



Pavlopetri, an Underwater Bronze Age Town in Laconia

Author(s): Anthony Harding, Gerald Cadogan and Roger Howell

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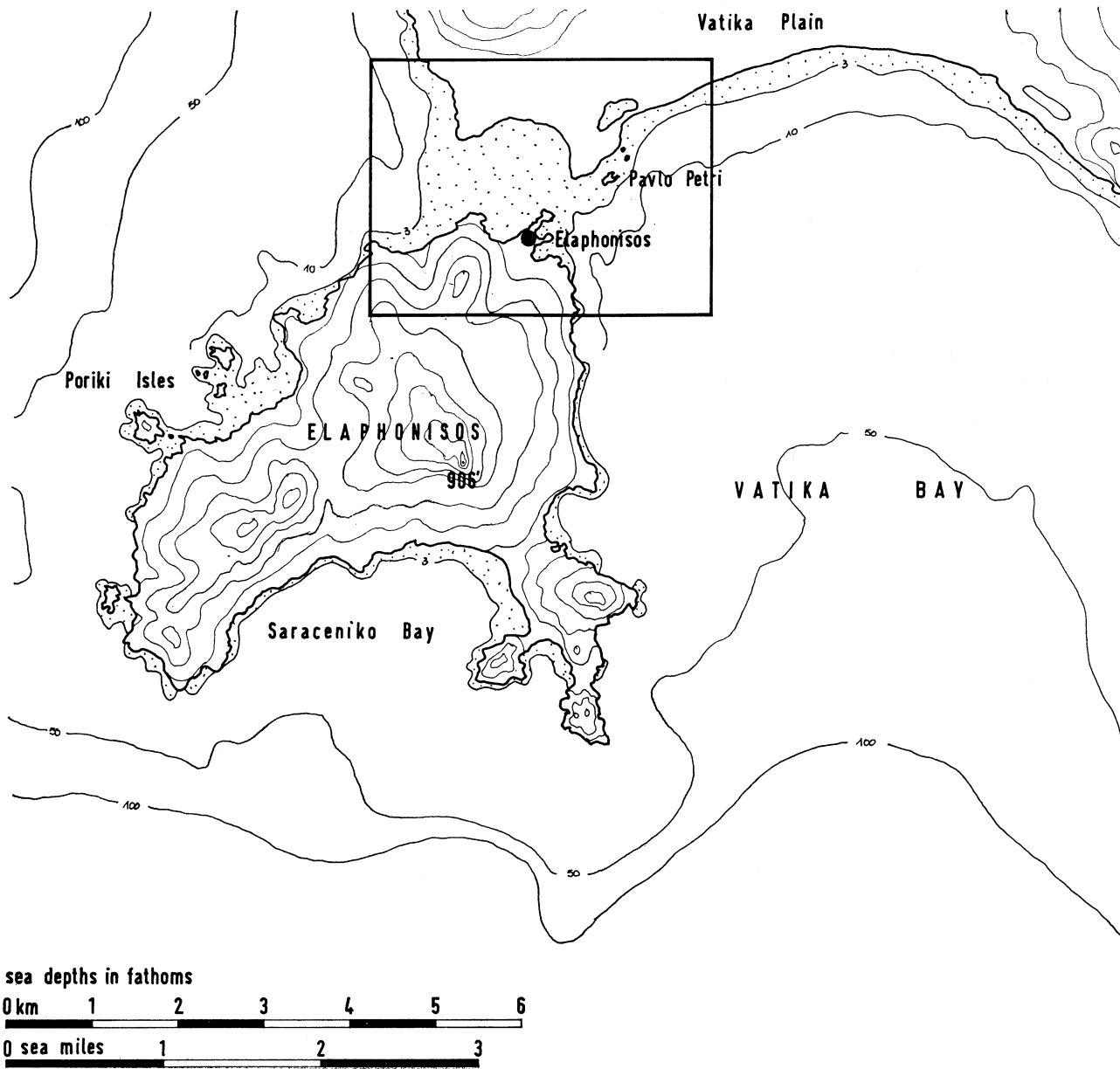
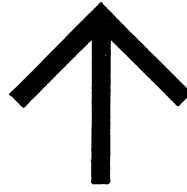


FIG. 1. PAVLOPETRI, ELAPHONISOS AND THE BAY OF

Vatika Plain

Atfi

NORTH



NEAPOLIS

VATIKA BAY

Mt. Krithina 2,600'

Mt. Zovollo

AVLOPETRI, ELAPHONISOS AND THE BAY OF VATIKA

M.W. 30.7.1968.

PAVLOPETRI, AN UNDERWATER BRONZE AGE TOWN IN LACONIA

(PLATES 24-33)

IN 1967 N. C. Flemming of the Institute of Oceanography discovered a submerged settlement, probably of the Bronze Age, off the south coast of Laconia opposite Elaphonisos Island.¹ The following year the Cambridge Underwater Exploration Group formed an expedition to investigate the site. The main aims of the expedition were:

1. To survey the visible remains of the site in order to produce the plan of a prehistoric town on a larger scale than is possible on land, where the time and cost of excavation are normally prohibitive.
2. To investigate sea- and land-level changes in the area, in particular by seeking traces of old shore-lines or of harbour-works.
3. To experiment with methods of planning extensive remains underwater, and especially with photography from a balloon.

The expedition consisted of a nucleus of seven members and was led by R. C. Jones. It worked for six weeks in July and August 1968. Progress was often hampered by the *meltemi*.²

GENERAL DESCRIPTION

TOPOGRAPHY

The site is mainly in the sea off that part of the Malea peninsula that lies opposite the island of Elaphonisos (FIG. 1, PLATE 24, *a*, *b*). It was called Pavlopetri after the small island of Pavlopetri which is some 200 metres from the shore and forms part of the site, though most of the site is now covered by 2-3 metres of water between the mainland and Pavlopetri Island. 700 metres to the south-west is the northern tip of Elaphonisos, which in Roman times was

¹ *Science Journal* (April 1968) 51 ff.

² The project was sponsored by the British School at Athens, and financed by generous grants from the Faculty Board of Classics at Cambridge University, the Exploration Funds Committee, the Royal Geographical Society and other bodies, to all of whom we are deeply indebted. We must also thank S. Marinatos and the Greek Archaeological Service for allowing the work to take place, and especially A. Dhelivorias, Acting Ephor of Antiquities for Laconia, who visited us at the site and gave us much kind help.

Among the many individuals to whom thanks are due, Messrs. Gerald Cadogan and Roger Howell deserve special

mention: they both spent a week at the site, and their findings are included in this report. R. Hope Simpson also visited us, and gave us the benefit of his invaluable local knowledge. Much help and advice has also been received from Flemming, and from Miss D. Kurtz, J. N. Coldstream, O. T. P. K. Dickinson, F. H. Stubbings, Lord William Taylour, and P. M. Warren.

Harding wrote the first draft of the report. Cadogan is responsible for the section dealing with the cemetery on the shore and Howell for the description of the pottery. Cadogan rewrote the first draft and is mainly responsible for its present form. David Gubbins took and processed most of the photographs; Michael Walton drew the text-figures.

joined to the mainland³ and could still be reached by fording in 1677:⁴ nowadays the channel is 500 metres wide and 3 metres deep. Part of a causeway still stretches across the gap, the top of its stonework lying about a metre below the present surface of the sea.

Leake visited the area in 1806 and describes it as follows: 'The strait between Elafonísi and the main is three to four hundred yards over, and so shallow that none but the smallest boats can pass. . . . The eastern end of the strait or western point of the Bay of Vátika, is a low point of rock covered with sand. Here, near a ruined tower, are several ancient sepulchres hewn in the rock, and nearly filled with sand. A little further inland there is a salt lake, lying between a range of sandy hills bordering the western shore of the Bay of Vátika, and the rocky ground upon which I found the ruins. This lake is about two miles long. . . .'⁵ His description mentions most of the chief points. The site is at the extreme west of the Bay of Vatika and lies off a long sandy beach, called Pounda. Behind the beach are sand dunes, some of which cover low ridges of soft limestone. In one of these ridges are the tombs of the cemetery Leake noticed (PLATE 25a-e). They spread down to the sea, and some are now under water. Behind this ridge is the salt lake, known today as Strongyli. From the lake a rock-cut channel leads past the eastern end of the cemetery to the sea (FIG. 2, PLATE 26b): it presumably drew salt water into the lake for evaporation. It is full of sand nowadays, and salt is no longer panned in the lake. A small arched bridge crosses the channel, and is perhaps of (?Late) Roman date or maybe much later. As the channel is not more than 1.50 m. wide and can easily be crossed, there must have been a road of importance here at some time to justify the bridge. It probably went along the edge of the bay to what is now Elaphonisos.

Behind the salt lake is a stretch of flat ground which merges at the east into the main part of the Vatika plain and at the north meets a line of limestone cliffs 70 m. high, known as Vigles, at the village of Vigladhia. On the low ground to the west are the remains of a large quarry, Latomion, which Leake and Hope Simpson have described.⁶ Leake remarks, 'The convenience of situation for the embarkation of the stone was probably the chief motive for quarrying in these places'; and rock was also quarried from the ridge with the cemetery, and from Pavlopetri Island.

The Vatika plain is today very fertile and supports a good crop of corn as well as olives, citrus fruits, and cucurbits, though it does benefit from a modern irrigation system. In the Bronze Age it was quite well populated: notably there are chamber tombs at Ayios Giorgios and a Mycenaean settlement with tombs at Neapolis. Elaphonisos Island is less amenable to agriculture but has produced a remarkable amount of Early Helladic material and some Late Helladic.⁷

³ Str. viii. 5. 1: εἰς δὲ Μαλέας πρὸς ἑω ἑξακοσίων ἑβδομήκοντα κατακολλίζονται· εἰς δὲ Ὀνου γνάθου ταπεινὴν χερρόνησον ἐνδοτέρω τῶν Μαλεῶν, πεντακοσίων εἴκοσι (πρόκειται δὲ κατὰ τοῦτου Κύθηρα ἐν τετταράκοντα σταδίοις. . .) . . . (measured from Tainaron) . . . εἶτα ἢ Ὀνου γνάθος, λιμένα ἔχουσα· εἶτα Βοία πόλις· εἶτα Μαλέα· στάδιοι δ' εἰς αὐτὰς ἀπὸ τῆς Ὀνου γνάθου πενήκοντα καὶ ἑκατόν.

Ptol. iii. 16. 9: Ὀνου γνάθος ἄκρα. . . .

Paus. iii. 22. 10: Ἄκρα δὲ ἀνέχουσα ἐς θάλασσαν ἀφέστηκεν Ἀσωποῦ διακόσια στάδια· καλοῦσι δὲ Ὀνου γνάθου τὴν ἄκραν.

A pun on Ὀνου γνάθος in Aristophanes, *Ran.* 186 f. has been kindly mentioned to us by P. H. J. Lloyd-Jones. Charon is speaking:

Τίς εἰς τὸ Λήθης πεδίον, ἢ 'ς Ὀνουπτόκας,
ἢ 'ς Κερβερίους, ἢ 'ς κόρακας, ἢ 'πι Τάιναρρον;

Tainaron makes the joke certain. It is the other side of the Laconian Gulf and was known as a place of descent to Hades, perhaps from as early as the sixth century in an epic tradition (cf. Apollod. ii. 5. 12, discussed by Lloyd-Jones, *Maia* n.s. xix (1967) 218 f.). Editors of *The Frogs*, such as

L. Radermacher (2nd ed. (1954) 163 f.) or W. B. Stanford ((1958) 189), have only hinted at the pun.

⁴ Covel, cited in *BSA* xiv (1907-8) 167 n. 2.

⁵ *Travels in the Morea* i (1830) 509.

⁶ *Ibid.* 508; *BSA* lvi (1961) 144 ff., fig. 14.

⁷ *Ibid.* 141 ff., for a full account of the prehistoric antiquities of the Vatika plain and around, and of Elaphonisos.

Hope Simpson gave much help with the local geography, and made several corrections to his 1961 map, which was based on a wartime R.A.F. map of limited reliability. Thus the salt lake and its entrances, and the beach in general, are shown there rather inaccurately. Pavlopetri Island is shown (out of scale) but not named. The '? tomb', described in *ibid.* 146, is misplaced on the map: it is one of the tombs of the shore cemetery (the others were then apparently covered by the dunes, which are constantly shifting). The sites shown by crosses and called 'Raisi' should be rather 'Aliekies', while the name 'Raisi' refers in fact to a large and impressive cave higher up in the hills.

SURVEY OF CHANNEL NEAR CEMETERY

CUJEG 1968
drawn m.walton

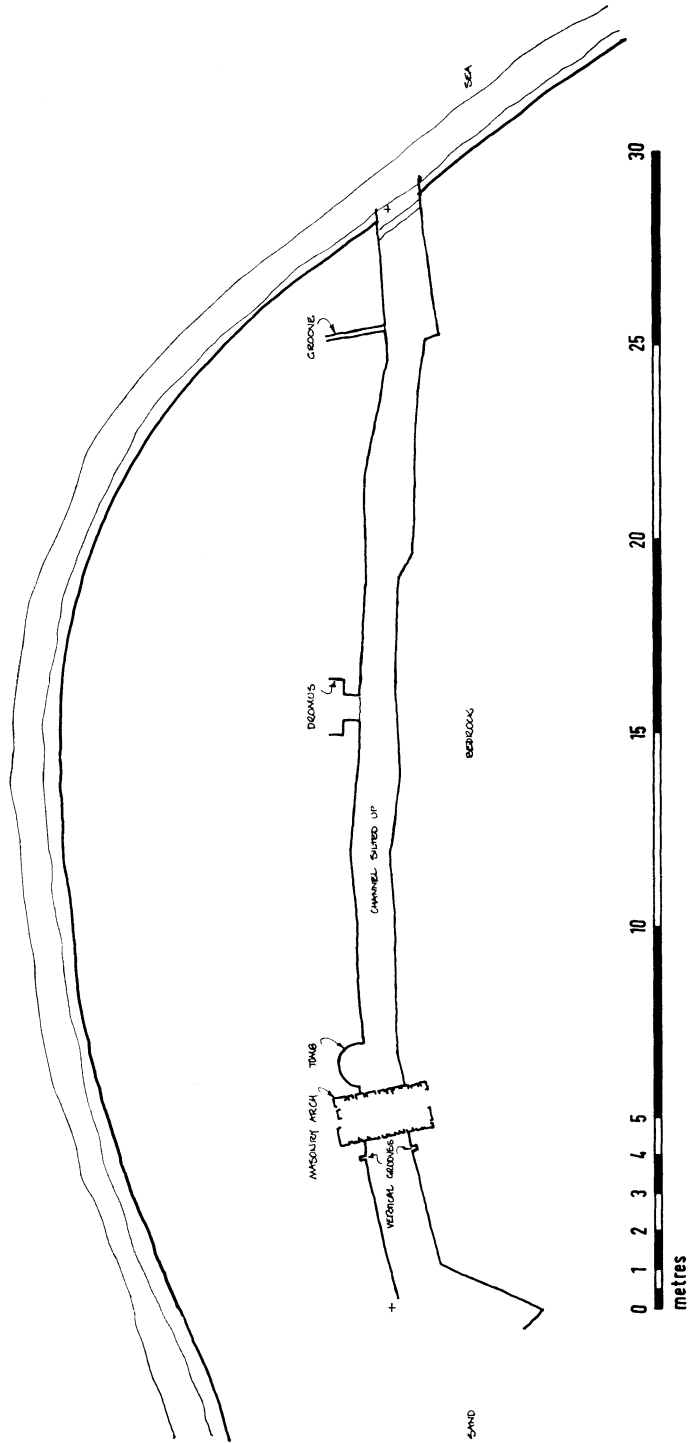


FIG. 2. PLAN OF CHANNEL AND BRIDGE

THE UNDERWATER SITE (FIG. 3)

The underwater site lies between two shallow ridges. It is covered by many stones which are presumably the debris of fallen buildings. They make it hard to discern the walls, which in general survive only in the foundation course and sometimes do not stand up from the bottom at all. The remains that are visible cover an area of about 300 m. by 100 m. and start 50 m. from the shore. The original extent of the settlement was still greater for it runs into the sand on the landward side. In the opposite direction the bottom rises abruptly at the south edge of the remains which become a mass of debris in the area of maximum erosion. There were probably buildings in this area too, and cist-graves **36** and **37** were found here in isolation between the island and the main part of the settlement.

To the east the depth of water increases and the remains tail off into the sand. Most of the east sector of the settlement cannot be deciphered, consisting of small and isolated stretches of wall lying here and there; but the style of architecture is the same as in the main area. The west edge of the site seems a genuine boundary, for beyond it the sea becomes much deeper.

The site may have extended over 10 hectares or more, or at least twice as much as survives today. Beyond Pavlopetri Island the sea is much deeper, so the ancient shoreline must have lain south of it and the adjacent reefs. No traces of a prehistoric harbour were found: the 'harbour' on Pavlopetri Island is in fact a quarry (PLATE 26*a*).

METHODS

Most underwater survey work has made use of some sort of grid system but, in view of the great size of the Pavlopetri site, none of the previous methods could be adopted in detail. It was decided to lay a grid of 20-m. squares over the whole site, with white polythene markers at each corner, bearing a letter and number. These 20-m. 'squares' were not exact, and the sides and diagonals were measured so that a true grid could be established. Salient features in each square were marked by small buoys, and the rectangular distance to two sides measured: this proved an accurate yet quick method. Most of the work was done with snorkels, since an aqualung is cumbersome and in shallow water hinders speed.

In addition, a captive hydrogen balloon was used for aerial photographs. From it was suspended a robot camera worked by radio control. Some useful photographs were produced (PLATES 25*b*, 26*b*) but, because there is so much debris on the sea-bed, the photographs taken over the sea are rather disappointing. They do, however, serve to corroborate the plan.

THE SURVEY

The site plan (FIG. 3) shows the layout of the settlement. Fifteen separate buildings have been identified, with five streets, two chamber-tombs, and at least thirty-seven cist-graves. For the purpose of this report the site is divided into ten areas, each designated by a letter; and 'north' is taken as meaning 'nearest the shore', 'south' as 'nearest Pavlopetri Island'. In fact this axis is nearer to north-west-south-east.

