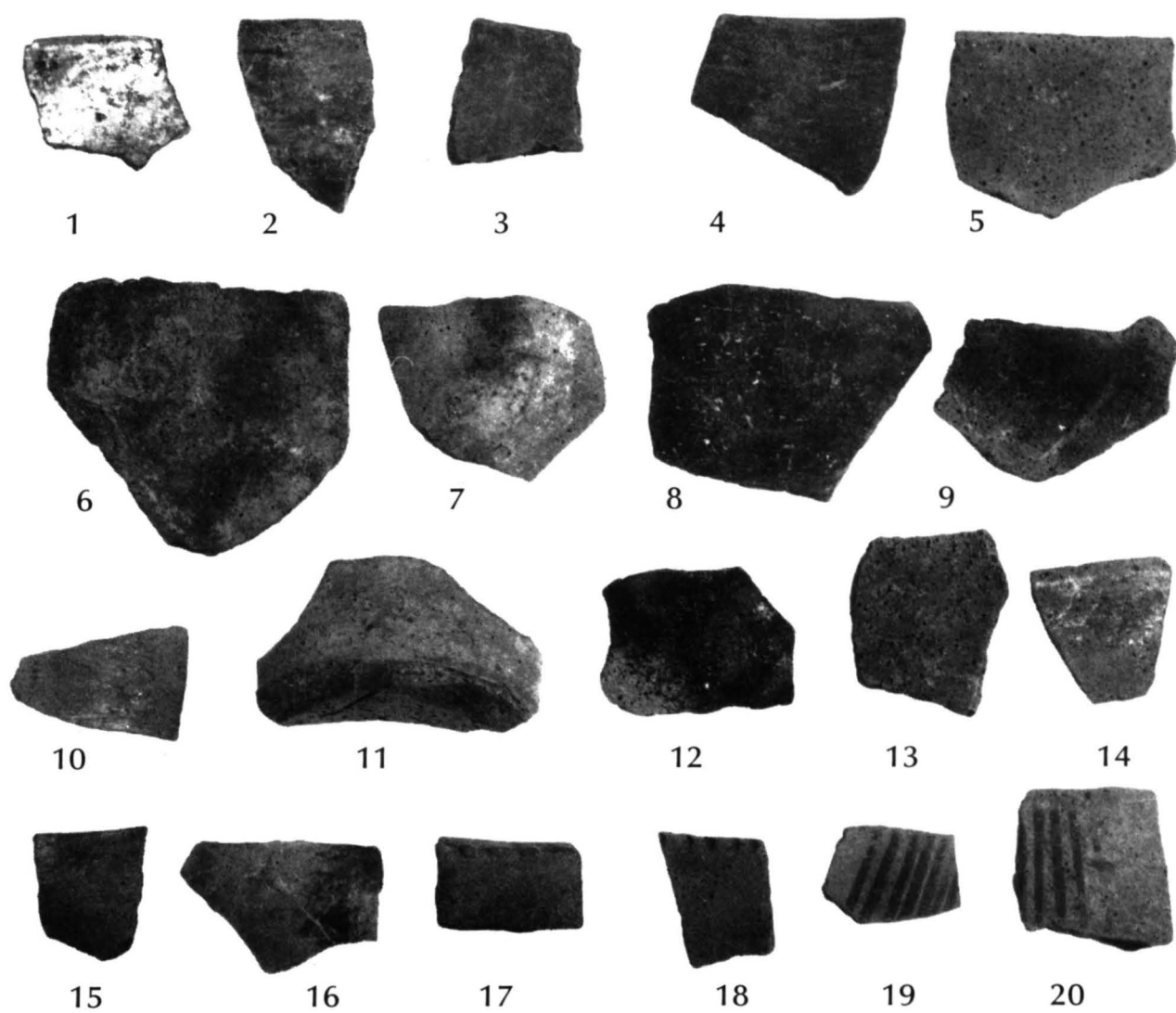
129. Double Gate, NL sherds.



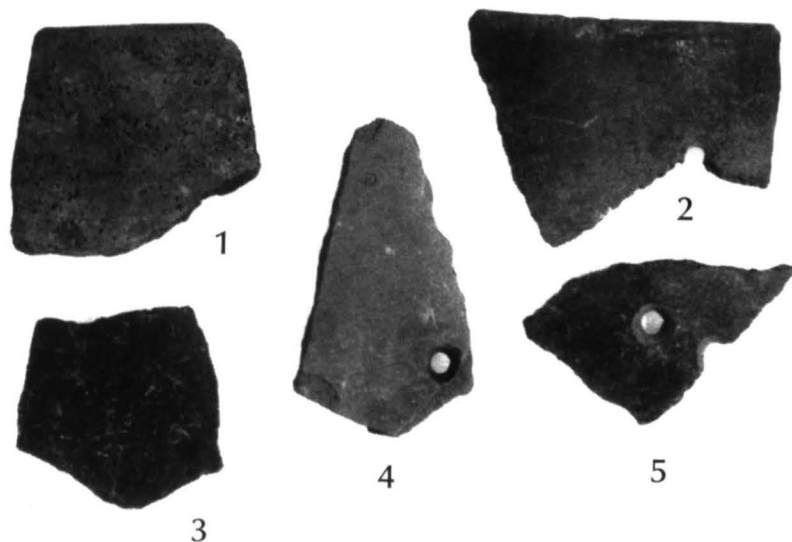
130. Double Gate, middle guardroom, NL sherds.



131. West Gate, NL sherds.



132. North Gate, NL sherds.



133. NL sherds from rock fissure between Double and South Gate.



134. Melathron, west extension,
NL sherd from room **26**.



135. Area **N4**, kylix.



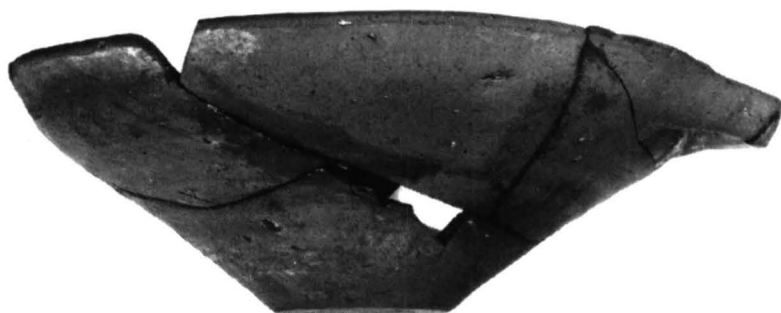
136. Kylix.



137. Shallow bowl from entrance of building **A**.



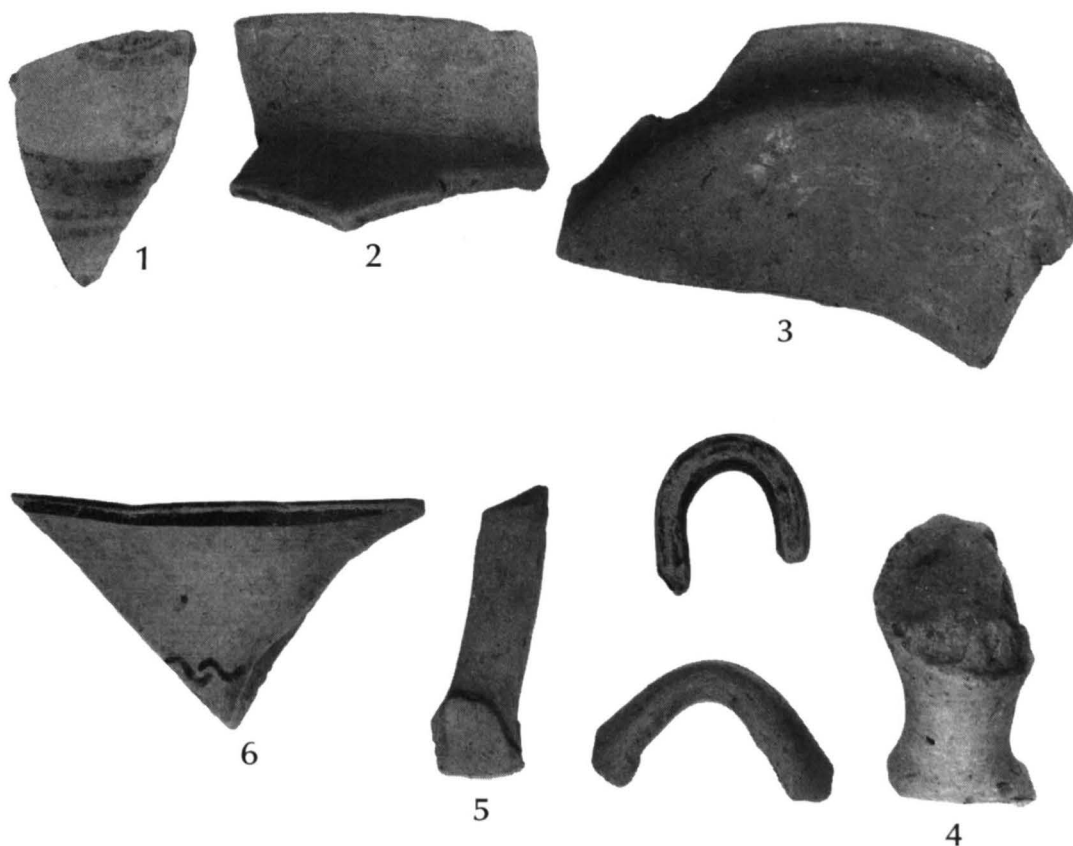
138. Shallow bowl from South Gate.



