

SPYRIDON MARINATOS

Excavations at Thera I-III

1967-1969 SEASONS



EXCAVATIONS AT THERA
I-III

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ANCIENT SITES AND MUSEUMS IN GREECE

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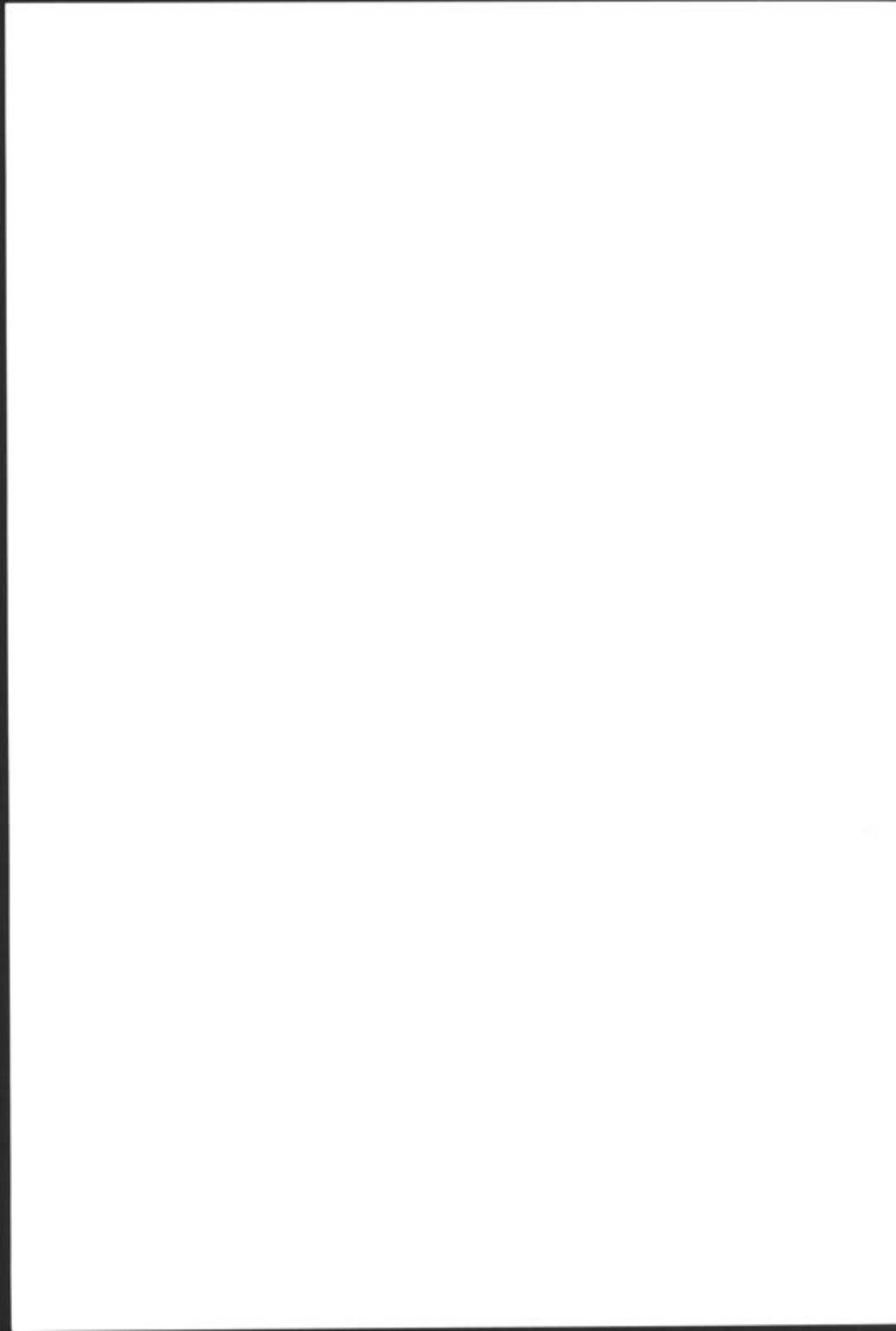


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EXCAVATIONS AT THERA I
1967 SEASON



EXCAVATIONS AT THERA I
(A Preliminary Report of the 1967 Season)*

I. GENERALITIES

An archaeological investigation on the island of Thera was planned many years ago by the writer as it was fairly certain that at several places throughout Thera and Therasia considerable ruins were hidden. The question has seemed to ripen during recent years. Indeed, archaeological discoveries like that of the Palace at Zakro and new scientific papers like that of Dr. NINKOVICH and Dr. HEEZEN¹ have contributed additional evidence for the «Volcanic Destruction» theory. This theory, formulated as early as 1934 and definitively expressed in 1939, attributed the great destruction of Minoan Crete around 1500 B.C. to a vast eruption of the Thera-volcano². Crete would have been destroyed by a series of tidal waves and by repeated earthquakes. The majority of the inhabitants would have abandoned the island. The palaces were destroyed and went out of use forever, with the exception of the Palace of Knossos, which, however, was inhabited by a new, Achaean dynasty. The expatriate Minoans fled to every part of the Mediterranean, especially to Mainland Greece and particularly to the Western Peloponnese. They transplanted their art and religion and culture to Mycenaean Greece. The last surviving palatial scribes of Crete offered their services to the courts of the more powerful Mycenaean rulers. They adapted their script to the Greek language (almost certainly the first attempt was made at Knossos) and thus the Linear B script was created³.

The writer had collected the evidence available from earlier excavation reports on Thera, from accidental discoveries, and even from

* Photos, unless otherwise stated, are by the author.

1 D. NINKOVICH and B. HEEZEN, Santorini Tephra. (Colston Papers XVII 1965, p. 413f.)

2 SP. MARINATOS, The Volcanic Destruction of Minoan Crete, *Antiquity* 13, 1939, p. 425f.

3 ΣΠ. ΜΑΡΙΝΑΤΟΣ, Το Ἡφαιστειοῦ τῆς Θήρας καὶ οἱ πολιτισμοὶ τοῦ Αἰγίου. (Πρακτικὰ Β' Κρητολογικοῦ Συνεδρίου, τόμ. 1, 1967, σ. 198 ἔξ.) Comp. SP. MARINATOS, The «Volcanic» Origin of Linear B, *Europa* (Festschrift Grumach) p. 204f.

living tradition among the inhabitants about old finds. No less than ten archaeologically interesting places are known: Therasia, Potamos, Perissa (and Exomytis), Kamari, Phira (quarries), Oia, Akrotiri, and



Fig. 1. Map of Thera.

(in its neighborhood) H. Nikolaos, H. Ioannis, Katsades. Other places less prominent (for the moment) are omitted here.

The main difficulty for an archaeological search is the fact that a white layer of volcanic ash, thirty to fifty meters thick, covers the surface of the island, where the settlements once lay (fig. 3). In some places, however, erosion has made the layer of ash thinner. In a few cases

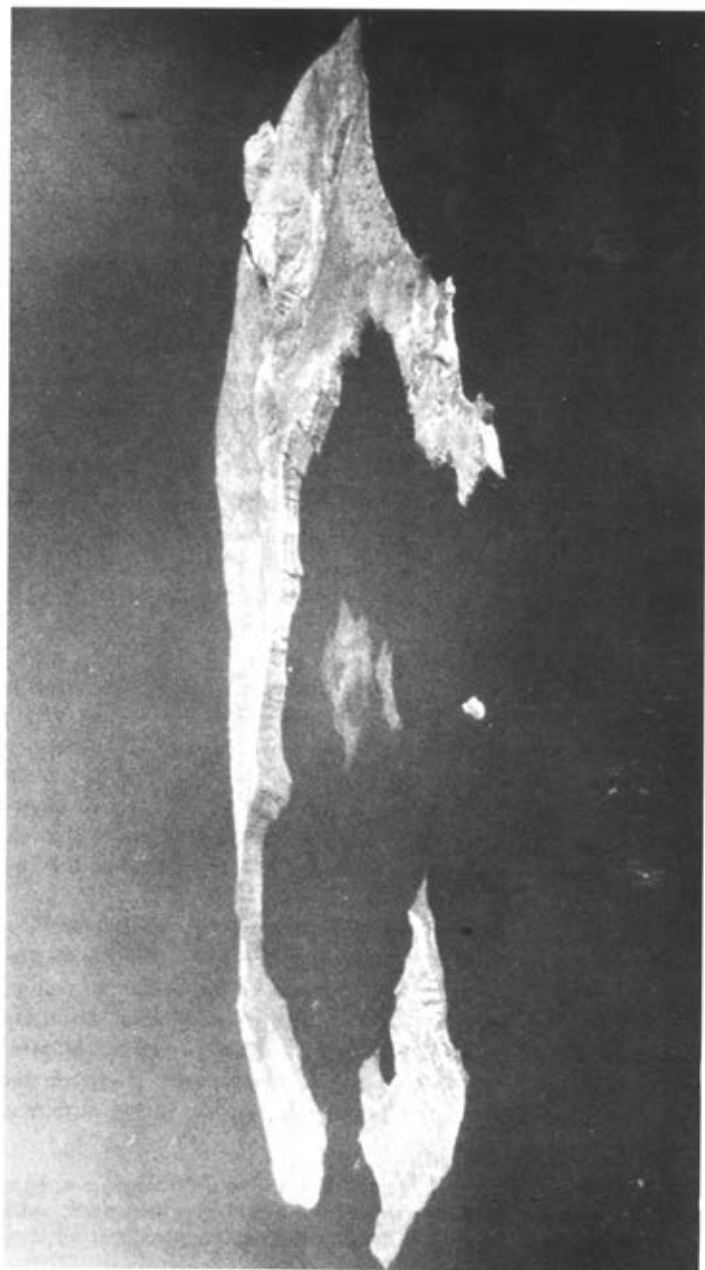


Fig. 2. An aerial view of Thera taken from a TWA plane flying from Israel to Rome. (Courtesy of Prof H. Edgerton.)

(Potamos) deep ravines have been formed by rain-water, so that the original lava-surface of the pre-eruption island is completely free of ash or pumice. It was thus that the earlier investigations were made possible, of the French scholars GORCEIX and MAMET at Akrotiri and of R. ZAHN at Potamos. As early as 1962 the present writer recognized that both, the reports of GORCEIX and MAMET and the fortunate erosion throughout the village of Akrotiri (see the map fig. 1 and fig. 2) the district of which was carefully surveyed, made this place particularly suitable for archaeological exploration. In 1964 this opinion was corroborated. This is the reason why the 1967 investigation started in Akrotiri.

The results of this investigation, though interesting indeed, have been exaggerated or at least overdiscussed before being definitely established. The first impressions of the excavator, expressed as mere intimations or as mere subjects for further discussion in private talks, have been announced as facts: a town probably lies buried in Akrotiri. Even the number of its inhabitants was fixed at thirty thousand, as if a census document had been discovered. A subterranean museum might be developed there, etc. Thus it is worth while to start with a description of the circumstances, unique indeed, which determine every archaeological attempt at Thera.

As said, the original soil-surface of the island before the eruption was a dark coloured lava (colour plate A 2-4) with a thin layer of cultivable humus superimposed upon it. The eruption deposited a huge layer first of pumice and then of ash (chemically this last layer consists of minute pure glass-crystals), which even after so many centuries of erosion, reaches a thickness of 60 to 70 meters in some places.

The character of the deposit is as follows (studied particularly by those exploiting the quarries)¹:

Directly upon the thin humus-layer of the original lava-surface, which constituted the source of vegetation in Thera, lies a layer 4 - 5m. thick of pumice. A part of it is white and the rest is darker in colour. The pumice constitutes today the most valuable product of the mines (for isolation and other industrial uses). It is lightly solidified by the pressure of the superimposed layers of «tephra» (volcanic ash). However, the use of a light instrument or a knife is enough for excavation purposes.

¹ For a detailed discussion of all questions concerning the eruption and the materials ejected see the book of F. FOUQUÉ, *Santorin et ses éruptions* (1879) which will always remain fundamental, even after the modifications introduced by Hans Reck.

The superimposed tephra constitutes a huge layer (fig. 3), which today is exploited for building purposes, especially as hydraulic mortar. It is cheaper than pumice. Its colour is white, in some places exceptionally white, powdery and pure. It is so soft, that it can be removed by hand.

The tephra possesses curious qualities which will be described here briefly so that the archaeological «fantasies» which have been so widely and prematurely spread by the press can be better appreciated. Though

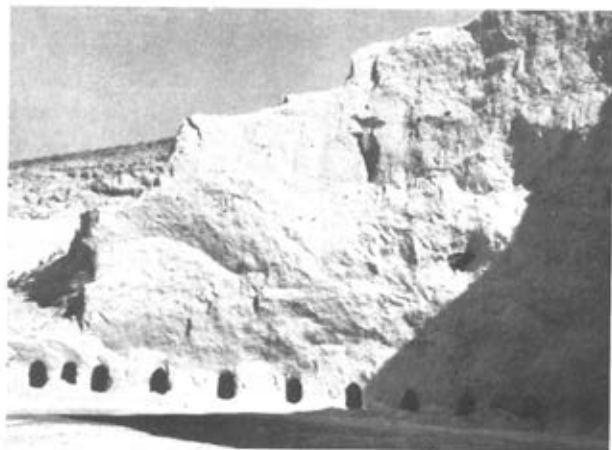


Fig. 3. Mining methods in the Phira-quarries.

this material is so soft, it possesses great elasticity so that there is almost no example of the collapse of a cave cut into it. The method of exploiting the mines today is as follows: Many parallel, deep, horizontal tunnels are opened on the lowest layer of the tephra (fig. 3). Inside the layer these tunnels are crossed by others at right angles, so that a grid is formed, which very much weakens the foundations of the tephra-layer. The workmen continue their work quietly for weeks, until their skilled foremen feel rather than observe a light, almost imperceptible tremor in the white mass. Little, almost hair-thin cracks begin to appear. The workmen stop work and come out of the tunnels. They are employed on other jobs, while a day or a week or more is needed, before the mass begins to collapse, after which it is thrown down directly to the ships waiting below the precipices of the crater.

The peasants, when opening caves for their animals and sometimes

for themselves, rub the walls of the cave with a piece of cloth or a brush moistened in water. This is enough to form a skin impermeable by humidity and preventive against the falling of particles of dust. A further quality of the ash worthy of consideration is, that even the heaviest rains of the winter do not penetrate more than 1 to 1,50 m. below the surface. The deep layers remain dry; all these facts are of great value in considering a tunnel-excavation which would uncover and leave everything *in situ*. An additional fact is, that there is no underground water on Thera. There is, thus, no serious difficulty in preserving, with their contents intact, the ruins to be excavated, in order to transform the excavation into a «living» and most original museum. The only important consideration is the depth; the greater the depth of the ruins, the safer the cavity to be formed by the excavations. Ash-layers less than 4 m. thick are liable to collapse if extensively undercut.

2. THE SITE

The huge eruption, which by some writers is already called «Minoan», annihilated the whole central part of the island, once round, (rather slightly ovoid from North to South) and the greatest part of its West circumference (fig. 1 and 2). What is left of this last constitutes the little island of Therasia and Aspronisi, a mere rock. The southern part of the originally circular island was transformed into a long promontory, hence its modern name, Akrotiri (see the map fig. 1 and fig. 2). The southern shore of this promontory lies opposite Crete and a part of it (this is clear on the map), has been lightly submerged. Hence several little bays are formed, which constitute today the safest anchorages of Thera. For the same reason the waters are shallow here (20 to 40 meters deep) and a ship can use its anchor, which is impossible in the whole western part, where the crater is several hundred meters deep. It seems that the largest plain of the original island was in this southern part. If a chief settlement existed, it must have been there. Additional evidence comes from the finds made by GORCEIX and MAMET one hundred years ago in this district; though the descriptions are scanty, the finds survived for the most part and are interesting. Since 1960 I have studied Thera with a view to excavation and in my diary of 1962 (dated 26 June) there is noted: «It seems that Akrotiri was an important centre. Moreover, in Akrotiri, erosion has reduced in many places the layers of tephra, so that at certain points the original lava-surface of the island is to be seen. These were the chief reasons for my decision to start excavating at Akrotiri.

Of course, Akrotiri is a big district and choosing the right point from the little Balos bay to the North (inside the caldera, see colour plate A 2) down to St. Nicholas (colour plate A 3) through the village Akrotiri (colour plate A 1) and its plain and valleys, was not a simple matter. Between two of the little bays mentioned lies a projecting stretch of the shore in which erosion left nothing but the brown boulders of lava. A chapel of St. Nicholas, the patron of mariners,



Fig. 4. Akrotiri. Chapel of St. Nicholas.

with the snow-white colour usual in the Cyclades, constitutes a charming contrast against the dark background (colour plate A 3 and fig. 4). No trace of older times is preserved in it and even the main icon is a vertically cracked wooden plank, on which St. Nicholas was painted no more than a century ago. The only link with the past is the tradition connected with this icon by the pious inhabitants of Akrotiri: A captain set sail from there, but soon his vessel stopped, though under full sail and enjoying fine breezes. The captain felt at once, that someone of his crew must have committed some serious sin. Indeed, one of his seamen had stolen the icon of St. Nicholas. Fearing punishment, he broke the icon in two pieces and threw them into the sea. The ship began moving again and the icon was found soon after on the shore in front of the chapel. It is a story of Old, differently repeated. Responsible for the ship's immobilization were the Gorgons in Medieval times and the little miraculous fish ἔχεννης («the ship-stop») in the Classical period. Plutarch once devoted a whole treatise to «echeneis».

If you walk along the shore a few minutes to the East of the chapel, you will find yourself on a diminutive section of beach, which is the outflow of a little ravine descending from Akrotiri toward the



Fig. 5. Akrotiri. The ravine some 200 m. before reaching the sea.

sea (colour plate A 5 and fig. 5). Twenty meters or so from the beach a well (fig. 6) was sunk at an unknown date. It shows signs of many



Fig. 6. Well and troughs at the mouth of the ravine.

repairs. Being no more than 3 m. deep, it collects brackish water, which however appeases thirst for both cattle and men. Near it stand two troughs to be used by sheep, goats, dogs and donkeys. They are

clearly ancient and too heavy to have been transported from any distance (fig. 6). This was a first indication, that we were in the neighborhood of some hidden ruin.

Here the layer of tephra has still a considerable thickness, but it is badly worn by erosion. About three hundred meters inland from the



Fig. 7. Hotel Atlantis in Phira. Unloading Miss E. Ralph's magnetometer-devices. (Courtesy of Miss E. Ralph.)

shore just described, is the part of the ravine illustrated in our plate A 6. The volcanic ash, unable to resist rain and especially violent winds, is full of holes like a sponge. Sometimes the holes are pierced through between the ash slopes just beneath the pebble layer clearly seen on the top of the ashes. This layer is very dangerous for an excavator (colour plate A 6).

If, during excavation, a reasonable mass of ashes falls upon you, there is no more harm than becoming too dusty. But if the pebbles continue menacing over your head, the psychological tension is greater. This was, one hundred years ago, the great fear of MAMET, who somewhere here made some trials, unfortunately so vaguely described, that localization has been impossible.

It was round this district, that we tested with the cesium magneto-

meter (fig. 7) of Miss Elisabeth Ralph for two days. Miss Ralph realized at once, that the magnetic field of the lava was too strong to permit the sensitive instrument to note minor differences in the magnetic field of the soil. There was no alternative but to use the classical methods of old-fashioned archaeology: trial trenches with pick and shovel. From the crater-precipices to the North of Akrotiri (colour plate A 2) down to the place, where probably ROBERT ZAHN excavated a mansion two generations ago, there were several places, which seemed liable to be attacked. I was particularly anxious to rediscover the former excavations of both ZAHN and MAMET, but it has been impossible. MAMET especially did not record the name of a single place or owner. An old man, George Saliveros, whom I met in the village Kamaras during my 1962 investigations of the district, pretended that he was the discoverer of the big jars and he served as the foreman of ZAHN and he told vivid stories about compartments with wooden beams preserved to the height of a man. He described, with much realism, how the beams were externally carbonized, but still with the centre of a well-preserved «living» wood. It was known that ZAHN had excavated in 1899 in a place called Potamos. The old man, therefore, who was about seventy five could not have been ZAHN's «epistates» at the age of fifteen or so. In any case he might still be trustworthy as offering us his childhood-memories. However, he showed us as ZAHN's excavation a field with a cavity (possibly a tomb) still visible in the lava and with further traces of stones etc., in a vineyard in Potamòs. We found later that ZAHN's excavation was in the neighborhood, but not exactly there. MAMET's excavations were made a generation earlier (1867). No one survived and no memory was preserved in Akrotiri to tell us anything about this event¹.

¹ Publications about archaeological finds in Thera are most clearly and accurately listed by FOUQUÉ (l.c. p. 107f.) who, though a geologist and vulcanologist, shows himself an exceptionally gifted scholar even in archaeology. MAMET described his discoveries in brief reports published in BCH 9 (May 1870 p. 183f.) and 10 (June 1870 p. 199 - 203) and later in his thesis *De Insula Thera* (1874). See also PERRON-CHUPEZ VI, 1894, p. 135f. Subsequently the finds were published by L. RENAUDIN in BCH 46, 1922, p. 113f. For a survey of archaeological discoveries throughout the island see HILLER v. GAERTINGEN, *Thera III*, p. 39f. ZAHN's excavations remained unpublished. ZAHN gave a first short report in HILLER's *Thera III*, p. 40f. See also N. ÅBERG, *Bronzezeitliche u. Früheisenz. Chronologie IV*, p. 127f., especially p. 132f. where he gives some information based upon ZAHN's diaries. The latest book by Prof. LOIS KNIDLBERGER, *Santorin* (1965) is primarily artistic and gives a lovely, vivid picture of old and new Santorin.

3. THE EXCAVATION. THE TRENCH BRONOS I

For various reasons I chose for my first trench a point at a place called Favatá and in a field of Madame Calliope Bronos on the West side



Fig. 8. Starting excavations at Akrotiri. (Courtesy of Miss E. Ralph.)

of the ravine (fig. 18) described above. The excavations of MAMET must have been somewhere in this neighborhood, on the opposite (East) side



Fig. 9. The first traces of Cycladic pottery. (Courtesy of Miss E. Ralph.)

of the ravine. The reasons for my choice of the Bronos field were many and not entirely clear even to myself. Two positive reasons were, how-

ever, that erosion was well advanced here and that no layer of pebbles existed to endanger our work. On the surface of the soil here and in a



Fig. 10 - 11. Fragments of polychrome jars.

few other places we had observed scanty Hellenistic sherds, while some others could be prehistoric coarse ware. But erosion in this district has disturbed everything and the sherds could have been washed down from



Fig. 12. The first traces of Cycladic buildings. (Courtesy of Miss E. Ralph.)

remote places. Equally interesting for me was the fact that on the tephra-surface of the field numerous pieces of pumice were observed. This meant that the pumice layer (by which the antiquities are always covered) could not lie very deep.

We started digging the trench Bronos 1 with a few workmen on

Thursday, May 25th (fig. 8, photo Miss Ralph) and we advanced quickly (fig. 9, photo Miss Ralph). The point chosen was a lucky one. After only a few hours, as soon as we reached about 1 m. in depth, we found several pieces of one or more jars (fig. 9-12). They were



Fig. 13. Bronos 4. The first wall found in recognizable condition.

hand-made and of coarse fabric, but some fragments were delightfully painted in black, white and reddish designs strongly reminiscent of



Fig. 14. Circular stone, stone lamp, and clay cup *in situ*.



Fig. 15. Clay cup.

Middle Cycladic pottery from other sites and even of the Kamares pottery of Crete. A tree planted there earlier must account for the disturbance of the layers. Soon loose stones appeared (fig. 12, photo Miss Ralph) and proved almost at once to belong to recognizable

walls (fig. 13). A circular slab seemed to be *in situ* (fig. 14) and beside it lay a conical cup of clay and a stone lamp, the mouth of which still preserved the traces of burning (figs 15 - 16). Many sherds of small prehistoric vases were found (two early Hellenistic sherds were intrusive), but especially precious were two genuine imported Minoan sherds (fig. 17) of LMIIa date. Our chronological setting was thus evident, 1550 - 1500 B.C. Because of the height at which the above finds were noted, there could not be reasonable doubt that we had reached the upper storey of a building. We covered our trench to avoid eventual damage to the underlying ruins. Fragments of



Fig. 16. Stone lamp with traces of burning still preserved.



Fig. 17. Two Late Minoan IIa sherds (upper row) dated about 1520 B.C.

mud-bricks, in which traces of straw were clear, told their story about the building material of the upper storeys.

4. THE TRENCH ARVANITIS I

On Saturday, May 27th, another trench was opened, this time beyond the ravine (to the East of it) in the field of G. Arvanitis (see topographical plan fig. 18). It was about 80 m. distant to the Northeast of the Bronos 1 trench. We gave it the name Arvanitis I. The reason for digging there was the idea, proved erroneous, that a deep cave

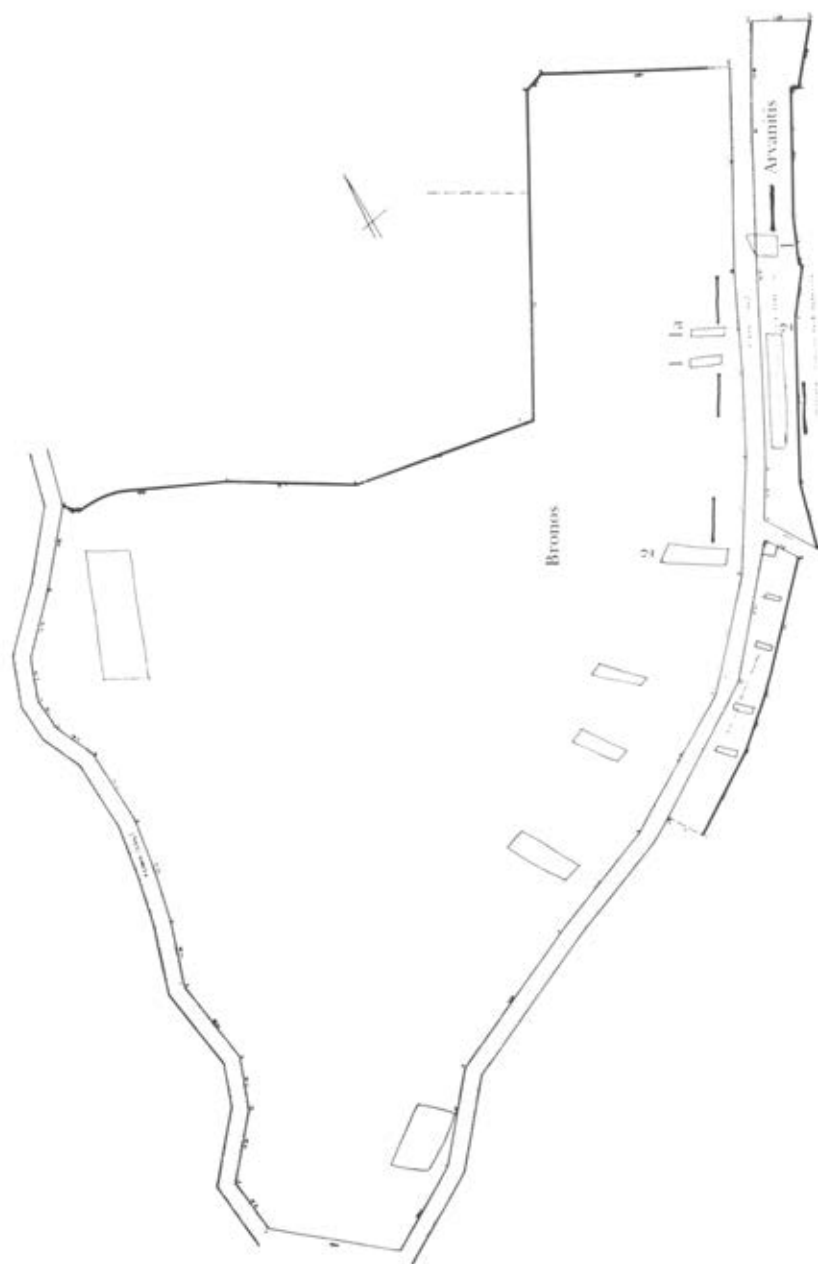


Fig. 18. Topographical sketch of the trenches of the excavation.

situated there (fig. 19) might be one of MAMET's tests. Only later was I convinced that the father of the present owner had made it as a shelter for his sheep. Here we had to penetrate deeper and my workmen



Fig. 19. Arvanitis 1. Starting excavation in front of the mouth of the cave.

preferred celebrating to working. On Monday, May 29th, the village of Akrotiri celebrated a local feast. It possesses 30 churches for no more than 60 inhabited houses (a fact observable in other villages of Thera too, where churches and chapels are more than one hundred). It was a difficult job to persuade even a few workmen to work after 9 o'clock and even then I benefited more from their pious stories than from their

labor. St. Epiphanius, their special protector, «accepts» no blood meals. No lamb, kid, or other kind of meat is welcome during the celebration. Once when the celebrators kept three lambs for this special day, all three died mysteriously before the anniversary itself. The Saint likes only φαββα (horse-beans for which the island is famous), capers and salted sardines. A curious thing in this case is, that while speaking of their festival-meals, they say that «the Saint does not



Fig. 20. Walls at right angles and a window-post with slab sill.

accept» as if it were a sacrifice in the old sense of the word. And why should this not be so?

We had reached a considerable depth, a little less than two meters, that is already about 0,50 m. beneath the ravine-path, but without reaching the pumice-layer. In the pure ashes some stones were found, but they might have belonged to the sheep-stall of Arvanitis. During the next day we reached almost 2 m. in depth. Work was difficult and the ash edges of our trench were knocked down upon us several times; but, because some stones were visible which might be *in situ*, my workmen were full of eagerness and persisted. Before sunset a wall and a corner appeared. Already we had progressed far enough to characterize the building technique in the day-book as «Minoan». Subsequently we un-

covered a whole «door jamb» which once had wooden beams at the corners (fig. 20) and a threshold of thin slabs was still *in situ*. Only a few coarse sherds and stone implements were found.

All this took place before May 30th, but on the next day I was obliged to return to Athens. The trench was covered, therefore, and excavations were resumed again from the 20th to the 26th of June with Mrs. Emily Vermeule and the German architect Mr. W. Schlöbke form-



Fig. 21. South-frame of the broad window with semi-circular stone as the base of a wooden half-column.

ing our scientific staff. From the 12th to the 31th of July I devoted the time to doing only a little complementary excavation work; it was especially necessary for me to protect the last mentioned traces, which in the meantime proved to be a store-room with all of its equipment still intact. I had to provide it with a roof. Mr. Schlöbke made some plans and designs of the excavated area and much work was done in the Phira Museum, to which some of the objects found were transported. I was greatly helped by Miss Helen Kotsalidou, field-assistant on my excavations, by the able technicians Mr. A. Mavraganis and Z. Kanakis and by the foreman G. Vassiliadis. Especially valuable was the technical help generously offered by the personnel of the Chiotopoulos quarries and by Mr. Xenophon Chiotopoulos personally. His able quarries - foreman, the wonderfully calm and self-confident Mastro-Lefteris, has offered

to us precious services, especially in tunnelling and in akin dangerous work. For the sake of convenience the further report here will not follow the order of the day-book because this would affect the unity. Each of the places so far excavated will be described in turn to the end of the investigation. We begin with the trench described last, Arvanitis 1.

After the resumption of the excavations on June 21st it was soon



Fig. 22. Uppermost layer of the store-room. Many loom-weights and the rims of two standing jars are visible.

apparent that here we were concerned with a basement. The «door jamb» proved to be a broad window, of which only the south frame was excavated (fig. 21 and colour plate A 8). The «threshold», now proved to be the sill, lies somewhat above the floor (around 1 m.; exact measurements not yet available) and consists of a thin slab or slabs. The side piece of the window ends in a semicircular stone-base, clearly intended to support a wooden half column.

Beyond this window to the West technical difficulties arose in clearing the basement room, as we had to destroy part of the village-path. Almost on the same level as the existing uppermost traces of the stone walls appeared first the lips of standing jars and together with them dozens of lentoid objects of clay, pierced (loom-weights, in Greek *ζυγούθες*

or ἀγγυθήεις) (fig. 22). Soon we reached one of the most dramatic mo-



Fig. 23. The store-room as excavation advanced: three jars are already visible standing and several smaller vases lying on the floor.



Fig. 24. Store-room: a fourth and the rim of a fifth jar begin to appear.

ments of the excavation: The filling was now exclusively pure pumice

and beneath it stood, still erect, a magnificent row of jars, while other vases in disorder began to appear (colour plate A 7, the design plate C



Fig. 25. Store-room: the vases on the floor show curious crackings, probably caused by excessive heat.

and fig. 23). Soon it was clear that these vases (amphorae and a huge jug) stood on the floor of the basement (fig. 24). Though intact, they



Fig. 26. Store-room: a jar fallen from the upper storey has been embedded horizontally in the debris near the sill of the window.

showed curious crackings on the body surface (fig. 25), possibly owing to excessive heat.

A nicely painted jar of medium size was found some 0,70 m.

above the floor, lying horizontally, almost level with the window-sill (colour plates A 8, B 1 and fig. 26). It had apparently fallen from the floor above the basement. Many loom-weights had fallen with it (fig. 26). When pieces of the jar were removed (fig. 27), it was found that similar loom-weights were inside it together with volcanic stones. Beneath the vases on the floor a stone column-base was found *in situ*, while another, also belonging to the storey above, had fallen below (colour plate B 2 and fig. 29). Near it, just in front of the



Fig. 27. The uproar of the moment of catastrophe is shown by the fact that loom-weights (as well as stones) lie inside and outside the jar.

third jar, a hole 0,08 m. broad and 0,80 m. deep was clearly visible (see figs 30 and 31 and colour plate B 3, where the pumice was intentionally left). An upright wooden beam once stood there. Possibly it belonged to one of the looms which stood in the basement as well as in the upper room.

The jars, about 0,90 m. high, were partly painted (colour plate B 2-3 and figs 29 - 32) and partly decorated in rope-relief (fig. 33). They were six in all, the first from the left being cylindrical in shape. (See plan and sections fig. 28.) It soon became clear, that to protect the

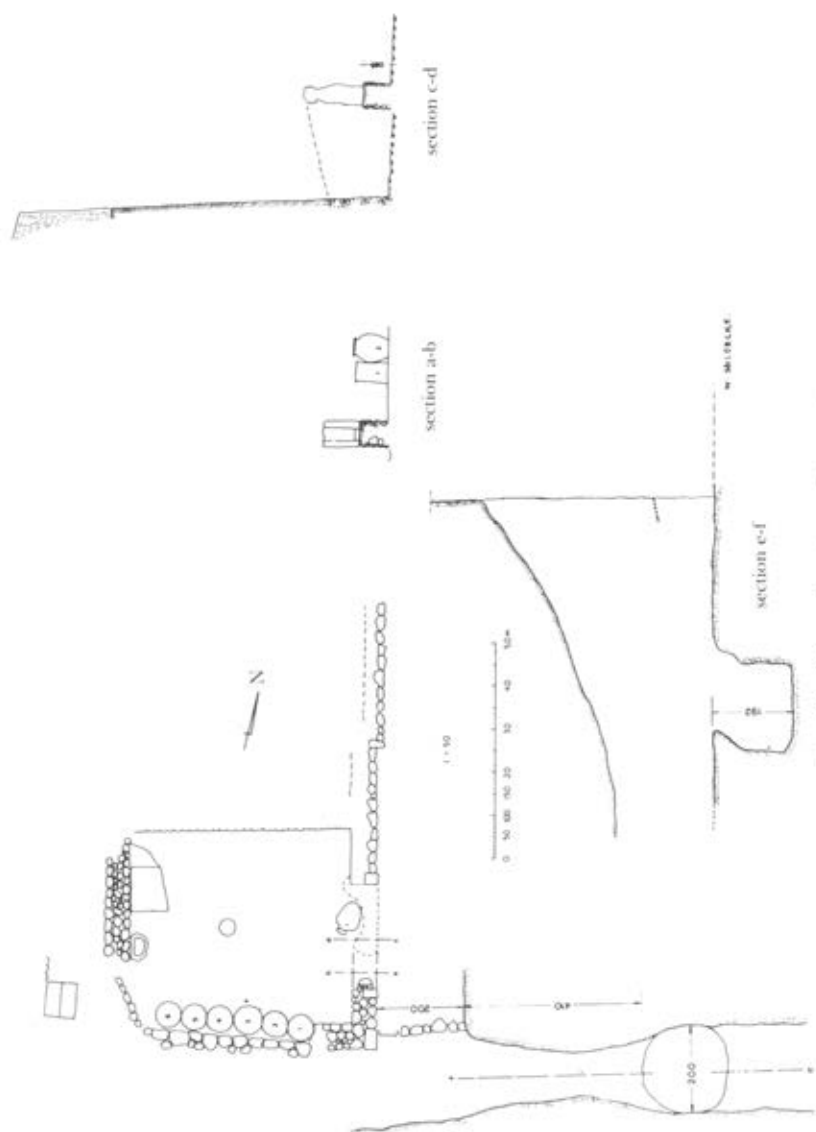
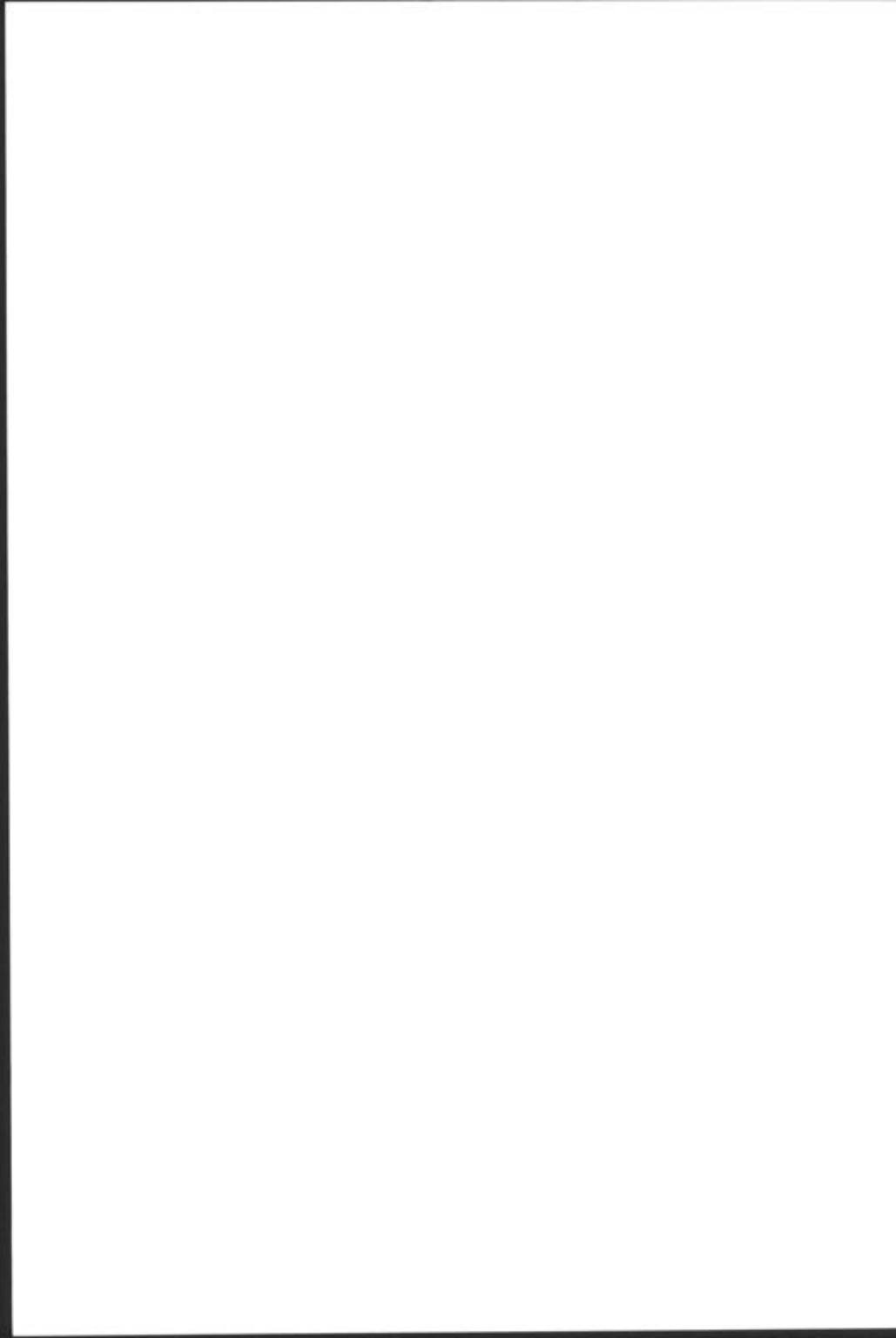


Fig. 28. Plan and sections of Arvanitis I.



jars it would be necessary to roof over the basement. For this purpose



Fig. 29. Store-room: five jars are now uncovered; a stone column-base lies *in situ*, embedded in the floor, while the corresponding one from the upper room was found nearby.



Fig. 30. A cavity appeared in the pumice near this jar, which is an indication of something of wood or other perishable material.

we tried during the final stages of the excavation to extend slightly

the excavated part of the basement in order to build a brickwall to



Fig. 31. The hole proved to be 0,09 m. in diameter, 0,80 m. deep and absolutely perpendicular. Perhaps the frame of a loom?



Fig. 32. The pumice filling is an excellent protection for the antiquities, because it does not contain the salts usual in the soil. The first three jars of the store-room were ready for photographing as soon as the pumice was removed,

support the roof. New finds appeared immediately:



Fig. 33. The westernmost jars of the store-room were decorated with rope-pattern in relief.



Fig. 34. Store-room: a low square hearth with kitchen implements *in situ*.

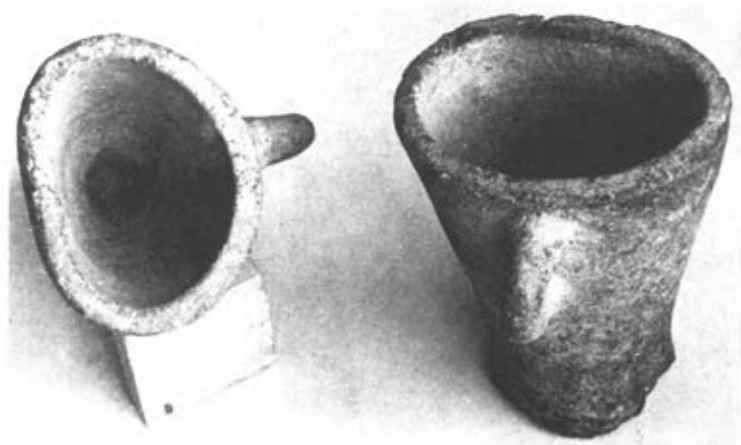


Fig. 35. These vases of coarse clay, with thick wall and with a narrow circular base add further to the problem of the use of kitchen-utensils in the Cyclades during the Bronze Age.

Opposite the window, to the West side of the basement a kind of

low, rectangular hearth appeared (colour plate B 4 and fig. 34). It consists of several layers of clay, but without much trace of fire. On it stood, still intact, the vessels seen in the figures. The one-handed coarse pots exceptionally thick walls peculiarities in form (fig. 35), may be more completely understood when a special study has been undertaken of domestic and particularly kitchen equipment, so abundantly represented both in Cycladic and in Minoan remains.



Fig. 36. A large cooking-pot was found in fragments beside the hearth.

Near the hearth the pieces of a large tripod cooking-pot were found (fig. 36). A little further away a stone-mortar was found upside down (fig. 37) and



Fig. 37. Store-room: a stone-mortar and its grinding-stone were found near the hearth, while a little further North fallen jars began to appear.

beside it a spherical grinding-stone (fig. 38). On the opposite (South)

side of the hearth a kidney-shaped stone basin was found embedded in the floor (fig. 39). Three more large jars were found on the central (North) part of the floor. This time they had fallen horizontally



Fig. 38. The stone-mortar of the previous picture.

and parallel (fig. 40) and were badly broken. The circular clay lid of

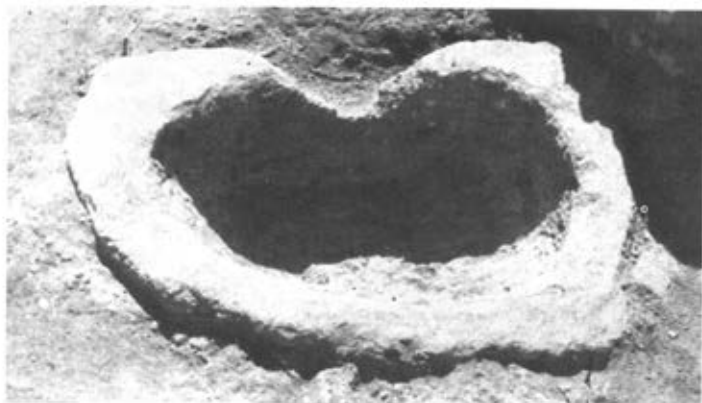


Fig. 39. A kidney-shaped stone basin was found embedded in the floor to the left of the hearth.

one of them is still recognizable and all three contain a black fatty organic substance to be examined later by experts. Beyond them to the East the usual loom-weights lay on the floor and a little further East a large stone-mortar with three legs was found inverted (fig. 41). When we



Fig. 40. Three large jars, badly broken but with all fragments *in situ* were found on the floor of the store-room. They contain a light, black substance not yet identified.



Fig. 41. To the East of the broken jars were found the usual loom-weights and a stone-mortar upside down.

removed it, we saw that underneath it lay its grinding-stone (fig. 42). We erected our walls and supplied the basement with a sheet-metal roof



Fig. 42. When the mortar was removed, its grinding-stone was found underneath it.

(fig. 43) capable of protecting it against the winter. Only a part of the room was excavated and it may possibly contain further interesting material.

The smaller vases on the floor were transported to the Phira Museum and were mended. They are all of local fabric: three amphorae (figs 44 - 45 and colour plate B 7 two of them), a large skyphos (fig. 45), a small spouted jar (fig. 46) with floral decoration in white and a large beaked jug with plastic knobs, possibly representing eyes in a zoomorphic sense (fig. 47).

Repeated stories told by Arvanitis and confirmed by the field-constable, that the legs of a donkey once disappeared into the floor of this



Fig. 43. The store-room was provisionally roofed to pass the winter.

cave (fig. 48), and that a cavity appeared, persuaded me to try to dig there. It was a dangerous undertaking, as a pebble-layer more than 1m. thick was menacing our heads (figs 19 and 48). Eventually we opened a hole in the floor of the cave and when we reached a level almost exactly

2 m. deeper than the floor of the nearby store-room just described, we found walls forming a corner (fig. 49 and section e-f, fig. 28). Further excavations, therefore, are promising, but a good deal of technical



Fig. 44. Amphorae from the store-room.

work will be necessary before we can reach this level without danger both to ourselves and to the consistency of our plan for the excavation.

Indeed, the main question concerning the present Thera excavations is whether or not we will be able to apply a system of an «Excavated



Fig. 45. Spouted skyphos and amphora from the store-room.

Museum». If we wish to use this method, we will have to excavate by tunnelling. In some cases this may be later the only possible method; but here, where erosion has thinned the pumice and tephra layers to a few meters only, clearing the ruins from above is not impossible, espe-

cially as we are dealing, at some points, with two storeys. This involves financially more expropriation and more mechanical devices for removing



Fig. 46. A bridge-spouted spherical jar painted in white.

great masses of tephra; and scientifically it means a greater number of archaeologists, architects and technicians on the spot.



Fig. 47. A large jug with plastic «eyes».

This is why I was extremely cautious and did not uncover greater areas of the building we had discovered, particularly when there were

indications of a second floor. For this reason I re-filled the trench, which had revealed the wall of the upper storey discovered in trench Bronos 1. Indeed, our general tendency during the 1967 excavation was not to



Fig. 48. Arvanitis 1. Cutting a hole in the floor of the cave.

penetrate inside the rooms, as we were not sufficiently prepared for this work. Our sole aim was to gain an idea of the nature and the dimensions of the building or buildings discovered. The store-room was partly excavated for the purpose of roofing as already explained.

5. THE TRENCH BRONOS 1a

Luckily in the case of trench Bronos 1a we hit exactly as we wished upon the North wall of the building and we were thus able to excavate its exterior side down to the bottom. The results are as follows (see also the plan fig. 50):



Fig. 49. Local tradition was sound: a wall appeared almost 2 m. deeper than the floor of the store-room, which awaits excavation.