ARCHITECTURE

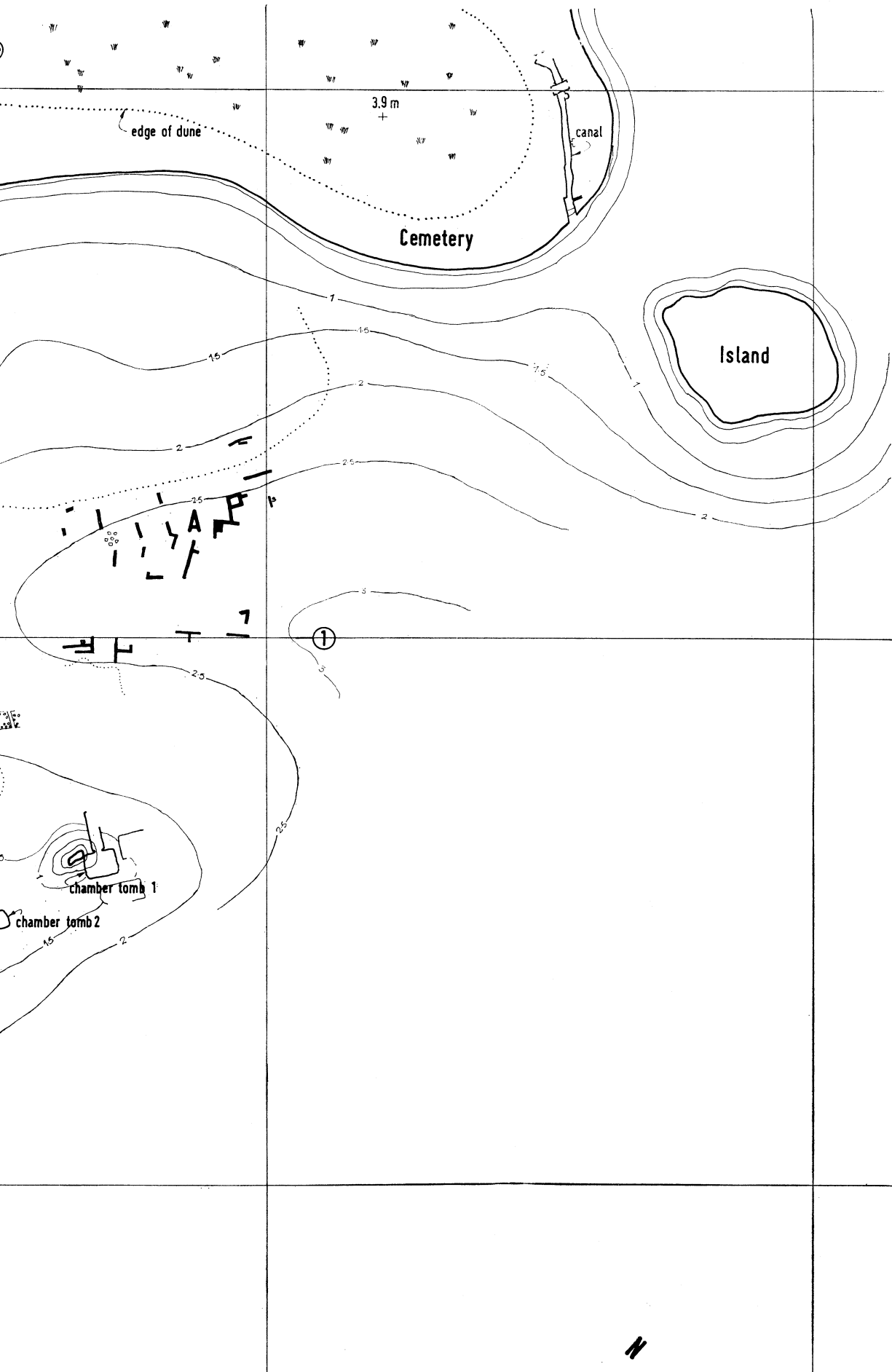
The walls of the buildings are constructed in several different ways:

Style i. The most usual type of wall is of solid construction, two stones thick, of an average width of about 0.60 m. The stones are large and usually untrimmed, but carefully selected and positioned so that a straight edge lies on the outside. Sometimes two or even three courses survive (PLATE 31*a*).









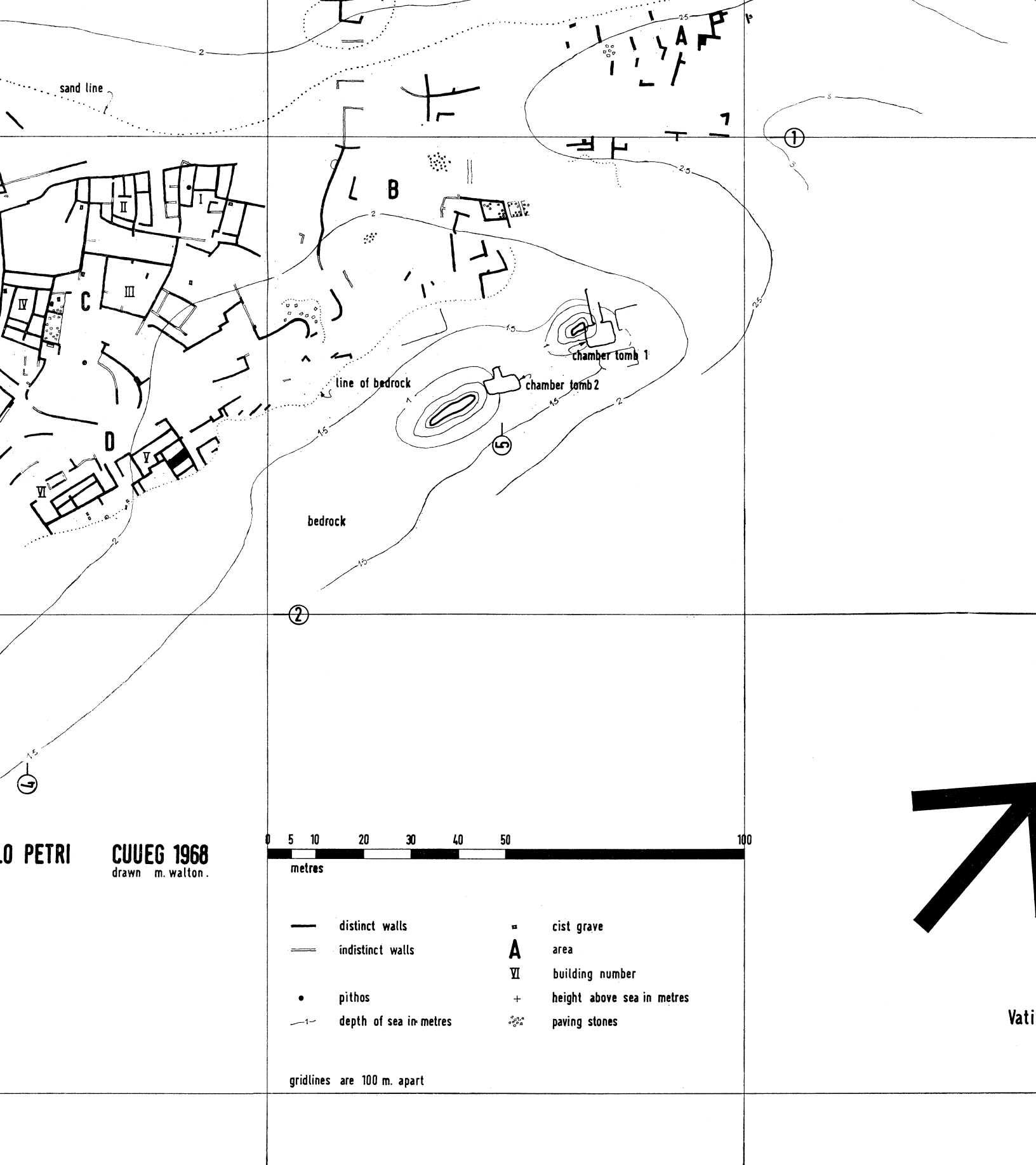
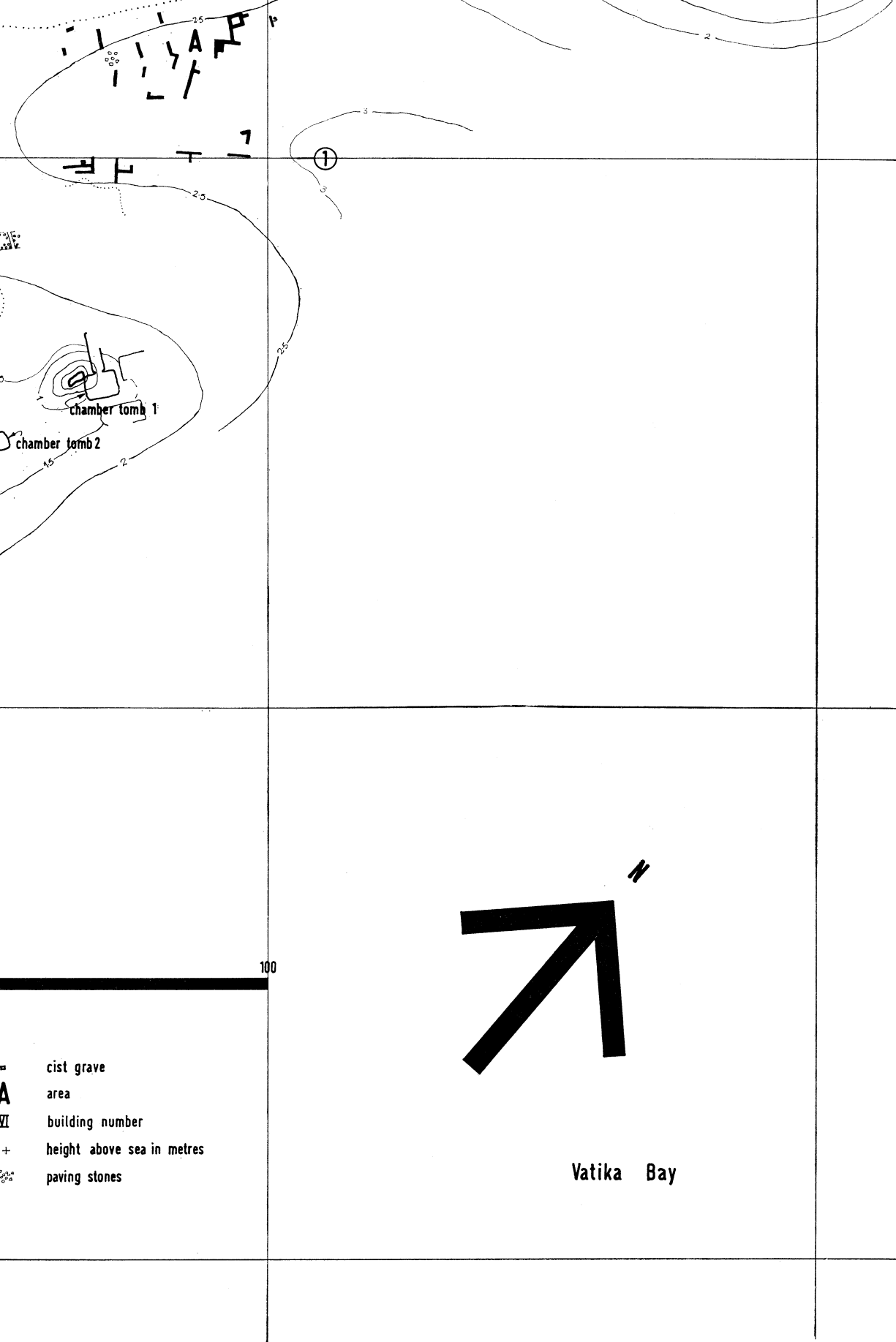


FIG. 3. GENERAL PLAN



Style ii. In a few cases, squared blocks of stone were used, either square or rectangular, which sometimes were laid in alternation, giving an effect like that of Saxon 'long-and-short' construction (PLATE 31, *b, c*). These walls are never found in any but the bottom course, and may thus be only foundations.

Style iii. Several walls are only one stone thick. These stones are large and rather rough, and are about 0.40 m. wide.

Style iv. The walls of Building IX are exceptional in being composed of large single stones placed on edge (FIG. 5). There may possibly have been a brushwood superstructure.

Style v. Building VII had side walls over a metre wide and three or four stones thick, with a straight edge only on the outer sides.

There seemed no distinction in style between room and street walls—except that style ii was used where Street 1 may lead to a gateway, and so could have been built for show. It was in general impossible to make out doorways, as only the foundation course of walls usually survived.

AREA A

At the east end of the site are a number of isolated lengths of wall, whose general orientation is north-south, and which are mostly built in style i. Although some cross-walls are visible, no room plans can be reconstructed. In two places are groups of flat slabs, some of slate; and there is a cist-grave 1 and a rectangular stone with a small circular depression, 0.07 m. in diameter, which is perhaps a pivot stone. Animal bones and pottery, including large sherds (some Roman or Byzantine), are interspersed in a litter of stones. This area lies generally rather deeper than the rest of the site, much of it below 2.50 m.

AREA B

No more sense can be made of this area than of Area A. There are definite room divisions in the south, and a long stretch of wall on the west which, to judge from its length, may be an outside wall. At the extreme south edge of the area, where the bedrock shelf starts to rise, are a number of cuttings in the rock that are probably the foundations of a house. They may show dividing walls at right-angles, and the floor levelled to a straight edge. The maximum depth of excavation is 0.40 m.

North and east of this is a wall with well-built, rounded edge and a number of limestone facing slabs set in the ground on either side. A little to the north a curious platform of sherds rises 0.30 m. from the sea-bed (PLATE 31*d*). The sherds are of both fine and coarse fabric, undecorated, and unusual in being cemented hard together. The pile is defined on its two exposed sides by a slight depression in the sea-bed, and these sides have a straight edge. There could then have been a rubbish dump here, whose sides were at some time removed or had rotted away; the liquids in a dump could have stuck the sherds together.

AREA C (FIG. 4)

This large group of adjacent buildings lies to the north of Area B, and contains at least three separate buildings. To the east are some isolated stretches of wall and several limestone slabs which may indicate a stairway: some were tilted as if they had fallen from a height.

Building I (c. 15 m. × 15 m.)

This contains nine or ten rooms, irregularly disposed, with cist-grave 2 in the easternmost. The edges of the rooms are covered with large stones from the walls. The northern wall, which fronts on to the main street, is well built, partly in style ii. The present east boundary wall is irregular in width and direction, and varies in thickness between two and four stones. A pithos is sunk in one room (PLATE 31*e*), which suggests a deposit up to 0.50 m. deep; a Roman amphora neck and handle, since stolen, used to be in another.

In the centre of the building is an open area, probably a courtyard, with remains of a small structure. To the south of the building is another probable courtyard, with cist-grave 3.

Building II (16 m. × 12 m.)

This also consists of about ten rooms which were full of rubble, including flat slate and limestone slabs. It fronts on to the main east-west street. Several loom-weights were noted, and one was collected (PLATE 33*k*).

To the south is an enclosed area that is much freer of rubble and at a lower level. It separates Buildings II and III.

Building III (c. 14 m. × 12 m.)

This consists of a quadrangular area of about 14 m. × 12 m. with traces of interior dividing walls, and of one or two adjoining buildings. To the south two curving stretches of wall may bound a street on the south side of the building, but the remains are too scanty for us to be certain of their purpose. The adjoining room on the east has a curious feature, a row of large smooth black stones with depressions in their upper faces like quern-stones (PLATE 27*a*); and the southernmost of these has three horizontal and two vertical depressions on its side (PLATE 27*b*). These large stones are in an almost straight line.

The building seems to have been the centre of the block that occupies most of Area C, though open spaces divide it from the adjacent structures.

Courtyard

West of Building II, and bounded by walls that form one side of a street junction, is an area that measures 20 m. × 18 m. It is fairly free of rubble and has no structures, and so is probably an open court. No doorways are visible, but the stepped north wall might indicate one. Its area is about 275 sq. m. Its walls have unusual characteristics. The north wall near the junction with Building II is made of rectangular blocks in style ii; but west from the step it is of much shoddier construction, and is very hard to make out where it reaches the street corner. A few limestone facing slabs are, however, still in position. The west wall is likewise indistinct, probably because toppled masonry has obscured the detail.

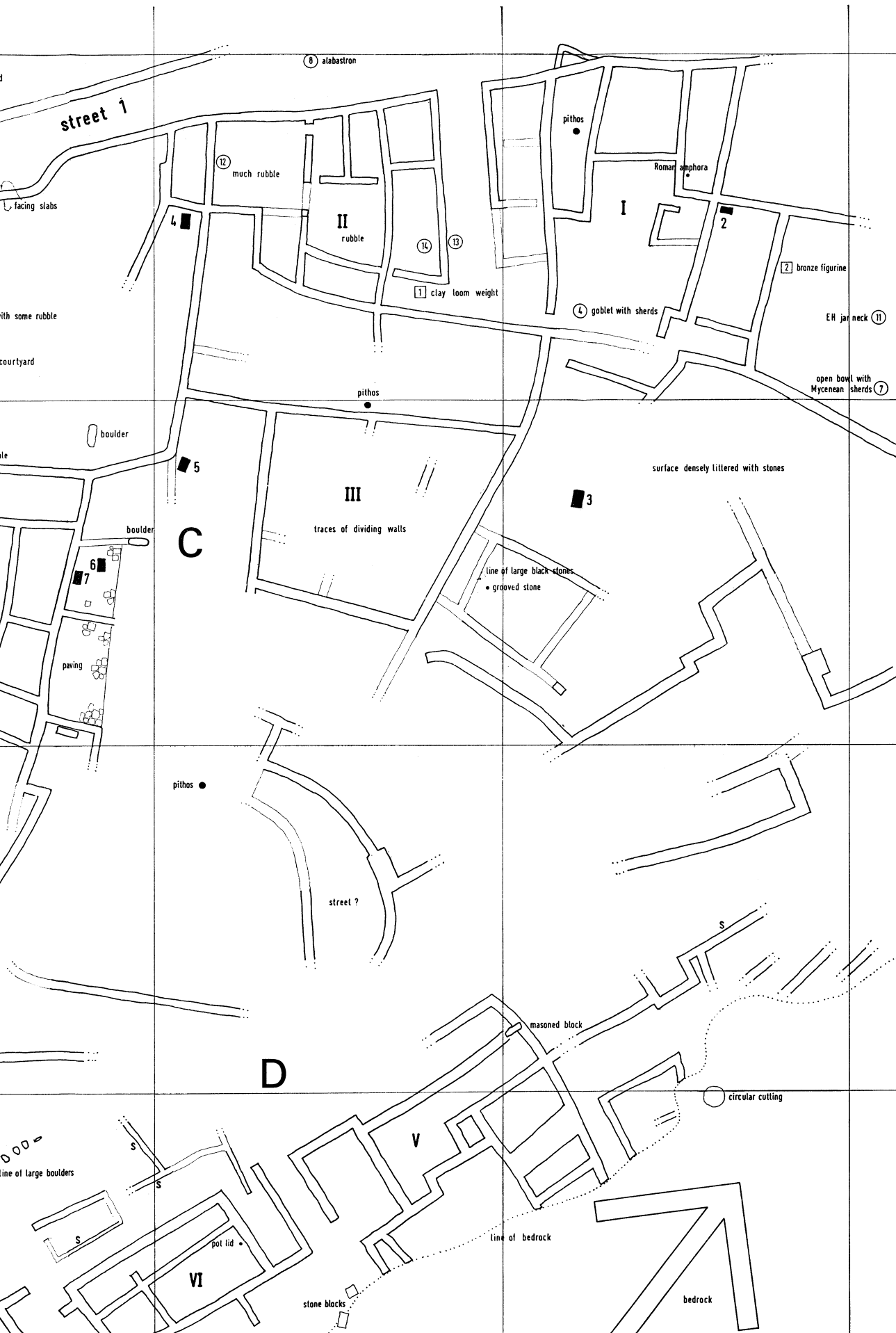
The other side of the street on the north is also built in style ii with long-and-short construction (PLATE 31*b*). The wall is two stones thick, the south face to the street being of large cut rectangular blocks up to 0.80 m. long while the north face is made of untrimmed rocks. This wall too becomes harder to make out as it goes westward to join the monumental entrance of Building IX.

The appearance of this street suggests that it was an important thoroughfare, perhaps an approach to the chief building of the site. The use of slabs for facing distinguishes it from the others.