139. Shallow bowl.



140. Room **M2**, second layer, pithos shoulder.



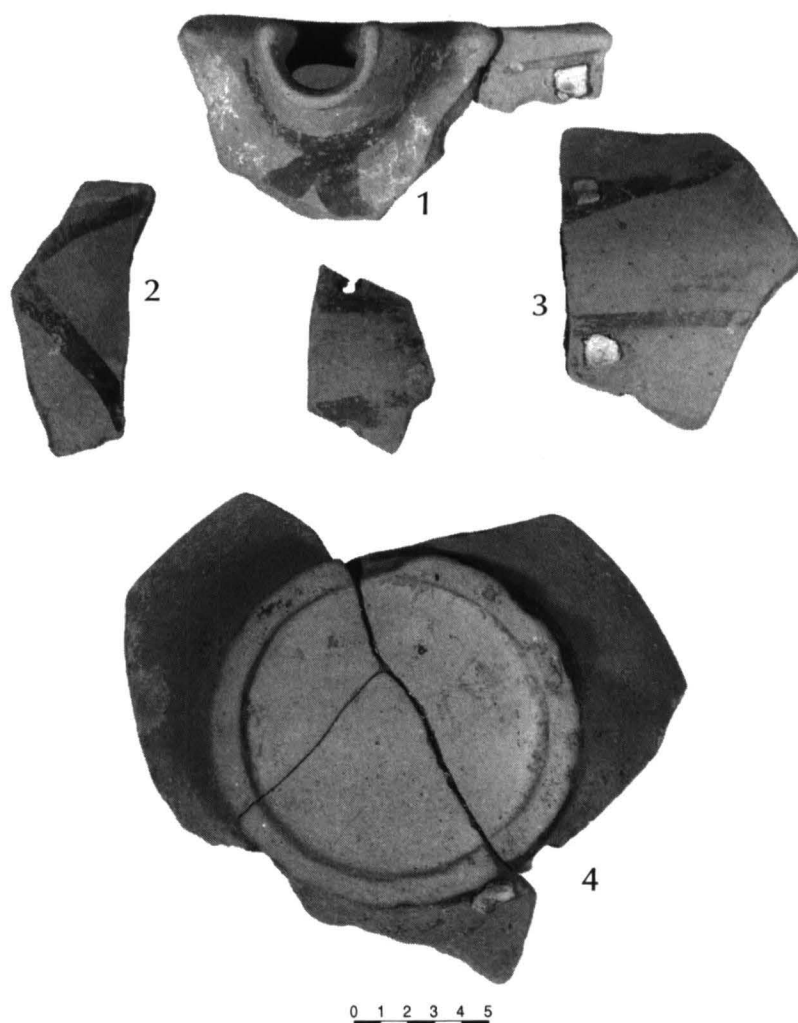
141. Room **H2**, second layer, sherds.



142. Stirrup jar sherds from causeway to **E1**.



143. Room **H2**, ash layer, fragment of stirrup jar.



144. Pottery from east room of south entrance to enclosure.



145. Area N4, floor deposit, cup.



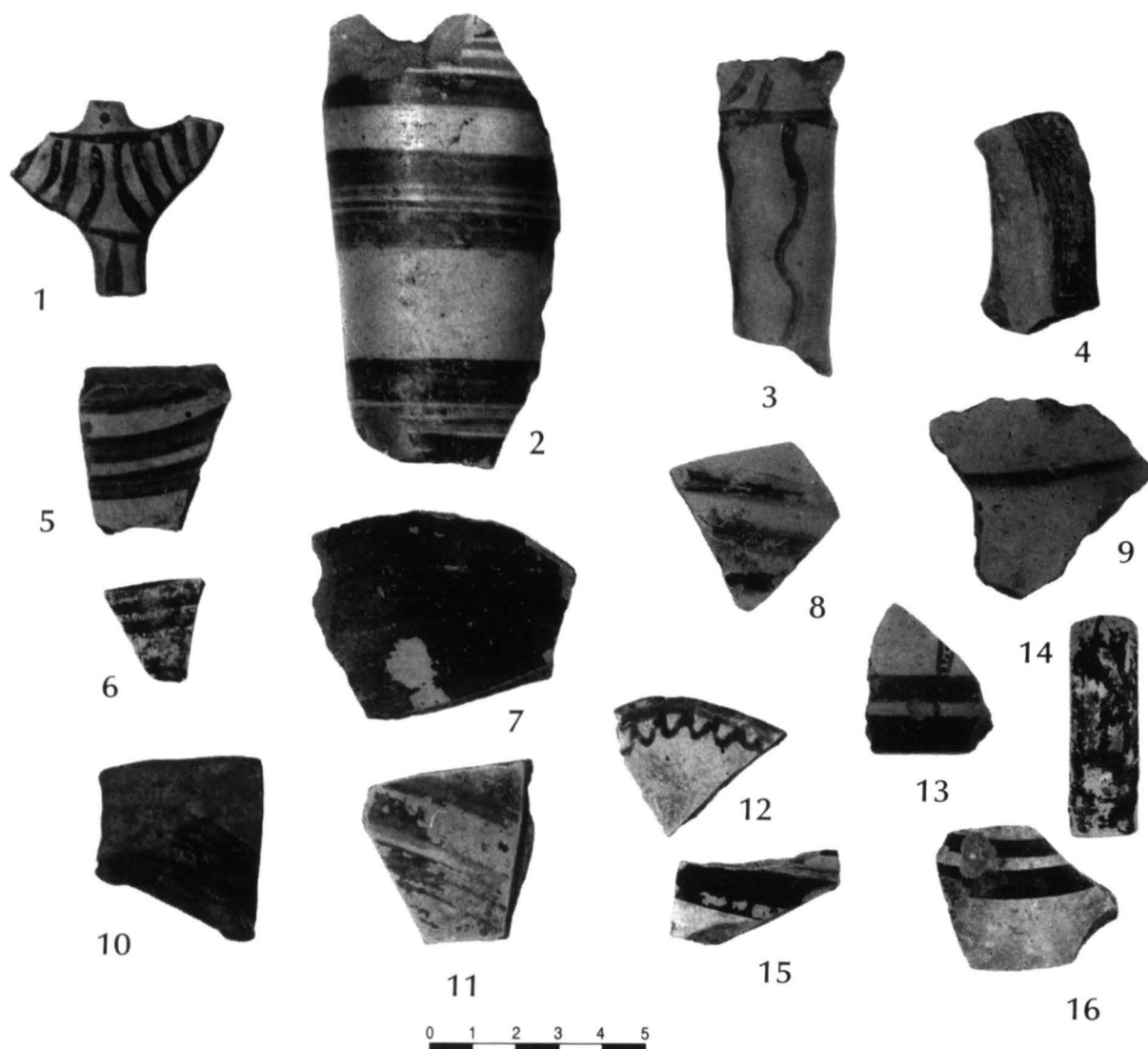
146. South Gate, dipper from area of west guardroom.