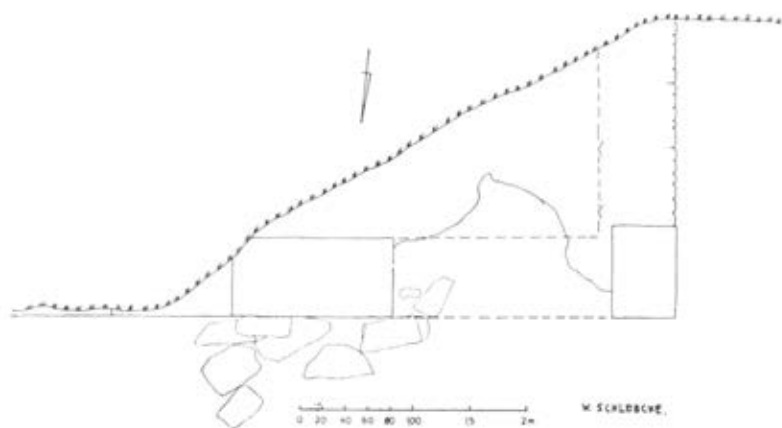


Fig. 50. Plan of Bronos 1a.

The upper storeys were made of mud-brick as has already been noted here. Within 3 m. from the surface we found the lowest parts of



Fig. 51. Bronos 1a. The North wall of the building in ashlar masonry. The traces of the earthquake are visible.



Fig. 52. The same room, the West wall of which is in rubble masonry.

the North wall, which were of ashlar masonry and it seems certain, that it collapsed owing to a violent earthquake (fig. 51). The Northwest corner of the mansion has a neat cubical corner stone (figs 51 and 52). Above this stone-built portion the upper parts of the wall were of rubble

and the West wall was wholly of rubble masonry (fig. 52). The traces of a wooden framework in the building construction, known from Cretan and Mycenaean architecture, were apparent here as well as everywhere throughout our excavation. It is also clear that rubble, mainly consisting

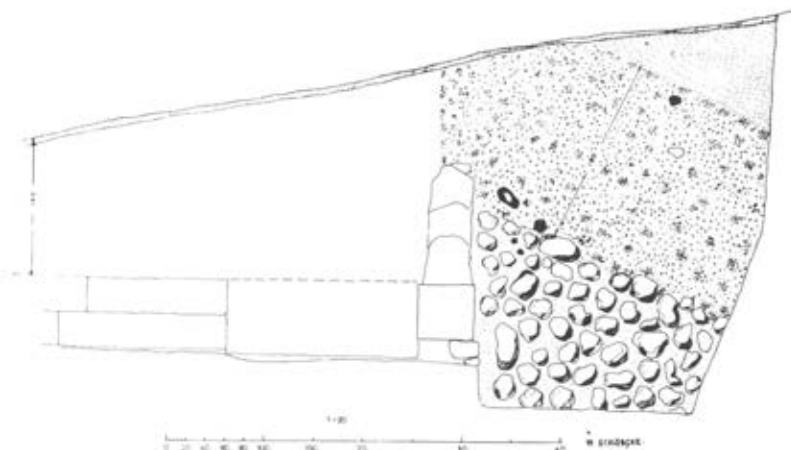


Fig. 53. Section of Bronos 1a.

of volcanic stones, was employed mostly for the basements, while the upper storey was in mud-brick. This was nicely shown by the excavation of a part of the West wall to the building in question. We cleared a small part of it down of the lava (?) floor and the results were as follows (see the section fig. 53 and colour plate B 5):



Fig. 54. Bronos 1a. A stone «palette».

Directly on the floor, which is horizontal and smooth, apparently consisting of the original lava, were found the collapsed stone walls (colour plate B 5). The stones and the interstices between them were covered by a fine, brown earth, which was clearly the result of decomposed mud-brick. No trace of pumice exists in this layer.

Above the fallen ruins the layer of pumice begins, and over it there is only a thin layer of tephra, the rest of which has been worn away

by erosion. (See the section fig. 53.) Within the pumice layer there are openings in different directions but always straight. There can be little doubt, that they represent the position of the beams of the walls and perhaps of the roof, which were scattered over the ruins (colour plate B 5).

The conclusion from all these facts seems obvious. One or more serious earthquakes, destroyed first the buildings and only then began the rain of pumice which accompanied the eruption. Further observation will confirm or modify this important conclusion concerning the successive stages of the activity of the Thera-volcano.

The finds from this trench were rather scanty, consisting of sherds, stone vases, stones with pivot-holes for the doors and a few household implements (fig. 54 shows a stone «palette»).

6. THE TRENCH BRONOS 2.

Fifty meters to the South of Bronos 1 we opened another trial trench, which proved most important and at the same time the most difficult of all. Immediately below the actual tephra surface of the field we found a disturbed pumice layer. At the same time loose stones from ashlar masonry appeared (and this was very encouraging), only 0,70 m. below the surface. Almost at once large parts of plastered walls were apparent (fig. 55). Large areas of brown, pure earth, were visible within



Fig. 55. Bronos 2. Stones from the ashlar masonry. Beneath them plastered walls begin to appear.

the pumice-layer. Sometimes the mud-bricks were still well preserved. Cavities indicated the wooden beams (fig. 56). We felt at once, that

here we were again on the upper floor of a stately building. I put this delicate work entirely in the hands of Mrs. E. Vermeule. She worked hard and it is my agreeable duty to express here to Prof. Vermeule my warm thanks. The brief description which follows uses for the most part extracts from her own report, accompanied with provisional drawings made on the spot, of which a plan (fig. 57) and a section (fig. 58) are published here.

The soil slopes at this point abruptly from West to East into the



Fig. 56. The hollows of the wooden framework for the walls are instructive.

ravine, the torrent of which, I am afraid, has caused serious damage to the building and possibly separated it from its dependencies beyond to the East. The ruins to be described here lie at the Western end of our trench and they belong certainly to the upper floor. The steep East section in particular produced groups of clay vases (fig. 59 and colour plate B 6) and stone implements, partly from the fallen upper floor and partly belonging, it seems, to the basement which is still to be excavated. A large stone basin was found near a door (fig. 60) and a grinder lay (fig. 61) with the clay vases.

The architectural outline of the ruins is still confused. So far it is certain that there existed mud-brick walls, one of them running N-S along the West edge of the trench. Some bricks were fairly well preserved so that their dimensions could be measured (one of them was 0,56 m. long, 0,30 m. wide and 0,09 m. thick). The holes for beams or thinner interior wooden supports, as already stated, were clear. There were traces of walls in ashlar masonry (fig. 62) and a pillar was recognizable

BRONOS 2 PLAN OF THE RUINS

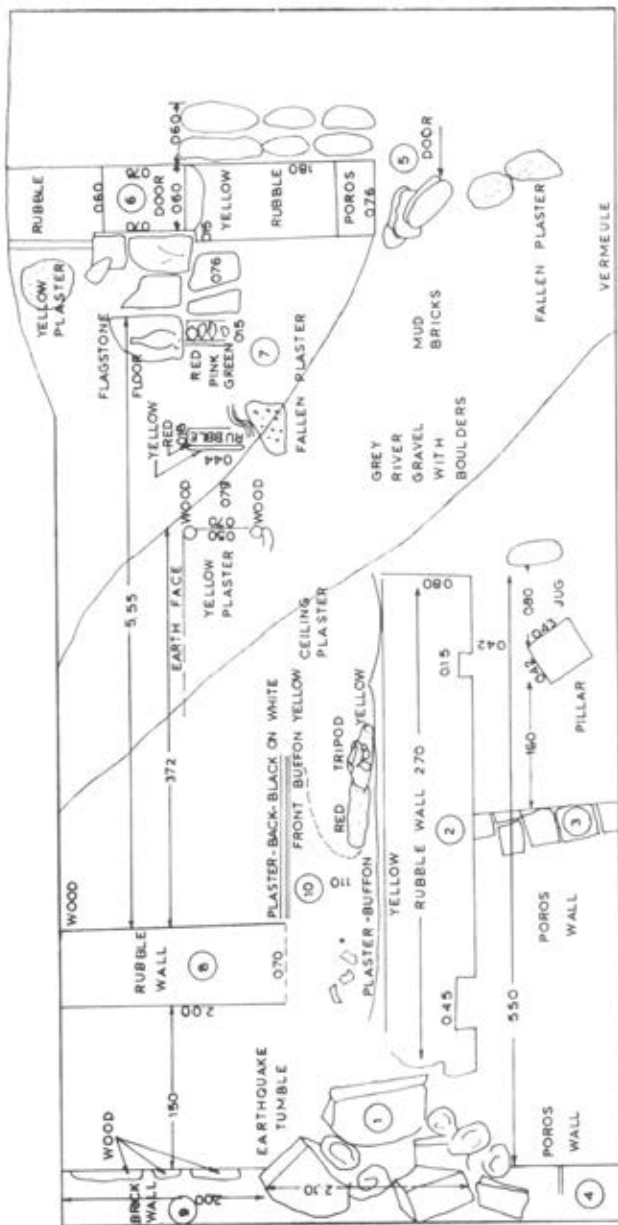


Fig. 57. Plan of Bronos 2.

BRONOS 2 - EW SECTION THROUGH NE DOORWAY

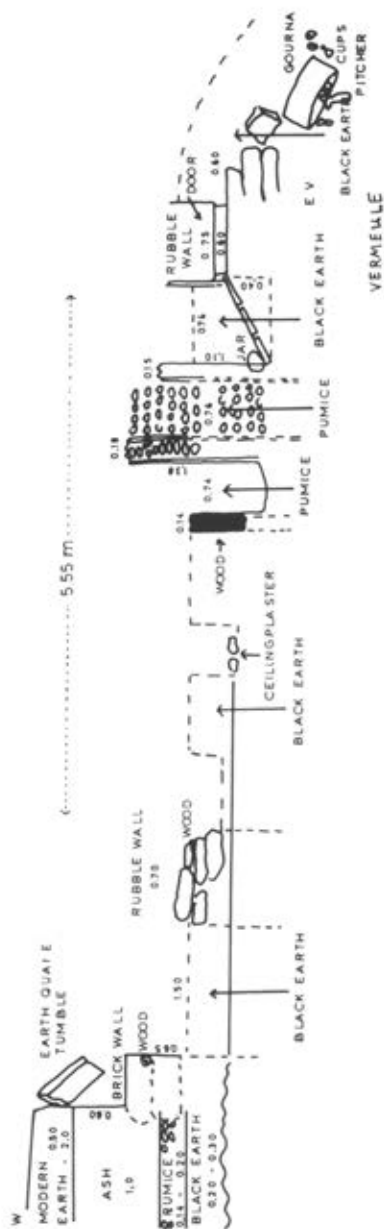


Fig. 58. Section of Bronos 2.

possibly *in situ* (fig. 62). The traces of rubble walls are more abundant (one of the best preserved is seen in fig. 63). For the most part they are covered with plaster (fig. 64) sometimes white and sometimes painted.



Fig. 59. Groups of pottery on the eastern side of the trench.

In some instances plaster layers are superimposed or constitute corners not yet clear (fig. 65, photo Mrs. Vermeule). The coloured plaster is



Fig. 60. A large stone basin.

apparently reddish or yellow, faded already as it is extracted from the pumice. Scattered pieces from here and other parts of the excavation (mostly minute fragments) show other and more vivid colours. Concerning the Bronos 2 trench Mrs. Vermeule aptly notes that: When the plaster

is patterned, the designs are very faint. The normal design seems to be speckled sponge-prints in brown on buff ground or in black on a white ground. Some pieces combine pink and red with a green wash on top. Some are plain background pieces in yellow or white.



Fig. 61. A stone lamp or grinder.



Fig. 62. Ashlar ruins and a possible pillar.

I was able to take only one photo of some characteristic pieces in



Fig. 63. A well preserved portion of an upper-storey wall.

the Phira Museum (fig. 66). I have only to add, that the colours of this rockwork (certainly from a marine subject) are curiously faint, as if



Fig. 64. A wall covered with plaster.



Fig. 65. Plaster in different layers. (Photo Vermeule.)

damaged by excessive heat or by long exposure in unfavorable conditions. I can not say what was the original colour. Sometimes it gives the impression of an altered green or blue-green and it was only after wetting

the fragments that a photo was possible. One of the most tantalizing ruins in our trench was a curious complex of thin rubble walls faced on both sides with painted plaster; we did not have the technical means of keeping the plaster from crumbling when the pumice was removed and so we left it intact as far as possible. The complex seems to consist of three openings to the left, of equal width (0,76 m.) with thin partition walls 0,15 m. to 0,18 m. thick; some of the plaster on the five places investigated is yellow, some red-pink-green, some brown-on-yellow, some plain

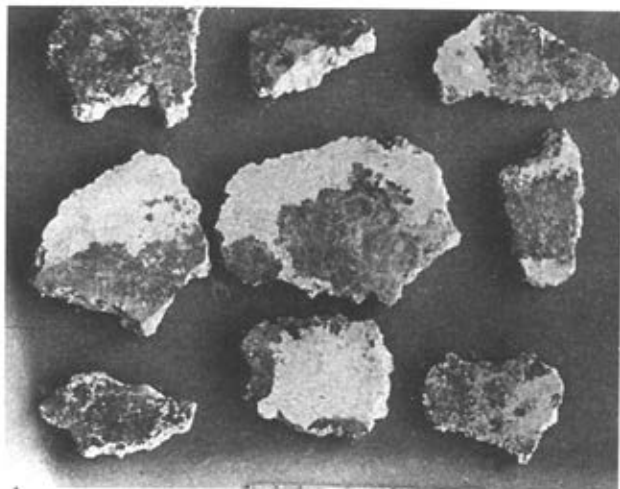


Fig. 66. Fragments of wall-painting.

red. The first suggestion («the legs of a wooden piece of furniture») was upheld to the end of the dig by our chief-mender, Mr. A. Mavraganis. Possibly it may be some kind of polythyron.

At least two doors were clearly recognizable. On the threshold of one of them there were three crude mud-bricks. The construction of the other was of worked stone in the well known Minoan manner. The photo of fig. 67 by Mrs. Vermeule and that of fig. 68 by myself show its form clearly. It is framed by a beaten mud threshold and rubble walls encased in plaster on either side, with the door hinged on the right as you entered from the East, opening inward. This door opened into a flagstone floor, which is still preserved *in situ* (fig. 69), although it sinks gently towards the inner part of the room. It is interesting, however, that we have here the floor of an upper storey still in its original position and of which we

will be able, we hope, to study the technique and construction. All details: plastered walls, elaborate openings, a pillar, and other slight in-



Fig. 67. A door-jamb of the upper-storey. (Photo Vermeule.)

dications from the pottery found give us hope, that we are confronting



Fig. 68. The same door leading to a room floored with slabs.

a shrine, which lends interest to the underlying basement awaiting excavation. Among the pottery found of especial interest is a precious imported Minoan, perhaps handleless bowl, of which we have for the

moment something slightly over the half (figs 70-71). All the fragments



Fig. 69. Part of the slabs preserved still *in situ* in the upper storey.

found have been fitted together but many still remain we hope, under



Fig. 70. A fine imported clay bowl imitating a stone prototype.

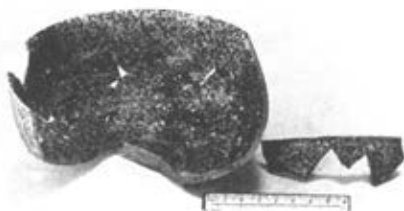


Fig. 71. The inside of the same bowl.

the pumice. Apparently the vase imitates a prototype of serpentine or other stone.

7. TRENCHES ARVANITIS 2 AND BEYOND

It remains to give a concise description of our further (and last) investigations beyond the ravine to the East. There is only a narrow strip of land there, no more than 3 to 5 m. broad, between the ravine road and the fields lying higher to the East. A path coming from the East



Fig. 72. Fragments of a fine Cycladic clay cup.

cuts this strip of land into a North section, belonging to Arvanitis, and a South-Westerly section belonging to the Nomikos family. This last field, lying roughly opposite Bronos 2, was investigated with no less than five small trenches (see the topographical plan fig. 18) and in three of them we found walls running West-East, thus giving a helpful forecast for future excavation. Particularly interesting was a corner of rubble lying just opposite Bronos 2. In clearing only about two meters of the exterior wall of this corner we found masses of sherds, more abundant than in any other trench. All pottery is of local fabric but exquisite. There are deep conical goblets painted with brown or deep red on a white or yellowish polished surface (a precious ware, figs 72 - 73).

Similar vases show additional details in white (figs 74 - 75). Other vases are painted white on dark (fig. 76), or dark on the reddish clay



Fig. 73. Fragments of another similar vase.



Fig. 74. Fragments of fine bichrome pottery.



Fig. 75. Fragments of a funnel-shaped rhyton and other fine pottery.

surface (open basin fig. 77); photographs were taken after a first provisional washing of the sherds in the Phira Museum. Various causes such as the crossing of the two paths, or possibly cultivation or erosion, are responsible for the presence there, in the otherwise homogeneous

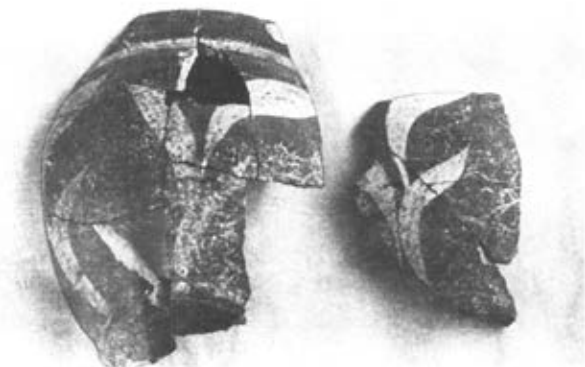


Fig. 76. Fine pottery painted in white.

layers, of two early Geometric sherds. Carbonized matter and animal bones were also abundant, as well as some fragments of painted stucco.



Fig. 77. Fragments of an open basin painted in red.

The exquisite character of the pottery indicates the proximity of an important quarter of the house, possibly connected with the Bronos 2 structures. It is too early to speak about chronological classifications in the pottery found throughout the excavation. We take it as

roughly homogeneous. Two further imported LM Ia sherds were found in this trench.

Further to the North, in the strip of land belonging to Arvanitis, we opened a long trench (Arvanitis 2) in a N-S direction. (See the plans fig. 18 and 83.) Here (the distance from the store-room Arvanitis 1



Fig. 78. Arvanitis 2. Walls showing traces of two periods of construction.

is scarcely 30 m. to the South) we discovered what may be described as the most monumental structures of the season. We seem here to be concerned with two, if not with more periods of building (fig. 78). The main feature is a wall running from North to South, made in careful poros ashlar masonry (fig. 79). Only a part of one of the rooms it encloses was cleared. This revealed a floor consisting of minute sea-pebbles trampled down. Upon it a group of two vases was found (fig. 80), and not far away a third vase appeared (colour plate B 8 all three). On the same floor some fragments of objects were found, the use of which is as yet unknown (fig. 81). They were cylindrical, but with a part of the sides flattened. Shallow holes in double rows and a hole pierced through the axis make the use of these implements still more problematic. The material is whitish and brittle, apparently merely volcanic ash.

Beyond this wall, the end of which is preserved only at the South



Fig. 79. Arvanitis 2. Handsome walls in ashlar masonry seen from the North.



Fig. 80. Pottery found on the floor of a room.

(total length about 14 m.) there is another wall in a West-East direction (fig. 82 and plan fig. 83). Its Western corner is preserved, while the

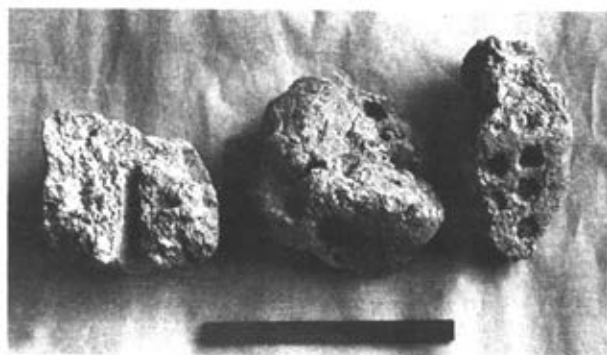


Fig. 81. Objects of unknown use made of volcanic ash.



Fig. 82. Arvanitis 2. The most monumental wall hitherto discovered. To the left it disappears beneath a field at a higher level. The ashlar masonry of big stones is badly damaged, possibly by excessive heat.

Eastern part disappears under the field above. No more than 5 m. of it

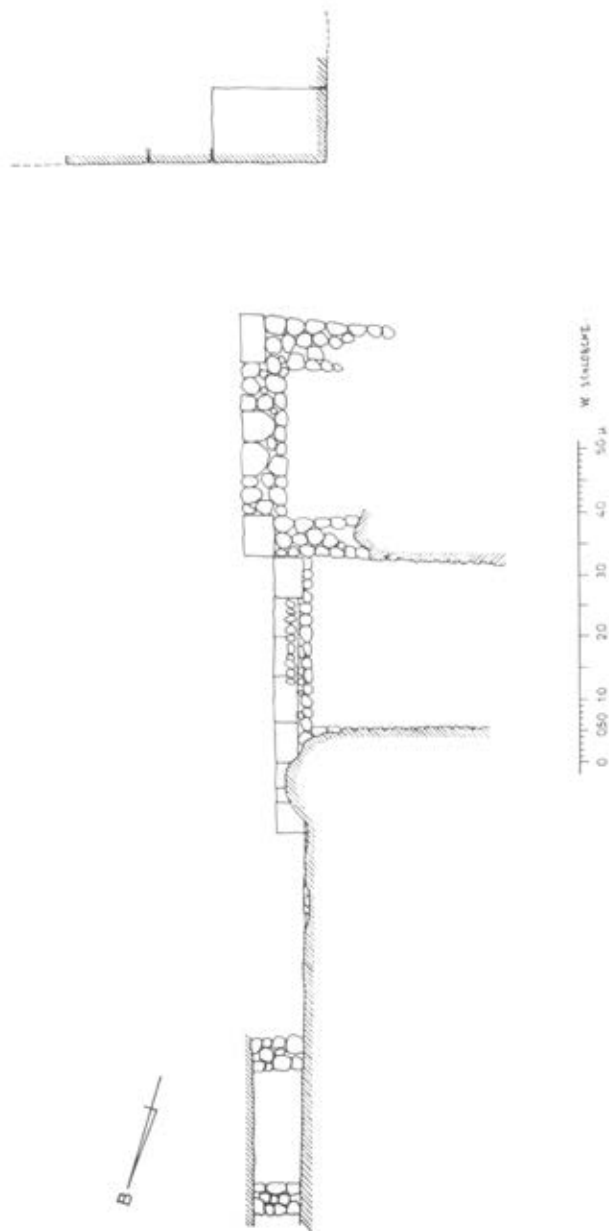


Fig. 83. Plan of Arvanitis 2.

could be uncovered. It is the most imposing and yet the most curious structure yet discovered. The large stones are extremely brittle, as if an intense fire had damaged them. The height preserved is almost exactly 2 m., but most puzzling is that this monumental ashlar masonry is built upon the soft ash, very pure and powdery, which is characteristic of this spot. We found in the deep layers fragments of a clay lamp, a plate and a glass vessel all belonging to our own times or to the early 20th century. It is obvious that this part of the ravine was deeply eroded from time to time by torrential rains.

Near the foundations of these two stately walls we made a deep hole; in spite of considerable technical difficulties, it was sunk to the depth of 1,70 m. We were able thus to study the stratification. The two buildings are founded directly on the ash layer or on a harder of yellowish pumice. But, at the depth reached of 1,70 m. older walls appeared. They are in rubble, but the stones are of considerable size.

Thus we conclude this brief report with two significant statements: first, the upper floors of the Thera settlement were thrown down by one or more earthquakes and lay already in ruins before the actual volcanic eruption of pumice which covered them. Apparently the eruption was so mild that a part of the upper ruins was not wholly buried and the decomposition of the mud-brick walls left brown patches on the underlying pumice-shroud. Second, what is still more interesting, people remained or returned to the island and began to build such imposing houses as indicated by the ruins described last of trench Arvanitis 2.

However, this is only a provisional hypothesis based on the scanty results of our excavations to date. What is of importance is that there is still abundant material buried under the first and the second and final eruption layers of tephra. Only after more extensive excavation can this be clarified. From the 1967 study it is certain that the first catastrophe, according to the ceramic evidence, is to be dated rather before 1500 B.C. or just about this time; that the inhabitants fled suddenly, though they had ample time and opportunity to take with them every thing precious, even metal vessels and tools. As regards the date it is interesting to note, that the trunk of a small carbonized tree still standing was discovered in the Phira-mines in 1967. We have sent copious samples to the University of Pennsylvania, adequately protected. Miss E. Ralph was kind enough to send the following statement:

UNIVERSITY OF PENNSYLVANIA

PHILADELPHIA 19104

The College

DEPARTMENT OF PHYSICS

February 1, 1968

Dear Prof. Marinatos :

.....

We have, at last, completed the C-14 dating of your sample from Thera. To be very sure of the dating, we divided the sample into two parts and counted the two halves for a total of six times. The average of these counts gives dates as follows for sample number P-1401.

$$\frac{5568 \text{ half - life}}{1456 \pm 43 \text{ B. C.}}$$

$$\frac{5730 \text{ half - life}}{1559 \pm 44 \text{ B. C.}}$$

As you know, the date calculated with the new half - life (1559 B.C.) is the preferred one. Also, on the basis of dating samples of known age in this age range, even this date may be too late by as much as 150 years. One can say safely that the true age of the sample lies between 1520 and 1750 B. C. However, for comparison with other C - 14 dates, it is best to quote the date of 1559 ± 44 B.C.

With best regards,

E. K. Ralph.

Now, if we wish to corroborate the above results with archaeological dating, suggested from the new 1967 material, we see that the initial eruption is to be definitely dated as I originally proposed, to about 1520 B.C.

The question now arises whether or not life existed upon the island of Thera when, some 40 to 60 years later the final eruption occurred,

of which for the present we have material only from Crete, mainly from Zakro. Further excavation in Thera will certainly be illuminating. Concerning Akrotiri, changing the bed of the ravine-torrent is proposed as a necessity for a completely successful investigation of this extremely important site.

It remains to add a few words about surface-investigations. Near



Fig. 84. Stone vessel with carved decoration.



Fig. 85 The one long side of the vessel.

the chapel of St. Nicholas there is a vineyard. A stone column-base from there is built into a house in Akrotiri. Column-bases indicate important buildings and a search in the vineyard is planned. Beyond the village to the West, after a steep path through the heights of Lumarades, there is a chapel of St. John. A most interesting carved stone grinder had been deposited sometimes there. Unfortunately nobody knows when and from where. The vessel is oval in shape (fig. 84). Its form and luxurious decoration shows, that it was destined for religious pur-



Fig. 86. The other long side of the vessel.



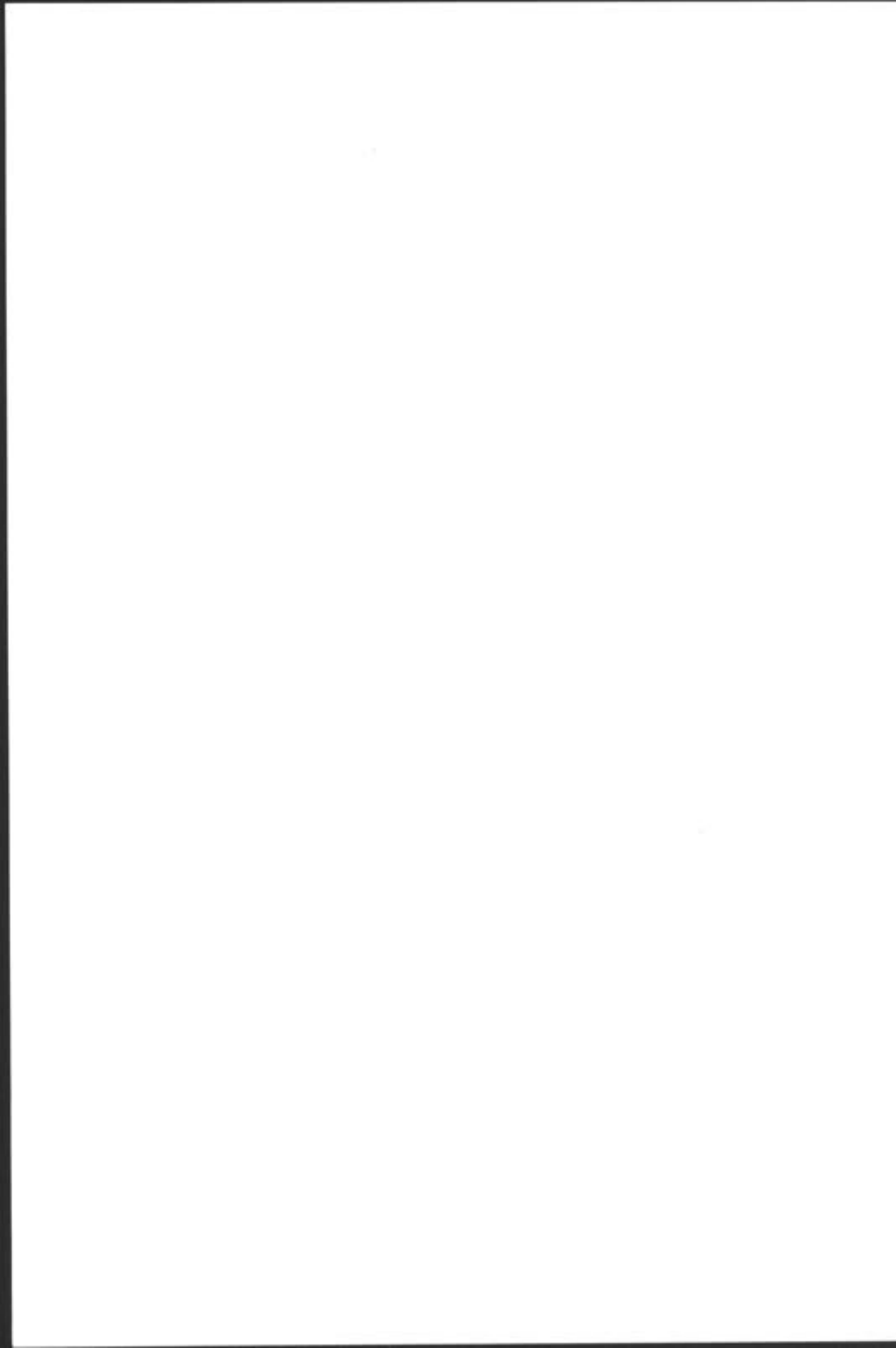
Fig. 87. The back of the vessel.



Fig. 88. The front of the vessel showing a carved palm-tree.

poses as a holy grinder (comp. Feštòs I, p. 205 fig. 89). Along the long sides there is a spiral motive (fig. 85 - 86) which is repeated as an isolated pair of spirals on the back (fig. 87). The front shows a palm-like motive, the stem of the tree being carved on the foot of the vase (fig. 88). It is one of the most charming vases of this kind, though the black colour and the rough surface of the stone (trachyte) prevent adequate contrasts. (The vase is 0,69 m. long, 0,25 m. high and the greatest breadth is 0,47 m.)

About a ten minute walk further to the West we reached a cultivated place called Katsades. The ash layer is extremely thin in this rather steep field, for which reason the owner came upon some jars. The broken pieces we collected show interesting painted decoration. There is no hope of great discoveries there, but it is interesting that the little rural houses, which apparently stood there, contained nicely painted store-jars.



PLATES



1



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PLATE A

1. The village Akrotiri from the East.
2. The little bay Balos inside the Caldera.
3. Akrotiri, the chapel of St. Nicholas.
4. Akrotiri, a typical lava - shore.
5. Akrotiri, the ravine near the sea with the typical tomato - plantations.
6. Akrotiri, a typical picture of erosion within the ravine.
7. Arvanitis 1, the store - room.
8. Arvanitis 1, store - room ; a jar fallen from the storey above.

PLATE B

1. Arvanitis 1, The store - room as the excavation advanced.
2. Stone column - bases in the store - room.
3. The painted jars and the «Loom hole» in the store - room.
4. A hearth *in situ* found on the West side of the store - room.
5. Bronos 1a. Pumice fallen after the collapsing of the building.
6. Bronos 2. A group of vases in the Eastern slope of the trench.
7. Two amphoras from the store - room.
8. Arvanitis 2, three vases found on the floor of a room.



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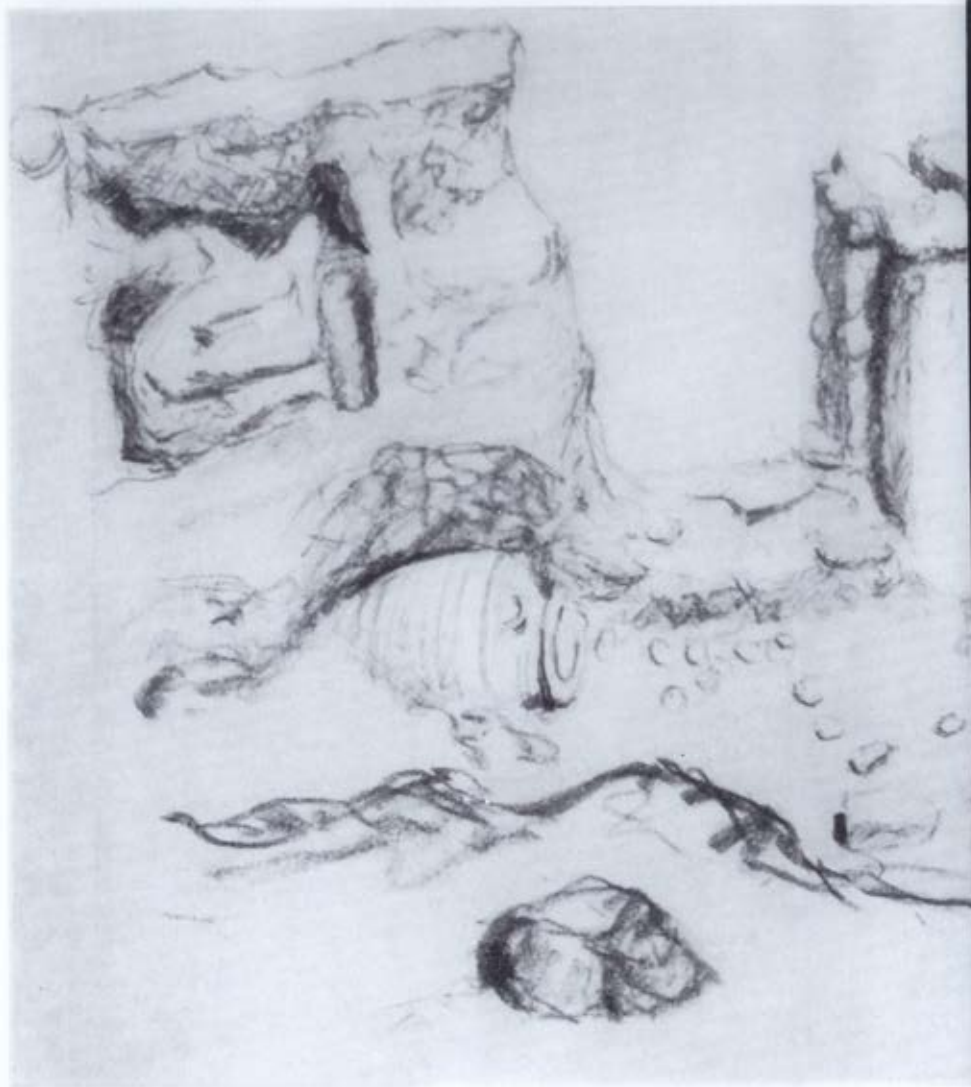
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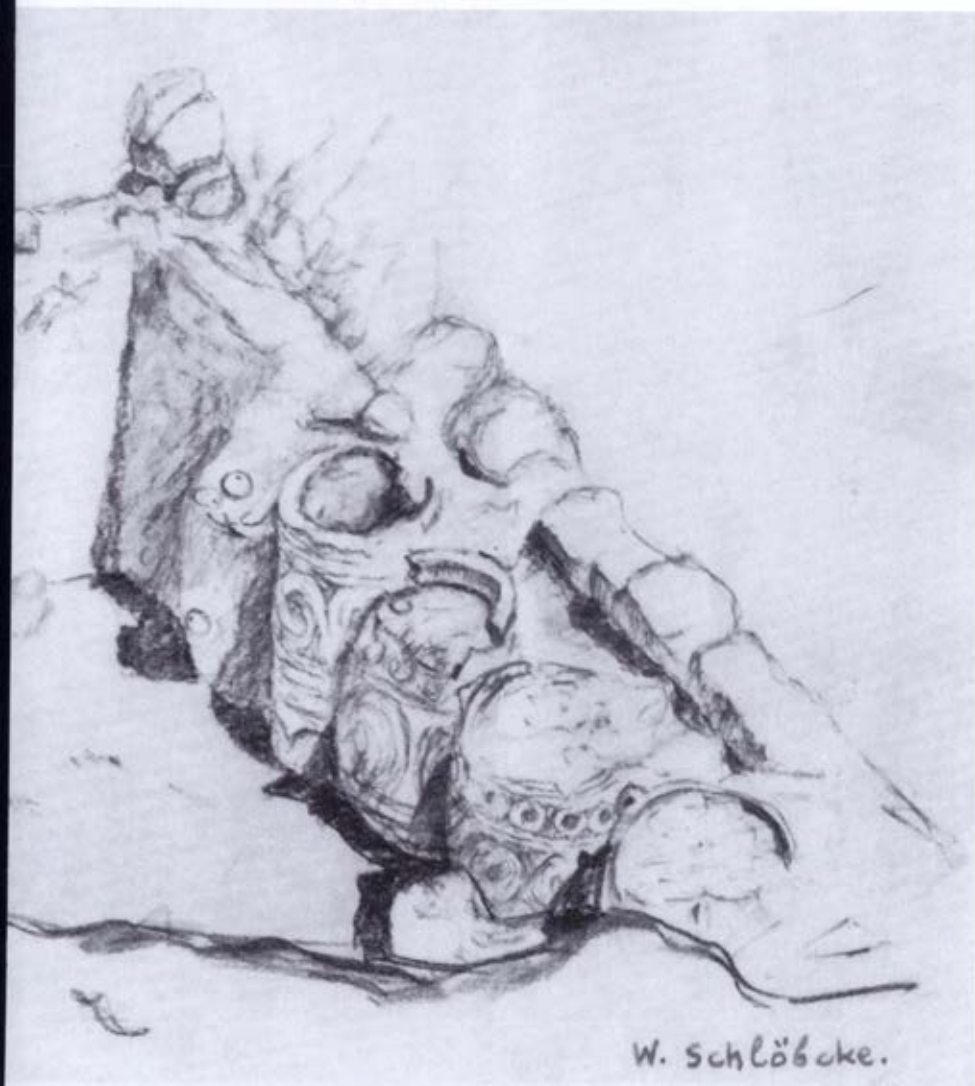
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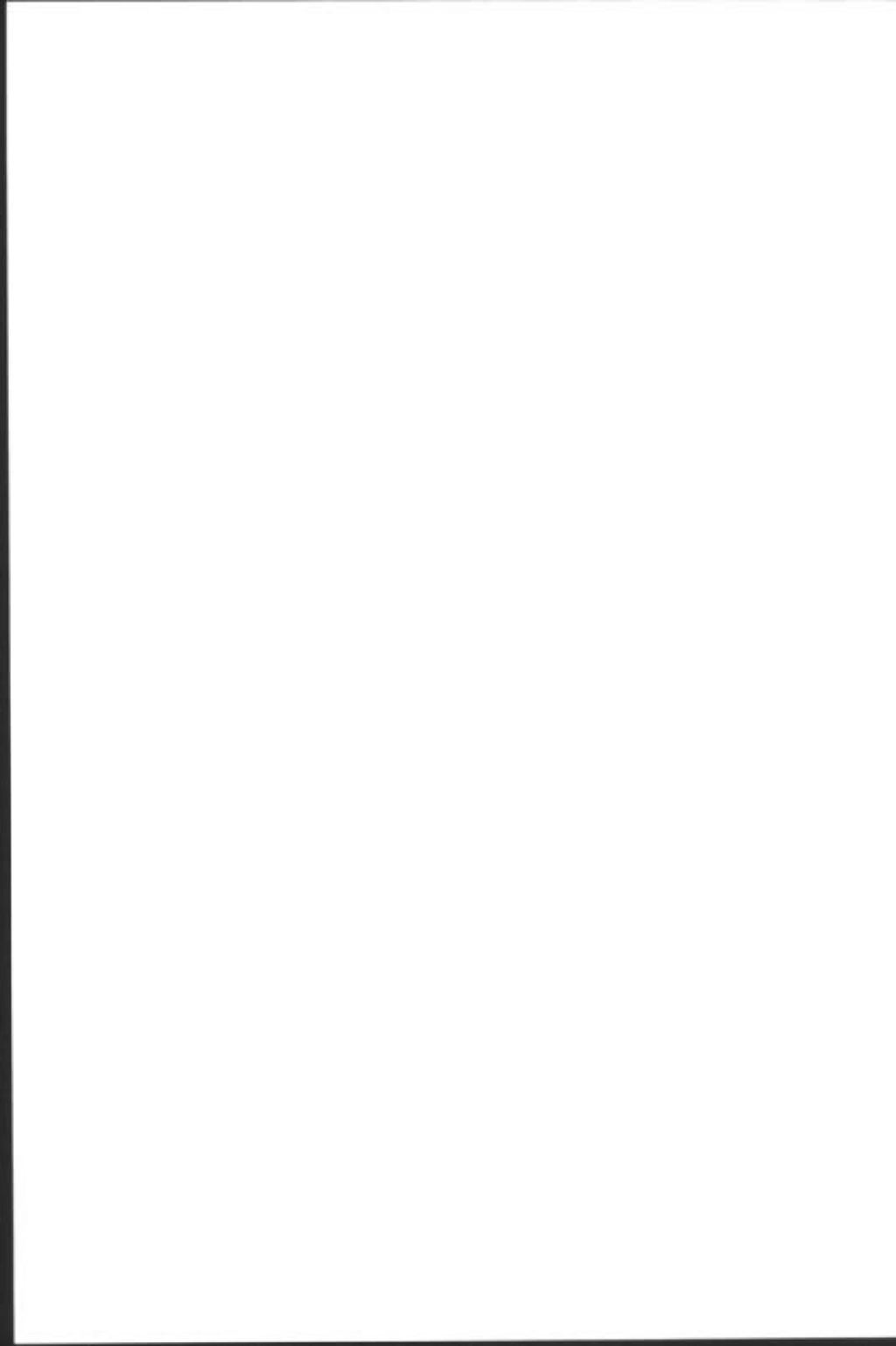
The store-room during the excavations.





EXCAVATIONS AT THERA II

1968 SEASON



EXCAVATIONS AT THERA II

(1968 Season)

GENERAL OBSERVATIONS

Preliminary work on the 1968 excavations began on June 21, excavations proper started on July 8. They were carried out thanks to the generous allowance of the Archaeological Society. The Greek Government, through the Ministry of Coordination and the Hellenic Tourist Organization also contributed 100,000 Drs. each to allow us to meet the important technical requirements.

The following should clarify the nature of these requirements: It became evident from last year, that new excavating methods had to be adopted, not only because of the special soil conditions but also in the interest of Science.

Indeed, the 1967 excavations had shown that the remains of the 1520 B.C. disaster were found at a relatively small depth under the bed of the torrent of Acrotiri, since the torrent itself and erosion in general had worked for centuries in our favor. However, as we try to uncover the ruins beneath either side of the torrent bed, the embankment abruptly rises to 5 meters and more.

It is, of course, possible with to-day's mechanical means to remove the fill consisting of soft volcanic ash in the midst of which are huge volcanic boulders of hard, black volcanic lava. These rocks often weigh several tons. But this would be a very costly process. It would also alter for the worse the aspect of the landscape, deprive the Acrotiri inhabitants of the use of their meagre fields and require very large expenditure to cover the cost of expropriations.

There is also the interest of Science. We have to take, as much as possible, advantage of the fact that we have to do with a city suddenly abandoned. The excavations, still at the beginning, seem to show that everything remained untouched where it lay in the hurried flight of the inhabitants. These may have taken with them their valuables and the things they could carry. All the rest remained where it was, and we see, more and more frequently, areas where parts of the upper floors have remained unharmed.

This is not a usual excavation. One has the feeling of living among these men who were suddenly driven away, terrified by the fury of Elements. The scientist must, therefore, try to maintain this impression of life which suddenly stopped in the middle of the second millenium B.C. The more so, because this was the golden era of the Bronze Age when East Mediterranean Civilization had reached its peak.

All these reasons lead us to the decision that further excavations ought to be conducted as follows: The classical methods of excavation (opening from above) have to be followed only for the ruins lying under the bed of the torrent, where the fill is not more than 3 to 5 meters deep. But, as soon as the outline of the walls is uncovered, the ruins will be sheltered, immediately after supports are erected to the required height. The excavations to follow will thus be made under cover and almost everything will remain in the place where it was found. Excavations to the right and left of the sheltered area will be made by digging tunnels, so that the ruins remain underground.

This method has been subject to much criticism by specialists and fellow archaeologists. They were fearing difficulties, which, fortunately, did not exist for the greater part. The first attempt was made in 1967, to ascertain whether this method would work. The results were, we may say, quite satisfactory. The pumice, although a soft material, has great elasticity. The galleries are easily opened without the danger of walls and roof collapsing or sinking. Needless to say that, with the progression of the work, special systems of stays will have to be devised. Our needs for light are met as we have managed to have electric current on the spot. Ventilation does not seem to constitute any major difficulty and there is no problem of underground water or humidity, which constituted one of the main objections of certain specialists. The only problem which remains to be solved is the excavation of the upper floors, where these still exist, by the method of galleries.

For all these reasons, we had, as in 1967, to devote most of our time to technical works. The excavations proper were restricted to the two main areas which had already been investigated in 1967. Excavations were resumed and progressed mainly in the Northern end (Arvaniti 1) in order to clean the ruins of the existing magazine to a point which would allow build a shelter.

We did not intend to resume the excavations in the Southern sector, (Bronou 2), but we did so to please Mrs. E. Vermeule who had repeatedly expressed the desire to work in this sector. An important area was excavated offering complete picture of a flagstone-paved and

well preserved upper floor with the stairs acceding to it, and there were notable discoveries of pottery and frescoes. Our first concern in the next period of excavations will be to shelter this area before we start its final excavation¹.

There is no need, in a scientific report, as the present, to describe in detail the technical side of the excavations. A simple mention of the principal works will be sufficient. Our first concern was to change the course of the torrent. Otherwise, the first winter rains would endanger the uncovered antiquities. A big trench was opened, for this purpose, on the North-Western side of the actual bed of the torrent. Pl. 1,1 shows the trench at the point where it will receive the waters of the torrent. Pl. 1,2 shows the trench at about the middle of its 150 meter length. As the two sides of the trench would not withstand, without lining, the pressure of the waters, these and the bottom were lined with concrete and covered with a roof. Pl. 1,3 shows the work at the concrete pouring stage. To avoid eventual accidents, the roof of the tunnel so formed will be covered with earth and topped later with a layer of cinder concrete. Near the Southern end, at the exit of the tunnel, a mender's laboratory has been built with room on the top for the guardian. A cistern built under the laboratory will collect the rain water from the roofs and thus provide the excavation with potable water (pl. 2,1).

1. A few difficulties arose in our further collaboration with Mrs. E. Vermeule, to whom I had, for many years, extended a friendly invitation to collaborate in the Pylos and later in the Thera excavations. My respect for Mrs. Vermeule's keenness of mind and her qualities as an indefatigable excavator remains undiminished. It is really unfortunate that we did seriously disagree on the interpretation of certain important passages of the Bible. Mrs. Vermeule has been invited to send a personal report on the results of the excavations in the sector where she had personally supervised the work. Her report was to be included in the present report as an homage to her work. But she did not send anything. The other collaborators and guests to the 1968 Thera excavations were: Miss Alexandra Patrianakou, scientific assistant, Mrs. Chara Tzavella-Eugen with her husband (for a few days), Mr. John Koumanoudis, Architect, Prof. George Bass, Philadelphia Museum, Mr. George Solomonides, Director of Restoration, Mr. M. Yiannoulakis, in charge of topography, the Artist-restorer Mr. Margaritoff, Mr. Kanakis, Master technician, Mr. Fregadiotis, Chief foreman of Reconstruction, and Mr. Vassiliades, foreman. We had also, for a few days, visits of friends and of students of mine to all of whom I address my warmest thanks. I must mention, among the official visitors, H.E. Mr. Philips Talbot, Ambassador of the United States with his wife and Admiral and Mrs. Sarri. From the many visitors belonging to the scientific world, Professor and Mrs. D. Page of Cambridge University and Mr. J. Luce of Trinity College, Dublin.