Survey of Pavlo Petri, areas CDEF

- distinct wall outline
- - - indistinct wall outline



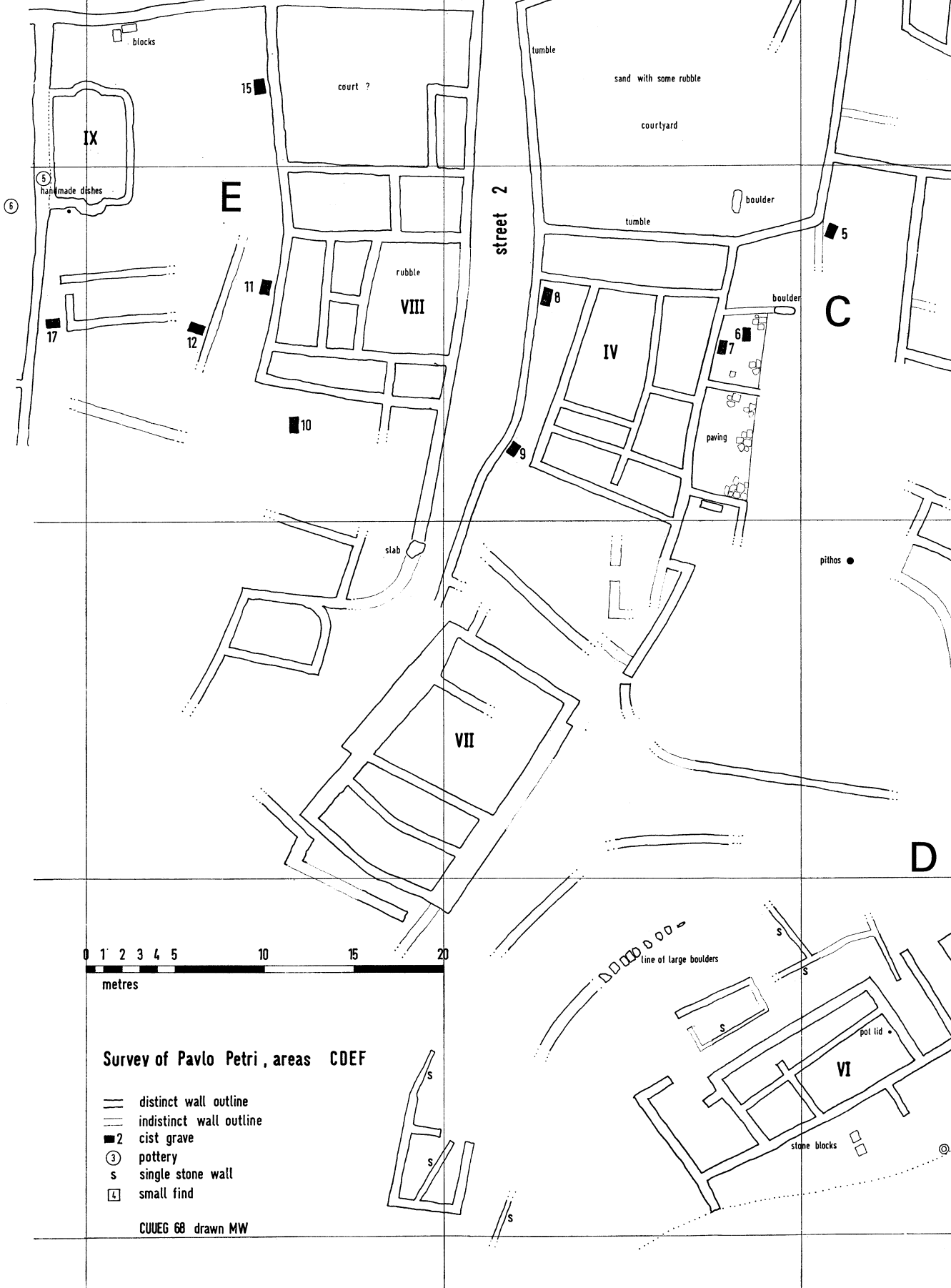
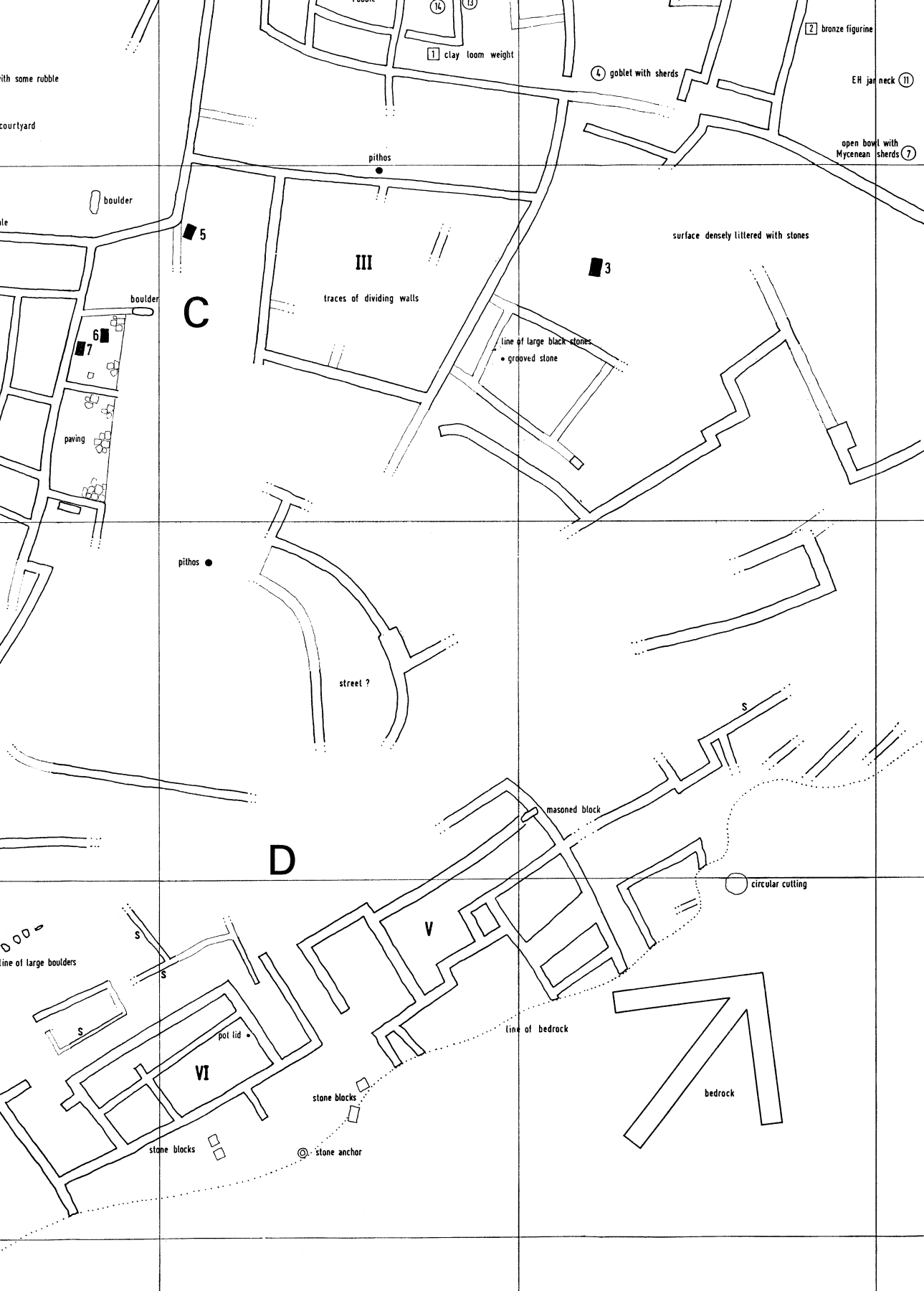


FIG. 4. DETAILED TOWN PLAN, EAST SECTION



DETAILED TOWN PLAN, EAST SECTION

Building IV (15 m. × 13 m.)

This important house contains four cist-graves, and is covered with a scatter of rubble which includes large pithos sherds, loom-weights and animal bones. Some room divisions are unclear, but there are eleven or twelve certain rooms. The house fronts on to Street 2 and the Courtyard.

A large central room measures 7 m. × 4 m. and others open off it to the south and east: on the north and west sides are corridors. A long axial wall runs north-south almost through the middle of the structure and may be, in fact, a dividing wall between two houses. The southernmost room on the east side of this wall has a crazy paving made of the same blocks as are used in the walls (PLATE 27f).

AREA D (FIG. 4)

The southernmost part of the site has suffered from considerable erosion. The rock rises here; the current is at its strongest and has left only the heaviest stones. Nevertheless several building plans were recovered and some isolated stretches of wall which may be parts of the sides of streets.

Building V (16 m. × 12 m.)

This building is oriented north-west-south-east and consists of six or more rooms, the most important of which runs two-thirds of the length of the building—a feature that can be seen in other houses at Pavlopetri. The south edge of the house is stepped to fit the contours of the rock shelf, and the wall partitioning off the south-east room is especially thick. Large pieces of pottery are scattered around. A circular cutting in the rock north-east of the building may be a well.

Building VI (17 m. × 7 m.)

This building lies immediately to the west of Building V and is on the same alignment. Its layout is also similar but more regular. In both, long central rooms are flanked by other rectangular rooms at right angles.

Some 10 m. west of Building VI is a small square building with a curious diagonal dividing wall. It may have been an outhouse for animals.

Building VII (14.50 m. × 10 m.)

This building is further north than Buildings V and VI. It consists of a rectangular shell of very thick walls, up to 1.40 m. wide, inside which are four rooms. There are no signs of any extension of this building, except perhaps to the south; and its form is clearly unique at Pavlopetri. It is the only building that resembles a megaron. Street 2 probably continues past its west side, and there are possible traces of another street to the south-east, between Buildings VI and VII.

AREA E (FIG. 4)

Across the street from Area D are two or more buildings with open areas that are enclosed within walls on almost every side. The walls are probably exterior walls. These buildings are in the centre of the existing remains, and in Areas E and F are probably the most important structures of the settlement. Five cist-graves were found in Area E.

Building VIII (13 m. × 10 m.)

This consists of nine rooms. Four are in the centre aligned north–south; two on each of the north and south sides are aligned east–west. In addition a north–south room is attached to the north-east of the house and projects into what was most probably another courtyard. The rooms are filled with rubble, including limestone and slate slabs. The walls are of the more common type, style i. The courtyard is lower in level than the house. Three courses of masonry survive in the house's north wall.

The west edge of Area E is defined by a north–south wall. East of this wall are several structures of which the most important is the small apsidal building, which we now consider.

PAVLO PETRI BUILDING IX

m.w. CUUEG 68

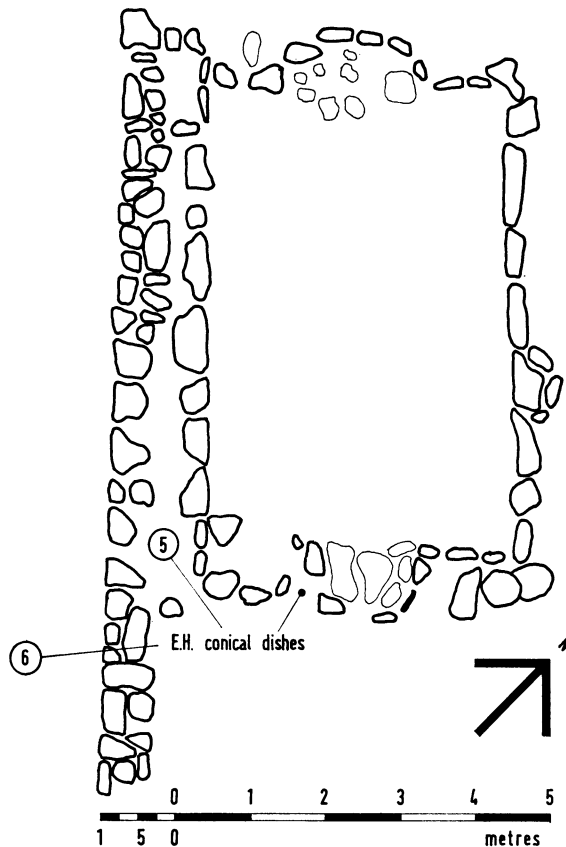


FIG. 5. BUILDING IX

Building IX (FIG. 5) (8 m. × 5 m.)

This building, measuring 8 m. × 5 m., is separate from the north–south wall: though the structures are next to each other and the space between the two walls is filled with rubble (to give a total width of 1.15 m.), they are not bonded together.

The walls of Building IX are composed of large and unworked stones placed on edge. They are up to a metre long and 0.30 m. wide, and survive to a height of 0.45 m. The east side in fact consists of only ten stones. At the north and south ends are small apses of rather smaller

stones, several standing on their side like the sides of a cist-grave. Three E.H. conical cups (FIG. 14, 2-3, PLATE 32 *a-c*) were found in the stones of the walls, but the purpose of this apsidal building is unknown and will be clarified only perhaps by excavation. It may have been used for ritual. Inside, the building is relatively free of rubble; there are one or two large stones, some sherds (a few Mycenaean), and a bone or two.

South of Building IX are the remains of another structure, but they are too fragmentary to reconstruct. To the north and east is another open space, with a large and splendid cist-grave 15 close to the west wall of the courtyard of Building VIII. North of Building IX near the street wall two large rectangular blocks are sunk in the sea-bed, perhaps fallen wall-stones.

West of Area E is an open space with very little rubble: this scarcity may be partly due to the rise in the ground here. Traces of dividing walls can be seen, but they do not form a pattern.

AREA F (FIG. 4)

The opposite side of Street 1 is occupied by one building with its adjoining area, but other structures extended north in this part of the site. A cist-grave was found north of Building X, and traces of walls in the area.

Building X (22 m. × 10 m.)

This is a long narrow structure which again contains rectangular rooms on two axes. In the east are two cist-graves and an area of paving; but heavy rubble over much of the building made it impossible to tell how far the paving went. The north wall is well-built and seems an outside wall; why there is a step in it is not known. Much rubble lies immediately to the north.

At the south-east corner of the building a wing of masonry of large dressed stones juts out into the street. A very large stone, measuring 1.60 m. × 0.50 m., continues the line of the wing up the north street wall. The upper edges of this stone are rounded so that in section it is almost a half-cylinder (PLATE 27 *c-d*). The wing goes southward from the stone into the street and makes a corner, near which lies a large boulder, over a metre long and almost as much at its greatest width, which in effect completes the blocking of the street. In addition a wall lies across the street in line with the west side of Street 2, so that traffic may have passed through a gateway to continue down Street 1. Perhaps these two large stones, and especially the rectangular block, were thresholds. Undoubtedly this was an important area. The east stretch of the main east-west road widens as it approaches Building X and the junction with Street 2; and its walls are built in the finer style ii.

North of Building X another E.H. handmade bowl was found, like those from Building IX. One cannot be sure, however, of the original provenance of these pots since they were found lying on the sea-bed.

AREA G (FIG. 6)

Street 1 continues west and meets another important crossing where at least four streets converge. It is joined here by another east-west road at an angle of 30°, on to which the buildings of Area G front. To the east there is a considerable gap of as much as 20 m. between Buildings IX and XI.

Building XI (?14 m. × 15 m.)

This contains one cist-grave 21, though four more are immediately outside. The house has at least seven rooms. The most northerly of these have paving which extends into the street outside. The area is irregular in shape and hard to define (PLATE 27*f*).

Near cist-grave **20** in the south-east corner is an outcrop of rock, on to which the east wall runs. The layout of the house seems complete and is unusual in having three long rooms side by side, with smaller rooms attached, and nearby an irregular four-sided enclosure which fronts on to Street 3. Around this enclosure is an open area enclosed by a wall which fronts on to Streets 3 and 4. The arrangement at the south perhaps suggests a screened entrance. Cist-grave **24** is immediately outside.

More indistinct walls to the south and two cist-graves (**18** and **19**) indicate that the site extended here too. The west enclosure contains a pithos sunk in the sea-bed.

AREA H (FIG. 6)

Building XII (13 m. × 11 m.)

Opposite Area G and fronting on to Streets 4 and 5 is another building with its attendant open spaces. Though the arrangement of its seven rooms is irregular, some stretches of wall are extremely well-built in style ii. The west wall is two courses high in places, and is 0.80 m. wide at the north and half as wide at the south. Rubble fills many of the rooms and particularly those on the north. The large L-shaped room contains several limestone slabs lying in a heap. A stone weight was removed from the building.

Street 4 to the east has two cist-graves (**25** and **26**) sunk in it, and also some large pieces of Roman or Byzantine pottery. Nearby are two pithos burials **21** and **29**.

AREA J (FIG. 6)

A space of 20 m. lies between Areas H and J; to the south are traces of occupation, including cist-graves and a square of cut blocks of about 1.10 m. × 1.0 m. There is also another wall of style ii with rectangular blocks on one side and rough untrimmed stones on the other.

Building XIV (14 m. × 10 m.)

This is the main structure in Area J, but there are remains of more than one house. The plan shows ten rooms, all rather small and more regularly arranged than in the other houses. The axis of most of the rooms points north-south, and the rooms are square or rectangular, arranged in blocks but not symmetrically. Two of the north rooms contain cist-graves, and others are outside the house at the south-west. All the walls are well-built and many of style ii. North of the south-west room is an entrance, while the east wall of this room continues at an angle. A clay animal figurine was found among the stones of the room (PLATE 33*h*). Two cist-graves (**34** and **35**) are nearby. Other features include several large boulders close to the north wall of the house and inside the north-east room; near them is an upright stone with a mortice cut in its top edge.

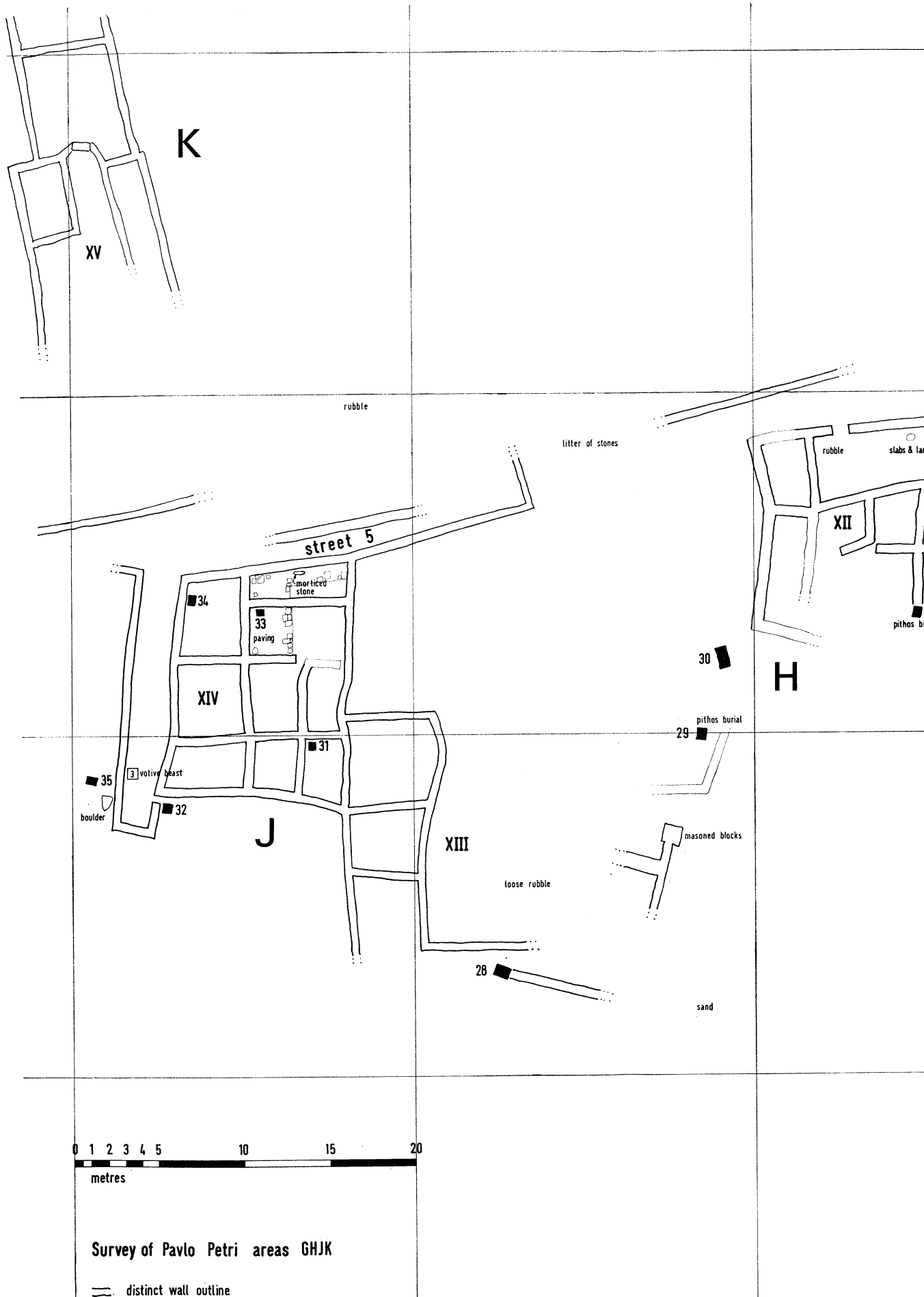
Building XIII (14 m. × ?)

South-east of Building XIV is probably another building of which only three rooms survive. It would share its west wall with Building XIV.