147. Room **K5**, clay plate fragments.



148. Room **M2**, old trench fill, plate.



149. Double Gate, sherds from surface of east entrance.



150. Enclosure, east entrance, north room, lead clamp.



1

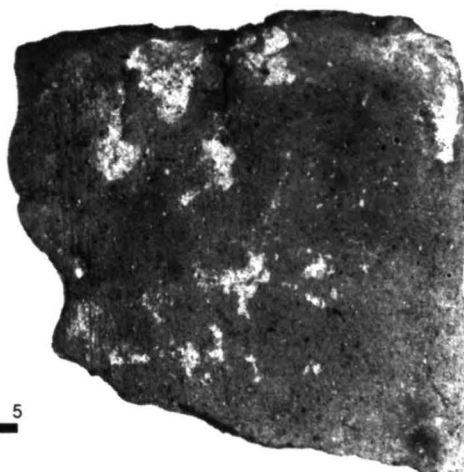


151. Sherd with mend clamp
from corner of **B5** and **E**.



2

152. **Z10**, roof tile fragments.



153. Cover tile fragments from **Z10**.



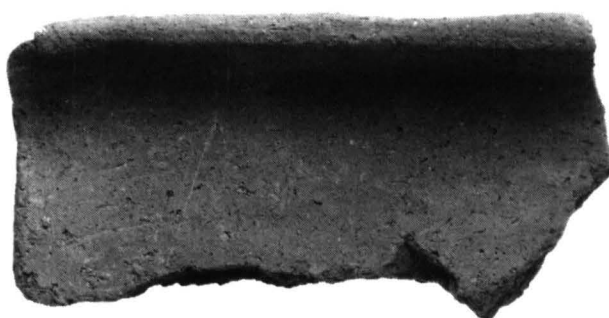
154. Room N2, cover tile and pithos fragments.



155. Room N2, floor deposit, sherds, sea shells and cover tile.



156. Room **M2**, second layer, pan tile fragments.



1

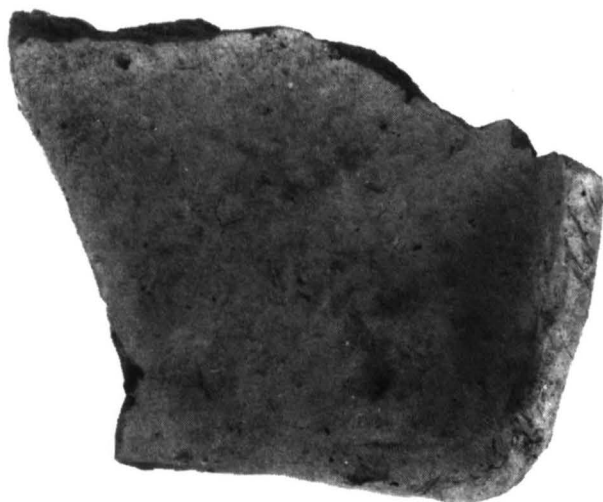


2

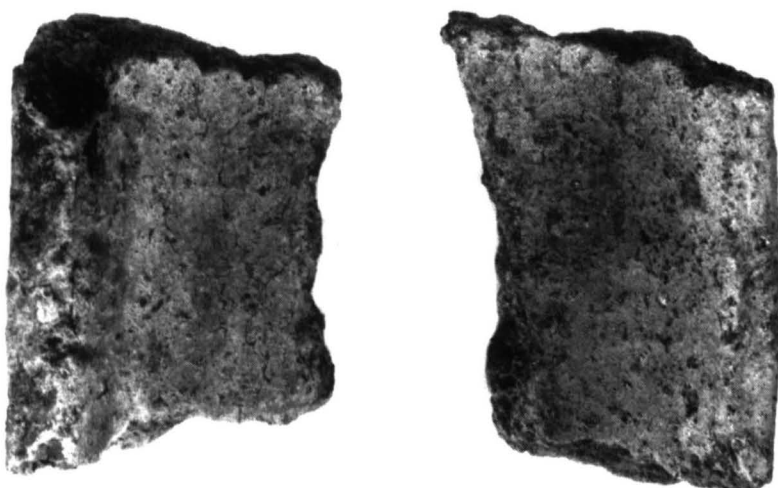
157. Room **M3**, cover tile and pithos fragments.



158. Room **M4**, first layer, cover tile fragments.



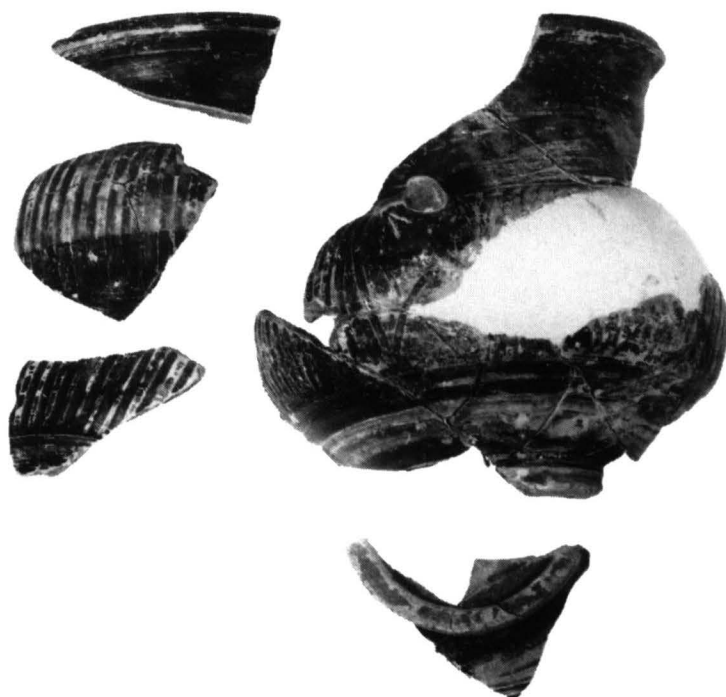
159. Melathron, west extension, pan tile from room **27**.



160. Pan tile fragments from **B3**.



161. Double Gate, palmette lekythos.



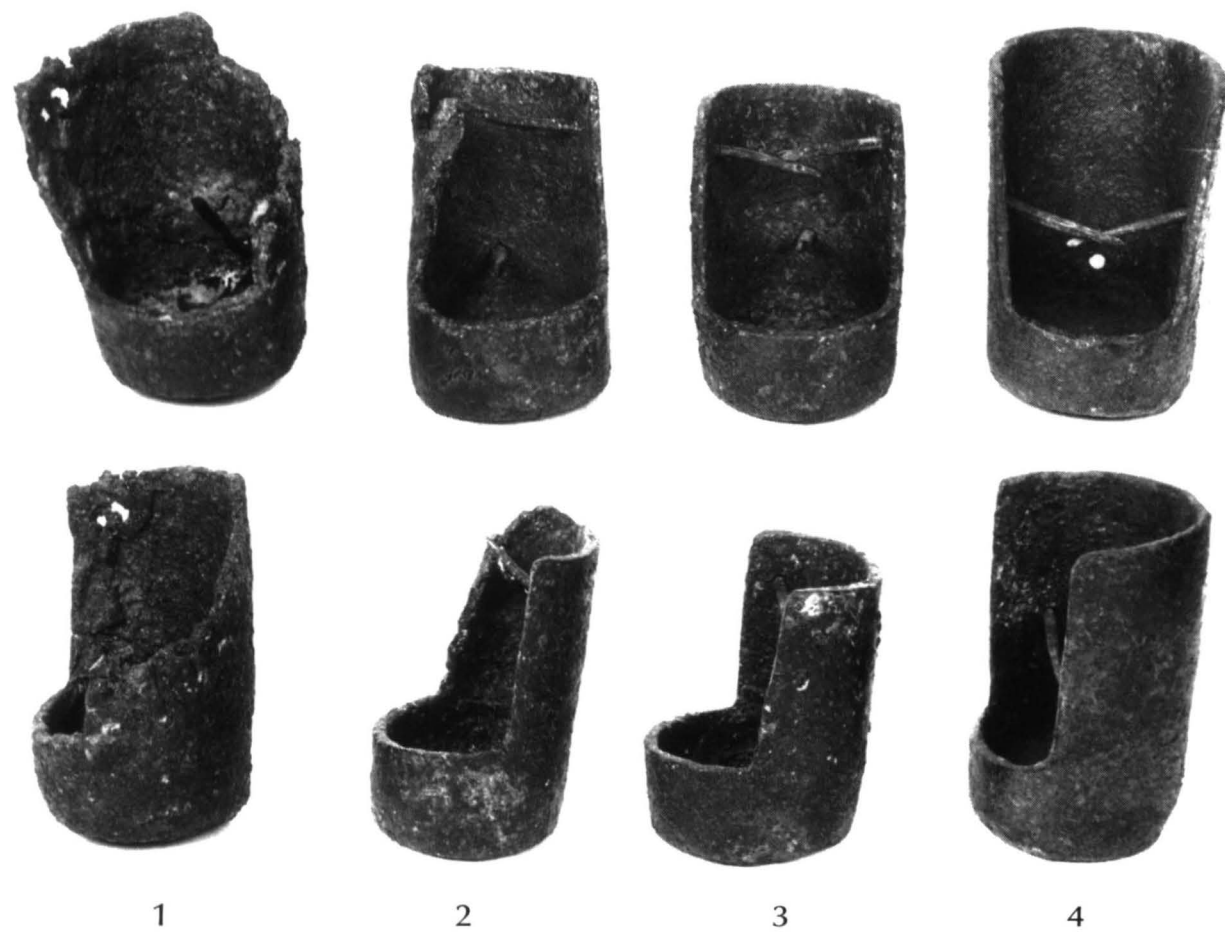
162. South Gate, fragments of ribbed kantharos.