The whole of the excavated magazine (Arvaniti 1) with its walls which, in certain parts, remain intact up to the upper floor (pl. 2,2), was immediately encircled by a wall and sheltered under a roof of hellenit erected according to the Dexion system (pl. 3,1). Thus the whole of the magazine is now covered, with plenty of light and ventilation (pl. 3,2). Now, the final excavation will be conducted under shelter and in comfort and will not have to stop, eventually, in winter. As we have already said, all other parts of the open air excavations will be sheltered in this same way.



Fig. 1. Bronou 1a from West. Prehistoric building to left, upper construction to right.

TRACES OF LATER ANTIQUITIES

In every important excavation it is interesting not to leave without mention the traces found in the upper layers which, however insignificant, may be important for the history of the area. In 1967 already, traces of the Hellenic, Hellenistic and Christian periods had been noticed in different areas of the excavations¹. During the present year, the following traces of later periods were found in the excavation area. In the Bronou

1. *Praktika* 1967, pp. 132, 146 f. and *Excavations at Thera First Preliminary Report, 1967 Season*, (further 'Thera I') pp. 14, 50 f.

1a sector¹ part of a building, not yet dated, has been discovered near the top of the present layer of pumice. There is, however, something peculiar in the fact that, as things stand to-day, this part seems (fig. 1) to rest



Fig. 2. Building of christian era at Pergerou, with earlier pedestal reused.

on the pumice. In the Bronou 2 area, in the torrent bed, one part of the building was cleaned down to the bottom. It was noticed that part of the walls are double and the inside lined with mortar. It might have been a cistern. Last year, in the same area, potsherds of the Geometric and later periods were found, some belonging even to the 19th. century (broken glass).

1. Praktika 1967, p. 139 f. = Thera I, pp. 36 - 7.

The most important ruin, obviously of the Christian period, was found some 150 meters North-East of the Arvaniti 1 area in a field and vineyard belonging to Mr. Minas Arvanitis. The name of this locality sounds very Greek. It is called "Pergeros" obviously from hypergeros "the extremely old", as must have been its owner. It is a construction with long walls but in very poor condition. The best preserved room has walls, made of little lava boulders, which reach to the height of 0,85 meters and show traces of mortar lining in the interior. The inner dimensions of the room are 5,80 by 4,37 meters. On the South-Eastern side there is an opening one meter wide, but without traces of door jambs. In the room and near the Eastern wall, a pedestal of reddish lava was found at the place it had been initially set, but upside-down for a newer and different use. (See plan I and fig. 2.) The pedestal is 0,855 m. high, square in shape, 0,56 m. wide at the presently upper side, and 0,53 m. in the lower side which originally was the upper one. The pedestal was inversed, obviously to gain more room at the top (it was perhaps used as a table). A pious hand, apparently in an effort to change its pagan character, carved a cross in the center of the upper surface and raised three perpendicular slabs on its basis, as if to constitute some sort of separation from the remaining floor.

BRONOU 2

It was already apparent from the previous year that there existed in this sector of the excavations part of an upper floor paved with flagstones¹. Different reasons and more especially the necessity of securing this precious part of the excavations by sheltering it, compelled us to extend the excavations mainly in an Eastern direction. This was also necessary for another important reason, to ascertain if the constructions on either side of the torrent bed belonged to one or to many different buildings. We are more sure now, that we are in presence of a big settlement.

Photo pl. 4,1 gives a general picture of the whole. One can distinguish, almost in the middle, the flagstone-paved upper floor and to its right, another of beaten earth, belonging to the same level. Pl. 4,2 shows the same quarters. In the lower right are shown the constructions which were under the bed of the torrent and which present now the above mentioned signs of later use. Over these is the umbrella under which work the men who rescue the pieces of frescoes. More to

1. Praktika 1967, p. 145 = Thera I, p. 47, fig. 69.

the East, on the lowest part of the photograph, the walls appear to climb under the higher layers of the torrent banks.

Section II gives the section of the whole. To the left is the Eastern area where the walls appear in the vineyard of Dimitrolefteri Alifranghi. Under the surface of the vineyard, at a depth of 6,70 m. (where Mr. Koumanoudis' plan bears the legend "Earth Fill") is the damaged and lightly sloping but still clearly distinguishable beaten earth floor of another upper storey. Opposite this and to the West (in the middle of the plan) is another floor of the same kind ("Dorosis" on the plan). More to the West and a little higher is the aforesaid flagstone floor and further up the still remaining walls of the upper floor, which are, in some places, more than a meter high. The deepest floor that we have reached under the torrent bed is marked on the plan with a human figure. We cannot yet say if it belongs to a later period. However, it is in this place that the later findings already mentioned were made.

The depth we have reached is of about 8,50 m. in the Eastern and of 7,65 m. in the Western part of the Bronou 2 sector. The plan of the ruins thus uncovered (plan III) shows, in its lower part, a room of about 2,30 m. by 4,30 m. with very thick double walls. The inner part of the walls is lined with mortar. This room, as already mentioned, may belong to a much later period. The Eastern wall of the room has two niches (pl. 5, 1) at about the height of a man's breast. On one of these was found the half of a stone hammer or adze made of serpentine (length 0,03 m., width 0,035 at the point of the break). In the deepest layers of the same area a stone axe was found. It is 0,115 m. long and made out of a lengthy oval pebble of the same material. This belongs without doubt to the Neolithic period. However, both these finds are the earliest discovered so far in Thera and among the earliest in all the Cyclades area (fig. 3). But they have been found in disturbed layers.

Higher up and to the right, on plan III is the place, where many pieces of frescoes were found. Excavation of this place has not been completed. Immediately to the West is a small room. It is very small and the two parallel winding furrows on the floor gave first the impression of a potter's kiln, Mr. Koumanoudis' interpretation is that they are floor beams. He may be right. The final excavation will solve the problem.

The frescoes were found more or less heaped in a very small area. Since the upper layers at this point, more to the South, and almost everywhere in the present sector, contain small pieces of plaster, some

times coloured, it is clear that these were swept away from the Northerly sectors. Frescoes found in the Arvaniti 1 sector show the same subjects and are doubtless found *in situ*. It is not excluded that the upper layers of these frescoes may have been washed down as far as Bronou 2 and even further South.

The following, dated August 7, 1968 is recorded in the excavation diary: "Bronou 2. The first section of a fresco of about 35 by 65 cm. was found in the disturbed soil of the torrent between the two banks. It represents reeds sprouting as it seems, from a wide zone..." After



Fig. 3. Bronou 2. Stone tools from lowermost strata.

the cleaning (pl. 5, 2) the wide zone disappeared. The reeds, however, which remind us of the Amarna Style, are well preserved. However, the deeper layers have shown more and more interesting pieces which give the impression that they are *in situ*, precipitated from some place above or adjacent to the spot where they were found. The final excavation will solve the problem. Among the several pieces found, there are myrtle-like plants (pl. 6, 1-2) and the head of a blue monkey with a big circular eye (colour pl. B 1).

More to the West, at about the middle of plan III, a double staircase with 9 relatively high steps was found. Pl. 7, 1 shows both the aisles, and plan IV the details. These were certainly service stairs with no architectural pretensions. However, it is through these stairs that we climb normally to the upper floor, the more important excavated part of which is the already mentioned flagstone floor. This room, almost square (5 by 5 m.) (see detailed plan V and section VI), is interesting

in that, although partially sunk, it remains at its actual place. The general view, together with the surrounding areas and the standing wall of the upper floor where grooves of the timber frame can be seen, is given by pl. 4, 1 and 7, 2. The room has, in its almost exact center (plan V), the stone basis of a wooden column. The slabs of the floor are thin and sometimes of a fairly good size. They are broken and partly sunk (see section VI) but in time they will be mended and put into place.

The room was found with all its pottery intact. The biggest vases, jars and strainers were round the column. Some of the vases were standing, others upside-down (both these positions should be considered



Fig. 4. Bronou 2. Jar before mending.

natural) and others had been thrown down by the earthquake. Small pots were found together with the big ones. Some of these seemed during the excavation to have kept their natural shape. But they were in fact broken in a thousand pieces (fig. 4). Pl. 8 and 9, 1 give only a small idea of the wealth in pottery contained in this room. Pl. 9, 2 shows the floor of the room after the complete removal of all the pottery. The most important among the vases found are: The strainer (pl. 10, 1): it has a lid and its bottom is pierced with holes like a colander. Although it is of the same shape as the already well known small strainers from Thera and Crete¹ it has, nevertheless, the dimensions of a jar. The decoration (a sort of ivy-WAZ with double leaf-stalks ending in the shape of a disk) is of the stylistically most advanced but always within

1. N. ÅBERG, *Bronzezeitl. u. Früheisenz. Chronologie IV*, 136, fig. 257-8 and 213, fig. 394.

the framework of the LM Ia period. The cylindrical vase (pl. 11, 1) of reddish clay and with decoration of white crocuses is also a strainer having its bottom at the middle of the cylinder. The nipped ewer (fig. 5) with the flying swallows is one of the masterpieces found in this campaign. The birds, although astonishingly natural and gracious were designed from memory. They represent a mixed type which does not exist. The black plumage and the long scissored tails belong to the field swallow



Fig. 5. Nipped ewer with swallows.

(*Hirundo Rustica*) while the white spot of the back belongs to the town swallow (*Chelidonaria Urbica*).

Many small vases had a beautiful decoration of crocuses and other plants but we could not find enough pieces for a satisfactory restoration. The only exception is a remarkable elongated bowl (it may be called *cymba*) all the pieces of which were found. On a white-yellowish ground are painted dolphins in brown with additional parts in white, "waves" and "clouds" are of the same colours (colour pl. C 7 and pl. 11,2). It is worth noticing that the pottery of this sector belongs to the local matt-painted

technique. Plate 10,2 shows one of the jars, the pieces of which appear in fig. 4. Stone vessels were also found in great numbers. Part of a shallow

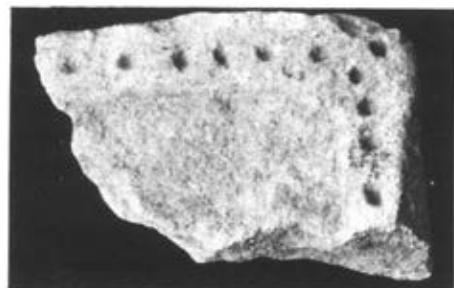


Fig. 6. Bronou 2. Stone table of offerings or kernos.

rectangular basin (for the mixing of colours, or a table of offerings) has around the lid a series of shallow cavities reminiscent of a kernos (fig. 6). Another piece of slab (fig. 7) is covered with similar cavities.

Interesting also is a stone fragment of a rim which may belong to a granary pit, a well-rim or a lavatory basin, its

shape being more elliptic than round. Bigger vases have been found in

places which show that they fell from the upper floor. One of these is depicted in fig. 8. The slightly mutilated vessel shown in fig. 9 was found more to the North and on a higher layer over the upper floor. It was obviously placed on the roof, as shown by its use. Indeed, it has been recognized, with the help of similar vessels of today, as being used to water birds, especially pigeons. The middle partition forces the birds to step on it preventing them thus from dirtying the water with their feet, or bathing in it.



Fig. 7. Bronou 2. East sector. Slab with cavities.

ARVANITI I

It was evident that this quarter had a magazine in the ground floor, of which the Southernmost section (that of the standing jars)

had been excavated in 1967¹. This area had been provisionally roofed² and was successfully protected during the winter. Only once on a rainy day the waters overflowed their gutters and a little water ran into the magazine. In 1968, all necessary steps were taken; the whole of the magazine was excavated, a permanent roof was set (pl. 2-3) and the course of the torrent bed was altered (pl. 1).

The section VII gives a picture of the area before the excavations. The ancient bed of the torrent (in the middle of the plan) was about 5,50 m. higher than the floor of the magazine. The depth reached in our excavations was of more than 11 m. from the surface of the neigh-



Fig. 8. Bronou 2. Stone vessel.



Fig. 9. Quarters between Bronou 1 and 2. Watering trough for pigeons.

boring vineyards. The fill in the upper layers consists of ash while the layers in which the ruins lay were everywhere of pumice. This last layer, however, because of the erosions due to the winter floods has lost much of its original thickness which must have been of about 4 meters. The pumice swept away has been replaced by ash and sometimes by sand. Today there is much sand on the surface between the village and the excavation area which makes the approach difficult to men and animals and impossible to cars. We have now built, on the sandy surface, a road paved with stones and ash.

1. *Praktika* 1967, 136 f. = *Thera I*, pp. 16 f.

2. *Ibid.* pl. 120, gamma = *Thera I*, p. 31, fig. 43.

It has been proved that the sector Arvaniti 1 was, in fact, a tripartite magazine, the first part of which, to the South, had been uncovered during the 1967 excavations. On pl. 12,¹ which shows the whole of the magazine seen from the North, the first part is still sheltered with the 1967 provisional roof. One can see, under the roof, part of the ancient wall which separates the first from the middle part. To the exterior, appears the beginning of the second cross-wall and the third Northerly room (in which a worker can be seen).

More to the North (on the lowest part of the photograph) was found one of the few sectors excavated until now which was open to the sky. It is some sort of courtyard. We took advantage of this fact and dug deeply in order to be able, for the first time, to study the stratigraphy. The wall is made of rubble stones, carefully assembled. Visible on it is the groove left by the horizontal beam which was part of the timber frame (clearly seen on the photograph). Under the pumice layer was a layer 0,45 m. deep of blackish earth filled with small pebbles and a great number of potsherds. The section VIII presents to the right (to the West) a double solid wall and over it a course of worked stones (comp. pl. 13). These quarters were called, provisionally, "Western rooms" (see below). The section shows further the layer of pumice, the layer of black earth with the potsherds and a floor which was simply of beaten earth. The foundations of the magazine's Northern wall are 0,55 m. beneath this level.

We dug there to a depth of 2,40 m. from the blackish layer. Below the foundations of the wall, the stones and the very few potsherds disappear completely, replaced by argillaceous sand. We advanced to a depth of 1,50 m. into this clean layer without meeting any lava. It was therefore possible, in this and in similar areas of the pre-explosion Thera, to cultivate the soil and see trees grow. The clay used by the potters of the island might, also, have been taken from a similar layer. The potsherds above mentioned were typical of the pottery of inhabited areas. They belonged to big and small vases, without relation to each other. Most of them were plain, a few matt-painted, but all of the Middle Cycladic period. Worth noticing are some fusiform clay objects pierced longitudinally, similar to small cucumbers, 0,15 m. long, perhaps weights for fishing nets. Fishermen today weight their nets with small lead sheet cylinders.

We filled the trench after having thrown in (pl. 12, 2) the boulders which had been a real obstacle to the excavations. Hurling by the explosion from a distance of more than 15 km., these boulders, fragments

of the crater's walls, are always of hard, black granitic lava. They weigh sometimes more than a ton. It is probable that some were carried there by the floods. However, even today, the surface of the adjoining fields is full of such boulders.

The three-room "magazine" has simple walls to the North, East and South. On the Western side, things become more complicated as the walls appear to be double in certain parts. The Northernmost section of this Western double wall is still crowned at the top by a row of worked stones (pl. 13). It was an imposing spectacle when, advancing in depth we began to uncover the heaps of pottery in room 3 of the magazine and the overhanging thick double wall (pl. 13, 2). The section IX gives an idea of the height of the three partitions of the magazine and section X shows the still greater depth (to the right on the plan) where another construction was found.

The provisional plan of the magazine (pl. XI) drawn by Mr. Koumanoudis, is still incomplete in the details, but due to the progress realized in clearing the walls, it is more explicit than the one published in "Ergon" 1968, p. 92.

Room 1, the Southernmost, will not be described anew. A few more antiquities were found, but the description made in the 1967 report may be considered as sufficient. The two other partitions, magazine 2 and magazine 3 are smaller. They contained, however, an astonishing amount of pottery, big and small, decorated or not. Some are imports. The big jars as well as many small pots laying on the ground were in their original place. The others had fallen from the upper floor or from shelves. They were lying at different levels, mostly broken, and many pieces of beautiful vases were not found, having obviously reverted to dust. We cannot give here anything but a resumé of the main conditions of discovery.

In general, around each jar, sometimes around a group of smaller pots, partition walls were observed, made of upright unbaked bricks. Vertical holes of about 10 cm. in diameter show that small upright stakes were inserted there. The reason why these stakes were placed there is not yet clear. Such is also the hole which had been noticed in 1967 near the jars of magazine 1¹ which had then been interpreted as belonging to a loom.

In the upper layers of each room, some small pots and a few potsherds were found. Soon the rims of the jars began to appear, standing upright,

1. *Praktika* 1967, pl. 116b and 117a. = *Thera* I, p. 26, fig. 30 and 31.

as a rule, even though their walls were always cracked. The jars were placed on the floor and their height was in general less than a meter high. They were standing in situ. Also, almost all the stone vases found were in situ on the floor. They were either standing upright or upside down, having been placed in this latter position on purpose by the inhabitants. The stone vessels were lamps, big and small spouted grinders, pressing-bowls and tripod utensils which were also grinders. The stone, generally spherical, with which the hard fruits were pressed or broken or grinded, was always found. The whole fill, from the rim to the bottom of the jars, was full of smaller pots fallen from the upper floor or from the shelves.

Room No. 2 of the magazine contained mainly two groups of jars. The one, of small vases and jars, was near the door of magazine 1 and the other in the corresponding (Western) corner of the room¹. Pl. 14, 1 shows the moment of discovery of the two principal specimens and pl. 34 the same vases after their restoration. Pl. 14, 2 shows a nearby vase on which two small handleless cups have fallen. In one of these can be seen a small disc-shaped weight (see below) with the sign Δ carved on one side. Touching the Western wall of the present room was standing another plain jar whose stone lid had slipped outwards. Photograph pl.15,1 shows the lid put into place. The same picture shows also fragments of small and big vases which had probably fallen from above. Pl. 15,2 gives a still better picture of this, which is of a special importance: as soon as this layer was removed, a fine rhyton appeared, in the shape of a lion's head (fig. 10 and pl. 37,1). This was also lying on the floor.

This fact helps us to understand the following: in the Eastern sector of this same room were found, at different levels, (up to one meter from the floor) a series of small jugs and small vessels (pl. 16,1) the religious meaning of which is well known. In the same place and on the floor a small handleless cup was found full of charcoal, traces of which existed also in the pumice, which formed the general fill.

To the West of magazine 2, and on a higher level, are the floors of other rooms. One room corresponds to magazine 2, which has been listed as "Western room 2" in the excavation diary. On its floor,

1. To facilitate the inventory of the great number of vases, we have divided each of the magazines in three sections, from East to West, numbered 1 (East), 2 (middle), 3 (West). For instance, the indication 2, 2 means magazine 2, middle section. The vases in each section are numbered from 1 onwards; thus bigger numbers mean as a rule greater depth.

which later has been recognized as an upper floor, the bottom of a big jar was still standing. Near it, together with mutilated remnants of pottery, was a table of offerings in situ (pl. 31,1) of which only a small part had been lost in the disaster. Weeks later, a beautiful nipped ewer was found, decorated with barley stalks (pl. 30,2 and 36,1).

All these, leave no doubt that the upper floor of this quarter was of a religious character. And it is from this floor that the above described



Fig. 10. Arvaniti 1. Magazine 2, 3. Rhyton (lion's or lioness' head).

ritual vessels fell into the magazine. Photograph pl. 16,2 shows two other vases, perhaps of the same nature: a rhyton of the conical type and a beautiful ewer with vetches (colour pl. E 3). A little further (we are almost at the center of the magazine) and on the same floor (pl. 17,1) was found an askos (fig. 26) and the marvellous kymbe with the swallows (pl. 17,2 and colour pl. C 8) which, as it was found intact, lay probably in situ. In the same place, a small rectangular clay chest was found, surrounded by upright unbaked bricks (pl. 18,1). Pieces of a thin alabaster slab had been found higher up and beneath them a bigger piece perhaps belonging to the same slab. Unfortunately, alabaster, as it seems, gets corroded under the pumice, because the remnants of an

alabaster chalice which had been found almost at the dividing



Fig. 11. Arvaniti 1. Magazine 2. Decorated plaster. Spirals sprouting from a dado.

line between magazine 1 and 2, were in a state of complete erosion. The slab belonged, perhaps, to a vessel (lid?). With the slab were traces of some organic substance (straw? papyrus? linen? they were few and impossible to recognize).

As soon as the chest was better cleared, it appeared that it had a lid of plaster, the pieces of which, broken, had fallen into the vessel. After the restoration, it was proved that this was a piece of thick and hard plaster which came perhaps from a floor (fig. 11). A wide zone is painted blue and forms a dado if the piece belonged to a wall, or a border if it came from a floor. It ends in a wavy line from which big spirals are sprouting. On this lid was still lying in situ a one handed brown

Painted cup. Behind this vase was another with a spout beautifully

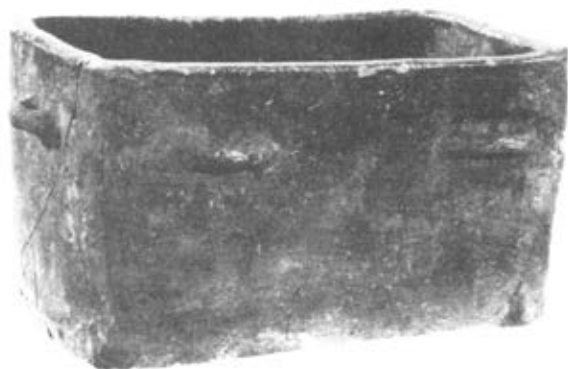


Fig. 12. Magazine 2, 2. "Livanotris" mended.

decorated with vetches (pl. 18,2 and 35,1) while to the right of the larnax, on the floor, was a small two handled jar. Pl. 18, 2 shows the whole find after its restoration. The small chest, painted inside and out in brown, has two horizontal handles on each of its long sides and one on each of the lateral. It is evident that it was used for the storage of precious substances such as aromatic plants, incense and the like. For brevity's sake we have given to this vase the name of "livanotris" (censer) borrowed from classical antiquity (fig. 12). Its dimensions are: 40 cm. long, 26,5 cm. broad and 21 cm. high.

Near the "livanotris" and inside of the already mentioned enclosure of unbaked bricks, a slab, 0,68 m. long and 0,32 wide, was found in situ on the floor. Two disc-shaped lead weights were placed on it, one on top of the other, with such symmetry (pl. 19,1) that it is obvious that they were in situ. One of the weights has a diameter of 0,088 m. and the other 0,055. This induced us immediately to believe that this was the place of a scale. The black spot on the left corner of the slab, clearly visible on the photograph, should be attributed to it. This, naturally, is a mere a supposition. Furthermore, on the slab there was also a big spherical pebble which had been given its shape by flaking (weight 1,028 gr.) and a small black smooth pebble (both clearly visible in the photograph). In the same area, but not on the slab, we found a similar black pebble and another white one with beautiful red veins.

Behind these objects, not far from the lion's head rhyton, but on a higher level, were the bottoms and part of the sides of two plain vases containing snails (below, fig. 41).

The Eastern wall of magazine 2 has two openings. The destination of the first (to the South) has not yet been clarified. On the other, 1,20 m. wide, (see plan XI), a row of seven vases was placed along the sill (pl. 19,2). The first two (from the left) are two beautiful globular imported ewers (pl. 20,1 and colour pl. E 4 and D 5). The five other vases are smaller and plainer: one chous (pitcher) and beneath it a globular wide-rimmed vase, two nipped ewers and lastly another chous (pitcher).

When the vases were removed and the pumice scraped off, one could see, as in photograph pl. 20,2, the cavities left by two wooden dowels at the sides and by one in the middle. The window, possibly, had two shutters. Furthermore, on either side of the wall, the traces of small upright square beams could be seen, between which pebbles and clay formed the jambs in the walls for the construction of the frames of the window. After further removal of the pumice, the clay sill of the window appeared, as shown in fig. 13. Again, the places for two horizontal beams are clear.

Still more dramatic was the excavation of the adjoining magazine 3 to the North, where big jars, median size vases, little pots and stone



Fig. 13. Window of magazine 2 with vases removed.

vases and implements were literally heaped together. The most beautiful pots, both local and imported, were found in this room.

Here, jars and stone vessels lay, mostly in situ. A certain number of minor pots, stacked in disorder against the Eastern wall of the magazine, were so high in the fill that they were the first to be found. It was clear that they had fallen from the upper floor. They were, for the same reason, completely broken. On a kind of recess of the wall (not yet clarified) at the same height, a clay cooking pot with missing feet was lying upside down. It has a spout, so the term of *χύτρα* can be literally applied to it (fig. 14).



Fig 14. Arvaniti I (3,1 «window»).
Clay-pot (*χύτρα*) found on window-sill(?).

With the progress of the excavation, vases began to appear on the Western side of the room, which was full of exquisite jars still standing upright. The July 26, 1968 entry in the diary states: Impressive was the appearance of the rim of a jar and near it another still covered with a thin stone slab as a lid. Round about are a "fruit stand," two handleless miniature cups, and fragments of a vase or vases. Photograph pl. 21,1 has been taken shortly after this moment.

Those same two jars appear in pl. 21,2 in a further stage of the



Fig. 15. Vases from magazine 3. Colours on vases are, as a rule, excellently preserved.

excavation. It is worth noticing that the first jar, although its lid was slightly displaced (because of the earthquake?) was filled with pumice up to 20 cm. under the lid. A few days later it was evident that all the Western part of the magazine was full of jars and other vases in great disorder. This fact, better than any description, shows the force of the disaster. Plate 22 gives an idea of this fact. Remarkably decorated vases, especially globular ewers and some imports were found among the pottery. Such is the ewer which appears near the top, in the middle of the photograph (colour pl. D 6). One more photograph (fig. 15) shows other choice vases of the same group.



Fig. 16. Arvaniti 1, 3, 2. Jar with oblong libation vessel in place of lid.

most beautiful jars so far excavated began to appear, one after the other, all standing. Pl. 23,2 shows in the background a jar full of debris with a spouted pitcher on them. Such vases (we have already seen two which were found on the sill of the window of magazine 2, 1) were sometimes also found inside some jars. Their shape is extremely appropriate for their use as dippers and it is very probable that they also served as measures for liquids (one would say, therefore, *choes*).

In the foreground, of the photograph, a marvellous jar can be seen, (it appears still better in pl. 25,2), as it was found buried in pumice. On a

In the middle of the magazine (3, 2) were found jars as well as other vases. Fig. 16 shows a fragment of a jar which, instead of a lid, has a slender vase (fig. 17) with strong vertical ribs. At two points, heaps of small handleless cups were found. Pl. 23,1 shows one of the heaps with a nearby ewer.

The most dramatic phase of the excavation perhaps took place at the Eastern end of the magazine (3, 1) when we began to remove the masses of pumice. The



Fig. 17. Arvaniti 1. Magazine 3,2. Ribbed vase.

dark brown ground it bears scattered admirable white lilies (pl. 25, 1) already known to us from the frieze of Phylacopi and the inlaid dagger from Mycenae. We named it "the sacred jar of the goddess" as soon as it was found. Because it had been broken, it was decided to remove it and bring it to the Thera museum to be mended. When most of the fragments of its belly were removed, the bottom remained. The white pumice stone which had filled the jar began to darken. Soon, the existence of some organic matter, probably flour contained in the jar could be detected. In this substance, and almost at the bottom of the jar a small figurine of the goddess lay prone which arouse the superstitious respect of the workers. Pl. 24,1 shows the figurine together with the remnants of the blackish substance, samples of which were kept for analysis.

The small figurine was of a very poor make. It was made of unbaked clay and our master mender had great difficulty in putting the "head" and the "hands" into place. It was impossible, later, to find the small figurine in the museum whence it had disappeared mysteriously. Perhaps, while being subjected to further cleaning, it was immersed by inadvertence in water, where unbaked objects disintegrate immediately into mud.

All we can do is to publish here a second bigger photograph (pl. 24,2), and refer to the description in our diary (Monday, August 12, 1968): "...The jar of the lilies... showed in the bottom a thin layer of organic substance and laying prone on it a small figurine of the Goddess, made of unbaked clay and of Neolithic style. It has a neck and two protuberances in the place of hands, the rest is flat as a board. Length 0,14 m., width 0,05 m."

Standing near the "Jar of the lilies" and still in situ is another jar decorated with red spirals (fig. 18). Nearby, upside down, lay a big strainer of the size of a small jar (fig. 18 and below colour pl. E 8). One can clearly see, on the photograph, the pierced bottom.

On the floor of this section of the magazine, many different small clay vases were found and an unusual number of stone vessels. Pl. 26,1 shows a stone tripod mortar with the pebble used as a pestle near it. Lower to the right appears a small clay jar, imitating a large one with the rope decoration of MC tradition. Pl. 26,2 shows a stone lamp lying upside down, and clay sherds. Pl. 28,1 shows the biggest stone lamp ever found until today. It is worth noticing that not only the small basis is convex but that also the bottom zone around it is roughly cut with a pointed chisel.

It is apparent that this lamp was placed on a special stand, the lampstand which is called by Homer a "lampter." There is a further example of a lamp of similar class in clay.

THE SOUTH CORRIDOR QUARTER

To build a shelter over the store room described above it was nec-



Fig. 18. Arvaniti 1. Magazine 3, 1. Jar and strainer.

essary to dig around it so that we could lay foundations for the walls. The antiquities described below were found in the course of this work, which is not to be thought of as a systematic excavation.

Outside the South wall of the store room a narrow passage running from East to West was discovered (plan XI). At its West end were found numerous thin slabs (pl. 27,1) some of them of a beautiful black stone.

From our experience in the Bronou 2 Quarter we realized that these had fallen from the upper floor which no longer exists today because the torrent at this point (and, we fear, farther South) has carried away the ancient remains to a considerable depth.

As soon as we had removed the slabs, the outlines of a small paved room appeared which we named for convenience the "Porter's lodge" (pl. 28,2). A few interesting vases lay on the floor and along the North wall of the room. The most important thing however, was that on this wall (which forms a party wall with the South Corridor) and sometimes among the slabs from the upper floor were found a considerable number of fragments of extremely interesting wall paintings (see below). It is quite certain that they come from the upper floor and it is to be feared that a large part of them has been carried away by the torrent. Here are the principal entries in the excavation note book concerning the discovery of these wall paintings:

September 19th, 1968. "Intensive work on the shelter. At the West end of the South Corridor, after removing about half a meter of fill in which there were white plaster fragments, the first frescoes appeared. The subject is unique and hard to understand. It is not a plant motif, and perhaps we have a group of birds similar to the flying fish fresco of Phylakopi. One fragment shows a wing, the body of the supposed bird is blue, and three bend objects are perhaps the bird's claws, probably an eagle's. Another fragment shows a tail opened out. We will continue tomorrow with the removal of fragments which lie towards the South and partly on the South wall of the South Corridor. The surface of the adjacent court which is paved (note: the reference is to the "Porter's lodge") is about 60 - 70 cm. lower. Therefore there is hope of finding more frescoes."

September 20th, 1968. "The most important development of the day was that there exist more frescoes at the Western part of the South wall of the South Corridor and especially on the South side of the wall. . . There were found, in addition to slivers, two large fragments each about 50 cm. long. . . The more important of these has a male head to the left with black hair adorned with a wind blown ribbon and a red face. . . In front of the head is a palm tree, but it is bent to the right. Perhaps it is a group of three palm trees. I begin to wonder if it is "Orpheus" or "Thamyris" with a lyre having in front of him all the birds of the forest. . . The head is 10 cm. long. . . A small plaster polisher of stone was found."

September 21st, 1968. "The frescoes, one or two of which were on the wall itself, continue now more densely towards the interior of

the room at a distance of 30 - 50 cm. above the supposed floor. Most of them are on slabs that belong to the upper storey and fell first... Two fragments... are large... The larger of these shows clearly papyrus like and lily like flowers with red stamens and red side leaves, the rest of the flower being blue. Above this pair of flowers are horizontal lines as of an altar...;" (it turned out later that we had to do with at least two columns with capitals in the form of flowers, and that we did in fact have an altar with horns of consecration; see below).

September 22nd, 1968. "Secondary fragments of frescoes were recovered, and also two slabs of the upper floor which still retained traces of the wall plaster that rested on them. Consequently these slabs belonged to that part of the upper floor that was beside the wall, and the lowest part of the wall plaster was coloured red."

It was necessary to insert there this account of the circumstances of finding because we worked further in the same area but frescoes ceased to appear. It would be sad if it should turn out that the remaining traces are lost for good because we are dealing with an important composition.

Beyond the South Corridor and only at its Eastern end (which is beside the cave that exists there) we made a small excavation in a Southerly direction for technical reasons. It appeared that here too we have closely packed buildings. The remains, it seems, belonged to the ground floor, and we named them for convenience "kitchen." As soon as it appeared that they continued also towards the East (here new expropriations are required) we covered them over again because we have to do with a delicate piece of work (doors, windows, or walls with openings). We wished to avoid even the smallest damage. Therefore no plan was made. Only photographs were taken of which the most characteristic are published here.

At the East end of the South wall of the corridor which is solid and thick but very badly damaged, there appeared another wall running off to the South, that is in the direction of the quarter called "Arvaniti 2,"¹ containing the monumental structure with dressed stonework. Thin slabs, partly of fine black stone, were found sporadically here too so that the existence of an upper storey at this point too is certain. The excavation soon showed that on the floor (which however we did not reach) there lay a large clay basin or *kados* (pl. 27,2). Beside it was found a cooking pot with three legs. At this point the East wall has an

1. *Praktika* 1967, 148, fig. 7 = Thera I, p. 48 f.

opening for a window. Outside this window were found two thin upright clay slabs, perhaps in situ. This is not sure, however. They were left as they were found pending further study, but shortly they dissolved and collapsed. It was this chiefly that compelled us to break off the excavation at this point.

At the same time another window or opening of smaller dimensions had appeared in the South part (pl. 30,1), to the right of the basin. It is not yet clear whether we have to do with a party wall, nor is the nature of the opening clearly enough determined. This too had an upright slab of unbaked brick and a fragment of another partly blocking it. We cleared the area a little ("room 2") we strengthened the lintel of the opening with a small beam and we re-covered the excavation.

Moveable finds: Fragments of a ewer and traces of straw which however lay in the layer of the volcanic ash and hence they had been brought from elsewhere. An egg-shaped stone with the start of holes for piercing at either end (length 0.14 cm.) and a fragment of a stone of triangular shape (length 0.15 cm. width 0.10). This is so smoothed on its absolutely flat surface that it clearly was used to smooth the plaster on the walls to receive paintings.

THE WESTERN QUARTER

Above the store room Arv.I to the West there rise apartments as yet incompletely explored. It seems as if the store room had been built against them (or vice versa) because, as already stated, the wall that separates the two is double. The side of these apartments towards the store room (i.e. the East side) was investigated in connection with the excavation of the store room. Wishing to examine the situation on the West side, beyond the limits of the old torrent bed where the overlying deposits are considerably thicker, we resolved to test the possibility of tunnelling. The experiment appears to have been successful. Details of this excavation are as follows.

Beginning at the South we have, right opposite apartment I of the store room, a dentation in the wall (plan XI) where there was found in situ a terracotta bath tub (pl. 29,1), on the bottom of which could be seen another small vase. The room of the Western apartments which corresponds to apartment I of the store room we have called Room I. In it was found an intact mill. This is composed of a rectangular lower grind stone fixed in place and of several smaller upper mill-stones (pl. 29,2).

The room immediately to the North, Room 2, corresponds well with the second room of the store room opposite. As already stated, it served religious purposes. At the level of the upper floor and about in the middle of the room there was found, broken but in situ, a circular table of offerings with painted decoration on its surface (pl. 31,1). Later and on the inner (Western) part of the floor (where it may be noted, a section of the beaten earth floor is preserved and not collapsed) a very beautiful "mastoprochous" (libation nipped ewer) (pl. 30,2 and below pl. 36,1) was found. With this, apparently, libations were poured on the table of offerings to assure a good crop of barley. The goddess must have been Demeter Deo (Zeio). At that period obviously, just as now, the soil of Thera was too poor to produce wheat, and it is a question whether Demeter Σιτῶ (SI - TO of the Mycenaean tablets) was known on the island.

Further South and East, where the floor of the upper storey was not preserved, there was found at a deeper level, but not on the floor of the basement, an intact handleless kyathiskos and a small beautiful ewer in many fragments. There is no doubt that both were part of the furnishings of the sacred room above. The ewer (pl. 31,2), which is an imported Minoan product (the previous item is a local matt-painted piece), has a continuous spiral and branches on the shoulder. The handle has at its top a vertical hole pierced before firing (for better firing, fastening a lid, or for fastening some sacred symbol?).

The third and Northernmost room (corresponding to store room 3) produced at the level of the upper floor an overturned pithamphora with spirals and thin walls which seems probably to have been imported (pl. 30,3 and below fig. 22). The position in which it was found lying on its mouth with all its fragments in place shows at once that it was found in situ. Therefore the foreman was given orders to look carefully for the floor of the upper storey. No such floor was found. Everywhere there was undisturbed pure pumice stone. How the floor disappeared and its place was taken by pumice stone is not clear. Perhaps such details may prove useful later to others. For this reason we record them here.

THE TUNNEL

In the area of the Quarter in question it was necessary to build a road for our own use and for the use of the inhabitants of Akrotiri whose communication with the fields and the sea had been cut by the

excavation. This road was built three times over each time a little farther to the West because antiquities were encountered. The first road had already weakened the layer of volcanic ash. In addition to this, since this layer of ash has been laid down by floods it is softer and lacks the compactness of the ash laid down directly by the volcano. In spite of all this I decided to open a tunnel under this road. After taking some safety measures, we began tunnelling and the results were extremely



Fig. 19. Arvaniti 1. West quarters, tunnel. Window and door.

encouraging. We followed the course of a wall with a lintel which was already known to belong to the Western apartments.

In a short time it appeared that in fact we had before us the West side of the West apartments. On the floor appeared stones which formed a rough pavement. It is still uncertain whether this pavement belongs to a street or to a court. Shortly a window appeared and after it another opening which proved to be a door (see plan XI and fig. 19). At the level of the lintel of the window it was clear that we had the floor of the upper storey. A terracotta water spout was still preserved in position with only its mouth missing. This was discovered about a meter deeper down in the tunnel that was being dug, on the outside of the wall. Even at this depth (at this point at least, but not farther in the tunnel) the

ruins were covered with pure volcanic ash. They had therefore been subjected to the action of the flood and to disintegration.

The interior of the rooms, however, (fig.19) was full of pumice stone. Room I already described (with the mill-stone) corresponds to the window, room II (the "sanctuary") to the door. As we continued to tunnel inwards we cleared only slightly the fill in the rooms. This however revealed fully the window and the door (pl. 32). They have jambs and lintels of dressed stone. The window is 0.90 m. wide, and about 1.07 m. high. The door measures 1.97 m. high and 1.17 m. wide. Note, however, that we must subtract from these figures the thickness of the wooden frames. The threshold of the door was perfectly preserved at the moment of discovery; it had a length of 1.15 m. The door opened towards the interior (to the right of a person entering). On the right side of the threshold the pivot hole was preserved. In the middle of the threshold there was a hole evidently intended for a bolt and beside this another irregular hole. Unfortunately, after only a few hours had passed the stone began to show cracks and signs of peeling. This phenomenon occurs on corner stones and other blocks and is a matter of great concern to us.

A little farther in the tunnel, at a distance of two meters beyond the door, a corner of the building appeared forming an obtuse angle. The stones at the corner were well preserved as were the now empty spaces where the wooden tie beams had once been (pl. 33,2). From this point the wall was followed for four more meters, interrupted half way along by a window (pl. 33,3). At this point we stopped digging our tunnel as a precaution. The wall seems clearly to be turning towards the North-east at this point, and on its outer side are many fallen blocks at different levels in the fill. At the moment these lines are being written, the winter and part of the summer of 1969 have passed. The tunnel remains intact, and everything is preserved in excellent shape. It is important that no trace of moisture has appeared.

OTHER INVESTIGATIONS

The first road and the drainage ditch for the torrent revealed traces of walls and stones lying in disorder, some of which still had plaster attached. These will eventually be further exposed by digging tunnels. We shifted the road a little to the West. When it was nearly ready the wheel of a truck one day sank in deeply. A hole about 1.50 m. in diameter and the same in depth was formed. The small excavation that followed showed that the sinking of the "aspa" (this is the name given by the local

inhabitants to the fine white volcanic ash) was due to a hollow in a wall in the South, which had unclear remains of other walls round about. We called it "chimney." Near it lay a piece about 1.75 m., of hard beaten earth (pl. 33,¹). We identified this as the roof of the building (its thickness is 0.15 m.) and we kept the largest piece of it.

This excavation naturally was just a hole which was filled up immediately as soon as the earth changed and darker material appeared

under the pure white volcanic ash. Even so there were found in it many sherds of matt-painted or coarse household pots, many stone tools, chiefly whetstones, a fragment of a stone vessel with handles and a small fragment of ivory triangular in section (perhaps a piece of inlay). Only one small vase was found complete, a nipped ewer with eyes (fig. 20). It is very well preserved and the clay and colours are literally intact. The vase is prickly to the touch for it has not been smoothed at all by the use. It is just as it came out of the kiln, and it is not impossible that such a kiln actually exists in the area.



Fig. 20. Nipped ewer with eyes from "chimney house"

Following on this the road was shifted for a third time to higher ground towards the West. It is evident that the entire area of Arv. 1 is occupied by buildings. When we completed the Arv. 1 shelter we made provision for collecting the precious rain water from the roof, this being the only kind of water available on the entire island. This was also necessary to avoid damage from water flowing off the roof. Three times we dug a pit for our reservoir and three times we failed to find a suitable place. This failure was pleasant, however, because everywhere we found remains of houses. We give only one photograph here (fig. 21). It shows remains of walls and a sort of bench found at a depth of 3-4 meters below the bed of the torrent.

Other remains of interest in the area are the following: Above the

chapel of St. Nicholas¹ the bare surface of the lava is exposed as it is in other parts around mount Loumarades. It remains for the geologists and volcanologists to explain this fact, whether they think the volcanic ash and pumice were swept away from here by some local storm



Fig. 21. Wall in reservoir trench, to North of shed in torrent bed.

like a Biblical cataclysm such as sometimes occurs in connection with a volcanic eruption, or whether there is some other cause for the phenomenon. Here and there in this district prehistoric remains appear. At Kokkino Vouno, above the chapel, extensive walls appeared, but they were poorly preserved. These remains, however, show the pros-

1. Praktika 1967, pl. 106, b = Thera I, colour pl. A 3.

perity and wealth of the inhabitants. Fragments of beautiful pottery are not lacking, as well as traces of metal and fragments of painted plaster. Especially interesting is a fragment from the mouth or lip of a large vase made from a thin slab of veined marble.

MOVABLE FINDS

Pottery. The finds so far made in the excavations in Thera are almost entirely pottery or stone vases. There is increasing support for the theory that the inhabitants had plenty of time when they abandoned the island and therefore were able to take away with them their more valuable possessions. The pottery, however, is very rich, painted in the pure Middle Cycladic matt-painted tradition. Imported pieces are relatively rare. These are usually Minoan. However, we may look forward confidently to finding Mycenaean imports. Cycladic, and specifically Theran pottery has already been found in the royal shaft graves of Mycenae.

Chronologically the picture remains unchanged: the imported pottery, which is susceptible of closer dating than the local matt-painted ware, belongs to the ripe phase LM Ia (= Myc. 1). No vase has yet been found that can be dated after 1500 B.C. We will describe here a selection of the more characteristic vases. Unless otherwise stated all are matt-painted.

Of the pithoi (or jars) we illustrate here the two found side by side (above pl. 14,1) in store room 2. Both have spirals as their basic decoration with ivy and crocus-like flowers on the shoulder (pl. 34). In the second of these pithoi were found the fragments of the beautiful polychrome ewer (colour plate A) with swallows. Perhaps it was a libation vase used at the coming of spring¹. It belonged apparently to the West room 2 where the offering table was found.

The pithos-amphora fig. 22 is of entirely different fabric. It is more slender, its walls are thin, and the painting is lustrous. It is imported, and the motif of ivy with double stalks which is sometimes already characterized as "ogival canopy" (Furumark) recalls very strongly the Mycenaean spirit but is also equally well Minoan.

In the same category belongs the large strainer of pl. 10,1, stylistically one of the most advanced vases found in the excavation though

1. See my brief monograph on vases with swallows in AAA II, i 1969, pp. 65 ff.

it still falls within the period LM Ia. It is of local fabric. These vases, furnished with bell-shaped bases and having pierced bottoms, vary in size from small pithoi (as here) to small vases about 20 cm. high. Their purely Cycladic origin is indisputable and from here they were imported into Eastern Crete (see above, p. 13).



Fig. 22. Jar from West quarters upper storey (room 3).

A similar piece was found in the store room Arv. 1 (colour pl. E 8) with an endless spiral as its only decoration (see above p. 26). This also has a cover. It has not yet been mended as we still hope to find some missing fragments. The elegant cylindrical vase, pl. 11,1 above (reddish clay, white decoration of crocuses and ivy) is likewise a strainer. Its bottom is at the middle of the vase.

The king of the large vases from the excavation of 1968 is however the pithos with the "Easter Lilies" which is probably truly a sacred



Fig. 23. Arvaniti 1. Amphora.

shows dolphins leaping over the waves. It was found on the floor of the upper storey, Br. 2. The other, quite complete, was found near the center of the middle store room (2, 2) in the quarter Arv. 1. Here the arrival of the swallows is depicted, flying over the waves and beneath the clouds. Possibly this is some sort of sacred vessel (colour pl. C 7-8).

The ewers were the specially favoured type of vase from the 1968 excavations. Dozens of them were found. Some (as in the case with vases of other shapes) are painted only with white on a dark background (fig. 24). Especially popular is the spherical ewer with long spout. Some

pithos. It belongs to a pure Middle Minoan tradition, but its fabric is local (pl. 25,1 and colour pl. E 7).

As a sample of the amphoras that were found we illustrate one here (fig. 23) with a conventionalized palm on the shoulder. The clay of all these vases is impure and the surface rough as if they all were the product of a single shop.

A considerable number of long narrow basins were found, similar to modern fish pots. We gave them the name *kymbai*. We can present only two complete examples here. One mended from many fragments,



Fig. 24. Arvaniti 1. Ewer decorated in white.

of these have polychrome decoration (colour pl. D 1). The sense of polychromy is however deceptive to this extent in that the painting is done in white on a brown surface which sometimes turns reddish on being fired.

Dotted spirals are a favourite decoration on the shoulders of vases as are tangent circles, the aim probably being to imitate pudding stone. (colour pl. D 2 and C 6). One ewer is entirely covered with horizontal myrtle branches and isolated ivy leaves on the shoulder (colour pl. D 4), which are very characteristic of the LM Ia period. The vase in question, however, is a local imitation of moderate quality.

There is a better imitation on another round bodied ewer this time with a narrow neck and plastic eyes. On the whiteish clay the flowers (vetches) are drawn with a lively and graceful touch (colour pl. E 3). The same is true of the next ewer (colour pl. D 5) where the clay is of exceptional quality and the colour of the spirals and bands is of such good quality that one is inclined to consider the vase as imported.

Certainly imported is the next ewer (colour pl. E 4). It stood first on the sill of the window of store room Arv. 2, while the vase previously described stood second (pl. 20,1 above). Here the decoration hangs from the top down. The plant decoration is of hybrid nature, as usual, but I am inclined to recognize the caper which even today grows in abundance and has an exceptional reputation exactly here in the Akrotiri district. It is an astonishing plant. It likes to grow in completely dry places and hangs down from rocks and rubble walls. It begins to flower in May and continues until October. In the morning one sees many fine four-petalled whiteish flowers with unusually long stamens purple in colour, but within a few hours only three petals remain. This is the usual impression of the ordinary observer, the fourth petal falling away or overlapping its neighbour. By evening the flowers have already wilted and overnight other succeed them. This bright green plant is our pleasant companion through all the busy period of our excavation. Figure 25 shows two pictures of hanging capers and the small inset shows two separate branches because this is perhaps the prototype for a decoration of branches in Cretan-Mycenaean art.

Another ewer, likewise imported and beautifully preserved was found in the big pile in store room 3,3 (it is visible in pl. 22 above). Here on the shoulder is portrayed a combination of spirals with broad leaves and flowers which is probably likewise a variant of the caper, though it is usually called a crocus¹ (colour pl. D 6).

