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The cover illustration depicts the theatre of Delphi.  
Photo by R. Frederiksen, see p. 135, Fig. 1.

The Greek-Danish Excavations in  
Aetolian Chalkis 1997-1998.  
Second Preliminary Report

*Edited by Søren Dietz, Lazaros Kolonas, Sanne Houby-Nielsen  
and Ioannis Moschos*



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# Acknowledgements

*Søren Dietz and  
Lazaros Kolonas*

The field project in ancient Chalkis, Aetolia near the small, present-day fishing village of Kato Vassiliki, is being carried out under the auspices of the 6<sup>th</sup> Ephoria of Prehistoric and Classical Antiquities in Patras and the Danish Institute at Athens. In 1997 Denmark was represented by the National Museum of Denmark, while the actual responsibility for the field work done in 1998 was divided between this museum and the Ny Carlsberg Glyptotek, Copenhagen. We are most grateful to the Greek Ministry of Culture for permission to carry out work in Chalkis and to the Consul General Gösta Enbom Foundation which, as during previous campaigns, covered the expenses of the Danish participation. Further support was provided by the Carlsberg Foundation. The community and the Mayor of Gavrolimni kindly made the old school in Kato Vassiliki available for storage and study rooms for the expedition.



# Preface

*Søren Dietz and  
Lazaros Kolonas*

The first preliminary report on the Greek-Danish surveys and excavations in Chalkis, Aetolia, was published in 1998 (PDIA II, 1998, 233-317) and covered the work done by the joint expedition during the years 1995 and 1996. It is from now on referred to as FPR. In that report we gave a brief introduction to the geographical setting, and the history of the Aetolian coastland on the Gulf of Patras, and presented some general considerations which determined the choice of the site.

During the first two campaigns, an intensive survey was accomplished on both sites under examination: Pangali on the east slope of Mount Varassova, and the small mound of Haghia Triadha on the coast in the central part of the valley, to the east of the village of Kato Vassiliki. In addition, cleaning of the visible walls was carried out.

The architectural remains on the surface were measured and drawn on a plan. Finally, a grid system was introduced on both sites in 1995. In 1996 excavations were carried out at strategic points on the Haghia Triadha hill in order to gain an impression of the architectural remains. A geological study was initiated in order to trace the history of the changing shoreline from Antiquity to the present day. Finally, a small trench, 2 metres square was opened at the Final Neolithic site at Pangali in order to gain an impression of the stratigraphical situation on the site.

In 1997 and 1998, research was carried out on the Haghia Triadha hill only. An intensive cleaning in 1997, on the eastern side of the hill, of stone concentrations fallen from the upper part of the Byzantine fortification wall, created the oppor-

tunity to excavate the ancient strata in this part of the site. Two trenches were opened in the southeastern part of the middle terrace, and a trial trench, around the middle part of the eastern wall, which extended from the Byzantine wall to the border of the plateau. A second trial trench further north extended from the Byzantine wall to the slopes below the middle terrace testing the construction and stratigraphical position of the stone walls running peripheral to the oval mound in this part of the hill. The trial trenches were continued on the Acropolis, but except for Byzantine foundations and layers close to the defence wall, the layers above bedrock were modest.

The existence of marine deposits has been demonstrated during the geological survey to the west of the mound towards the village of Kato Vassiliki proving the existence of a bay in ancient times. AMS-datings of sediments show the existence of such a bay during the transition to the early Bronze Age (3310-2930 BC) and during the transition between Middle Helladic and Late Helladic (1750-1630 BC). Both periods are well represented in the archaeological material excavated on the hill. More research is necessary in order to estimate the extension of the bay at different periods and the character of the harbour of Chalkis mentioned in ancient literary sources. The geological survey thus unambiguously stated that the harbour has to be found on the west side of the hill.

In 1998, the excavation continued in the trenches opened on the middle terrace in 1997. In addition, two trial trenches were opened on the west side of the mound, in



Fig. 1. Participants in the campaign 1997.

order to establish documentation of habitation, and eventually harbour installations, at the waterfront in the small bay. Only one of these trenches was excavated extensively. In one area bedrock was reached 3.75 m below surface.

*The participants in the two campaigns were the following (Figs. 1-2):*

*1997:*

*Project leaders:* Søren Dietz and Lazaros Kolonas

*Field directors:* Sanne Houby-Nielsen and Ioannis Moschos

*Archaeologists:* Michalis Gazis and Konstantina Soura

*Surveying:* Charalambos Marinopoulos and Christos Kolonas

*Pottery registration:* Jonas Eiring

*Geology:* Kaj Strand Petersen

*Photography:* Hans Henrik Frost

*Conservation:* Leonidas Pavlatos

*Technicians:* Augerinos Anastasopoulos, Dimitrios Evangeliou, Spyros Pittas, Eugenios Tsamis and Apostolis Zarkadoulas

*Students:* Søren Fredslund Andersen, Craig Barker, Elizabeth Bollen, Jesper Jensen, Sine Toft Jensen, Kim Jessen, Louise Mejer, Kirsten Kvist Hansen, Heidi von Wettstein, Trine Eltang, Theophanis Mavridis.

*1998:*

*Project leaders:* Søren Dietz and Lazaros Kolonas

*Field directors:* Sanne Houby-Nielsen and Ioannis Moschos

*Archaeologists:* Michalis Gazis and Konstantina Soura

*Surveying:* Charalambos Marinopoulos and Christos Kolonas

*Pottery registration:* Jonas Eiring, Elisabeth



*Fig. 2. Participants in the campaign 1998.*

Bollen, Kirsten Kvist Hansen and Hildgunn Borup

*Geology:* Kaj Strand Petersen

*Tiles:* Claus Grønne

*Photography:* Hans Henrik Frost

*Conservation:* Leonidas Pavlatos

*Technicians:* Augerinos Anastasopoulos, Dimitrios Evangeliou, Spyros Pittas, Eugenio Tsamis and Apostolis Zarkadoulas

*Students:* Annette Højen Nielsen, Mette

Hvelplund, Dorthe Blaabjerg Nissen, Anna Høher Kiil Jørgensen, Christine Lorentzen Nielsen, Peter Rose, Søren Skriver Tillich, Julie Maria E.F. Mortensen, Marina Thomatos, Hege Alisøy, Theophanis Mavridis, Panagiota Galiatsatou, Marianna Demopoulou, Nancy Katsaiti, Vlachia Michalis, Chara Skarmea, Paraskevi Staikou, Panagiota Tsakalou, Antonia Sidiropoulou

*Logistics:* Ann Thomas



# Excavations on the Hill of Haghia Triadha

Sanne Houby-Nielsen, Ioannis Moschos and Michalis Gazis

## Introduction

During five weeks in the summer of 1997 and 1998, the Greek-Danish archaeological project continued its investigations in the area of Kato Vassiliki. In both seasons the investigations were concentrated on the hill of Haghia Triadha east of the village.

Five long trial trenches and three excavation-units were excavated. The total length of the excavated trial trenches, four of which were 1 m wide and one 2 m wide, came to just under 140 m, and the excavation units to approximately 160 m<sup>2</sup> (Fig. 3). Most of these trial trenches and the majority of the excavation units were excavated down to bedrock. The depth of the trial trenches ranged from about 0.10 m to 3.75 m, and the character of the

stratigraphy varied from floating layers and deposits to fairly well-defined cultural layers. All trenches and units produced architectural remains, which were surveyed. The excavation results are presented preliminarily in more detail below.

With regard to the registration of finds from the 1997-98 excavations these amounted to approximately 60.-70.000 potsherds, approximately 4000 kgs of tile, and 500 small-finds (see the report by J. Eiring). Among the small-finds, the coins have been given preliminary treatment by G. Alexopoulou in this report. Apart from the excavations, registration of finds and surveys of architectural remains, the investigations comprised geological studies, study of the pottery from the Final Neolithic site on Pangali and work on the tiles from collapsed roofs found in situ was

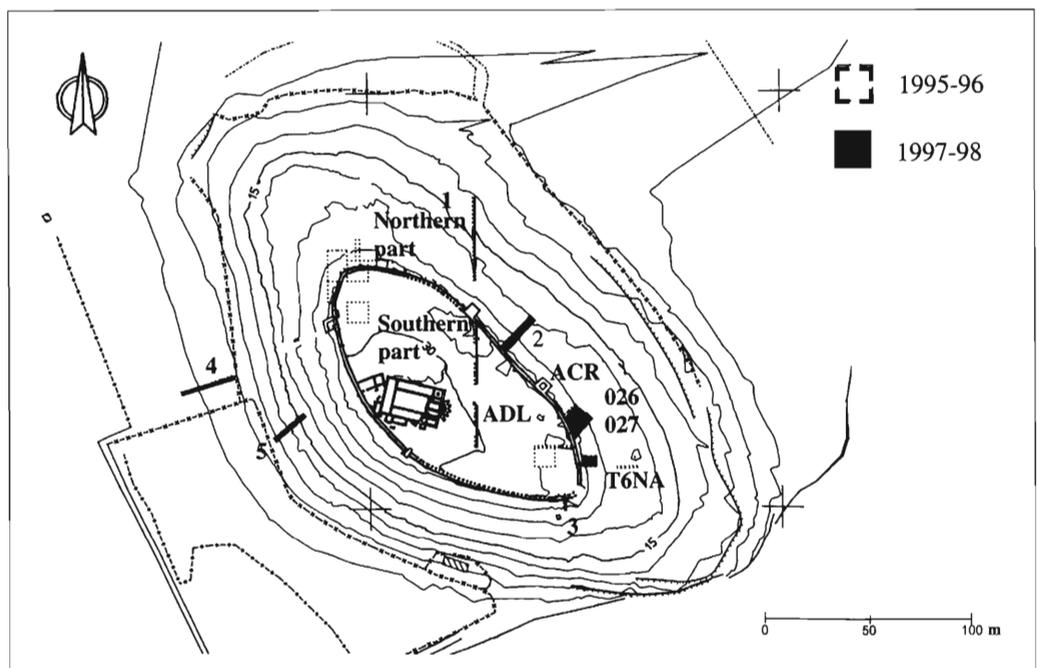


Fig. 3. The trial trenches and units excavated on the hill of Haghia Triadha 1997-1998 (Charalambos Marinopoulos).

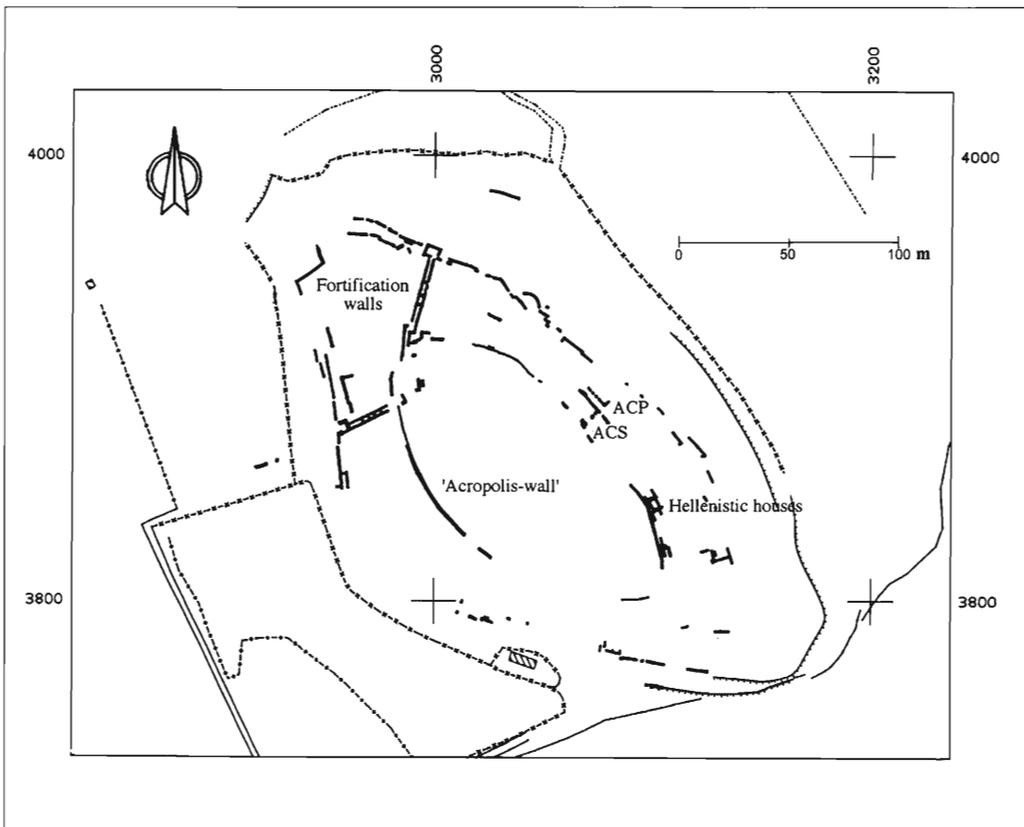


Fig. 4. Classical-Hellenistic Chalkis. Map showing the Classical-Hellenistic remains excavated and cleared during the campaigns 1995-1998 (Charalambos Marinopoulos 1998).

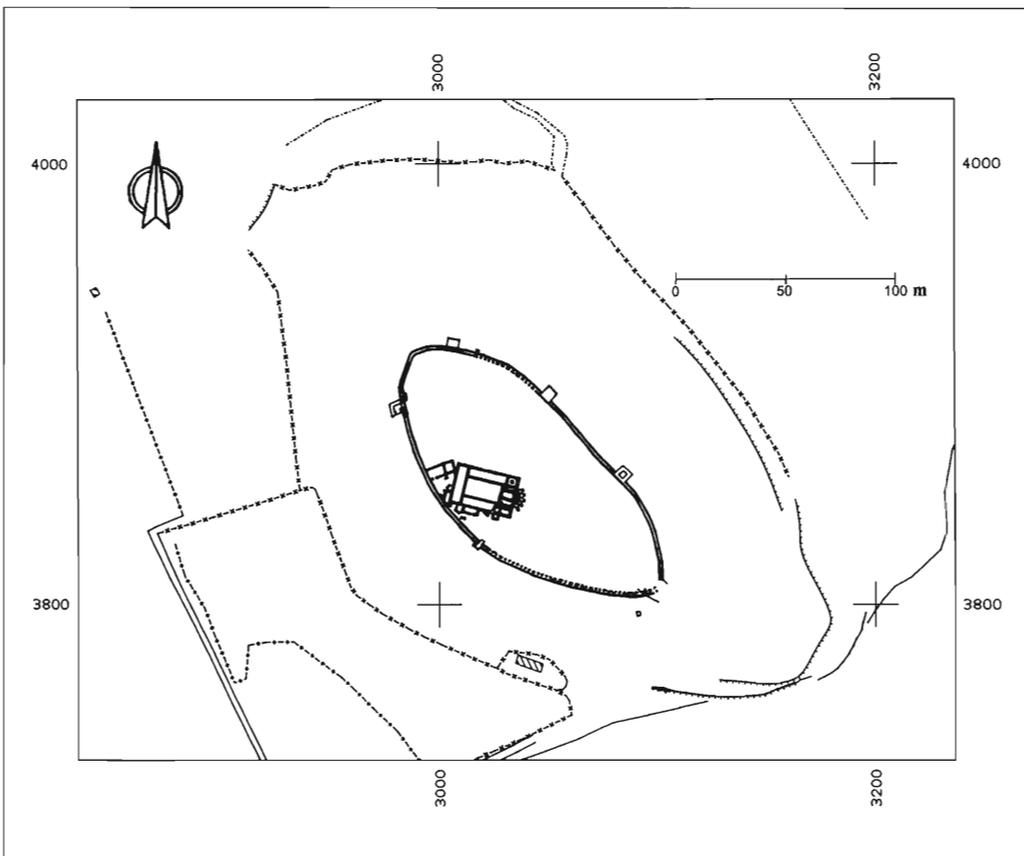


Fig. 5. Byzantine Chalkis, later the episcopate Baresobés. Map showing the Byzantine fortification wall excavated and cleared during the 1995-1998 campaigns in relation to the Byzantine basilica excavated by A.D. Paliouras (Charalambos Marinopoulos 1998).

Fig. 6. Byzantine tower ACR.  
(Photo: Henrik Frost).



begun (see the reports by K. Strand Pedersen, T. Mavridis and C. Grønne).

It should also be mentioned that a couple of ancient limestone blocks similar to those used in the classical fortification on Pangali and Haghia Triadha were observed in one place in the western part of Kato Vassiliki and close to the road leading towards Gavrolimni about 2 km from the sea. Finally, the 6th Ephoria carried out emergency excavations of Hellenistic tombs along this road during the autumn and reinvestigated two grave reliefs in the Museum of Agrinion which were said to come from the region of Kato Vassiliki (see the report by I. Moschos).

All in all the archaeological investigations in 1997-98 have considerably increased our knowledge of the prehistory and early history of Chalkis and of the Classical-Hellenistic town (Fig. 4) as well furthered our understanding of the Byzantine fortification and its relation to the Early Christian basilica (Fig. 5).

## Surveys of the Byzantine fortification wall and the Classical 'acropolis wall'

Surveys of the Byzantine fortification-wall and the Classical circuit-wall – from now on referred to as the 'acropolis wall' – began back in 1995 and were continued in 1996. During those campaigns long sections of both walls and part of two towers belonging to the Byzantine wall had appeared.<sup>1</sup> In 1997-98 the surveys continued and a third, well-preserved tower (ACR) came to light (Figs. 3, 6). Tower and wall were constructed as a single unit and thus clearly built at the same time. The bottom part of a large pithos was found embedded in clayish soil in the Byzantine wall just behind the tower indicating that this level had once served as a floor level. Among the finds in the debris of the tower, a fragment of a Classical terracotta sima from a gable deserves mention. It is decorated with a band of 'running palmette' and 'bead-and-reel' paint-



Fig. 7. Fragment of a Late Classical terracotta gable-sima (F97-7) decorated with a band of 'running palmette' and 'bead-and-reel' found during clearing near tower AQR (Photo: Henrik Frost).

ed in red and black on a white slipped surface (Fig. 7).<sup>2</sup> The Archaic or Early Classical bronze handle from a cauldron or basin shown in Fig. 8 was likewise found close to the tower<sup>3</sup>.

Long sections of the Classical 'acropolis wall' could be traced almost all the way around the hill sometimes under or directly in front of the Byzantine wall,<sup>4</sup> sometimes running parallel to the Byzantine wall at a distance of up to about two metres (compare Figs. 4-5). As far as can be judged from the present state of excavation and surveyings, the 'acropolis wall' is constructed of a single row of large, cut sandstone blocks which are sometimes built up against the rock and sometimes against an earth- or stonefill (Fig. 9). This is described in more detail in the section dealing with the excavation-units O26, O27 and T6NA.

## Trial trenches

In order to gain an overview of the stratigraphy of the hill, long trial trenches were laid out at five different locations (Fig. 3).

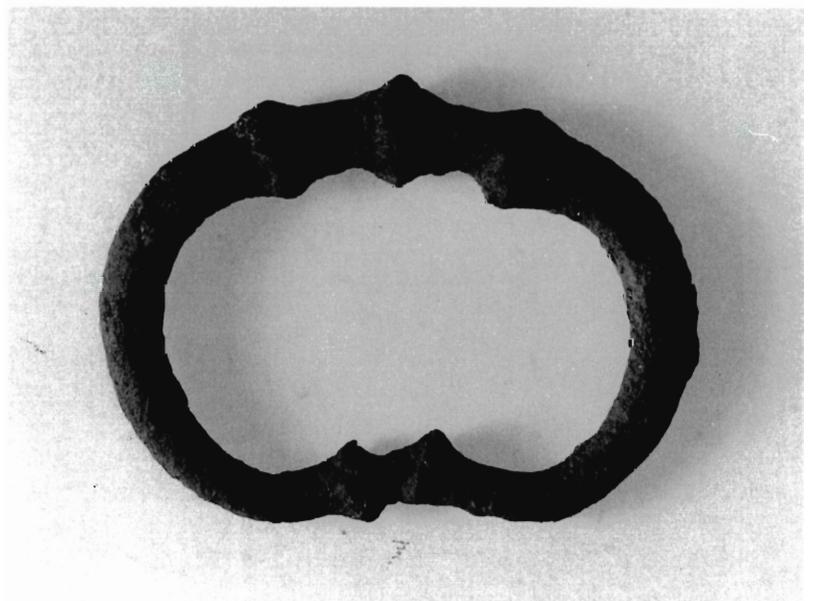
### *Trench 1 (Tx30-35, Tx4-7)*

One 1 m wide trial trench was opened out over a distance of 100 m in a N-S direction, 80 m of which was excavated. The southern part of the trench cut across an upper plateau of the hill running

northwards towards the Byzantine wall. The northern part of this trench, to the north of the Byzantine wall, started at the edge of the middle terrace and ran from here down the lowermost slope of the hill across a series of parallel walls which had appeared at different levels during the clearing in 1995-96 (Figs. 3-4).

In the southern part of the trench, bed-rock was in most places reached very soon, and finds were of mixed date. The main exception was a pit (ADL in Tx33) which contained solely Early Helladic pottery (Figs. 3 and 10). The foundation trench for the Byzantine wall was excavat-

Fig. 8. Archaic or Early Classical bronze handle (F97-24) from a cauldron or basin found during clearing near tower ACR (Photo: Henrik Frost).





*Fig. 9. A view of excavation-unit T6NA in 1998 from the East showing the Byzantine wall in the background with the 'acropolis-wall' in front. In the foreground, room I and II (Photo: Henrik Frost).*

ed to a depth of about 2 m. It contained mainly stones and enormous masses of tiles but few sherds: all were of mixed date

(Archaic, Classical, Hellenistic, Byzantine). Excavation reached what seemed to be ancient deposits below the stonefill.

In the southern sections of the northern part of the trench (in Tx7 and Tx4), bedrock was reached at a depth varying from about 0,75 m to 1,25 m below the surface. In the following sections towards the north (Tx5-6), bedrock was reached at a depth of about 0,50 m below surface level. A couple of floating-layers covered the aforementioned series of parallel dry-stone walls and also some secondary deposited stonepackings which mainly contained prehistoric pottery (in Tx7 and 4). The Late Classical female head of a terracotta figurine, the neck of a Hellenistic unguentarium and the Late Classical loom weight with gem impression and stamped decoration<sup>5</sup> shown in Figs. 11-13 may serve as examples of the mixed finds and the remarkably large number of different types of loom weights from these layers.

No floors were connected with the parallel-running walls which crossed the



*Fig. 10. Fragments of a rim and base (bag 555) from Early Helladic coarse ware bowls found in a pit (ADL) in the southern part of trench 1 (Photo: Henrik Frost).*



Fig. 11. Late Classical female head of a terracotta figurine (F97-1019) found in floating layer in the northern part of trial trench 1. (Photo: Henrik Frost).



Fig. 12. Neck of a Hellenistic unguentarium (bag 47:1; T x4/2 N) found in floating-layer in the northern part of trial trench 1 (Photo: Henrik Frost).

trench at different levels and in some cases were supported by a stonefill. Initially the suggestion was made that the walls were those of terraces and not part of a fortification system. Ancient mixed deposits had accumulated in between the walls, the

finds of which generally ranged from the Geometric/Archaic to the Hellenistic periods (Fig. 14). However, at the northernmost end of the trench where the slope terminates on the plain, part of a floor, consisting of small, irregular stones packed with mortar was found just below the surface and immediately above bedrock.

Fig. 14. Rim sherd with part of handle (bag 268) from archaic louterion found in a mixed deposit (ADA) in between walls in the northern part of trial trench 1 (Photo: Henrik Frost).



Fig. 13. Late Classical pyramidal loom weight (F97-1031) with two holes, gem impression and stamped decoration from floating-layer in the northern part of trial trench 1 (Photo: Henrik Frost).

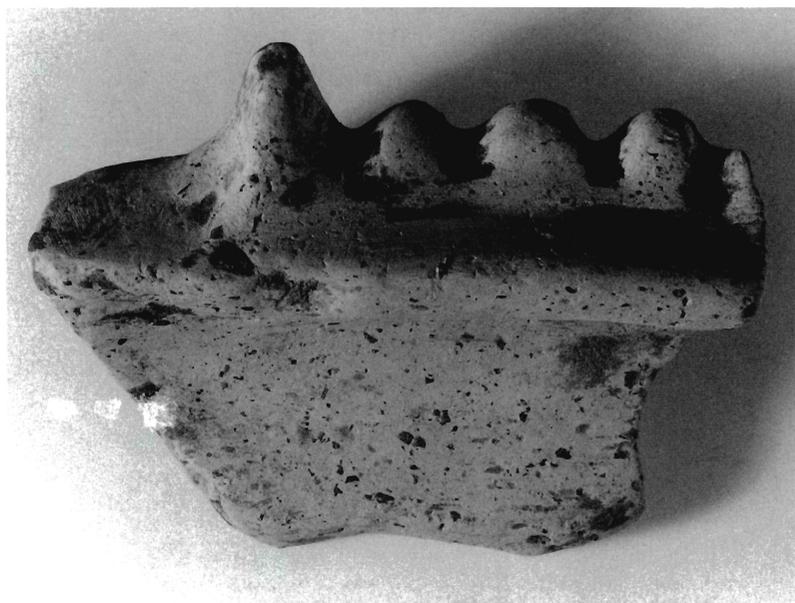


Fig. 15. General view of trial trench 2 from NE towards SW showing the long wall ACP in the foreground, the Byzantine wall in the background and in between these a series of housewalls.