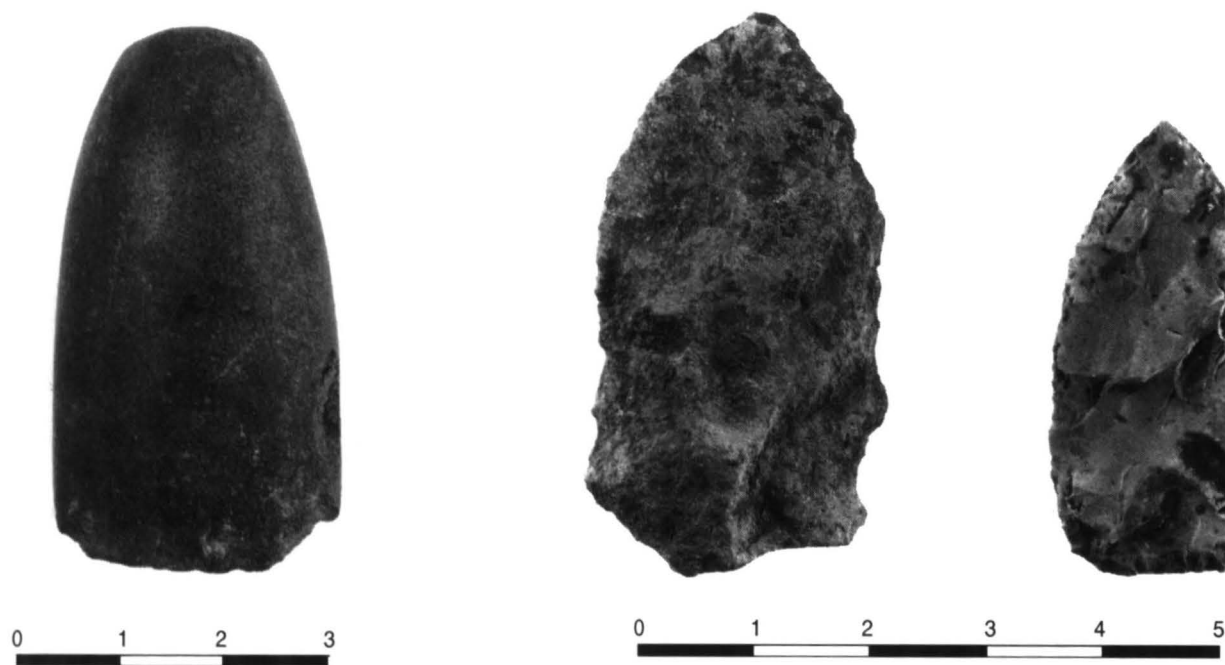
163. East of room N3, lead fragments.



164. West Gate, bronze nail.

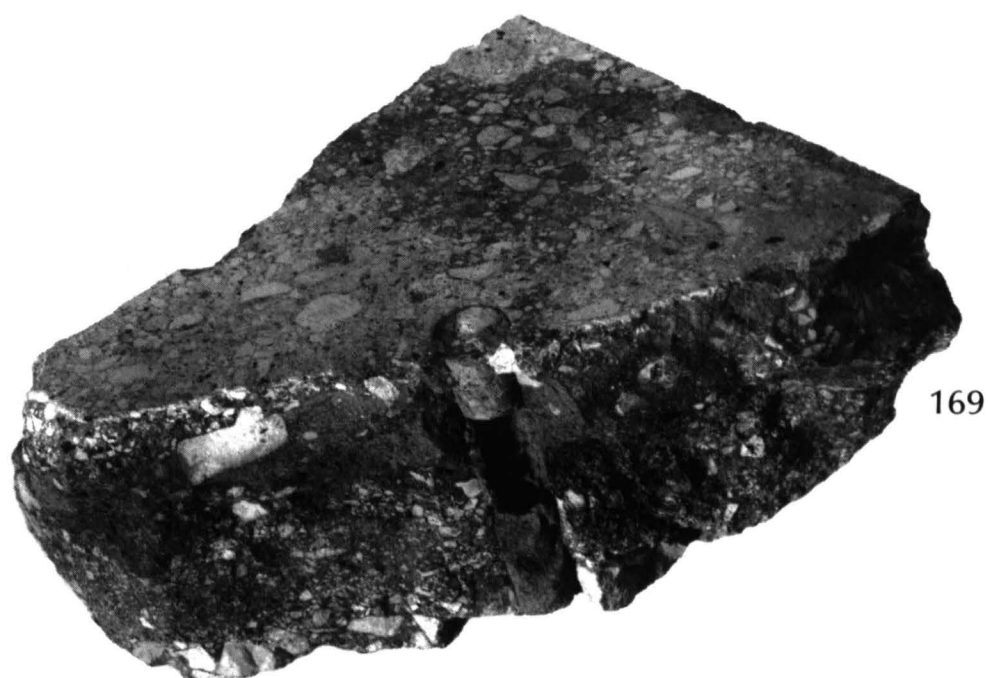
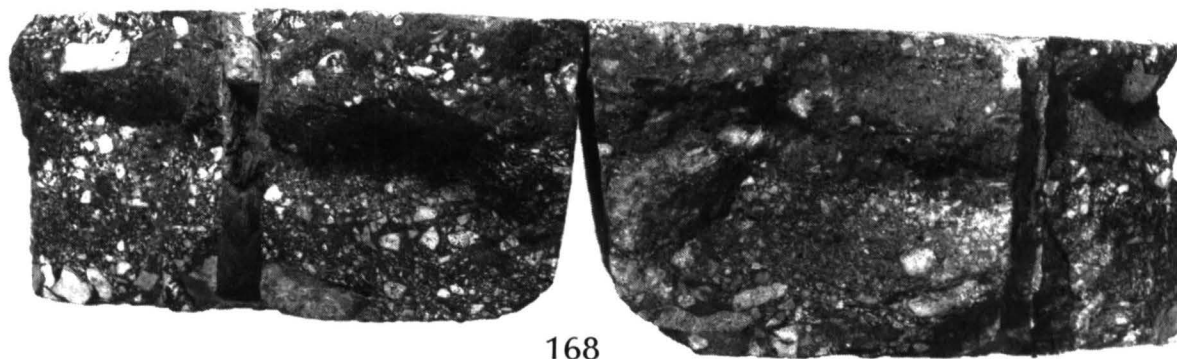