1. See for example FURUMARK, MP 261, no. 10,1.

Still another pear-shaped Minoan ewer from the store room is illustrated here (colour pl. E 5). The reed-like plants that cover the body are still sparse, whereas a little later they thicken into a real thicket.

Other vases also have reed decoration of the same sort, and of these



Fig. 25. Thera - Acrotiri. Capers.

colour pl. D 7 shows in the center a kyathos of local fabric. The most important of these small vases, however, is a series of imported cups of which the same photo shows two of the best examples. About a dozen of these were found in the store room, but unfortunately all were broken. They are always of the archaic LM Ia or Myc. I shape. These cups have bodies which widen only slightly towards the top and sometimes they are practically cylindrical. They have a strong relief banding at the middle of the body, and the handle is always at the upper part, springing from the lip, never at the middle. Likewise they are never very deep nor do they have a marked conical shape. It is clear that they are derived from metal prototypes. The "eyed" spirals of the decoration are of various kinds. Often they are dotted and sometimes they have additional decoration in white. They are the most characteristic vases for

the dating of the destruction because not a single one of them shows the features of the Myc. II period.

Another interesting problem is that of their place of origin. Generally these cups are thought to be Mycenaean. In Crete they are rare, but not completely unknown. Almost the only existing examples, about half a dozen, were found in the megaron of Sklavokampos and these have not yet been mended. The Theran cups show a much greater resemblance to about a dozen such cups found in the excavations at Pylos especially at Tragana (Vorouliá). At about the same time similar cups had been found at Lipari in the excavations of Prof. Bernabo Brea. Clearly these cups were much in demand and were widely exported, but their center of production still remains unknown.

The rhyton of colour pl. E 6 with rippling and horizontal branches done in white is of local manufacture. Two or three other simpler rhyta were also found and one is an unusual example and is probably a funnel.

Among the unusual shapes, colour pl. D 8, shows a skyphos-like vase and two flower pots in matt-painted technique. An askos-like vase (fig. 26) is imported; it was found in store room 2,2 near the kymbe with the swallows (it may be seen in pl. 17,1 above).

The pretty small globular jug with floral decoration shown in pl. 35,1 was found with the censer of store room 2,2 (see pl. 18,2 above). The skyphoid vase of pl. 35,2 is one of many similar vessels with somewhat varying shapes. The two small pithoi of pl. 35,3-4, only a few centimeters in height, were found (obviously in situ) on the floor of store room 3. With their thick walls and their decoration which is typical of large pithoi they give the impression of children dressed as grown ups. Perhaps they were toys.

Pots similar to the wide mouthed vase with spout (fig. 27), as already stated, were found in close association with the pithoi. It is quite probable that they were used as a measure for liquids. The four or five examples that have been found are of the same dimensions, and perhaps this vase should be called a chous.

Undoubtedly used for libation is a large group of jugs whose characteristics are a narrow neck and a long beak-like spout. Usually they have a pair of breasts, and thus fertility is emphasized. Almost always other features taken from the animal world show their influence, namely painted or plastic eyes and a mouth in the form of a beak. The example illustrated in pl. 36,2 is unique in this respect, namely that the clay is clean glossy and whiteish, and two protuberances at the base of the beak (horns? ears?) emphasize still more the religious nature of the

vase which has perhaps been imported from another area. Pl. 36,3 shows two nipped ewers and a usual ewer, one of many similar. Pl. 36,1 shows the beautiful "barley vase," a nipped ewer which was found in an undoubtedly religious context. The double rings perhaps stand for earrings.



Fig. 26. Arvaniti 1. Magazine 2, 2. Askos next to kymbe of swallows.

variety *Hirundo rustica* (hybridized with the white spot on the back, which belongs to the *Chelidonaria urbica*) are shown flying on the body of the vase. It is not known if they were once polychrome, but it is probable that they were.

Apart from its artistic value, this vase is also of interest because it links us directly with the royal grave circle B of Mycenae. The excavations of Papadimitriou and Mylonas brought to light in tomb

The king of the ewers is surely the Swallow vase (above fig. 5). Only a small part of the spout (beak) is missing and this has been restored after an example from Mycenae which is a product of the same workshop. Three swallows of the



Fig. 27. Arvaniti 1 (window 2, 1). Chous i.é. measure for liquids.

B III (= tomb Gamma) the ewer illustrated here (fig. 28) by kind permission of Professor Mylonas. There can be little doubt that both



vases are products of the same workshop. We thus have confirmation that the entire area of the Greek Aegean (Cyclades, Crete, Peloponnesus) was in frequent unbroken communication.

Of larger dimensions and more elongated form is the polychrome ewer which has swallows on the shoulder. The colour pl. A shows that portion of it which has been pieced together. Here we give a photograph of the first fragments to be found (fig. 29)

Fig. 28. Mycenae. Ewer from shaft grave B III. at the moment of their

discovery when their preservation (as is often the case in Thera) was much better.

The most beautiful plastic work of the period was the lion head, exquisitely modelled in black rather sandy clay (pl. 37, 1). It is a rhyton. The expression is realistic yet at the same time has some elements of stylization. It is clearly an imitation of a metal prototype such as the gold lion head



Fig. 29. Arvaniti. Magazine 2. Sherds of polychrome swallow-ewer found in jar.

rhyton from Tomb A IV at Mycenae. (Notice especially the cheek formation.)

In figure 30 are illustrated matt-painted sherds with representations of birds and twice with human figures, specifically warriors. The



Fig. 30. Arvaniti 1 and 3. Pictorial style pottery.

fragment with the head of a swallow (brown, reddish, white) comes from a polychrome ewer of larger size than that shown in the colour pl. A. The other birds are well known from Melian vases.

On pl. 38,¹ are illustrated two of the three sherds which have incised Linear A symbols. The right hand sherd is quite flat and perhaps comes from a lid. To the corresponding symbols of Linear B (I and NO.) there have been added one stroke or jog to the first and one or two to the second.

MISCELLANEOUS FINDS. ORGANIC MATERIALS

The smaller clay and stone objects are very numerous, and stone vessels and tools (mill-stones of all sizes, grinders, whetstones, hammers etc.) come second in numbers only after the clay objects, but only a few characteristic samples of them can be mentioned here.

The clay utensil, pl. 38,2 (Bronou 2), is of a kind not unknown from other excavations. At the left it is furnished with a handle. It is

supposed that it was used to hold small spits, and its Greek name is *κρατευτή* ¹. To the right a portion is missing.

I am unable to offer a satisfactory explanation for the small spherical objects of varying size, made of stone or clay, a few of which are illustrated in fig. 31. Originally they were thought to be sling bullets, but the varying size makes this explanation dubious, and I am rather inclined to think that they are "jack stones" and children played with them as they do now. This suggestion is supported by the representation of this game on wall paintings of the Middle Kingdom (fig. 32) ². Whenever the jack stones are of stone they are either natural pebbles (in which case their shape is slightly irregular) or have been artificially rounded off. They were thrown up high and caught in the air with the hands. As happens today, the less skillful players, boys and girls, were penalized by having to carry their victorious opponent on their backs for a short distance. This last act was called "ephedrismos" in Greek, a word which explains with perfect clarity the Egyptian wall painting, especially in regard to the position in which the winners are sitting, side saddle as it were and not astride. And we may raise another question: perhaps these little spheres (which might sometimes be of more precious material) might be used as weights in the braids or knots of the hair?

The conical clay objects (in fig. 31 the first two from the left in the bottom row) are not pierced. They are therefore not loom-weights, and in any case they are too small and light for this purpose. Again on the basis of Egyptian monuments we can identify these objects as chess "pawns" which are also known in the Cretan - Mycenaean civilization.

The third object in this row is a piece of dried fruit (a fig or rather a wild pear). It was found in the layer of volcanic ash, however, and so cannot be dated. A small, square stone object has not been explained, but fig. 33 may give an idea of its purpose. It is a seal of soft whiteish stone in the shape of a small rectangular plaque both sides of

1. Similar objects have been found recently in the prehistoric levels at Aphrodisias. The example illustrated is about the size of ours (fragmentary), 33 x 13 cm. It lacks a handle, but has two holes. "Stütze für Feuerrost." BARBARA KADISH in *AJA* 73, 1969, pl. 27, fig. 32, and p. 61.

2. ERMAN RANKE, *Aegypten*, 1923, 279, fig. 119. Prehistoric Aphrodisias has likewise produced numerous examples, *AJA* 73, 1969, pl. 24,6. Described on p. 55 as "natural shaped forms of a hard white substance turned up in abundance in this complex".

which have been used. One side shows a crocus-like plant, either with its bulb or growing out of a rock. The other side shows an isolated lily-papyrus flower and a damaged object. (the impression which it gives today,

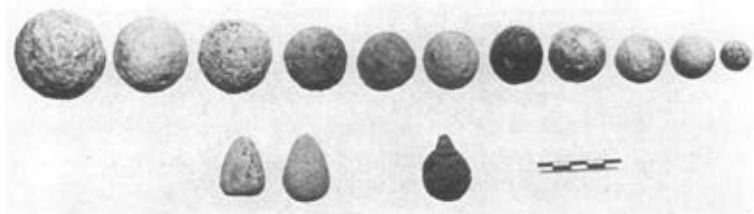


Fig. 31. Arvaniti 1. Stone and clay spherical or conical objects.



Fig. 32. Game of "jack stones". Egyptian Middle Kingdom fresco from Beni Hassan.

that of a squatting female figure, is misleading because it ends again at the top in a lily-like plant). The material is so soft that what we have must be a trial piece the carving of which would be copied in harder

material. Similar objects (somewhat later in date) are known from Encomi - Alasiya in Kypros.

Discoid loom-weights are numbered by the dozen and are usually made of clay. A very few examples are of natural stone, and one of marble was found in the "Porter's lodge." They differ from one another in de-



Fig. 33. Arvaniti 1. Seal (photograph of original intaglio).

tails: the position of the hole (rarely a pair of holes) and the slight trimming of the upper part of the circumference. The stone examples, as is to be expected, are of somewhat irregular shapes depending on the natural stone used to start with. Pl. 39,2 shows the various shapes, and pl. 39,1 some of the examples that have been found¹.

Among the lamps there are three outstanding examples. One of them we have already seen in place at the time of its discovery (above pl. 28,1). It is made of spotted steatite. The same appears in pl. 40,1. Pl. 40,2 shows another stone lamp. The surface of both is full of cracks in the stone structure. The third example is of clay imitating purple stone. Pl. 37,2 shows a small schiste-stone tablet with similar cracks which are probably the result of excessive heat. It shows still clearly a lightly incised lily flower and some other letter-like incisions. Was it the designing device of an artist or the slate of a school-boy.

1. Originally these objects were left, when possible, in the position in which they were found in the covered area of store room 1. However, attempts to steal them were made by some tourist - tramps who, in spite of the prohibitions made themselves great nuisances by their insolence and boldness. In one instance the thief managed to make off with a loom-weight. The theft was apprehended in time, but it was not thought advisable to upset a dozen visitors by searching them personally for the sake of a single loom-weight. We merely transferred the loom-weights temporarily to the museum. In any case it is certain that in the final clearing many more examples will be found in place.

Of the stone vases three are illustrated as samples (fig. 34-36).



Fig. 34. Arvaniti 1. Mortar.



Fig. 35. Arvaniti 1. Mortar.

The obsidian of Thera is jet black and obsidian of Melos lacks. At the lower left of the illustration is a toothed piece of flint. Such pieces were set in wood or bone sickles.

Weights were found in great numbers, more perhaps than in all previous excavations together. They come exclusively from the Store Room and principally from rooms 2 and 3. The circumstances of finding show that they come from both the upper and the lower floors. If we exclude a single sure exception, all are of lead. The

The first two (one without handles and the other with three unpierced lugs) have a spout which shows that liquid was probably pressed out in them (grapes, fruit or the like). The third (fig. 36) is a tripod mortar of ordinary appearance made of trachyte. Especially beautiful is the grinder that belongs with this utensil.

Pl. 41,1 shows obsidian and flint (mostly from Bronou 2). Obsidian blades are found, but more frequent are obsidian flakes (which are often suitable as cutting implements). Only one arrow head was found (upper right) in the Bronou excavation and it belongs to the type of arrow with two barbs. They are small and their sides are without curvature. This is the older type of the Middle Bronze Age. has unusual brilliance which the



Fig. 36. Arvaniti 1, 3, 1. Stone mortar.

exception is a stone weight, pl. 41,2 right. It was found in a small handleless cup (pl. 14,2 above), perhaps fallen from the upper floor, and is a small disc of grey stone on one of whose surfaces is incised the sign Δ . It weighs 20.2 grams: In the neighbourhood were found two small shiny black natural pebbles (weight 39 and 35 grams) and one polychrome pebble with beautiful red and white veins (pl.41,2 left). It weighs 66.5 grams, but it remains uncertain whether these stones are weights or not.

As stated above, two of the lead weights were found in position one on top of the other in a way that cannot be due to chance, resting on a slab beside the censer in the store room Arv. 2,2 (pl.19,1). On the same slab, however, was found one of the two black pebbles and a spherical piece of common stone (pl. 41,3). It weighs 1028 grams, but it is not certainly a weight. The total number of lead weights (which is constantly increasing as new examples are found) is now nearly two dozen. They are damaged by oxydation so that their exact original weight cannot be determined. The best preserved of them are illustrated in figure 37. The largest weighs 737 grams and the smallest 15 grams. It would be easy to demonstrate by adding a few grams or fractions of a gram that we have before us the



Fig. 37. Arvaniti 1. Lead weights.

Babylonian system of weights based on the shekel and the mina. But the oxydation factor unfortunately cannot be measured ¹.

Metal objects in Thera are rare. However, the area of the store room in the Arv. 1 quarter produced a few bronzes. In figure 38

1. There is no room for further discussion in the present report. Let me simply make the following points: All the weights were weighed on the accurate scales of the Thera post office, there being no other possibility. We weighed only those sufficiently well preserved to have retained almost their original shape. There were 13 of these and their weights from smallest to largest were as follows: 1) 15 gr. 2) 29 gr., 3) 43 gr., 4) 49.5 gr., 5) 63 gr., 6) 88 gr., 7) 126 gr., 8-9) 178 and 180 gr. (these are twins of the same size), 10) 310 gr., 11) 347 gr., 12) 480 gr., 13) 737 gr.

are illustrated single edged knife with three nails, a hook-like object, a small fragment of a sheet of metal perhaps from a spoon, and a small piece of twisted wire. From the area of the "Porter's lodge" we have three sickles and a small chisel (fig. 39). The example in the middle was found at a fairly high level, the other two near the floor.

Note that when there was a fractional difference of less than half a gram the clerk apparently rounded off the numbers.

The Babylonian system of weights differs so much from place to place that exact comparisons are difficult for this reason too. Generally, on the principle that an ordinary person will use as weights seeds or other things that he has ready to hand, the Babylonians used as their unit of measure the grain of wheat, *SEU*, weighing $46\frac{3}{4}$ milligrams. The shekel (Sumerian *GIN*, Akkadian *SIGLU* whence the Greek *siklos*) weighs 8.4 grams (= 180 grains). The *MANA MANU*-mina is 60 *sikloi*, or 0.5 kilograms the *GUN-BILTU*-talent is 60 minas or 30.3 kilograms. This system as is well known, was imposed on classical Greece. *MEISSNER*, *Bab. u. Assyr.* I, 357.

As one can see, only a little elasticity is needed in the grams in order to find in the numbers given above for the Thera weights multiples of the *siklos*. But how uncertain all this is will be shown by the following instance: Seven similar lead weights in the larger weight range are known from the Vaphio tomb (there are other isolated examples from elsewhere). I owe the warmest thanks to the epimeletria of the National Museum, Mrs. Eli Touloupa who investigated the matter and sent me a report. According to this report the weight of the Vaphio weights today is somewhat different from the weight given by Tsountas in his publication (*AE* 1890,157).

<i>Weight No.</i>	<i>Present Weight</i>	<i>Weight Given by Tsountas</i>
1.	944.330 gr.	994 gr.
2.	953.15 "	970 "
3.	985.880 "	956 "
4.	487.80 "	489 "
5.	236.30 "	240 "
6.	133.285 "	135 "
7.	54.4 "	56 "

The uniform decrease in the weight is perhaps due to some cleaning that took place after the weighing by Tsountas, but this is not quite certain.

As for the stone weight from Thera, it can hardly have lost weight and perhaps corresponds roughly to 2.5 *sikloi* (the exact correspondence of weights in ancient metrology is impossible). The mark to be seen on it is found also in the inscription on the stirrup vase from Orchomenos where it is followed by four dots (they are read as 40 and less correctly as 31). The meaning of the Δ and its phonetic value are not known. In Linear B it is not found, nor in Linear A, but it does appear on the handle of a "Melian" vase as a potter's mark. This vase may be from Thera. It is in the stratigraphical museum at Knossos (*JACQUES RAISON, Les vases à inscriptions peintes de l'âge Mycénien, Incunabula Graeca, XIX, 1968, p. 119*).

The first of these is almost worn out through use. The last had been broken in two before the eruption and the two parts used for a long time

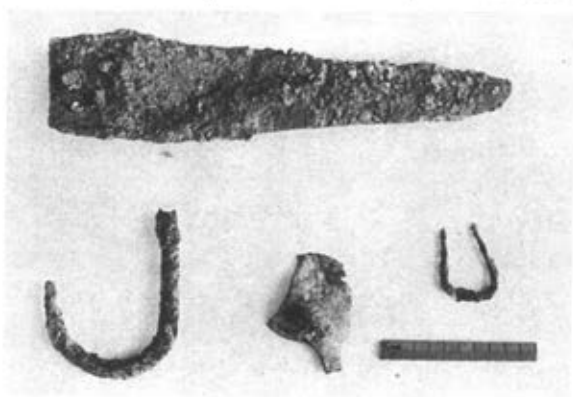


Fig. 38. Bronze objects.

separately as is shown by the wear at the point of breakage. The sickles are of a size suitable for the barley they reaped which even

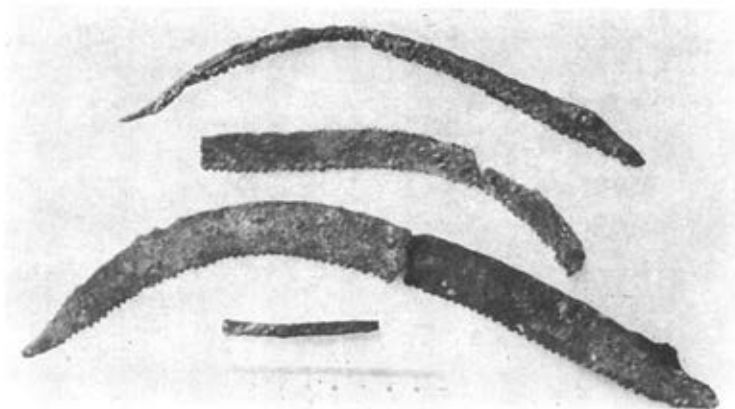


Fig. 39. Arvaniti 1, "Porter's lodge". Sickles and chisel.

today barely reaches a height of 15-20 centimeters. The middle piece is 0,15 m. long, the upper (which has a hole for a handle) 0.20 m. and the lower 0.25 m.

Of organic matter we found chiefly small pieces of charcoal. Remains of straw, of which in two cases we were able to collect samples (fig. 40), were found in the layer of volcanic ash and may be later. In the Western part of the middle store room (2, 3) we found in two places

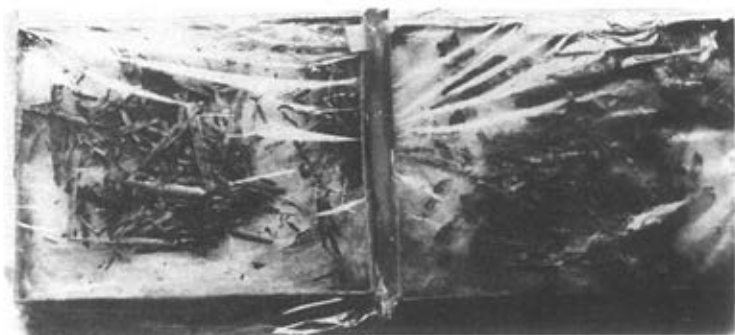


Fig. 40. Bronou 1 and Arvaniti 1. Straw.

remains of snails. In the second place these snails were in the bottom of a broken vase (fig. 41). It is a large variety of snail which

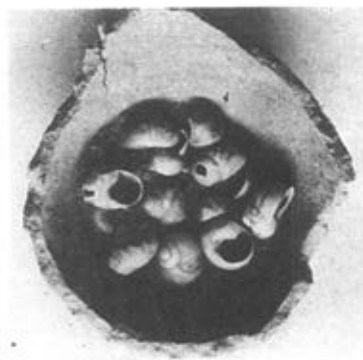


Fig. 41. Arvaniti 1 (magazine 2, 3).
Snails in vase.



Fig. 42. Magazine (3, 3). Grains of
barley in vase.

does not exist today in Thera but is well known in Crete. Possibly these snails were imported from Crete.

The Westernmost part of the last store room to the North (3, 3) had its floor at a lower level than the rest of the store

room for reasons which we have not yet been able to explain. There we found a small broken pithos in the bottom of which there was a black substance which we arbitrarily called flour. When the vase was found this substance in the bottom, about 5-8 cm. thick, was found in a shrunken state, and the side walls of the vase did not touch it. Under the influence of heat, dryness, or both, it had lost part of its original mass. Examination under a strong lens showed that the substance was in fact barley flour which had been very imperfectly ground. The farina had disappeared but the bark part of the barley grains could still be seen in the form of thin needles or small straws. Some grains of barley that had slipped through the mill-stones were found intact (fig. 42). It was evidently not perfect flour, but coarse and something like the homeric $\sigma\acute{\upsilon}\sigma\gamma\acute{\upsilon}\tau\alpha\iota$ employed in the sacrifices.

WALL PAINTINGS

The most encouraging thing in the whole excavation is the discovery of wall paintings which hold out great promise. For the time being the fragments are few, but a few general conclusions seem certain:



Fig. 43. Design of the altar - fresco.

We have landscapes with plants and palm trees enlivened by scenes with monkeys (colour pl. B 1) and also with religious scenes.

Monkeys appear in both groups of wall paintings, Bronou 2 (an entire head is preserved) and Arvaniti 1, where only parts of bodies and tails and perhaps a nose can be recognized. In this last group we definitely have an altar with horns of consecration in perfectly Minoan



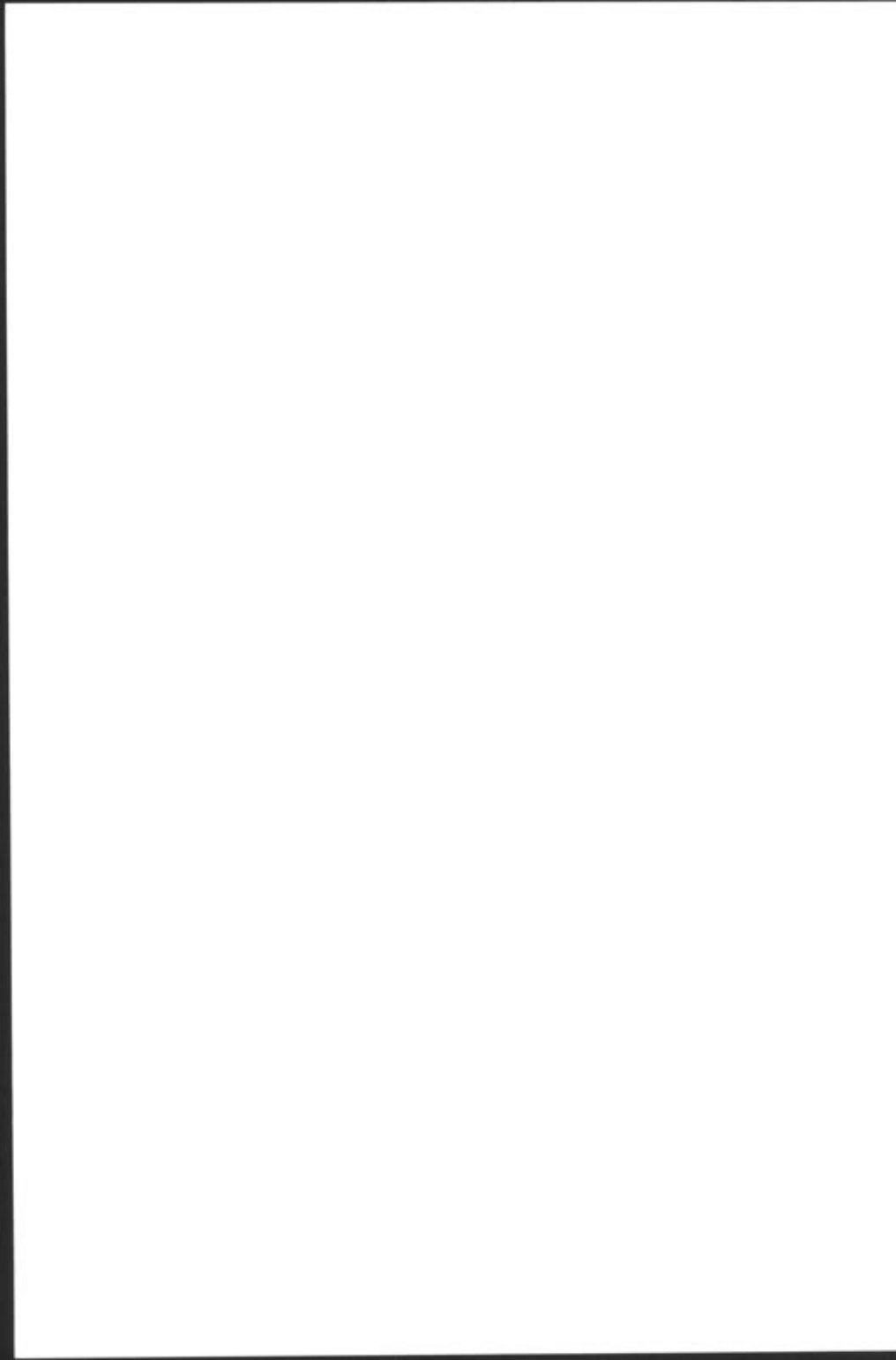
Fig. 44. Arvaniti 1. Fresco fragment.

style, but supported by columns of somewhat Egyptianizing form (fig. 43) from a rough sketch by the painter Mr. Eliakis).

The head which is preserved in front of the palm tree (colour pl. B 3-4) leads to similar reflections, for it has anthropological characteristics that are foreign to the Cretan - Mycenaean race (thick lips, a pug-nose, bristling eyebrows, a large ear-ring and a ribbon in the hair).

The fragments that have been found have not yet been fully studied. Some pieces seem to have decorative patterns (garments?) as in figure 44. A similar fragment has a small woman's head as part of the decoration but the composition is not yet clear. Happily we have sure indications, that frescoes are still hidden in several places of the excavated area.

PLATES





Arv. Store - room 2. Polychrome ewer with flying swallows.

1. Bronou 2, Fresco with a blue monkey's head.
2. Arv. 1, Fresco with part of a bird (eagle ?) as it was found.
3. Arv. 1, Fresco with an African (?) and a palm - tree.
4. Face of the same man enlarged.



1



2



3



4

1. Bronou 2, The floor of an upper storey
2. The same floor after removing the pottery.
3. Arv. 1, Store - room 3.
4. Arv. 1, Store - room 2.
5. Arv. 1, A corner of store - room 3.
6. Arv. 1, Eastern part of store - room 3.
7. Bronou 2, Kymbe with dolphins.
8. Arv. 1, Kymbe with flying swallows.



1



2



3



4



5



6



7



8

1. Arv. 1, Spouted ewer.
2. Arv. 1, Spouted ewer.
3. Arv. 1, Spouted ewer.
4. Arv. 1, Spouted ewer.
5. Arv. 1, Spouted ewer.
6. Arv. 1, Imported ewer.
7. Arv. 1, Imported goblets.
8. Arv. 1, Matt - painted vases.



1. Arv. 1, Store - room 2. Clay chest and vases as found.
2. Bronou 2, A big strainer.
3. Arv. 1, Store - room 2. A matt - painted ewer.
4. Arv. 1, Store - room 3. Imported ewer.
5. Arv. 1, Store - room 3. Imported ewer.
6. Arv. 1, Matt - painted rhyton.
7. Arv. 1, Store - room 3. A jar painted with white lilies.
8. Arv. 1, Store room 3. A big strainer.



1



2



3



4



5



6



7



8





1. Arvaniti 1. Beginning of drain from South.



2. Drain from South.



3. Drain coated with concrete.



1. Excavation laboratory and guard-house.



2. Shed of magazine Arvaniti 1 under construction.



1. Northwestern shed with Hellenic roof.



2. Interior of shed from south. West sections of magazine Arvaniti 1 shown to left.



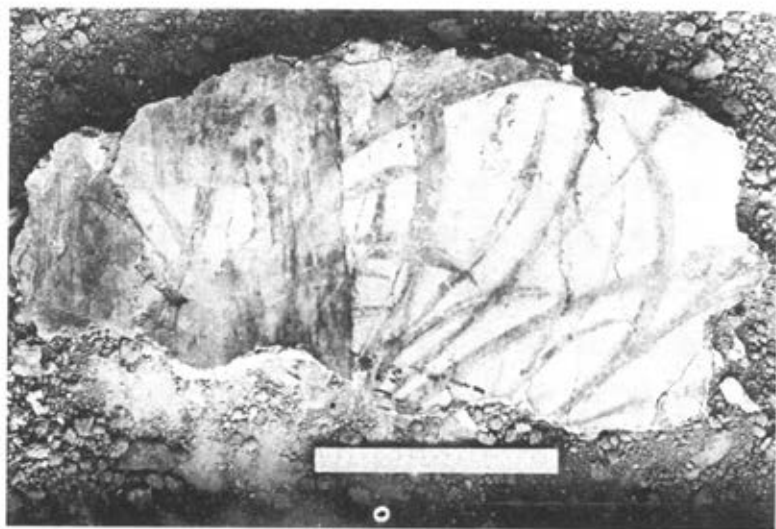
1. Bronou 2, panoramic view from East. From top to bottom: Acrotiri village, guard house, trench of new torrent bed and excavation in section Bronou 2.



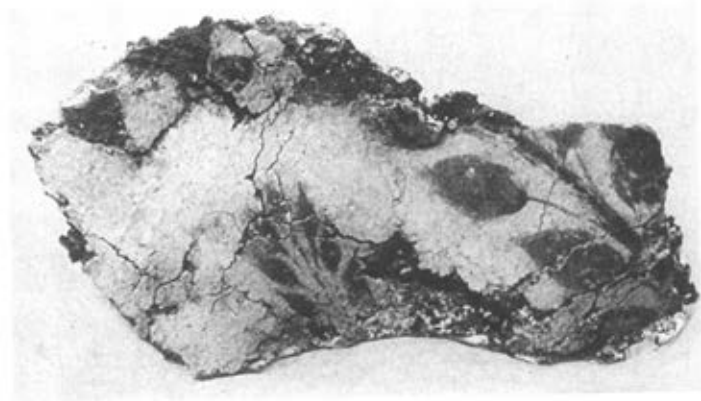
2. Bronou 2. Former torrent bed. Area of frescoes around umbrella.



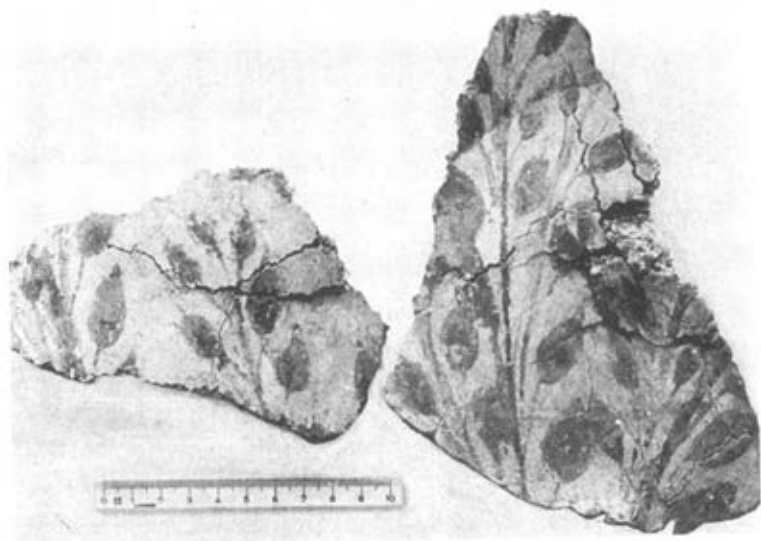
1. Bronou 2. Niches in wall where part of a perforated axe was found.



2. Bronou 2. Fresco (right part cleaned, left part as found).



1. Bronou 2. Myrtle twigs fresco.



2. Bronou 2. Fresco. Green-blue myrtles on white ground.



1. Bronou 2. Staircase from North.



2. Bronou 2 from Northwest. Paved floor of upper storey and wall above it.



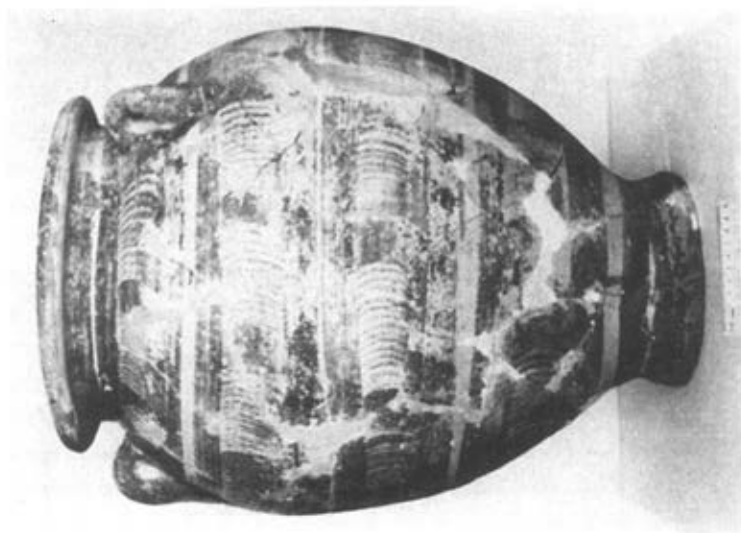
Bronch 2, Upper storey from North.



1. Bronou 2-from North.



2. Bronou 2. Paved floor from West.



2. Bronou 2. Jar.



1. Bronou 2. Strainer.



1. Bronou 2. Cylindrical strainer.



2. Bronou 2. Kymbe with dolphins.



1. Arvaniti I. Magazine from North. Groove of horizontal beam of wooden wall-frame shown clearly on outer wall.



2. Arvaniti I. North magazine courtyard from West. Boulders being transported and buried.



1. Arvaniti 1. West rooms. Corner of Northern part.



2. Magazine 3 and West apartments from Southeast.



1. Jars and vases in magazine 2, 3 (West side).



2. Arvaniti 1. Magazine 2. Weight in cup.



1. Arvaniti 1. Magazine 2, 3. Lowermost group of vases near West wall.



2. Arvaniti 1. Magazine 2, 3. Group of vessels above lion's head rhyton.



1. Arvaniti 1. Magazine 2, 1. Small votive vases.



2. Arvaniti 1. Magazine 2, 2. Vases near floor.



1. Arvaniti 1. Magazine 2. Kymbe with swallows, as found.



2. Swallow - kymbe.



1. Arvaniti 1. Magazine 2. "Livanotris" (censer) and vases.



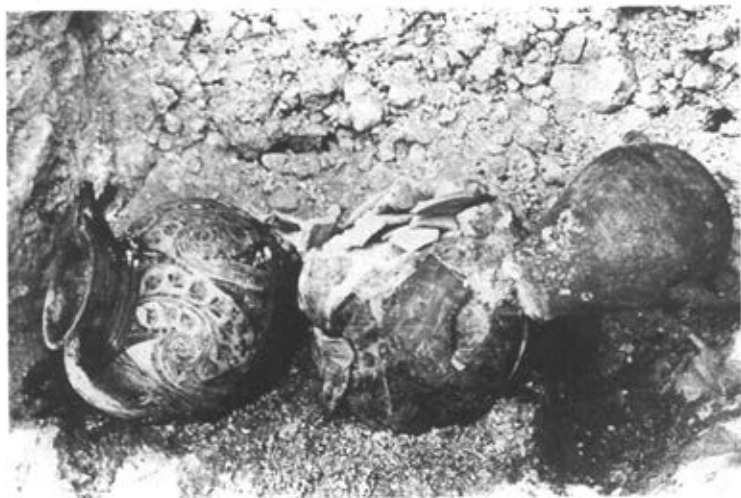
2. Magazine 2. "Livanotris" (censer) with lid and vases found nearby.



1. Magazine 2, 2. Slab with weights.



2. Window-sill of magazine 2.



1. Window of magazine 2. Two globular ewers.



2. Arvaniti 1. Window - sill of magazine 2.



1. Arvaniti 1. Magazine 3, 3 (i.e. its Westernmost part) during initial stage of excavation.



2. Arvaniti 1. Magazine 3, 3. Pair of jars as excavation advanced.



Arvaniti 1, Magazine 3, 3 (i.e. its Westernmost part) during excavation.



1. Arvaniti 1, magazine 3, 2. Heap of handleless vases and ewer.



2. Magazine 3, 1. Jars.



1. Arvaniti 1. Figurine in jar with lilies (3, 1).



2. Arvaniti 1. The same figurine from bottom of jar with lilies (3, 1).



1. Jar with white lilies.



2. Magazine 3, 1. Jar with lilies as found.



1. Arvaniti 1. Part of magazine 3, 1.



2. Arvaniti 1. Magazine 3, 1. Stone lamp and other vessels.



2. Arvaniti 1. "Kitchen." Basin, cooking pot, window.



1. Arvaniti 1. South corridor. Flagstones from upper storey.



1. Arvaniti 1. Magazine 3, 1. Steatite lamp lying upside-down, as found on floor.



2. Arvaniti 1. "Porter's lodge".



1. Arvaniti 1. West quarters, bath.



2. Arvaniti 1. West quarters, room 1. Mill-stones.



1. Arvaniti 1. Room 1. "Kitchen." Two windows.



2. West quarters, room 2. Nippled jug with barley decoration.



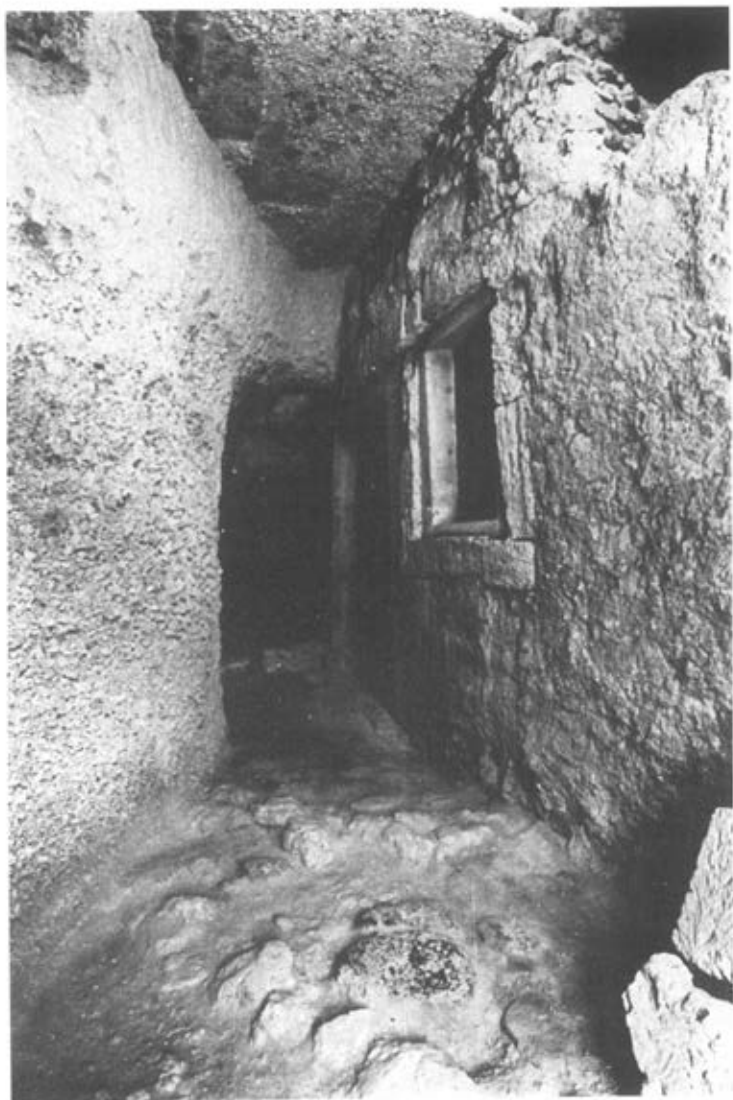
3. West quarters, room 3. Jar, as found, on same level as floor of upper storey.



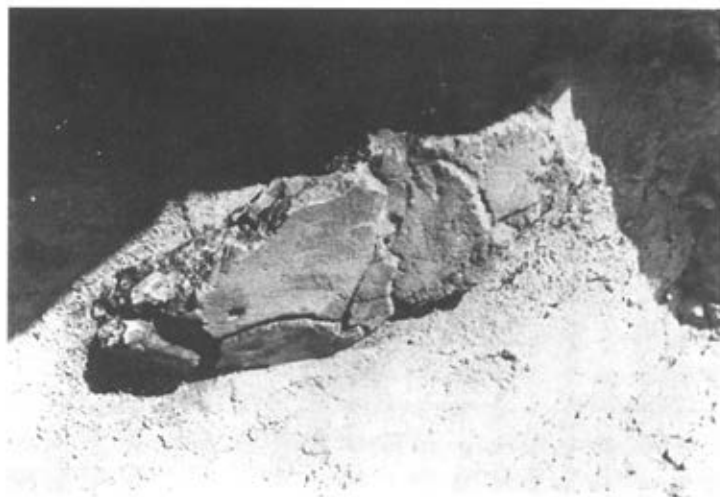
1. West quarters, room 2. Table of offerings.



2. West quarters, room 2. Jug with perforated handle.



Tunnel, Window and door corresponding to rooms 1 and 2.



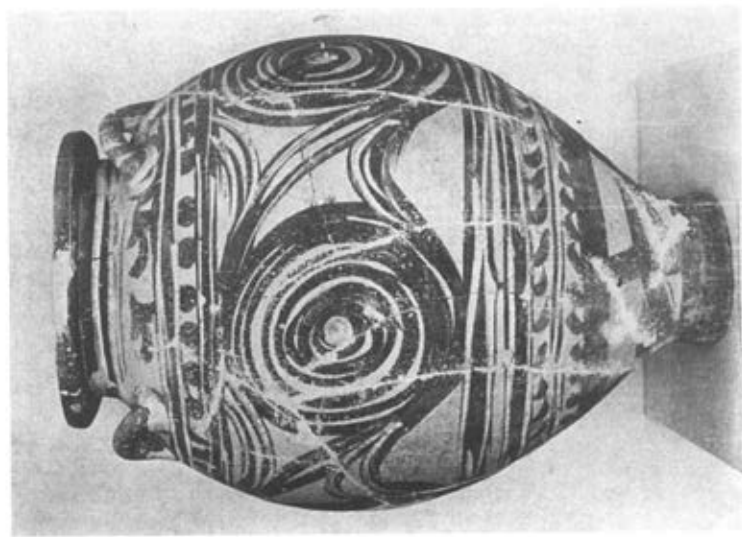
1. Part of roof. West street house.



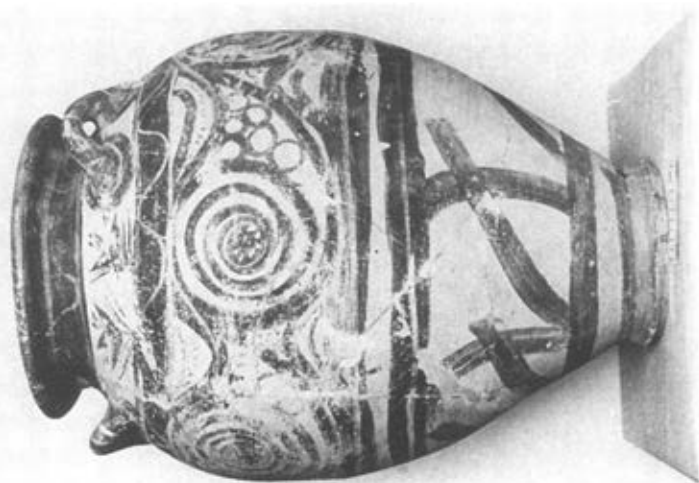
2. Tunnel. West House corner showing grooves left by wooden wall frame.



3. Tunnel. Innermost part showing wooden wall frame and window clearly on the wall.



1. Arvaniti 1. Magazine 2, 3. Jar.



2. Arvaniti 1. Magazine 2, 3. Jar.



1. Arvaniti 1. Magazine 2, 2.
Small globular jug.



2. Arvaniti 1. Skyphoid vase.



3-4. Arvaniti 1. Magazine 3. Small jars found on floor.



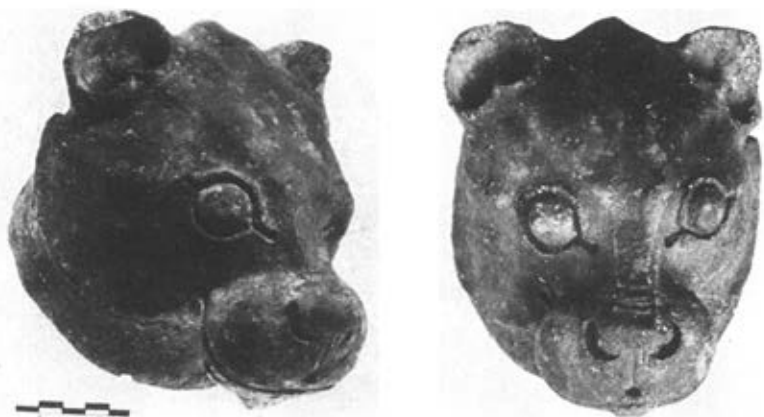
1. Arvaniti 1. West room 2.
Barley ewer.



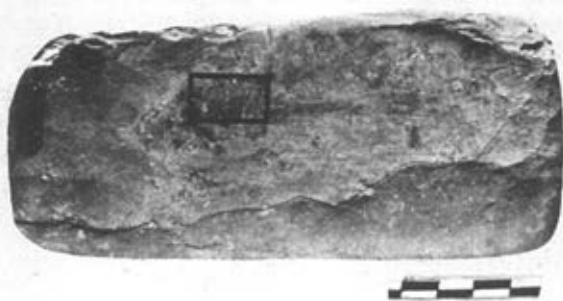
2. Arvaniti 2, 1 (window).
Nippled ewer.



3. Arvaniti 1. Eyed ewer and nippled ewer.



1. Arvaniti 1. Magazine 2, 3. Rhyton.



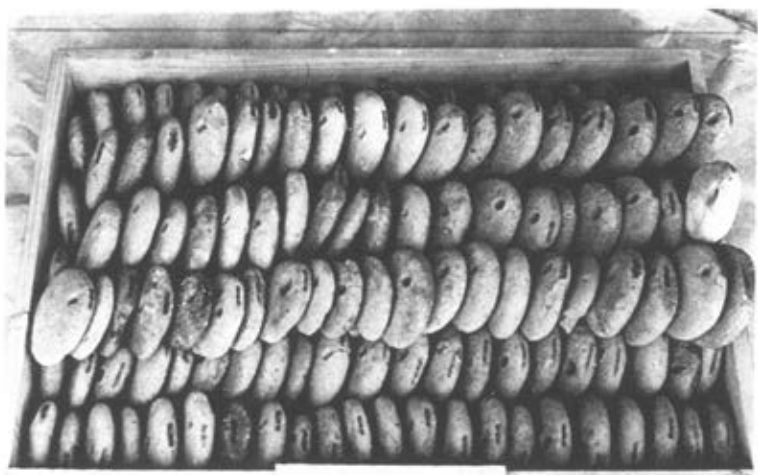
2. Arvaniti 1. A slate tablet.