#### Trench 2 (Tx20-22 and Tx41-43)

A second trial trench, 1 x 20 m, was laid out at right angles to the Byzantine wall on the Northern side of the hill extending down the slope and terminating in the natural terrace on this side of the hill. In

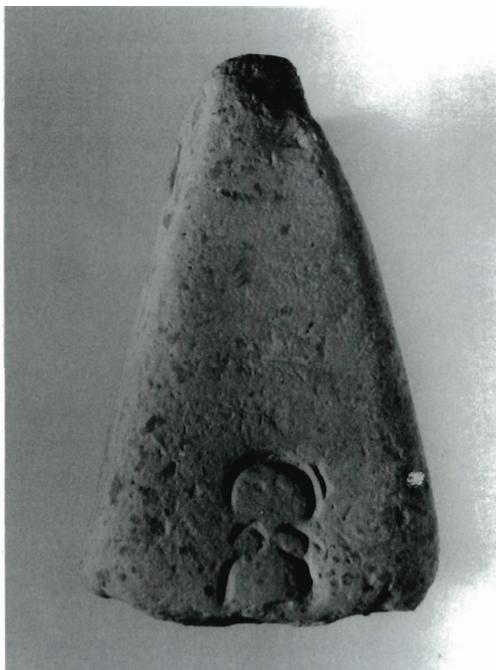


Fig. 16. Classical-Hellenistic pyramidal loom weight (F98-2002) carrying the same stamped decoration on all four sides, from the huge stone-packing in trench 2 (Photo: Henrik Frost).

1998, the trench was widened with a parallel-running 2 m wide trench (Figs. 3, 15). The trench was in most of its parts excavated down to bedrock which was reached at a depth of about 2 m. below the surface level at the Byzantine wall and at a depth of less 0.50 m in its north-easternmost part.

The upper – that is the southwestern – part of the trench was characterized by a huge stonepacking below the surface layer consisting of smaller and medium-sized rubble-stones, some tiles and sherds, and several loom weights one of which bore the same stamp on all four sides (Fig. 16). The stonepacking formed a characteristic slope being thickest at the Byzantine wall and thinning out towards the northeast. None of the finds from this stonepacking were later than the Classical-Hellenistic period, and not a single piece of mortar – characteristic of the stonefill stemming from the Byzantine wall – was in evidence. The stone packing therefore seems likely to have been part of a large stonefill originally from the upper part of the hill. Accordingly, the Byzantine wall appears to have been built from the SW up against the ancient stonefill in the area of this trench.

A series of ancient walls crossed the trench, the construction of which varied greatly. Starting from the SW, the first four of these walls appeared below the ‘ancient’ stonefill. The first among these, ACS – still counting from the SW – was built of large sandstone blocks which had partly slid due to the pressure of the stonefill (Fig. 3 and visible in Fig. 15 in front of the Byzantine wall). A wall built of much smaller stones, visible in the NE baulk line, ran up towards ACS at a right angle. The three following walls were drystone walls built of irregular rock-stones, one of which, however, was covered with plaster on the side facing the NE. The fifth and sixth walls appeared below the surface-layer and were built of large blocks of rock and sandstone, one of which (ACP) could be traced in the surface for at least 20 m (Fig. 3 and visible in Fig. 15). Finally, a drystone wall was visible in the baulk line in the

most north-easterly section of the trench (in Tx22).

A few disturbed, thin layers were excavated in between the walls below the “ancient” stonepacking and surface-layer. The upper one of these thin layers contained sherds from the Bronze Age, Classical, Hellenistic as well as Byzantine periods indicating that the “ancient” stonefill above them in this area was redeposited in Byzantine times. Among the better preserved pieces is a stamped amphora handle saying ΝΙΚΟΣΙΠΑΤΟΣ ΕΝΔΥΜΑΙ, a Late Classical plate and a discoid, probably Late Classical loom weight<sup>6</sup> (Figs.17-19). Sherds from the lowermost layers were tiny and very worn, but seemed mainly to range in date from the Archaic to the Classical period. Excavation reached a floor of hardstamped earth, pebbles and small sherds NE of ACP (Fig. 15).

Below the “ancient” stonepacking in between the Byzantine wall and the sandstone wall (ACS), an extremely hard-packed layer characterized by pebbles, medium-sized stones and disintegrated bedrock was excavated just above the bedrock, and contained only Bronze Age pottery, most of which was Early Helladic



*Fig. 17. Stamped amphora handle (bag 673;Tx21/3) from mixed deposits in between the house walls in trench 2 (Photo: Henrik Frost).*

(Fig. 20). Underneath, red, porous sandstone intermixed with charcoal and a few pieces of Early Helladic pottery was excavated directly on the bedrock at the level of the lowermost course of the Byzantine wall (Fig. 21).

Thus, the general impression of the stratigraphy of the trench at the time of writing is that the ancient walls date from the Archaic-Classical Period and partly rest on material stemming from prehistoric clearings. The walls must already have been demolished when they were covered by the “Classical-Hellenistic” stone-fill stemming from the top of the hill. The masons who constructed the Byzantine



*Fig. 18. Part of Late Classical plate with stamped decoration and rouletting (F97-4027) from mixed deposits in between house walls in trench 2 (Tx21) (Photo: Henrik Frost).*

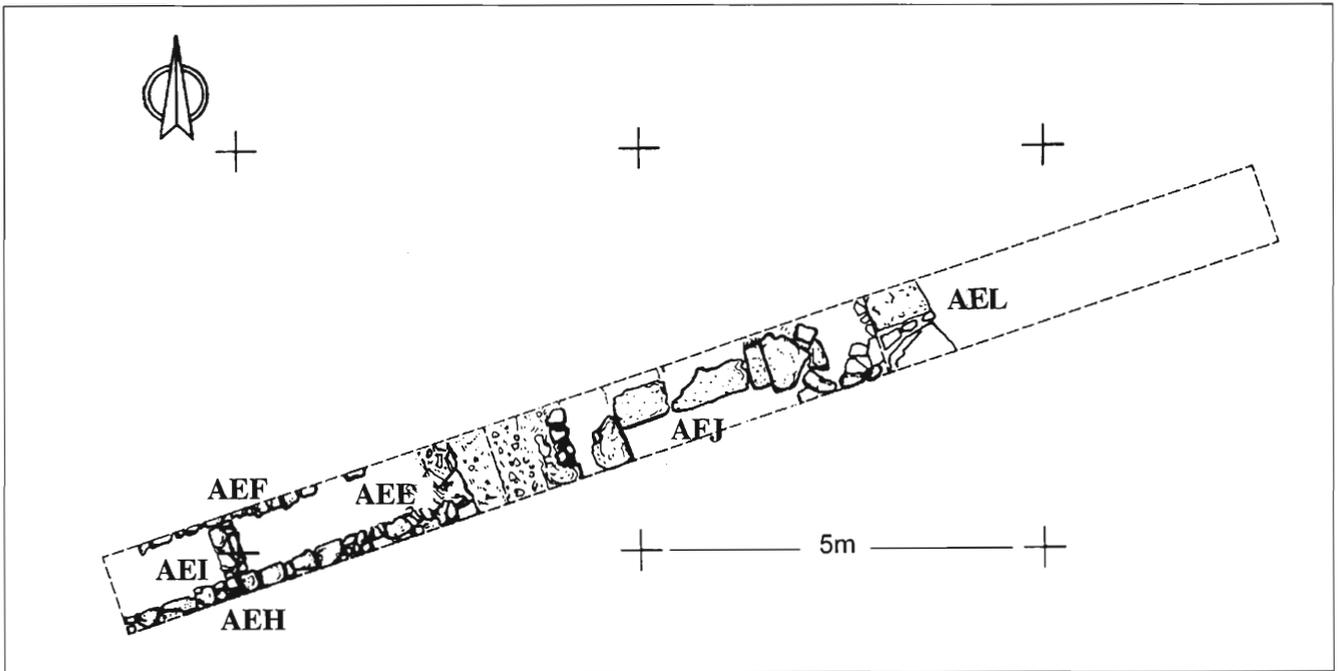
Fig. 19. Late Classical discoid loom weight with two holes (bag 648; Tx21/3 NW); from mixed deposits in between house walls in trench 2 (Photo: Henrik Frost).



Fig. 20. Fragment from large Early Helladic coarse ware jar with band of impressed decoration (bag 1260:3; Tx43/3a); from a bronze age deposit below the 'ancient' stonefill in trench 2 (Photo: Henrik Frost).



Fig. 21. Bottom of Bronze Age deposit (ADD) and lowermost course of the Byzantine wall situated on the bedrock in trench 2.



fortification wall utilized the 'ancient' stone-packing as support for the wall.

*Trial trench 3 (Tx40)*

This was a 1 x 3.50 m large trench which extended southwards from the Byzantine wall on the southern side of the hill. It was excavated to a depth of about 0.50 m. Below the mortar-mixed rubble layer stemming from the Byzantine wall, the familiar 'ancient' stone packing (see description of trench 2) was found. The bottom of the lowermost course of the Byzantine wall lay exactly at the dividing line between the surface layer and the stonepacking showing that in this area the wall had been built on top of the 'ancient' stone-packing.

*Trench 4 (Tx70-74)*

On the western side of the hill of Haghia Triadha, a 1 x 25 m trench was opened out, 20 m of which was excavated. It was oriented NE-SW starting on the lowermost part of the slope and terminating on the plain itself. The excavated depth down to bedrock ranged from about 0.50 m in the NE to about 3.75 m in the SW.

Below a couple of floating layers three structures came to light of varying dates

(ancient-post antique) (Fig. 22). The first of these structures, starting from the highest point of the trench in the NE, was a compact mortar-floor constructed partly upon the rock, partly upon earlier clearings and stone-packings. Quite a number of Middle Helladic-Late Helladic I polychrome sherds (poorly preserved) come from these last-mentioned deposits.

Among the later pottery, the base of a black-glazed Attic skyphos with a graffito inscription is worth mentioning (Fig. 23).

The second of these structures was found further down the hill and consisted

Fig. 22. Architectural structures in trial trench 4 (section Tx71-72) (measured by Charalambos Marinopoulos).

Fig. 23. Base of Attic black-glazed skyphos with a graffito inscription (F98-3009) from mixed deposit in the upper, north-eastern part of trench 4 (Photo: Henrik Frost).

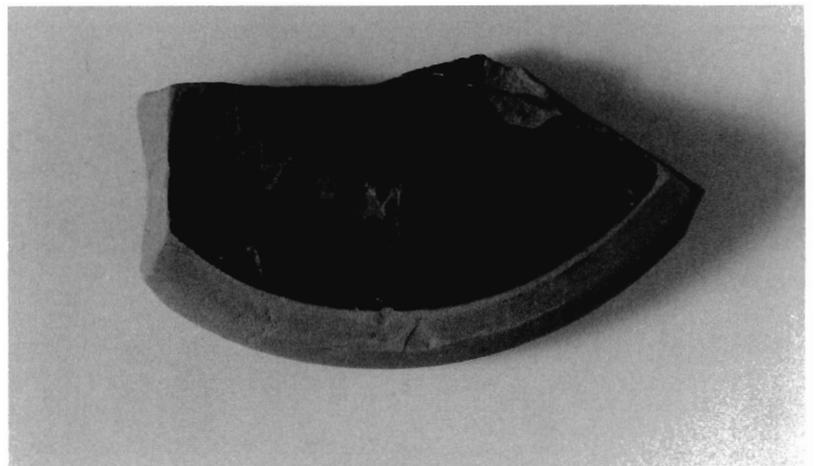




Fig. 24. Stonepacking underneath pebble floor in trench 4 seen from the North-East. Behind it, the belonging wall AEE. In the background, drystone wall AEF is visible in the trench-profile (Photo: Henrik Frost).



of a simple drystone wall (AEE) initially dated to the Classical-Hellenistic period (Fig. 22) which crossed the trench and appeared to be connected with a pebble floor resting on a packing of medium-sized stones (Fig. 24). The third structure was a drystone wall which crossed the trench below the aforementioned pebble floor and may have formed a corner with a long drystone wall (AEF) visible in the northern profile further towards the West (Figs. 22, 24).

Several other structures were found which are provisionally dated to the Archaic and Classical period. Starting again in the upper eastern end of the trench, the first of these structures consisted of two large, flattish and irregular rock stones (AEL) (Fig. 22). Somewhat further down the slope, excavation reached the surface of a structure built of finely cut ashlar blocks (AFJ) (Figs. 22, 25). West of this structure, that is on the plain itself, a succession of nine layers was excavated below wall AEF (in Tx72) before bedrock was reached 0.25 m above sea level. Below AEF, another long drystone wall (AEH) came to light. It was visible in the Southern profile and lay on a lower level than the above-mentioned structure (AFJ). AEH was covered by a thick, clayish layer, characterized by only a few sherds, a loom weight, several large pieces of charcoal, several fragmentary iron objects (so far unidentified), and other small-finds among which a small spindle whorl, probably Iron Age, is shown (Fig. 26). The wall rested upon a dark, fattish layer the finds from which mainly appeared to be Archaic, among which was a tiny loom weight or spindle whorl, probably Protocorinthian<sup>7</sup> (Fig. 27). At a slightly lower level, a third drystone wall (AEI) crossed the trench and partly touched AEH. It rested upon a thin, hard-packed layer, possibly a floor, containing tiny pieces of pottery, many sherds and smaller stones. The datable sherds from this stratum have so far been seen to

Fig. 25. Structure of finely cut ashlar blocks (AFJ) found in the middle part of trench 4 (Photo: Henrik Frost).

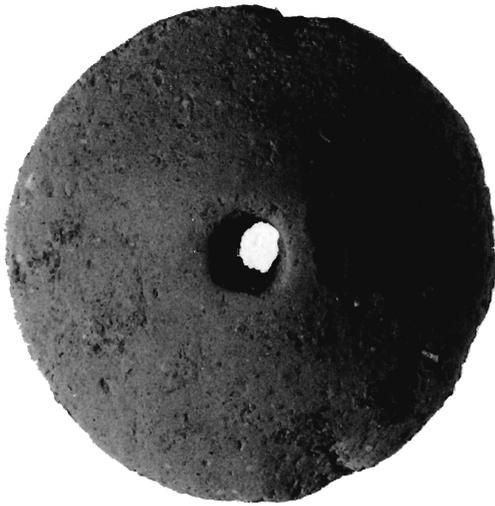


Fig. 26. Terracotta spindle whorl, possibly Iron Age, found in a thick culture layer below wall AEF and above wall AEH in trench 4 (Photo: Henrik Frost).



Fig. 27. Terracotta spindle whorl, possibly Protocorinthian (F98-3505); found in culture layer below wall AEH in trench 4 (Photo: Henrik Frost).

range from the Early Bronze Age to the Protocorinthian period.

No more structures were found in the trench, but below the last-mentioned wall (AEI), a couple of thick layers were excavated characterized by the presence of charcoal, seashells, obsidian-, and flint tools and a mixture of hand-made and wheel-

made prehistoric pottery. Among the wheel-made pottery, both burnished (yellow and red minyan) and matt-painted wares (black on white) were represented. At the very bottom, pottery reminiscent of the Final Neolithic site on Pangali was found.

#### Trial trench 5 (Tx60-61)

The 14 m long trial trench oriented NE-SW was opened on the western side of the hill on its lower slope. Bedrock was hit very soon throughout the trench below a couple of floating layers.

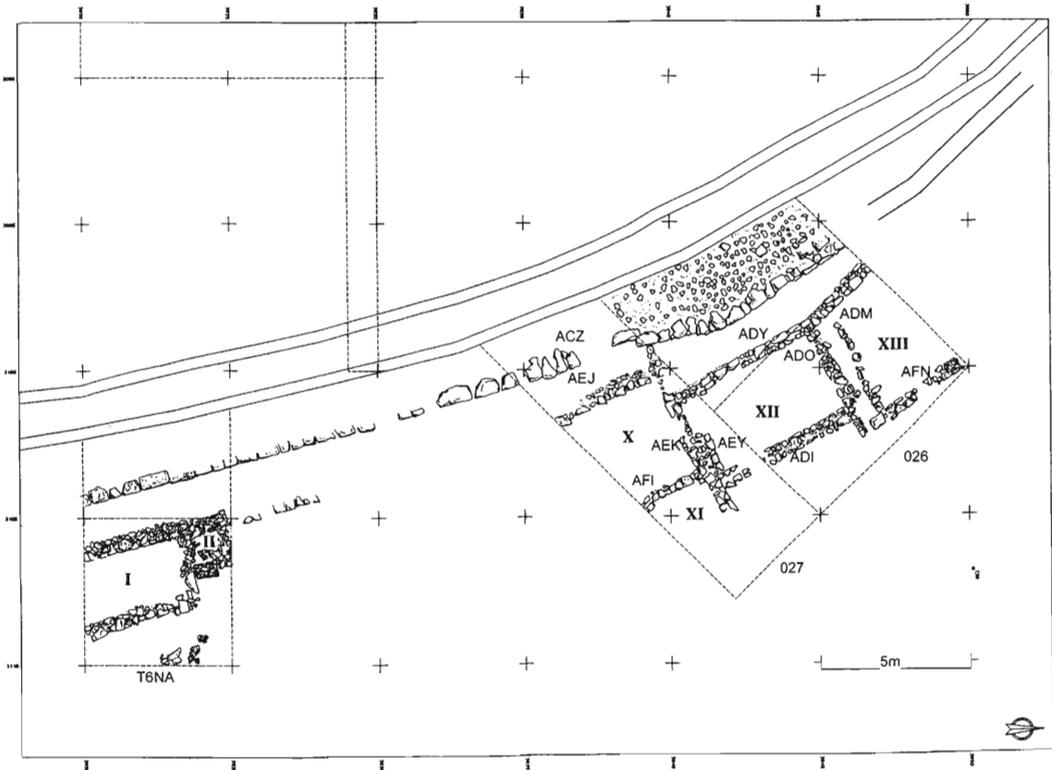


Fig. 28. Hellenistic rooms excavated outside the 'acropolis wall' in excavation units T6NA, O26 and O27 (measured by Charalambos Marinopoulos).

Fig. 29. General view from the NE of room X with tile-spill and room XI in unit O27. To the right wall AEK of room X is seen running parallel to wall AEY of room XII; in the foreground, wall AFI separating room X and XI; in the background wall AEJ of room X and the 'acropolis wall' (ACZ) is visible both resting on bedrock (Photo: Henrik Frost).



### Excavation units: T6NA, O26, O27

Due to the finds made in 1996 of Archaic-Hellenistic architectural remains immediately outside the 'acropolis wall' in the northwest, it was decided in 1997 to open up two large excavation units located entirely outside this wall (T6NA and O26). The two units, measuring c. 5.00 x 7.50 m and c. 7.50 x 10.00 m, were located at the Southern end of the middle terrace in order to gain an impression of the extension of the settlement (Fig. 3). Both units were largely excavated down to bedrock. A neighbouring unit of equal size (O27) was opened in 1998, the surface lay-

er and stonefill of which were excavated.

In the three excavation units, part of six or possibly more rooms were excavated which lay along an 'alley' running parallel to and outside the 'acropolis wal' (Fig. 28).

#### *Stratigraphy and Architecture*

Common to all three excavation units was a huge stonefill rather similar to the one found in trenches 2 and 3. It consisted of medium-sized rubble-stones, often with one flattish side, ancient tiles, some pottery of mixed date (Prehistoric-Hellenistic), quite a number of poorly preserved fragments of terracotta roof-decoration (possible metopes and triglyphs), small fragments of plaster and pebble floors, some



*Fig. 30. Tilespill between the 'acropolis wall' and wall ADY of room XII in unit O26 seen from the NW (Photo: Henrik Frost).*

coins and an abundance of loom weights (compare Fig. 44). The stonefill was found below the rubble and mortar-mixed soil from the superstructure of the Byzantine wall. In the two northernmost units, O26

and O27, the stone-packing was enormous, hard-packed and extremely rich in tiles, while less so in unit T6NA. It covered both the 'acropolis wall' and the complex of rooms described below.



*Fig. 31. Water canal (ADM) in room XIII in unit 026 seen from the NE (Photo: Henrik Frost).*

Another remarkable feature in all three units was a layer of tiles in the Laconian system below the stonefill which in several places still formed a distinct tile-spill and accordingly belonged to the complex of house walls (Figs. 29-30). Below the tile-layer from a thick layer was excavated characterised by a very homogeneous, yellowish, and soft soil containing some sherds, and a few stones and tiles. This stratum covered pits and structures and continued down to bedrock. At its very bottom, often lying directly on bedrock, appeared a large number of well-preserved finds to which we will return below.

In unit 026, the 'acropolis wall' was still standing to a height of six courses (H: 1, 60 m). It was seen here to consist of a single wall built of large, fairly well-cut blocks of sandstone (maximum L c. 1 m and maximum H c. 0. 50 m) which rested directly on the bedrock. Its lowest course was seen to protrude to form a base and the following five courses alternated between rectangular ashlar blocks and

courses of large, more squarish boulders with smaller stones in between (Fig. 30). The wall leaned against a compact stonefill mixed with tile which has not yet been excavated. In unit 027, the 'acropolis wall' ran on a much higher level than in 026 (Figs. F28, 29: ACZ). In this area, the 'acropolis wall' had collapsed so that only its lowermost course was preserved. Large boulders from its upper courses had tumbled down and destroyed part of wall AEJ of room X, and the stonefill behind the 'acropolis wall' had accordingly spilled out into the interior of this room as is visible to the left in Fig. 30.

Along the 'acropolis wall' on the outside, part of six rooms or possibly more was excavated to which reference has already been made several times above. Five of these rooms lie in a row (though separated by a strip of unexcavated land) parallel to the 'acropolis wall' at a distance of c. 1. 50 m creating a small 'alley' in between the 'acropolis wall' and the rooms (Fig. 28).

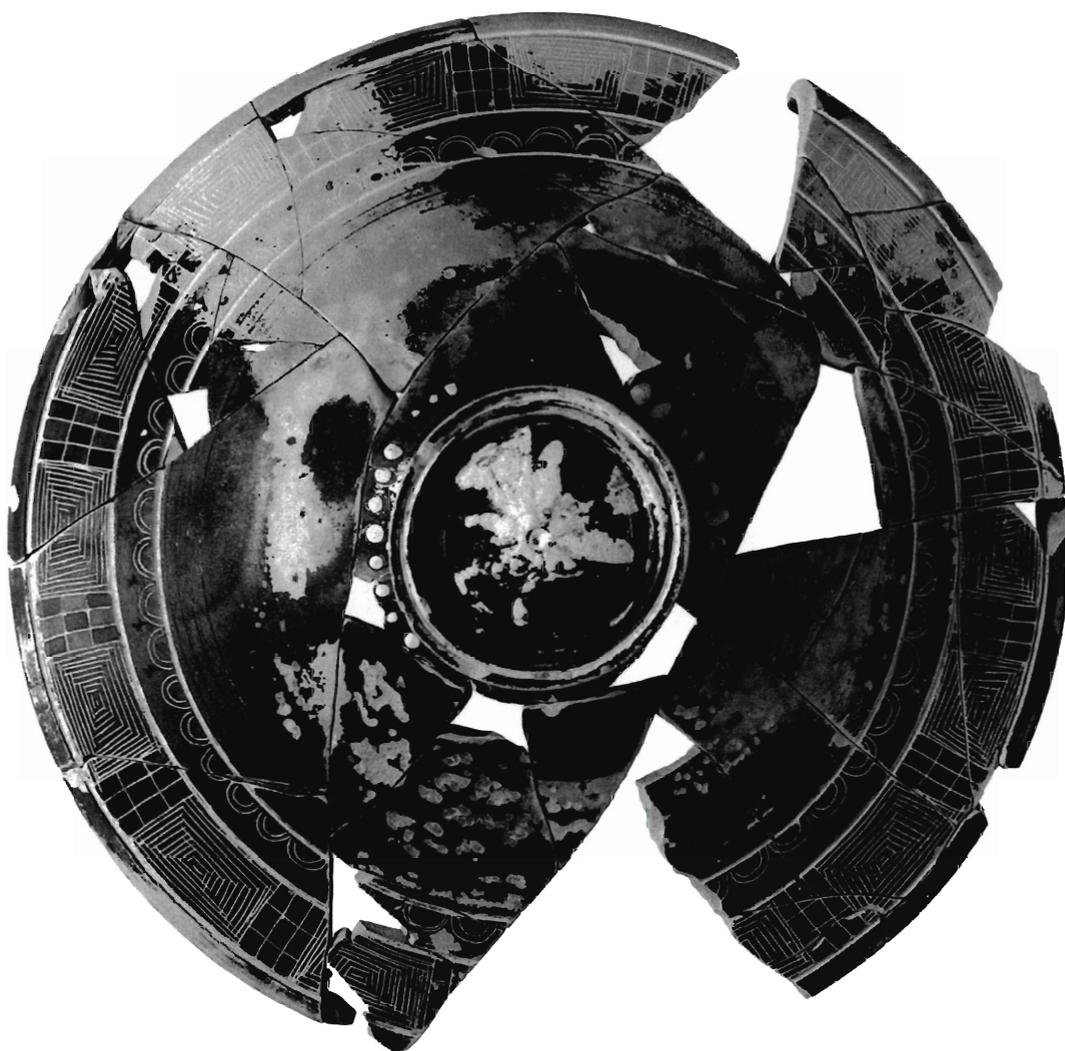


Fig. 32. Reversible lid of lekanis decorated in 'West Slope' technique found in room I in unit T6NA (Photo: Henrik Frost).