AREA K (FIG. 6)

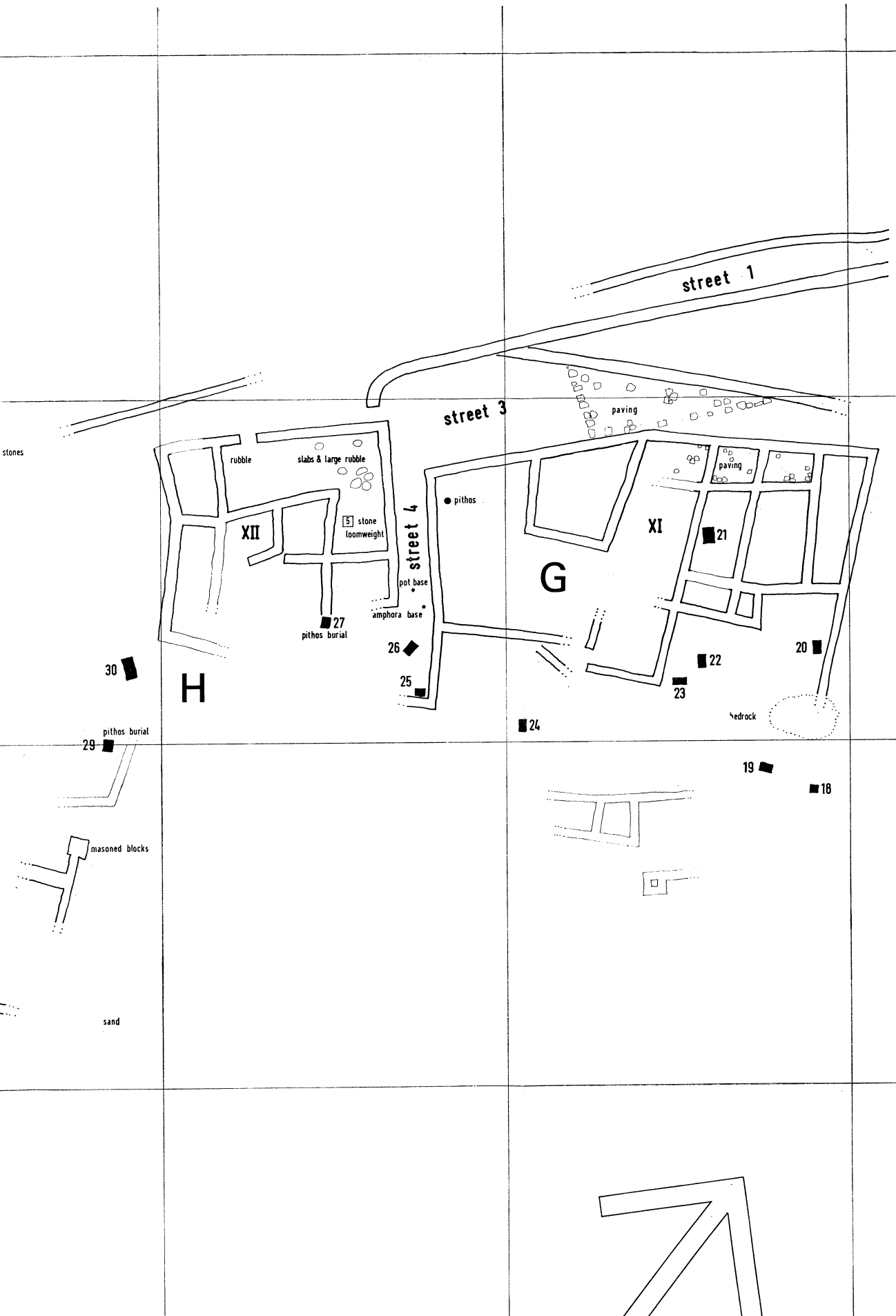
Building XV (20 m. × 8 m.)

This lies north of Area J and on the far side of the main east-west street, from which it is separated by an open space about 10 metres across. The building is long and narrow, oriented north-south, with a large central room flanked by smaller rectangular rooms to north and



Survey of Pavlo Petri areas GHJK

— distinct wall outline



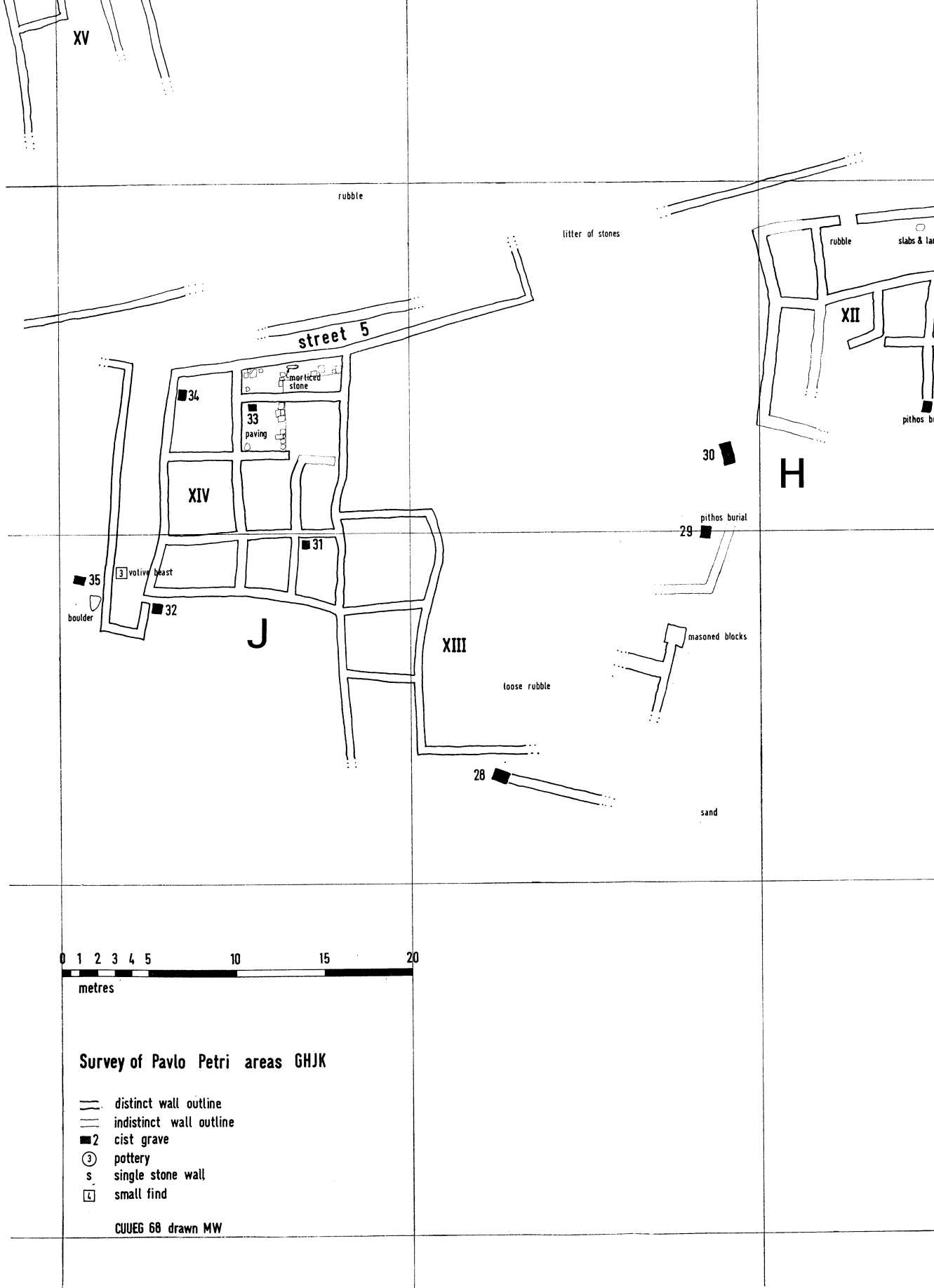
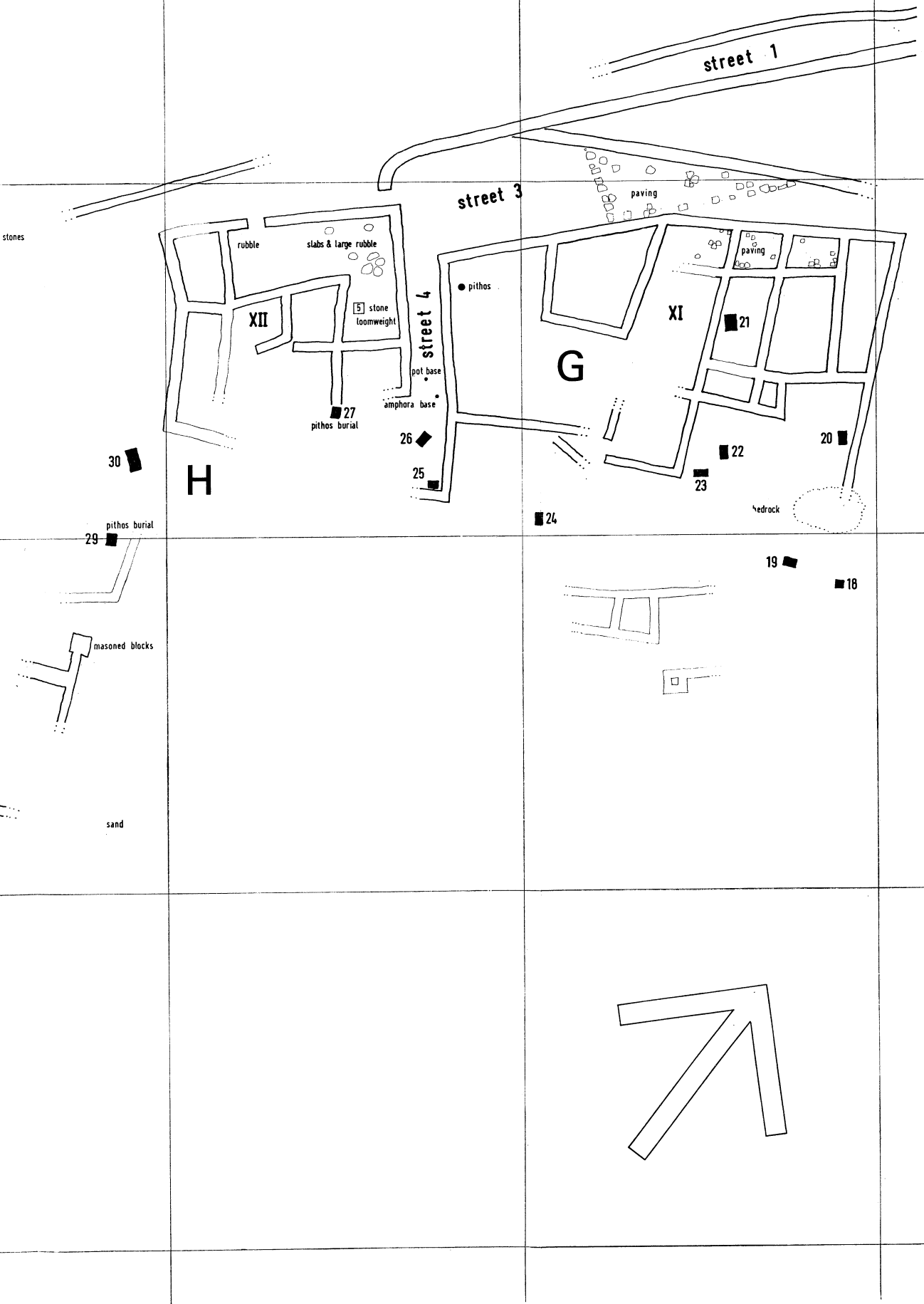


FIG. 6. DETAILED TOWN PLAN, WEST SECTION



5. DETAILED TOWN PLAN, WEST SECTION

south, five or six in all. A large boulder lies in the middle of the south wall of the central room and may be part of a doorway.

The sea becomes deeper to the west, but buildings probably continued in the direction of the shore.

STREETS (FIGS. 4, 6)

The main street runs right across the west half of the site. Its width averages about 3 metres but often changes, as in the approach to the entrance area (above, p. 120). The part of the thoroughfare that adjoined Area C, E, and G is Street 1; its continuation past Area H and through to Areas J and K is Street 5. Streets 2 and 4 leave this main way at right angles heading south, while Street 3 runs east–west and merges with Street 5 at an angle of about 30°.

A curious feature of these roads is the oblique cross-walls that block them in two places. One such spot is between Areas E and F where a wall 10 metres long runs across the street at an angle of about 15°, but does not join the main walls anywhere. Though one could have passed at the south end, it is hard to see why the space should be narrowed from 3 metres to 1 metre. It may be that this was a supporting wall of a wooden ramp or stairway to the first floor.

Street 1 heads west, and its north side stops about 15 m. east of the second road junction. The south side continues, with a slight break—perhaps caused by an earthquake—and ends close to Area H in a curve which stops a metre short of the wall of Area H (PLATE 27*e*). To the west Street 5 continues, the north wall soon being picked up opposite Area H.

The junction between Streets 3 and 5 seems uneconomically built as no house could be fitted into the acute angle between the two. Moreover, traffic passing along Street 1 and wishing to turn left along Street 3, or Street 4, had to go right past the turning and then turn back through the doorway formed by the curving wall, and so proceed.

Part of Street 3 is paved in the same way as Buildings IV and XI (PLATE 27*f*). The paving starts opposite the quadrangular structure in Area G and extends east for 10 metres.

There were, no doubt, other streets in the town, and traces can probably be seen in Areas B, C, D, and J, where stretches of more or less parallel walls are found.

CIST-GRAVES (FIGS. 7, 8, 9; PLATES 28, 29, 30 *a–b*)

Average of 28 internal lengths: 0.62 m.

Average of 30 internal widths: 0.37 m.

The construction of nearly all the thirty-seven cist-graves is of classic type: upright limestone slabs form a usually rectangular quadrilateral. Several graves have all or part of one side made of ordinary round stones, and in some the slabs have slipped over and appear in plan rather than in section. Several roofing slabs can still be seen and some are probably in position: the slabs are either large and irregular stones (13 and 15: (PLATE 28, *c, e*))—a feature of PG dry-stone wall cist-graves at Nikhoria in Messenia⁸—or smaller and laid in a row on top (e.g. 11 (FIG. 7), 23 (FIG. 8), 30 (FIG. 9)).⁹ Cist-grave 15 has an apsidal shape, also known from Nikhoria, but its slabs may have splayed as the capstone fell in. Nowhere did the upright slabs protrude from the sea-bed more than 0.20 m., and often only the very tops were visible. Many

⁸ *BCH* lxxxv (1961) 697. A large capstone was shown us in a photograph by H. W. Catling.

⁹ As, for example, at Kirrha (*Kirrha* pl. 18), where the

slab-lined cist-graves run from M.H. to L.H. IIB (*ibid.* 46 ft.), or in the Submycenaean Kerameikos (*Kerameikos* i, pl. 1), or in PG at Mycenae (*BSA* li (1956) 129, pl. 33*b*).

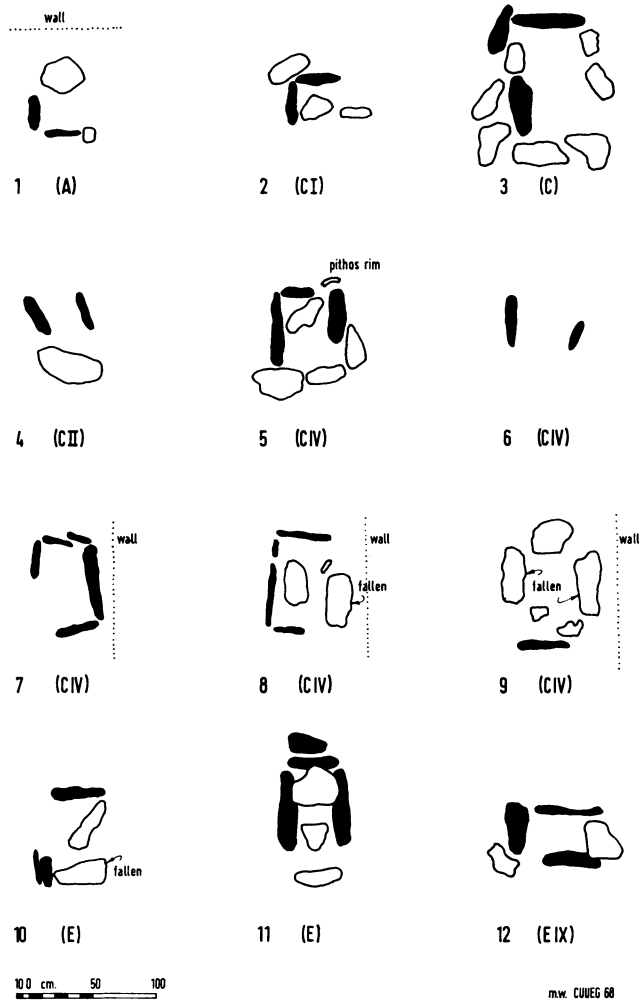


FIG. 7. CIST-GRAVES

graves lack one or more sides: sometimes a house wall formed one side, as with cist-grave **34**; and generally the graves seem to have been placed with awareness of the walls of the houses, being usually near them and either outside or in outer rooms. Cist-grave **14** is in a wall of Building X (FIG. 4, PLATE 28*d*), and apparently has the same width as the wall. This suggests either that the wall was aligned on the grave already there or, perhaps more likely, that the grave was cut down later into the wall.¹⁰ Cist-grave **18** contains blackened and probably burnt material.¹¹

The cist-graves are mostly aligned on a north-west–south-east axis, and are concentrated around Buildings IV, VIII, X, XI, XII, and XIV. One cannot tell if this is fortuitous.

No pottery was found in direct association with the cist-graves except two pithoi, in cist-graves **27** and **29** (FIG. 9, PLATE 29*d–f*). These are of a reddish coarse fabric with a base diameter

¹⁰ Slab-lined cist-graves, assigned to L.H. IIIC and said to be intramural, cut into E.H. house walls (*Aghios Kosmas* 60 ff.); and PG graves cut into L.H. IIIB house walls (*BSA*, *loc. cit.*).

¹¹ A little evidence for burning associated with the dead: H. Schliemann, *Mykenae* (1878) 99 f., 104 (First Grave Circle).

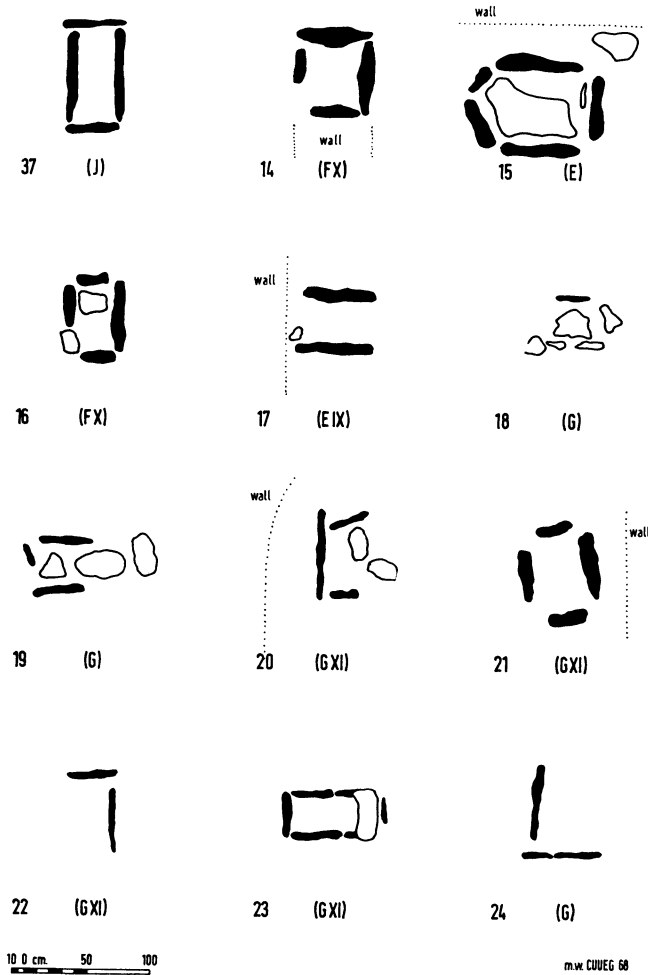


FIG. 8. CIST-GRAVES

of about 0.16 m. and a body diameter of about 0.35–0.40 m. Both pithoi are on their side. The one in cist-grave 27 is broken and only its profile can be seen; that in cist-grave 29 is whole, and indicates a deposit up to 0.40 m. deep. Pithoi inside cist-graves are unusual, though they do occur in the same cemetery as cist-graves in E.H. Lefkas¹² and at PG Nikhoria. One wonders here whether the pithos in cist-grave 27 could be a large broken piece which was used instead of a covering slab on the grave; but, even so, the pithos in cist-grave 29 seems whole. These were presumably infant burials, as many of the other cist-graves may have been—unless adult bodies were buried in a contracted position.