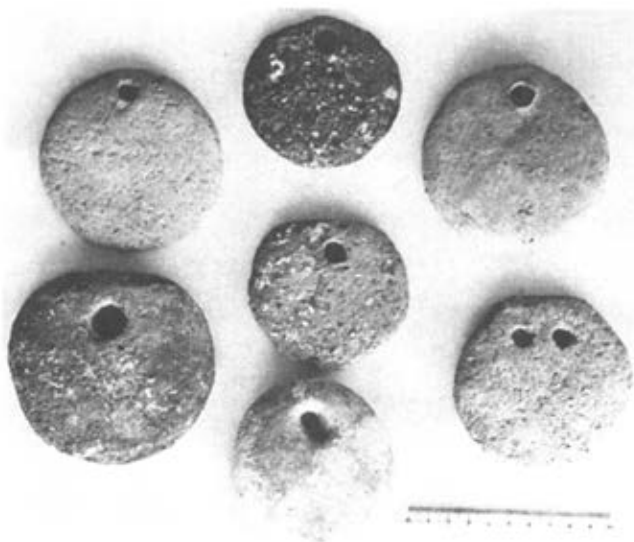
1. Arvaniti 1. Linear A signs.



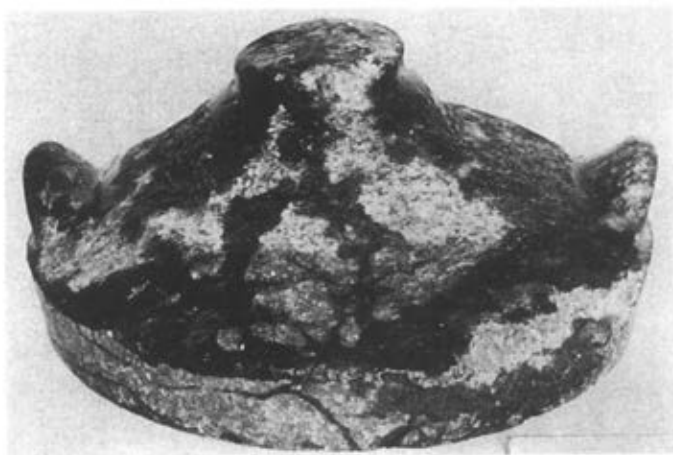
2. Bronou 2. Krateutes (support for spits).



1. Arvaniti 1. Loom - weights.



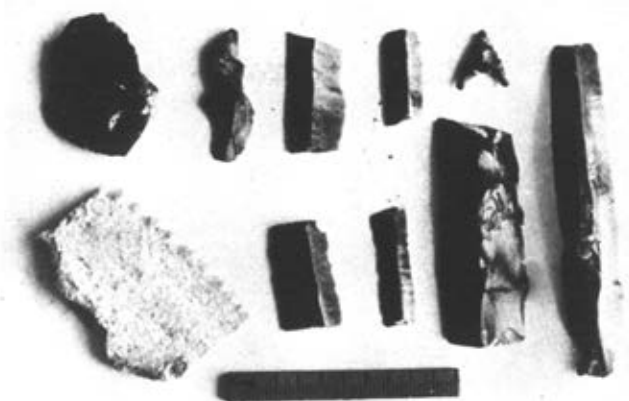
2. Arvaniti 1. Loom-weights.



1. Arvaniti 1, 3, 1. Steatite lamp.



2. Arvaniti 1. Lamp.



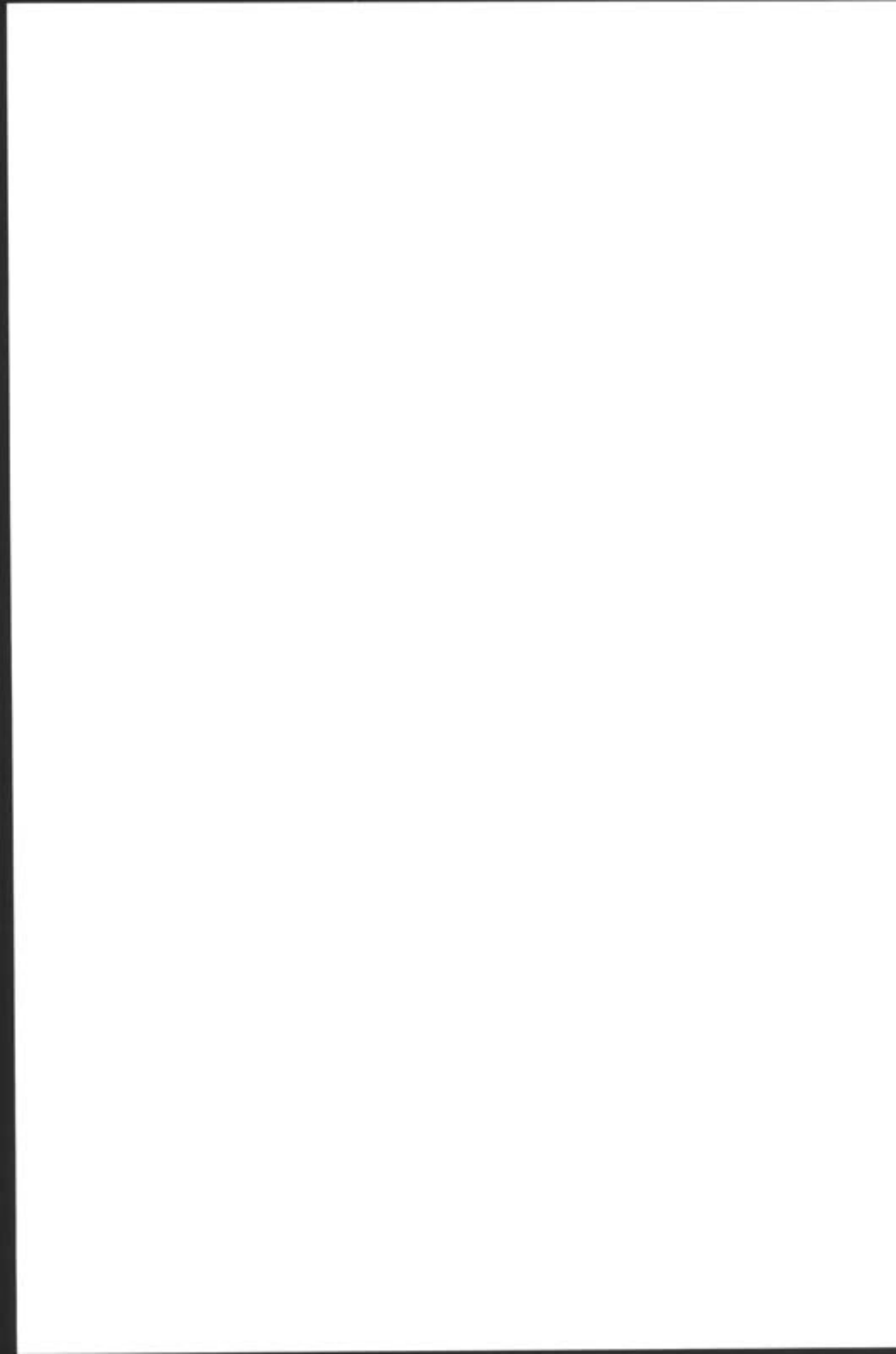
1. Obsidian and flint.



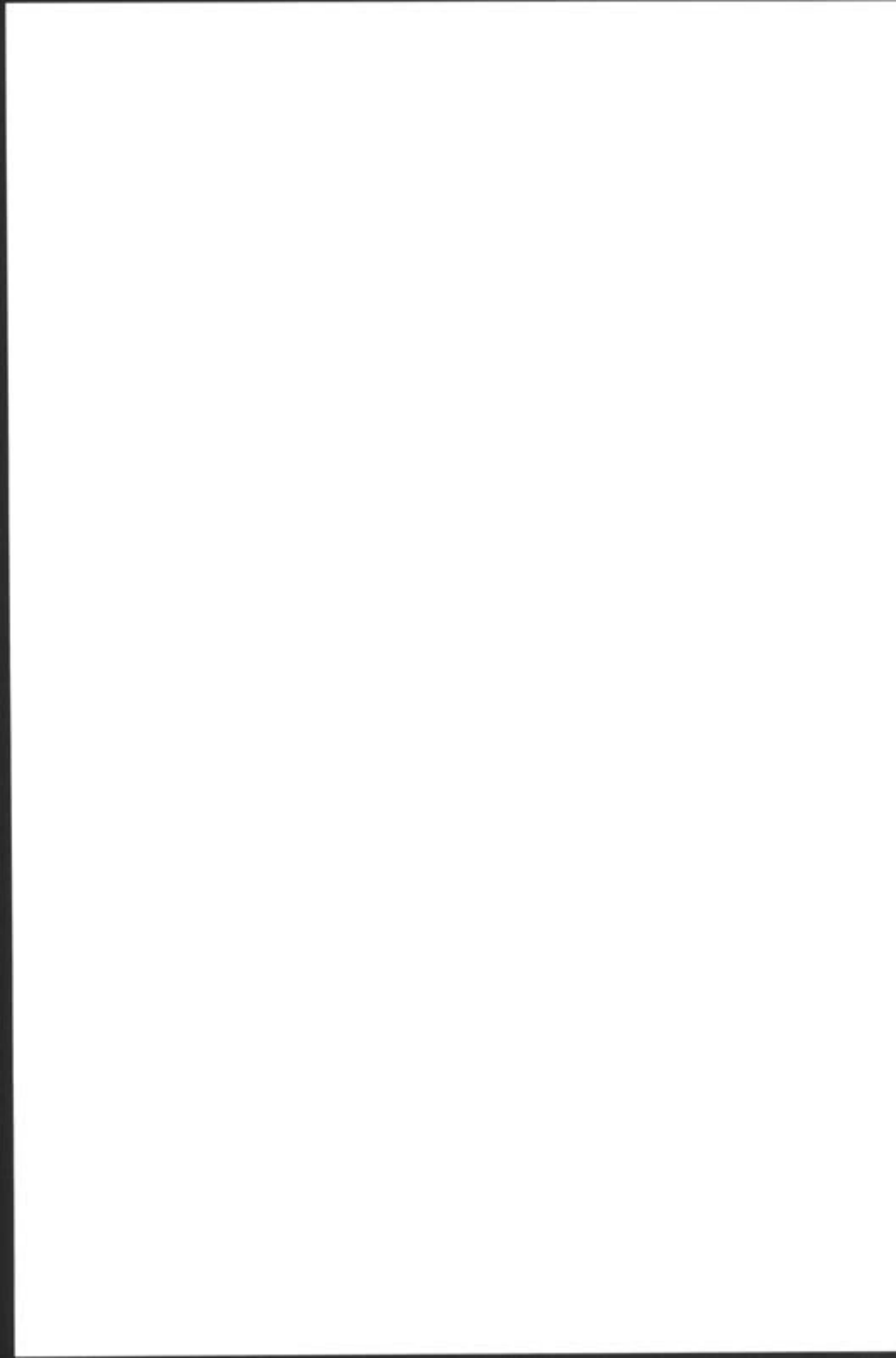
2. Arvaniti 1. Stone weights.

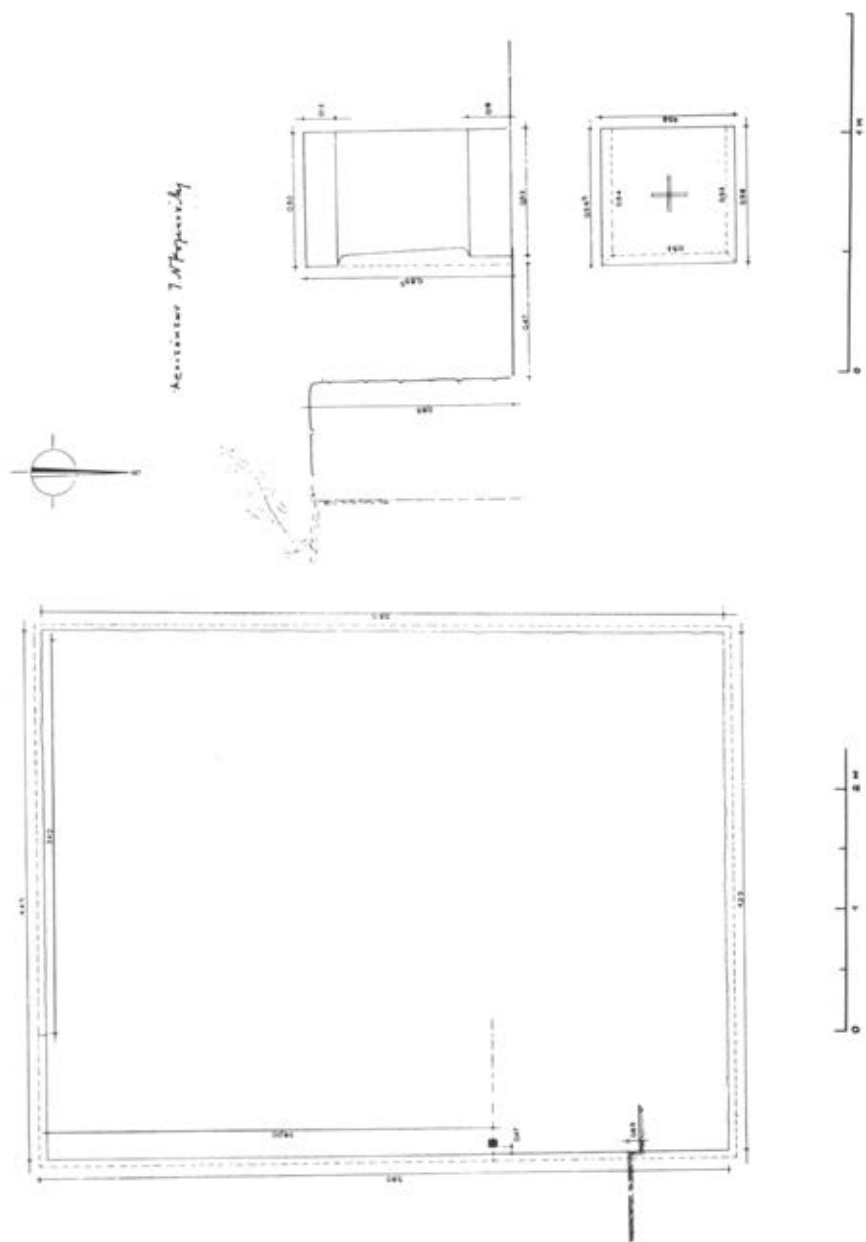


3. Arvaniti magazine 2, 2. Weight or pestle

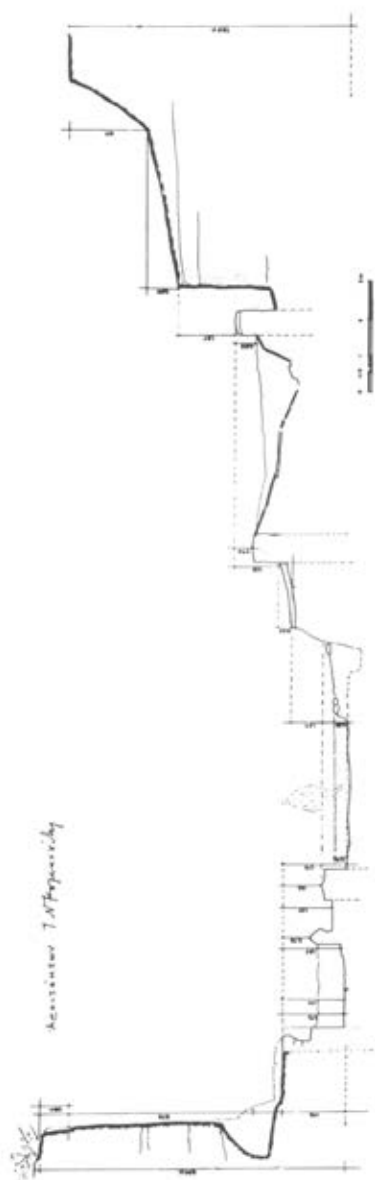


PLANS

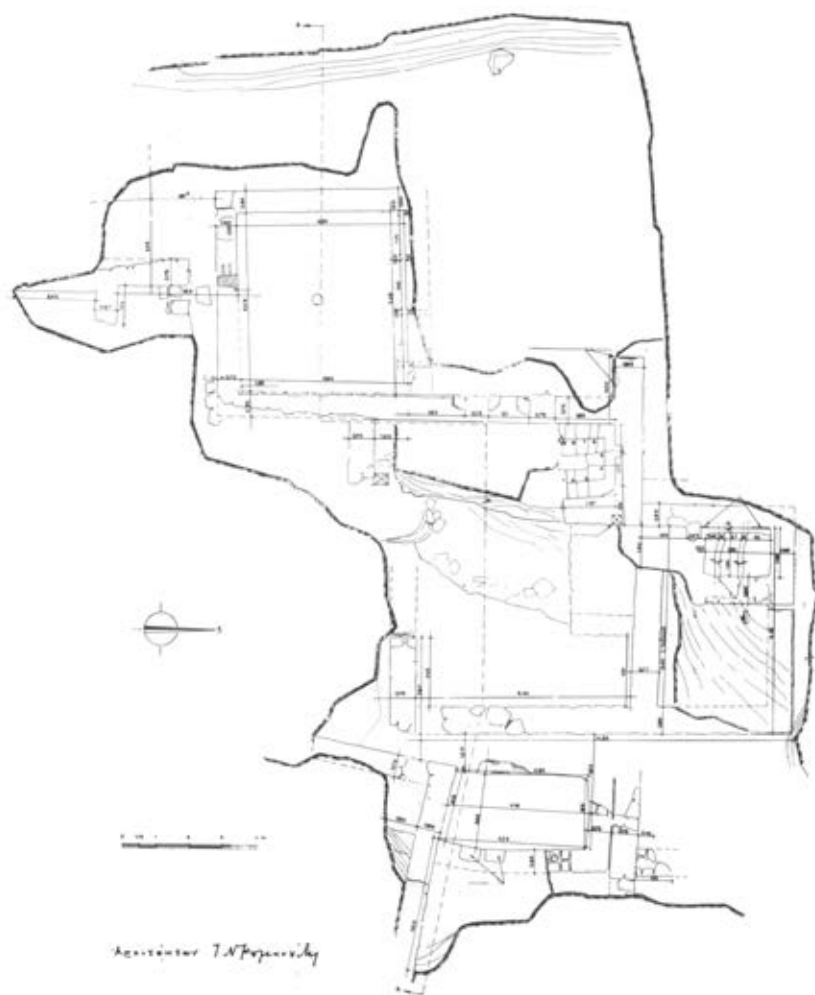




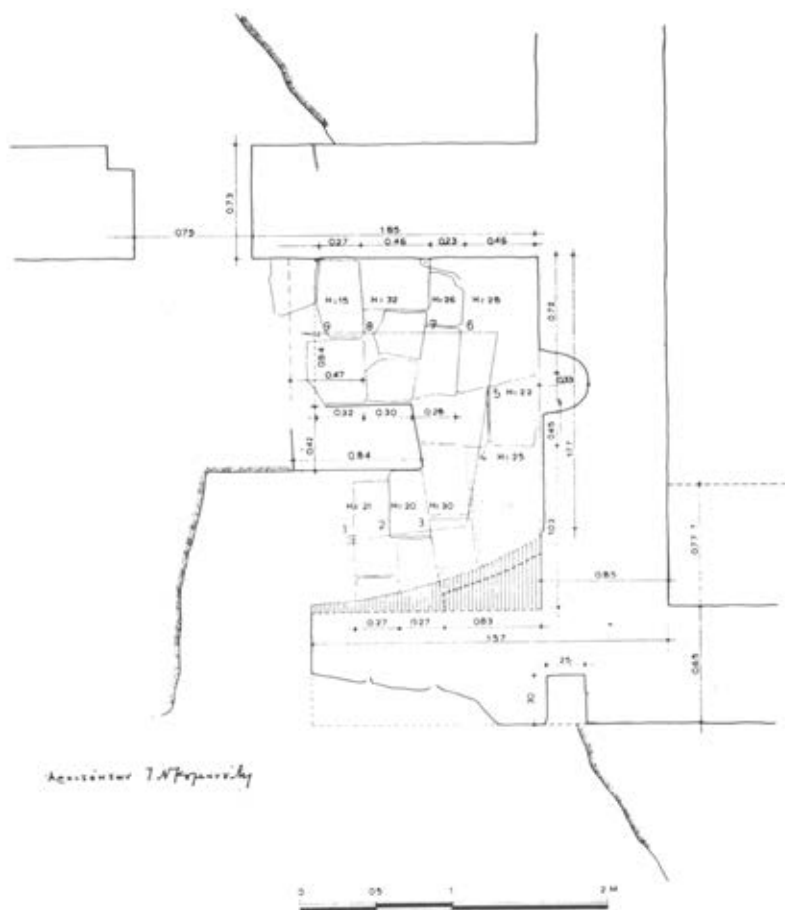
Plan of later building at Pergouli and design with profile of base.



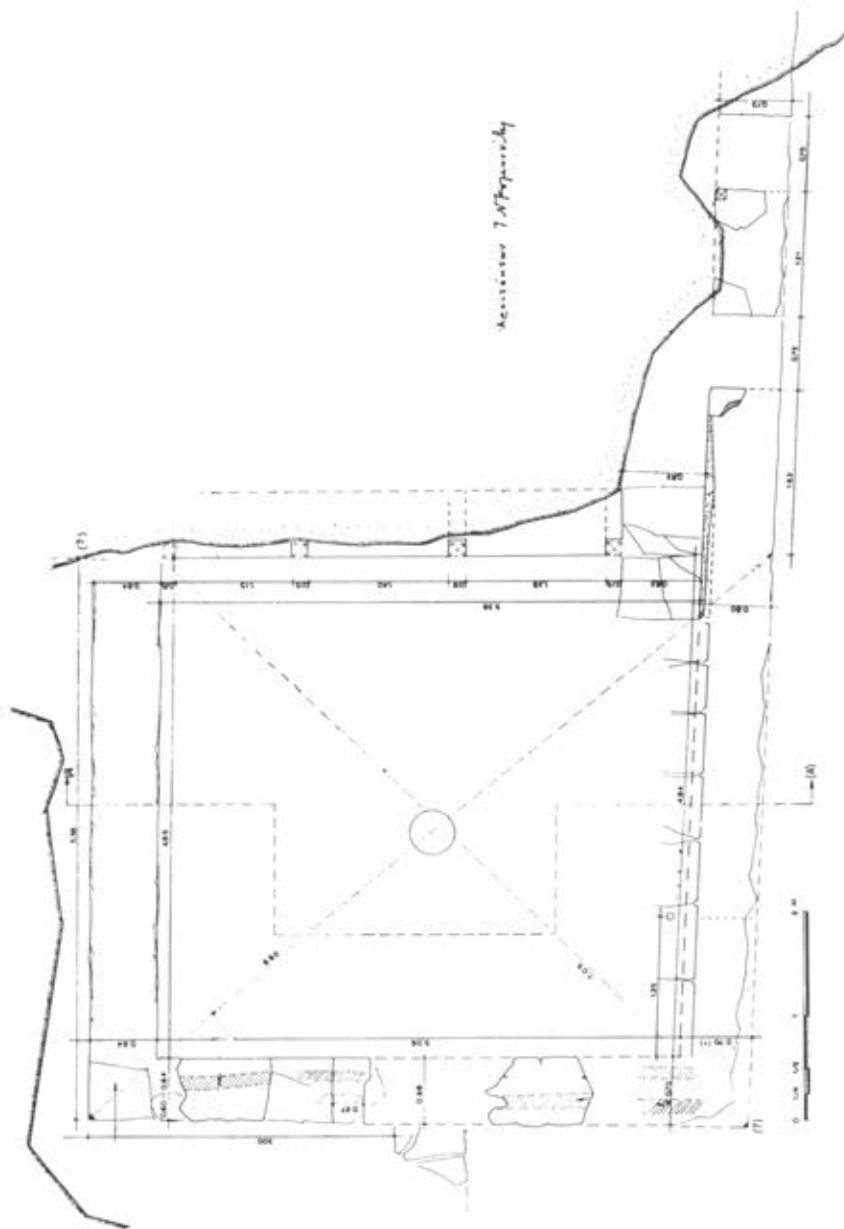
Section of Bronou 2 from East to West.



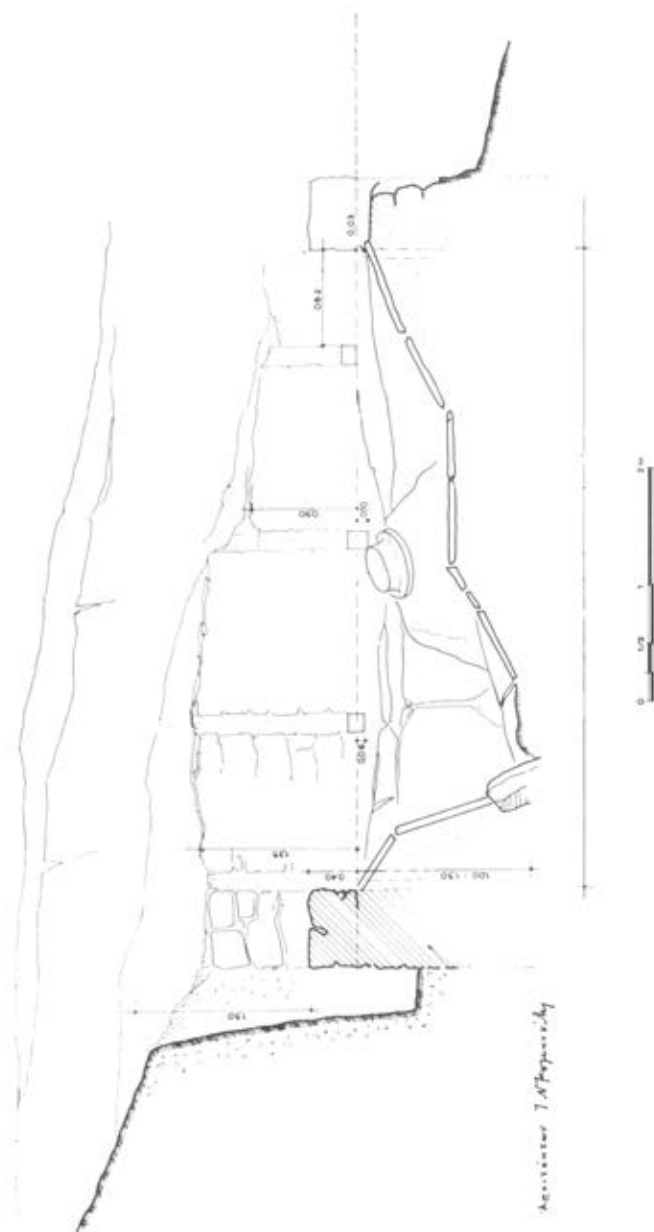
General plan of excavated area in Bronou 2.



Detailed plan of staircase in Bronou 2.



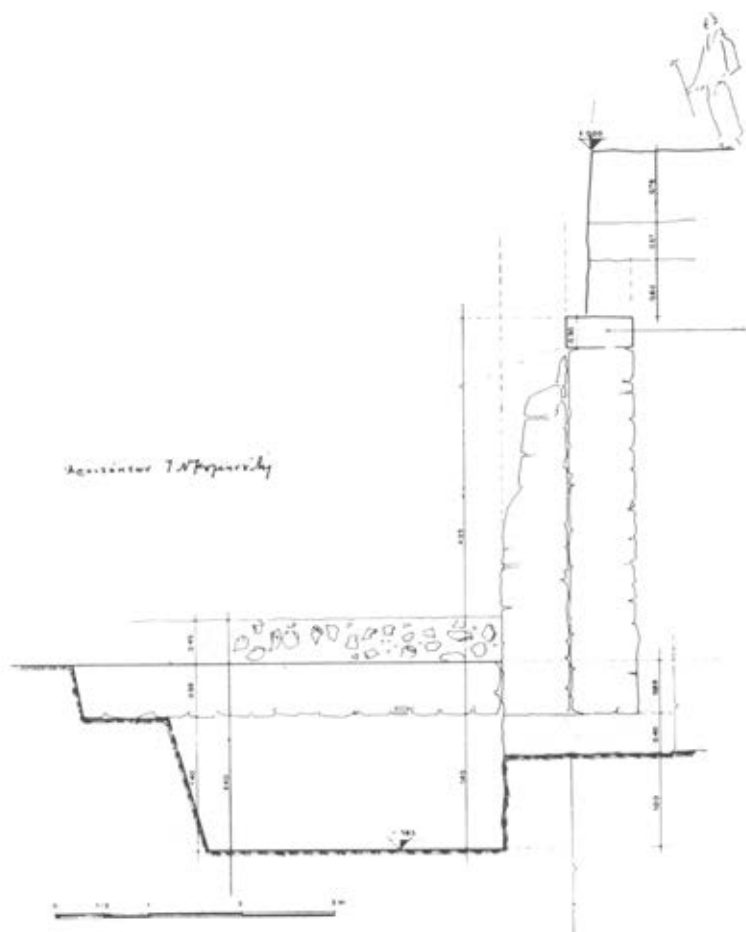
Detailed plan of upper room of Bronou 2 (cf. pl. 8).

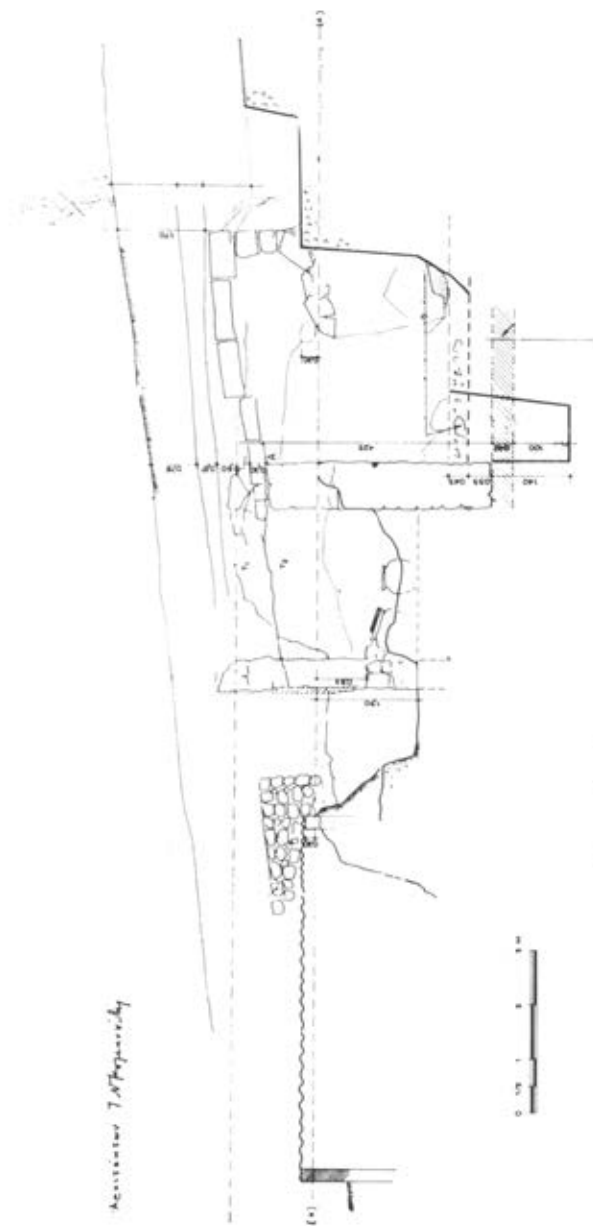


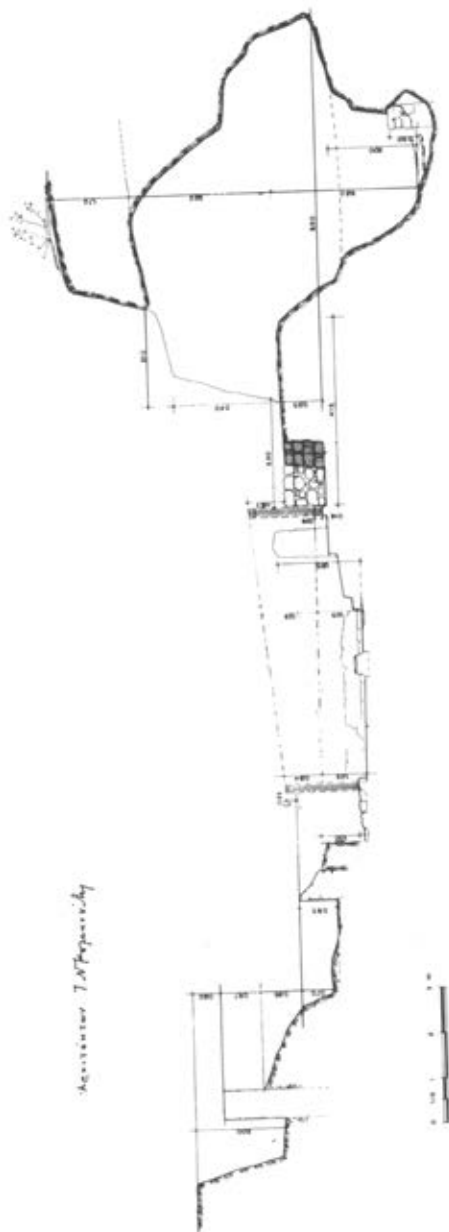
Section of slab - covered upper room of Bronou 2.



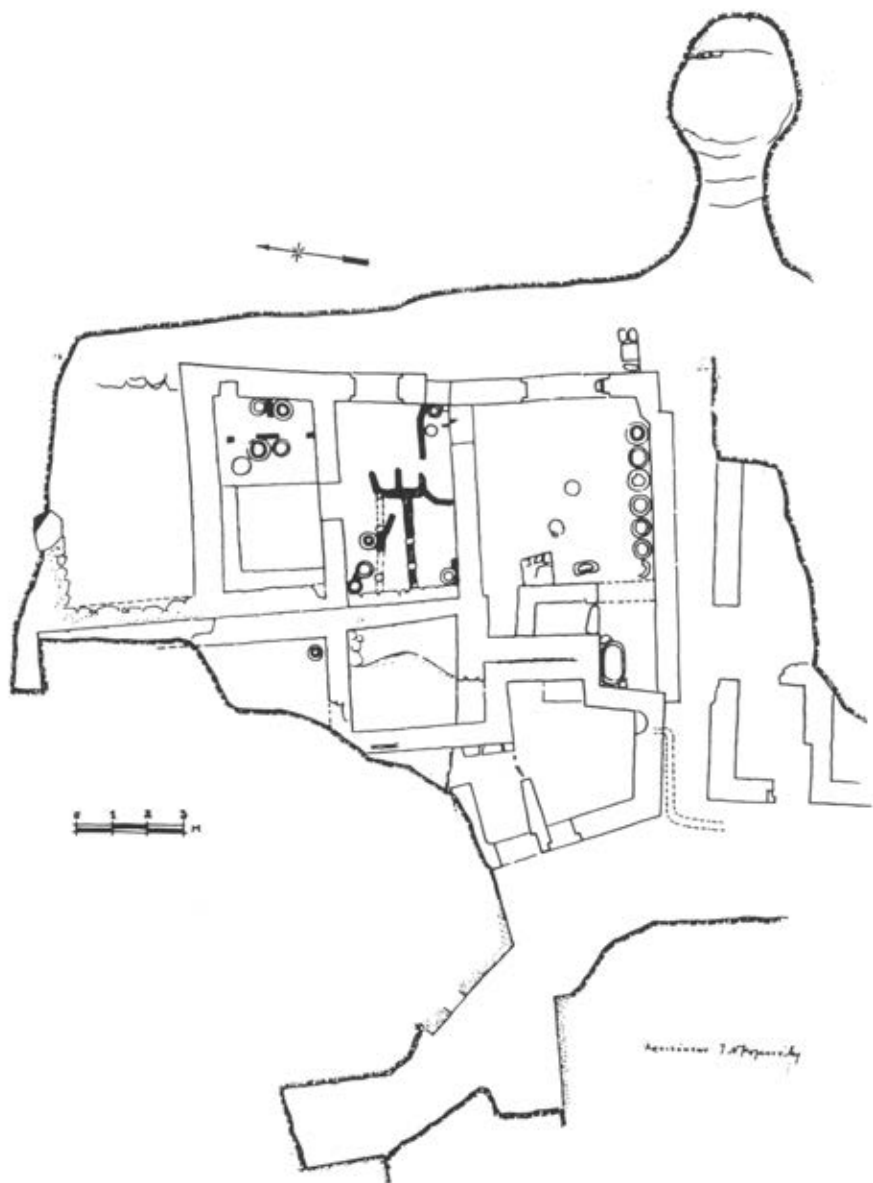
General section of Arv. 1 from East to West.



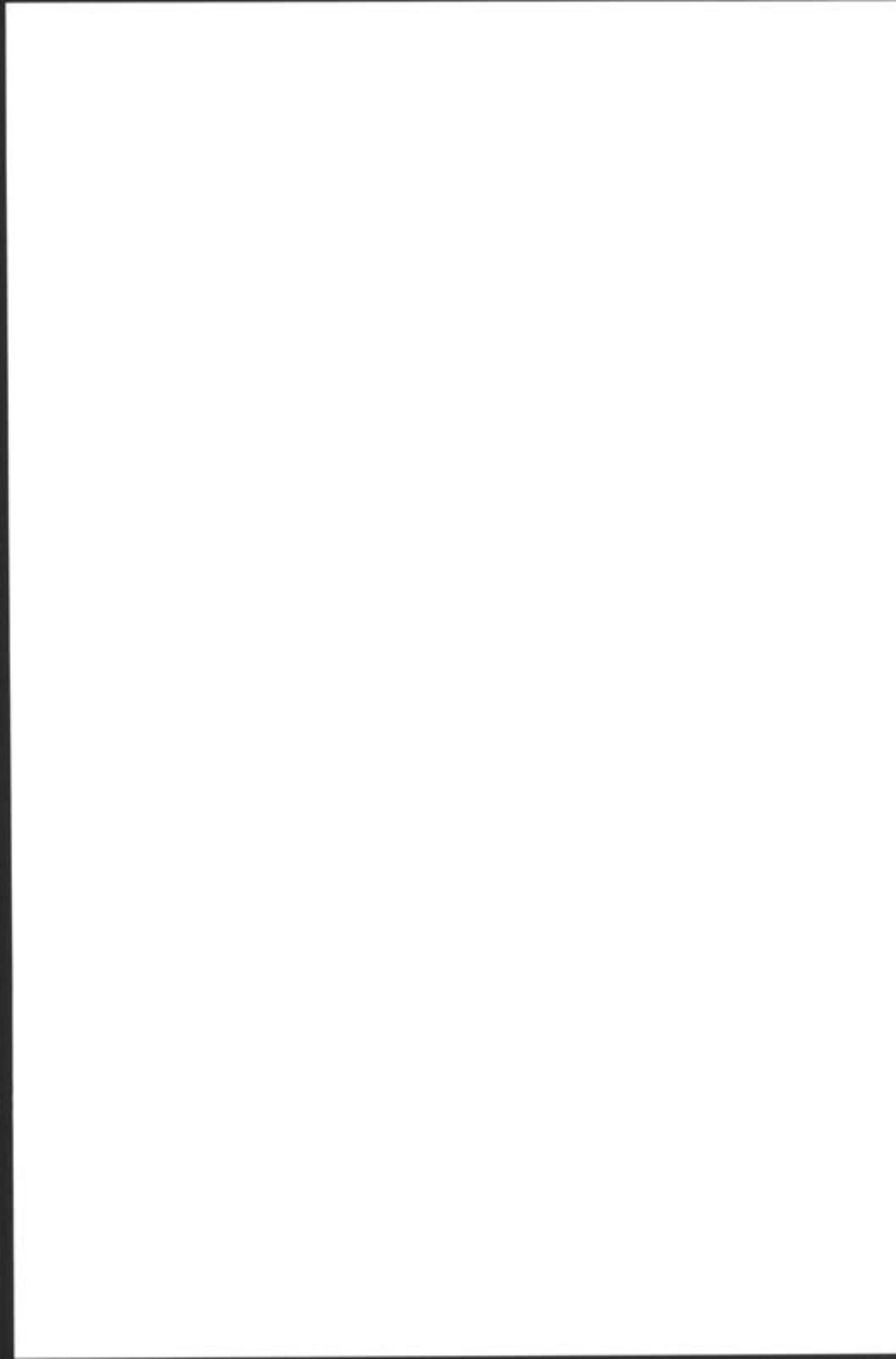




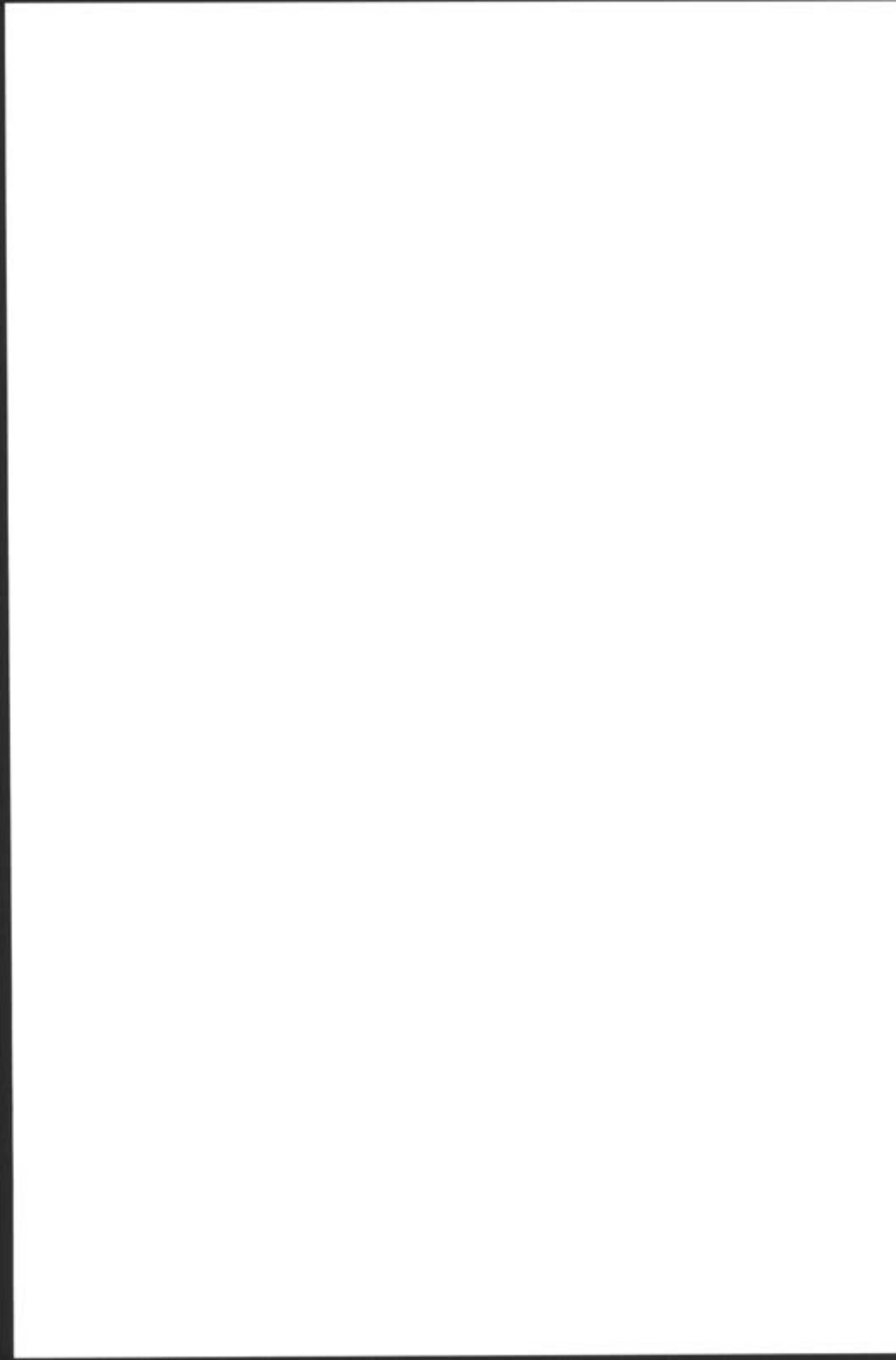
General section of Arv. 1 from West to East.



Provisional plan of excavated area of Arv. 1.



EXCAVATIONS AT THERA III
1969 SEASON



EXCAVATIONS AT THERA III

(1969 Season)

I. TECHNICAL WORKS. GENERAL PROBLEMS

Excavations started officially on June 20, but well in advance a team of technical experts worked on preliminary arrangements on the site. A group of the scientific staff under the Epimelete Dr. Chr. Doulmas listed in catalogues and transported to their places of origin the objects destined to remain on the spot throughout the excavated area. We have acquired a bulldozer of our own. Electricity and a telephone line were supplied for the safety of the excavation. We stored the rain water collected from our extended sheds in cisterns and concrete reservoirs. A most interesting fact, however, was the discovery of abundant subterranean water about 100 m. South of the excavation area. Our well was opened in a location, where three ravines meet: One from the site of the excavation, another from Akrotiri and a third from Kamaraki - Potamos. The water is slightly brackish, but still drinkable, and has been a precious factor for the whole development of the excavation. Hitherto water was procured partly from Poros (opposite Aegina) and it was expensive¹.

Bearing always in mind the fact that the excavation would be of long duration and that it should not be extended before ensuring the existence of laboratories and all kinds of equipment on the spot, we started this work with a definite programme. We built magazines for the large quantities of wood, building materials and implements required; we constructed garages and rooms for the guardians and technical personnel, and we erected a spacious laboratory for the menders. It is 5×25 m. in size, as the quantity of pottery coming to light is enormous (pl. 1.1, right upper side).

1. The scientific staff of the excavation consisted mainly of the assistant Dr. Chr. Doulmas, Miss A. Patrianakou, Miss Tz. Papadopoulou and Miss R. Tsifaki, philolo-

The greatest technical work was the construction of shed No 2 (Dexion system) which covered the whole area of quarters B and Γ (hith-

gists. Mr. A. Andreou spent some days with us and made some detailed plans and sections. There came a lot of volunteers, among whom Mrs. Chara Eugen. We express to them all our warm appreciation. Precious services were offered by Professors L. Moussoulos and D. Pipas of the National Polytechnical University. Head of the laboratory for treating the frescoes was Mr. A. Margaritof with Mrs. Margaritof and his assistant, Mr. S. Perrakis. Head of the laboratory for mending and preserving the pottery was Mr. Z. Kanakis with Mr. K. Nikakis. The School of Restoration of Athens sent its pupils, forty persons in all, who worked alternatively in both laboratories. Our architect for this year also was Dr. John Koumanoudis of the Polytechnical University. The topographer Mr. M. Giannoulakis and the photographer Mr. Sp. Tsardaroglou offered also services. We had two foremen. Mr. G. Vassiliadis took part again in the excavation and was especially responsible for the tunnelling. *Μικρός μὲν τὸ δέμας,*

ἀλλὰ μαχητής; agile, always good humoured and courageous, he transmitted his own mood to the rest of the workmen. Earnest and taciturn, experienced and energetic the other foreman, Mr. J. Karamitros, directed equally well the excavation and the



restoration of the ruins. The excavation is grateful to both of them. They acquired a justified reputation under the nicknames «Big Boss» and «Mini Boss». The insets show them and the equally precious veteran Mr. Kanakis among his pupils of the School of Restorators. Our most sincere thanks are expressed to the Psycha Foundation for the generous help accorded to the excavation and to the organization of the School of Restorators.

erto Bronou 2), i.e. roughly an area of 750 square meters (pl. 1-3). The most difficult work was the sinking of the wells, in which the pillars of the shed were embedded in concrete (see pl.2.2). Sometimes we had to deepen the holes down to approximately 6 m. (pl. 3.1) in order to reach the solid lava floor. The work was delicate because of the possibility of encountering antiquities, and we were obliged to relocate the wells in some instances, as we came across important parts of the hidden ruins. In any case the excavated area was wholly roofed. Plate 3.2, presenting the southernmost part of Sector I', shows the shed before the fitting of the side walls.

Owing to these works, excavation activities were again limited, as it had also happened before. In the North Sector A (hitherto Arvaniti 1) we have almost completed the excavation of the tripartite store-room (pl. 4 - 9); we have completely excavated only the little room called «Mill-House» (pl. 10 - 12); and, finally, we extended considerably the nearby tunnels (pl. 13 - 15). In the Southern sector we have excavated completely only the little «Room of the Monkeys» (B 6, pl. 30); throughout the rest of the area we excavated mainly only the places, where the wells of the pillars have been subsequently opened.