The small room II is likely to have been an annex to room I, since two doorsteps were found which gave access to the room either directly from room I or from the surroundings of rooms I. Room XII and XIII have a common 'end wall' (ADY) while wall AEJ, as already mentioned, of room X was situated on a much higher level and more towards the west. In room XI a water canal (ADM) had been cut into the bedrock, the walls of which were lined with flat stones. The canal ran under wall ADY channelling water from the 'alley', through the room in a north-easterly direction (Fig. 31). In room XII, a pit in the south-western corner went below wall ADY.

All the walls of the rooms were dry-stone walls built of medium-sized rock-

stones, roughly cut and smoothed in places (maximum W: c. 0.50 m).

### *The Finds*

Below the tile-level in units T6NA and O26, a large number of objects appeared as already stated above. Noteworthy among these was a considerable number of coins (31), the majority of which were Aetolian League bronze coins. In addition, three silver coins were found originally from Mykalessus, Sikyon and Chalkis in Euboea (compare Figs. 46-47 and the contribution by G. Alexopoulou). Moreover, more or less whole pots had in several cases broken into many pieces, the scatter pattern of which suggested that they had fallen from an upper floor, shelf or similar. For instance, in Room I the

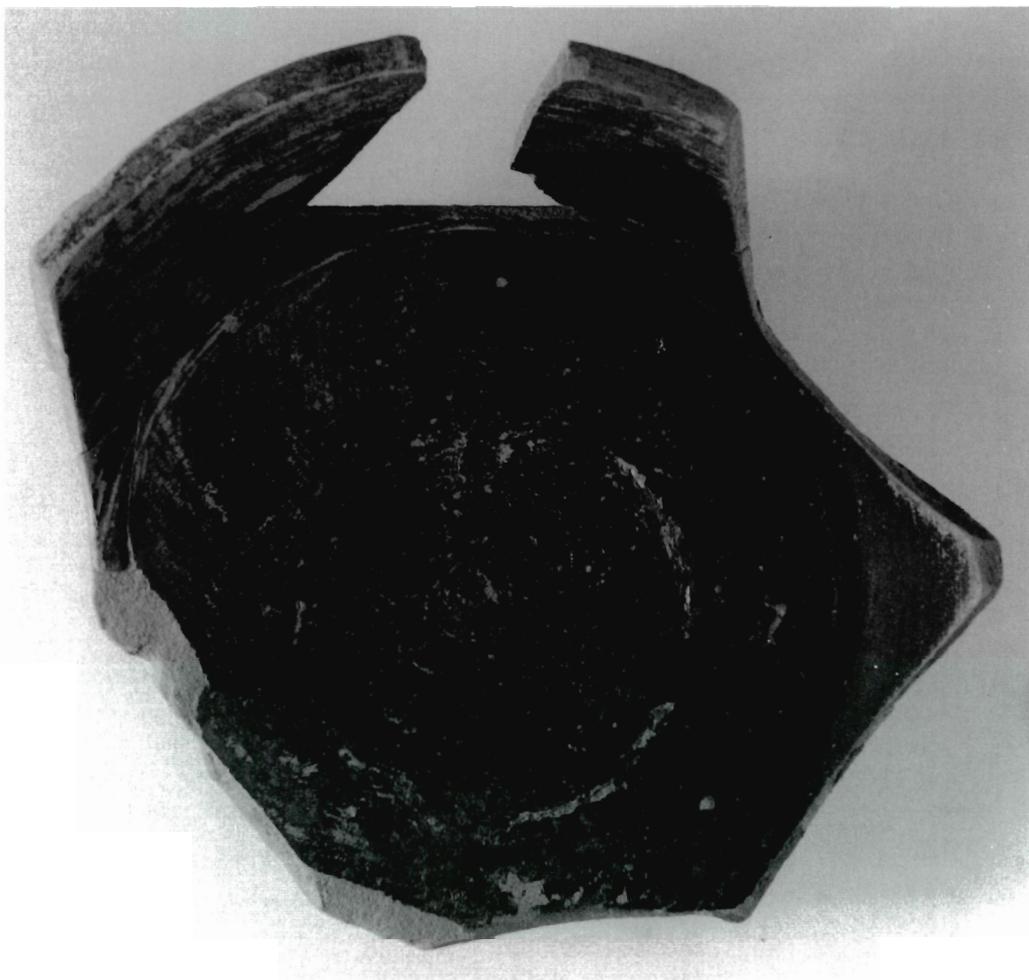
*Fig. 33. Fragments of Hellenistic cooking-ware lid (F97-2078); found in tilespill between room I and II in unit T6NA (Photo: Henrik Frost).*



reversible lid of a lekanis decorated in the characteristic 'West Slope' technique (Fig. 32) was found broken into about twenty pieces which lay scattered over an area of approximately 4m<sup>2</sup>. Fragments of an amphora with repairs in lead and fragments of a Hellenistic cooking-ware lid were found scattered over a similarly large area. During the excavation of a tilespill in the doorway between Room I and II, a large number of objects were found, such as a concentration of bronze coins, fragments of yet another Hellenistic cooking-ware lid (Fig. 33), terracotta fragments of drapery stemming from a large figurine (Fig. 34), the bottom of a Hellenistic

black-glazed plate with graffito inscription, part of a Hellenistic bowl with black slip on the inside (Fig. 35), shells, unidentifiable fragments of lead and bronze objects, iron nails, a bronze fishing hook, and a large number of potsherds from different types of vessels. Big pieces of charcoal were a common feature, especially in the soil among the tiles in Room II.

In Room XII, an unfinished marble lamp with three spouts was found so close to the northern wall of Room XII (ADO) that it may have been built into this wall (Fig. 36). On the whole, finds (registered as F98-1006-1037 and F98-1082-1091, F98-1093-1094, F98-1096-



*Fig. 35. Hellenistic bowl, black slipped on the inside (F97-2014), found in tilespill between room I and II in unit T6NA (Photo: Henrik Frost).*

1097) were especially concentrated in the north-western half of this room, either



*Fig. 34. Terracotta fragment of drapery from a large figurine (F97-2055), found in tilespill between room I and II in unit T6NA (Photo: Henrik Frost).*

lying at the same level as the tiles or below the tile-level, and often directly on the bedrock. Thus, from this area alone came a considerable number of fragments of fine table-ware, household ware, a simple handle of bronze sheet, several unidentifiable metal objects, large lead nails – often with traces of charcoal – bronze nails, loom weights, and the following items most of which are visible in Fig. 37: a characteristic Hellenistic lamp (F98-1010), the possible neck of a loutrophoros (F98-1009), two silver coins from Sikyon (F98-1018, F98-1020; Alexopoulou n.s 25-26), nine bronze coins (F98-1016-1017, F98-1024-25, F98-1080, F98-1087-88, F98-1094-1095) seven of which can be identified as Aetolian League coins (Alexopoulou n.s 5, 9, 13, 18-21) (Figs. 47a-b), while one had been minted in Oiniadai (Alexopoulou n. 2) (Fig. 47:2)



*Fig. 36. Unfinished marble-lamp with three spouts (ADO-1); found close to wall ADO of room XII in unit O26. From the East. (Photo: Henrik Frost).*

and a pedestal of a Hellenistic thymiaterion (Fig. 37).<sup>8</sup> In the north-eastern part of the room, more loom weights, fragments of bronze sheet, another bronze coin issued by the Aetolian League (Fig. 47a:12) (F98-1110 and Alexopoulou n. 12) and a polished bone bead as well as more pottery came to light. Along the south-eastern profile of O26, a large, compact pile of clay mixed with tiny pieces of crushed pottery and tile was found.

In Room XIII, many loom weights, iron nails, poorly-preserved fragments of terracottas, five much corroded bronze coins (F98-1038, F98-1042-1043, F98-1115-1116; Alexopoulou n.s 28-31), four Aetolian League bronze coins (F98-1074, F98-1107-08, F98-1130, Alexopoulou n.s 3-4, 17, 22), one silver coin from Chalkis in Euboea (F98-1114, Alexopoulou n. 24) (Figs. 47a-b) and fragments of tableware and household ware were found. East of wall ADI of Room XII, five Aetolian League bronze coins lay scattered over an area of approximately 2m<sup>2</sup> near large fragments of a pithos (F98-1133, F98-1135,

F98-1138-39; F98-1150 and Alexopoulou n.s 8, 10, 11, 14, 16). East of Room XIII a loomweight, a terracotta object and unidentifiable bronze objects came to light.

Excavation in O27 in 1998 revealed as mentioned above a huge tile-level stemming from a collapsed roof which covered most of Room X (Fig. 29) (see the report by C. Grønne).

## Re-excavation in unit F15

In connection with a re-excavation beneath wall ACC in unit F15 (see FPR fig. 15), part of an early 5<sup>th</sup> century black-glazed Attic lamp came to light indicating a terminus post quem for the wall (Fig. 38).<sup>9</sup>

## Conclusion

Altogether the 1997-98 campaigns have enabled us to further significantly our understanding of the character and development of Aetolian Chalkis. It is now certain that a large-scale settlement began on

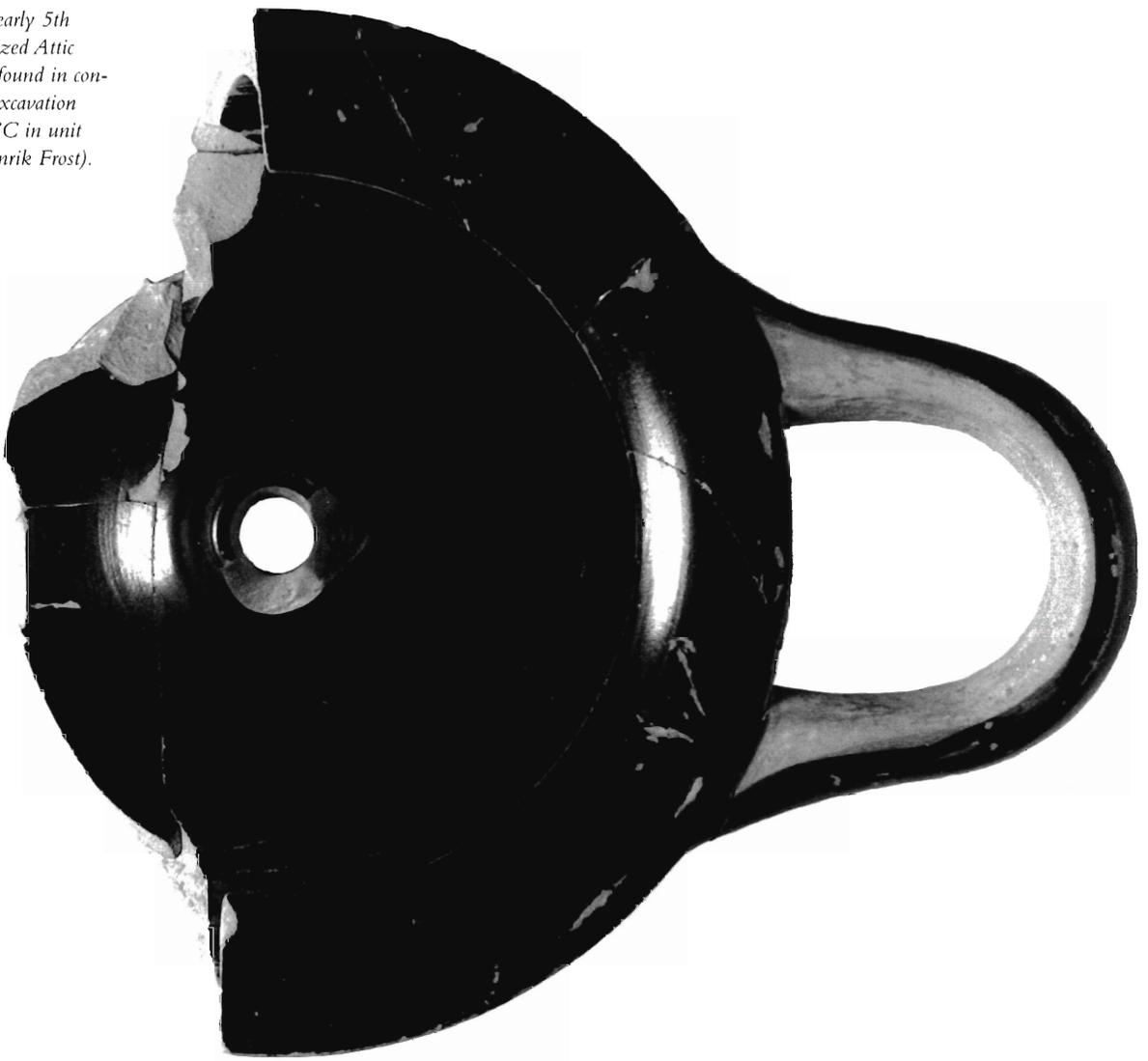


the hill of Haghia Triadha in the Late Neolithic/Early Helladic period. This settlement should probably be understood as a continuation of the Final Neolithic site on Pangali and is therefore likely to provide important new information on settlement patterns and movements in this period. Judging by the many finds from the Bronze Age, Geometric, Archaic and Classical-Hellenistic Periods in floating layers in most of the trenches, the upper plateau was inhabited throughout most of these periods. Probably, to judge from the fragments of fine terracotta roof decoration from the upper plateau, one or more temples once stood here, presumably on the site of the present basilica. No 'exotics' have so far been found. The imported pottery points to Corinth, Athens and not least the cities of Achaia and Elis as the main trading and contact partners while coin circulation points to contacts with

Central Greece, Acarnania and cities along the Corinthian Gulf. A basic idea was obtained of the architectural layout and cultural identity of Classical-Hellenistic Chalkis, and no less important, an undisturbed part of the Archaic city was located on the western side of the hill close to the harbour. These results constitute an important step towards the understanding of the significance and development of Chalkis not only in relation to the surrounding landscapes but also in relation to the many other small harbour towns which lie like a string of pearls on the northern coast of the Corinthian Gulf all the way up to the Ambrakian Gulf. Similarly, the construction of the Byzantine fortification and its relation to the large basilica and ancient remains became more fully understood and made it possible to link Chalkis to sites as far away as Dülmen and Teurnia in Austria.<sup>10</sup>

*Fig. 37. Concentration of finds below the tile-level in the southwestern part of room XII in unit 026. From the East. Visible are first and foremost a Hellenistic lamp (F98-1010), a possible neck of a loutrophoros (F98-1009), a pedestal of a Hellenistic thymiaterion (F98-1013) and several Aetolian League coins (Photo: Henrik Frost).*

*Fig. 38. Part of early 5th century black glazed Attic lamp (ACC-1) found in connection with re-excavation beneath wall ACC in unit F15 (Photo: Henrik Frost).*





# The Registration Process of Finds from Haghia Triadha

Jonas Eiring

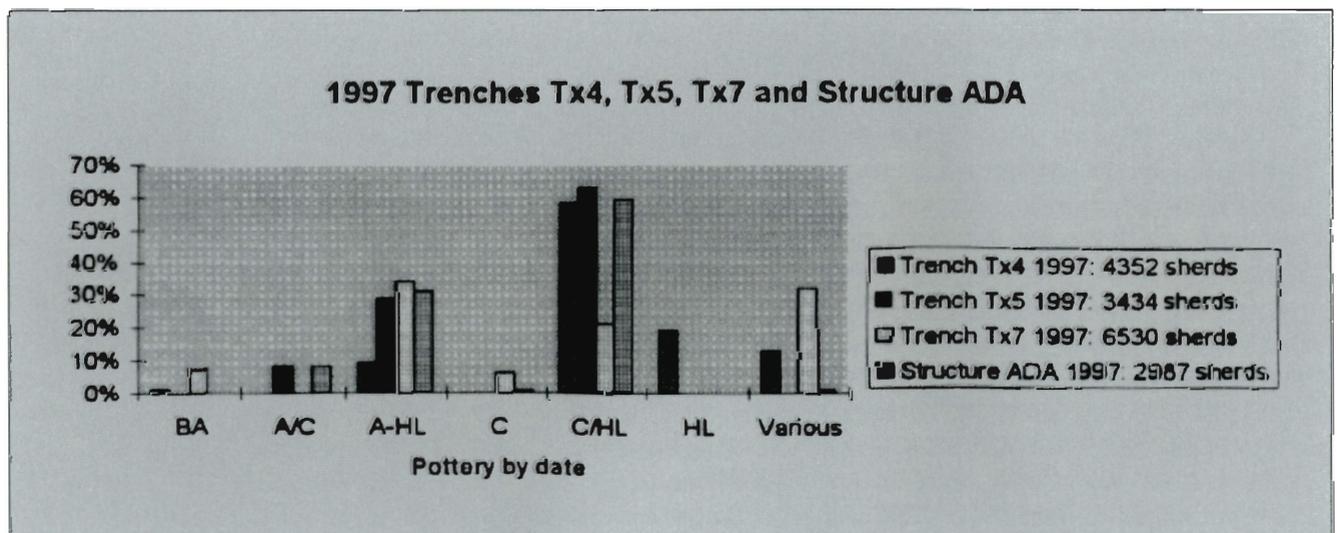
In what follows, the working procedures in the pot-shed will be described in summary. The registration process during an ongoing campaign cannot be more than preliminary: the overriding aim is to register all the material so that, once it has gone through our hands, it will be possible to find it again during future study seasons. This sounds self-evident and simple, but is in reality a fairly complicated matter.

As the finds arrive at the end of the day's excavation, they have already been tagged with a unique number, here called bag number. A 'bag' can be a bag of pottery, tile or other material, but objects recovered as single finds also receive a tag with a pre-printed number. This procedure minimises the risk of misunderstandings due to unclear or wrong labelling, lost labels, and other possible mishaps. A concordance is drawn up day by day, so that the context can be established from the bag number. The objects are marked

with the specific number. To use a single, unique number in this way has the advantage of speed, a four digit number being easier to write on a sherd than a context denomination, which would have to include year, trench, level, and in many cases structure and find number.

When washed and marked, each bag of pottery is sorted by the students. The sherds are divided by ware. At Chalkis the terms used are 'fine ware' (few visible inclusions, generally table ware), 'medium ware' (main inclusions up to 1mm in diameter, typically household vessels and transport amphorae), 'cooking pot ware' (hard-fired fabric, appropriate for use over fire, with abundant, often large, inclusions and much sand), and 'coarse ware' (inclusions larger than 1mm, often storage pithoi). Tiles are generally bagged separately on site. Sherds are counted and weighed; rims, handles, bases and decorated sherds are counted in each category. The information is entered on a report

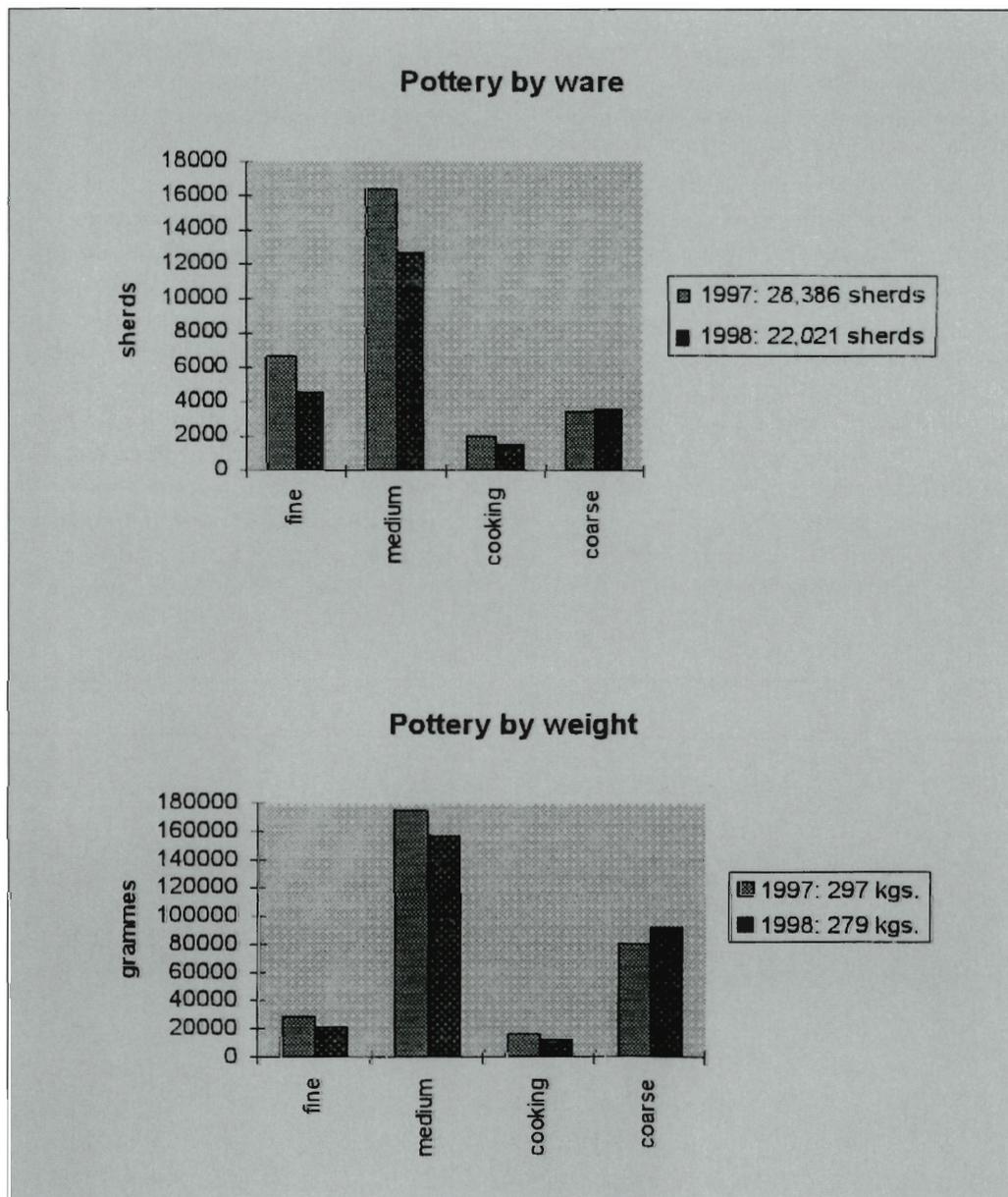
Fig. 41. The frequency of dated material from the Northern part of Trench 1 (Tx4-7).



form, with any additional comments which can help to form a general impression of the contents. Pieces are selected for drawing and photography, and detailed descriptions of these are entered on a separate form.

It is always desirable to be able to provide a date for each find as early as possible in the registration process. This task is difficult on many counts. First of all little is known about the pottery of Aetolia and the local pottery sequence has yet to be established. Secondly, the site of Haghia Triadha has been exposed to heavy ero-

sion, which means that many contexts are of mixed date, and, finally, the soil conditions are such that in many trenches the sherds are poorly preserved. The character of local Early Iron Age, Geometric and Archaic pottery is particularly ill-defined at the site. This, and the relative scarcity of imports during these periods make the dating difficult. There is, however, no doubt that the periods are well represented at the site, especially Late Geometric and Archaic. Classical pottery is present in all trenches, and there is conspicuous abundance of material datable to the late



Figs. 39-40. The total amount of registered pottery from Haghia Triadha by ware and by weight in 1997 and 1998.

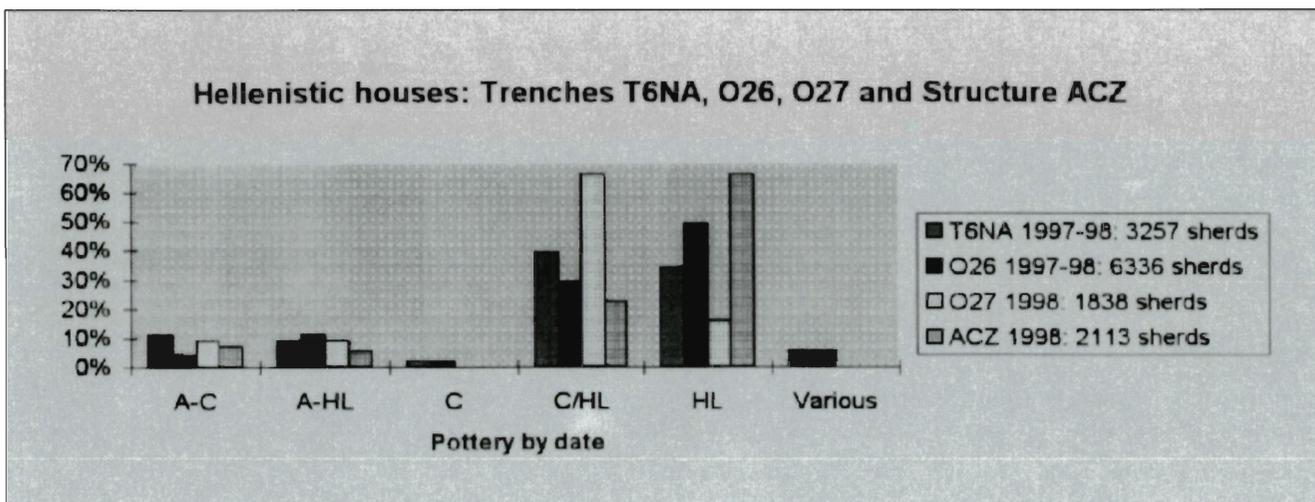


Fig. 42. The frequency of dated material from the excavation units T6NA, O26, and O27 including the structure ACZ.

fourth or early third century B.C., here labelled Classical/Hellenistic.