CHAMBER-TOMBS (FIG. 10)

Close to the two small reefs at the south-east edge of the site, two chamber-tombs of Mycenaean type appear as cuttings in the rock ridge that runs across this part of the site and forms its southern edge. Like the tombs on the shore, these were cut where the ground starts to rise

¹² *Alt-Ithaka* ii, Beill. 42 ff., Taf. 13.

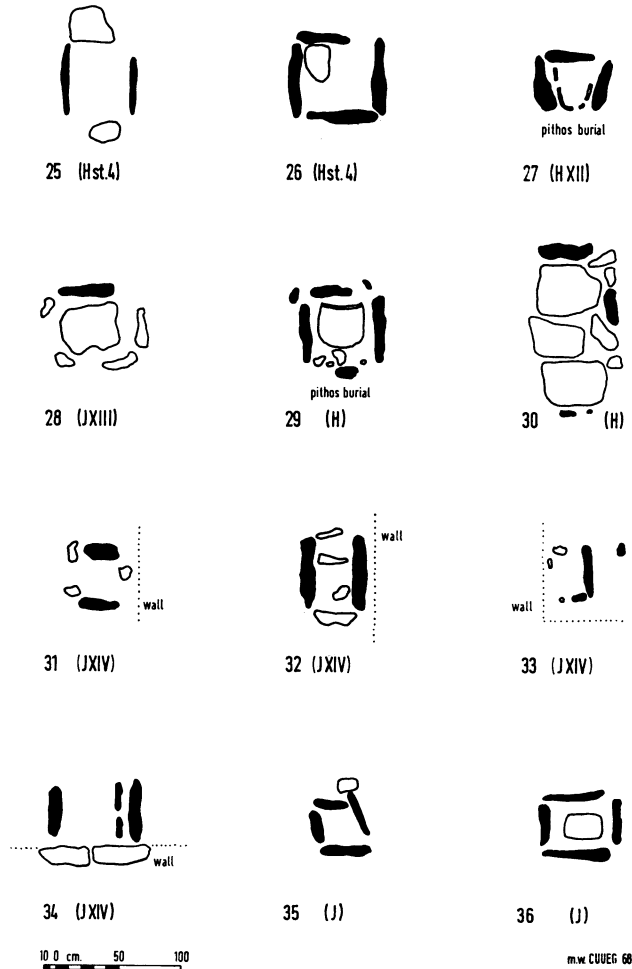


FIG. 9. CIST-GRAVES

so that their dromoi would run level into the hillock. Chamber-tomb 1 survives to roof height at the sides (PLATE 26c): the roof has fallen in and fills much of the cutting. Its chamber is rectangular, and so is the long and narrow dromos. Chamber-tomb 2 is less regular and not so well preserved. Neither is like the small circular chamber-tombs with steep, short and narrow dromoi that form the majority of the tombs in the cemetery on the shore.

Dimensions:

- Chamber-tomb 1. Dromos: Length—8.0 m.
 Width—2.50 m.
 Chamber: Width—4.50 m. × 5.50 m.
 Height—c. 2.0 m.
- Chamber-tomb 2. Dromos: Length—2.20 m.
 Width—1.50 m.
 Chamber: Width—3.50 m. × 7.50 m.
 Depth of cutting—1.70 m.

CHAMBER TOMBS AT PAVLO PETRI

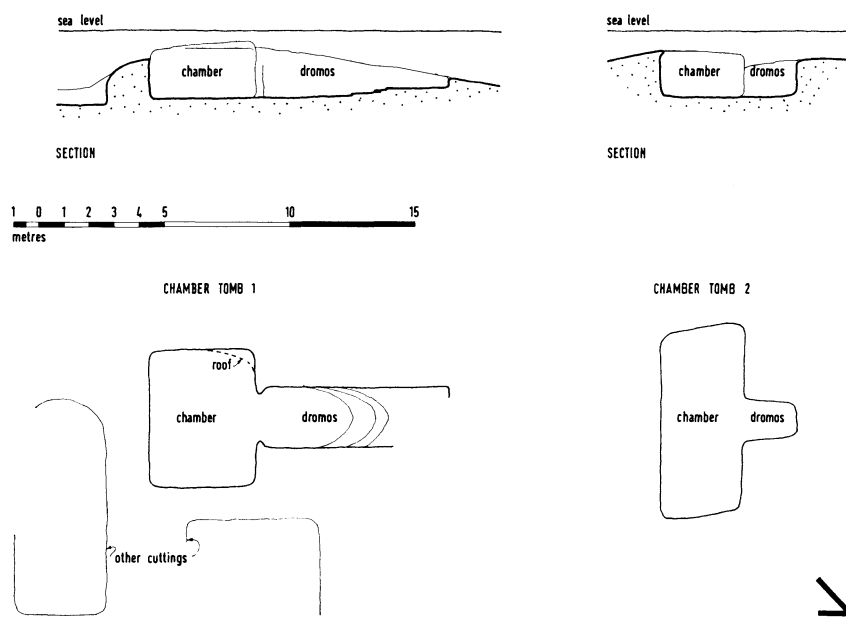
CUJEG 1968
drawn m. wallon

FIG. 10. CHAMBER-TOMBS

PAVLOPETRI ISLAND (FIGS. 11, 12; PLATE 30 *c e*)

The underwater site continues southward on Pavlopetri Island (FIG. 11). Most of its surface is now bare rock, but the summit and a small area round it contains a deposit of substantial depth from which walls emerge at the edges. On the south, east, and west sides the walls are Roman or Byzantine, as they are in the top layer of the small cliff on the north side of the island (PLATE 30 *c-e*). This cliff is over 2 metres high and is almost sheer. It has been drawn in elevation (FIG. 12). This elevation, however, is not an archaeological section that has been proved by digging, and the distinctions between levels are not rigid. The suggested stratigraphy has been put together from more than one part of the cliff (cf. below, p. 132).

The bottom layer of red-brown soil has no walls, though in places foundations from higher levels have been cut through nearly to bedrock. This layer varies in depth from over a metre at the east end to 0.20 m. or less at the west. Above it is a layer of brown or grey-brown soil which includes M.H. and L.H. pottery, and has several walls. At least four project into the section at this level and more may run across it. These walls are similar in construction to those under water. On a level with their foundations are several flat slabs of schist (shown in FIG. 12) which are probably a floor. In the top layers are two distinct Roman or Byzantine walls and maybe others.

THE CEMETERY ON THE SHORE (FIG. 13; PLATES 25 *a-e*, 26*b*)

The cemetery on the shore consists of about sixty tombs, a few of which are now under water. Leake probably saw the tombs, but only one was visible in 1956 when Hope Simpson came. This year it was lucky that the sand was blown off the rock and much of the cemetery was exposed. The tombs are generally in bad condition: the sea has filled many with sand and water

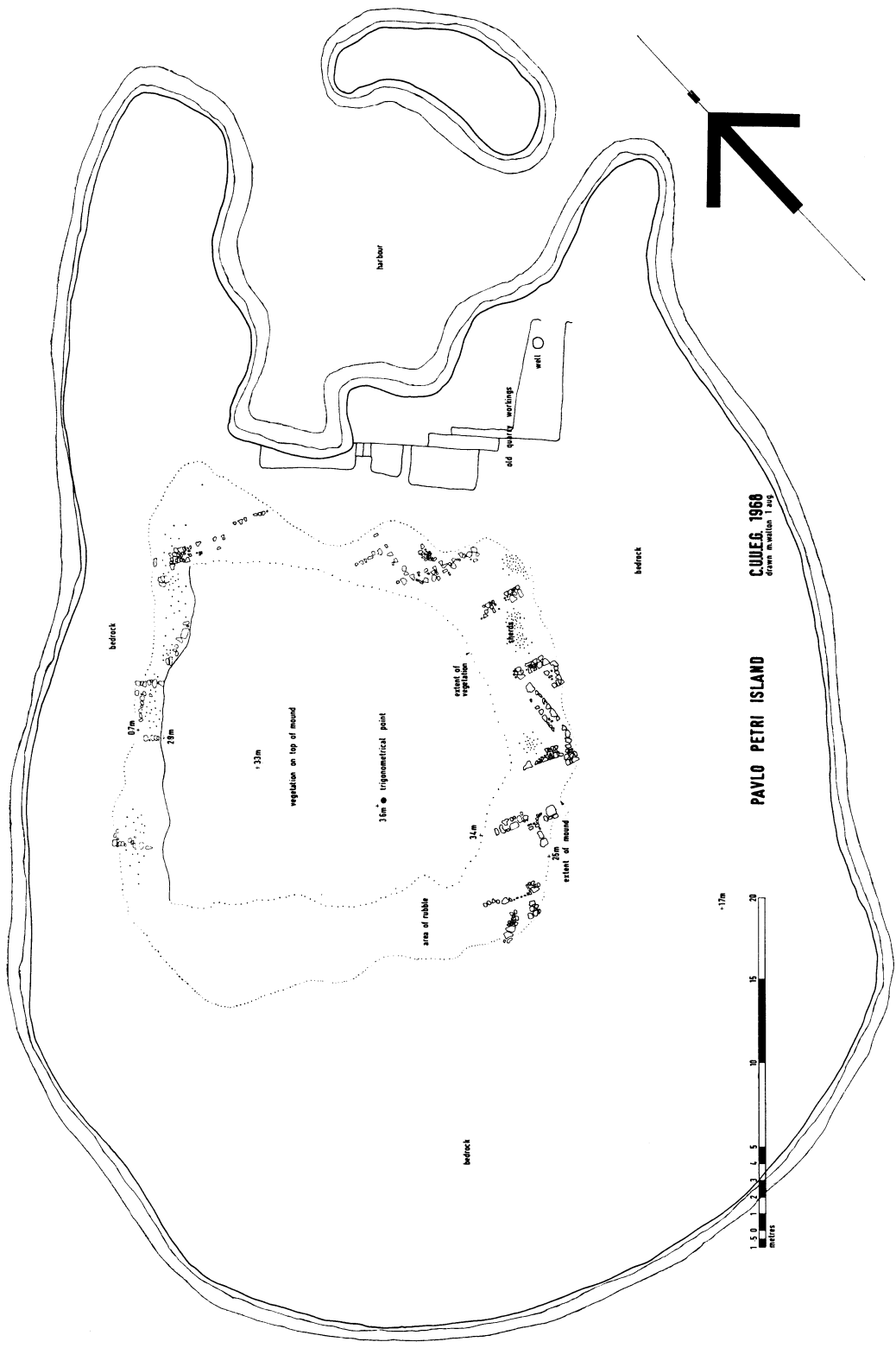
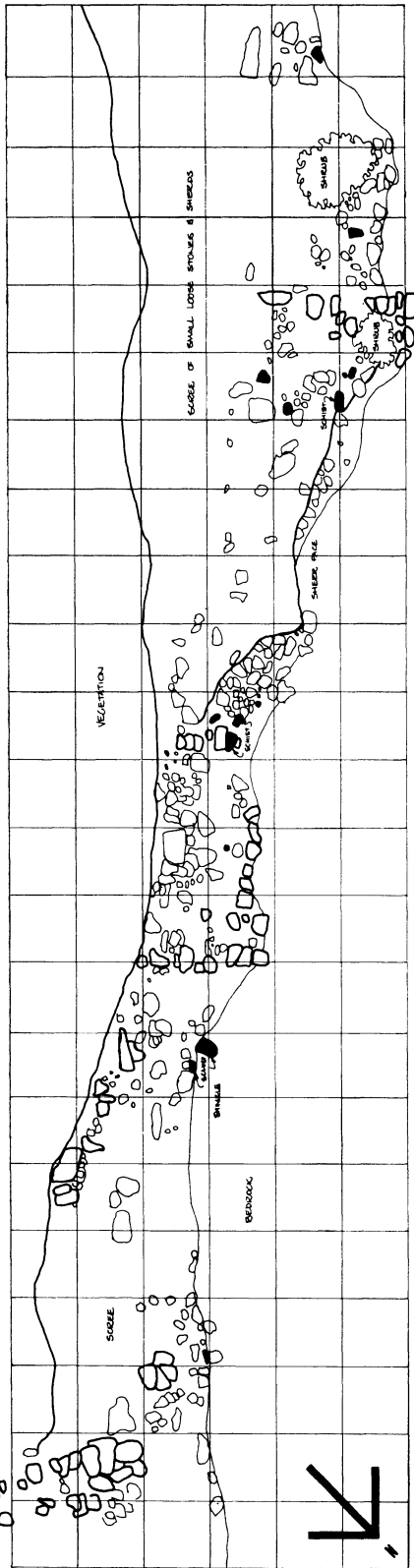


FIG. 11. PLAN OF PAVLOPETRI ISLAND

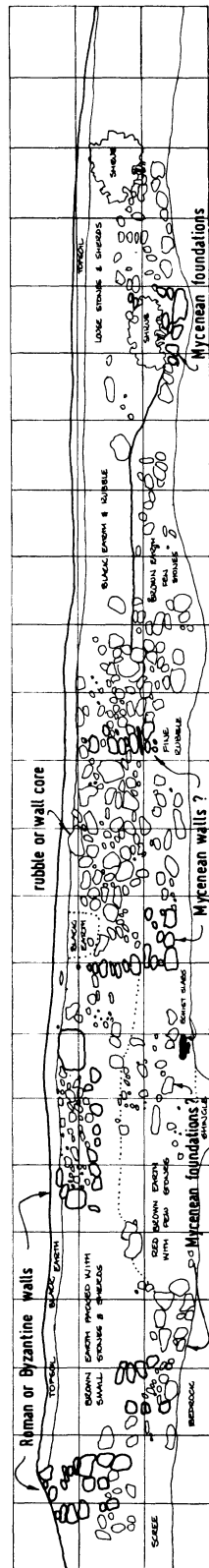
Plan



BANK WITH PROJECTING WALLS ON PAVLO PETRI ISLAND

surveyed a.harding
drawn m.walton
CIUEG 68

Elevation



gridlines are 1 metre apart

FIG. 12. NORTH BANK OF PAVLOPETRI ISLAND

and destroyed their walls; roofs have fallen in and others have been almost wholly cut away by quarriers. None was excavated, but most may now be empty.¹³ One can get inside some; but it is difficult to measure any fully. Three of the total have been detected from surface disturbances on the ridge.

The tombs are grouped around that part of the low ridge which separates the salt lake from the sea. Most are on the east side facing the sea and Pavlopetri Island, and were entered from the east (PLATE 25, *a, b*); but others have entrances on the north, south, and west (PLATE 26*b*). In all cases the slope of the hill seems to have governed the orientation, to make tunnelling easier.¹⁴

The tombs are chamber-tombs with dromoi (FIG. 13; PLATE 25, *c, d*). The chambers are generally round, sometimes kidney-shaped, and have a fairly regular diameter between about 1.20 m. and 1.70 m. and averaging 1.40 m. The greatest height of a chamber that could be measured was 0.84 m.; the full height of the chambers probably was about a metre or just under. The chambers were approached through doorways and dromoi, which are rectangular or wedge-shaped, often with a rounded end. The dromoi are short, rather over a metre long (varying from 0.98 m. to 1.72 m.), and about 0.50 m. wide. They are either flat or descend steeply to the floor of the chamber (PLATE 25*e*). Few doorways are well preserved (PLATE 25, *c, d, e*). They are usually shallow, between 0.07 m. and an unusual 0.41 m. thick; and the two measurable entrance heights are 0.20 m. and 0.41 m. The difficulty of getting a body through a hole 0.20 m. high was met by digging a steeply descending floor to the doorway of the tomb, between the dromos and the chamber. Even so, a boy probably went in to dig the tomb, and the body may just have been pushed through the doorway. Alternatively the chamber was dug separately from on top and later roofed with a capstone. There are one or two stones lying broken in the tombs which could be capstones; or a natural rock roof could have been broken up by the sea.

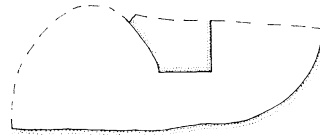
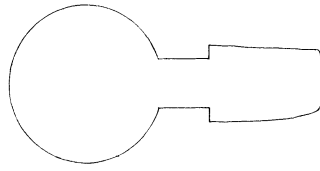
One tomb, which cuts into two others, is of unusually large size; on the other hand four small tombs have internal dimensions of under 0.80 m. and two of under a metre. The large tomb, called Tomb 39 (FIG. 13, PLATE 25*e*), has a long dromos measuring 2.12 m. and 0.94–1.00 m. wide, with two regularly cut steps at its beginning. The steps are 0.40 m. and 0.30 m. wide, and drop 0.19 m. and 0.15–0.20 m. Inside, the present chamber is kidney-shaped and measures more than 5.22 m. × 2.95 m. Tomb 38, which it cuts into at its east end, is regularly small and rounded; Tomb 41 at its west end consists now only of a dromos which enters the chamber of Tomb 39. This dromos too has a step of a drop of 0.21 m. and more roughly cut. Tomb 39, with Tombs 38 and 41, are on the east side of the ridge and face the sea (PLATE 25*b*, in the centre). Still nearer the sea are the four smallest tombs (Tomb 32 with a dromos 0.64 m. long, Tomb 42, Tomb 44 with a dromos 0.57 m. long, Tomb 53) which could have held single burials of babies or children.

As the only finds on the ridge were a few sherds (including two kylix stems), two obsidian blades, and a few bones, the tombs must be dated by their shape. Their extremely small chambers and short, steep dromoi make it difficult to think that they are Mycenaean, and especially when at least one regular and larger Mycenaean chamber tomb is nearby. They resemble rather tombs in the E.H. coastal cemetery at Manika in Euboea; those tombs, otherwise almost unparalleled, are similar in size and in shape,¹⁵ but the Pavlopetri tombs do not

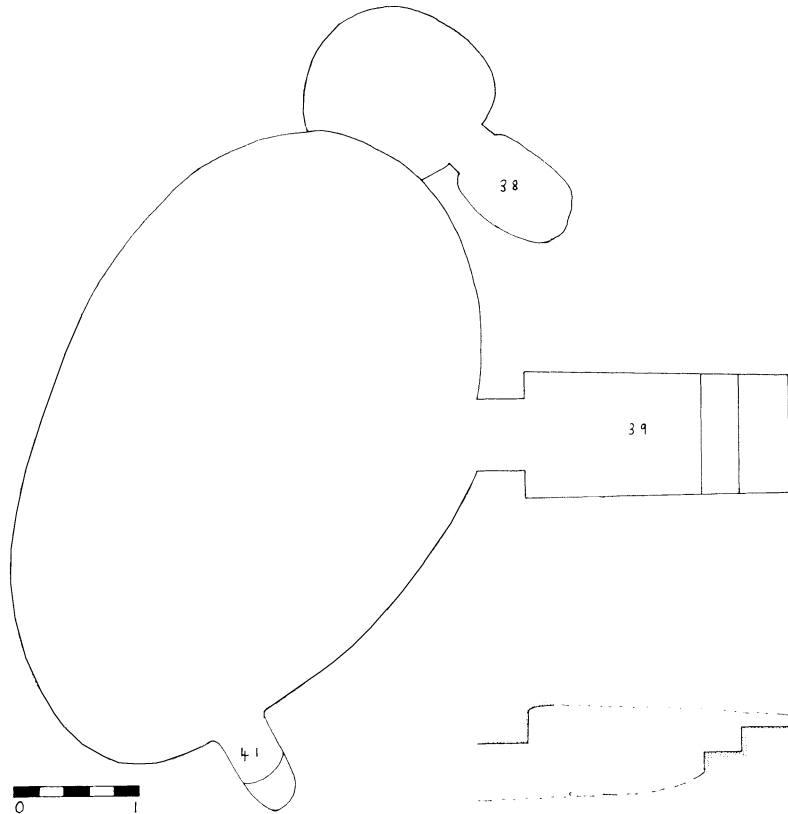
¹³ Some tombs have since been excavated by Dhelivorias. The notebook with details of the tombs, their positions and the numbers assigned them has been deposited in the library of the British School at Athens.