165. Bronze pivot shoes from east wing of melathron.

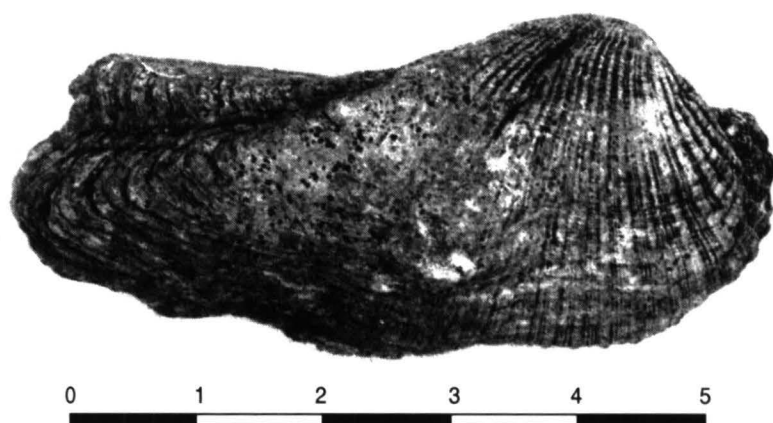


166. NL celt.

167. Room **H3**, first layer, stone blade (left) and room **H5**, first layer, stone blade (right).



168, 169. Conglomerate slabs from melathron.



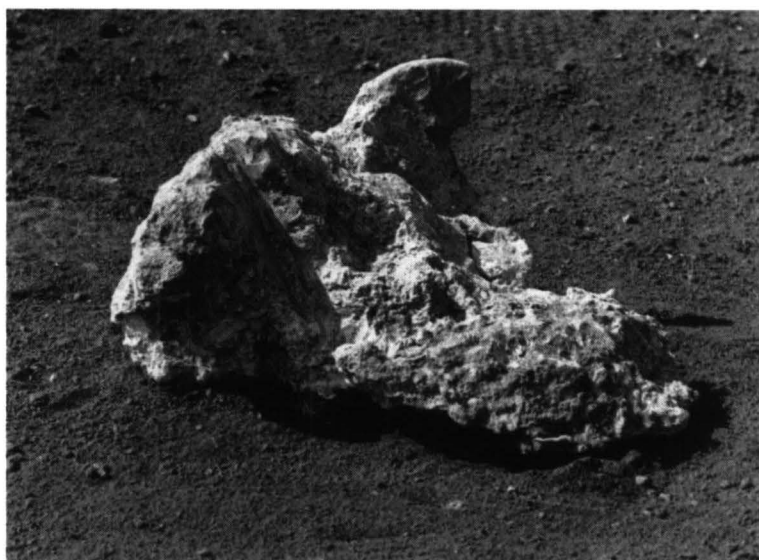
170. North Gate, sea shell.



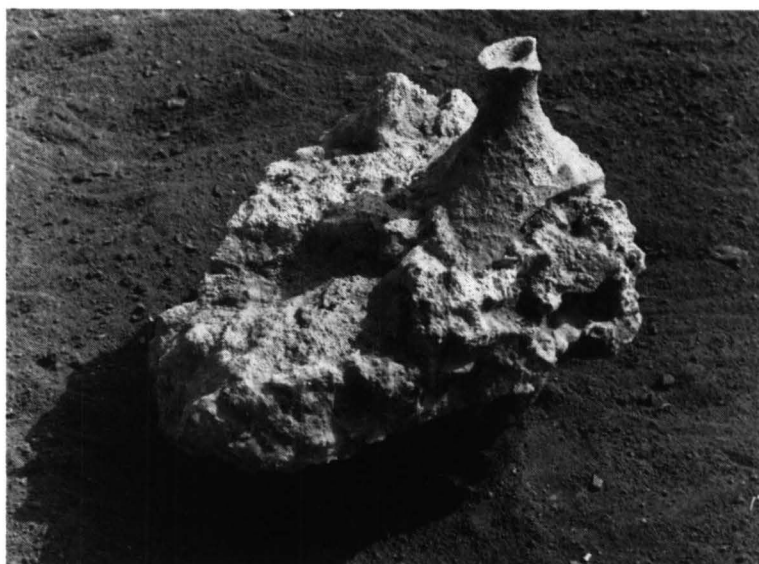
171. Room **H5**, floor rubble fill.



172. Sherds in mudbrick.



173. Pot base in mudbrick.



174. Kylix fragment in mudbrick.



175. Mudbrick with chaff.



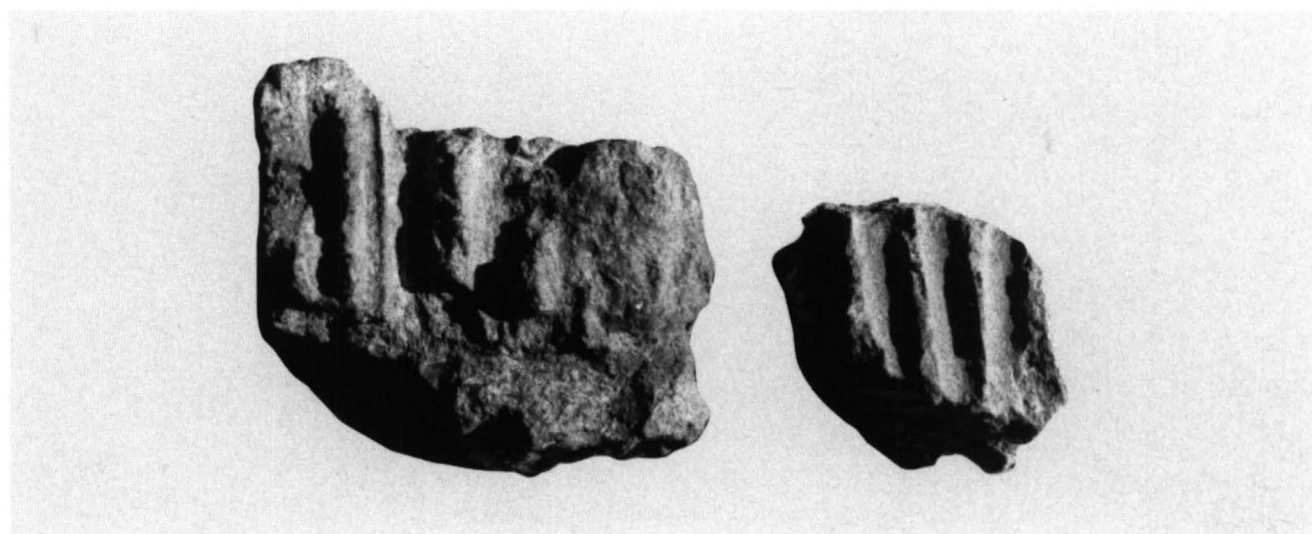
176. Melathron, rooms **15-16-17-18-19**, corridors **O2**, **P1-P2**, floors.



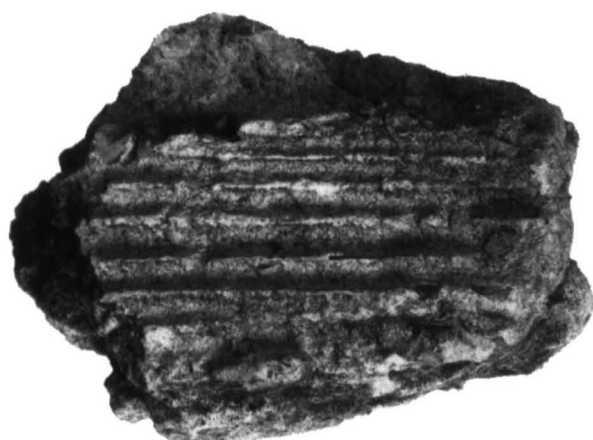
177. Room **H3**, floor (section).