However, the results of the excavations in this sector are interesting: There is now ample evidence that after the seismic catastrophe, which was most serious, the inhabitants did not disappear completely. Some of them remained or came back again and inhabited the ruins, though not for long. They removed the debris in some places and opened without difficulty paths and entrances into the ruins. Where the roofs were still preserved or where they could form a shelter, inhabitants settled and worked for a short time. They blocked doors, windows, staircases and corridors or streets with barricades in order to be protected from ruins in imminent danger of collapse (fig. 27 and pl. 41-42). For the same reason they also erected provisional dividing walls in some parts (pl. 32.1 and fig. 26). Often they entered these rooms crawling through narrow windows (pl. 26.2 and fig. 27). We have therefore named them «Squatters», a name used by Sir A. Evans to designate the last inhabitants among the ruins of Knossos.

These facts are of paramount importance in the succession of the volcanic phenomena of the «Minoan» eruption, ca. 1520 to 1500 B. C. So far, the excavations do not justify the opinion (which was my own) that a long time elapsed (say 20 to 25 years) between the seismic catastrophe of 1520/1500 and the final phase of the eruption, which formed the caldera and provoked the tidal waves. The squatters do not seem to

have sojourned for a long time among the ruins. They did not leave traces of a date noticeably later than that of the seismic catastrophe. They did not repair any of the buildings. Their only activity, the effects of which are perceptible even at present, was the collection of the contents of the destroyed buildings and possibly their dead. Wherever they had succeeded to penetrate, our excavation came too late. Nothing came to light and even pottery was absent or scanty. On the other hand the pumice pervaded everywhere, even beneath fallen walls and roofs. The standing jars of Store Room A 1 - 3 have been found full of pumice. This means that gaps and fissures of the buildings were still open, when the volcano, possibly awakened by the quakes, began its first action and ejected the first pumice. In quarter A pumice is found everywhere down to the floors; in quarters B and Γ it is only partly found. In some parts the pumice stops to the height of the upper floors, while the basements are full of stones and decayed crude bricks. The fact that every open space, like the North and South Court or partly the Telchines Road (see below), was covered by pure pumice down to the floors, is instructive.

Thus, at least according to the hitherto attained results of the excavations, not much time elapsed between the quake and the awakening of the volcano. Possibly two to three years, possibly one year or some months only. If several winters had passed over the ruins, a crust would have been formed upon them, which would not have permitted the pumice to reach the floors and fill the jars. Further excavations, however, will throw more light on this question.

A further result of the 1969 excavations was the partial study of the prehistory of the settlement. In one place we did find traces of Middle Cycladic period. Where we had been able to reach the original surface of the pre-explosion island, traces of EC and even of Chalcolithic period came to light. We shall deal briefly with all these questions in the following chapters.

2. THE NORTH QUARTER

The general topographical plan (plan I) shows that the excavated buildings have the characteristic NS and EW orientation well known from Minoan Crete. The excavated buildings extend along the bed of the torrent from North to South, where, the actual shoreline lies at a distance of about 300 m. I believe, that the ancient shoreline was at least one mile further down to the South, so that the settlement was not

so near the sea as it is to-day. This conclusion of mine is based on the fact, that a part of the Southern shore of the island sank lightly either during the last phase of the eruption or later. Thus in the Southern shore of Akrotiri the pumice penetrates under the actual sea level, while at the same time the waters are rather shallow.

At the beginning of the excavation we gave to the different quarters the names of the field-owners. We are at present designating every quarter with letters of the Greek alphabet. The Northernmost quarter (hitherto Arvaniti 1) is now Sector A. The Southern part is named Sector (or Quarter) B in its Eastern section (hitherto Bronou 1 and 2) and Sector Γ in its Western section; the two sections are separated by the Telchines Road. The rooms, corridors etc. will be characterized by the Arabic numerals.

In Sector A the well known tripartite store-room (plan II) was excavated definitively and comfortably, because it was sheltered under its shed and neither rains nor winds were feared anymore. The main results are the following:

The floor of the first compartment (A 1) with the upright standing jars has been cleaned throughout. As reported in previous reports¹, three jars had been found fallen, horizontally lying on the floor and broken to little pieces. They contained a brown-black organic material, the nature of which remained at the time a matter of hypotheses. Now the same material was found to have a grey colour. With a strong magnifying-glass traces of straw and awns become visible. The jars therefore contained barley flour. Indeed, the mill-room lies right next (see below).

The great window of this room, which opens on its Eastern wall, is unique so far. On its North window jamb the trace of the wooden lintel was well preserved; we have supplied a new lintel of concrete in the place of the wooden one. The window is more broad than high, its width being 2.20 m., while the height is only 1.15 m. The wall at this point is 0,70 m. thick. The median stone-rib of the sill is 0,40 m. thick and the two wooden beams to the inner and outer part of the rib are 0,15 m. thick each.

The photo of pl. 4,1 presents the window from within, that is from the West. Under the sill one can see loom-weights (this compartment contained many dozens of them)² and fragments of pottery. The

1. Thera I (1967 Season), p. 28 f., figures 37, 40 and 41.

2. Thera II, pl. 39, 1-2.

left half of the window is still full of volcanic ashes. To the left, one sees the window-jamb, there was once wood, of course, where its print is now. Further to the right one can see the print of another round post. It is fairly sure, that on the right half of the window there existed another similar wooden support of the lintel. Unfortunately, the first trench of the excavation was opened at this point and the print of the wood was apparently destroyed¹. Plate 4,2 shows the window after its complete excavation. Its tripartite division through the two upright supports of the lintel provides at the same time the explanation of its form. On both window jambs we see the usual construction of a kernel of little stones and clay between two wooden beams, which stood upright as corners of the jamb. The thickness of the (square) beams was about 0,15 m., just as it was on the sill of the window.

The median stone rib of this sill was covered by thin slabs. On the right (Southern) window jamb there exists a thicker semi-circular slab, surely the basis of a half-column, which constituted the frame of the window (pl. 5,1). On the other jamb we have found no such stone basis (pl. 5,2). In its place there is a shallow hole, where the wooden frame of the window was apparently fitted. We note that the same traces of wood construction, though always with slight variations, appear on every door or window. Here we have an abundant material for architects. Often, but not always, the wood employed presents a square section. In some instances we have to do with a tree-trunk sawn along its length, so that the section is semi-circular. The convex part is put on the inner side of the jamb or the sill. Beams of uniform thickness are rarely found. In some instances the extremity of the beam was left bifurcated, just as it was on the trunk or branch of the tree. Usually the trees were short and the stems not very straight. The scarcity of wood is evident. According to the prints of the barks, olive-wood was employed in most cases (possibly oleaster).

On the sill of the window already described were found in situ a little handleless cup placed upside-down and a little whetstone of sandstone (pl. 5,2). As in 1968 a small stone tablet of schist with graffiti was found in the same area², it is probable that the whetstone was used to smoothen the surface of the tablet for re-use.

1. See the photo Thera I (1967), p. 20 fig. 21 and p. 19 fig. 20.

2. Thera II, pl. 37,2 and p. 47.

Near this window and just by the door leading to store-room 2 a group of vases was found (pl. 6,1); some of them had still their lids (consisting of a circular stone slab), although these had fallen on the floor. One of the vases showed painted dolphins. One may see on the photograph the decoration of white reeds on a standing jar.

Store room 2 is well known for the exquisite vases it has yielded. We have given the explanation that the adjoining «Western Room 2», from which some of the vases had fallen, was of religious nature¹. Plate 6,2 shows the central part of the room, where the «divanotris» and a scale have been recognized². Beyond it to the West the excavation revealed a little jar still standing in situ (pl. 7,1). In the same area a stone vase (pl. 57,3) and fragments of another were found; further finds were a bronze drill with its wooden handle (0,13 m. long), a jug, a cymbe lying upside-down (pl. 7,2) and a strainer, both painted with white lilies (see pl. 48,2 and colour plate A 1,3). A little askos was found along with them (below fig. 37). Plate 8,1 shows the sill of the Eastern window of this room. On this sill beautiful vases were found during the excavations of the previous year³. One may clearly see the print (square in section) of the wooden beam, which formed the inner part of the sill. In the middle appears the print of a transverse piece of wood, which joined the inner to the outer wooden beam of the sill. A cutting in the stones is visible to the left on the central stone rib of the sill. The wooden left part of the window frame was embedded there. A similar cutting existed on the upper side of the window (well discernible in the window of pl. 4,2). Between these two horizontal frames were fixed the perpendicular ones to the right and left. They were therefore slightly shorter in length. We shall see below the same system in the windows of the Telchines Road.

The adjoining «Western Room» yielded more evidence of its religious nature. We succeeded to consolidate in its place the part of the floor of beaten earth, which was preserved in situ. It is 15 - 20 cm. thick and on it was found a table of offerings in its original place⁴. Consequently, it has become possible to excavate a part of the underlying basement. As anticipated, the floor was covered by a series of interesting

1. Thera II, p. 19 f. and 31.

2. Thera II, p. 21 - 2, fig. 12.

3. Thera II, p. 22 f. and pl. 19 - 20.

4. Thera II, pl. 31, 1.

vases, to be removed later. In the filling, however, at a depth of 0,65 m. from the above-mentioned floor, an interesting object of religious significance was found. It is a rhyton in the form of a bull. About 0,30 m. above it, the layer of plaster belonging to the walls was well distinguishable (fig. 1). The rhyton (pl. 8,2, 54,1-2 and colour plate A,2) measures



Fig. 1. Western Room 2. A clay bull-rhyton and over it the plaster of the fallen wall.

0,25m. in length and is practically entirely preserved. It was painted, but the sulphur of the pumice has affected the colours (see below).

The last section of the store room (A3) had the floor on its Western side about one metre lower than the rest. This sinking was literally full of pottery, especially jars and middle size vases; but minor and sometimes exquisite pottery was also present. The lower part of a jar containing barley-flour was found there last year¹. On pl. 9,1 appear the two big upright jars, already known from last year, and near them the numerous fragments of further jars within the sunken part of the floor. Fifteen large and middle size jars, including the flour-jar, have been enumerated in all. However, it is

impossible to accommodate even half of them within this narrow space. (For an example of a jar from this area see below, pl. 49,1). One would suppose that the vases were put partly broken there and, in some instances, it is certain that they were placed the one inside the other. Plate 9,2 shows some of the vases of this group after mending, before being transported to their original places. Other finds were only

1. Thera II, p. 52 - 3.

a bronze little knife with four rivets, two discs of a little scale (diam. 0,06 m.) and a bone tube 0,08 m. long.

3. THE MILL - HOUSE

Sector A, which constitutes so far the Northernmost quarter of our excavations, contains a series of rooms to the West of the described Store Room. These were at least two-storied. They seem to correspond to the three compartments of the Store Room and we have called them provisionally «The Western Rooms». The first of these rooms from the South, corresponding to the Store Room A 1, contains a mill-stone in situ and has been called «The Mill-House». It has a window (visible at the beginning of the tunnel, see below). It has its façade on the street and just to the North of it there is a door opening towards the same street. The door is in perfect state of preservation and serves a little anteroom to the Mill-House, which has a bench opposite the door. Its floor is covered with schist slabs. (Thera II, pl. 32 and see plans II and III here.)

The Mill is the only completely excavated room of this sector, because a well for the Southern pillar of the shed had to be sunk there; as the room is very small, we excavated it completely in order to avoid any damage. It is irregular in plan, the dimensions of the two sides being 3,50 m. each. The well was opened in the North-Eastern corner. In 2 m. depth we reached the natural lava surface of the pre-explosion island. It is dark in colour and rather soft. On the rock we found two cavities of semi-spherical form. The greater one measures 0,65 m. in diameter. A third cavity (just on the margin of the well) seemed irregular in shape and had traces of a slab covering. It is distinguishable, together with the one of the mortar-shaped cavities, in pl. 10.1. The filling of the well above the rock was sand and blackish earth, therefore of the pre-explosion period. The cuttings in the rock may be Early Cycladic.

The Mill-Room (plan III) contained the following objects: Near the Eastern wall, by the modern pillar, there is a mill-stone of trachyte, fastened on a stone basis, which shows a hollow space underneath (pl. 10.2). Before it, to the right, there is a slab, apparently intended to receive the flour. In the filling of the room and its neighbourhood many other minor and little trachyte mills have been found. We have put one of them on the solid mill-stone, as seen in the photograph. It was not found in situ. Several such small or larger circular mill-stones with one surface plane and the other convex have been found throughout

the excavation. They are similar in shape to a patella (or knee cup), which in ancient Greek medical terminology is called *μούλη*, that is hand mill. This means that mill-stones similar to ours were still employed in classical Greece¹.

Beyond the mill-stone, to the South, the wall shows a dentation. On the inner side there is a semi-circular cavity covered by little stones and next to it a little space similarly covered by slabstones (plan III). It reaches the corner of the joining East and South walls of the room. The latter shows near it an intact large clay bathtub in a good state of preservation (plan III and pl. 11,1). The inner surface is covered by painted white reeds. It was full of pumice and no organic rests were observed at its bottom. The entire Western floor of the Mill-House is covered by slab-like stones not very orderly placed. A few plain vases were found on this floor. The largest of them is shown in pl. 11,2.

The most curious find was discovered at the North-Western corner of the floor, just under the window. There, the colour of the white volcanic powder was brown along a regular, almost elliptical line. I thought at once of a piece of basketry. I covered this point again. Several months later, when we had acquired electric power (the place, lying at the entrance to the tunnel, is dark) I trusted to Karamitros the cleaning of the object. Indeed, there was a basket or *σπυρίς*, probably of *lygos* (withe). Its section is elliptic, just as the *κόφιννοι* (baskets) still made in Crete. The wood had been transformed into a thin, soft dust, disintegrating even by a light blast. We owe its extraction to our artistic collaborator Mr. T. Margaritof, who hardened the dust into solid matter with appropriate solutions (see pl. 12,1).

1. According to some ancient sources *μούλη* was called the lower mill-stone; but it is fairly sure that the word was used indiscriminately. The upper mill-stone was called sometimes *δνος* (donkey). This name is equally explained by some rather voluminous mill-stones, the top of which is double-sloped as a roof. This reminds indeed of the back of a meagre donkey. It explains at the same time the sarcastic verse of *ΑΡΧΙΛΟΧΟΣ* for the mountainous Thasos (*ἤδε δ' ὡστ' ὄνου θάχης...* etc., fragment 17 - 18, Bergk - Hiller). It seems, that the heavier *δνοι* were first used for bruising barley or hard beans, then the finer grinding was continued with the lighter *μούλη*. The stone is always the same, hard and porous; we don't know whether it comes from Melos or from elsewhere. A special examination of the material, which is abundant, seems very promising. This *μυλίας λίθος* (in STRABO's expression) came possibly from Nisyros, at least for the *ἀστυγείτονας* (neighbours), according to STRABO (X 488). He knows, moreover, that *μυλίας λίθος* is made of the cooling lava of Aitna in Sicily (VI 269). The lava of Thera, however, is very crystalline and the local origin of the mill-stones is excluded.

The basket was found bottomless. Fallen stones had destroyed the bottom and their extraction gave us much trouble. Beneath the basket appeared little clay implements and grinding pebbles (pl. 12,2). Among them we found traces of the basket bottom. Along with them we have collected some spines of sea-urchins. Probably the basket contained sea-urchins, that sea-delicacy, which was apparently as appreciated then as it is to-day. We have collected similar spines of sea-urchins in several parts of the excavation.

After the complete excavation of the Mill-compartment I came upon the idea that it was entirely of religious destination. As already noted, the door at the side of this room gives access to a small, but luxurious anteroom with a fine slab-floor and a stone bench opposite the door, not unlike the benches of Minoan shrines. The whole installation of the Mill-room presents a close analogy to one of the rooms of the MM domestic sanctuary in the Western court of the palace of Phaistos. There exists again a device of a mill for the preparation of flour or *οὐλοχύται*, necessary to every sacrifice. In both places there is another room with a bench next to the mill. The high priest and, in the case of palaces, surely the king, personally prepared the holy flour for the religious ceremonies. Possibly this is the deeper meaning of a popular song preserved by ancient writers, which at first sight may be interpreted as a proof of a tyrant's assiduity:

Ἄλει, μύλα, ἄλει
καὶ γὰρ Πιττακὸς ἄλει
μεγάλας Μιτυλάνας βασιλεύων.

4. THE TUNNEL

The Society for Electric Power (ΔΕΗ) has helped considerably our work on Thera. In a short time electricity reached our excavations; the same Society supplied us with special beams of support and a specialized workman, who supervised the tunnelling.

Archaeologically speaking the following difficulties arose: First, the general scantness of room, which influences free archaeological observations. Second and more serious, an insufficient freedom of movement, which amply exists when excavating according to the classical methods from above. For instance, one can free the exterior walls of a building by tunnelling, but one cannot enter it unless the door is found; and, in the basements, there are often no doors. In case of many inner rooms, their excavation only from the door becomes difficult and

expensive. Moreover, we have found hitherto no solution in case there is an upper floor, the choice being to excavate either this or the basement alone. Finally, a new difficulty arose, that of dilapidated and therefore menacing buildings. In our present effort we have already encountered a building in so ruined a condition, that it will fall on our heads if we continue its excavation.

Meanwhile we have revealed walls of at least three different buildings by tunnelling. At the same time we have ascertained the existence of post-seismic provisional walls, erected by the «squatters» (see below). Up to this moment we found no door, but only windows in the basements. The only door is that of the Mill-House already mentioned, which lies by the entrance of the tunnel. A general picture of the tunnels opened is given by pl. 13,1. Of course, if tunnelling will be applied systematically, the supporting will be of permanent character with special supporting devices.

At a certain point of our tunnels the superposed layer of volcanic powder sank and a hole was formed. We knew about this danger, as the cart-road we had opened on the surface, had made the layer at this point very thin. The only result was a shower of very thin ashes upon the head of the «Mini Boss»; he accepted the event with his cheerful stoicism. We interrupted the tunnelling, however, and began an excavation from above. The workmen gave this building the name of «The Sunk House». As the excavation showed, we had to do with the upper storey of a house, the South-East corner of which was uncovered. The South wall shows a great opening, presumably a window; it is 1,50 m. broad and is preserved almost to the same height. The traces of the wooden parts of the sill and the jambs are preserved as usually. On the opening of the window two sundried bricks, or rather slabs, stood still erect (0,62×0,46 m. apparently two to one and a half feet each, pl. 13,2). On the same sill a cymbe was found upside down (pl. 13,2 and 55,2). On it there were fragments of a clay goblet and the dust beneath it contained a bone of a little kid or analogous animal. Unfortunately the wall shows such a deviation from the perpendicular that it will certainly collapse if we continue the excavation. We have therefore covered the house with a provisional roof and discontinued the excavation as well as the tunnelling.

A little to the South we opened a new tunnel (plan II and pl. 14,1). We met a floor paved with irregular stones, which exists everywhere within the tunnels. As this pavement (surely a road) is steep, we gave it the name of «The Steep Lane». On the floor lies a small bathtub

(which could be equally well a cradle, pl. 14,2) and many vases, as a rule broken or damaged. Plate 15,1 shows some of the vases that had apparently fallen from above.

To the left (Southern) side of the lane, still stands erect the wall of a house, from which projects the «water spout» of pl. 15,2. The latter is an oblong, amphora-like vase, the bottom of which has been broken off. Probably it had actually served as a water spout; this will be seen only if we succeed to excavate the interior of the house, which is again very ruinous.

5. THE "BRIDGE,,

There is an unexcavated area between quarters A (North) and B - Γ (South), running along the bed of the torrent. It seems that the most important buildings of the whole area remain still hidden there. It is in this place that we opened the first trench of our excavation in 1967 (Bronou 1, 1a and 2). Beyond the bed of the torrent to the East there lies another equally important building in ashlar masonry (Arvaniti 2); a similar wall in ashlar masonry and with dentated facade extends from South to North alongside the torrent (see plan I). We have called this area, destined to unite the North to the South quarters, the «Bridge». A preliminary investigation has shown the following results:

The first building (Arvaniti 1a) ¹, hitherto believed to be a basement, seems to be, at least partly, an upper floor, some parts of its walls reaching almost the surface of the soil. A wall, described last year as probably later in date, is «Minoan» ². In its exterior filling of pumice one sees holes, cylindrical in shape and 4 - 5 cm. in diameter. They are three in number, running parallel to each other. They are visible in pl. 16,1 in the centre of the photograph. Such holes also appeared in other parts of the excavation (Γ4b, see below). They are prints of long sticks or reeds, but we know no more about them for the moment. Plate 16,2 shows the great doorway of the building. The pivot of the door turned inside a cavity of the doorway, still filled with lead. We found two more stones which received the turning pivot of great doors. The doorway gives access to a small vestibule the floor of which is covered with large slabs (plate 17,1). On it (to the right) the «Ewer of the Grapes» is visible (see below pl. 56,1).

1. Thera I, p. 35 f., figures 50 - 54 and colour plate B5.

2. Thera II, p. 9 and fig. 1.

Beyond this façade of ashlar masonry, towards the South, extends a labyrinth of interior rooms or corridors or staircases. The catastrophe here is great, almost all the walls are no longer perpendicular and there is deformation of the doors. Even before the excavations it was evident to us that the Southern part of Thera in the district of Akrotiri had suffered a sinking during the last phase of the huge eruption or even later. A part of the land is now submerged and the pumice layer is partly under the sea-level on the shore. The excavation now shows clearly, how the buildings had suffered a sinking in their Southern parts, while another deviation runs West-East (see pl. 17,2 and 18,1). Excavation in this area, therefore, will be laborious and expensive. The dentated façade mentioned above, running from North to South, lies just on the left (Eastern) bank of the torrent¹. We have stated this year, that this must have been an upper storey. The underlying basement showed two square windows opening to the East. The excavation of such windows is very instructive in the course of work, because the traces, consisting of fine silt or sand, quickly disintegrate, under the influence of the wind.

The better preserved of these windows (pl. 18,2) is $0,45 \times 0,45$ m. in size (it is important that the dimensions were clearly derivatives of a foot about 0,30 m. long, as Prof. J.W. Graham had already concluded in several papers). The lintel and the sill (of wood, of course) had twice the above dimensions in length, so that they were well set on the walls. The thickness of the beams did not exceed 15 or 16 cm. The wood of the sill was an unsmoothed and bent trunk or branch of a tree and its right extremity was bifurcated. All these left their prints clearly. Of the wood itself, we have not yet found even the least trace. It has literally evaporated.

Every window (see below) shows oblong perpendicular hollow spaces to the right and left. This means that at the moment of being buried under the pumice the two wooden side-frames of the window were in place. Later they disappeared and thus the hollow space was formed. But in the middle, where the opening of the window bore from two to four horizontal wooden rods like a lattice or balustrade, the ashes and silts penetrated everywhere. Thus we have to-day a kind of mould of the windows with the prints of the horizontal rods. Plate 19,1 shows this window, which bore three horizontal rods of thin tree-branches sawn in two. The convex part of the stem was placed towards the interior,

1. Thera I, p. 52, fig. 79 - 80.

so that the façade of the window showed the plane side of it. As one can see on the photograph, the middle stem was thicker than the other two. It is clear, that light and air entered the rooms through the slits, as in the case of Egyptian windows. A little further to the North of the same wall there is an exactly similar window, but not so finely preserved.

At right angles to this building there is another, which is the most monumental structure hitherto discovered¹. Investigation showed, that the visible part of it belongs again to the upper floor (two discs of a scale were found in the upper layers). The basement, two windows of which have appeared, lies beneath it (pl. 19,2). The original trench of 1967 happened to alight on these windows, which were full of volcanic ashes; hence we spoke about a mysterious building, built on the ashes of the volcano, and stated that for this reason it should be dated after the explosion². It is now clear that this structure is homogenous and contemporary with the rest of the ruins.

6. THE "SACRIFICIAL FIRE..

To the North of the façade of the building in ashlar masonry (called provisionally Bronou 1a) there lies what may have been an open court. In the Eastern part of this court we uncovered a hitherto hardly explained complex; we called it «*ἡ Πυρά*», «The Fire». Its first mention in the excavation diary of Wednesday, Oct. 15, 1969, runs thus: «In Bronou 1a a deeper cutting in the bed of the torrent revealed Middle Cycladic pottery (possibly a grave?) and pieces of a great stone vase...». On the next day (Oct. 16th) it is noted: «it seems to be a shaft grave. The Northern part, discovered today, is covered by little schist slabs. It is touched by the circular cavity, in which there are fragments of the big stone vase (andesitic lava)». Plate 20,1 explains well the words of the diary. To the left



Fig. 2. A jar from the Fire.

1. Thera I, p. 52, fig. 79 (upper left side) and 53, fig. 82.

2. Thera I, p. 55, fig. 82 and plan fig. 83.

one sees a little digging, opened by us in order to study the layers underneath. The cavity in which the stone-pithos stood, was higher and therefore not visible on the photograph. It should be added, that



Fig. 3. A printed sign upon the jar of fig. 2.

not all the fragments of the stone pithos have been found; in later times the inhabitants of Akrotiri discovered them during some of the repairs of the supporting walls along the torrent. They used them in these walls and we collected them during our excavation. A few fragments seem to have been lost definitively.

Under the schist slabs we found a layer 20-25 cm. thick, which was intensively burnt; the earth was black and contained minute fragments of charcoal from twigs and shrubs. The layer was full of broken vases blackened by the fire (pl. 20,2), stone implements and organic material. A middle size vase (apparently a small jar), which was overturned on the fire, showed under its bottom (which was found upside down) abundant traces of $\varphi\acute{\alpha}\beta\alpha$ seeds (vetch) (pl. 21,1). Even to-day Thera is famous for the quality of its $\varphi\acute{\alpha}\beta\alpha$, though this apparently Latin-Italian word has nothing to do with its original meaning (broad-bean). Further finds were a kernel and several blades of obsidian. One of them (the longest found so far) is 10 cm. long. A slab showed clearly that it was used for rubbing some material and two pebbles found together served as pounders. A heavy and compact object, like an ancient alabastron, is of unknown use. It seems, that it was covered by a faience-layer. It is 0,14 m. long and bears a



Fig. 4. A vase from the Fire.

hole in the upper part. Two clay figures of oxen were apparently substitutes for real animals, which were too expensive for the islanders' means; but minor animals would have been sacrificed, as we have found a fair number of bones and fragments of two horns of he or she goat. The idols have unusually long snouts; the nostrils and the mouths are rendered carefully (length 16 and 14 cm. respectively, pl. 21,2).

One of the reconstructed vases from «The Fire», a broad-mouthed small jar, shows a printed symbol (fig. 2 and 3). A spherical vase (fig. 4)

bears mat-painted decoration on the shoulder (fig. 4). Two little bowls and three little skyphoi are shown in figures 5 and 6. These miniature vases are well known as serving for religious purposes.



Fig. 6. Three little skyphoi from the Fire.
(Height of the greatest 0,09 m.)



Fig. 5. Two bowls from the Fire. (Diam. 0,225 and 0,15 m. respectively.)

All this pottery belongs to the earlier MC period and they are older than the whole complex of the buildings hitherto excavated.

The whole structure, which was characterized as a «tomb» in the diary is enclosed by walls, the plan of which is not yet clear. It was further stated, that under the burnt

layer there was a thin layer of earth, beneath which a beautiful solid floor was revealed. It consisted of beaten little pieces of red lava, possibly held in place with some glueing agent. This kind of floor, perfectly plane and polished, was also found in other parts of the excavation (see below). In pl. 22,1 the floor is clearly distinguishable to the right part of the photograph. One may still see the depth of the removed burnt layer over the floor; to the left appear the stones, which were thought to be the side-walls of a tomb; finally, in the centre appears an oblong shaft-like cavity and a slab. We found, that the pit was filled with earth and stones down to the bottom (1 m. depth).

Figure 7 presents the same area, according to the perpendicular axis of the camera, so that in the lower part one may still see the pit, but in the upper part the remains of the stone jar are now clear. The bottom of the vase was removed for better cleaning, but its cavity is clearly distinguishable. As soon as the heavy bottom was removed,



Fig. 7. The room of the Fire with the stone jar above it.

we found that around it stood still erect in situ six miniature pear-shaped vases and a stone object, which can be hardly anything but a bench (pl. 22,2). The little vases are plain and poor in quality. Three of them are shown in fig. 8. They have lugs, perpendicularly or horizontally pierced, and their character is clearly religious (height 5 - 6 cm.). The stone jar must be over 1 m. high and it is a remarkable piece of workmanship. We had no adequate glue for the porous andesite. We have therefore joined the pieces provisionally, as shown in fig. 9.

It is not exactly known, whether the voluminous object of fig. 10 was found in the Fire, or rather near the stone jar. It was removed

together with other stones. It was only later that we saw, from a little fragment chipped off, that it is a big nucleus of obsidian. I have



Fig. 8. Three of the miniature vases found around the stone jar.

never seen such a large piece of obsidian (length 0,50 m.). All pebbles of Melos which I happen to know are of much lesser dimensions.



Fig. 9. A provisional reconstruction of the stone jar.

Thus the nature of the complex described above remains problem-

atic. A plausible explanation is that of an open place for religious ceremonies. The search, however, remained incomplete and it is hoped,



Fig. 10. An exceptionally large obsidian-nucleus. (Length 0,50 m.)

that further evidence will be forthcoming by the next excavation periods.

7. THE SOUTHERN QUARTER. PILLAR - WELLS

Southwards of the area described above extends the quarter hitherto called Bronou 2. It has been excavated enough to present an understandable architectural form (General plan No. I). As it is divided in two sections by a road running North-South, we have listed the Eastern one B and the Western one Γ (see the Western wall of this last sector in fig. 11). The road opens to the North to what may have been an open court; to the South we have not excavated, but here too, an open space seems probable.

The excavation of this quarter was imposed by the fact that the slab-covered floor of an upper storey (plan IV, B2) had to be roofed before its complete excavation. Through preliminary excavation of this sector it has been possible to find out the places, where pillars could be sunk without damaging the ruins. The pillars of the huge shed had to be embedded down to the virgin rock. We have opened the

wells accordingly, originally twelve, to which one more (4a) was added. This work was conducted by us and was carried out as a regular excavation. Then we handed over the rest of the shed's work to the experts of the Dexion Company. Here is a concise report of our observations, before we describe the rest of the excavation.



Fig. 11. The Western wall of Quarter Γ from the South. To the right the thick wall with the projecting anvil. To the left one sees the pumice-layer; upper part: blocking-up by the «Squatters».

Well No 1 was opened beyond the excavation area and started from the actual surface of the earth; therefore, it is the deepest of all (see pl. 3,1). For about five metres it was sunk into pure pumice and deepened further, till solid rock was found. Its final depth had not been measured; owing to the rapid pace of work at this point it had been half filled with concrete before we measured it. In the mass of pumice we observed dark points (from crude bricks or decayed organic

matter) and, especially, some cavities. We know now, that minor or major cavities within the masses of pumice are a usual phenomenon.

Wells 2 and 3 presented difficulties owing to the existence of ancient walls nearby. A wall near well 2 presented the first perpendicular clay pipes we have found (see below). Well 3 for the setting of a Dexion



Fig. 12. Cutting in the rock near pillar No 7.

pillar (above pl. 2,2) presented similar difficulties. Inside the well was found a curious stone in saddle form (visible in the interior of the well on fig. 11); there are reasons to believe that this was an anvil. In the upper part of the photograph one can clearly see a cross-wall made of different collected stones. It was made by the squatters.

The well of pillar 4 (pl. 3,2, lower part) lies in the South-West corner of the excavation. It gave opportunity for more observations and excavation at this point was extended accordingly. An interesting building is hidden there, but it belongs to the quarter beyond the road.

Well 4a showed in the bottom grey greasy lava, perhaps the material employed as potter's clay. Beneath it we found Early Cycladic traces as in the Well of the Mill-House. A black-burnished sherd shows incised zig-zag lines.

Still more important were the traces found in the bottom of well

7 (Eastern part of the excavation). Investigation was exceptionally difficult, as we encountered a vaulted structure cut in the rock, possibly, but not surely, a tomb of Middle Cycladic period; its diameter was almost 1 m., while on the South-East side an opening was apparent with stones on it, possibly a door. The height of the cutting, which



Fig. 13. Clay slabs (tiles?). Dimensions
 $47 \times 34 \times 4$ cm. each.

seemed to be circular, was 1 to 1,30 m. On the North-West side big sherds of great vases were accumulated. The floor showed some stones. Figure 12 (flash) gives some idea of the cavity. The sherds have not yet been cleaned.

On the surface of the soil, not far from the well, two slabs of clay were found near a wall disappearing under the Eastern vineyards adjoining the excavation. The slabs are rectangular and have a slightly concave form (fig. 13). At first sight they seem to be tiles, but it is still too early to speak with certainty.

Well 6 provided further interesting finds. A hollow space appeared again inside the pumice (it is the fourth case within this sector). Under the pumice the pre-explosion surface of the island came in sight. It is again similar to grey clay, as if it were a compact mass of wood-ashes. Inside it there was another cavity (a tomb?). The sherds collected are burnished, reddish and of the Early Cycladic period. A fragment of a marble idol was also found. In the same neighbourhood we came across a double floor. The upper one was of beaten earth on a substructure of little pieces of red lava, 5 cm. in thickness. Next comes the lower floor of very fine construction and polishing. Only a portion 20 to 25 cm. wide was uncovered (pl. 23,1).

Well 9 was opened in the densely built area we call «The Bridge». Two metres below the actual surface we met a fallen and broken jar; over it rested a floor or roof of beaten earth. After removing the jar we found another vase, the first triton shell of the excavation (0,29 m. long) and a big boar's tusk 0,17 m. long. A little pyxis lid of alabaster with a hole in the middle was also found.

Finally, well 10 showed the following stratigraphy: The lowest pre-explosion layer, cut to a depth of 0,60 m. for setting the pillar, is of yellowish clay here; over it there is a layer of stones 1,10 m. thick, typical in artificial fillings. Even in Pylos we met such a layer in several instances. Over it we found a beaten-earth floor 0,10 m. thick, possibly belonging to a court, and above it was the catastrophe-layer. It still remains to be added, that in well 12 we found the marble idol of pl. 57,2. Presumably it is Middle Cycladic. The whole hitherto excavated area of the South Quarter (plans I and IV) is divided into an Eastern and Western section by the Telchines Road. Beyond both sections the layer of pumice extends Eastwards and Westwards, at this point apparently after having crossed a second road parallel to the Telchines Road (fig. 11). The whole area was excavated to the extent that all underlying buildings were clear enough to permit us to choose the places for the pillar-wells. An extended ruin was uncovered thus, with the stone covered floor of an upper storey in the middle (pl. 23,2).

The «North Court», in which the Telchines Road ends, presents a special geological interest: When the pumice began to fall from above, it penetrated here deep, that is on the surface of the soil (pl. 24,1-2, upper left side). In the remaining part of the area pumice stands much higher, because it was stopped by the ruins (see, for instance, pl. 25,2). In pl. 24,1 (the photograph was taken from the West) one

distinguishes the Court to the left, while to the right appears the heap of the ruins before the Telchines Road was clearly uncovered.

Plate 24,2 (photograph taken from the South-West), shows in the background the pumice still covering the North side of the Court; the workmen are cleaning the Eastern (to the right) and Western



Fig. 14. The «Telchines Road» from the South.

parts of the Court respectively. But before reaching this depth, we had passed through a very illuminative layer. It is shown in pl. 25,1 (photograph taken from the East). To the right extends the white shroud of the pumice, almost three metres high on the Court, before our excavations removed a part of it. A cavity is apparent in it (we have already mentioned this phenomenon). To such cavities we are ascribing now the sudden sinking of the actual surface of the soil around Akrotiri.

In the lower part of our picture lies the department B5 (plan IV and section V) while the Court is seen beyond it. After the quake or quakes and before the pumice showers of the eruption began, the squatters had removed the fallen debris from the Court. To the West they heap-



Fig. 15. The Telchines Road from the South.
after its cleaning.

ed the stones (upper part of our picture). To the East (lower part of the picture, where the wooden bridges lie) they heaped mainly earth and sunburnt bricks. Between the two heaps they opened a path. Our conclusion is, that a brisk traffic was going on between North and South among the ruins. The earth on this path was extremely hard owing to the footsteps. Plate 25,2 shows, after the partial removing of the stoneheap, how the pumice fell on its surface. The heap was clearly

the work of man's hand. We have purposely left the enclosure of stones, made to support the material of the heap. Therefore, it is mathematically certain that the stones had been accumulated by man's hand after the seismic catastrophe and that a certain time elapsed between the quake and the beginning of the eruption.



Fig. 16. The same road from the North.

Plate 26,1 shows the South side of the Court together with characteristic ruins of the earthquake and (to the right) the starting point of the Telchines Road. It is full of seismic debris, upon which the pumice of the volcano (visible to the right upper side) was stratified later. Fig. 14 shows the same district from the South with the Telchines Road partly excavated; but the seismic debris and, above them, the pumice are clearly visible. The photograph shows at the same time a window of Room B2 (lower right side) and the door leading to Room Γ5 (left side above the ruins of the road). This door appears better on fig. 15, as the photograph was taken after the complete excavation of the road. Fig. 16

shows the road from the North, that is from the Court, after its cleaning. To the left appear now both windows of B2. They belong to the basement, over which the stone-slab floor of the upper storey is still preserved. The wall of Γ5 is seen to the right, but the door is not visible here. On the pavement of the Telchines Road the stones of granitic lava are still as glossy as a mirror, smoothed by thousands of footsteps during the life period of the unhappy town.



Fig. 17. The door of Corridor Γ5 towards the Telchines Road before it was cleaned.

Further to the South there is another window, not visible in the picture. It is shown in pl. 26,2 and above it is still preserved a kind of *γείτων* of thin schist slabs. Through this window the squatters entered crawling into the rooms of Γ4. Their traces were apparent both from the hardened soil and from the removing of the stones. It is possible that part of this window was rebuilt by them, as the walls in this area are very badly damaged.

The door towards Corridor F5 (from the Telchines Road) was found in the condition shown in fig. 17. One is not sure whether the stones blocking this rather monumental door are fallen ruins or rather a provisional blocking of the troglodytes. After the excavation, both door jambs showed the usual stone-made rib, while at the corners once stood upright wooden beams. Two cuttings on the doorway show the place of the wooden frame of the door. It was with one shutter and opened towards the interior (pl. 27.1).

Plate 27,2 shows the road from the West and from above in order to make clear the position of the windows under the stone floor of B2. We have already more than ten examples of windows throughout the excavations and we hope to study their construction in great detail. The following facts are certain for the time being: The better-made windows are supplied with frames of worked stone projecting 3 - 4 cm. from the walls. Within the stone frame existed another one of wood and the window had usually three horizontal wooden rods as balustrade. The windows, therefore, had no shutters; they were mere openings with slits between the woods of the balustrade, so that no animals or birds could enter. The light in the geographical latitude of Thera is intensive, almost as in Egypt, where analogous slits protected from intensive light, which was undesirable.

After the catastrophe, sand, fine pumice and mud penetrated through the windows, so that the prints of the wooden balustrades are sometimes very clear. The North window of B2 (pl. 28,1) had not preserved well the materials filling it. But the South window (pl. 28,2) has well preserved the traces of its balustrade as prints in the silt. One horizontal rod is clearly shown. There existed at least two or three of them. In all windows there are two hollow perpendicular spaces to the right and left. We have given above an explanation of this fact; but the details leave many dark points, possibly to be cleared later. The design of plan VI, by Dr. John Koumanoudis, gives an impression of the Telchines Road.

9. THE QUARTER B

It is now fairly sure that Quarter B is organically connected to the sector North of it, were the buildings Bronou 1a, with their North façade in ashlar masonry are of particular interest. The «bridge» we see in some buildings appeared during the opening of wells 9 and 10. We repeat again that no building has been hitherto completely excavated.

A brief preliminary description of every room is given here. We began the numbering of rooms in quarter B from the North Court.

Room B1 is very complicated, as we know from the 1967 digging, and has not been touched. It is still full of debris fallen from above together with abundant pumice. Its corner facing the Court (this is its North - Western corner, refer constantly to plan IV) is shown in pl. 26,t.

Room B2, adjoining to the South, is well known from the previous period¹. It had already been recognized that the floor, slightly sunk, but still in position, with a stone column base in the middle, be-

longed to an upper storey. The present excavation uncovered the windows belonging to the basement of this room. We have already described them (above, pl. 27,2 - 28). Plate 29,1 shows this room, with one of its windows visible. The photograph was taken from the heights of Quarter I (see below).

Further to the South, the rooms B3 and B4 were not excavated enough. We know only about the dramatic catastrophe which befell them: the Western wall of the Telchines Road was precipitated to the East and covered them. It is prob-



Fig. 18. Bronze coin of Constantius II (about 325 A.D.) found in quarter B7.

able, however, that the torrent has destroyed the deeper layers at this point.

Further to the North we have more areas, still unexcavated, but surely destroyed or damaged by the torrent. Conditions become better only after reaching room B6, the «Room of Monkeys». But even here the waters of the torrent left clearly their destructive results. The inundations occurred in unknown times, and possibly they were many. We can date one of them to the early fourth century A.D. On the thick Eastern wall of these compartments we found a well preserved bronze coin of Constantius². The coin (fig. 18) was found attached to one of

1. Thera II, pl. 8 - 9.

2. Mrs. M. Oikonomides of the Numismatic Museum reports that the coin is of Constantius II as Caesar (324 - 337 A.D.), before he got the title of Augustus.

the stones of the wall, which is hardly preserved above two or three rows of stones. The conclusion is therefore certain: this district was destroyed by inundations and erosion, as it was already concluded in the first year of our excavations¹.

At the South - West corner of B6 the erosion has left clear traces and the stratigraphy is very characteristic (pl. 29,2). The uppermost layer consists of beaten earth with many holes; they are the traces of the beams of the floor of the upper storey. The print of a horizontal beam is also visible. The thickness of this layer is 20 to 25 cm. There follows a layer of fine sand, 50 - 70 cm. thick, and beneath it another layer of very fine mud, 40 to 45 cm. thick. The half of a jar-lip is embedded between the two layers. Finally, the lowermost layer, the only one belonging to the original catastrophe, consists of fine pumice and is from 12 to 20 cm. in thickness.

Happily, the North section of B6 (pl. 30,1) remained untouched by the inundations. There, along the North wall of the room, abundant frescoes had been precipitated from above. The greatest of them, 90 cm. in length, shows two monkeys painted with a blue colour, unfortunately not very persistent; during extraction, a part of it has remained on the earth. Many other fragments show parts of the same animals and there are abundant pieces from the edges of the fresco, bearing bands of red, black or white colour alternatively and a frieze of elaborate spirals. The painted stucco fragments appeared together with fallen slabs of the upper floors (fig. 19). Similar slabs were uncovered together with the fresco of the «African» last year. Along with the frescoes a fragment of probably Parian marble was found (fig. 20).

Many vases were found in the floor of the room, which was of soft earth. Some of them are exquisite in decoration and form, while others were clearly of religious use. A jar contained perhaps the sacrificial oil (below, and pl. 57,1). Other painted vases were imported. One of them is of purely MM III tradition. On Sept. 1st five little beaked jugs, a skyphochous, a little pear-shaped vase with painted circles, a fine imported jug bearing a painted «ivy» decoration, a lot of miniature dedicatory bowls and other fragmentary vases were found. On Friday, Oct. 3rd new groups of similar vases appeared, among them a series of little nipped jugs. Unfortunately, as it often happens, the best and finest pottery is represented only by sherds.

1. Thera I, p. 50 and 55.

Near the Western wall of the room a semi-spherical cavity of the floor in form of a bothros came to light. Within it some pebbles were found and a fragment of a stone drain (pl. 30,2).

Beyond the «Room of the Monkeys» to the West there are some rooms bordering the Court on its Eastern side. It seemed to be a single room and the number B5 was assigned to it. The progress of the exca-



Fig. 19. The Monkeys room. Frescoes precipitated together with the slabs of the floor from the upper storey.

vation showed that there were three narrow rooms. Of the two Northern rooms, B5 and B5a, the first may have been a staircase. B8, to the South, is an ordinary room. All these rooms have given us the opportunity to study the phases of the catastrophe. They were covered by a uniform layer of beaten clay, which appeared as soon as the pumice layer was removed. It seems that it was a roof rather than a floor of an upper storey. It was full of minor and larger holes (pl. 31,1). We can-

not state with certainty, that we have to do with a bombardment of lapilli, though many holes were circular. Plate 31,2 shows a portion of this roof from close distance.

The surface of this roof was covered, before the excavation, by a layer of pumice 2 m. thick (see section by Mr. Andreou in plan V). In this layer a cave appeared within the pumice; it was broad and low (well visible on pl.25,1 to the right). It seems now very probable that such

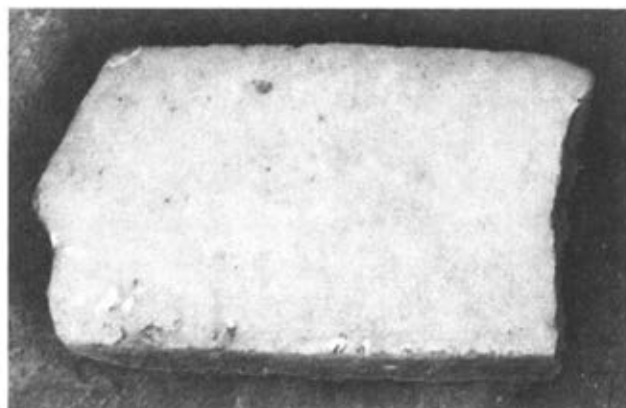


Fig. 20. A worked fragment of Parian marble (0,34 m. long) from the «Room of the Monkeys».

cavities were formed owing to the sinking of still standing roofs or floors of houses in different periods after the explosion. Similar cavities appeared near the wells 4 and 6. I gave thus an explanation last year, concerning two surface cavities in the neighbourhood, which had been formed only a few years ago. (The one near the cave Arvanitis 1 and the other about 150 m. to the North - West in the Valvis vineyard.) More than a century ago the French scholar Mamet described a cavity, in which he did not dare to penetrate because of the danger of a sudden sinking of the roof. It seems that it was a «Minoan» room, the roof of which had not yet collapsed.

When we removed the roof from B5 we were surprised by the fact that under it there was pumice in some parts. The roof over B8 was exceptionally hard and thick. Meanwhile, at some points under it we met pumice, very fine however; we followed it to a depth of 25-45 cm., where it stops, apparently, on an anomalous layer of stones and earth

of decayed bricks. In the narrow space B5a we met again a pocket of fine pumice under the roof. Still deeper we met another hard layer of beaten clay, belonging to the same roof, under which we found again pumice in a layer 45-65 cm. thick. After this pumice the rest of the deeper filling was of stones and earth. Later we have observed the same phenomena in Sector Γ (see below). The explanation is at hand: through the holes and gaps and fissures of the buildings the pumice penetrated everywhere. It was, it seems, a dry and slippery material, like for instance the seeds of flax, which slip very easily even through minute holes and cracks, so that they were once a dangerous cargo for sailing ships. At the same time new quakes, during the eruption, or even the terrific blasts of the explosions, brought down to earth new portions of ruins hitherto standing erect. This is why we often find stones and brown stains (decayed bricks) within the deep layers of pumice. These observations may be more useful for volcanologists than for archaeologists.

10. THE QUARTER Γ

It is easier to start the description of this sector from the South, where the main entrance for those coming from the sea apparently existed. The West wall of this quarter has a great thickness (up to 1,50 m.) with multiple beams of reinforcement (see pl. 2,2). In trying to find places for sinking our Western wells we discovered a free strip, apparently a road. Near the more Northerly pillar 3 (pl. 2,2) this road is blocked by a transverse provisional wall (fig. 11 and 24). The value of this quarter lies among other things in the fact that the squatters left here abundant traces of their presence. To protect themselves from imminent ruins or from winds and rains they constructed poor walls without clay and with stones they took from the ruins, among which they made their shelters as best as they could. They preferred, of course, the stones of damaged ashlar masonry, if these were available, because walling with such hewn stones was easier. A «squatters» wall is visible in pl. 32,1.

The road just mentioned, shown in pl. 2,2, was not broad. To the West of it there is a building, which was partly at least, in ashlar masonry. It appears to be interesting. Fig. 22 shows the first stones as soon as they emerged from the pumice, near pillar 4. Fragments of frescoes showing an elaborate theme of spirals were collected among the stones. Inside the pumice the usual holes from decayed beams were visible. One of them (fig. 23) was square in section. There can be no more doubt, that such holes are almost always the traces of wooden beams. It is only surprising, that the wood in all cases had disappeared to the last trace. Further work at

this point has shown that there was a large hollow space inside the pumice. We have built a wall at its entrance (pl. 32,2). It was further shown that this monumental building preserves the two lowermost courses of hewn stones, but the stones are badly worn by decaying. A stone drain



Fig. 21. Dentation of the thick Western wall of Quarter I'.
Note the barricade of the Squatters.

appeared also, possibly belonging to the road. After erecting the pillar, work was suspended here, because the superposed layers of pumice are thick. A long preparatory work is necessary for excavating this promising area, which will presumably yield interesting frescoes. The fragments we have found are of fine style and colour. We give here the photographs taken soon after finding the pieces. As a rule, the colours suffer after some days or even hours. Experts, however, do not fear for serious damage and ascribe this paling of colours to loss of humidity. The greatest piece (fig. 24 and colour plate B,2) shows a spiral belonging to a frieze or cornice. Further pieces show «rosettes» (fig. 25) and a pear-

shaped object (possibly to be understood as combined with ivy or waz-motive)¹.