¹⁴ As, for example, at E.H. Manika (G. A. Papavasileiou, *Περί τῶν ἐν Εὐβοίᾳ Ἀρχαίων Τάφων* (1910–13) or L.H. Mycenae (CT 124).

¹⁵ G. A. Papavasileiou, *op. cit.* 2 ff., pls. 1 ff.



(a)



(b)

FIG. 13. SKETCH-PLANS OF (a) TOMB 37 AND (b) TOMB 39 WITH TOMBS 38 AND 41 IN THE CEMETERY ON THE SHORE

have such deep dromoi. Even the two steps at the entrance of the dromos of Tomb 39 are paralleled in Group III of the Manika cemetery, though the chambers are of different shape.¹⁶ Stepped dromoi are, however, also known in Mycenaean tombs at Ayios Giorgios in the Vatika plain and at Monemvasia and elsewhere in the Late Bronze Age Aegean.¹⁷ A later date cannot then be excluded for Tomb 39 and may be more probable: the dromos alone could have been cut with steps by Mycenaean, who found already inside the chambers of Tombs 38 and 41. The chamber of Tomb 39 however, as far as it can be assigned, does not have a rectangular shape as the Mycenaean tombs under the sea do. It seems likely then that it belongs with the rest of the cemetery probably to the Early Helladic period, perhaps to Late Helladic.

THE CHANNEL AND THE BRIDGE (FIG. 2; PLATE 26*b*)

The channel at the north-east end of the ridge is about 23 m. long and varies in width from 0.80 m. to 1.36 m. or more at its west end, and still more at its east end. It has been cut through three tombs of the cemetery. At its seaward entrance it has a step or bar at about the present sea-level: it suggests that its purpose was to lead water into the lagoon to evaporate into salt—it could easily be shut off at the bar—and not to drain the lagoon into the sea.

The bridge over the channel is apparently of keystone type with a fairly round arch. Its stones are bound by mortar which contains many white chips. The bridge descends lower on the north, where the rock is lower, but this side has been made up by hefty blocks (e.g. 0.80 m. × 0.37 m. × 0.12 m.) to the level of the rock on the south. Smaller stones have been packed in and mortared, to make it rounded and flat. The bridge is of a total length of 2.40 m. and is 1.33 m. wide across the top, too small for a wheeled vehicle. It resembles the English medieval packhorse bridges and, like them, must have lain on a route with considerable traffic, to justify its being built across such a small channel. The route may have led around the bay from Neapolis to what is now Elaphonisos. The bridge was probably built in Late Roman times, or later.

THE FINDS

Sherds and other objects were collected during the survey from the shore and from Pavlopetri Island; with the approval of the acting Ephor, a few vases were lifted from the sea-bed. They were in danger of being broken by the currents or of being stolen. The sherds on the shore had probably been washed up by the sea. The finds are now in the newly formed museum collection in Neapolis.

POTTERY

The eroded bank on the north-west side of Pavlopetri Island gives an idea of stratigraphy in the settlement (FIG. 12). At least three different levels can be made out. Part of the lowest level obviously belongs to the Early Bronze Age: it contains red-brown sherds, of rather sandy and very micaceous clay with quartz inclusions. In higher levels a typical sherd is yellowish-green with black schist inclusions; some have a coating of lustrous black paint with a cracked surface. L.H. pieces are found above, while the topmost levels include sherds of Roman or Byzantine date.

¹⁶ Ibid. 11, pl. 6. Manika Group III has recently been assigned to E.H. III (*BSA* lxi (1966) 87).

¹⁷ A. Giorgios: *BSA* lvi (1961) 145; Epidaurus Limera, near Monemvasia: *PAE* (1956) 208, fig. 1; Metaxata: *AE*

(1933) 74 ff., figs. 13, 17, 19, 95; Mycenae: *CT* 125; *AE* (1888) 128; Knossos: *PTK* 4 f., fig. 1, 28, figs. 24, 25, 45 f.; Ialysos: *Ann* 6-7 (1923-4) 168, fig. 96, 184, 237, fig. 152; etc.

EARLY BRONZE AGE (FIG. 14, PLATE 32)

Typical E.H. II shapes are represented by two sherds from bowls with incurved rims (FIG. 14, 9), several ring bases (FIG. 14, 12) and a few short, flaring pedestals (FIG. 14, 10–11; PLATE 32*d*). One sherd may be part of the spout of a sauceboat. Unfortunately the sherds are very worn, so that it is difficult to see what the original surface of the pots was like. Two sherds, however, still have traces of *urfirnis* paint, one black, one brown; another has traces of a thin grey slip. The clay of the finer wares is usually micaceous, slightly sandy, and grey, brown, pale orange, or buff in colour. Often grey and another colour combine to give a mottled effect. Four small conical dishes in this fabric were found underwater in or near Building IX (FIG. 14, 1, 2, 3, 4; PLATE 32, *a, b, c*). A similar dish was found on the shore (FIG. 14, 5). The shape is found in the Early Cycladic Syros culture.¹⁸ In the same fine ware was part of a collar-necked jar (FIG. 14, 8).

Many sherds were slightly coarser in fabric and red-brown in colour, with sand, micaceous schist and quartz inclusions, like those noted in the section. A hemispherical bowl (FIG. 14, 6; PLATE 32*e*) and part of another bowl with a roll handle rising from the rim (FIG. 14, 7) are both of this fabric. It is difficult to date the numerous pithos and large jar fragments with slashed or impressed plastic band decoration (PLATE 32*g*), though fabric and decoration again suggest connections with the Syros culture,¹⁹ and the impressed triangles of one piece (PLATE 32*g*, upper) are paralleled on an E.H. II fragment from near Kastri in Kythera.²⁰ Another parallel with Kythera in E.H. I–II is found in the horizontal handle with grooved upper surface: these are also very common in the Cyclades,²¹ and one is known from the site of Ellenika near the village of Aithia in Messenia.²²

Catalogue (FIG. 14)

1. Conical dish. H. 0.038. Rim diam. 0.082. Base diam. 0.038. Clay slightly sandy, light buff. Building X.
2. Conical dish (PLATE 32, *b, c*). H. 0.034. Rim diam. 0.08. Base diam. 0.031. Clay micaceous, buff-brown with grey core. Building IX, pot 5 (FIGS. 4, 5).
3. Conical dish (PLATE 32, *a, c*). H. 0.036. Rim diam. 0.075. Base diam. 0.031. Clay red-brown and grey, mottled (surface once pale orange, now worn away?). Building IX, pot 6 (FIGS. 4, 5).
4. Conical dish. H. 0.03. Rim diam. 0.071. Base diam. 0.034. Clay brown-buff, slightly gritty. Building X, pot 2 (FIG. 4).
5. Conical dish. H. 0.032. Rim diam. 0.084. Base diam. 0.037. Clay red-brown with grey core. Shore.
6. Hemispherical bowl (PLATE 32*e*). H. 0.068. Rim diam. 0.112. Base diam. 0.033. Clay very micaceous with

micaceous schist and quartz inclusions, red-brown with blackish outer surface. Area C, pot 7 (FIG. 4).

7. Bowl with handle on rim. Clay micaceous with schist and quartz inclusions, brown in colour. Building II, pot 12 (FIG. 4).

8. Collar-necked jar. Rim diam. 0.087. Clay grey-buff, mottled. Area B, pot 11 (FIG. 4).

9. Bowl. Clay sandy, micaceous, reddish worn surface with grey core. Pavlopetri Island.

10. Short flaring pedestal (PLATE 32*d*). Base diam. 0.061. Clay buff with pale purple core. Area A.

11. Flaring ring base (PLATE 32*d*). Base diam. 0.059. Clay slightly sandy and micaceous, orange inside, buff outside. Pavlopetri Island.

12. Ring base. Base diam. 0.036. Clay micaceous, brown-buff with brown core. Pavlopetri Island.

¹⁸ *AE* (1898) pls. 9, 17 and 40; 10, 8–9; (1899) pl. 9, 12 and 17; *ADelt* xxii (1967) A 74, fig. 5, 5. A dish from Syros, exactly similar to these in shape and fabric, is in the museum of the British School at Athens (A 161): *BSA* iii (1896–7) 62, fig. 6, pl. 5, 1.

¹⁹ *Phylakopi* 85 f., pl. 34, 2.

²⁰ Coldstream and G. L. Huxley, the excavators, have kindly let us mention these and other parallels from Kythera. The definitive report is being prepared.

²¹ *Phylakopi* 86; *AE* (1898) 174, pl. 9, 37; *ADelt* 20 (1965) A 46, pl. 33*b*. Mrs. D. Shaw, of Rhodes University, South Africa, informs us that this type of handle occurs with sauceboat fragments on a Syros culture site on Ios.

²² W. A. McDonald has kindly let us mention a handle of this type among sherds collected by him and Hope Simpson at Ellenika: cf. *AJA* lxx (1961) 250 no. 78; *BSA* lii (1957) 243 ff.

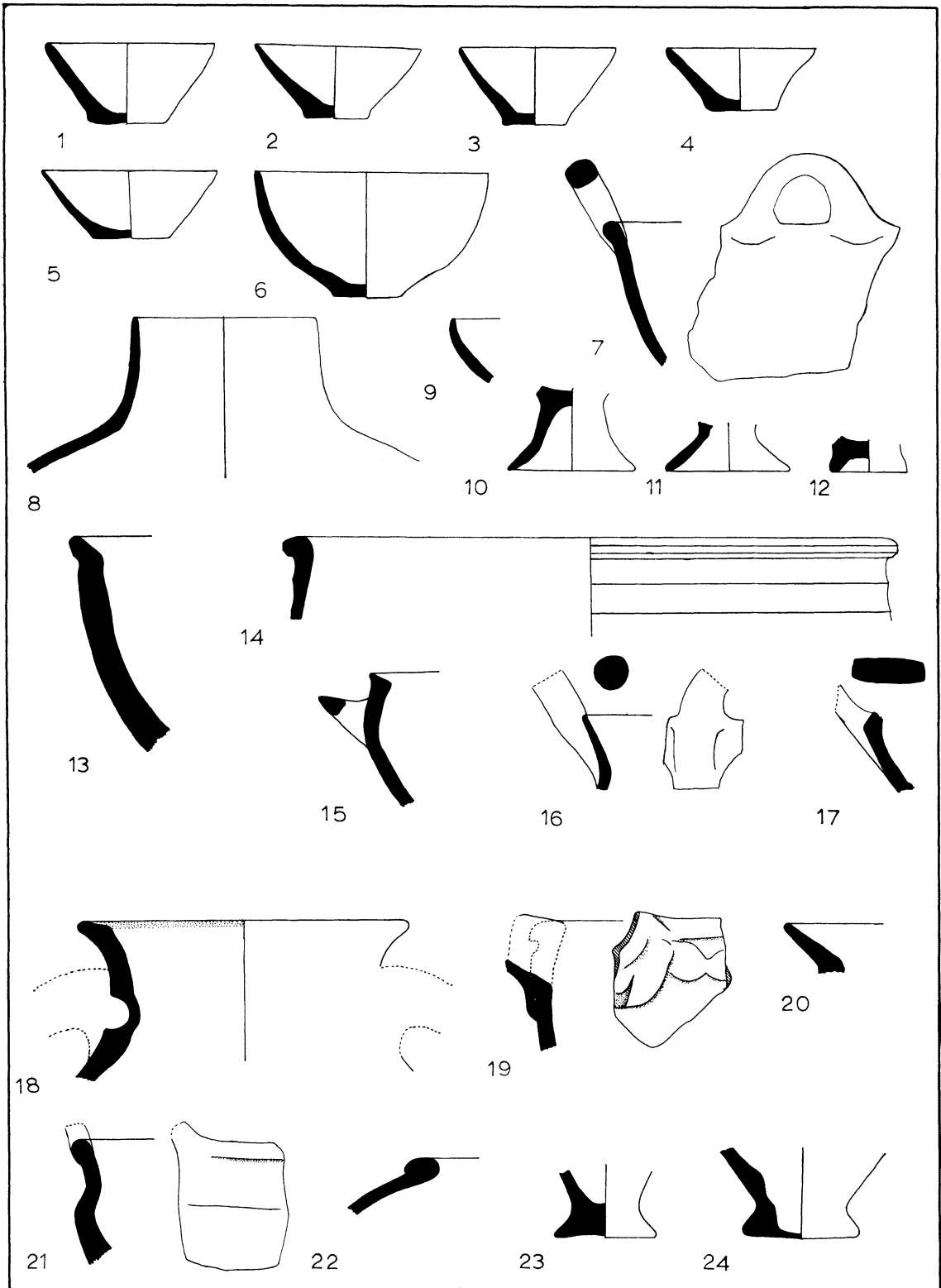


FIG. 14. EARLY AND MIDDLE BRONZE AGE POTTERY. Scale 1 : 3

MIDDLE BRONZE AGE (FIG. 14)

The clearest evidence for Middle Helladic occupation is two pieces of Argive Minyan ware, which was very common in Laconia in the Middle Bronze Age. One piece is from the rim of a bowl (FIG. 14, 14). The small bowl with crescent handle near the rim (FIG. 14, 15) must also be M.H., and likewise the strap handle from a carinated vase which is grey-buff in colour and may be a local attempt to reproduce Grey Minyan ware (FIG. 14, 17). An everted rim with an upright roll handle (FIG. 14, 16) and part of a large bowl with a short everted rim (FIG. 14, 13) can also be regarded as M.H. More common than the typical M.H. wares, however, are sherds of a yellow-green or light yellow-buff fabric with black schist inclusions. These sherds are very common in the second level of the section on Pavlopetri Island. Though one or two of them are contemporary with the Early Mycenaean ware, some should be earlier.²³ The hole-mouthed or bridge-spouted jar (FIG. 14, 22) is common in Middle Minoan and later pottery, and is also known in the Cyclades²⁴ and at Kastri in Kythera. The deep spouted vase with plastic decoration below the rim (FIG. 14, 19) should probably be contemporary with M.M. III.²⁵ Minoan influences are not surprising in view of the Minoan settlement at Kastri nearby. Another possible parallel to the fabric is a soft granular clay, with tinges from light green and yellowish to light red, found at Phylakopi in the Middle Cycladic levels.²⁶ The base (FIG. 14, 23) is perhaps the base of a panelled cup, a typical M.C. shape.²⁷

Catalogue (FIG. 14)

13. Large bowl with short everted rim. Clay micaceous with sandy grit inclusions, brown with grey core. Pavlopetri Island.

14. Argive Minyan bowl with bevelled rim and rilled shoulder. Rim diam. 0.259. Clay slightly micaceous, black with brown core, highly polished black-brown slip inside and out. Pavlopetri Island.

15. Bowl with crescent handle. Clay slightly micaceous with gritty inclusions, red-brown with grey core. Pavlopetri Island.

16. Jar with roll handle on everted rim. Clay very micaceous with grit inclusions, orange-brown with grey core. Pavlopetri Island.

17. Sharply carinated vase with strap handle rising from carination. Clay grey-buff with few small black grit inclusions; local Grey Minyan? Pavlopetri Island.

18. Amphora. Rim diam. 0.16. Clay yellow-buff, brown core with grey centre, with black schist inclusions. Worn and crazed black paint outside and on top of rim.

Pavlopetri Island.

19. Deep spouted vase with plastic decoration below rim. Clay greenish with pale brown core, with black schist and quartz inclusions. Surface worn. M.M. III? Pavlopetri Island.

20. Everted rim of jar or bowl. Rim diam. 0.125. Clay greenish, with black schist inclusions. Traces of black paint outside. Pavlopetri Island.

21. Carinated jar with handle on rim. Clay brown-black with white grit inclusions, fired greenish. Shore.

22. Hole-mouthed or bridge-spouted jar. Rim diam. 0.142. Clay yellow-buff, orange core with greyish buff centre; sandy grit and black schist inclusions. M.M. III-L.M. I? Pavlopetri Island.

23. Solid flaring base. Base diam. 0.049. Clay yellow-buff with gritty inclusions. Traces of crazed black paint outside. Pavlopetri Island.

24. Flaring base. Base diam. 0.056. Clay brown-buff with grey core. Shore.

LATE BRONZE AGE (FIG. 15, PLATE 33)

The Late Bronze Age sherds show habitation from L.H. I to L.H. IIIB. No sherds of L.H. IIIC could be recognized. The stemmed cup or goblet (FIG. 15, 1, PLATE 33j) is possibly L.H. I and so are several fragments of Vaphio cups. One (FIG. 15, 3) has a painted band on the inside of the rim, and two other fragments seem to be painted both inside and out, which is a Minoan feature. One fragment has a raised midrib. The jug base (FIG. 15, 2) is of L.M. IA date and could be Cycladic in origin. The straight-sided alabastron (FIG. 15, 6) with cross-hatched racket pattern on the shoulder should be dated to L.H. IIA. The bridge-spouted jar (FIG. 15, 7)

²³ A. Khoremis has kindly let us mention that he has found a similar ware on the island of Nisakouli (Methone) in late M.H. levels.

²⁴ *Phylakopi* 116 f., pl. 25.

²⁵ Cf. *PM* i, 414, fig. 299, and (in faience) 499, fig. 357.

²⁶ *Phylakopi* 108.

²⁷ *Ibid.* 114 f., pl. 16.

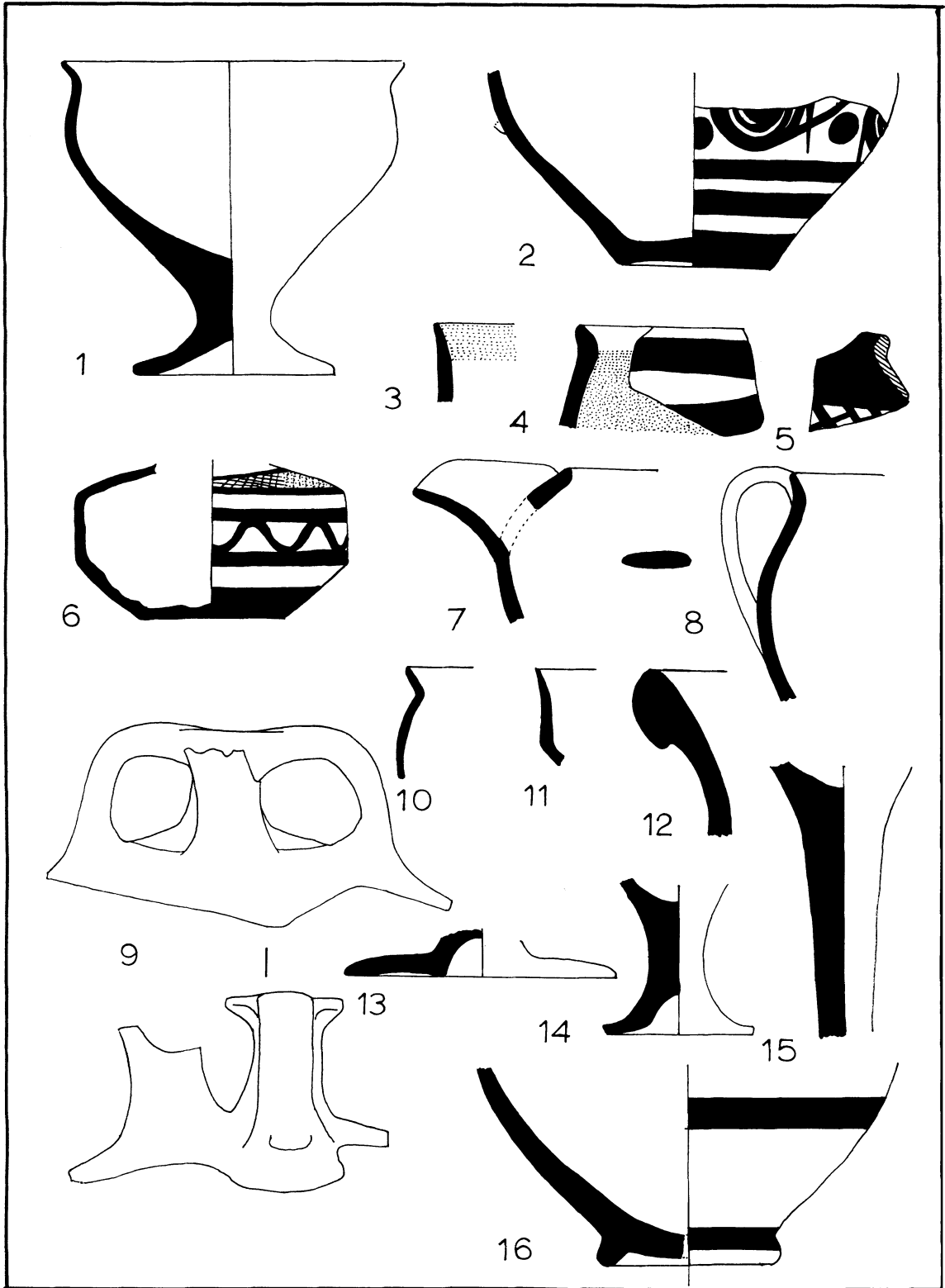


FIG. 15. LATE BRONZE AGE POTTERY. Scale 1 : 2

is of Minoan descent. Probably L.H. I-II are the deep cups (FIG. 15, 4 and 10), and the patterned fragment (FIG. 15, 5) of the greenish-yellow fabric with black schist inclusions which we have discussed above. The goblet or krater rim (FIG. 15, 8) with fairly broad strap-handles may be L.H. IIIA 1. Two stirrup-jar fragments are L.H. IIIA-B: one is illustrated (FIG. 15, 9, PLATE 33*b*), the other is larger and of coarse brown clay. Many kylix stems were found, some of which are shown (FIG. 15, 13-15; PLATE 33, *b, d*). The carinated kylix or bowl fragment (FIG. 15, 11) and the jug or amphora with rounded lip (FIG. 15, 12) are also L.H. IIIA-B. The base (FIG. 15, 16) is typically L.H. IIIB in form; two handles like those of deep bowls were also found. Tripod or cooking-pot legs were fairly frequent in a rather coarse reddish-brown fabric with micaceous schist and quartz inclusions, like the coarser Early Bronze Age ware. Tripod legs are common in Crete from E.M. II, and are found also in the Cyclades.²⁸ They are, however, extremely rare on the Mainland before the Mycenaean period. If, as the fabric may suggest, they are of Early Bronze Age date, then they should be attributed to Minoan or Cycladic influence.