178. Room **H4**, drain, construction.



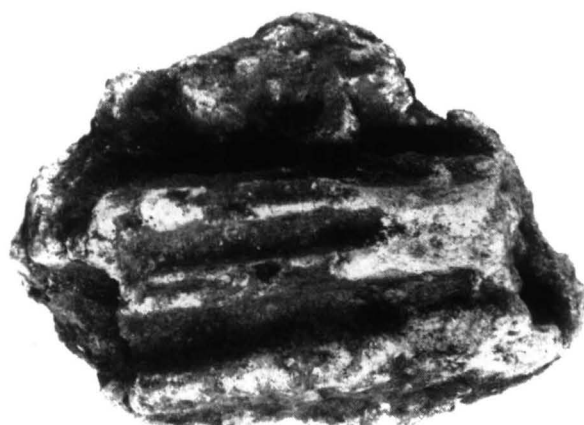
179. Lumps of burnt clay showing traces of reeds.



180. Roof clay packing from citadel.



181. Clay fragment with rush impression from corner of **Z3** and cross-wall.



182. Clay packing from roof of melathron.



183. Room **H1**, burnt clay showing traces of reeds.



184. Roof tiles arranged straight on lattice of laths, without clay packing (house in modern village of Mycenae).



185. Sheathing of reeds supporting clay bedding for roof tiles (house in modern village of Mycenae).

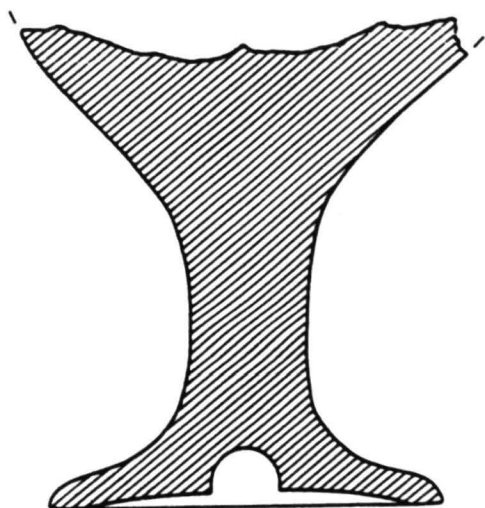


186. Kopais, sinkholes.

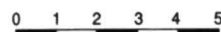
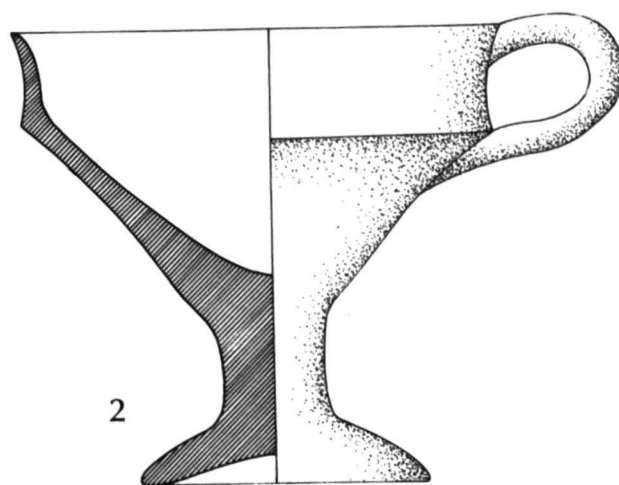
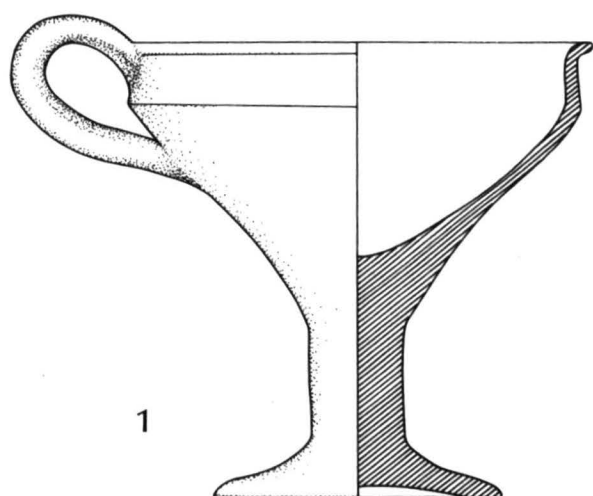


187. Kopais. Large sinkhole (Megali Katavothra).

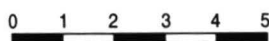
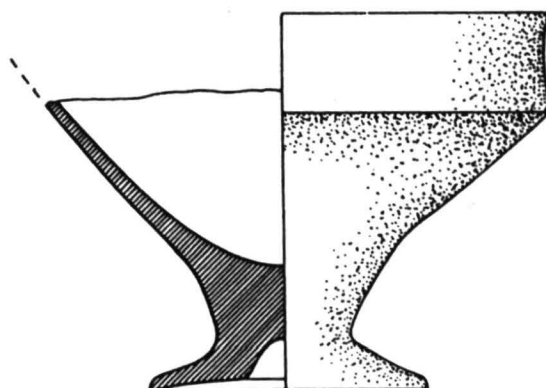
SHAPES



1. Kylix stem and base with circular depression.

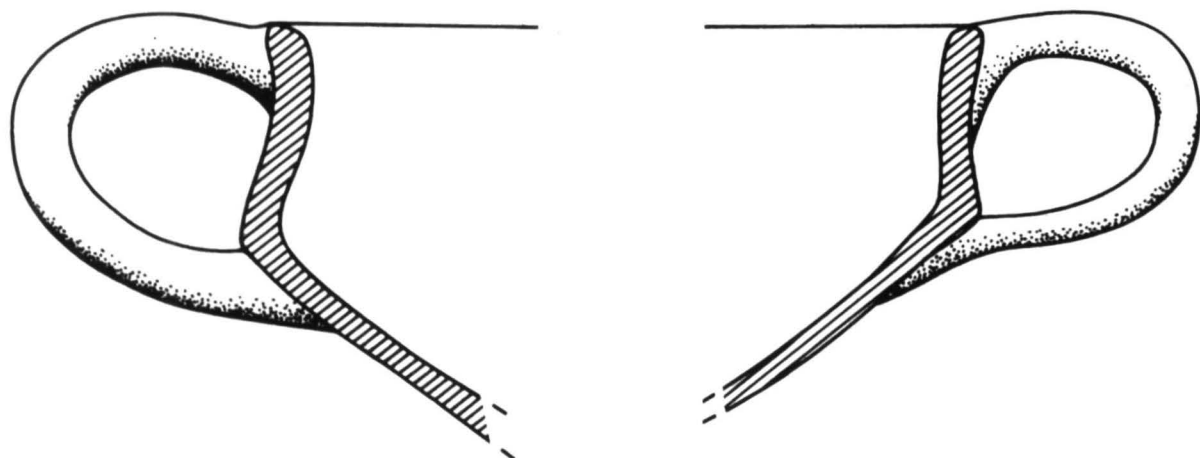


2:1, 2. Kylix with carinated rim.