As stated above, the South part of quarter Γ presents a dramatic



Fig. 22. Fallen stones and holes of beams in the pumice near pillar 4.

picture of the severe earthquake. The whole solid Eastern wall of $\Gamma 1$ and $\Gamma 2$, pushed by a shock coming from North - West, has been precipitated in «monoblock» to the East, thus covering the Telchines Road and the compartments B3 and B4. Plate 33,1, (view from the South), illustrates

1. In *Ἐργον* 1969, p. 162 fig. 199 (see here colour plate B,2 and pl. 59,1) the photograph shows some of the fragments pieced together. For the pear-shaped object see for instance Thera II, pl. 10,1.

well this fact. Plate 33,2 taken at an opportune moment and from close distance, shows the plaster of the inner part of the wall, which, after the fall, was exposed to the sky. Plate 34,1 (from the North) shows the



Fig. 23. One of the holes is rectangular in section, that is the beam was square.

breaking of the wall at the point where it was weak owing to the holes of the beams and horizontal members of the wooden frame. The lower part of the wall, standing erect, is clearly visible (to the right), while the fallen upper part has left a little wedge-shaped hollow space in the middle.

The fallen wall formed a kind of mantle covering the dramatic reality. After removing this wall, we faced the whole picture of the seismic chaos. It is perceptible even on the photograph (pl. 34,2). Earth from the fallen inner brickwalls, worked and unworked stones from the main walls, numerous fragments of wall-plaster and pieces of broken pottery filled the whole area. A fragment of a steatite lamp was also found. We started by cleaning rooms Γ1-Γ2, because thus it was easier to

remove the debris. It soon became clear that under the huge mass of debris the lower walls had been entirely preserved up to the storey, with intact doors and even with parts of the wall of the compartments above.



Fig. 24. Frescoes from the area $\Gamma 1$.

All these parts of the upper walls, usually in dilapidated condition, were kept in position through a provisional suspension from a quickly made scaffolding; in the meantime they were put in a wooden mould and consolidated with concrete of cement and iron. One sees the result on pl. 34,2. Everywhere the walls of the upper storeys were thus saved, without a single stone falling.

The South wall of room $\Gamma 1$ (it seems that it was an outer wall, as an open space here is very probable, although not sure) was fallen. The best preserved parts of this wall are here only about one metre high. Pl. 34,2 (lower right side) illustrates the conditions. The squatters had removed all the debris from the South wall, opened a door here and,

to facilitate traffic, they had made a semi-circular doorway with a series of stones along the edge, the rest being filled with stones and earth. (See plan IV and pl. 3,2 and especially pl. 35,2.)

Already the interior of the first room ($\Gamma 1$) has shown that this area of the ruined buildings had served as a workshop, possibly of cop-

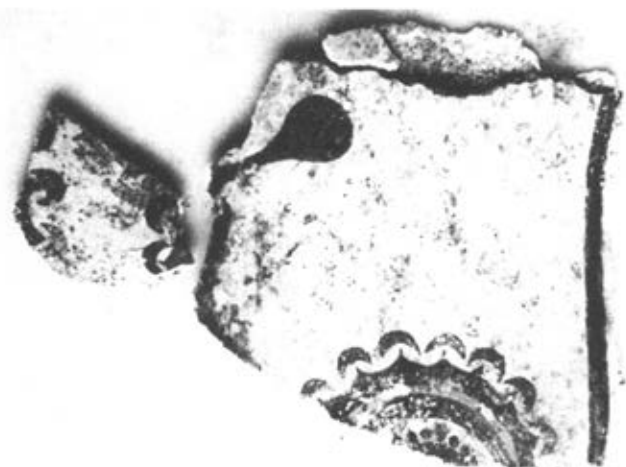


Fig. 25. Frescoes from the area $\Gamma 1$.

persmiths, although no trace of metal has been found. Egg-shaped stone tools of different sizes were abundant. The stones are hard pebbles and they show a groove in the middle for shafting through a twisted twig of a suitable plant¹. These hammers are usually about 10 cm. long; but there are others reaching 30 cm. or more, which are very heavy. They show two grooves instead of the one of their minor brothers and, moreover, two or four bosses. They should not have been operated by wooden handles, as they are too heavy. Equally numerous are cylindrical and other hard pebbles with both extremities polished. They must have been anvils, though we know from Egyptian paintings, that such stones were used as hammers, held directly in the palm of the hand by

1. It is a well known kind of shafting. I know from experience acquired among the villagers in Messenia that a thin twig of mastich-tree (*σχινος*) twisted round an object becomes after drying an extremely hard and solid shaft or ring or stick.

the workmen of the metal workshop. This room preserved some anvils still erect on the floor, one extremity being embedded in the earth. More than one half of a clay chest was still in situ. In the middle of the room there is a kind of hearth and some traces of benches are visible around the walls (some of them are distinguished on pl.35,1 and 36,1); but everything is of hasty and provisional character and on anomalous floors, just as if they had been readily-made after the catastrophe. Undoubtedly we have here not a real workshop, but an installation of the troglodytes.

Still more abundant were the same implements in the room adjoining to the North (Γ2). Plate 36,2 shows little hammers and a circular smooth stone, an anvil or a seat for a workman. Plate 37,1 shows untouched in their places some of these tools. The second from the right presents clearly four shallow grooves. They correspond to the four fingers of the hand, whether the tool was employed as a hammer or as a grinding stone ¹. The same room bears along its Eastern wall a row of schist slabs. A number of little stone-balls (natural pebbles) is seen there (pl. 37,2). On the opposite wall a stone protrudes from the wall at the height of a man's breast. It is possibly the *σταμνοστάτης* of actual Cretan houses, that is the stone upon which the water-hydria finds its place (pl. 38,1).

The North - Eastern corner of this room, which is spacious, is divided from the rest forming a separate little compartment through a poorly-made wall bent at right angles. The provisional character of the wall is visible on the photograph (pl. 38,2) and certainly this wall belongs to the squatters. One sees a built recess into the North wall, for which we have no explanation yet. We did not find traces of fire. To the right we found a little cylindrical clay vase with two atrophic, not pierced lugs (pl. 39,1). It is a plain vase with anomalous interior surface (0,10 cm. high, 0,04 in diameter). Its use is unknown, but surely it is not an every-day implement.

In the North - Western corner of the same room was the staircase

1. The little phallus-like object to the left on pl. 37,1 seems to be a natural pebble, but even so it has no place here as a phallus, it is a hammer or hammer-axe. There are similar objects from the stone age, which are artificially made and they are tools beyond any doubt. A similar object (surface find) has been published by Mr. E. ΜΑΣΤΡΟΚΟΣΤΑΣ. It is now in the Museum of Agrinion: ΠΑΕ 1963, p. 211 and pl. 186a. See further FISCHER, Weltgeschichte 1 (Vorgeschichte), p. 172 fig. 11.

towards the upper storey. Its first steps, seen from above, appear on fig. 26. On this staircase were found half of a great marble «palette», hammers and anvils, among which a worked square stone with the upper surface slightly convex (pl. 39.2). Through an opening, the staircase



Fig. 26. The staircase leading from Γ1-2 to Γ3.

gave access to Room Γ4 (to the North), but the opening had been blocked by the squatters with stones selected among the ruins.

Out of the room to the West, that is in the supposed road, a curious stone was found, which certainly did not belong to the rest of the building material. The lower part is broad and thin as if it were an axe, while the upper part is like a saddle (pl. 40, 1). A man can seat comfortably on it and there is still place for working, say hammering, in the broad extremity of the stone. The workmen called it at once an anvil. Indeed, the broader upper extremity of the stone is worn and, moreover, on its side there are two bosses. Upon them light metal sheets could be hammered,

for instance for making the «talents» of a scale. Plate 40,2 shows this detail of the anvil.

As one can see on the plan, Rooms Γ1 to Γ3 constitute a unity. The rest of the rooms further to the North (Γ4 to Γ10) are narrower, because the Telchines Road widens out there at their expense. The West-



Fig. 27. Room of the Squatters (Γ4B) to which they entered crawling from the window.

ern part of this area is still covered by pumice; but what was uncovered shows that this was a considerable quarter. Here, the highest point of the wall seems to belong to a third storey.

Room Γ4 is accessible through the staircase described above. The squatters, however, preferred to enter from the Telchines Road crawling through the window we have seen above (pl. 26,2). The traces of their passage were very clear on the floor of Γ4b. The photograph of fig. 27 shows well the hardened floor, which was free of stones and other debris.

As soon as the excavation advanced, we felt that Room Γ4 was di-

vided into three compartments. $\Gamma 4$ is apparently connected organically to the corridors opening to the North. To the West it joins $\Gamma 4a$, while $\Gamma 4b$ is the entrance employed by the squatters, as already described.

Room $\Gamma 4$ was full of stones and sundried bricks. On these ruins was found a large, entirely well preserved bathtub. This means that it was put there by the squatters (pl. 41,1). It is filled with pumice and volcanic ashes. When the surroundings were cleared it was revealed, that on the same level were several vases, all broken and partly lost (pl. 41,2). This means that they had fallen from above.

The North wall of this compartment has two doors. Their walling by the troglodytes after the catastrophe, is clear. On the photograph (pl. 42,1) the left door (belonging to $\Gamma 4a$) shows the following details: on the uppermost part, a piece of wall belonging to a third storey; on the lower part, one can see the stone framing of the doorway. At this height, in fact, a floor of beaten earth was clear. The holes of the beams are another indication. The bathtub lies 0,70 m. higher on the debris. Plate 42,2 shows still more clearly the walling of both doors, the place of the lintels, doorways and doorjambs, all of wood, and below them, the traces of the temporary dividing wall of the squatters, built upon the underlying North wall of $\Gamma 4b$.

Room $\Gamma 4a$ was excavated deeper for stratigraphic reasons. Closely along the walls there are perpendicular holes in the filling. Sometimes they correspond to the horizontal holes of the beams of the floor inside the walls; but things are not clear. Near the Eastern wall, almost in its middle, four little perpendicular holes appeared in the filling. Their diameter was between 3 and 4 cm. They were visible inside the sundried bricks, which were decayed, to a depth of 20 - 25 cm. It is unknown to which implement or piece of furniture they belonged. In the pumice covering the façade of Arvaniti 1a we have observed similar holes.

We have cleared the debris to a depth of 80 cm. below the doorway of the door of $\Gamma 4a$. At this depth began to appear the lips of two great jars along the South wall. One of them, as revealed soon afterwards, bears great red spirals. We found sherds of minor vases precipitated from above (pl. 43,1). Therefore, the floor of the room lies about one metre deeper. This is the basement. In this way we have here surely three storeys. We have covered again the jars and further excavation was postponed for later. The ruins of Rooms $\Gamma 5$ to $\Gamma 10$ extend further Northwards reaching to the North court. At the same time these rooms constitute the Western side of the Telchines Road. It is clear that we

have a very comfortable domestic quarter. We have already described the stately door opening from the Telchines Road (fig. 17 and pl. 27,1) to two corridors or staircases ($\Gamma 5$ and $\Gamma 6$). Plate 43,2 (photograph taken from the North Court), shows to the left the Telchines Road, joining to the right this great corridor, the walls of which are well preserved. The left wall shows clearly two holes for the wooden framing.

Both corridors, $\Gamma 5$ and $\Gamma 6$ appear in the centre of pl. 44,1, taken from the North. Entering corridor $\Gamma 5$ from the Telchines Road (upper left side of the figure) one sees the floor covered by fine stone slabs. Further North we meet only hard earth on the floor, possibly owing to intensive coming and going of the squatters. A wall closes the corridor on the South side; a gap in this wall (visible on pl. 44,2) indicates a staircase or some other way of descent to the basement below; above it, on the storey, is the room of the bathtub ($\Gamma 4$).

The wall separating corridor $\Gamma 5$ from $\Gamma 6$ is well preserved to a considerable height. It has its plaster still attached on both surfaces and a perpendicular slit, which is not the result of quakes. Its Western side is shown in Section VII by Mr. Andreou. The corridors and the adjoining rooms $\Gamma 7$ and $\Gamma 8$ gave many architectural details, especially traces of wooden members, like door jambs, lintels etc. They should be studied by special architects, as they are both, abundant and well preserved¹.

Thus, by the South-Eastern corner of $\Gamma 7$ a door opens to Corridor $\Gamma 6$ and at right angles opens another door to $\Gamma 4a$ (pl. 42,2 left); it is not only entirely preserved, but it bears on it a piece of the wall of a further storey, visible at the upper right side of the figure (see also pl. 42,1). The door from $\Gamma 7$ to $\Gamma 6$ had fallen, but its lintel is still distinguishable. Apparently it had fallen together with the wood, which helped to keep the stones of the wall in position. Plate 45,1 shows this lintel. Possibly we will be able to solidify and put it in position.

We mentioned the other door opening to Room $\Gamma 4a$. Along the wall we found an oblong rectangular cavity, possibly a print of the wooden door as it was fallen (fig. 28). We had the opportunity to observe in several instances that the wooden jambs of doors and windows were stems sawn into two parts longitudinally. The sawn part was put in the façade, while the convex side of the wooden stem faced the wall. The

1. See for instance the book of R. NAUMANN, *Architektur Kleinasiens*, 1955, p. 88 f.

plastering made it invisible. Such a print is shown in the photograph (pl. 45,2), taken purposely from close distance. This jamb belongs to the door of the previous picture (fig. 28). Section VIII by Mr. Andreou presents things more clearly.

The Southern jamb of the North - East door of Γ7 was still better



Fig. 28. A print of the wooden door from Γ7 to Γ4a. To the right is the wall separating the two compartments.

preserved. There, the print of the door frame was finely preserved, with its sides and dentations. The cavity was evacuated to a depth of 80 cm., but the lower part was damaged. Section VIII (upper part) shows this frame. The beam was not rectangular. It was 0,125 m. thick and about 0,30 m. wide. It had a double dentation. For many days it was preserved, as it was printed partly on sundried brick (though decayed) and partly on plaster. Meanwhile, wind and moisture damaged it slow-

ly, but steadily. I decided to save it by pouring gypsum, though the hole would be thus destroyed. The result is shown by pl. 46,1. We are trying to find a softer and elastic material for taking a cast in such instances without damaging the holes.

In the earth of $\Gamma 6$ we found an arrowhead of white flint. Its form is archaic and it is unusually broad (0,03 long, 0,022 wide). Under the floor of this room, which is well preserved, we met again fine pum-



Fig. 29. Perpendicular clay-pipes in $\Gamma 10$.

ice (pl. 46,2). It is up to 60 cm. thick and rests directly on the catastrophe layer (stones with sandy earth). It is clear that pumice, already stratified upon the ruins of the buildings, found the possibility to penetrate deeper through gaps and slits, possibly opened by further earthquakes.

A narrow space, corridor or staircase ($\Gamma 8$) extends to the North of $\Gamma 7$ from East to West. It communicates with $\Gamma 9$, through a door. All

these rooms ($\Gamma 8 - \Gamma 10$) as well as the Western part of the Court were especially distinguished through the clear line of the superposed pumice. There are enough fragments of frescoes and plaster still attached on sundried bricks. Some fragments show bands or rosettes. Room $\Gamma 8$ has yielded little fragments of white plaster with prints of tiges or reeds (pl. 47,1). There is not yet an explanation of their destination. One of the fragments belongs to a circular object of 40 - 45 cm. diameter. A convex surface is clear on some further fragments, but it is premature to speak about flutings of a column. We must wait for further evidence.

Room 9 is badly preserved, its width being equal to that of Corridors 5 and 6 together. Through a door at its North - West corner, it opened towards the North Court. The floor was full of holes (pl. 47,2). Rests of food were found in it (sea shells, shells of snails, animal bones). Further finds were obsidian flakes, a little mortar of trachyte and a fragment of poros-stone with an incised cross.

The last room ($\Gamma 10$) has been little excavated. A thick layer of volcanic ashes is still superposed on it. We have made only the excava-



Fig. 30. A complementary technical work in 1969 was the construction of a mole for landing on the shore, near the excavation.

tion necessary for the foundations of pillar 2. A wall was uncovered, on the surface of which a perpendicular «chimney» of clay pipes is still attached. Only the first pipe is visible, between 65 and 70 cm. long and 20 cm. in diameter, it is not yet known for what purpose it was erected. Fig. 29 shows the little piece uncovered.

Partly in this room and partly in the North Court we have found fine fragments of two imported vases with exceptionally thin walls. There are further fragments of fine Minoan pottery. It is clear that all these compartments constituted an aristocratic quarter.

II. THE FINDS. GENERAL OBSERVATIONS

As a rule in all periods of the excavations, the finds were mainly pottery and stone tools and implements. The frescoes take, of course, a prominent place. Of all objects already prepared for study and pictures, we will present the most interesting.

Almost all the jars and minor vases of the tripartite store room of Quarter A have been mended. We have now the three unpainted jars containing flour, as already mentioned above. Together with them were found the sherds of a few minor vases. One of them is a one-handed skyphos. Perhaps, it was a kotyle for distribution of the daily portion of flour or barley (fig. 31). The ewer in fig. 32 was found in the same compartment, but not in connection with the jars.

The middle store room (A2) has yielded again most exquisite pottery during its final excavation. Its religious character becomes still more probable. From this room came the jar of fig. 33 with chelonium decoration («tortoise ripple») ¹.

The beautiful spouted jar of fig. 34 with white reeds comes from the same area, as well as the spouted little jar of fig. 35, 0,38 high.

1. This motive otherwise difficult to describe, consists here of wavy crescent-shaped perpendicular lines in parallel rows. English scholars call it tortoise-shell rippling (the expression was coined, I think, by Sir A. Evans). Indeed, it is similar to a shell of tortoise, in Greek *χελώνιον*. The motive is very popular and persists from MM IIIa down to the advanced Mycenaean period. See Evans, PM IV, p. 112 and II, 363 «practically indistinguishable from the form in which it survives into LM Ia». As a rule, it appears as a surface decoration, but here (and very oft on other vases) it is divided in bands.

Another vase, a spherical ewer, shows a joyful decoration of red branches (A 2,2, pl. 48,1. Height 0,18). The vase of fig. 36 (A 2,3, height 0,14 m.) is handleless and cannot be anything but a filler. On the



Fig. 31. A cotyle found together with the flour-jars (A1).

picture it is shown upside down. The narrower extremity ends in a very thin wall as if it were made of paper. The three following vases were found together (A 2,3). Cymbe colour plate A, 3 is visible in situ in the photographs pl. 7,1-2. It is finely preserved; length 0,35 m. Equally well preserved was the strainer of pl. 48,2 and colour plate A, 1, 0,235 m. high. Beside it was found the askos of fig. 37, 0,06 m. high. Its form, the characteristic lips and the bow-form of the atrophic handle give the impression that the prototype could be a plated basketry vessel.

The third compartment of the magazine (A3) yielded a really amazing number of vases in 1968 and 1969. Jars and akin pottery were literally heaped in the



Fig. 32. Ewer, height 0,265 m.
Store-Room A1.

North - West corner of the room, the floor of which was deeper here than in the Eastern part of it.

How space was found for them there, is explained only if we accept that they were out of service, partly broken, so that the one was inside the other. After their mending it was impossible to find enough room for them in their original place. Here we can show only samples of the variety of these pots from provisional photographs taken on the spot.



Fig. 33. Jar with «tortoise shell» decoration.
Height 0,645 m. Room A2.

The broad-mouthed jar in pl. 49,1 is decorated with the very popular motive of «reeds». It presents technical peculiarities of making discernible even in the photograph. There is another class of broad-mouthed jar-like pots which present the common characteristic that they all have strongly protruding lips and are never painted. Plate 49,2 shows one of the largest and fig. 38 one of the minor vases of this family. They are suitable for pouring a thick liquid, for instance honey, and have the advantage of being easily closed through a piece of tissue or

leather tied around the neck. Figure 39 presents another broad-mouthed spouted vessel; the position of its handles classifies it to the amphoras.

A tall ewer from A1, 0,645 m. high, bears a running white spiral on a reddish engobe (pl.50,2). Its peculiarity is that the spirals are oval in shape, not circular as usually (pl. 50,2). It is a vase known from



Fig. 34. Spouted jar. Height 0,527 m.
Store-Room A2,3.

Crete. Slightly minor in dimensions and with equally protruding lips is the ewer of pl. 50,1, found in Magazine A 3,1. The skypho-prochous of pl. 49,3 was found among many others in Magazine 3,3. It shows white reeds and plastic knobs.

Abundant are the tall, cylindrical, sometimes slightly concave vessels with two lugs, which we have called flower pots (pl. 51,1). They bear almost always a little hole in the bottom (pl. 51,2). The clay of these examples is pale and polished. Others (pl. 52,1) show brown or reddish floral motives, perpendicular or in torsion.

Particularly interesting is a series of big stirrup-jars, as in so early a period this class of vases is only known in Crete and even there they



Fig. 35. Spouted little jar. Height 0,38. A2,3.

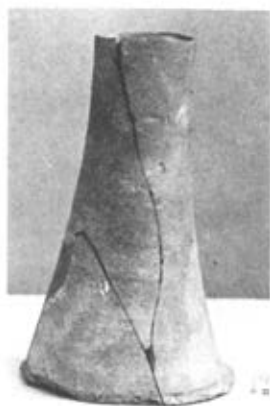


Fig. 36. A filler. Height 0,14 m. A2,3.

are rare. They are, I believe, exclusively made for oil-trade. They were



Fig. 37. Askos-like vessel. Height 0,06 m. A2,3.

all found in Magazine A3. The first two show a condensed geometric style with tendencies to metopic decoration. The basis of the decoration

are horizontal bands with the chelonion (tortoise ripple) as main motive. On the first and greater (fig. 40, height 0,355 m.) distribution in metopes



Fig. 38. Broad-mouthed little jar 0,305 high from A3. (It was found within a larger jar.)

is realized through squares bearing little crosses; but the other (fig. 41, height 0.33 m.) introduces true metopes, using a perfected similar decoration.



Fig. 39. A spouted amphora.

Still more voluminous is the last stirrup vase (pl.53,1, height 0,415 m.). It shows mat-painted black horizontal bands and a broader zone. In this last a «quick» decoration was applied. Basic motive is again the

chelonion. The metopes are formed through something like the double axes or the «half rosettes» which later become characteristic elements of Minoan - Mycenaean art.

Plate 53,2-3 present the greatest and most archaic of such vases



Fig. 40. Stirrup-jar 0,355 m. high. A3.

hitherto found. It is more than half a metre high, and of dark coloured

clay. The spout has here the form of a beak and bears two little handles (pl. 53,3) while symmetry requires three; moreover, there is a conical protuberance in the rear part of the beak (pl. 53,4). The disc on the top of the handle has a hole (pl. 53,4) either for fastening the lid or for attaching the label. There is no doubt that there existed an intensive traffic of oil, either imported or shipped.



Fig. 41. Stirrup-jar 0,33 m. high. A3.

The «Western Rooms» of this quarter give us further hopes of interesting finds. We already mentioned that Western Room 2 shows

under the floor of the storey a considerable group of vases. Plate 52,2 (flash) presents some of these vases not yet removed. Plate 54 and

colour plate A,2 show the remarkable rhyton; the circumstances of its finding have been described already. The feet are fastened upon two thin plinthoi, so that the bull stands as if on a base. Another suggestive fact is that the extremities of the bull's horns have been purposely



Fig. 42. Pithamphora from B2 0,330 high.

sawn. The underlying idea is that the animal was hot tempered and perillous. There are some indications that in Crete fights between bulls were usual. Analogous parallels from old China show how much the victorious bull was held in honour¹. The rhyta in question were apparently representing just such bulls, the symbols of power and fertility.

The rhyton was decorated with a yellow-gold colour, unfortunately damaged by the sulphurous salts of the pumice. The painting is delicate and noble as if it were an Athenian white lekythos. One sees a double band round the neck, as if it were the analogous amulets worn by the cow-Hathor. The body of the bull was covered by the sacral net we know from Cretan bull-rhytons, especially from Eastern Crete².

1. I have written a paper on the subject, but it is only a summary of a lecture and it was published in a rather inaccessible book: Δώδεκα Διαλέξεις, Βιβλιοθήκη Ἐθνικοῦ Θεάτρου ἀρ. 1 (1961), p. 175 f., especially 184-5.

2. See among others EVANS, PM I, p. 188 and especially II, p. 204 - 5. A close analogy is preserved by the rhyton from Psyrra, which is contemporaneous (LM Ia) and was buried surely by the same calamity.

The vestibule to the Mill-House and the Mill-House itself (plan III) did not yield quality-pottery. On the doorway of the Mill-House was found in pieces the spouted basin pl. 55,1. This vase, as well as the cymbe of the «Sounk House» (pl. 55,2) are every-day ware.

From the space between Quarters A and B the most considerable vase is the Grapes-Ewer (pl. 56,1). It was found on the slab floor of the first room of the ashlar masonry building (see above pl. 17,1). Such grapes appear for the first time in Aegean art, though there are fore-runners to this motive, from Thera again (Thera I, fig. 44). It is still to



Fig. 43. Clay idols. Height 0,075 and 0,055 m. respectively.
(Photo Doumas)

be noted, that the form of this ewer is already that of amphora, if we add a second handle.

Quarters B and Γ did not yet yield considerable pottery. Only two rooms were rich in ceramic products. The first is the slab-covered B2, the best vases of which are already published in the Report of last year. Of the further vases reconstructed in the meantime we publish here the little pithamphora fig. 42. Its white painting is still of MM tradition.

The second room rich in pottery was the «Room of the Monkeys» (B6, see above pl. 35). The jar already mentioned is shown in pl. 57,1. It still preserves the relief rope-ornament of MM tradition. To the spirit of the same period belongs the amphora pl. 56,2. The delicate white painting shows that the vase was imported from Crete. Unfortunately the surface is worn. The side of the vase (pl. 56,3) shows a plant-motive above the handle of the belly. Similarly imported is the fine ewer of pl. 50,3. The ivy-leaves with stalks turned to wavy lines are a characteristic

common to Thera and Gournia, both destroyed by the same calamity¹.

Two clay idols, though in fragmentary condition, are still to be mentioned, because of the dating of the type, which is sure in this case (fig. 43). The first and greater (height 0,075 m.) was found between



Fig. 44. Heavy stone tools. North Court.

Quarters A and B the second (height 0,055 m.) comes from the filling of Γ9 and had apparently fallen from the upper storey.

We shall give here only a few characteristic pieces from the numerous stone objects found. The very archaic marble idol of pl. 57,2 (height 0,14 m.) was found inside well 12 near the SW corner of B2. We have already mentioned a fragment of white marble from the «Room of the Monkeys» (fig. 20). It is 0,34 m. long, 0,19 wide and 0,045 thick. The material and its careful workmanship indicate an interesting implement or decoration. Plate 57,3 shows two faces of a stone vase found in Maga-

1. Compare the pithamphora of Quarter A in Thera II, p. 37 (here double leaf-stalks) and Cretan ware like the one from Gournia PM II, p. 486 fig. 292.

zine A2. The asymmetrical shape indicates a special use. Possibly two joining vases were employed together. An analogous asymmetry is noted in the clay pots found in situ on the «hearth» of A1¹.

As already mentioned, the most numerous stone tools were found on the «Squatters - floors» of rooms Γ1 and Γ2. They were explained as hammers and «anvils». Some of them may be pounders or grinding stones. Experts in stone implements may give better information. As all of them were left in situ, no good photographs are yet available. Plate 58,1-2 show «hammers» and «anvils» as they were found. The hammers of little size show a single grooving in the middle, explained above as serving for shafting; but there are similar voluminous implements up to 35 cm. long. They bear two grooves and two or four bosses. They should be called big hammers but a wooden shaft for them would be unthinkable. They show, however, the signs of use, because their extremities are always worn. (See fig. 44, especially the lowermost example.)

The frescoes have not yet been prepared for study and little can be said about them. It seems in any case fairly sure that Thera will yield much new evidence on the subject of frescoes. Experts in the matter know that it is very rarely possible to fit together fresco fragments, which are badly worn and have no edges in good state of preservation. The famous artistic assistants of the excavators, H. Bagge, the Gillieron family, Piet de Jong, acquired a justified fame for assembling actual fragments into an intelligible scheme concluded from the existing evidence. In Thera things are, happily, better. The fragments of frescoes are for the most part abundant, not very badly worn and their extraction is made without the least loss or damage by the veteran Cretan expert, Mr. Z. Kanakis². The artistic staff of the Greek Museums under Mr. T. Margaritof completes the work of cleaning and fitting the fragments. Next year, we hope, all work will have been completed on the field of the excavation. Experts in field work will realize, I hope, how precious this work is. The progress of fitting together is illustrated by plates 60 and 61, though the work is still incomplete.

1. Thera II, colour plate B No. 4 and p. 27 fig. 35.

2. I remember with emotion that we began together this work at Amnissos more than a generation ago (ΠΑΕ 1932, p. 88 f.). I was young and he was a youth. Ever since we developed the method, which our simple means made possible. Meanwhile, all fragments were safely extracted, with the exception of just one light damage. To-day we are still working together in the place, where the excavation of Amnissos had led us after toilsome efforts of thirty years.

Something has been already told about the frescoes of Area Γ1. Plate 59,1 and colour pl. B,2 show the few fragments of the fine spiral, which apparently decorated the upper or lower part of a wall. In Area Γ10 and the adjoining North Court some fragments were collected among the fallen stones. Plate 59,2 presents two of these just after they were unearthed. Plate 60 shows the fragments fitted together by the Margaritof team.

As one sees, the subjects are rosettes appearing to lie at random along or on both sides of a wavy line. Two facts are prominent. First, the leaves do not belong to flowers but are angular pieces giving the clear impression of inlaid work. Secondly, the rosettes are dispersed as if they were nailed on the whitish surface. Figure 45 shows a clay «nail»; with such nails the Sumerians composed a kind of mosaic¹. The heads of these nails explain the form of our rosettes. Perhaps it would be premature to venture the explanation that in the Theran fresco we have a picture of the sky and the stars.

The most interesting group of frescoes was found in the «Room of the Monkeys» B6. Already in 1968 a fragment showing the head of a blue monkey was found in upper layers². In 1969 many other fragments were found showing lifeless designs; it was soon clear that we had, at the same time, a whole herd of blue monkeys moving to every direction. Unfortunately the pieces were not found under favorable conditions. For the most part they were pressed together at or near the NW corner of the room, where they had been precipitated together with stone slabs of an upper floor. Often the slabs were so firmly fitted on the North wall of the room, that we mistook them for an «orthomarmarosis» of schist slabs. Many of the greater pieces of the fresco were found lying perpendicularly

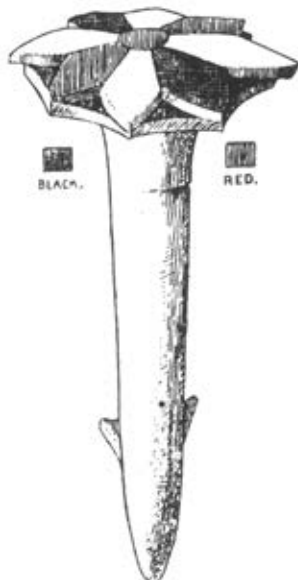


Fig. 45. Clay rosettes in form of nails, employed by the Sumerians for the decoration of architectural surfaces.

1. PM IV, p. 124 - 5 and figures 95 - 6.

2. Thera II, colour plate B1.

among sandy ashes and stones. Much work is still needed, before we are able to conceive an idea about the composition. Plate 61 presents a monkey (*Cercopithecus Callitrichus*) collecting food. The red objects which almost all monkeys touch are possibly the rocks of red lava abounding on the island.

A great piece (pl. 62,1) shows two monkeys in natural size. The one goes up and the other moves in the opposite direction. Besides we see again the red conventional motive: «rocks», «desert» or the like. It seems that other kinds of animals were also represented in the same composition. A head, fragmentary of course, may be that of a dog or a bovine. Swallows fly in the air. One of them is almost entirely preserved (pl. 62,2 and colour plate B,1). Finally, great fresco fragments were already found in 1968 in the same neighbourhood showing floral motives of myrtle and rush¹.

12. GENERAL CONCLUSIONS

There have been many discussions during the Thera - Congress about the fundamental questions; but the problems remain after all unchanged. Many distinguished scholars examined the ruins on the spot; the main questions, however, remain the same. According to the results of the excavations, already in the 3rd year, we have the following facts.

1) A strong earthquake had thrown to the ground all buildings of the settlement we are excavating.

2) Squatters used for some time the ruins as their dwellings; but this cannot have lasted for a long time; perhaps two years, perhaps a single one, or even a few months only.

3) The awakening of the volcano followed. Fine corns of pumice penetrated everywhere among the ruins, even inside jars and lit'la vases.

4) During the further progress of the eruption bigger pieces of pumice fell, shapeless but always angular, the biggest of them having the size of a melon. The usual size, however, is between that of an almond and an orange. A layer 4 m. thick was formed, which covered all the ruins. Minor quakes or the tremors of the blasts precipitated the still standing upper parts of the walls into the already stratified pumice. Then began the falling of fine dusty volcanic ashes mixed with lapilli of small size (usually between the size of a nut and an egg). The white

1. Thera II, pl. 5 - 6.

shroud of the ashes covered the whole island under a layer reaching 40 to 60 m. in thickness.

5) All ceramic products thus buried within the buildings, which are surprisingly abundant, fall into two classes: some are mat-painted of purely Middle Cycladic tradition and these constitute the great majority; and some are painted with lustrous colours. Some of them are imported from Crete and others are Mycenaean, while a subdivision seems to be imitation of genuine Minoan ware, either local or made in some still unknown centre. They reach the advanced phase of LM Ia, that is they belong, stylistically speaking, to the end of the 16th century B.C. We can accept an approximated date, 1500 B. C., but not later. Both classes of pottery were found together on the floors and they co-existed.

Now, it is an interesting fact, that the same catastrophe befell Knossos with equally disastrous results. It is clear that the same earthquake devastated Knossos and surely some other parts near Knossos, e.g. Amnissos, Archanes and Vathypetron. According to Sir A. Evans, writing at an «unsuspected» time, the Palace of Knossos shows clear indications of that catastrophe, dated LM Ia. But the Palace is a chaotic succession of catastrophes, conflagrations, repairs and rebuildings lasting more than six centuries. Therefore this catastrophe is not so clear in the Palace, as it is in the private houses surrounding the palace; and one example, perhaps the best, is the «House of the Frescoes», just because its painted decoration constitutes the altera pars of the Thera «Room of the Monkeys». In both compositions the elements are the same: rocky landscape, floral decoration, birds, a few animals and, as main subject, the life of the monkeys. Evans had recognized that the catastrophe of the House of the Frescoes happened in LM Ia period. We stress here that vases found on the floors of the house are identical to similar vases found in Akrotiri¹. It must be added that stylistically both frescoes show exactly what would be expected: In Knossos the refined, but a little effeminated and frozen and decorative tendencies of the Palatial artists; in Thera the painting is inferior in colour quality and the style is more crude, but more sincere.

Along with the House of the Frescoes, all the excavated houses of Knossos were similarly destroyed. Everywhere the traces of the seis-

1. Compare the chous PM II., p. 436 fig. 253 B with the similar pot in Thera II, p. 42 fig. 27.

mic catastrophe are LM Ia. Quite characteristic of this great, simultaneous and sudden catastrophe is that precious bronze or silver vases were buried under the ruins of the LM Ia period. According to the characteristic expression of Evans one in every three houses of Knossos presented bronze vases and implements and similar finds are known from Tylissos, Malia and Mochlos¹.

There can be no reasonable doubt that this great earthquake has been equally catastrophic for Thera and Crete. More careful investigation will probably show that in the Aegean and in Asia Minor, where the subterranean tectonic chasm penetrates, analogous catastrophes occurred. Indeed, I have indicated already in my paper in *Antiquity* of 1939 (p. 436) that such series of earthquakes either before or after an eruption, are typical for Thera. Here we have now evidence that the earthquake happened before the huge eruption. Is it possible to think, that just this quake awakened the volcano? Experts may examine this possibility.

The main question, however, remains always the same: how long after the quake did the action of the volcano begin? Our observations tend to show that the time that elapsed was very short, possibly one or two years or only a few months or a few weeks. We have no other indications than provisional walling in some places, provisional search within the ruins and scanty remains of the «squatters» activities. On the other hand, provided that the eruption began and ended within a short time, say some months or at the most two to three years (this is the opinion of the most competent authorities of the Thera Congress), we have to make the following statements:

Archaeologically speaking it is certain that the coastal settlements destroyed by the tsunamis (Amnissos, Nirou, Malia, Gournia, Psyrra, Mochlos, Zakros) yielded ceramic which is still LM Ia in date and identical to the more advanced elements of the Theran pottery. This is clear especially in Gournia, where pottery and implements are quite

1. The most interesting hoard of metal vessels is that of the North-West Treasure House, PM II, p. 627 f. See further p. 380 (South House), 390 (House of the Chancel Screen), 414 (North-East House), moreover, 421, 431, 623. The objects are series of Bronze vases and tools buried by a catastrophe in LM Ia. In PM III, p. 280 this same catastrophe is clear in the palace. It happened in mature LM Ia period, «about 1520», and is characterized as «a partial catastrophe». A similar hoard of bronze objects from Malia was published by me in BCH (vol. 53, 1929, p. 365-381) under the title: *Le «chernibon» homérique*.

analogous to similar objects found in Thera. On the other hand, however, there is pottery in the destroyed Cretan coastal settlements, belonging to the «Marine Style». This style is classified by archaeologists as LM Ib and dated to the period 1500 - 1450 B.C. Besides the Marine Style there is a further development of the floral motives. Archaeologists are based upon the style of the painted pottery; but it is perfectly possible, that this basis may be not so wide, as we suppose. The Marine Style as idea exists already in MM III and it appears already in the pottery, which we find in Thera (e.g. dolphins). What does not appear, is the especially attractive and showing new ideas LM Ib Style of Eastern Crete. But there are indications that this was a style peculiar to Eastern Crete, from where it had gradually expanded. It is well known that the powerful rulers whose protection created the styles, were jealous for their products and for their artists. The Daidalos legend is a proof of that ¹.

The summary of the questions is now clear; the questions capable to settle the «archaeological» difference between the ceramic styles buried in Thera and in Crete are two: first, how much time elapsed between quake and eruption; and, second, whether the eruption went down to its final cycle (that is the explosion and sinking of the volcano) in a few months (as in the case of Krakatau) or in some years (case of Tamboro). In this second case we have already some opinions of expert scholars, that there elapsed time between the beginning of the volcanic action in Thera (ejection of pumice) and the final paroxysm (ejection of dust and final exploding and sinking), but how much time?

We have already stated that in the first question the answer of the excavations hitherto realized is «not much time». To the second question the opinion of the competent authorities of the Thera Congress is that the eruption must have been only one. Its duration, from the first a-

1. Indeed, the LM Ib Style is earlier, more abundant and more exquisite, originally in Eastern Crete (Palaikastron, Zakros). It is for this reason that since a generation ago I have believed in the existence of a palatial centre there; in that period private initiative towards greater commercial enterprises was not possible. Only under the protection of the rulers-traders was a vigorous development of arts and art products possible. The facts justified my prediction (*Antiquity* 13, 1939, p. 426) and the palace of Eastern Crete has been discovered by prof. N. Platon. As we advance towards the West, the Marine Style products become more rare. In Gournia we have few pieces, still less in Malia. In Nirou we have but one and in Amnisos none. In the mansion of Vathypetron, destroyed in LM Ia, there are only two or three sherds belonging to the same vase, apparently a pitcher.

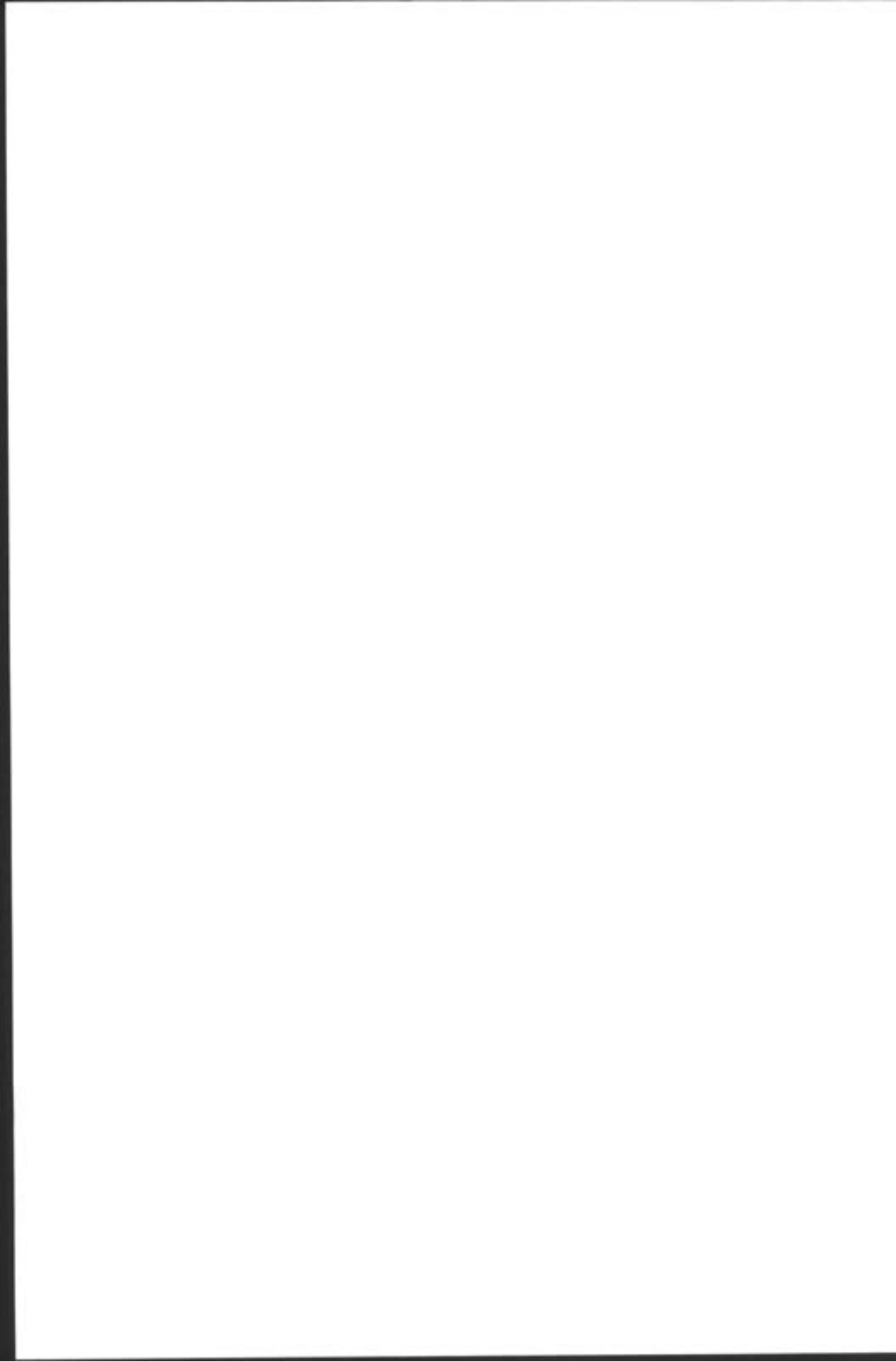
wakening to the paroxysm and the sinking of the volcano must have been some months or one year or at most three (as in the case of Tamboro). Was this time enough for the development of the Marine style as we see it in Crete? In Zakros, where this style was possibly developed under the protection of the palace, it appears indeed most advanced, so that any archaeologist would put if not a generation, at least twenty years between the ceramic styles of Thera and Zakros. For the volcanologists this should be, apparently, too much time¹.

However, our main thesis is this: It is safer to base our solution upon the laws of Physics than upon theoretical or stylistic combinations. It is impossible to imagine an explosion of the Krakatau-Thera type without tsunamis. It is impossible to ignore the catastrophic power of the tsunamis. It is impossible therefore, to imagine that Crete and other places in the Eastern Aegean escaped terrific damages by the tsunamis round 1500 B.C. It is around this basis that we have to pass our archaeological and chronological questions, not vice-versa. If there is no other solution, we shall revert to our original explanation² that the provincial style of Thera must have lagged a little behind the style of the Cretan centres. It has been indicated recently that local pottery in Sicily seems one generation more archaic than the actual styles of the metropolis (Corinth). This phenomenon has been observed more than once. It is just what is needed here to cover the distance between the Theran and Cretan ceramic styles.

1. In Krakatau the lapse of time between beginning and end of the eruption were the months between May and August 1883. In Tamboro the time that elapsed is three years. In the case of Pompei the seismic catastrophe occurred in 63 A.D. and the burial of the town by the eruption of Vesuvius came in 79 A.D. But let us abandon these problems to the search of the specialists.

2. *Antiquity* l.c. p. 428 - 431.

PLATES





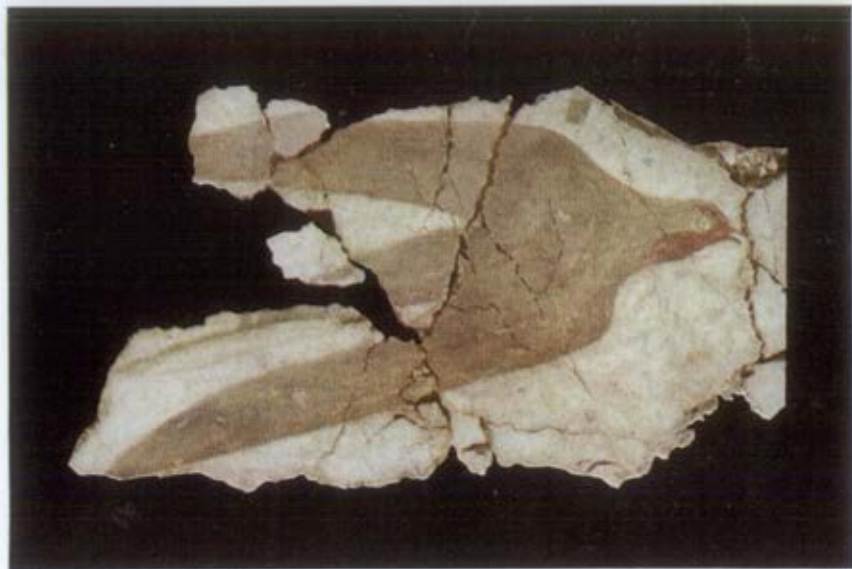
1. A strainer with lilies decoration.



2. A rhyton in form of a bull.



3. Cymbe with lily flowers.



1. A swallow from the Fresco of the Monkeys.



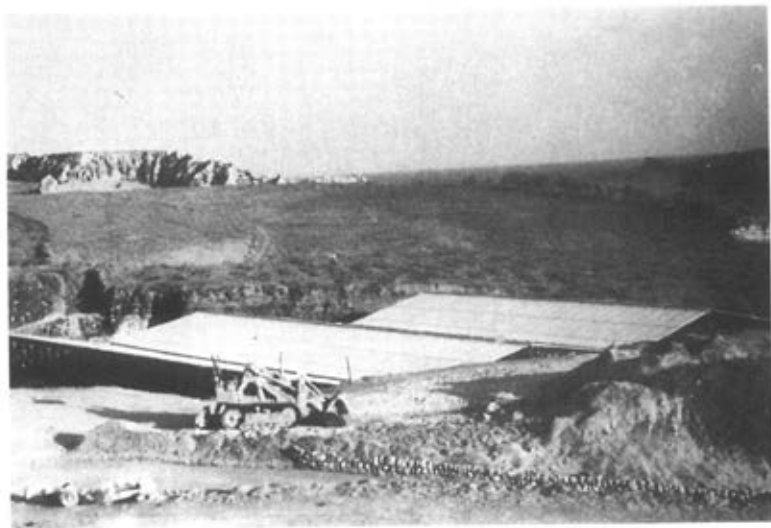
2. Spirals fresco from area Γ1.