Catalogue (FIG. 15)

1. Stemmed cup or goblet (PLATE 33*j*). H. 0.097. Rim diam. 0.11. Base diam. 0.064. Clay fine brown with orange core. Traces of fine polished grey slip inside and out. L.H. I? Building I, pot 4 (FIG. 4).

2. Jar base (PLATE 33*g*). Base diam. 0.05. Clay sandy light buff. Traces of cream slip and cracked black paint: running spiral pattern above bands with solid centres and solid centres in the field. Pattern partly restored. L.M. IA. Sea-bed.

3. Vaphio cup rim. Rim diam. 0.10. Clay fine buff. Black paint outside and at top inside. Pavlopetri Island.

4. Rounded cup rim. Clay fine buff. Surface worn, banded decoration outside in grey-brown paint; inside solid. L.M.? Building II, pot 14 (FIG. 4).

5. Body sherd. Clay greenish-yellow with brown core, with small black schist inclusions. Crazed black paint outside, very worn. Pavlopetri Island.

6. Straight-sided alabastron (PLATE 33, *e, f*). Base diam. 0.045. Clay fine grey-buff, with decoration in lustrous crazed black paint: racket pattern on shoulder, wavy line between bands on body, band to base partly continuing on base. L.H. IIA. Building II, pot 8 (FIG. 4).

7. Bridge-spouted jar (PLATE 33*d*). Clay pinkish-yellow with black and red-brown schist inclusions. L.M.??

Pavlopetri Island.

8. Goblet or krater rim. Clay fine buff-brown with grey core, surface worn. Shore.

9. Stirrup-jar (PLATE 33*b*). Clay micaceous orange-brown, slightly greyer inside. Sea-bed.

10. Cup with everted rim. Rim diam. 0.14. Fine light brown clay with light buff core. Traces of lustrous black paint outside and near rim inside. Shore.

11. Carinated kylix or bowl rim. Clay fine buff. Pavlopetri Island.

12. Jug or amphora rim. Rim diam. 0.19. Clay fine brown. Lustrous red paint inside and out. Pavlopetri Island.

13. Kylix foot (PLATE 33*a*). Base diam. 0.087. Clay fine orange-brown. Sea-bed.

14. Kylix stem and foot (PLATE 33*a*). Base diam. 0.047. Clay slightly gritty orange-buff. Building II, pot 13 (FIG. 4).

15. Kylix stem. Clay fine pinkish-grey, surface very worn. Shore.

16. Deep bowl base. Base diam. 0.058. Clay fine brown-buff. Surface unslipped, bands outside in brown-black lustrous paint, inside solid with green-black paint. Sea-bed.

LATER PERIODS (PLATE 33*c*)

Besides the prehistoric pieces there is a fair quantity of later pottery. It includes a Black Glazed amphora rim from the sea-bed and a Black Glazed sherd from Pavlopetri Island. Also from the Island are a fragment of a Hellenistic cooking-pot, several Roman pieces which include ribbed ware and some sherds with wavy grooved decoration, which can be assigned to the late sixth or seventh centuries A.D.²⁹

²⁸ *BSA* lxi (1966) 166 f.; lxii (1967) 50, 259 n. 10; *Phylakopi* 84, 157, pl. 35, 17; S. Marinatos, *Excavations at Thera—First Preliminary Report (1967 Season)* (1968) 27 f., figs. 34, 36.

²⁹ Cf. *Acta Musei Nationalis Pragae* ser. A. xx (1966) 169 f., pl. 23b.

CONCLUSIONS

From this brief analysis of the sherd material, it is clear that several questions may be asked about the course of the Bronze Age in the South Peloponnese. What, for instance, is the relationship between this area and the Cyclades in the Early Bronze Age? The sherds show many features that are typical of the Syros culture, and we may well ask whether the settlement does not belong entirely to that culture. Sauceboats, bowls with incurved rims, and *urfirnis* paint are all common enough in the Syros culture; and sauceboats have recently been found even in Crete.³⁰ Cycladic traits also occur on pottery in Kythera and Messenia (see above), and marble figurines of the type associated with the Syros culture reached Elis.³¹ One should remember that this part of the Peloponnese has little communication with the interior; and even today one travels from Athens to Neapolis by boat. Cape Malea is no further from Melos than it is from Western Crete and if, as is often claimed though with very little firm evidence, the Cyclades were in contact with the West Mediterranean, then the southern Peloponnese would have been on the route of Cycladic sailors travelling to the west or to the Adriatic, and would thus have offered a convenient area for colonization.

Cycladic influence may well continue into the Middle Bronze Age, when there is slightly more evidence for Cycladic contact with the west: Cycladic jugs have been found in Marseilles and Minorca.³² Minoan influences were also received, after the establishment of a Minoan colony on Kythera in E.M. II. What is difficult is to assess the relative importance of the Helladic, Minoan, and Cycladic cultural elements in the life of the settlement. This is equally difficult a little later at the beginning of the Mycenaean period: Crete and the Cyclades had an important part in the generation of the Mycenaean culture; and the southern Peloponnese is now seen to be as advanced in the earlier Mycenaean phases as the Argolid itself. The full story of its cultural evolution will have to await the publication of Kastri, Ayios Stefanos, and Nisakouli. Pavlopetri itself could provide much useful information; but excavation is needed to acquire it.

SMALL FINDS

1. Animal figurine (PLATE 33*h*). H. 0.05. L. 0.07. Fine orange-red clay. Back legs and tail missing. No traces of decoration. L.H.? Building XIV, small find 3 (FIG. 6).

2. Loom-weight (PLATE 33*k*). Diam. 0.09. Rather coarse dark red clay. Discoid, with one perforation. Building II, small find 1 (FIG. 4).

3. Biconically bored weight (PLATE 33*l*). Diam. 0.065. Hole diam. 0.015. Hard grey limestone. Cf. L.M. IB Palaikastro (*BSA* lx (1965) 311 ff., fig. 24) 102, with refs.), and E.M. II Fournou Korifi (information from P. M. Warren). Building XII, small find 5 (FIG. 6).

4. About twenty obsidian blades (two with serrated edge), and a small core (PLATE 32*f*). Pavlopetri Island.

5. One small blade of honey-coloured flint (PLATE 32*f*). Pavlopetri Island.

6. Bronze pin-head. Diam. 0.02. Hemispherical. Pavlopetri Island.

7. Bronze female figurine (PLATE 33*m*). H. 0.07. One arm is raised, the other akimbo with the hand resting on the stomach. The hair is tied behind the head, which looks to the right, in a kind of bun. The waist and hips are accentuated. Below the hips the figure terminates in a narrow projection broken at the bottom, perhaps cast in the pouring hole of the mould. Small breasts indicate the sex. Building I.

BONES

Bones observed or collected underwater and on Pavlopetri Island are of sheep or goats, cattle and pigs. There was a human jawbone on the Island and other human bones underwater, presumably from the graves.

³⁰ *ADelt* xxi (1966) B. 428.

³¹ *AE* (1957) 42, pl. 12; *ADelt* xvi (1960) B. 126.

³² *BCH* viii (1884) 188 ff., pl. 13b; *Cuadernos de Historia Primitiva* iii (1948) 37 ff., pl. 13b. Doubts about their context: E.-M. Bossert in *Festschrift für P. Goessler* (1954) 33 f.

CONCLUSIONS

The survey has yielded principally the plan of a good-sized settlement which probably controlled the Vatika plain, or at least its west end. Two groups of different types of graves have been found, and two tombs of a third type; and there are a few later remains. Nothing was excavated. It is consequently extremely difficult to date the town now visible underwater or to distribute the graves to their appropriate periods. We must emphasize that no attribution is incontrovertible. What is certain is that the pottery includes Early, Middle, and Late Helladic pieces, E.H. and L.H. predominating, and that the cliff section on Pavlopetri Island shows at least two prehistoric phases.

The town of Pavlopetri consists of separate blocks (often adjoining but usually distinct), and of streets. On the whole the town seems a unity, though the different street alignments and barriers may indicate rebuilding: these alterations may correspond to phases in the Helladic system, rather than periods. Building IX is probably exceptional in being a free-standing unit. Otherwise there are fifteen certain and substantial houses, and parts of at least as many more. If we allow that a house with ten rooms on its ground floor supported, say, twenty people, including servants, children, and other dependents, we reach a population of 600. The real figure may have been much greater. The town has produced evidence of animal farming and of weaving; it would also have subsisted on cereals, wine, and oil, and on fishing. *Murex* shells were found on Pavlopetri Island: they occur in the area, and could have been used for food as well as for making purple. There were also oyster shells.

Few prehistoric towns in mainland Greece can show a plan on a scale to compare to the streets and blocks of Pavlopetri—so little has been excavated. Of those that are known, Korakou bears some resemblance; but at the moment towns in the islands, such as Palaikastro or Phylakopi, seem closer.³³ When more Mainland settlements have been dug on a large scale, we shall be able to place the plan of Pavlopetri in its context. The evidence of the pottery suggests that the underwater settlement belongs with the latest sherds of L.H. I–IIIB, and is therefore Mycenaean. Middle Helladic sherds hardly occur underwater. Likewise its origin should be dated by the earliest sherds, and would thus be Early Helladic—or Early Cycladic.

The houses are of different shapes, though all have more or less rectangular rooms which are built on to one another without any over-all planning. (The town seems built in the same way.) No two houses are exactly alike. They seem to have grown by agglomeration, by tacking a room on as necessary.³⁴ They are quite well built and one imagines that the town was fairly prosperous.

All houses are roughly rectangular, with average dimensions of about 16 m. × 10 m. The smallest rooms measure about 3 m. × 2 m., or even less, while the largest are 10 m. long or more, and of varying width. In several houses there are two distinct orientations.

At either side lie long rooms aligned in one direction, with smaller rooms between at right-angles (e.g. Buildings IV, VI, VIII, X, XII). One of these rooms in the middle may be larger than the others, as is the case with all the buildings. This is probably the main room of the house, but it could be an inner courtyard. Its form is often irregular (Buildings I, X, XI, ?XIV): this might support the view that these were courtyards, if rooms were added as needed and expansion happened inwards as well as outwards. Building IX is unusual with its apsidal ends.

The graves consist of one or two Mycenaean rectangular chamber-tombs (which may belong

³³ *Korakou* pl. 8—cf. too *Asine* 64, figs. 42–3; *BSA* lx (1965) pl. 65 (Palaikastro); *Phylakopi*, pl. 2.

³⁴ Dickinson notes growth by agglomeration at Ayios

Kosmas (*Aghios Kosmas*, drawing 1), and suggests that its layout and architectural history are similar to Pavlopetri's.

to the settlement that can now be seen underwater), some thirty-seven slab-lined cist-graves, and about sixty small, round chamber-tombs. The small chamber-tombs have been tentatively assigned to Early Helladic and would thus be the cemetery of the first settlement; though they could also be unusually small Mycenaean chamber-tombs. Their best parallels, however, may be at Manika, itself an unusual cemetery with Early Cycladic connections; the correlation is made more probable by the strong Cycladic links of the earliest pottery.

The attribution of the cist-graves is a greater problem. One must decide whether they belong to the probably Mycenaean settlement now visible, and are therefore genuinely intramural; or whether they are Middle Helladic intramural burials of an earlier settlement; or whether they were dug down into the remains of the probably Mycenaean settlement and are, say, Submycenaean or Protogeometric.

Cist-graves are most commonly found in the Bronze Age in the Middle Helladic period,³⁵ and they continue into Late Helladic; simple earth-cut pits are also known in the later period.³⁶ Intramural burials are, however, extremely rare in Mycenaean times until the end of the period.³⁷ The most immediately plausible theory then is that this is a Middle Helladic intramural cemetery over which a Mycenaean settlement was built. A possible objection is that no M.H. pottery was found underwater but, apart from the chances of collecting sherds, M.H. cist-graves are often found with few offerings.³⁸ Pithos burials would also suit M.H.,³⁹ though it is unusual to find them inside cist-graves. A stronger objection to an M.H. date for this cemetery is that cist-grave 14 is in a wall of Building X. Either the grave was built before the wall and the wall then aligned on it; or else, and perhaps more probably, it was dug down into the wall later. If the latter alternative is correct, the graves could date from after the probable *floruit* of the settlement: that is, from the sherd-evidence, after L.H. IIIB. There is some other evidence to support a late date. A few graves are covered by large and irregular stones which occur in PG at Nikhoria; and one of these graves is apsidal, another feature in common with Nikhoria—unless it acquired this shape when the capstone fell through and the wall slabs splayed out. Finally, the graves are usually outside the houses, or in their outer rooms, as if the buriers were aware of the arrangement of the Mycenaean settlement. Equally it could be that the Mycenaean took care that the main rooms of their houses should not be built over earlier M.H. graves, or even that the graves are contemporary with the settlement. A keen objection to a Submycenaean or Protogeometric date is that no decorated pottery of these periods has been found. It would be a great help to excavate some of the cist-graves.

We shall be brief about the changes of the sea-level (FIG. 16), whose dating is still governed by archaeological and historical evidence. The maximum depth of water over any part of the site is a little less than 3 metres. This figure is then a minimum for the relative displacement of land and sea. As the buildings are not likely to have stood actually at sea-level, a figure of 4 or 5 metres is more realistic. It is certain that local tectonic movement has had some part to play, particularly as the main change must have occurred since the time of Pausanias when Elaphonisos was still a cape, and equally before the time when the channel was cut and the bridge built over it. Flemming's study of sites on the east Peloponnesian coast has led him to think that the net eustatic change of sea-level over the last two millennia has been of the order

³⁵ *Symbolae Osloenses* ix (1930) 31.

³⁶ A judicious and recent review of the history of slab-lined cist-graves and of earth-cut pits: V. R. d'A. Desborough, *PPS* xxxi (1965) 221 f.

³⁷ Mycenae, Cyclopean Terrace Building (L.H. IIIC): *BSA* xxv (1921-3) 403 ff., fig. 92, pl. 62 (cited in *PPS* xxxi (1965) 220 n. 5); Lefkandi (L.H. IIIC): ed. M. R. Pop-

ham and L. H. Sackett, *Excavations at Lefkandi, Euboea, 1964-66* (1968) 4 ff., and especially 6, fig. 6; Ayios Kosmas (assigned to L.H. IIIC): *Aghios Kosmas* 60 ff.; and perhaps Ayios Stefanos: *Archaeological Reports for 1950-1*, 32 f.; for 1963-4, 9.

³⁸ *Symbolae Osloenses* ix (1930) 32.

³⁹ *Ibid.* 31.

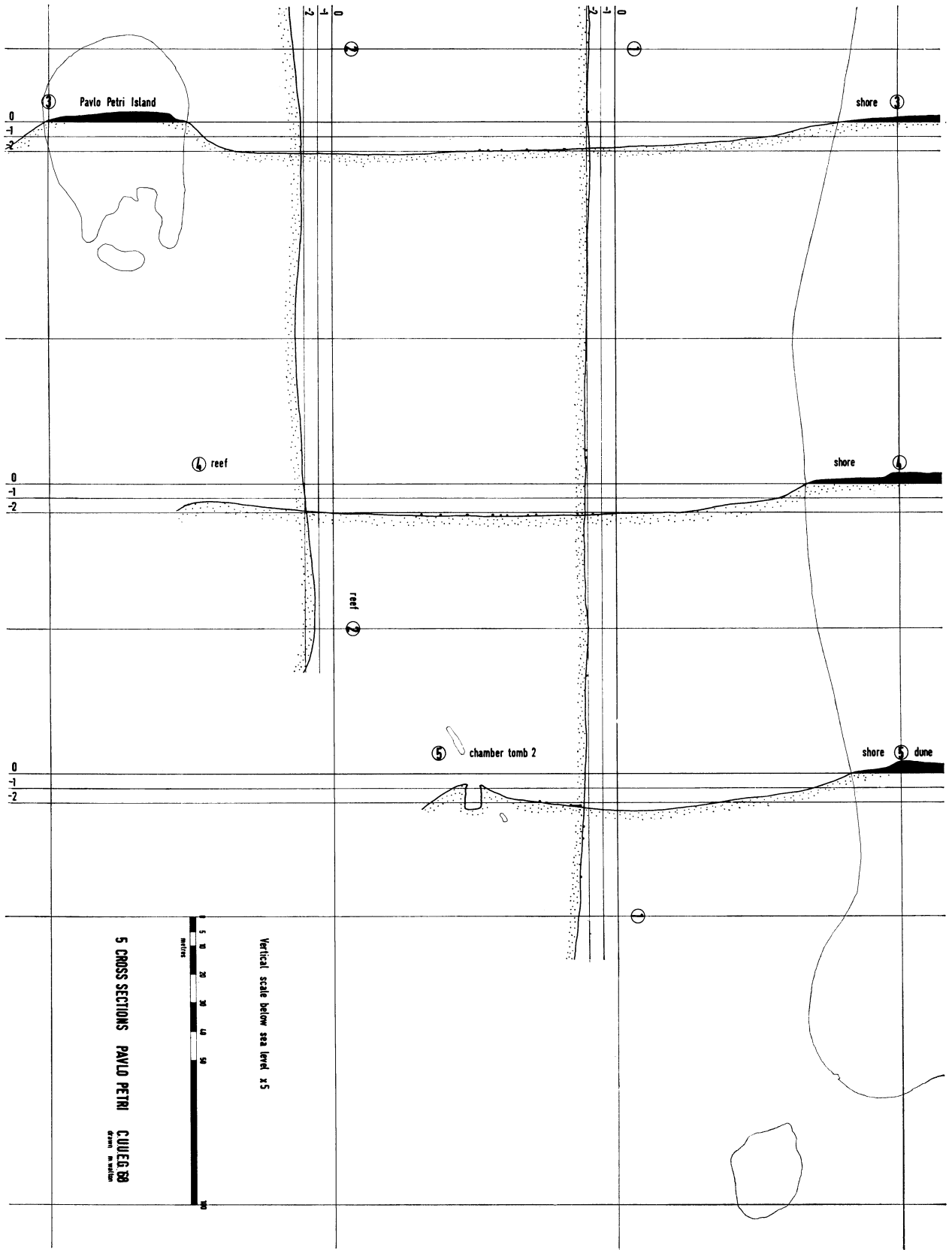


FIG. 16. CROSS-SECTION (WITH PLAN) OF PAVLOPETRI

of 0.5 m., the rest being attributable to local seismic and volcanic activity.⁴⁰ Since there is no tradition or record of any great upheaval in the area, and since the strait to Elaphonisos was fordable still in 1677, it is more likely that a series of small displacements has occurred, rather than one large one.