In spite of the difficulties of dating the excavated pottery, we try to give an indication of the date of each bag. This is given in broad terms by period. 'C/HL' on a report may either reveal a presence of badly-preserved body sherds with black gloss, impossible to date more closely, or fragments close in date to the watershed of 323 B.C. This happens frequently, since fourth to third century pottery is abundant on the site. 'EH + C + HL' would mean that the context is mixed with sherds which can be confidently dated to each of three periods. It should be stressed that the trench charts in this preliminary report do not attempt to give a date for each sherd, but the aggregate by date

group: undiagnostic sherds are assumed to follow the date of diagnostic sherds. Once a local pottery sequence has been established, revisions in the dating will have to be done and, hopefully, much of hitherto undatable material will be identified.

Objects other than pottery are described separately. Bone, shell and stone material are set aside for specialist study. Coins and other metal finds are sent to Patras for conservation, whereas a good deal of cleaning and mending of the pottery is done by the conservator at the ephoria on location.

The information is filed by excavated context, i.e. by trench or structure, unless the object is classified as a 'find', in which case it is sorted by find number. A 'find' is defined as any object whose exact find

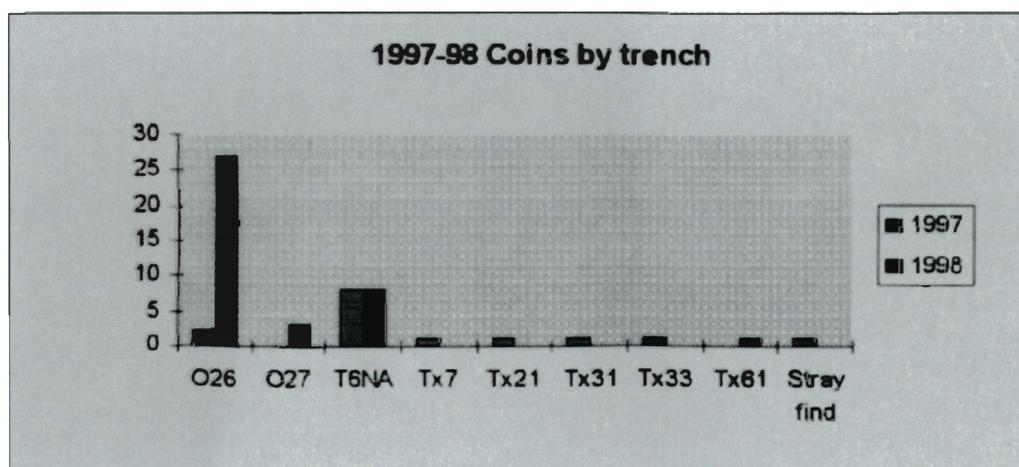


Fig. 43. The frequency of coins in relation to trenches in respectively 1997 and 1998.

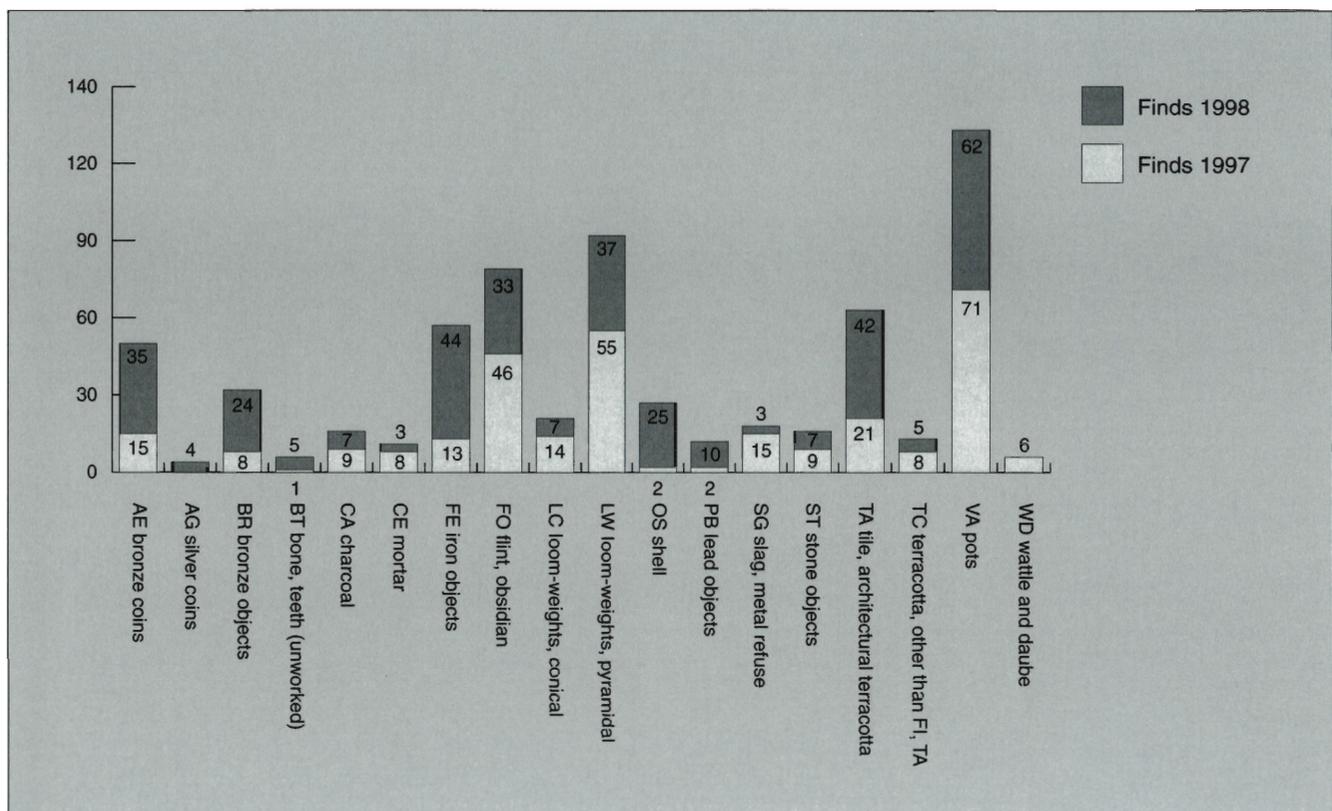


Fig. 44. The frequency of 'finds' by object type in respectively 1997 and 1998.

spot has been measured: it often has intrinsic interest, such as a coin or a complete pot, but it can also be a collection of tiles or sherds, whose location is stratigraphically significant.

With the help of a database, an overview over the excavated material can easily be obtained. At the time of writing, data from the two last years have been entered: the information concerning the year 1997 is complete, whereas the material excavated during the last few days in 1998 has yet to be registered.

Thus, in 1997 a total of 31,842 sherds were registered, their total weight being nearly 300 kgs. If the weight of registered tile fragments is included, the sum increases nearly ten-fold to 2,679 kgs. For the 1998 season, 22,201 sherds have so far been registered, representing 280 kgs (Figs.39-40). The figures for the two years correspond remarkably well, both numerically and by weight. The fine ware accounts for nearly a quarter of the sherds, representing less than a tenth of the total weight; medium ware accounts for nearly

60 per cent of the pottery, both numerically and by weight; cooking pot ware, at seven per cent of total sherds for both years, has a four to five per cent share of the total weight, whereas coarse ware, at 12 and 16 percent of sherds for 1997 and 1998 respectively, has twice as large a share of the total weight.

Below, charts describing the distribution by date group for selected trenches and structures are presented. As mentioned, the statistics are to be taken as an indication only. Revisions in the dating are inevitable, but such as they are, the figures give an idea of the quantities involved. Fig. 41 gives an impression of the mixed character of the strata of the northern part of Trench 1 (Tx4-7) containing a few large, secondary deposits of Bronze Age material. The abundance of material from the Classical-Hellenistic destruction layers of the houses in the excavation units T6NA, O26 and O27 is well reflected in Fig. 42, as is the way these destruction layers were covered by mixed layers containing earlier pottery.

Fig. 45. The code for 'type of object' used in the registration of 'finds' 1997-98.

Code	Type of object	1997	1998
AE	bronze coins	15	35
AG	silver coins	-	4
AS	stamped amphorae	1	-
BO	bone objects, worked	3	1
BR	bronze objects	8	24
BT	bone, teeth (unworked)	1	5
CA	charcoal	9	7
CE	mortar	8	3
FE	iron objects	13	44
FI	terracotta figurines	2	-
FO	flint, obsidian	46	33
IN	inscriptions (stone, sherds)	-	1
LA	lamps	-	1
LC	loom weights, conical	14	7
LW	loom weights, pyramidal	55	37
MB	mud brick	1	2
OS	shell	2	25
PB	lead	2	10
SG	slag, metal refuse	15	3
SP	stucco, plaster	1	3
ST	stone	9	7
TA	tile, architectural	21	42
TC	terracotta objects other	8	5
VA	pots	71	62
VE	glass	-	1
WD	wattle and daube	6	-
WE	weights other than LC,	1	-

A chart showing the distribution of coins by context is shown in Fig. 43. As appears from this, the majority of the coins have been found in the Hellenistic houses in units O26, O27, and T6NA.

Finally, charts showing the types of objects, registered as 'finds' are included (Figs. 44-45). It would require too much space to show the distribution of all kinds

of objects by context, so the charts given here only give a rough idea of what kind of objects are found on the site. Further, the charts include only such objects as are registered as 'finds' with a known exact find spot. The greater part of stone, bone and shell material is registered as part of the context only. Each object category will be the subject of specialist study.



# The Roof Tiles from Haghia Triadha

Claus Grønne

During the excavations in 1997-98 on the hill of Haghia Triadha, an abundance of roof tiles was excavated. Apart from a few fragments of Corinthian type, the majority of the tiles so far studied are of Laconian type. Below follows a short description of the types.

## The Laconian tiles

No complete Laconian tile has hitherto been found. However, since the studied examples stem from collapsed roofs excavated *in situ* in T6NA, 026 and 027, many fragments can be reassembled and the original shape and dimensions be established (compare Figs. 29-30).

There are two types of Laconian tiles (type I and II), similar in shape and size but differing in firing and clay composition. Since both types have been found side by side where the roofs have collapsed it would be reasonable to suggest that one type was used as pan-tile (στρωτήρ) and the other as cover-tile (καλυπτήρ). The find context, as well as the resemblance in shape and size of the two types, indicates that each type served both purposes.

The pan-tiles were placed with their *wide* end pointing upwards towards the ridge, while the cover tiles have their *narrow* end pointing upwards in order to achieve the right overlap. Many fragments of both types have a flange along the upper edge, on the concave side, to support the lower edge of the tile above, which indicates that they were used both as pan- and as cover-tiles. On some tiles the flange is reduced to a groove which cannot have given much support. This suggests that the inclination of the roof

was rather low, and since no ridge tiles have been found so far we may assume that the buildings on the slopes of the hill had only slanting roofs and not hipped roofs.

Both Laconian types have a red/brown slip only on the concave side.

## Laconian I.

Form: trapezoidal, curved with an upturned rim on the long sides with a very sharp and well defined edge.

Dimensions: Lower width c. 37- 40 cm; upper width c. 49 cm; th. min. 1. 5; th. max. 2. 5 cm; estimated length c. 100 cm.

Clay: very fine to medium coarse with some inclusions.

Estimated weight 12-14 kg.

Firing: homogeneous and rather hard (clings when struck).

Slipped only on the concave side.

Colour: core 10R 6/8 – 10R 7/8. Surface on convex side and under slip 7.5 Y/R 7/6 – 10 R 7/8. Slip 10R 4/6 – 2.5 YR 5/8

## Laconian II.

Form: curved, trapezoidal, with rounded edges on the long sides.

Dimensions: Lower width c. 40 cm; upper width. c. 49 cm; th. min. 2,2; th. max. 2.8 cm; estimated length c. 100 cm.

Clay: medium coarse to coarse with many black and red particles. Not as compact as tp I.

Estimated weight 12-14 kg

Firing: homogeneous, but not as hard as tp. I

Slipped only on the concave side.

Colour: core 10R 6/8 – 2.5 YR 6/8;

surface under slip and on convex side 2.5 Y/R 7/8 – 5YR 6/8. Slip 10R 4/6 – 10R 5/6.

Judging by the closest parallels for the tiles so far discussed, the roof system of the houses outside the Acropolis wall points to a date in the Classical /Hellenistic period.

## The Corinthian tiles

Two different types of Corinthian combination tiles were recognised among the tiles studied so far. These appear to be represented in far smaller quantities than the Laconian type. The older of these two Corinthian systems comes from the stone-fill in trench 2 described above and is made of a rather coarse, buff clay with many inclusions (Munsell 7.5YR 8/4) and is covered by a cream-coloured slip (Munsell 10YR 8/4). Both clay and slip are very similar to those of the sima-fragment

with painted palmette decoration in Fig. 7. It is difficult to establish the precise dimensions of the Corinthian combination tiles, but to judge from the preserved fragments they were of a rather large and heavy type. The date of this system probably falls within the second half of the 6<sup>th</sup>. cent. BC.

The second and younger type of Corinthian combination tile appears in a yellow and a red variety of more or less the same fabric.

Form: combination tile.

Dimensions: th. 5.5 cm on edge, 3.2 cm in centre. Original length and width cannot be established.

Clay: coarse with many large particles  
Firing: homogenous

Colour in core red type: 5YR 6/6 (reddish yellow); yellow type: 2.5YR 8/4 (pale yellow) to 10YR 7/3 (very pale brown).

# The Coins from Haghia Triadha<sup>11</sup>

Georgia Z.  
Alexopoulou

The coins from the hill of Haghia Triadha discussed in this presentation come from various regions of Greece (Fig. 46). As can be seen in Table I relatively few coins originate from Greek cities outside Aetolia compared to the large number from the Aetolian League (BMC: Thessaly to Aetolia, 194–200; Scheu 1960; Λιάμπη 1996; Arnold-Biucchi 1981 a-b). The coinage of the Aetolian League is in bronze as well as there being a bronze coin from Eccara (Phthiotis?) and another from Oiniadai of Acarnania. Three cities, Mykalessus, Chalkis (Euboea) and Sikyon are represented in the excavations of Aetolian Chalkis by silver coinage. Even generally speaking, the majority of the coins issued by the Aetolian League are of bronze. This fact suggests that the transactions within the limits of the 'koinon'<sup>12</sup> covering local financial needs must have been conducted with coins of this material. The fourth century is represented in the excavations on the Haghia Triadha hill by silver and bronze coinage from mints situated in the east and south-east of the Aetolian territory and by one specimen from a western mint (Oiniadai).

As far as the coins of the Aetolian League are concerned, it is possible to identify the following five numismatic types:

- 1) Head of Aetolia or Atalante with *causia* r. / Calydonian Boar at bay (two pattern)
- 2) Young male head, laureate, r. / trophy (one pattern)
- 3) Young male head, laureate, r. / spearhead and jaw-bone and the legend ΑΙΤΩΛΩΝ (seven patterns)
- 4) Young male head, laureate, r. / spear-

head, ΑΙΤΩ and monogram (one pattern)

- 5) Head of Athena in Corinthian helmet, r. / Heracles standing and the legend ΑΙΤΩΛΩΝ (nine patterns)

Type 1) presents similarities with the silver issues. Therefore, despite their poor condition, these coins, if carefully examined, prompt us to conclude that whoever was responsible for the matrix must have had the archetypes of the silver ones in mind (Κραβαρτόγιαννος 1993, 77). There appears also to have existed another type which represents Atalante or Aetolia with *causia* on the obverse and a spearhead with the legend ΑΙΤΩΛΩΝ on the reverse (SNG.: Copenhagen nos. 22–25; BMC: Thessaly to Aetolia, 197 nos. 34–37). This type has however not yet appeared in our excavations (Κραβαρτόγιαννος 1993, 78).

Types 3) and 4) can be considered as two variants of the same type (Κραβαρτόγιαννος 1993, 78). According to F. Scheu, type 5) does not show the national symbols of the Aetolians, such as the *causia*, the boar, the spearhead, and the jaw-bone. It may therefore have been the issue of a regime favourable to Rome (Scheu 1960, 50–51). Type 3) and 5) are the most frequently represented, by respectively seven and nine specimens. The weight of the lighter one varies by 2.1 to 2.5 g. And the weight of the heavier one is around 6.8 g. This weight variation suggests that we maybe are dealing with *chalkoi* and double *chalkoi* (Picard 1984, 285).

The rarity of the silver coins can be explained by the high inflation of the Aetolian economy or by the scarcity of suitable metals (Scheu 1960, 50).

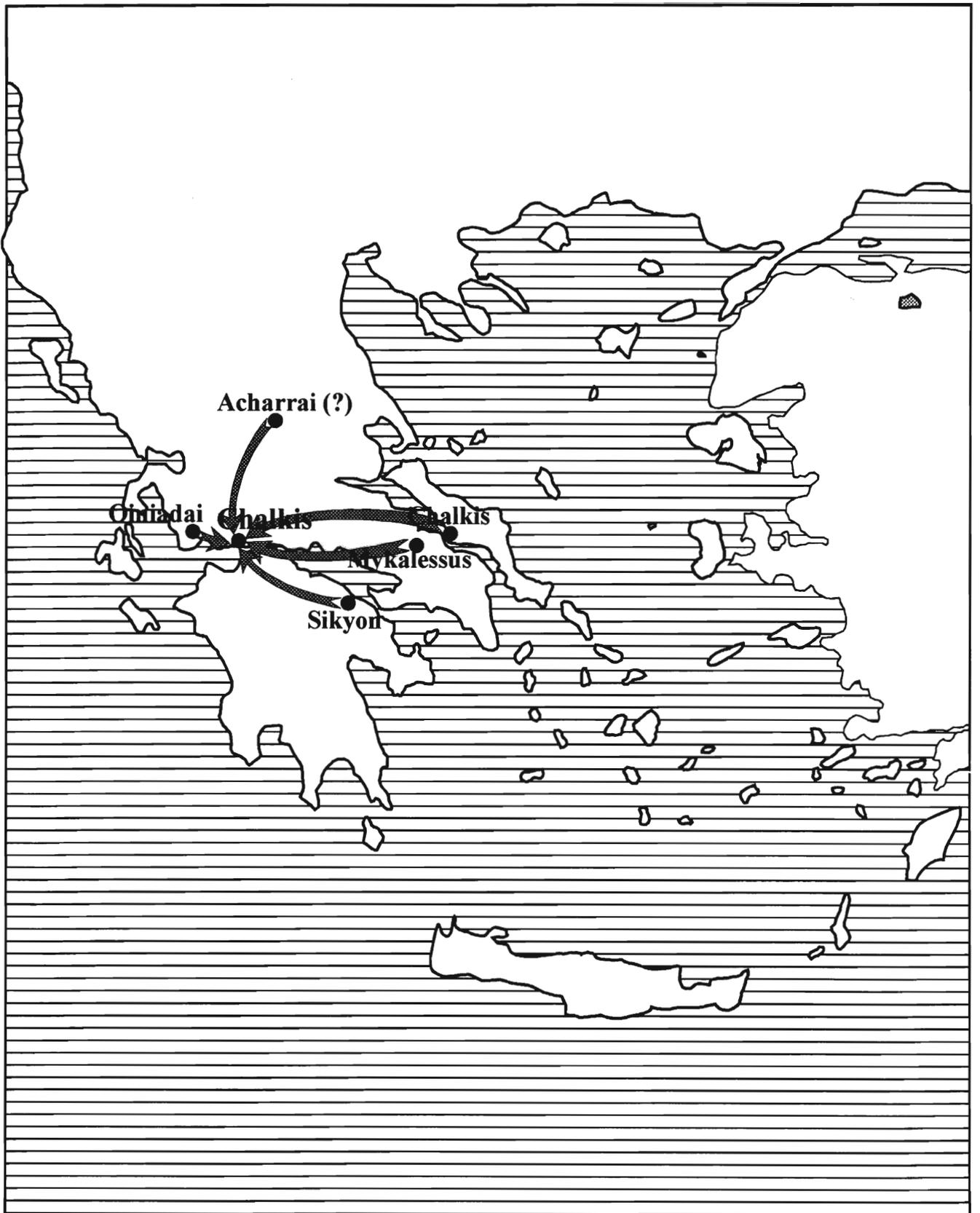


Fig. 46. Map showing the origin of coins found in Rooms XII-XIII below the tile-level.

The coins of the 'koinon' have the legend ΑΙΤΩΛΩΝ and exhibit a general federal character, while the issuing city is not known (Gardner in BMC:Thessaly to Aetolia, lviii).<sup>13</sup> The issue of the bronze coins is likely to have begun immediately after the invasion of the Gauls in 279 B.C. when the Aetolians took control of Delphi, and it continued throughout the whole third century until the Battle of Pydna in 168 B.C. (Gardner in BMC:Thessaly to Aetolia, lvii; HN, 334-355; Scheu 1960, 49). On the whole, the majority of these bronze coins seem to be the product of a prospering society (Λιάμπη 1996, 163), which continued to flourish during the second and first century B.C., according to archaeological finds (Πετρόπουλος 1991, 122). We can deduce that the transactions between the cities were based on the silver issues, while the

bronze coinage was used on a local level. During the third century the Aetolians, apart from the silver issues, present a noteworthy bronze coinage which merits a thorough study. We therefore hope that future excavations in Aetolian Chalkis will bring to light examples of this coinage.

The coins included in the catalogue below and depicted in Figs. 47a-b have been classified according to issuing cities and, as far as the coins of the Aetolian League are concerned, according to their iconography as described in the SNG: Copenhagen and the BMC:Thessaly to Aetolia. For every specimen we have indicated the denomination, the diameter, the weight and the inventory number. After the catalogue there follows additional information on the excavation data and further observations on the coins.

# Catalogue

## **Eccara** (Phthiotis?), c. 350-300 B.C.

1. Head of Zeus laureate, l.  
Artemis is shown standing frontally looking l. and resting on a spear; on the l. of the camp the legend **EKKAP** and on the r. **PEΩN**.  
AE; h 2; 13 mm; 1.3 g.; N.I.1  
SNG: Copenhagen n. 47.

## **Oiniadae**, c. 219-211 B.C.

2. Head of Zeus laureate, r.  
Head of man-headed bull, r. (probably Achelous); above trident; on the l. of the camp the legend **OINIAΔAN**.  
AE; h c. 12; 23 mm; 5.3 g.; N.I.14  
SNG: Copenhagen n. 403.

## **Aetolia: Aetolian League**, c. 279-168 B.C.

3. Head of Aetolia wearing *causia*, r.  
Calydonian Boar at bay (?). l.  
AE; h 12; 18 mm (obverse); 1.2 g.; N.I.24  
SNG: Copenhagen n. 21
4. As n.3.  
AE; h 9; 15 mm; 2.5 g.; N.I.28  
SNG: Copenhagen n. 21.
5. Young male head laureate, r.  
trophy consisting of helmet, cuirass, spear and shield; on the r. of the camp **AITΩ** and on the l. **LΩN**.  
AE; h 11; 15 mm; 3.1g.; N.I.9.  
SNG: Copenhagen n. 26; BMC: Thessaly to Aetolia, 197, n. 38.
6. Young male head laureate, r.  
Spear head and jaw-bone of Calydonian Boar; the legend **AI[TΩ]ΛΩN**  
AE; h 9; 16 mm; 2.5 g.; N.I.3  
SNG: Copenhagen n.31.
7. As n.6.  
AE; h 12; 14 mm (obverse); 2.4 g.; N.I.5

SNG: Copenhagen n. 32.