1. A view of the excavation. Lower part, the great shed B; upper left, the little Museum and staff quarter; upper right, laboratories, store-rooms and the technical personnels quarter.



2. Shed of sector B from the North - East.



1. Shed of sector B from the West.



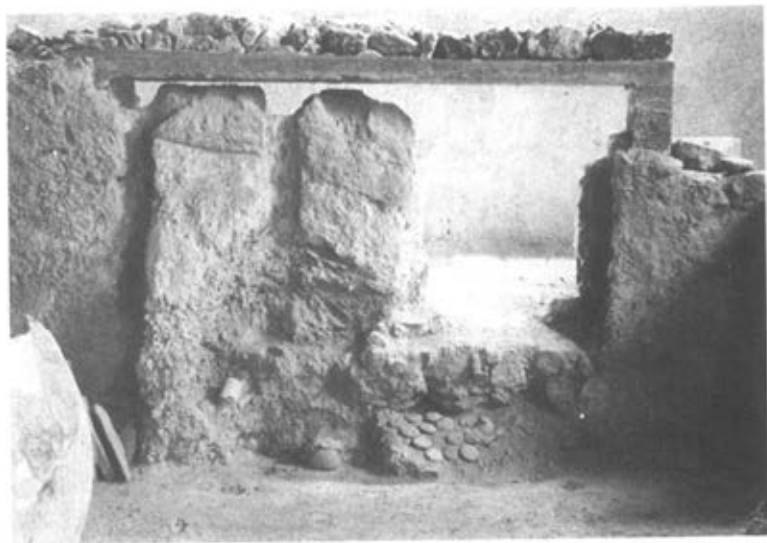
2. The Western wall of sector Γ, up to 1,50 m. thick.
Pillars 3 (in the background) and 4 are visible.



1. The well of pillar 1 of shed B.



2. Sectors B - Γ and the shed from the South.



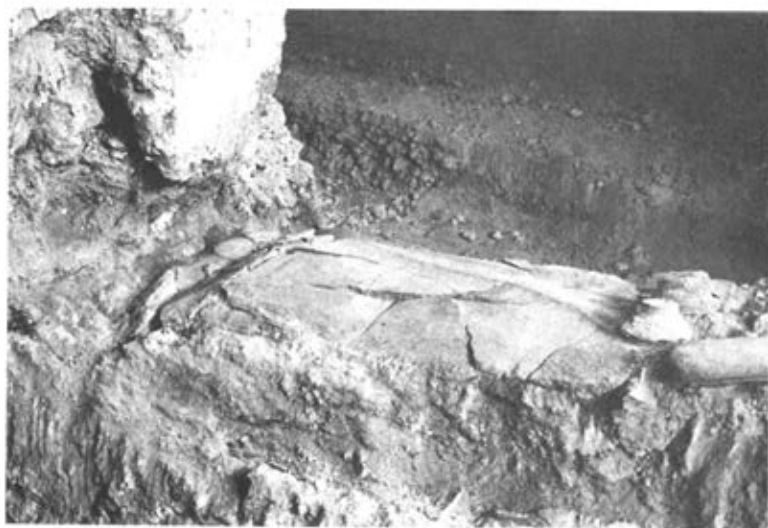
1. The broad window of Magazine A,1 from within. Under the window vases and loom-weights are still in position. On the tephra filling of the window one sees the imprint of an upright wooden support.



2. The window from within after complete cleaning.



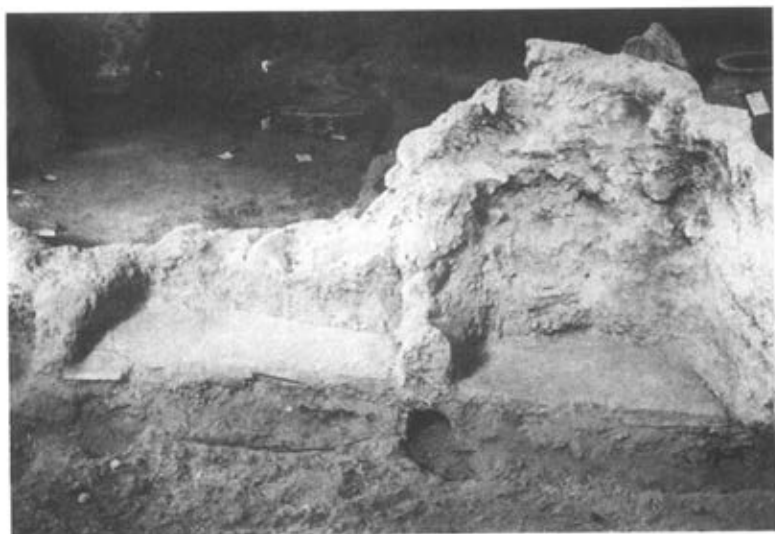
1. The right half of the window sill from within.



2. The left part of the window sill from within.



1. A nest of vases standing beside the partition wall between Magazines 1 and 2.



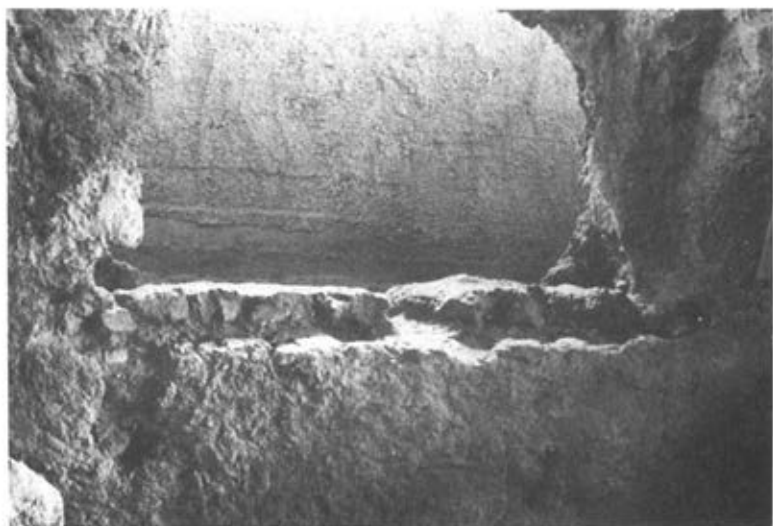
2. Magazine 2,2. The place where a scale and a «sivanotris» stood.



1. Magazine 2,3. A jar, an ewer and a cymbe in situ.



2. Magazine 2,3. The ewer and the cymbe as they were found.



1. Magazine 2. The sill of the window.



2. Western Room 2. The bull-rhyton as it was found.



1. Magazine 3,3 from the East.



2. Jars of Magazine 3,3 brought near to their original place.



1. The well of the Mill-Room pillar.



2. A corner of the Mill-Room.



1. An asaminthos (bathtub) painted with white reeds. Mill-Room.



2. The Western part of the Mill-Room.



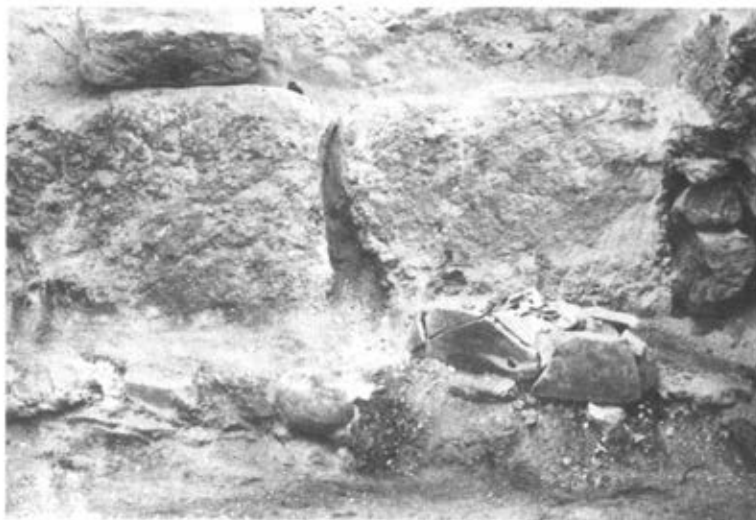
1. A basket in the NW corner of the Mill-Room.



2. The NW corner of the Mill-Room after removing the basket.



1. The tunnel of Quarter A.



2. The «Sunk House». Crude bricks on the window and a cymbe on its sill.



1. The «Steep Lane» of Quarter A.



2. A little bathtub (possibly a baby's cradle) fallen in the Steep Lane.



1. Vases fallen in the Steep Lane.



2. A House of the Steep Lane.



1. Three holes in the pumice (from a wooden object).



2. Entrance to the ashlar masonry Building D (=Bronou 1a).



1. The Vestibule of the same building. One sees the floor of great stone slabs and the ewer of the Grapes in the upper right corner.



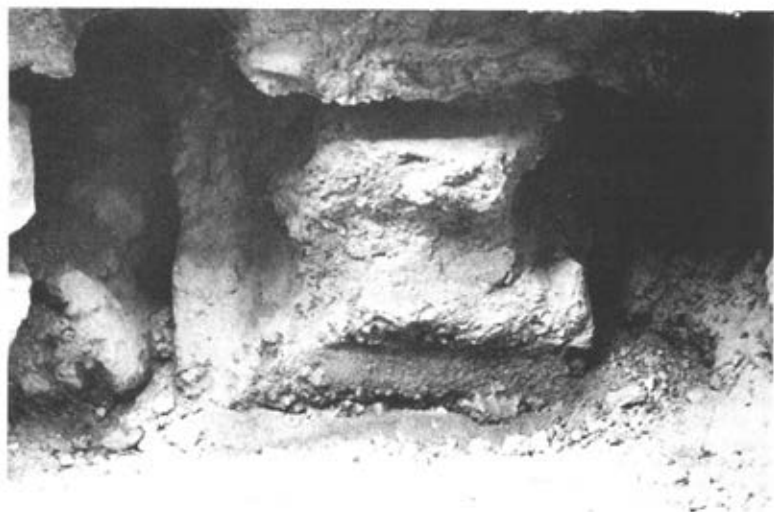
2. The quarter named «Bridges». A door, a jar and a room with traces of fire.



1. The «Bridge» from the West. All compartments of plates 16,2 - 18,1 are upper storeys.



2. A window of the «Dentated Building» (dimensions 45×45 cm., that is 1,5 feet) with the traces of a balustrade of three horizontal wooden rods.



1. Window of the Dentated building. Imprints of the balustrade.



2. The big building of ashlar masonry after the discovery of the basement.



1. The first layers of the Fire.



2. A layer of the Fire full of pottery.



1. A vase full of beans thrown into the Fire.



2. Clay oxen thrown into the Fire.



1. The Fire. To the right the red floor. Over it one sees the thickness of the burnt layer. In the middle the pit.



2. A stone bench and miniature dedicatory vases found in situ.



1. Double floor near pillar 6.



2. The South Quarter after removing the layer of pumice.



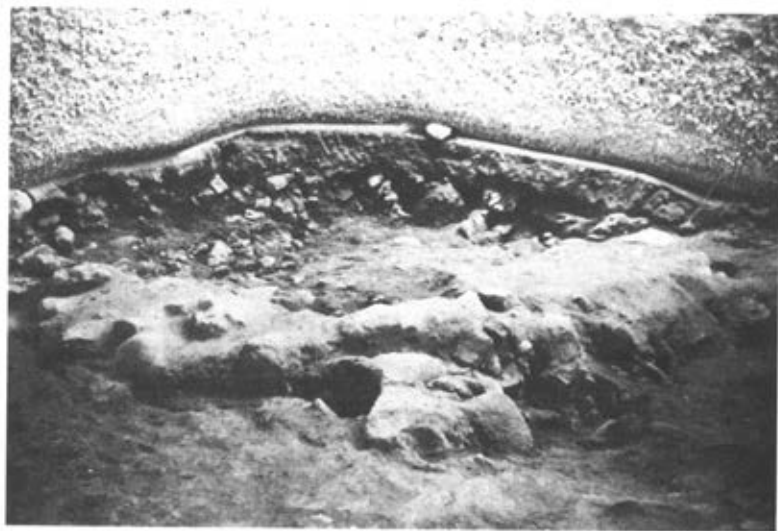
1. The «North Courts» (to the left) and quarters B-Γ.



2. The North Court from the SW.



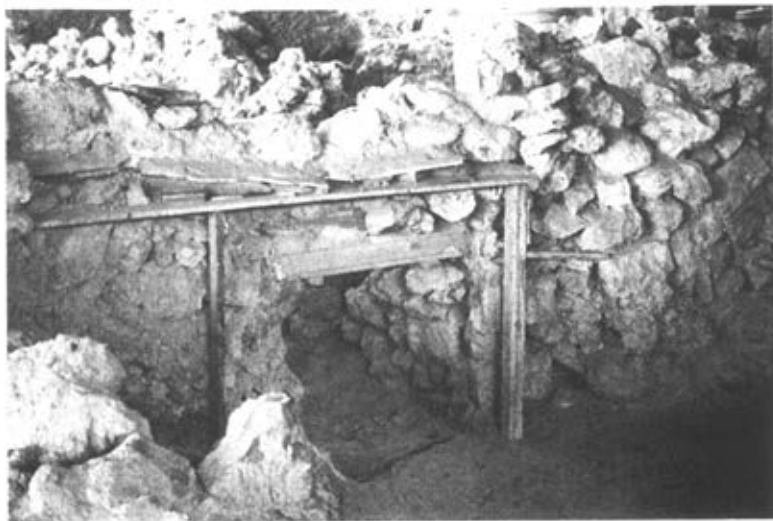
1. The quarter of the North Court from the East.



2. The Western heap of ruins of the court after its removal.
One sees the circular enclosing wall.



1. The SE corner of the court before cleaning it. To the right the beginning of the «Telchines Road» is visible.



2. The window of the Squatters from the Telchines Road leading to Room Γ'4b. One can see its geison (projecting part) of schist slabs.



1. The door from the Telchines Road toward corridor Γ5 after its cleaning.



2. The Telchines Road and the paved floor of the upper storey of Room B2.



2. The South window of the same road.



3. North window of the Telchines Road. Two slabs of the road are distinguished.



1. The floor of B2 seen from Room F4.



2. Area B6 from East.



1. «Room of the Monkeys» (B6) after its excavation.



2. A bothros-like cavity on the floor of the Room of the Monkeys.



1. North Court (upper part of photo) and area B5, the roof of which shows many holes.



2. The roof of the same area appearing as if it had been bombarded from lapilli of the volcano.



1. A provisional wall of the Squatters (area Γ'4).



2. Area Γ'1 near pillar 4. Cavity in the pumice (walled by us for safety purposes).



1. Area Γ, a fallen wall without being dilapidated. To the upper right of the photo one sees the slab-floor of B2.



2. The fallen wall of the above picture still showing its plaster.



1. The broken wall of the previous pictures. The lower part (to the right) stands still upright. Left side, the fallen part. Middle section: the space between the upright and the fallen parts of the wall, full of debris.



2. Southern part of Quarter Γ showing the layer of the catastrophe.



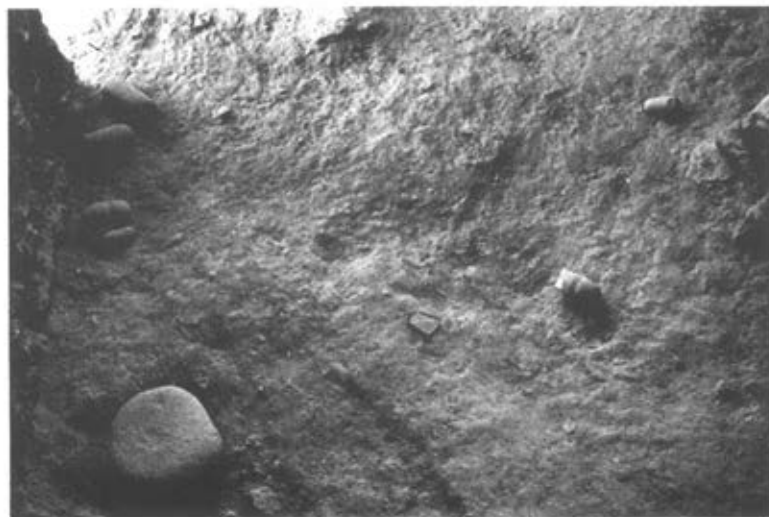
1. Areas F1 (right) and F2 (left). Lower part: the thick exterior (Western) wall.



A semi-circular provisional doorway of troglodytic workmanship.



1. Room Γ1 and the intact door toward Γ2.



2. Γ2. «Hammers» and «anvils» of stone.



1. Γ2. Anvils, hammer and a phallus-like hammer.



2. Γ2. Eastern wall with a series of schist slabs on the floor and a heap of spherical pebbles.



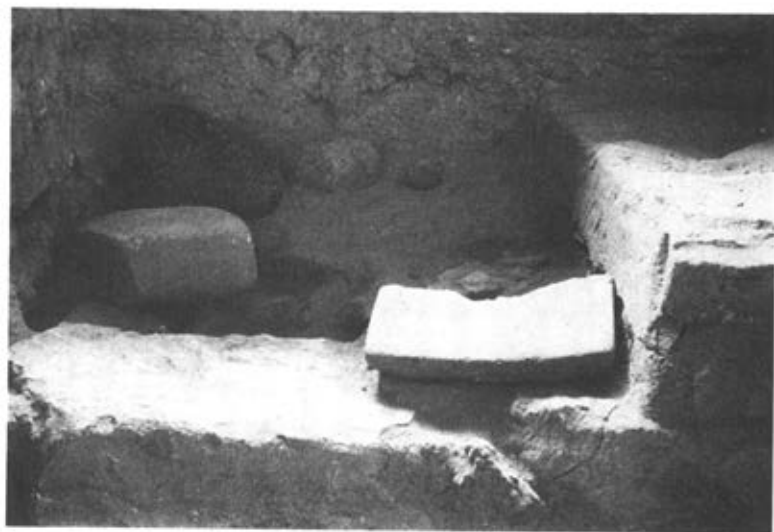
1. Γ2, A stand for water-hydrias. (In Crete it is still in use under the name σταμνοστάτης.)



2. The North-Eastern corner of the «Coppersmith's shop» with a cavity in the wall.



1. A little vase, probably of industrial nature found in Γ2a.



2. A stone vase, hammers and anvils on the staircase.



1. The great, saddle-shaped anvil of Quarter Γ.



2. Semi-circular cavities on the anvil.



2. The bathtub and other broken vases on the floor of the ruins used by the squatters.



1. A great bathtub as it was found, provisionally placed upon the ruins inside Γ 4.



1. Doors of Γ'4a and Γ'4 as they were found walled by the squatters. Over the lintel of the left door one sees a bit of the wall of the third storey.



2. The walling of the doors by the squatters.



1. The filling of Γ⁴a when taken away. The lips of two jars and other vases (fallen from above) begin to appear.



2. Quarter Γ seen from the North Court. Left: The «Telchines Road». Right: Corridor Γ⁵.



1. The Telchines Road and corridors Γ5 - Γ6 from the North.



2. Corridor Γ5 in the centre; in the background a gap in the wall (possibly an entrance to the basement).



1. A fallen lintel of the door from Γ7 to Γ6.



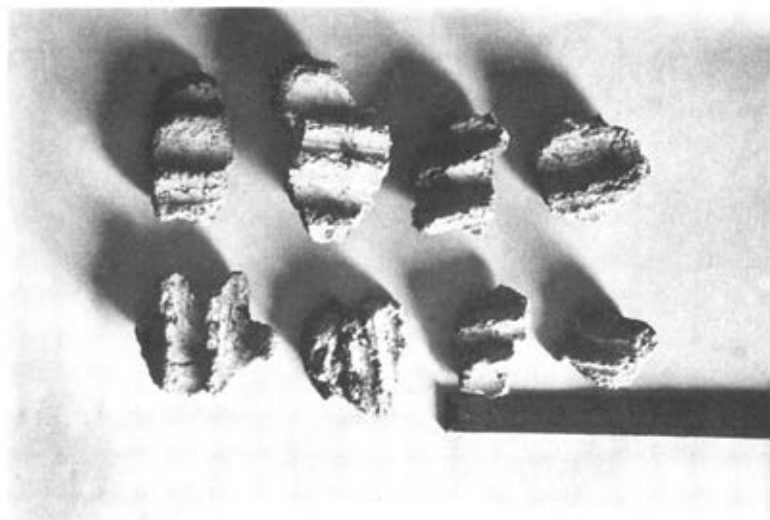
2. A print of the semi-cylindrical wooden door jamb of the door from Γ7 to Γ4a.



1. A plaster cast of the wooden frame of the North - Eastern door from $\Gamma 7$ to $\Gamma 6$.



2. Pumice under Corridor $\Gamma 6$ (from the South); the height of the layer reaches 0,60 m.



1. Plaster with prints of wooden tiges from T8.



2. Debris on the North - Western corner of T9.



1. Spouted ewer bearing foliated decoration in red branches.



2. A strainer 0,235 m. heigh. A2,3.



1. Broad-mouthed jar with reeds-decoration A3,3.



2. Broad-mouthed little jar 0,465 m. high. A3.



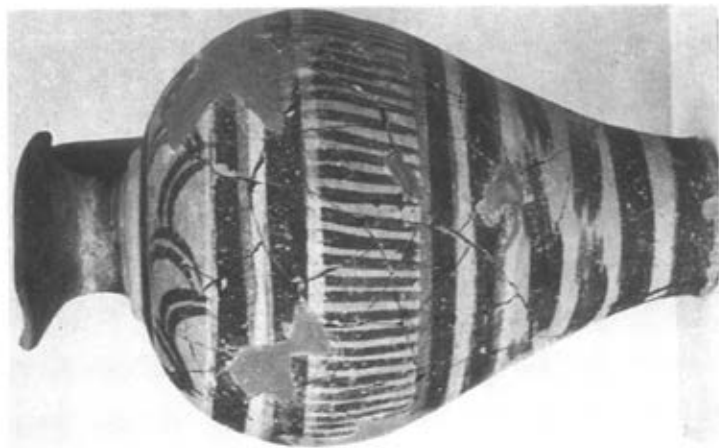
3. Skyphoprochus 0,20 m. high. A3,3.



3. Imported ewer.



2. Ewer 0,645 m. high. A4.



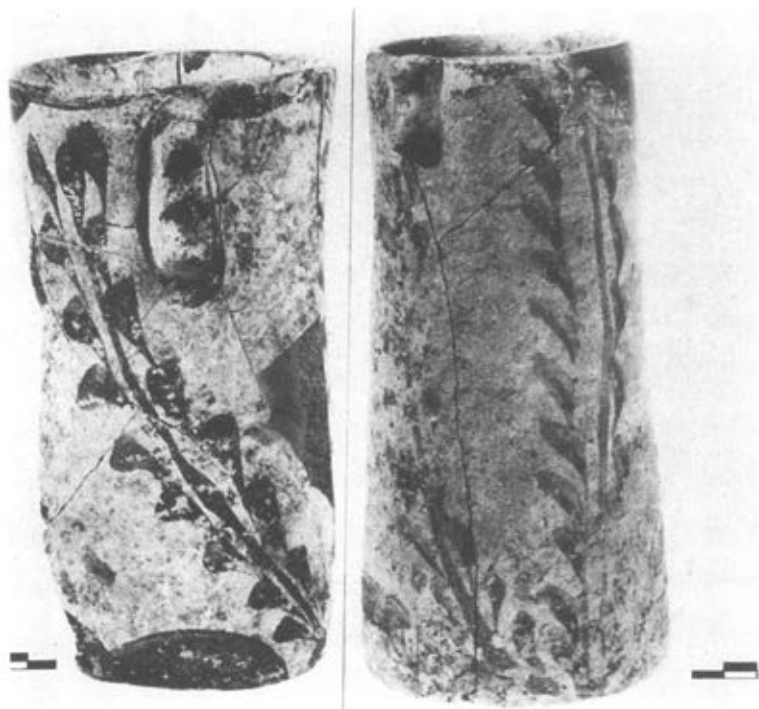
1. Ewer 0,525 m. high. A34.



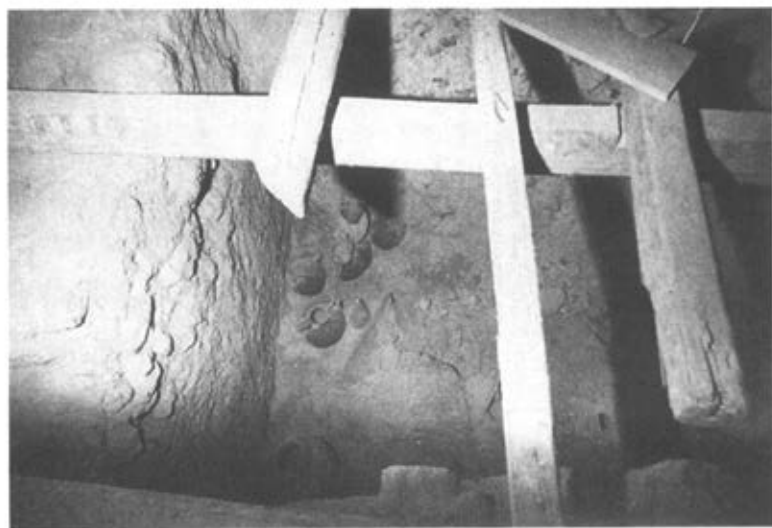
1. Three flower pots, the first from the Western room of the South Corridor, the other two from the well of the central pillar of shed A. Height 175,16 and 15,5 cm. respectively.



2. Holes in the bottoms of the flower pots.



1. Painted flower pots.



2. Western Room 2. Vases stored in the basement floor as seen from above through the scaffold erected to consolidate the floor of the upper storey.



1. Stirrup-jar 0,415 m. high. A3.



2. Exceptionally big stirrup-jar 0,52 m. high. A3.



3. Side-view of the Stirrup-jar no 2.



4. Upper part of the same vase.



1. Rhyton in form of a bull. Western Room 2.



2. The same rhyton.



1. Spouted basin found on the doorway of the door to the Mill-Room.
Greatest diam. 0,36 m.



2. Cymbe from «The Sunk House» 0,44 m. long.



1. Ewer with painted grapes.



2-3. Amphora imported from Crete 0,53 high. Room of the Monkeys.



1. Jar from the Room of the Monkeys' B5.
Height 0,665 m.

2. Marble idol 0,14 high. Pillar B12
(Photo Doumas).



3. Spouted stone vase. Store Room A2,3.



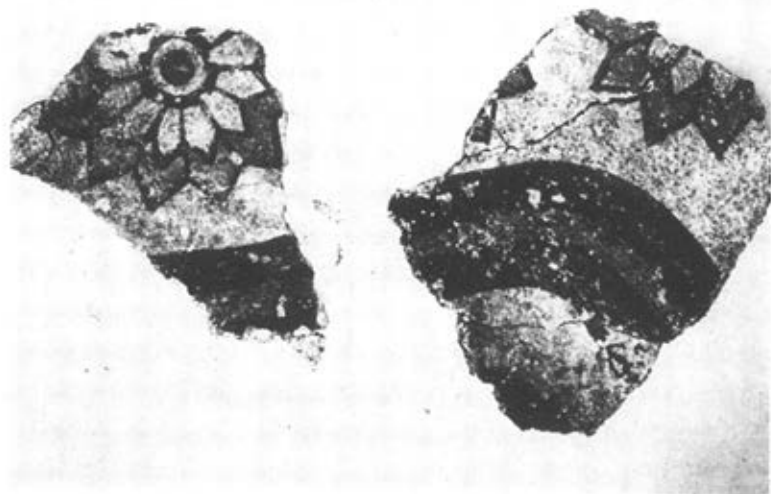
1. Stone implements, Γ2.



2. Stone implements in different depths inside room Γ2.



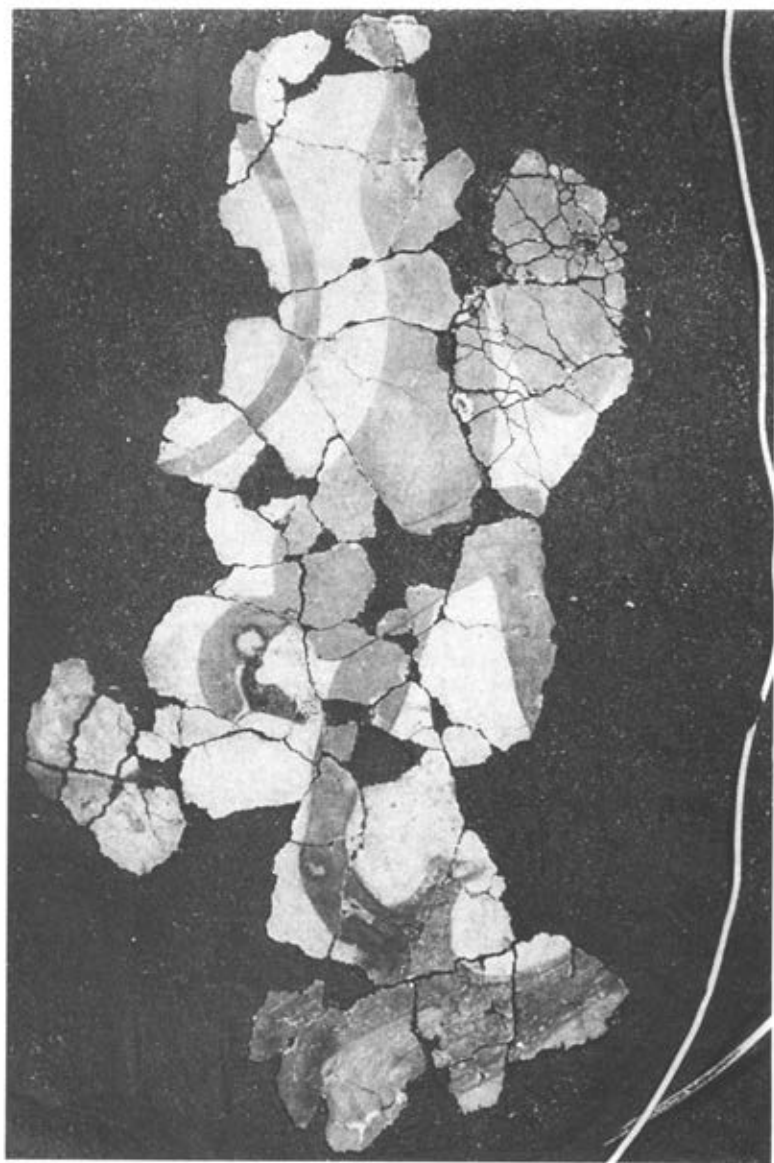
1. Fresco from the South - West corner of sector Γ.



2. Fragments of frescoes from the Western part of the North Court.



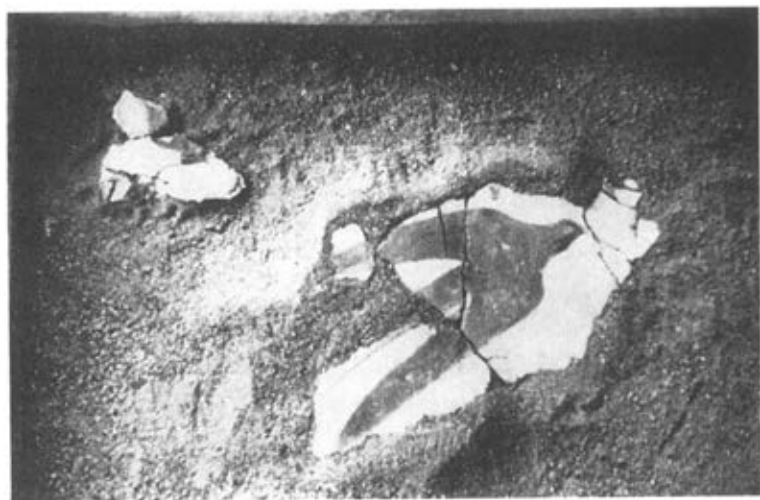
Fitted fresco fragments from North Court and T10.



A big blue monkey (almost 0,90 m. in length) in search of its food among the rocks.

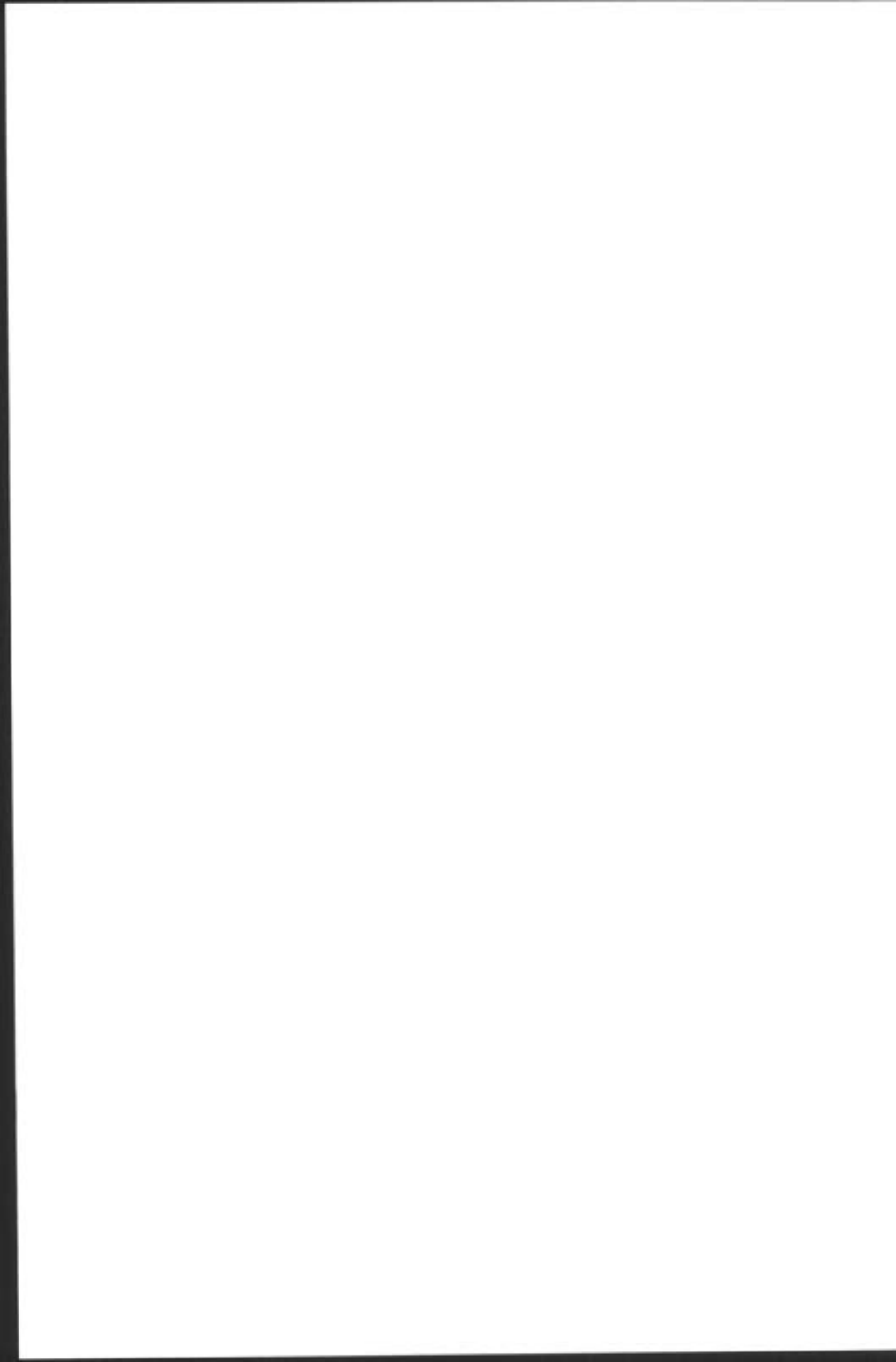


1. Two monkeys in antithetical movement.



2. A swallow from the fresco composition of the Blue Monkeys.

PLANS

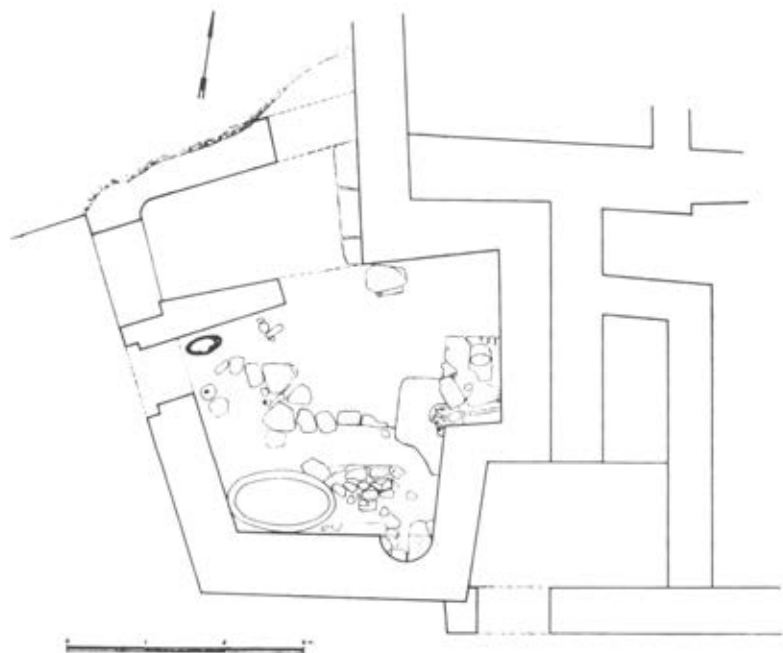




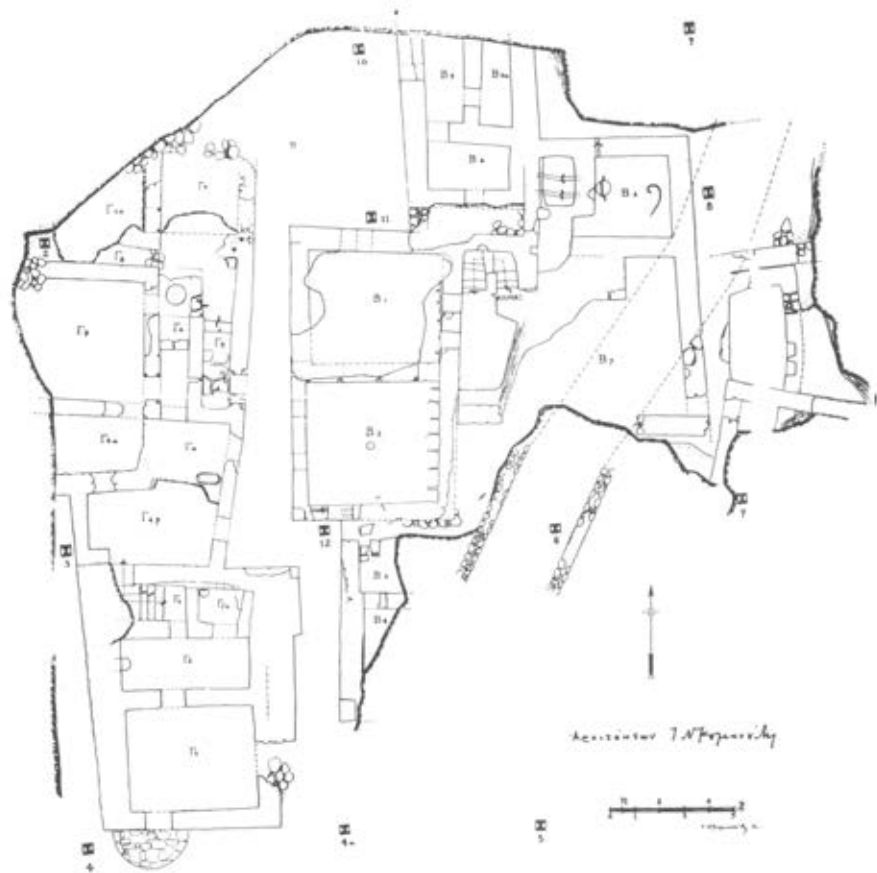
General plan of the excavations at Akrotiri.



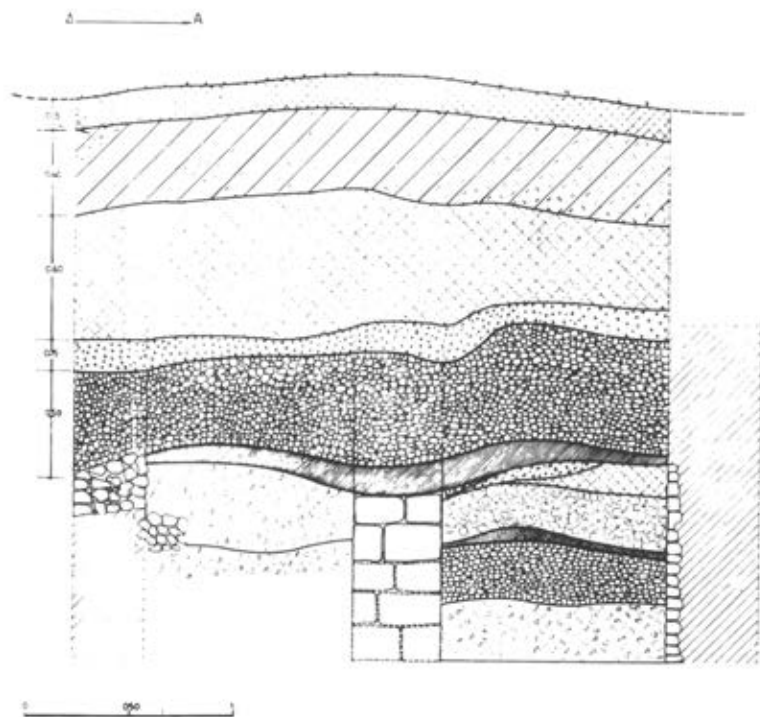
Plan of Sector A and of the Tunnels opened to the West of it.



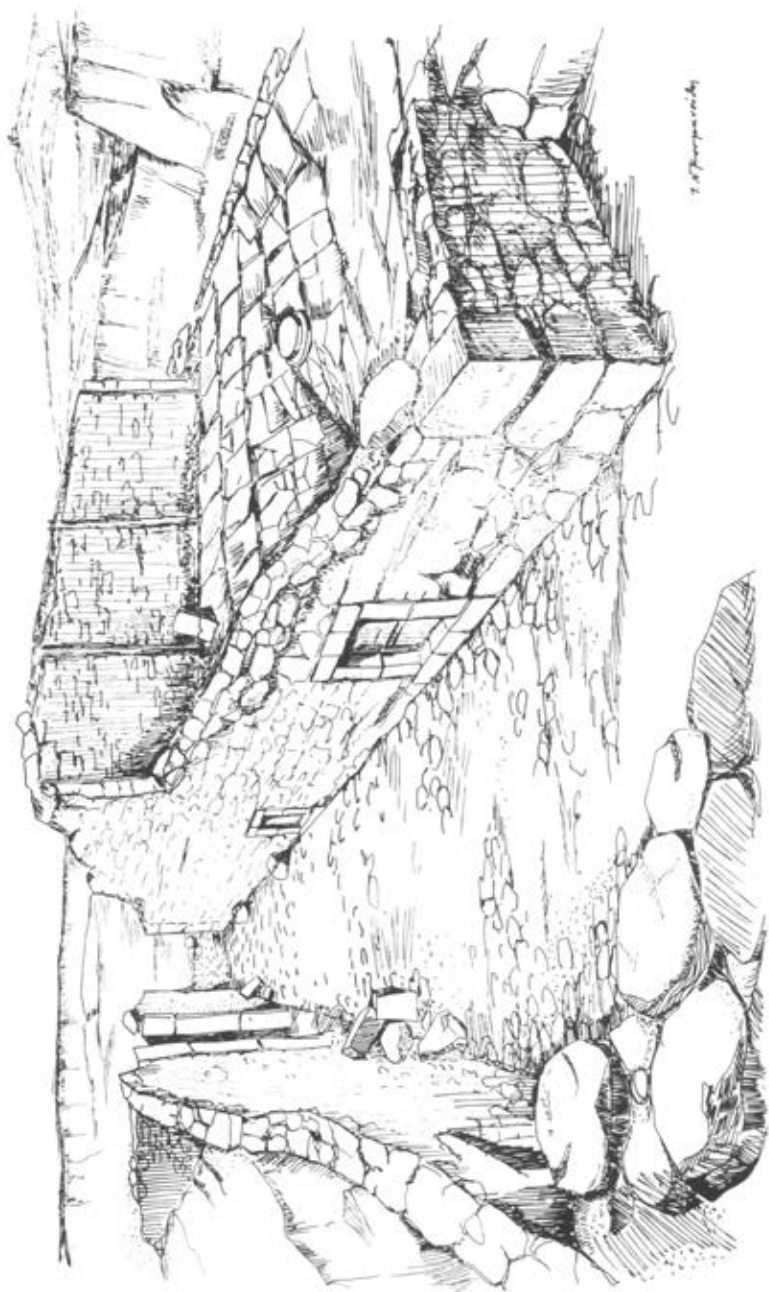
Plan of the Mill-House.



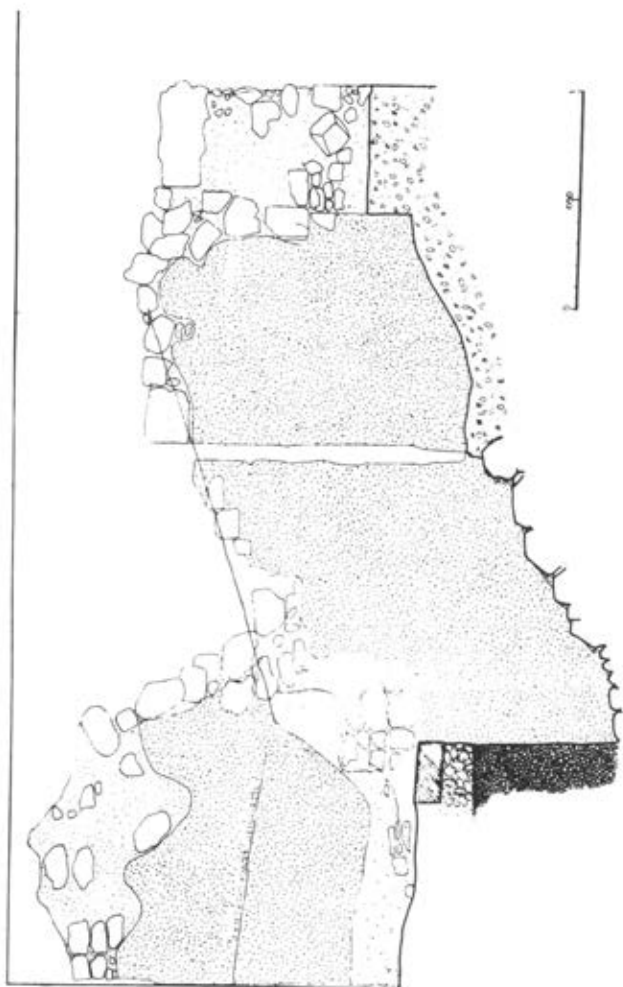
Plan of Quarters B - Γ.



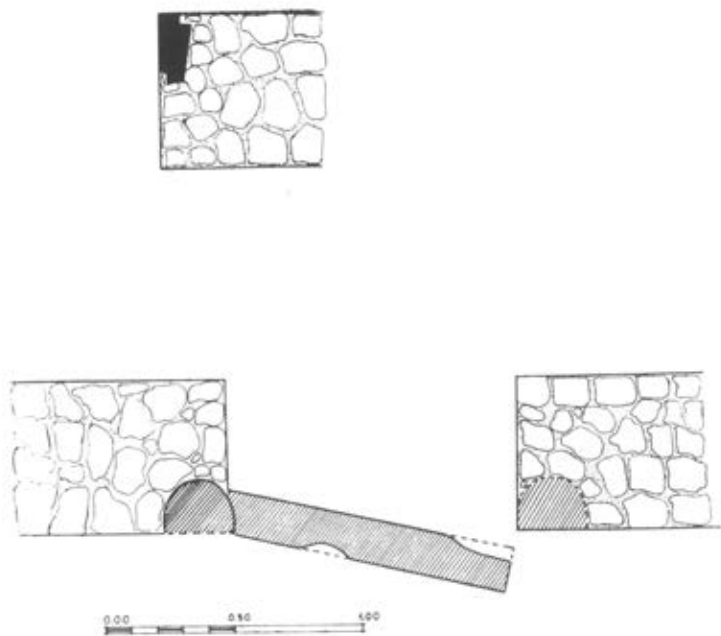
A section in B5.



A view of the Telchines Road.



A section of the wall Γ5 - 6.



Sections of wooden jambs in T7.



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OF THE *EXCAVATIONS AT THERA I-III*
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