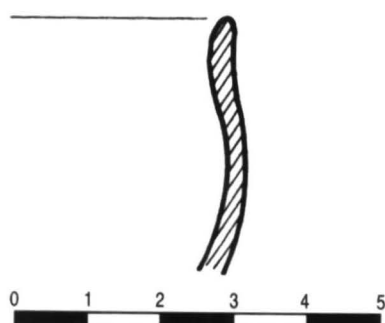


3. Short-stemmed kylix.

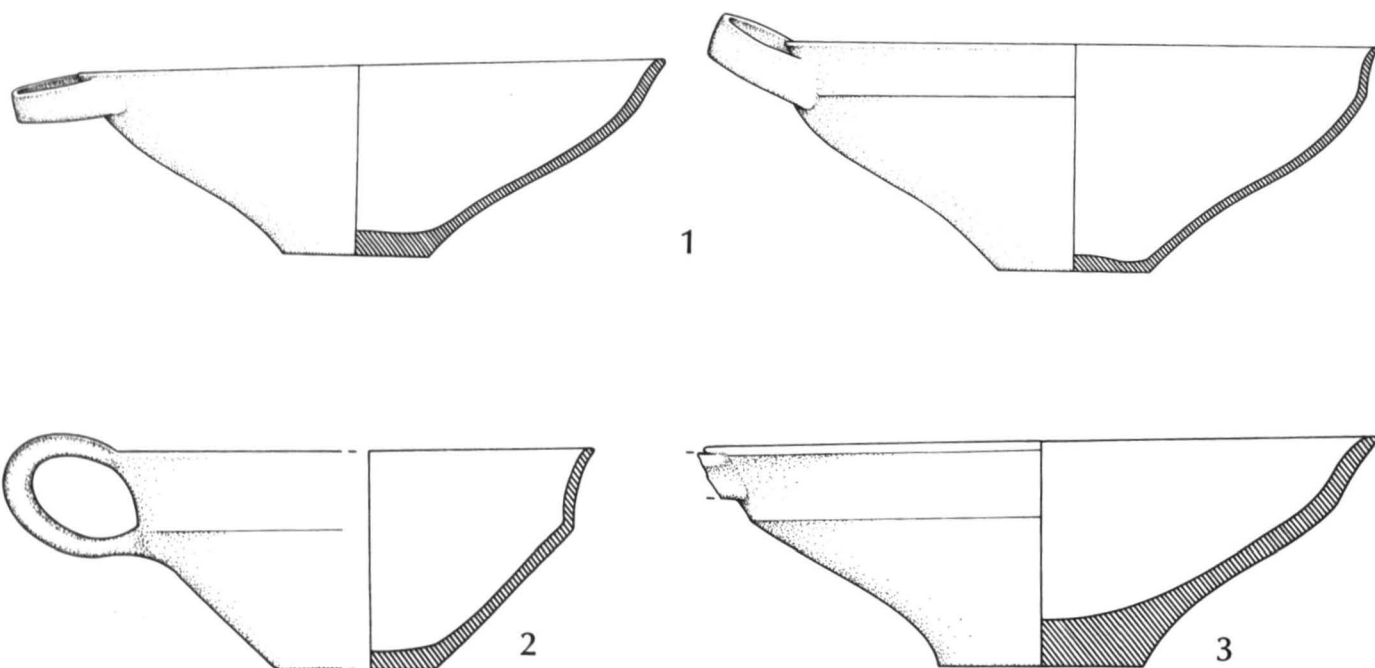
SHAPES 4, 5



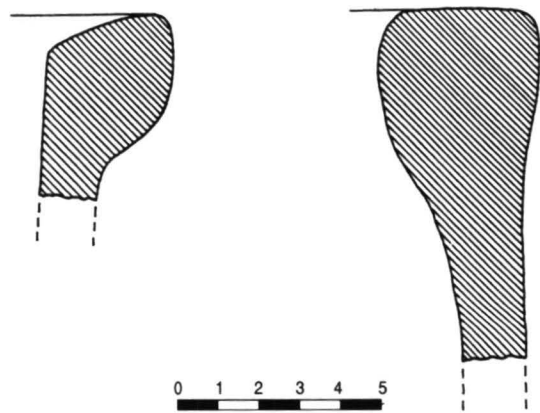
4.1. Kylikes, carinated rims and handles.



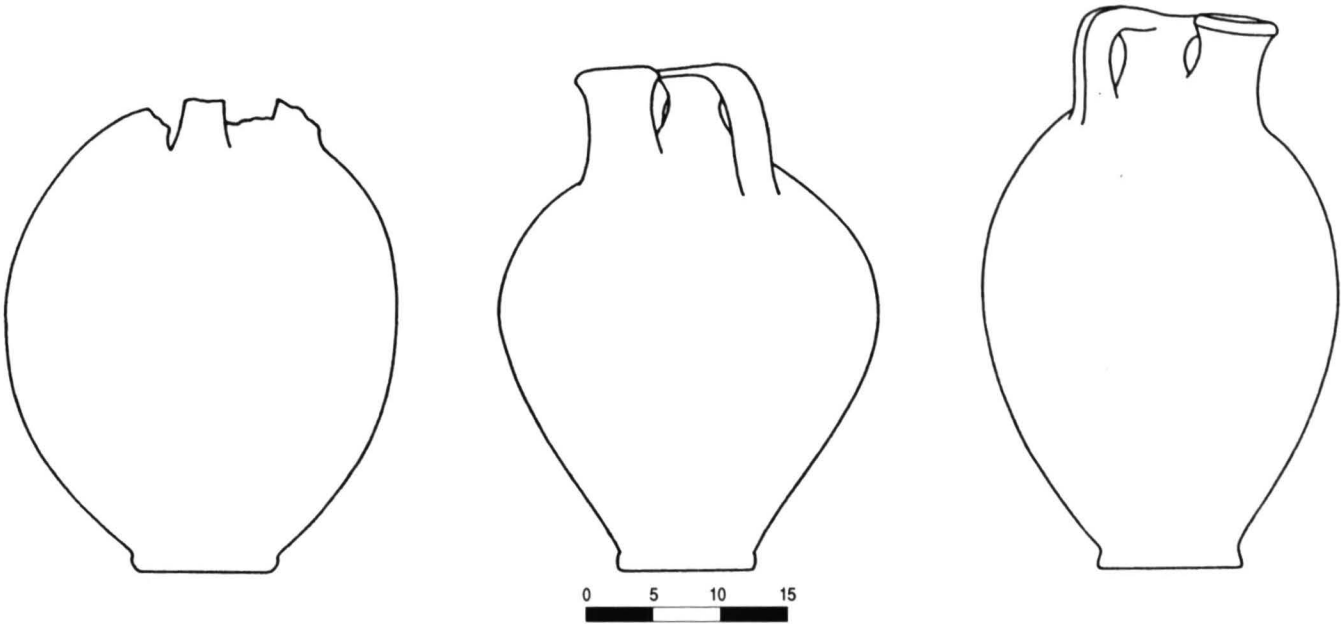
4.2. Kylix, rounded rim, section.



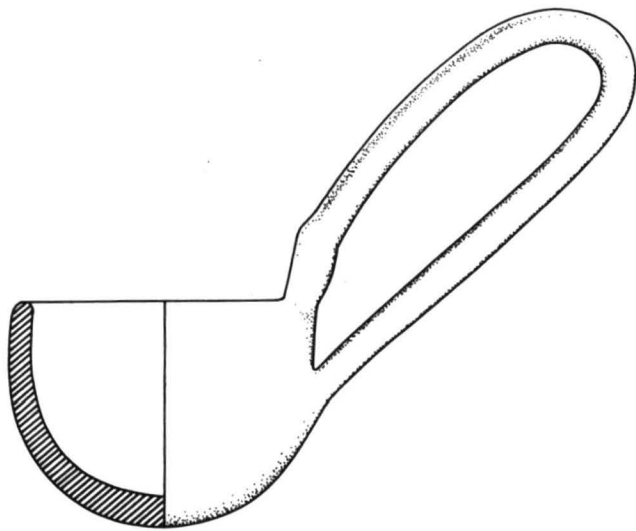
5:1, 2, 3. Carinated shallow bowls.



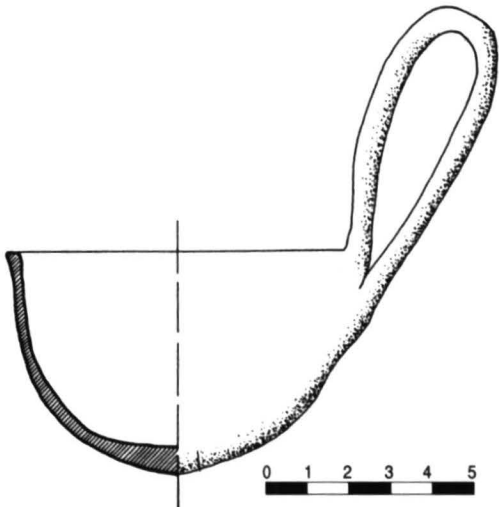
6. Pithos rims, sections.