8. As n.6.  
Obliterated  
AE; h 12; 16 mm (obverse); 3.3 g.; N.I.22  
SNG: Copenhagen n.32.
9. As n.6.  
AE; h 8; 17 mm; 4.2 g.; N.I.13  
SNG: Copenhagen n. 28.
10. As n.6.  
AE; h 12; 20 mm; 4.5 g.; N.I.2  
SNG: Copenhagen n. 28; BMC: Thessaly to Aetolia, 198, n. 43.
11. As n.6.  
AE; h: 6; 18 mm, 4.5 g.; N.I.26  
SNG: Copenhagen n. 28.
12. Young male head laureate, r.  
Spearhead and jaw-bone of a boar; traces of monogram.  
AE; h 9; 17 mm; 5.0 g.; N.I.19  
SNG: Copenhagen n. 29.
13. Similar to n.12 (obverse).  
Spearhead r.; above the legend **[AI]TΩ**; in the middle the monogram **✱**; on the r. of the camp, below, traces of symbol.  
AE; h 10; 17 mm; 4.0 g.; N.I.10  
BMC: Thessaly to Aetolia, 197, n. 41.
14. Head of Athena in Corinthian helmet r.  
Heracles standing with club and lion's skin.  
AE; h 3; 16 mm; 2.1 g.; N.I.7  
SNG: Copenhagen n. 39.
15. Similar to n.14.  
AE; h 3; 18 mm; 2.9 g.; N.I.21  
SNG: Copenhagen n. 37 and ff.
16. Similar to n.14.  
AE; h 6; 16 mm; 4.3 g.; N.I.6  
SNG: Copenhagen n. 37; BMC: Thessaly to Aetolia, 199, n. 64.
17. Similar to n.14, but on the reverse the legend **AITΩΛΩN** is visible.

- AE; h 10; 17 mm; 4.3 g.; N.I.18  
SNG: Copenhagen n. 37.
18. Similar to n.17.  
AE; h 9; 18 mm; 4.6 g.; N.I.17  
SNG: Copenhagen n. 35 and ff.
19. Similar to n.17.  
AE; h 9; 17 mm; 4.9 g.; N.I.8  
SNG: Copenhagen n.35 and n. 37;  
BMC: Thessaly to Aetolia, 199, n. 64.
20. Similar to n.14.  
AE; h 9; 18 mm; 5.0 g.; N.I.23  
SNG: Copenhagen n. 35 and ff.
21. Similar to n.14.  
AE; h 10; 16 mm; 5.6 g.; N.I.27  
SNG: Copenhagen n. 35 and ff.
22. Similar to n.14.  
AE; h 5; 18 mm; 6.8 g.; N.I.16  
SNG: Copenhagen n. 35.

**Mykalessus**, c. 387-374 B.C.

23. Boeotian shield.  
Thunderbolt; MY  
AR; h 3; 10 mm; 0.5 g.; N.I.4  
SNG: Copenhagen n. 190; HN, 346.

**Chalkis**, c. 369-313 B.C. and later.

24. Female head r.  
Flying eagle holding serpent.  
AR; h 12; 16 mm; 2.3 g.; N.I.31

SNG: Copenhagen n. 432 and ff.  
Picard 1979, pl. IV, n° 8F.

**Sikyon**, 4th cent. B.C.

25. Chimaera l.  
Flying dove l.  
AR; h 9; 15 mm; 2.0 g.; N.I.11  
SNG: Copenhagen 57 and ff.; BMC:  
Peloponnese 42, n. 69.
26. Head of Apollo laureate, r.  
Flying dove r.  
AR; h 3; 10 mm; 0.3 g.; N.I.12  
SNG: Copenhagen n.s 67 and 68.

The following coins are so disintegrated and oxidated as to be illegible for which reason we will cite only their inventory number, diameter and weight. Also due to the oxidated state of the coins and to their normal wear and tear through handling, the weight cited cannot be taken to represent their original one.

27. AE, h; 18 mm; 1.3 g; N.I.15  
28. AE, h; 15 mm; 1.5 g; N.I.20  
29. AE, h; 13 mm; 1.6 g; N.I.29  
30. AE, h; 18 mm; 1.6 g; N.I.25  
31. AE, h; 18 mm; 3.4 g; N.I.30.

**TABLE I**

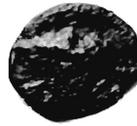
	Mint	Number of specimens	Date
1.	Eccara (Phthiotis?)	1 (AE)	c.350-300 B.C.
2.	Oeniadai	1 (AE)	c.219-211 B.C.
3.	Aetolia: Aetolian League	20 (AE)	c.279-168 B.C.
4.	Mykalessus	1 (AR)	c.387-374 B.C.
5.	Chalkis (Euboea)	1 (AR)	c.369-313 B.C. and later
6.	Sikyon	2 (AR)	4th cent. B.C.



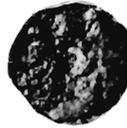
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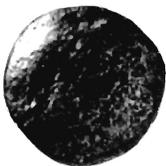
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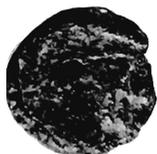
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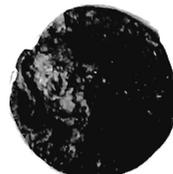
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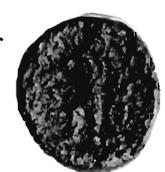
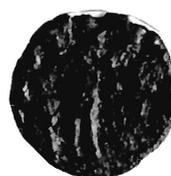
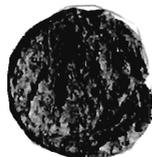
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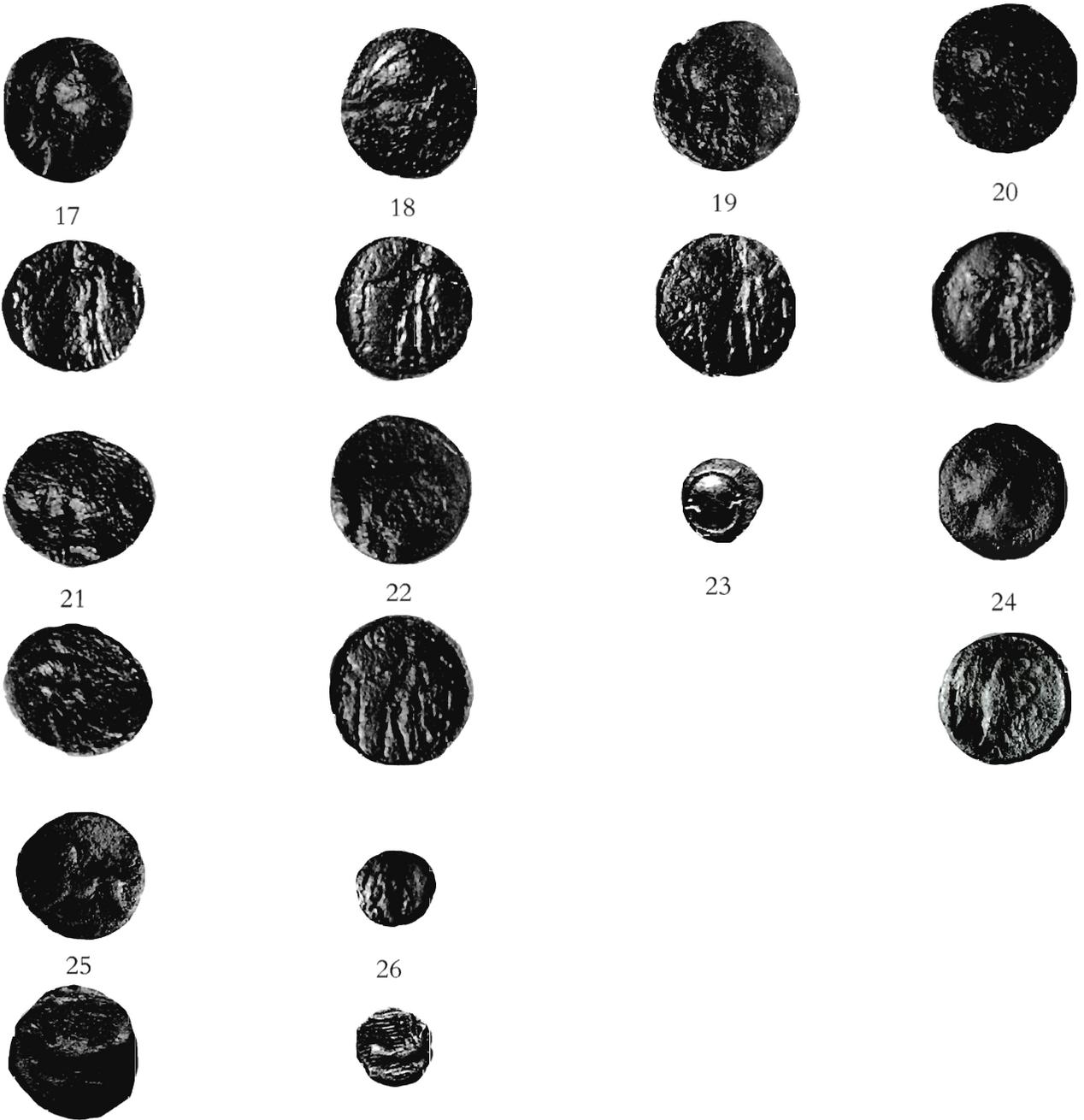


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*Figs. 47 a-b Coins from room XII-XIII.*

# Additional Information on the Coins in the Catalogue

1. Found 21-1-1997 in trench O26 S.E, stratum 5b, F97-2044. The attribution of the coin, which is very well preserved, to Eccara according to the SNG: Copenhagen remains uncertain. The name of the city in the 'Ethnika' by Stephanus Byzantius is Akarra. Compared to an example from the SNG: Copenhagen dated to c. 350-300 B.C. its weight is approximately the same (1.44 g.) B.V. Head dates a similar specimen to the later half of the 4th century B.C. (HN, 294).
2. Found 13-7-1998 in trench 026, stratum 3, F98-1017. Related to a specimen from the SNG, Cop., weighs less (7.55 g.), while a similar coin from the BMC is dated to c. 230-168 B.C and has a symbol on the obverse. Good state of preservation.
- 3-4. Coin n. 3 was found 16-7-1998 in trench 026, stratum 3, registered as F98-1074, n. 4 on the 21-7-1998 in the same trench and stratum, registered as F98-1130. Both of them are in poor condition. Numismatists have identified the head on the obverse of both coins as either Aetolia or Atalante. N.3 is lighter than an example from the SNG: Copenhagen (2.85 g.) while n. 4 weighs approximately the same.
5. Found 17-7-1998 in trench 026, registered as F98-1087: The coin is in good condition and is similar to one from the SNG: Copenhagen which weighs 3.61 g.
6. Found 25-7-1997 in trench O26 SE. The coin, a small part of which is missing, is related to a specimen from the SNG: Copenhagen (4.59 g.). According to P.A. Pantos, the national symbol of the Aetolians was the spear-head, alone or accompanied by a boar or a jaw-bone of a boar (Παντός 1985, 147).
7. Found 25-7-1997 in trench O26 SE. The reverse has greatly deteriorated and it is only with great difficulty that it is possible to make out a spearhead and on the r. of the camp. only the letter W of the legend is visible.
8. Found 22-7-1998 in trench 026, stratum 3, registered as F98-1133. Also the reverse of the coin is thoroughly damaged; weighs the same as the one from the SNG: Copenhagen.
9. Found 13-7-1998, in trench O26, stratum 3, registered as F98-1024. Due to its poor condition, only a part of the legend is visible (ΛΩΝ). It weighs approximately the same as the one from the SNG: Copenhagen (4.85 g.)
10. Found 22-7-1998 in trench 026, stratum 3, registered as F98-1135. Weighs approximately the same as the one of the SNG: Copenhagen (4.85 g.)
11. Found 23-7-1998 in trench 026, stratum 3, registered as F98-1150. It is badly preserved and weighs approximately the same as the one from the SNG: Copenhagen (4.85 g.)
12. Found 20-7-1998 at the trench 026, stratum 3, registered as F98-1110. The second part of the legend ΛΩΝ is not visible, while there are traces of a monogram between the spearhead and the jaw-bone of the boar. Related to a specimen from the SNG: Copenhagen (5.62 g.), though it is slightly lighter.
13. Found 17-7-1998 in trench 026, registered as F98-1088. A similar coin from Thessaly has the same monogram on the reverse as well as the spearhead and the jaw-bone of a boar (BMC: Thessaly

- to Aetolia, 198, n. 51). Another specimen from the SNG: Copenhagen (n. 23) has the whole legend (-AITΩΛΩΝ) on the reverse, but on the obverse Aetolia or Atalante with causia is represented, as well as bunch of grapes.
14. Found 22-7-1998 in trench 026, registered as F98-1138. On the reverse the legend AITΩΛΩΝ is not visible and the coin, which is in very poor state of preservation but with only a small part missing, is lighter than a similar specimen from the SNG: Copenhagen (4.07 g.)
  15. Found 23-7-1998 in trench 026, stratum 3, registered as F98-1149. On the reverse the legend is not visible due to the poor condition of the coin.
  16. Found 22-7-1998 in trench 026, registered as F98-1139. Weighs the same as the one from the SNG: Copenhagen (4.26 g.) and this type of coin is also related to the BMC:Thessaly to Aetolia and HN. On the reverse the legend is illegible due to the poor condition of the coin.
  17. Found 20-7-1998 in trench 026, stratum 3, registered as F98-1108. Relatively good state of preservation.
  18. Found 13-7-1998 in trench 026, stratum 3, F98-1025. It is lighter than a similar specimen from the SNG: Copenhagen (5.9 g.) and is well preserved.
  19. Found 17-7-1998 in trench 026, registered as F98-1094. It has been related to two similar specimens from the SNG: Copenhagen which weigh 5.9 g. and 4.39 g. respectively. The coin is in very good condition.
  20. Found 17-7-1998 in trench 026, stratum 3, registered as F98-1080. Because of its poor condition the part LWN of the legend is not visible. It is lighter than a similar coin from the SNG: Copenhagen (5.90 g.)
  21. Found 17-7-1998 in trench 026, stratum 3, registered as F98-1095. Weighs slightly less than a similar coin from the SNG: Copenhagen (5.90 g.) Due to the poor condition of the coin, the legend is not visible on the reverse.
  22. Found 20-7-1998 in trench 026, stratum 3, F98-1107. Weighs more than a similar coin from the SNG: Copenhagen (5.90 g.) and on the l. of the camp appears ΛΕ, which also appears on silver issues (Scheu 1960,46).
  23. Found 26-7-1997 in trench 026. Slightly lighter than the one from the SNG: Copenhagen (0.82 g.) and is in excellent condition. Also B.V. Head gives the same date (HN, 346).
  24. Found 21-7-1998 in trench 026 NW, stratum 3, F98-1114. Related to a specimen from the SNG, Cop. (3.18 g) which, however, is lighter. B.V. Head says that "The Eagle devouring a Serpent seems to be an emblem of the Olympian Zeus, as on the coins of Elis, for at Chalcis one of the chief shrines was that of Zeus Olympios" and this dates this type of the specimen to c. 369-336 B.C. (HN 1960, 359). Due to damage on the l. side of the camp it is only with difficulty that we can distinguish traces of the letters XAA (see also Picard 1979, 28-30)
  - 25-26. Registered as F98-1018 and F98-1020 respectively. N. 25 is lighter than a similar coin of the SNG: Copenhagen (2.80 g.) and n.26 is also lighter than two similar specimens from the SNG: Copenhagen, weighing 0.79 g. and 0.74 g. respectively.
  27. Found 15-7-1998 in trench O26 NW, stratum 3, and registered as F98-1043.
  28. Found 21-7-1998 in trench O26 NW, stratum 3, and registered as F98-1116.
  29. Found 21-7-1998 in trench O26 NW, stratum 3, and registered as F98-1115.
  30. Found 14-7-1998 in trench O26 NW, stratum 3, and registered as F98-1038.
  31. Found 15-7-1998 in trench O26 NW, stratum 3, and registered as F98-1043.



# Geological Investigations in the Area of Haghia Triadha

*Kaj Strand  
Petersen*

## The bay of Kato Vassiliki

The small fishing town of Kato Vassiliki is situated on the bay of Patras on the western side of a delta which was formed between the mountains Varassova (914 m) and Klokova (1037 m). The small bay of Kato Vassiliki is very shallow even at a distance of 1-2 km from the shore and in the eastern part of the bay of Patras, the depth never exceeds 80 m. Accordingly, during the periods of low sea level during the last glaciation most of the bay of Kato Vassiliki was land.

## The karstic limestone and the site of Haghia Triadha

According to the Geological Map of Greece (Mettos & Karfakis, 1991), the high NNW-SSE-running crest of Varassova in the west consists of strongly karstic limestone with marine gastropods and bivalves and dates from the Upper Cretaceous period (Cenomanian – Senonian). Conformable with the Upper Cretaceous limestone one passes through younger limestone beds from the Paleocene – Middle Eocene period into cohesive conglomerates, shales and sandstones again of Upper Eocene date belonging to the Flysch. As is also visible on the Geological Map of Greece, the hill of Haghia Triadha forms a small 'island' in the delta, as it consists of conglomerates alternating with thin layers of sandstone and shale. These layers constitute the youngest part of the more than 1000 m thick Tertiary sequence overlaying the Mesozoic limestone (Mettos & Karfakis, 1991). To the east of Haghia Triadha, Flysch series are visible in a low ridge (287 m), and further towards

the east the limestone of Palaeocene – Middle Eocene age reappears overlaying the upper Cretaceous limestone in Mt. Klokova.

The geological character of the valley of Kato Vassiliki was found to be a syncline. Thus, the older sediments visible along the lower flanks of the Varassova and Klokova mountains lie beneath the delta at varying depth depending on the dip of the synclinal axis.

## The changing face of the landscape around Haghia Triadha

The strongly karstic limestone from the Upper Cretaceous period, described above, forms one of the most conspicuous geological features of the valley of Kato Vassiliki. Moreover, it is characterised by a multitude of caves which are of archaeological and historic interest, since caves of this kind were often used for habitation in the Paleolithic period and in more recent times the caves of the Varassova were inhabited by monks. It was therefore important to obtain a fuller picture of the karstic limestone in the area. For this reason, strike and dips were measured of the strata in four areas covering the delta up towards Gavrolimni and the slopes of Varassova and Klokova (hatched areas marked A-D in Fig. 48). As appears from Fig. 48, 81 strike and dips were used resulting in an orientation best-fit-great-circle 162/76 (dip/direction) which gives a fold axis orientation 342/14. The crest zone of the fold can then be estimated to dip 14° towards north-north-west. This observation is highly important for our under-

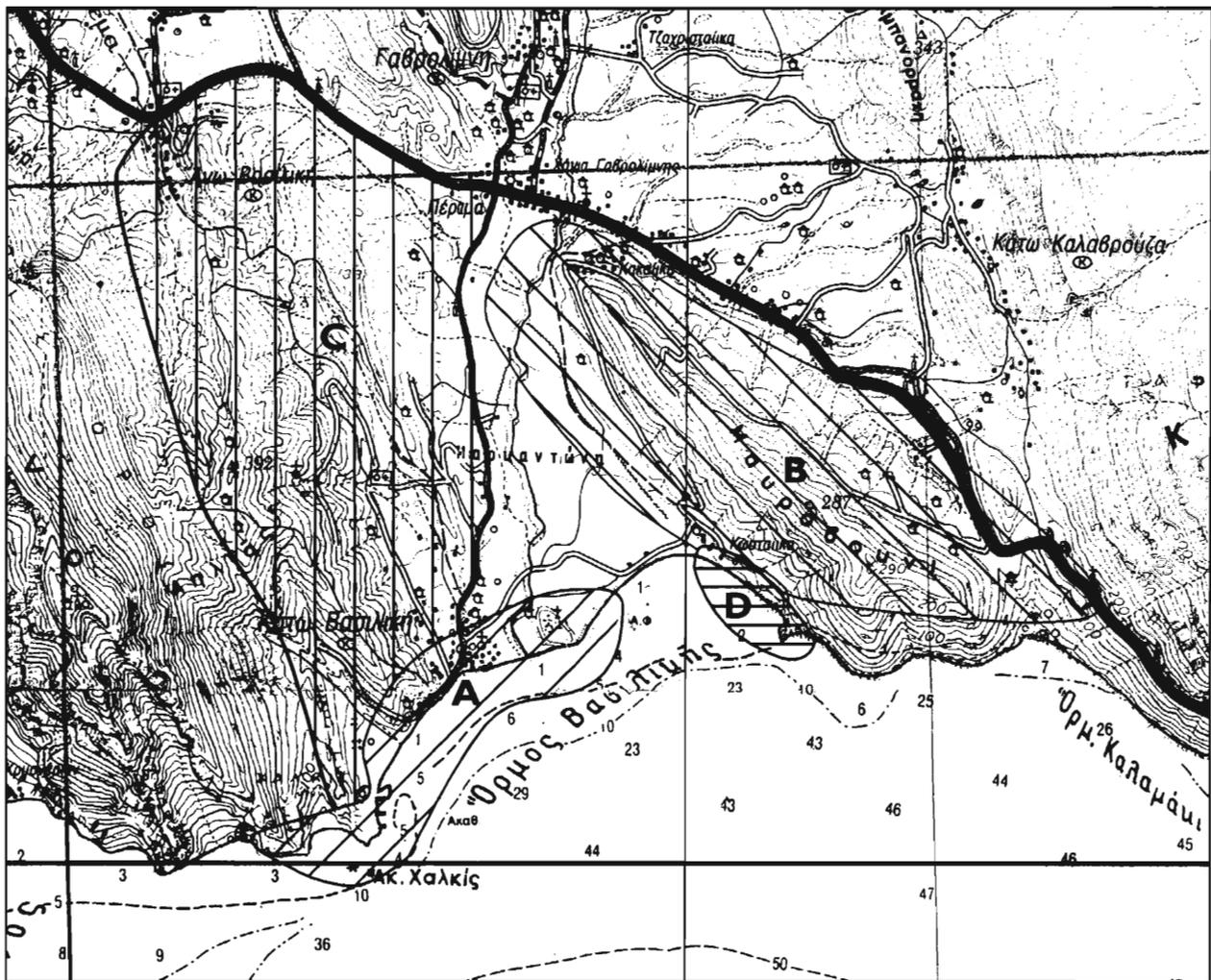
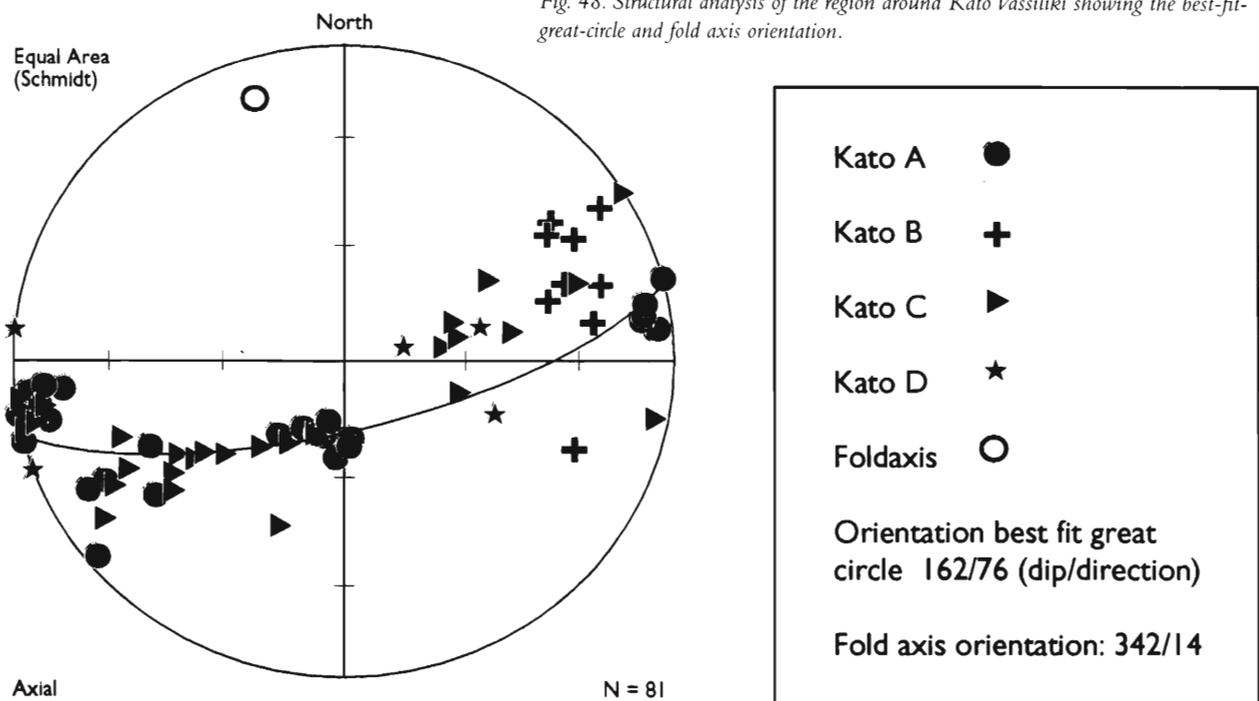


Fig. 48. Structural analysis of the region around Kato Vassiliki showing the best-fit-great-circle and fold axis orientation.