We can now attempt a possible reconstruction of the history of Pavlopetri. How very tentative this will be should already be obvious. The position beside the sea, the possible connections between the cemetery on the shore and Manika, and the links with Syros culture pottery suggest that the first settlers arrived by sea, perhaps from the Cyclades. All that remains may be the tombs and Building IX and some sherds. Of the next period, Middle Helladic, even less pottery remains: one or two pieces show Minoan influences, which could perhaps have been acquired from the Minoan settlement at Kastri on Kythera. The slab-lined cist-graves may belong to this period and, with the settlement, have continued into Late Helladic and thus be genuine Mycenaean intramural burials. Plenty of L.H. sherds were found in the underwater settlement, which on the whole may date from this period. Differing street alignments should indicate rebuilding, but one cannot estimate when they were altered within the life of the settlement. The two Mycenaean chamber-tombs would belong to the settlement, and there should have been others. The town is of considerable size, and quite well built. A L.M. IA import shows continuing contact with Kythera. Its history will probably prove to be similar to that of Ayios Stephanos, whose publication will fill gaps in our story.

The life of the prehistoric town apparently ended in L.H. IIIB. Perhaps it was destroyed, perhaps abandoned. There would, however, still have been considerable habitation in the area, if any of the cist-graves are really Submycenaean or Protogeometric: this view is not supported by any evidence from pottery, and is therefore unlikely. Thereafter Pavlopetri probably lay abandoned for centuries, and visitors to Cape Onougnathos passed it by. Late in Roman times there was again some habitation, perhaps as a site used during the Slav invasions. Pavlopetri Island, and Elaphonisos, could by then have become separated from the mainland and would have attracted refugees, as other offshore islets at Pylos, Salamis, and Porto Rafti may have done.⁴¹ Some sherds can be assigned to the late sixth or seventh centuries, the appropriate period; and there are remains of buildings on Pavlopetri Island. One cannot tell when the channel was dug, the bridge built, or the site used by quarriers.

ANTHONY HARDING
GERALD CADOGAN
ROGER HOWELL

⁴⁰ *Nature* ccxvii (1968) 1031 f.

⁴¹ *Acta Musei Nationalis Pragae* ser. A xx (1966) 165 ff.



(a)



(b)

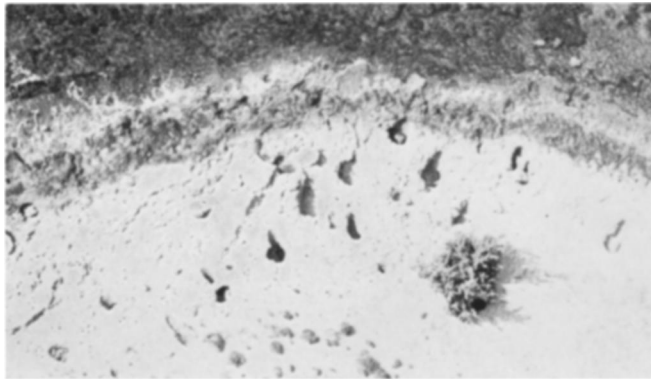
PAVLOPETRI, AN UNDERWATER BRONZE AGE TOWN IN LACONIA

(a) PAVLOPETRI FROM THE NE. IN THE BACKGROUND RISE THE HILLS OF ELAPHONISOS; ON THE EXTREME LEFT IS PART OF PAVLOPETRI ISLAND. THE BOAT LIES OVER AREA J AND THE LAND-ROVER IS OPPOSITE AREA G. THE PHOTOGRAPH WAS TAKEN FROM THE W. EDGE OF THE CEMETERY

(b) PAVLOPETRI FROM THE N., WITH PART OF THE CEMETERY IN THE FOREGROUND AND PAVLOPETRI ISLAND IN THE MIDDLE DISTANCE. THE UNDERWATER SITE LIES BETWEEN THE TWO



(a)



(b)



(c)



(d)



(e)

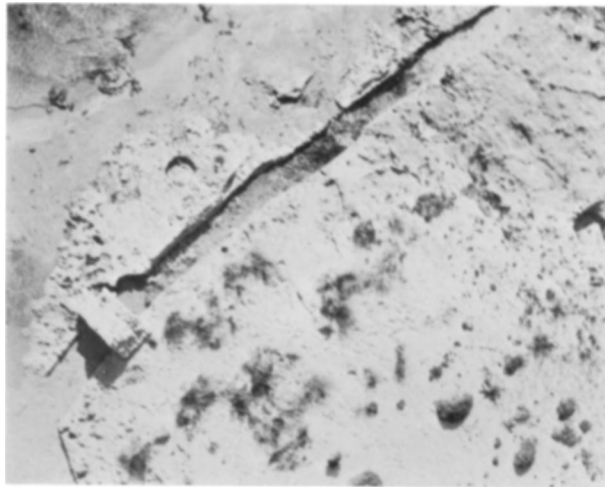
PAVLOPETRI, AN UNDERWATER BRONZE AGE TOWN IN LACONIA

(a) THE CEMETERY FROM THE SE.
(c), (d) TOMBS IN THE CEMETERY

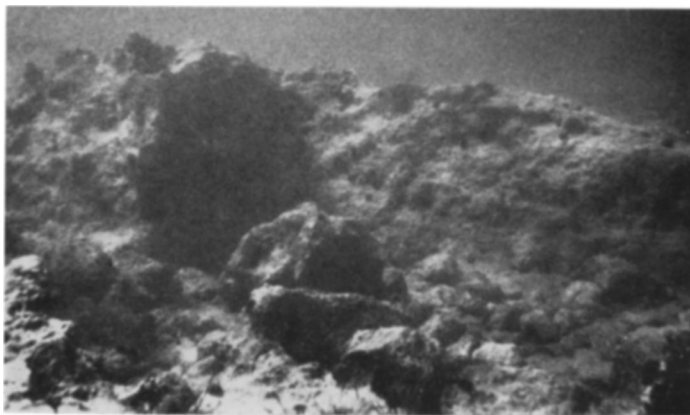
(b) THE CEMETERY FROM THE AIR
(e) TOMB 39



(a)



(b)



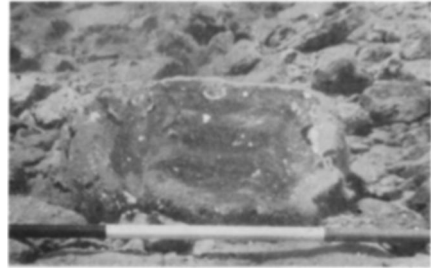
(c)

PAVLOPETRI, AN UNDERWATER BRONZE AGE TOWN IN LACONIA

- (a) PAVLOPETRI ISLAND FROM THE NE., SHOWING QUARRYING IN 'HARBOUR'. THE ERODED BANK IS ON THE RIGHT. THE HILLS BEHIND ARE ON ELAPHONISOS
 (b) THE CHANNEL, BRIDGE, AND CEMETERY FROM THE AIR (c) CHAMBER-TOMB I (underwater)



(a)



(b)



(c)



(d)



(e)



(f)

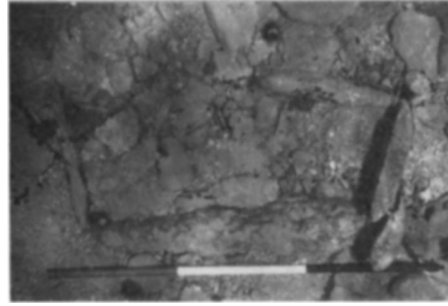
PAVLOPETRI, AN UNDERWATER BRONZE AGE TOWN IN LACONIA

- (a) LINE OF STONES, AREA C
- (c) MASONED BLOCK, AREA F
- (e) CURVING STREET WALL, AREA H

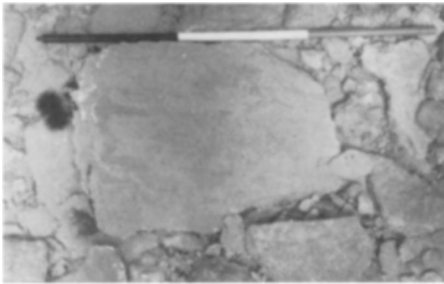
- (b) GROOVED STONE, AREA C
- (d) ENTRANCE-WAY, AREA F
- (f) PAVING, STREET 3



(a)



(b)



(c)



(d)



(e)



(f)

PAVLOPETRI, AN UNDERWATER BRONZE AGE TOWN IN LACONIA

- (a) CIST-GRAVE 3
- (c) CIST-GRAVE 13
- (e) CIST-GRAVE 15

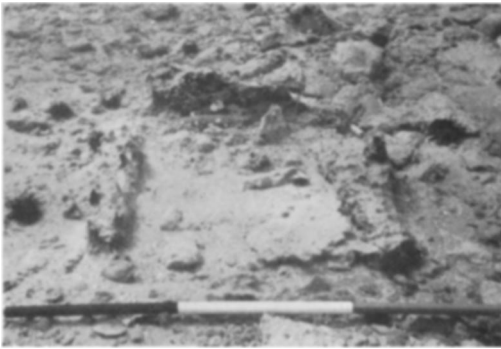
- (b) CIST-GRAVE 7
- (d) CIST-GRAVE 14
- (f) CIST-GRAVE 18



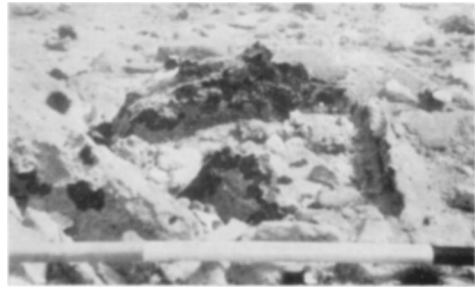
(a)



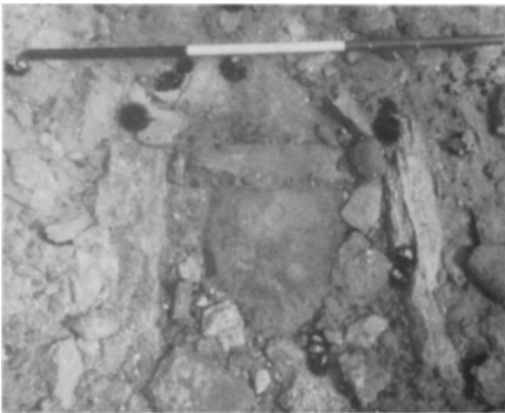
(b)



(c)



(d)



(e)



(f)

PAVLOPETRI, AN UNDERWATER BRONZE AGE TOWN IN LACONIA

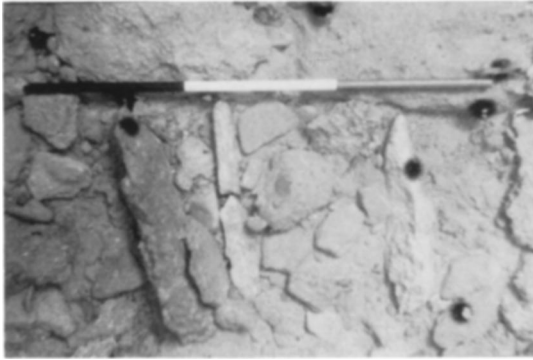
(a) CIST-GRAVE 20

(b) CIST-GRAVE 21

(c) CIST-GRAVE 26

(d) CIST-GRAVE 27, SHOWING PITHOS PROJECTING FROM SEA-BED

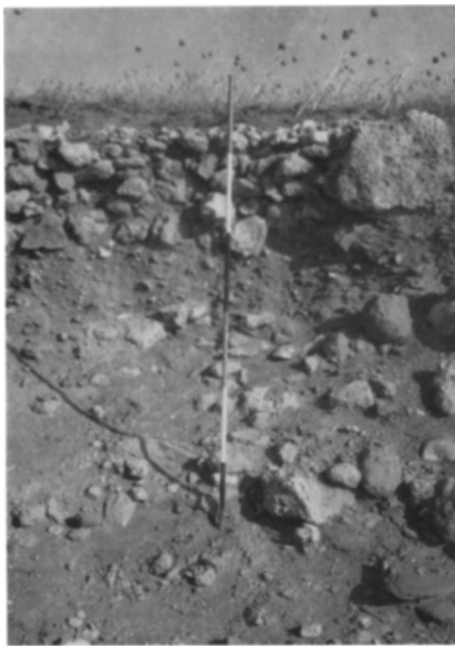
(e), (f) CIST-GRAVE 29, WITH PITHOS BURIAL



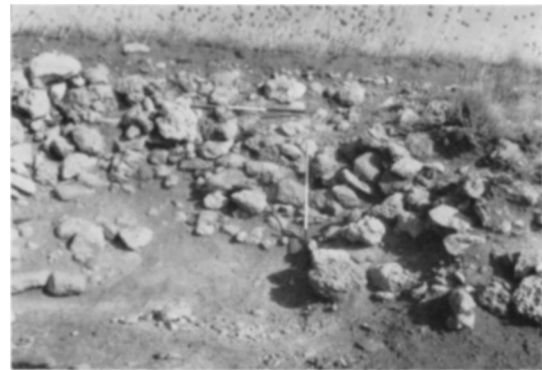
(a)



(b)



(c)



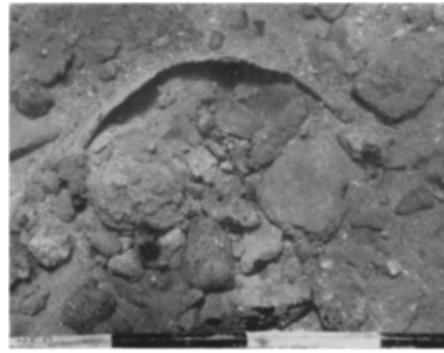
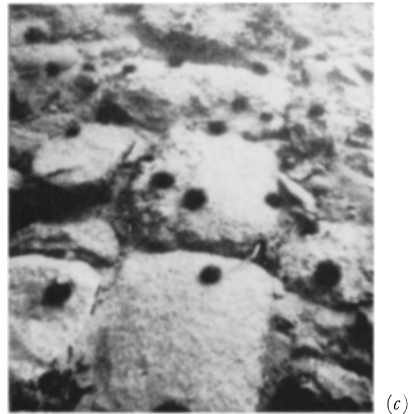
(d)



(e)

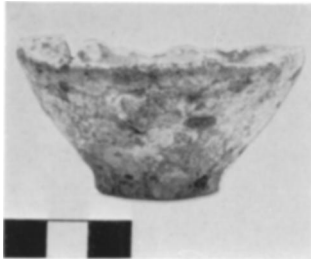
PAVLOPETRI, AN UNDERWATER BRONZE AGE TOWN IN LACONIA

(a) CIST-GRAVE 34 (b) CIST-GRAVE 35 (c), (d) ERODED BANK ON PAVLOPETRI ISLAND, SHOWING ROMAN WALLS ABOVE MYCENAEAN FOUNDATIONS (e) GENERAL VIEW OF N. BANK

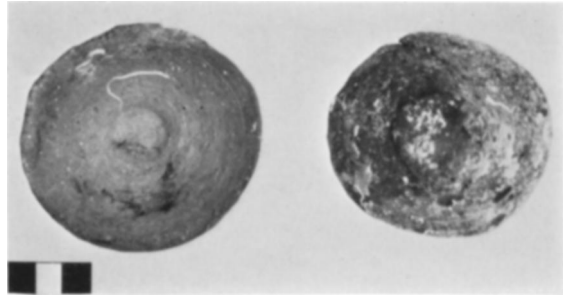


PAVLOPETRI, AN UNDERWATER BRONZE AGE TOWN IN LACONIA

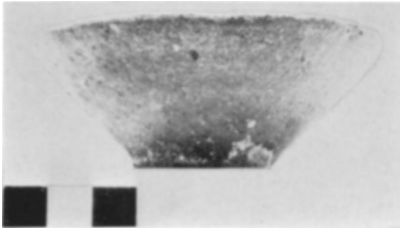
(a) WALL IN STYLE (I). (b) N. WALL OF STREET I, LONG-AND-SHORT CONSTRUCTION. (c) WALL IN STYLE (II). (d) CONCRETED SHERDS, AREA B. (e) PITHOS IN BUILDING I



(a)



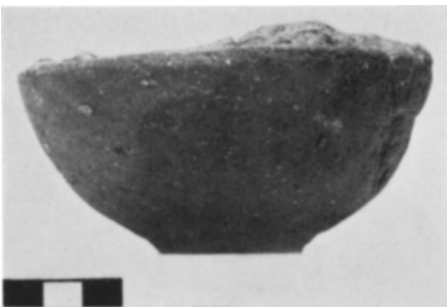
(b)



(c)



(d)



(e)

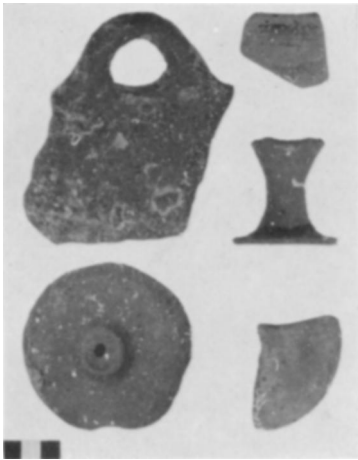


(f)



(g)

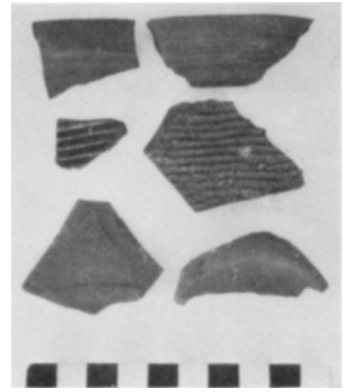
PAVLOPETRI, AN UNDERWATER BRONZE AGE TOWN IN LACONIA
EARLY HELLADIC FINDS



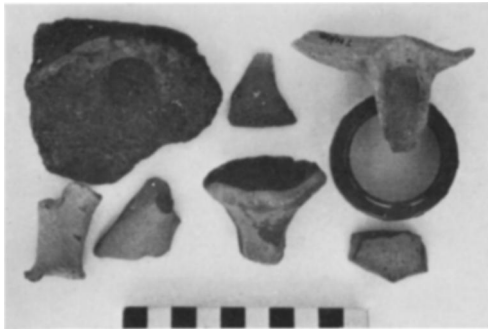
(a)



(b)



(c)



(d)



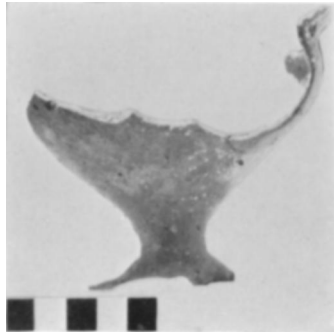
(e)



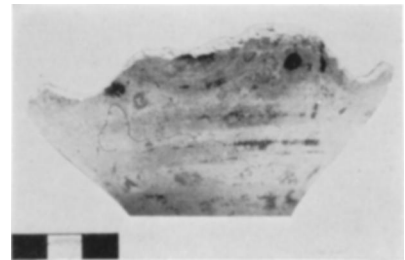
(f)



(h)



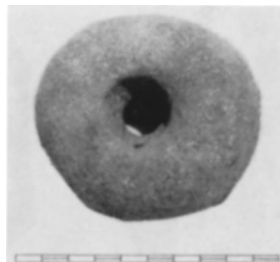
(j)



(g)



(k)



(l)



(m)

PAVLOPETRI, AN UNDERWATER BRONZE AGE TOWN IN LACONIA
MYCENAEAN AND LATER FINDS