7. Storage stirrup jars.

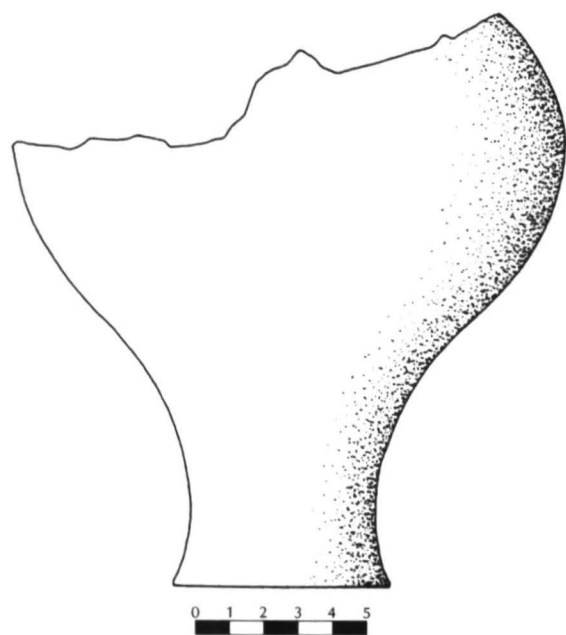


8:1. Dipper.

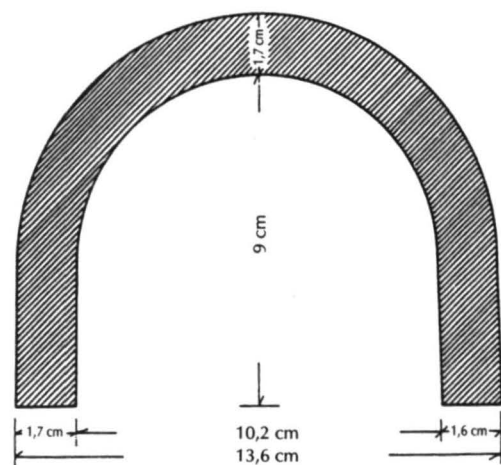


8:2. Dipper.

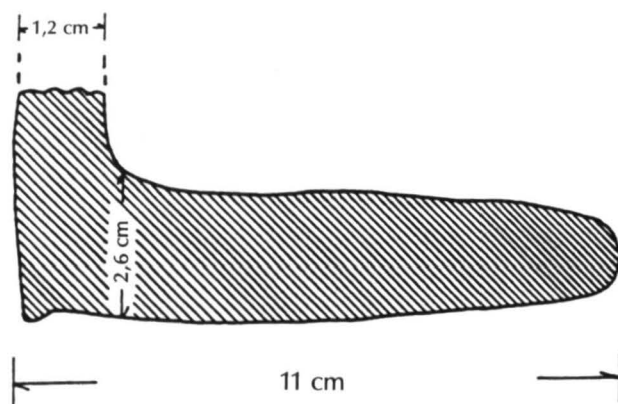
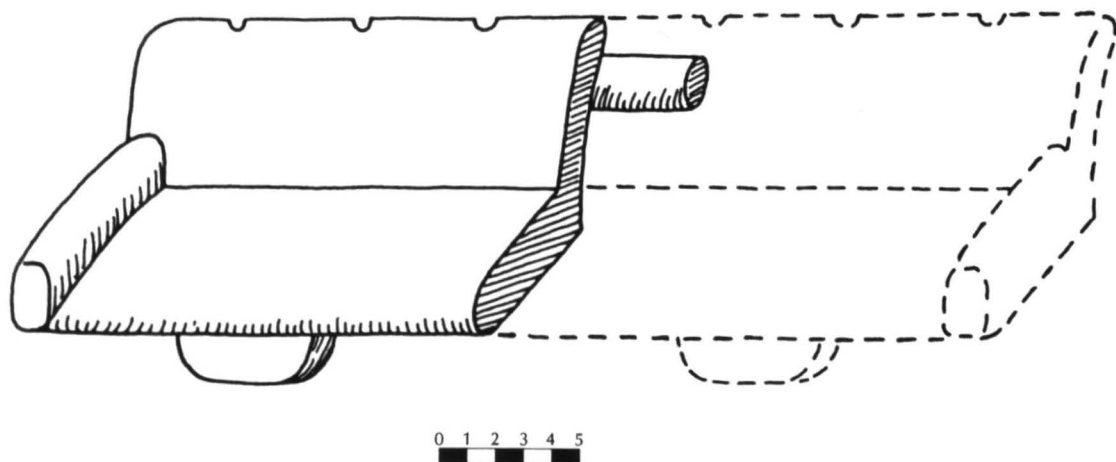
SHAPES 9-11



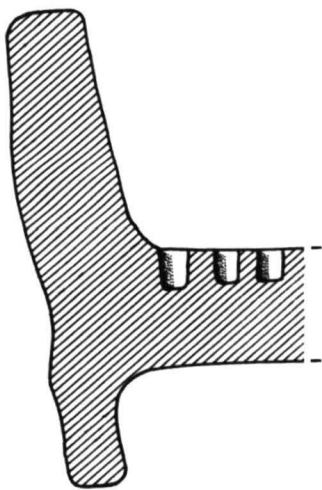
9. Piriform stamniskos, base and lower body.



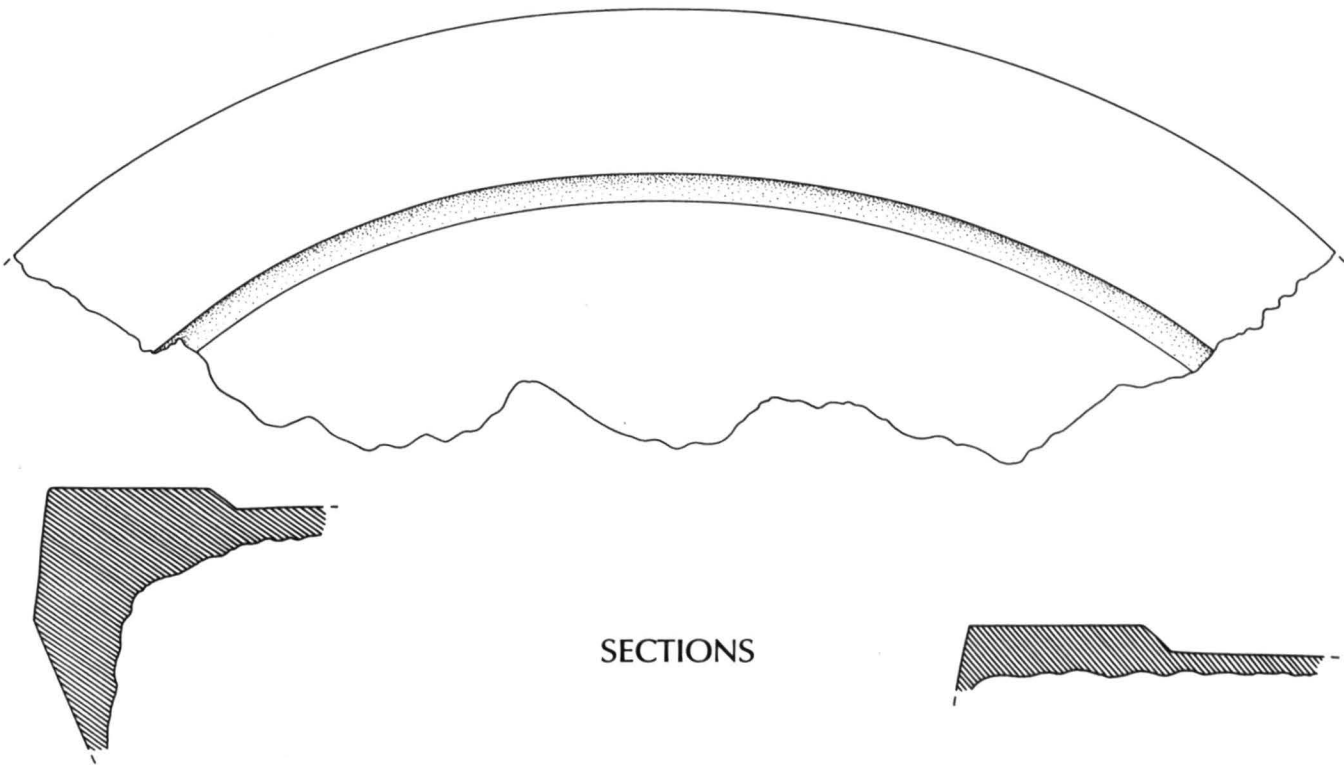
10. Cover tile, section.



11:1, 2. Grilling stand, drawing and section.



12. Broiling pan, section.



13. Offering table rims.

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GLA AND THE KOPAIS
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