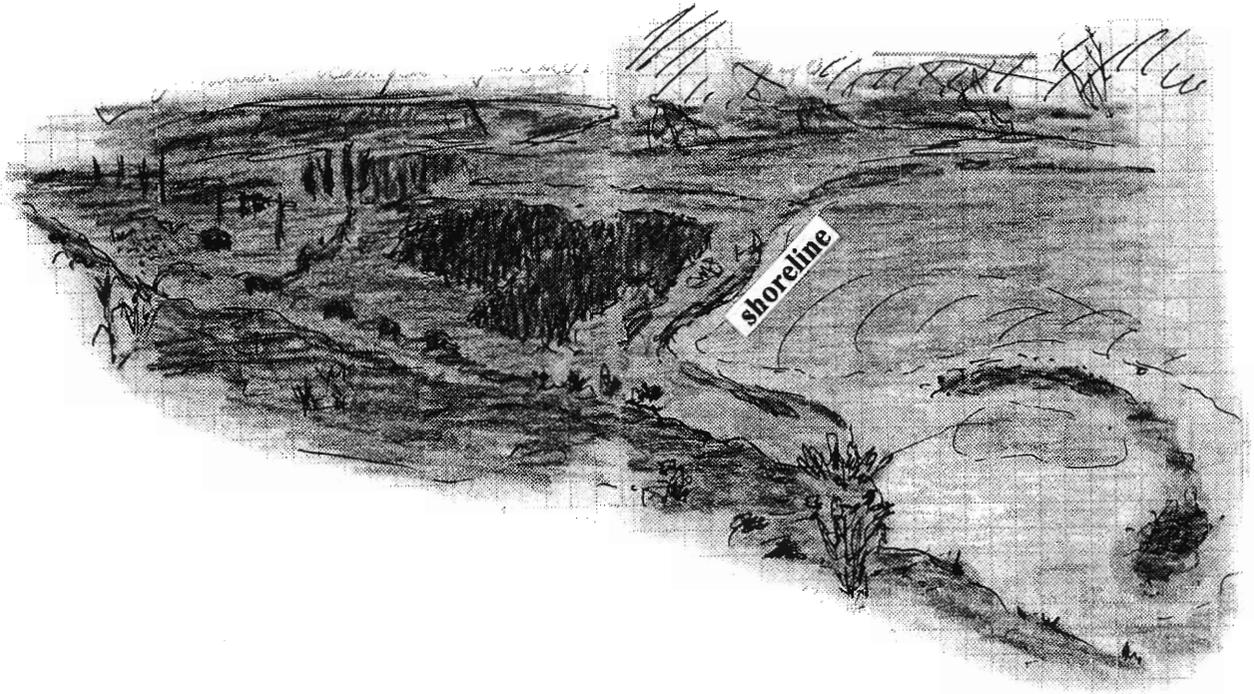


Fig. 49. Sketch drawn from the hill of Haghia Triadha towards the east showing a crescent shaped island in the sea which was revealed to be part of the Flysch.

standing of the profound ways in which the landscape around the hill of Haghia Triadha has changed during the last approximately 25,000 years. The structural analysis implies that during the Late Weichselian period when the sea level was around 120 m below the present sea level, karstic limestone formed part of a vast landscape which extended far towards the south of the Haghia Triadha hill into what is today the bay of Kato Vassiliki. Thus, karstic limestone might appear less than two km from the coast of the hill of Haghia Triadha in a south-south-east direction at a depth of approx. 50 m.

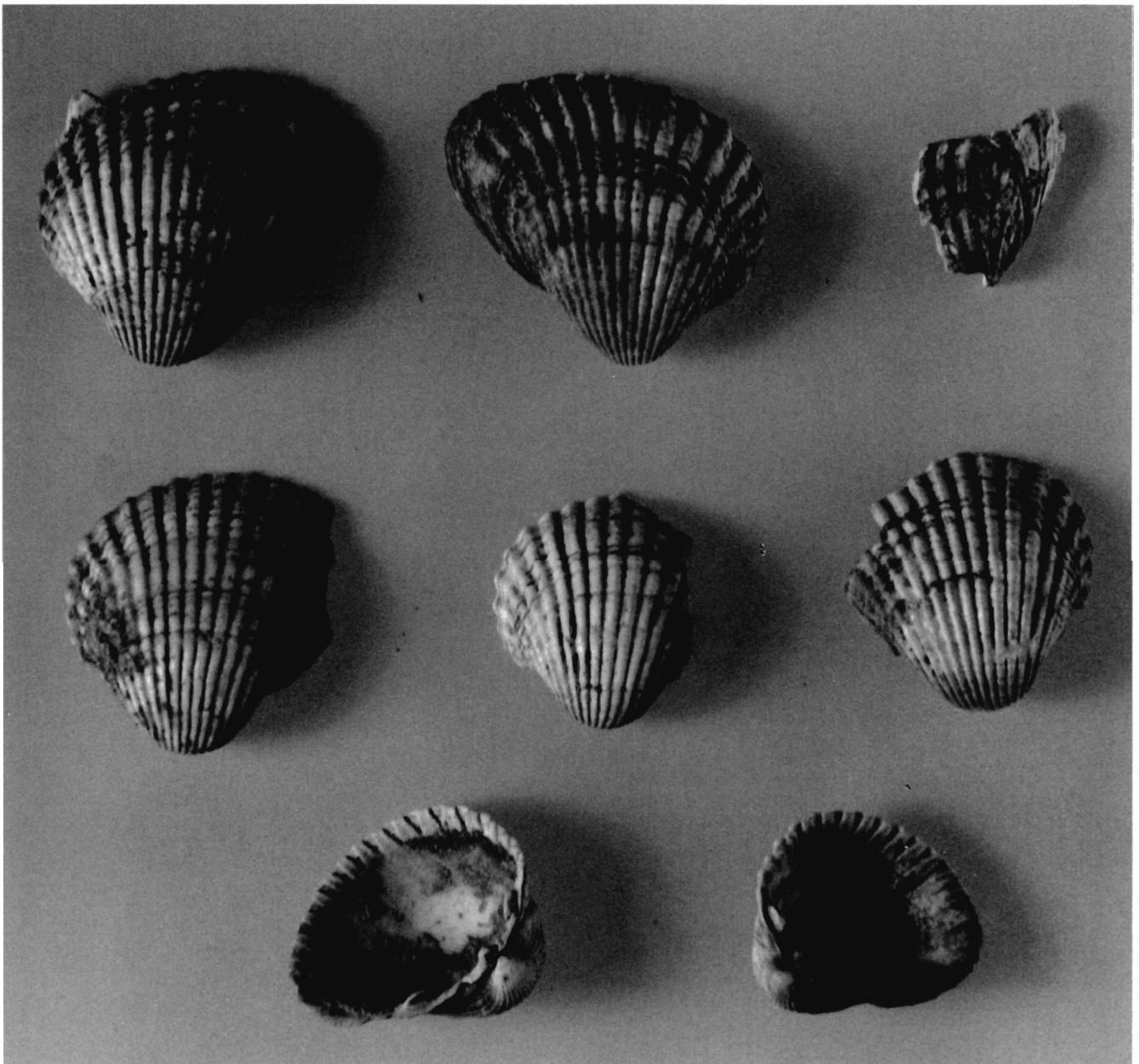
A small crescent shaped island which is visible in the sea close to the coast on the eastern side of the Haghia Triadha hill must also have formed part of this landscape (Fig. 49). This island was first considered to be a beach ridge, but was revealed to be part of the Flysch. It might be the trace in the horizontal plane of the syncline dipping north-north-west.

## Marine deposits

Marine deposits were not located on the eastern side of the hill of Haghia Triadha, but only on the western side. Here marine strata were found in three places proving the existence of a small bay. These marine sediments were characterised by molluscs such as *Conus*, *Bittium* and *Gibbula* which facilitated AMS-datings of the sediments. According to the datings so far obtained by this method, the small bay existed in 3310-2930 BC (AAR-4348) and in 1750-1630 BC (AAR-4347).

## Diet of the people in ancient Chalkis

A considerable quantity of molluscs were found during the excavations on the hill of Haghia Triadha which gives a valuable insight into the diet of the people who once lived here. So far, as many as 25 marine species have been identified, all of which no doubt once served as an important food-supply. To judge by its frequency, the *Cerastoderma glaucum* (Poiret, 1789) was by far the most popular (Fig. 50) and



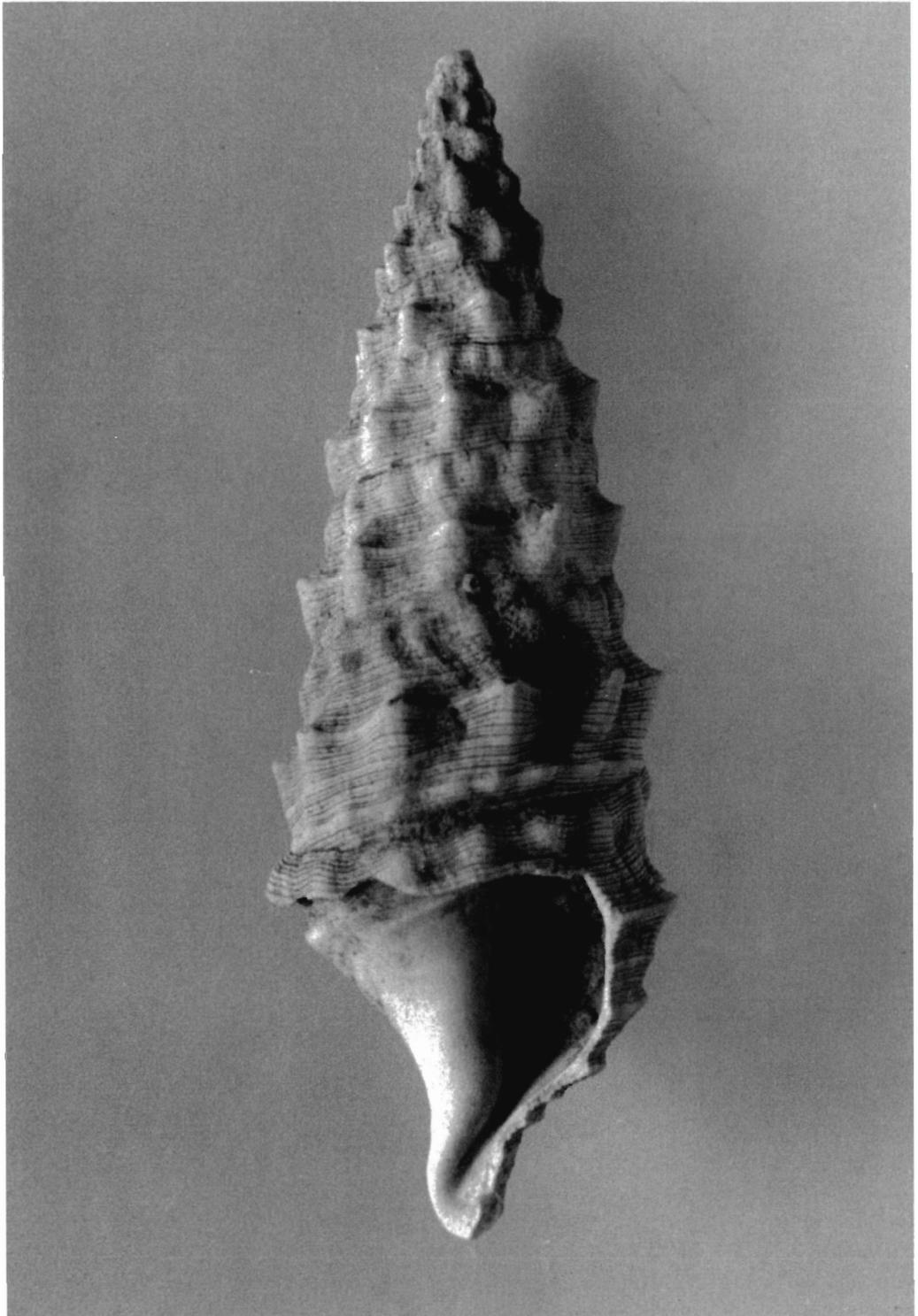
among the gastropods the *Cerithium vulgatum* (Bruguère, 1792) (Fig. 51). In addition, ten terrestrial gastropods were recorded. Among these, only the *Helix pomatia* (L., 1758) is likely to have been eaten.

With regard to shellfish, the find of fragments of the *Pinna nobilis* L., 1758 (Fig. 52) and the large predatory gastropod *Tonna galea* (L., 1758) (Fig. 53), both spectacular molluscs occur still on the sandy bottoms along the coast of Haghia Triadha.

The samples of molluscs from the oldest layers of trench 4 (compare Fig. 3), near the area now known to have been a small bay, have also been dated by the AMS method. All of these datings point to the Bronze Age: 1890-1740 BC (AAR-4586), 1740-1620 BC (AAR-4588), and 1520-1430 BC (AAR-4587). In other words they stem from a period in which the area southwest of the trench formed a small bay.

Fig. 50. *Cerastoderma glaucum* (Poiret, 1789).

Fig. 51. *Cerithium vulgatum*  
(Bruguère, 1792).



### Rise of sealevel

Most of the molluscs have a habitat of sandy shores as found off the hill of Haghia Triadha today. It is therefore also interesting that epifauna elements can be

found on the solid rock of the hill of Haghia Triadha, as well as to the east and west of this site. Thus, heavy bioerosion occurs on outcrops of limestone to the west of the hill and the forming of such notches is a well-known effect of bioero-

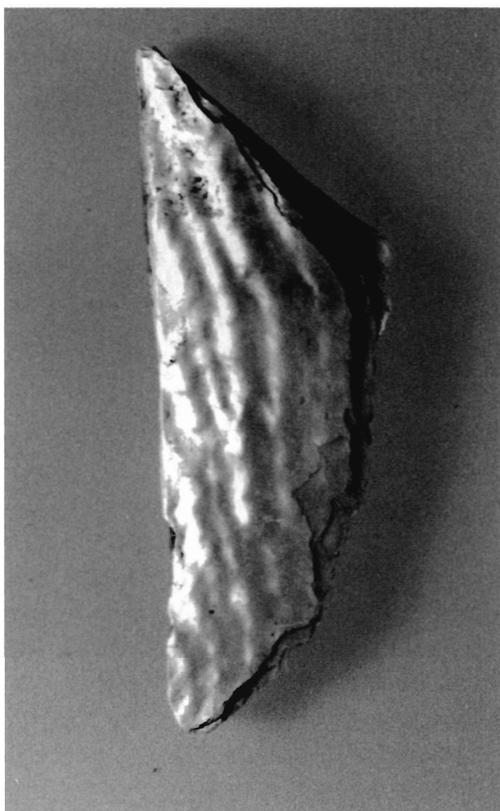


Fig. 52. *Pinna nobilis* L., 1758.

sion. Of particular interest are the exposures in the western part of the bay of Kato Vassiliki immediately below the site of Pangali. In this area it appears that from a depth of around 2 m below the present sea level the limestone has been substantially bioeroded as seen on Fig. 54. This might show a constant rise of sea level up to the present position. However, the former levels have not been dated.

## Summary

Up till now the geological studies including records of recent and subfossil molluscs have depicted the geological setting of the strongly karstic limestone with the potential of palaeolithic settlements in caves like the finds of caves in the Marseilles area below present day sea level. The demonstration of the existence of a former bay west of the site of Haghia Triadha might suggest a possible place for anchorage. Moreover an overlap of the dates from the marine deposits of the for-

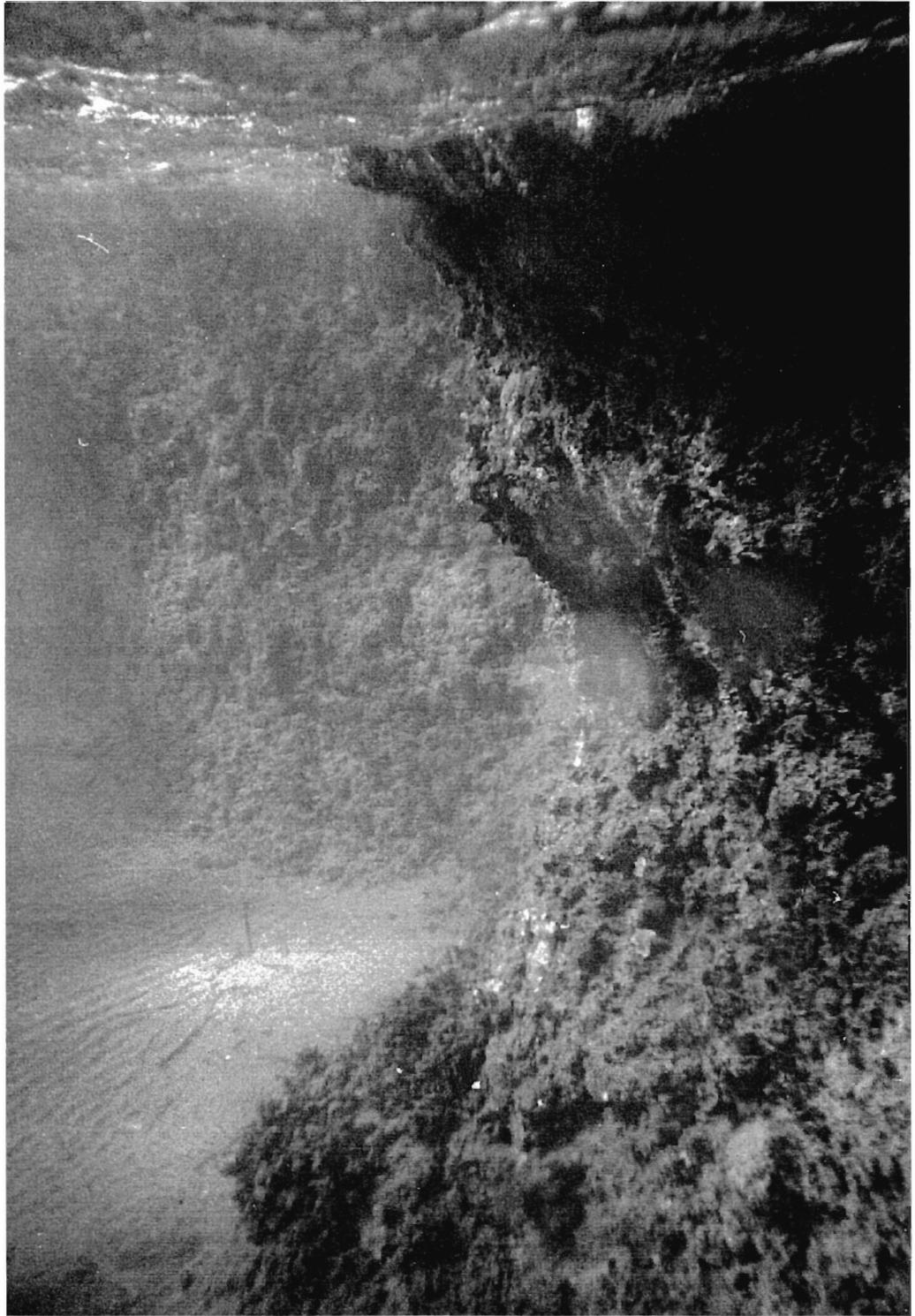


Fig. 53. *Tonna galea* (L., 1758).

mer bay and the dates of the shellfish from the excavation – both falling within the Helladic period – was demonstrated.

In giving an account of the recorded molluscs from the site it should be kept in

*Fig. 54. Underwater photo off the site at Pangali showing the substantial bioerosion up to present-day sea level.*



mind that the many vertebrate remains have not been given a closer study. Therefore the main part of the diet is still unknown. The progradation of the delta seems to indicate rising sea level and the studies of bioerosion from under the water

(no traces were observed above sea level) may support the idea of rising sea level in the last part of the Holocene. So far no age can be established for the older sea level.



# The Final Neolithic Pottery from the Excavation at Pangali in 1996

*Theophanis  
Mavridis*<sup>14</sup>

In 1995 a rich Neolithic site was discovered during a systematic survey at the location called Pangali on the eastern slope of Mt. Varassova. The following year, a test trench was opened under the supervision of M. Gazis in order to examine the character and chronology of this site (FPR 1998, 255-258, 280-281).<sup>15</sup>

The pottery in this report has been selected with a view to giving some clue to the dating of the site in the absence of radiocarbon dates and detailed stratigraphic information. It is, however, important to stress that the presentation is preliminary and that further study is required in order to obtain a fuller picture.

## Fabric

The fabric of the Pangali pottery ranges from coarse to semi-coarse with many inclusions. Fine fabric is very uncommon and only thin-walled vessels contain fewer inclusions. Thus, the size as well as the quantity of inclusions varies according to the size of vessels and thickness of walls, a characteristic which is likely to be functionally dictated (Coleman 1977, 9; Immerwahr 1971, 4).

Moreover, the non-plastics contained in the clay are angular to sub-rounded and range greatly in size according to the estimation charts in Orton et al. (1993, figs. A5, A6). Mica seldom appears.

## Technique

The Pangali pottery provides valuable information on firing techniques which is worth mentioning. Thus, certain white inclusions were identified as calcium car-

bonate with the use of hydrochloric acid following the procedure described by K. Vitelli (1993, 5). The presence of calcium carbonate gives some clues to the firing temperature since it begins to decompose above 750°C (Rye 1981, 33). Further attempts to identify tempering agents will, however, have to await a petrographic analysis (see also Pullen 1995, 8).

With regard to the pottery from Pangali, it has to be remembered that the surface colour reflects the mineralogical content of clay as modified by firing treatment, coatings and finishing techniques. Thus, the surface of the pottery from Pangali ranges from a clear orange red to darker shades of red, brown and buff to grey. Moreover, it is known that the sub-surface colour of fired pots is also dependent on mineralogy and firing treatment and can be thought of as the natural fired colour of the clay body (Rice 1987). For this reason, the clay body of the pottery from Pangali seems to be homogeneous and a dark brown/reddish clay was used. As is the case for other final Neolithic sites, the varying thickness of the blackened core of the Pangali pottery is due to uncontrolled firing (Spitaels 1982, 14).

The same conclusion can be drawn regarding sherds with mottled areas. Such mottling is the result of localized differences in the firing atmosphere and temperature probably owing to the fact that the pots from which the sherds stem were fired in direct contact with fuel and thus without the use of true kilns (Vitelli 1993, 5).

Other manufacturing processes can also be deduced from the Pangali pottery. Some of the bases from Pangali belonging to large vessels had clearly been built up

from a rather thick clay disc and a coil had been added around it (on this technique, see Kotsakis 1996, 245). Moreover, several sherds have fine striations on the exterior which indicate smoothing and bear traces of dry-burnishing (compare Rice 1987). On the interior of several sherds from closed vessels, traces of trimming or scraping are present. This procedure was probably conducted while the pots were still wet.

With regard to incised decoration on the Pangali pottery, the thrown up edges of several incised patterns indicate a plastic condition of the clay during the decoration procedure while decoration consisting of shallow and 'clean' lines indicates a leather hard stage of the clay. The varying depth and width of the incised lines point to the use of different tools. However, the appearance of the lines, whether uniform or irregular, most likely depended on factors such as the degree of pressure, the angle of the tool and the dryness of the clay (Rye 1981, 67).

Regarding plastic decoration, the applied clay must have had a plastic consistency in most of the cases and have been applied to the pot when this had reached a leather hard stage. Lugs and handles were added separately.

## Wares and shapes

Generally, the Pangali-pottery is monochrome or slipped and burnished or just smoothed, but the categories are not always distinct due to the «self slip» effect of the finishing techniques (compare Rye 1981, 57).

With regard to shapes, open shapes – mostly bowls – are by far the most frequent. This estimation is based on a consideration of the fact that smaller and thinner pots break more easily than larger and thicker vessels (for the statistical procedure, see Cullen 1985, 174; Rice 1987, 223).

## Burnished ware (Fig. 55)

Most burnished vessels are open shapes,

the rim-diameter of which ranges from about 10 to 30 cm (Fig. 55: 3, 10-11). Coarser pots with thick walls were usually larger. These pots have straight, out- or inside turned walls and rims, and thin or thicker walls which range from 0, 2 to about 0, 8 cm. They also have different types of lugs and handles and knob-decoration. Examples are raised buttons (Fig. 55: 7), a combination of buttons (Fig. 55 : 6), single or double buttons (Fig. 55: 4, 10, 11) and small vertical strap handles usually below the rim (Fig. 55: 8, 9). Unperforated, horizontal or vertical lugs are also found (Fig. 55: 5). Bases of open pots are flat, but in a few cases low ring bases are also attested (Fig. 55: 1, 2).

## Incised ware (Fig. 56)

Another characteristic category of the assemblage is incised ware. Shapes of this ware are open, usually thin-walled and small or medium-sized. Decoration is confined to a frieze which is either narrow or wide, vertical or horizontal and which may be divided into panels and is usually placed near the rim (Fig. 56: 12, 15). Margin lines (Fig. 56: 14, 16), parallel groups of oblique lines (Fig. 56: 13, 16, 18) as well as more complicated arrangements of lines (Fig. 56: 13, 16, 18), filled bands (Fig. 56: 12, 15), and triangles (Fig. 56: 17, 19, 20) are also present.

Pots with this kind of incised decoration are usually well burnished and dark coloured. The incisions are normally shallow and fine. On bowls with thick walls, however, they are deep and have thrown up edges. Moreover, lugs are not unusual. This is remarkable since lugs are highly unusual on pots of similar ware from Kastria in Achaia and Prosymna in Argolis (Sampson 1997, 245; Blegen 1937, fig. 633: 1, 2 are much coarser pots with thick walls).

The large amount of sherds of this ware and its presence in the whole sequence of the trench (though especially stratum 2) indicate that its production was not confined to the Peloponnesos, as has so far been believed (Sampson 1997, 326).

## Red slipped and burnished ware (Fig. 57)

A few sherds stem from red slipped, rather well burnished bowls, which are usually decorated with thin ridges (Fig. 57: 21) or buttons (Fig. 57: 22). They were found in stratum 2. Probably some black or dark grey sherds from open pots of good fabric and burnish should be considered here. However, the few sherds from Pangali which belong to shouldered or carinated open shapes may belong to the burnished category identified at Kastria and other Aegean sites (Sampson 1997, 90) but further study of the Pangali-sherds is needed.

## Coarse ware (Fig. 57)

Most coarse ware sherds belong to undecorated pots. The exception to this rule are jars which are often decorated with ridges and occasionally with unperforated flat lugs (Fig. 57: 23) and may carry relief bands combined with impressed dots (Fig. 57: 32) or bands with rope decoration (Fig. 57: 31). The wall-thickness of coarse ware sherds varies. Several sherds with a wall-thickness exceeding 1 cm belong to large pithoid jars. Large strap handles (Fig. 57: 24), biconical handles (Fig. 57: 25) and unperforated lugs (Fig. 57: 26) may also belong to such jars. Coarse ware vessels with thinner walls are decorated with horizontal straight ridges (Fig. 57: 29), angular bands (Fig. 57: 30), or ridges with pointillé decoration (Fig. 57: 27, 28).

## Chronology

The pottery excavated in the trial-trench at Pangali must belong to an “early Final Neolithic” phase for several reasons. Firstly, the fabric and technique of the pottery is very homogeneous in all four strata. A similar homogeneity characterizes many Final Neolithic sites (Coleman 1977, 9; Spitaels 1982, 34). Secondly, only a few sherds from the trial trench (not included in this report) find parallels to representative later material from sites such as Plaka-

ri in Euboea and the Agora of Athens (Spitaels 1982; Immerwahr 1971; see also Phelps 1975, 297; Sampson 1981; Pullen 1995). The fact that these sherds were especially characteristic of stratum 1 is of little significance since wares common in the lower strata were also found in this stratum. Thirdly, there were no significant differences among the ware-groups and shapes between strata 2 and 3. Finally, and most importantly, the Pangali-pottery is closely paralleled at several “early Final Neolithic” sites in Greece which – just like Pangali – lack matt-painted, pattern-burnished and crusted wares as well as rolled rim bowls. An especially close parallel is Kastria phase III termed transitional Late Neolithic Ib-IIa by the excavator (Sampson 1997, 324). Here matt-painted wares were no longer produced and pattern-burnished and crusted ware and rolled rim bowls had not yet appeared while incised ware similar to that at Pangali was found in great quantity. Moreover, a Final Neolithic (LN Ib) phase with the chronological characteristics described above has previously been identified in the Peloponnesos (Phelps 1975, 301) as well as in Euboea (Sampson 1993, 89) and elsewhere. Also, the pottery from Pangali has close parallels to the material excavated at the site of Aghios Demetrios in Triphylia, SW Peloponnesos, but the presence at the latter site of sherds with crusted and pattern burnished decoration implies a rather later date (see Zachos 1987, 123-124).

In view of the little we know about pottery sequence and cultural development in Aetolia-Akarnania in the crucial transitional period between the Late Neolithic period and the Early Bronze Age, the importance of the site of Pangali cannot be overestimated. Especially promising is its relation to the nearby site of Haghia Triadha where Early Helladic finds are coming to light (see this report, 232-240). Future Excavation at Pangali may, however, add even further to our understanding of the transition between Final Neolithic-Early Bronze Age in western Greece,

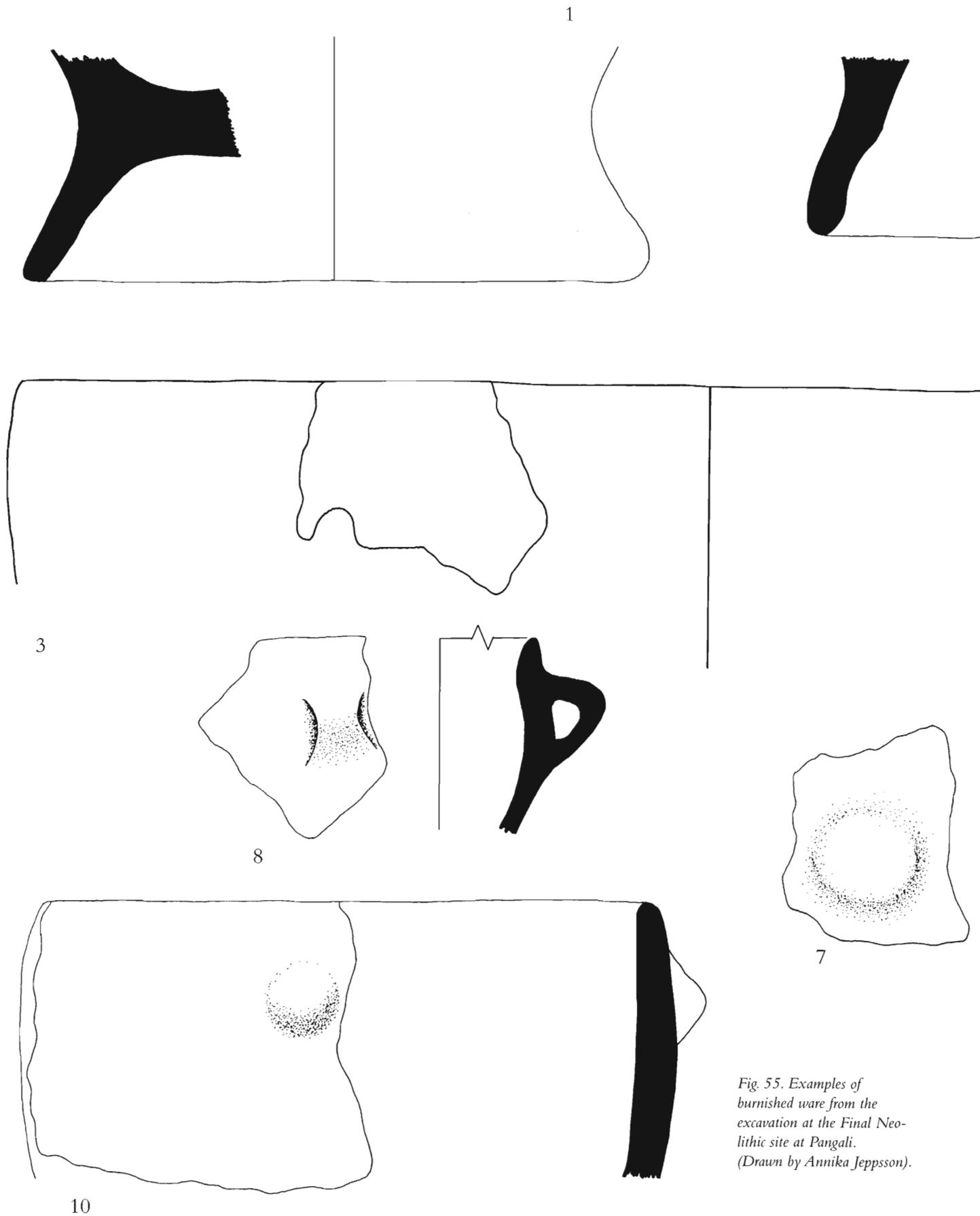
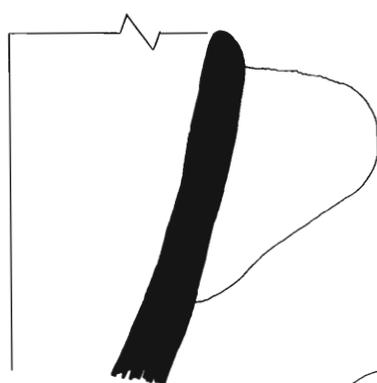
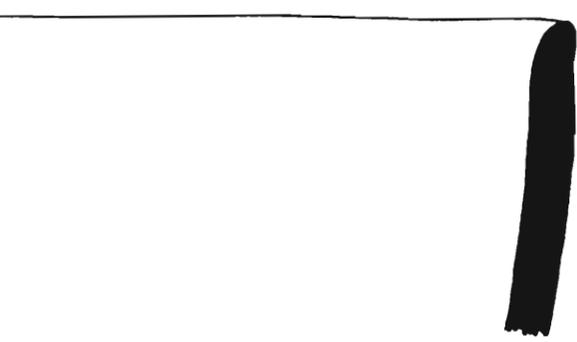
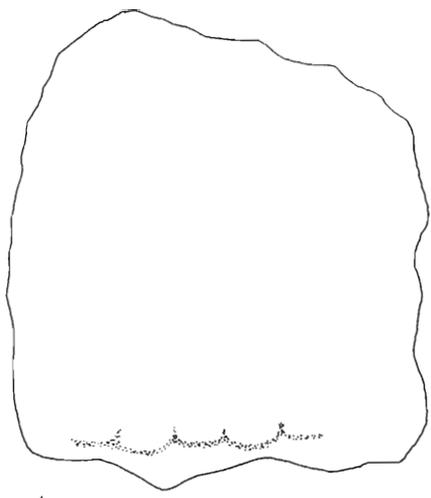
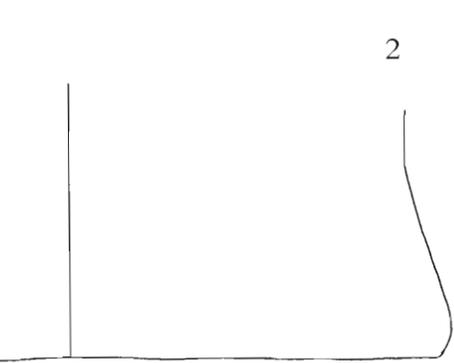
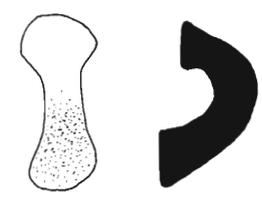
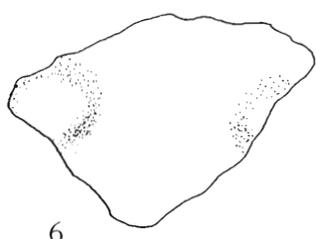


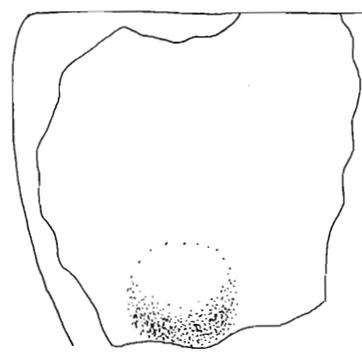
Fig. 55. Examples of burnished ware from the excavation at the Final Neolithic site at Pangali. (Drawn by Annika Jeppsson).



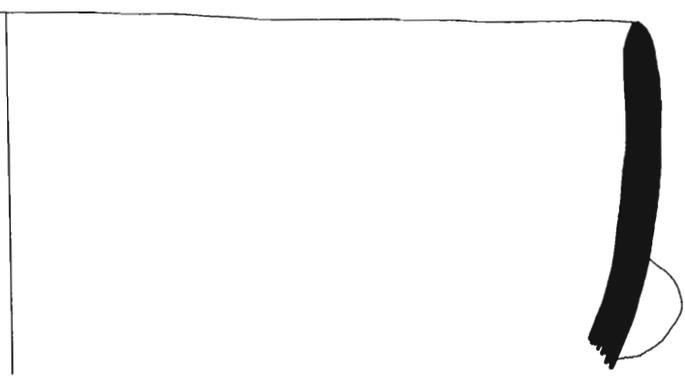
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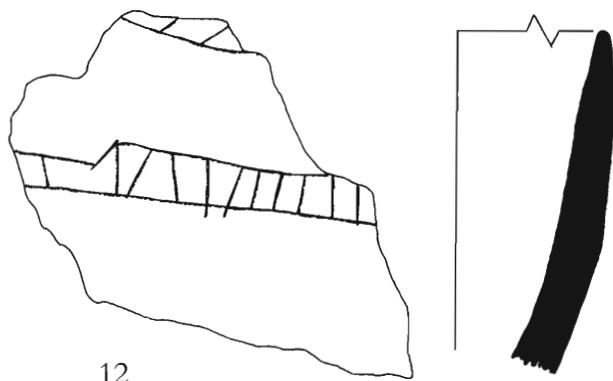
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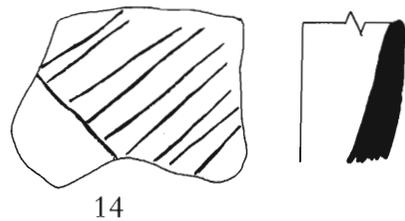
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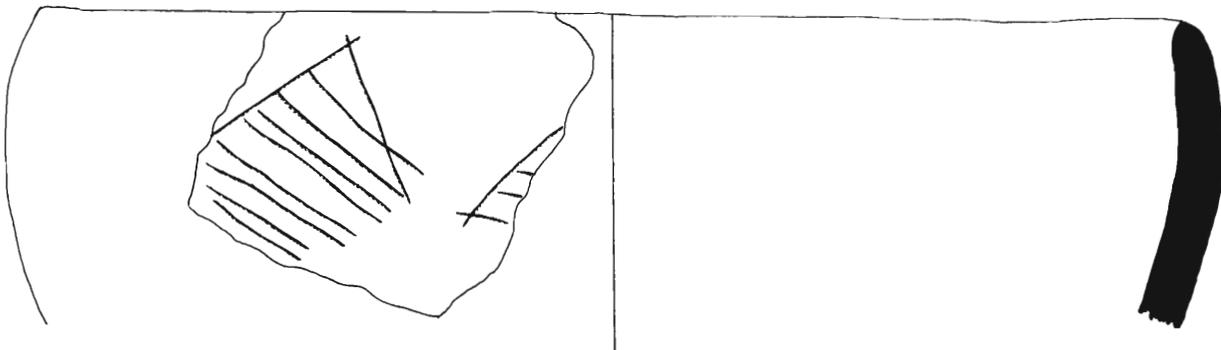
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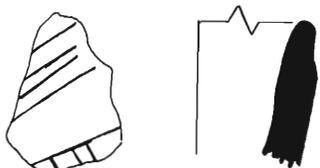
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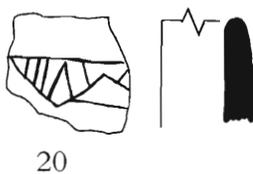
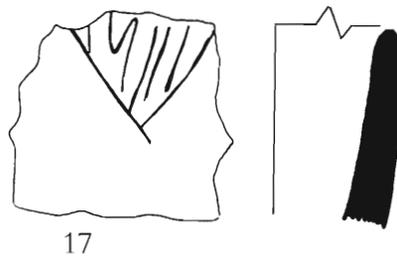
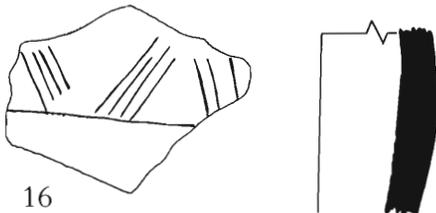
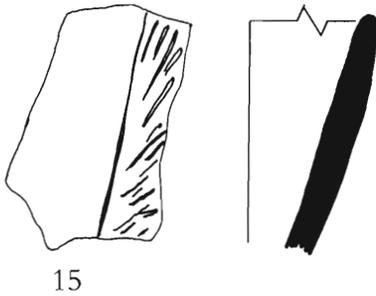
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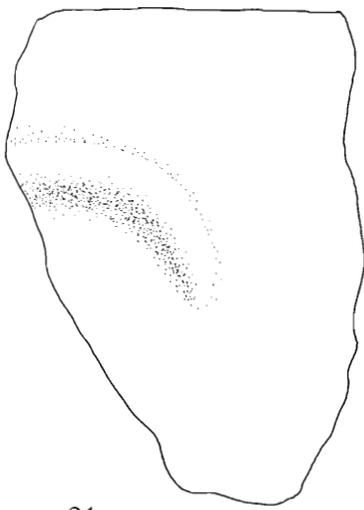
Fig. 56. Examples of incised ware from the excavation at the Final Neolithic site at Pangali. (Drawn by Annika Jeppsson).

especially in relation to the evidence from other sites such as the cave of Drakaina on the island of Kephallonia visible from Pangali on clear days (for this cave: Stratouli, pers.com, in press).

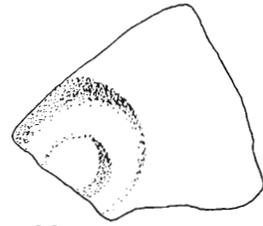
### Key to catalogue

The diagnostic sherds from the trial Excavation amounted to about 200, all of which were drawn and registered. Since no major chronological differences were observed the material was treated as a single entity. It should therefore be pointed out that the numbering of the sherds in the catalogue has no stratigraphic significance but represents the order in which the sherds were studied. Stratigraphic information is, however, given for each sherd. Colour descriptions follow the Munsell system and the measurements are given in centimeters unless stated otherwise. According to the estimation of the rim diameter, pots were divided into three categories : a) 0-15 small, b) 16-25 medium and c) 26- large.

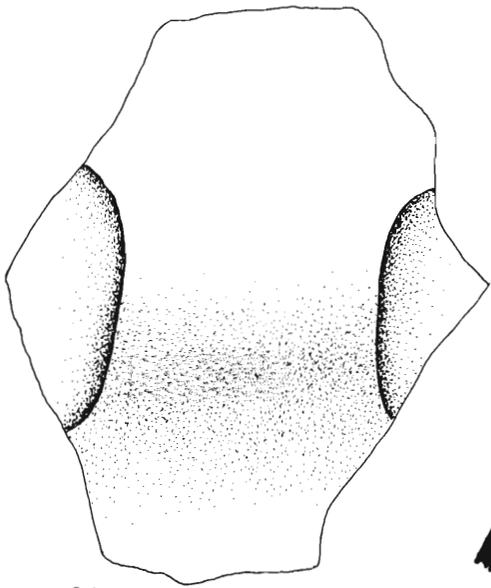




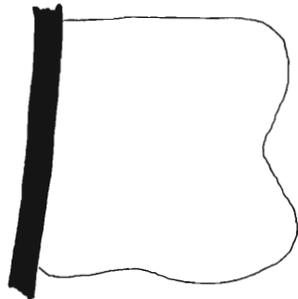
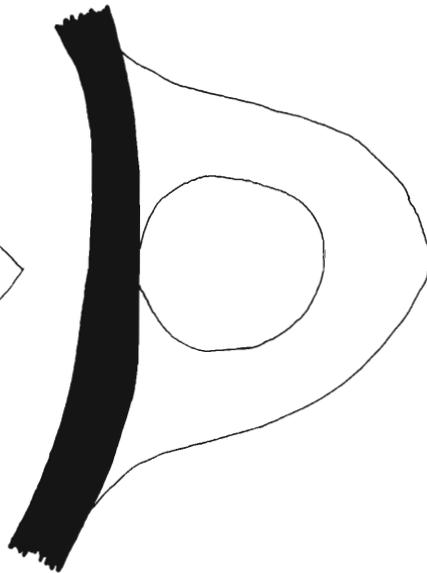
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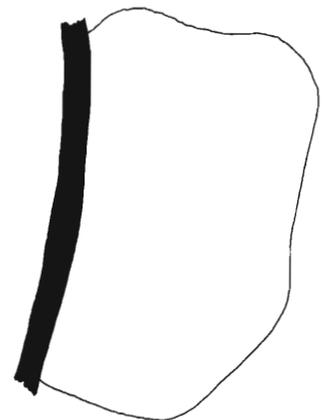
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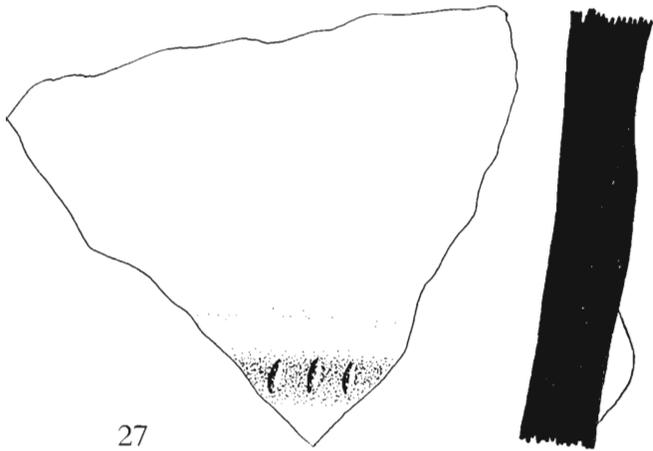
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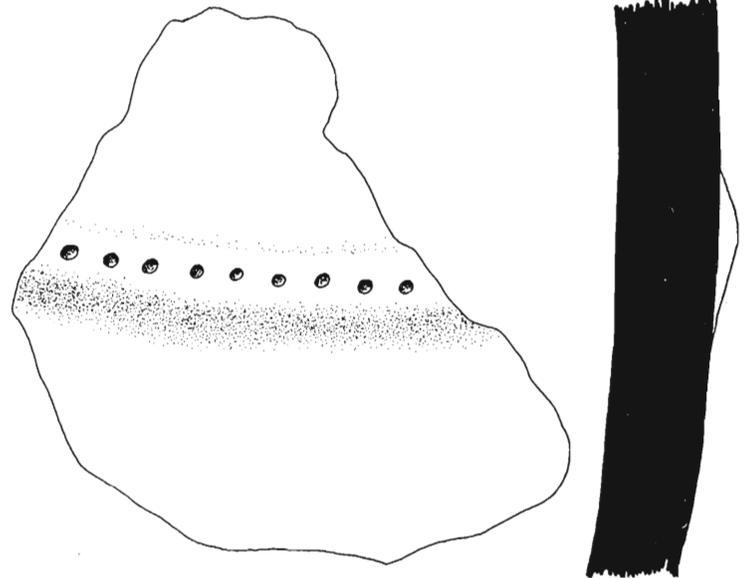
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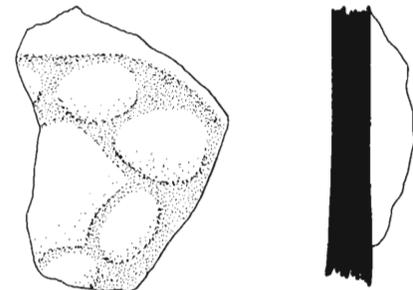
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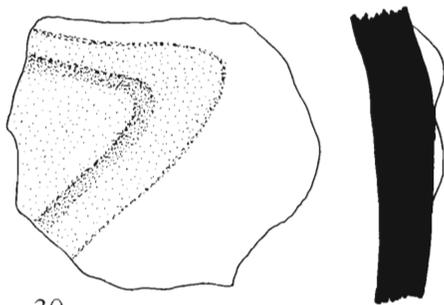
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Fig. 57. Examples of red-slipped, burnished and coarse ware from the excavation at the Final Neolithic site at Pangali. (Drawn by Annika Jeppsson)



# Catalogue

1.  $\Pi/\Sigma 2/\Pi 4$ : 202. Fragment of a ring base. Coarse fabric with large inclusions. Smoothed out, rough in (4/4 7.5 YR brown). Grey core. Diam:13, H:5,5, Th:0,8-1.2.
2.  $\Pi/\Sigma 3/\Pi 5$ : 193. Fragment of a ring base. Coarse fabric. Smoothed out, rough in (4/6 7.5 YR strong brown). Red to brown core (4/6 10 R red-4/4 5YR reddish brown). Diam: 14 ; H:4 ; Th:0,7-1,1.
3.  $\Pi/\Sigma 1/\Pi 3$ : 74. Rim and body of a medium-sized bowl with fairly straight walls. Plain, rounded rim. Semi-coarse fabric with some silver mica, yellowish to reddish brown. Slipped and polished (2.5/2 very dark brown out, 7.5 YR, 3/1 5YR very dark grey in). Grey core. Mending hole on the lower part. Diam: 22; H: 5; Th: 0,5.
4.  $\Pi\Phi 1/54$ . Body fragment of a convex bowl. Double mastoid projection on the lower part. Fabric semi-coarse (4.8 dark red, 2.5 YR) with few inclusions and mica. Slipped and burnished (4.8 red, 2.5 YR out, 5.2 greyish brown, 10 YR in). Grey core. Diam.: -; H: 6; W: 6; Th: 0,5.
5. T1: 203. Rim and body of a convex bowl. Plain, rounded rim. Unperforated, flat, ear-shaped lug below rim. Semi-coarse fabric. Burnished (3.1, 7.5 YR very dark gray out, 4/4 7.5 YR brown in). Grey core. Diam.: -, H: 5; W: 6; Th: 0,7.
6.  $\Pi/\Sigma 2/\Pi 3$ : 182. Body fragment of a convex walled, open pot. Decorated with double buttons. Semi-coarse fabric. Slipped and burnished (5/4 reddish brown 5YR). Grey core. H: 3; W: 4,5; Th: 0,5.
7.  $\Pi/\Sigma 2/\Pi 3$ : 121. Body fragment with a raised knob. Semi-coarse fabric with some mica. Slipped and polished (4/8 dark red, 2.5 YR). H: 5; W: 4,5; Th: 0,6.
8.  $\Pi/\Sigma 2/\Pi 3$ : 95. Rim and body of a medium, convex-walled, rather closed bowl. In diagonal position, below rim a small strap handle. Slipped and smoothed (3/1, 7.5 YR very dark grey). Grey core. Diam: 22; H: 4; Th: 0,5.
9.  $\Pi/\Sigma 2/\Pi 3$ : Small strap handle from a bowl or cup. Thickened at both ends. Semi-coarse fabric. Plain, slightly smoothed (3/4, 7.5 YR dark brown). Black core. H:2,4; W: 1; T: 0,6.
10.  $\Pi\Phi 1/54$ . Rim and body of a small, convex-walled, closed bowl. Plain, rounded rim. Semi-coarse fabric. Mastoid projection below rim. Slipped and smoothed (5/2, 10 YR greyish brown). Grey core. Diam.: 13; H: 6,2; T: 0,7.
11.  $\Pi/\Sigma 2/\Pi 3$ : 97. Rim and body of a medium, convex-walled bowl. Plain, rounded rim. Mastoid projection on the body. Semi-coarse fabric. Slipped and burnished (4/8, 2.5 YR, red). Grey core. Diam: 18; H: 5; T: 0,4.
12.  $\Pi/\Sigma 2/\Pi 3$ : 190. Rim and body of a slightly convex-walled bowl. Plain, pointed rim. Incised decoration of two parallel zones filled with oblique lines. Semi-coarse fabric with small inclusions. Slipped and very well burnished (2.5/1, 2.5 Y reddish black). Black core, red near surface. D: -; H: 4,5; W:6; T: 0,5.
13.  $\Pi\Phi 1$ :70. Rim and body of a medium, convex-walled bowl. Plain, rounded rim. Systems of intersecting

- and joining, oblique lines below rim. Semi-coarse fabric with mostly small inclusions and mica. Slipped and smoothed (4/4 reddish brown, 5YR). Grey core. Diam.: 17; H:4,4; Th:0, 6.
14. T1/Σ2/Π3: 109. Rim and body of a convex-walled bowl. Plain, rather pointed rim. Incised decoration of one marginal and several oblique lines. Semi-coarse fabric with few small inclusions. Slipped and smoothed (4/3 brown 7.5 YR out, 3/3 dark reddish brown 5YR in). Grey core. Diam.: -; H: 2,3; W: 2,5; Th: 0,5.
  15. T1/Σ2/Π3: 108. Rim and body of a slightly convex-walled bowl. Rim plain, rounded. Vertical zone filled with oblique incisions. Fabric fine to semi-coarse with few sporadic inclusions. Slipped and burnished (4/3 brown 7.5 YR). Grey core. Diam.: -; H: 3,3; W: 2,1; T: 0, 4.
  16. T1/Σ2/Π3: 149. Body fragment of a convex-walled bowl. Incised decoration with horizontal margin line and systems of oblique lines. Semi-coarse fabric. Slipped and smoothed (3/3 dark brown 7.5 YR out, 2.5/2 very dark brown in). Grey core. Unevenly fired. Diam.: -; H: 3; W: 3,5; Th: 0,4.
  17. T1/Σ1/Π3: 73. Rim and body of a rather straight-walled bowl. Plain, rounded rim. Incised lines forming a triangle, filled with asymmetrical incisions. Semi-coarse fabric with few small inclusions. Slipped and smoothed (5/4, 7.5 YR brown). Grey core. Diam.: -; H: 3,1; W: 3,4; T: 0,5.
  18. T1/Σ2/Π3: 165. Rim of a straight-walled bowl. Plain, rounded rim. Systems of oblique lines below rim. Semi-coarse fabric with few inclusions and mica. Slipped and burnished (4/8, 2.5 YR red). Brown core. Diam.: -; H: 2,2; W: 1,4; T: 0,4.
  19. T1/Σ1/Π3: 137. Rim of a convex-walled bowl. Plain, rounded rim. Decorated with very shallow incised lines, one vertical (marginal), two which form an angle and inside two oblique. Semi-coarse fabric with few small inclusions and mica. Slipped and burnished (4/6, 5YR yellowish red out, 3/1, 5YR very dark gray in). Grey core. Diam.: -; H: 1,7; W: 2; T: 0,3.
  20. ΠΦ1. Rim of a straight-walled bowl. Plain, rounded rim. Very fine incisions below rim forming a horizontal zone filled with incisions and plain opposed triangles. Semi-fine fabric with few inclusions. Slipped and burnished (6.4, 7.5 YR light brown). Brown core. Diam.: -; H: 1,7; W: 1,8; T: 0,4.
  21. T1/Σ2/Π3: 94. Rim and body of a large, hemispherical bowl. Plain, rounded rim. Thin curved ridge below rim. Semi-coarse fabric with few small inclusions and mica. Slipped and very well burnished (3/3, 2.5 YR dark reddish brown out, 4/6, 2.5 YR red in). Grey core. Diam.: 28; W: 4,5; Th: 0,6.
  22. T1/Σ2/Π3: 80. Fragment of the body of a well burnished and slipped bowl (4/6, 2.5 YR red). Raised button with a deep symmetrical deepening in the middle. Coarse fabric with small inclusions and mica. Grey core. H: 3, W: 2,5, Th: 0,5.
  23. T1/Σ2/Π4(not depicted): 99. Body fragment of a large storage jar. Several plastic bands, some of which curved, combined with impressed dots and an unperforated, vertical, oval shaped lug. Fabric stone gritted with small and bigger inclusions. Traces of finished procedures on the outside. Smoothed (4/8, 2.5 YR dark red out, 2.5/1 5YR black in). Black core. H: 12, W: 14; Th: 1,5.
  24. T1/Σ2/Π3: 98. Vertical strap handle of a large vessel. Semi-coarse fabric with mostly small inclusions and mica. Smoothed (4/8, 2.5 YR red). Grey core. H: 8,5, W: 8, Th: 0,6.
  25. T1/Σ3/Π5: Large biconical handle. Coarse fabric with small and bigger inclusions. Smoothed (4/4, 2.5 YR reddish brown). Grey core. H: 3,5; W: 3,7; Th: 1,5.
  26. T1/Σ3/Π4: 194. Unperforated, flat

- elongated lug. Stone gritted fabric with smaller, bigger inclusions and mica. Smoothed (4/4, 2.5 YR reddish brown). Grey core. H: 5,5; W: 3,2.
27.  $\Pi/\Sigma 2/\Pi 3$ : 146. Body fragment of a coarse vessel with a plastic band decorated with three vertical grooves. Coarse fabric with small, bigger inclusions and mica. Smoothed (5/6, 5 YR yellowish red out, 3/6, 2.5 YR dark red in). Grey core. H: 7; W: 7,5; Th: 1.
28.  $\Pi/\Sigma 3/\Pi 5$ : 188. Body fragment of a jar with a cordon decorated with impressed dots. Coarse fabric with small and bigger inclusions. Smoothed (4/4, 5 YR reddish yellow). Grey core. H: 7,5; W: 8,5; Th: 1,3.
29.  $\Pi/\Sigma 1/\Pi 3$ : 76. Body fragment of jar with a plain horizontal ridge. Semi-coarse fabric with mostly small inclusions. Smoothed (6/3, 7.5 YR light brown out, 3/1, 7.5 YR very dark gray in). Brown core. H: 6,8; W: 7,5; Th: 1,4.
30.  $\Pi\Phi 1$ : 183. Body fragment of a jar ? with an angular band. Coarse fabric with big and smaller inclusions. Smoothed (5/4 reddish brown 5 YR). Grey core. H: 4,2; W: 4; Th: 0,9.
31.  $\Pi/\Sigma 3/\Pi 5$ : 185. Body fragment of a coarse vessel with a curved raised band with finger impressions. Coarse fabric with small, bigger inclusions and mica. Rough surfaces (4/4, 7.5 YR brown). Grey core. H: 4; W: 3; Th: 0,5.
32. Body fragment of a large jar. System of vertical and horizontal bands which enclose area with impressed dots. Coarse fabric with small, bigger inclusions and mica. Slightly smoothed (3/6, 2.5 YR dark red). Black core H: 16; W: 12; Th: 2.



# The Cemetery of Ancient Chalkis. Recent Rescue Excavation<sup>16</sup>

*Ioannis Moschos*

In 1916 the late K. A. Rhomaïos identified ancient Chalkis in the ruins on the Haghia Triadha hill, near the village of Kato Vasiliki (Rhomaïos 1916, 46–47; see also Houby-Nielsen in FPR, 253). To support his thesis he also referred to the nearby extensive cemetery. This was the first mention of the necropolis. According to his report “... a number of tombs are seen half an hour north-west of the acropolis,

on both sides of the road to Kalydon. It was the disastrous circumstances of tomb robbing that brought them to light”.

Some thirty years ago the late E. Mastrokostas reported the discovery of two grave steles of limestone from this region, now housed in the Agrinion Museum (Mastrokostas 1963, 148). The first one, AMS 158 (Fig. 58), is partly preserved and measures 0.50 x 0.37 x 0.09m. The inscription ΚΛΕΥΜΕΝΗΣ is clearly visible below the *kymation* on the top. From the second one, AMS 159 (Fig. 59), only the uppermost part has survived, which measures 0.505 x 0.525–0.575 x 0.12–0.15 m. Probably due to misunderstanding it was reported again by F. Zafeiropoulou (AMS 242), a few years later (Zafeiropoulou 1973–74, 539, pl. 362b). This is an elaborate example<sup>17</sup> as it has a pediment top with a relief bowl in a tympanum. On the lower part there are waves and the partly preserved inscription [E]ΥΡΥΔΑΜΟ[Υ]. The exact provenance of these two grave steles is unknown. The catalogue of Agrinion Museum has merely reproduced the report: “They were handed over by P.V. Vasilakopoulos and transferred from Aitolian Chalkis, beside Kato Vasiliki”. Mastrokostas also mentions an amphora, AMP 154 (Fig. 60) with two bands below the handles, as coming from a grave beside the road that leads from Kato Vasiliki to Gavrolimni (Mastrokostas 1965, 344). Although it is not stated, we know without doubt that this was a looted cist grave.<sup>18</sup>

Of course, the presence of the cemetery was better known to peasants who, until



*Fig. 58. Grave stele AMS 158 from the cemetery of Chalkis.*



Fig. 59. Grave stele AMS 159/242 from the cemetery of Chalkis.

recently, have engaged in active land cultivation with traditional implements. Farmers today remember a big inscribed limestone slab, which was removed from a tomb at the time of World War II. They say it was reused as building material in a modern house a few years later. This possibly-inscribed limestone slab might have been transferred to the cemetery and reused as a cover slab.

## The rescue Excavation

During the building work for the installation of a new water supply network in progress at Kato Vassiliki, two cist graves were accidentally revealed (Gr1, Gr2), within the bounds of Konstantinos Panagiotopoulos' property. Although a long trench was dug across the foot of the hill by the workers, nothing else was unearthed. This is likely to indicate that the cemetery extended to the valley, rather than that there was only a small number of tombs in this area. The small river to the east, known as "Rema", probably served as the border. But the possibility that other tombs also exist on the low hill to the west or in the valley extending east of the river, cannot be excluded.<sup>19</sup> Some sherds and small fragments of Laconian-type tiles are visible in the hill and traces of two tumuli of unknown date are also visible east of the river. Without any doubt, the Classical – Hellenistic cemetery



Fig. 60. Amphora AMP 154 from the cemetery of Chalkis.

must be situated on both sides of the modern road which leads from Kato Vassiliki to the state highway.

Until now only cist graves have been excavated in Chalkis' cemetery, but there is a strong possibility that other types have also been preserved. Traces of tile-covered graves as well as several disturbed cist graves can be seen at the side of the road.<sup>20</sup> We have already mentioned the two tumuli which are shield-like mounds of earth. They were probably first constructed in the prehistoric period, but their use must also have continued in historic times, as is clear from the sparsely scattered pottery. The location of the Mycenaean cemetery is also unknown, although soft white rock has been spotted in various neighbouring sites. This rock is suitable for chamber tombs. Furthermore, inside the Classical – Hellenistic cemetery there are mounds of limestone or sandstone, which probably came from constructions with funerary purposes. Across these "monuments" an ancient road must have led inland from Chalkis' harbour.

The rescue Excavation was carried out by the 6th Ephorate of Prehistoric and Classical Antiquities in September 1998. It was very brief because of the almost complete lack of finds, but now we have the

Fig. 61. The empty Gr1.

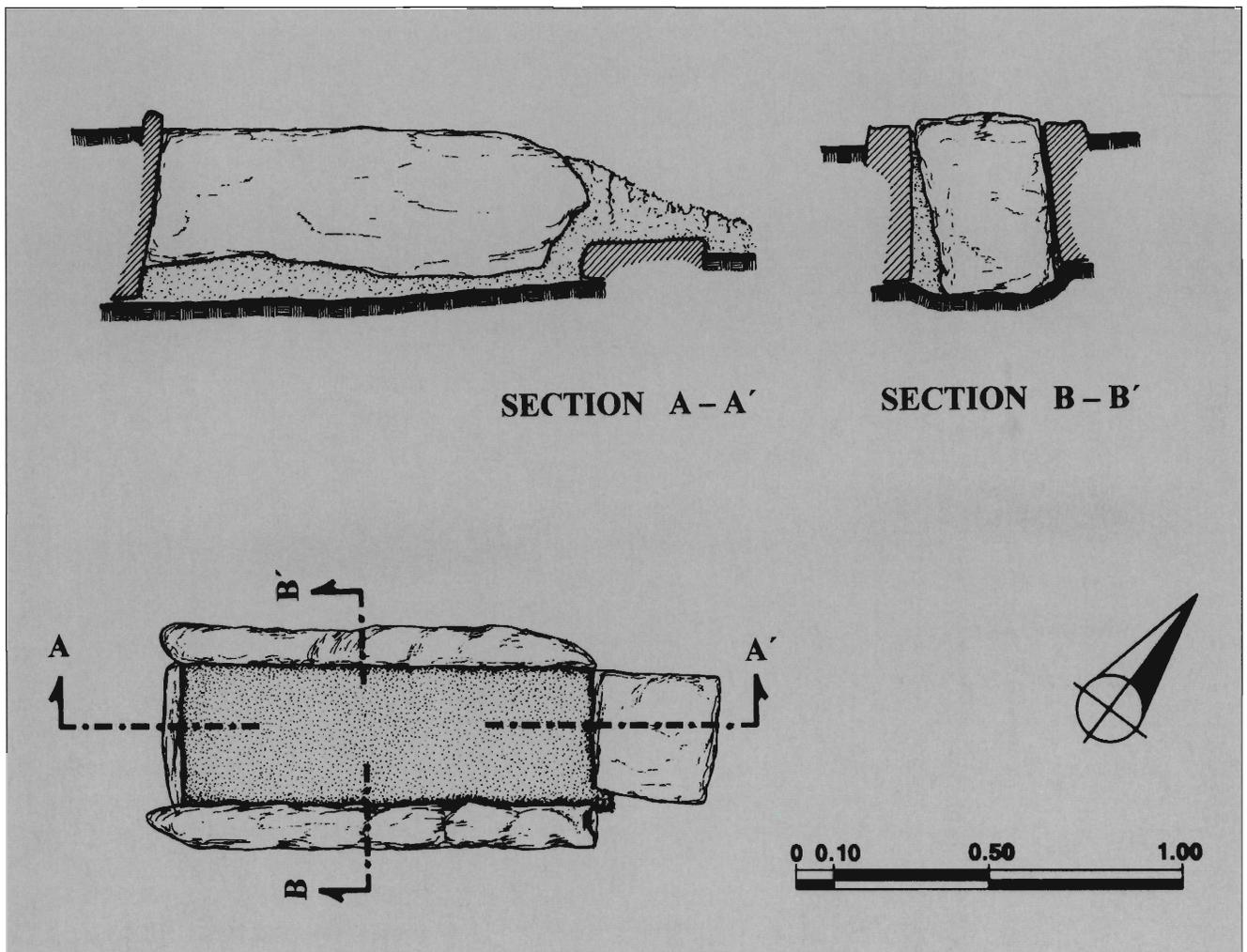


first Excavation element from Chalkis' cemetery. Of course, the two graves are not representative samples.

### Grave 1 (Figs. 61-62)

It is located at the western end of the field, some 50 m west of the road that

leads to the village of Kato Vassiliki and about 730 m from the coast. Its orientation is east-west and it is constructed of two upright standing slabs of sandstone. At the ends of these slabs, two smaller flat stones have been set up. The one on the eastern narrow side has collapsed outwards. The inner dimensions of the grave



which are very close to Grave 2, are 1.06 x 0.36 x 0.48 m. The thickness of the slabs is 0.10-0.11 m, while that of the narrow stones is 0,05 m. It was found uncovered and full of brownish earth. In the earth-fill a few small tile fragments were found, presumably not associated with the tomb. The grave was found empty, probably looted.

### Grave 2 (Figs. 63-64)

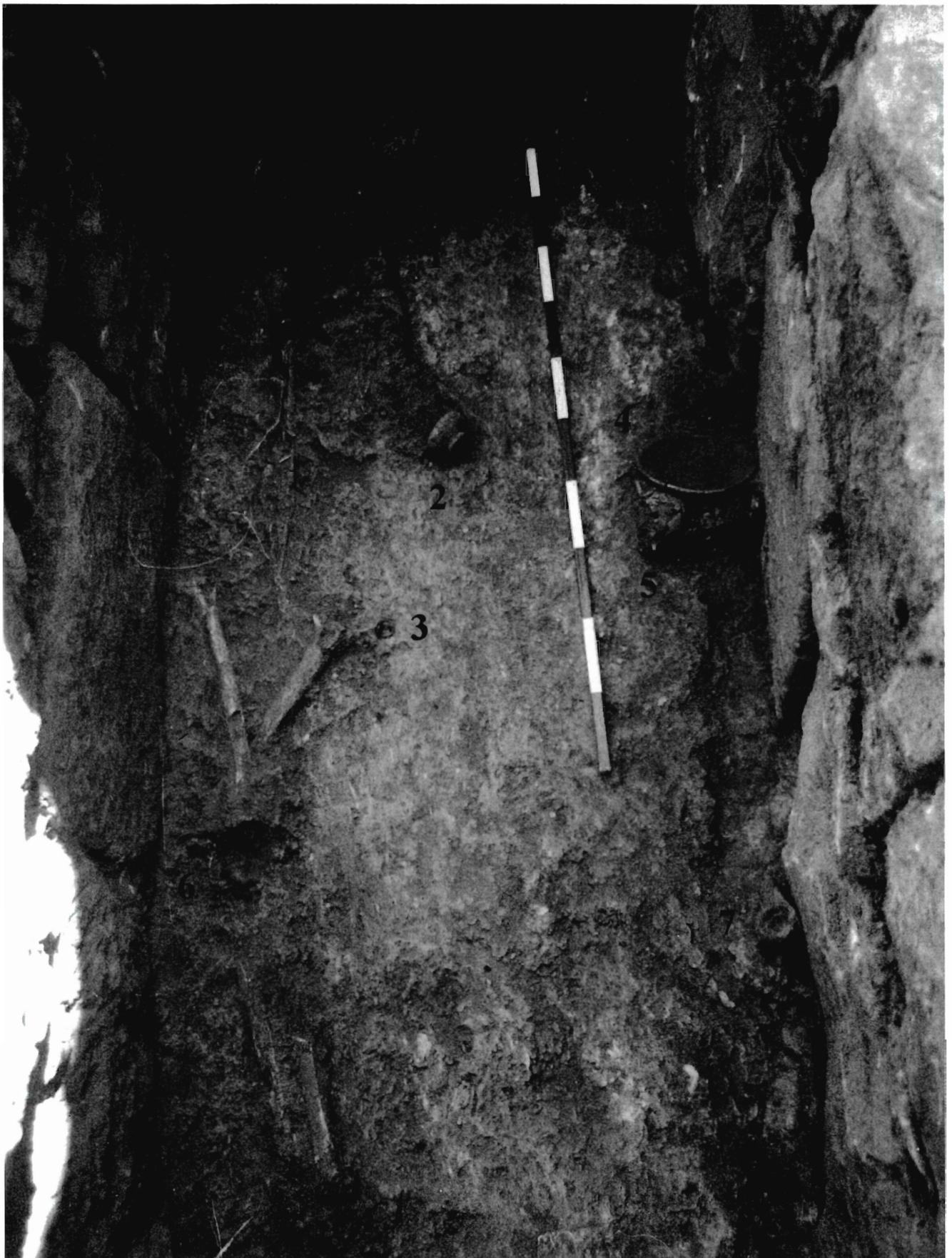
About 27 m SE a second grave was found. Its orientation is north – south and it is constructed of pieces of flat and square sandstone of various sizes. One covering flat stone had been recently partly removed from the grave due to the working activity, while another one, larger and broken had been moved nearby, probably during cultivation in the recent past. The

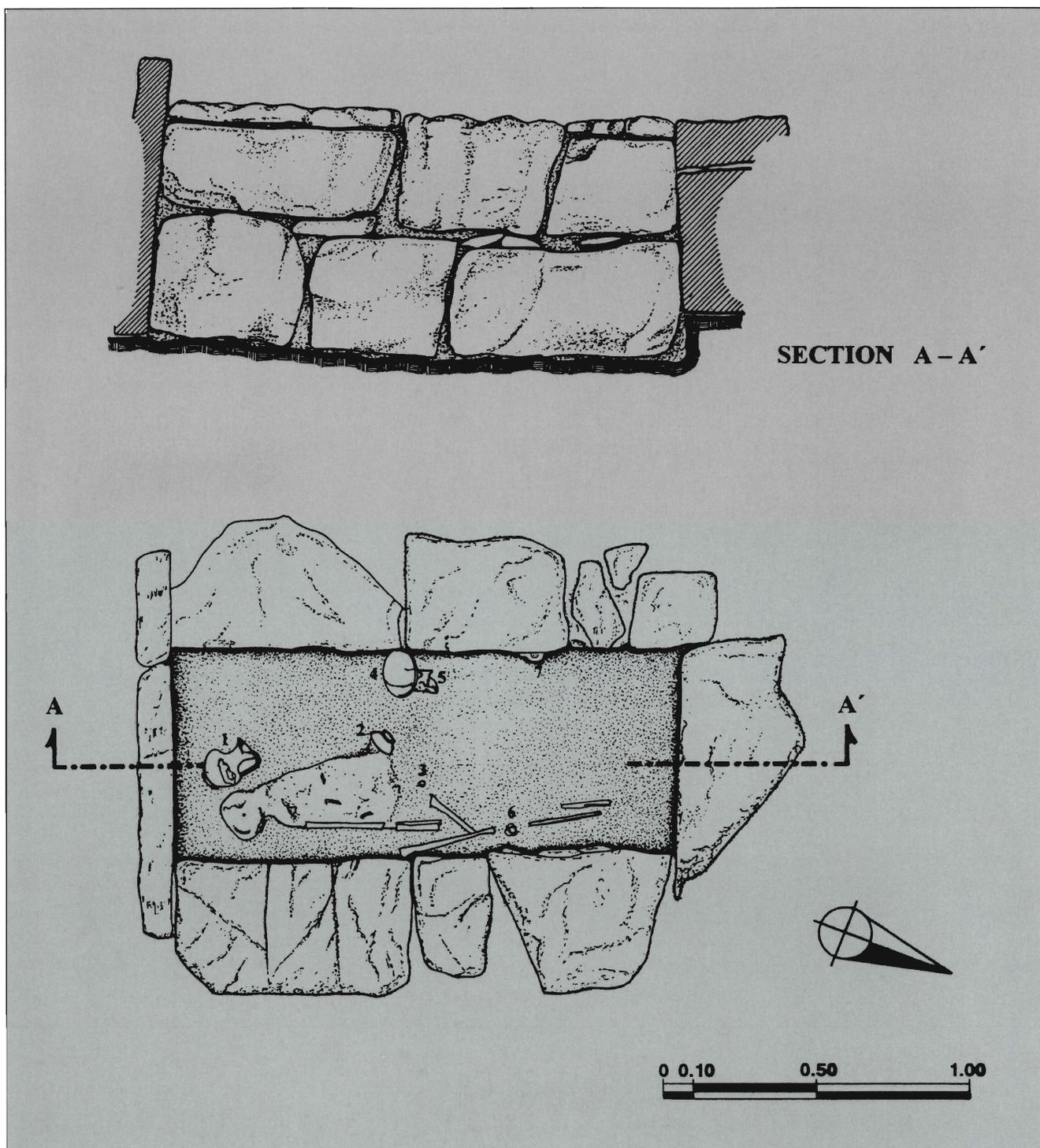
inner dimensions are 1.69-1.79 x 0.67-0.72 x 0.81-0.95 m. The grave was full of brownish earth. It contained a partly disturbed primary burial (Gr 2.A). The body was lying on its back, with the skull towards the south, facing west. The right hand was preserved parallel to the body, but the left had vanished. The legs were also placed at full length, the left thigh bone partly under the right one.

The burial was accompanied by pottery and a silver ring. A trefoil-mouthed oinochoe (Gr2.1) was found west of the skull, fallen horizontally with the neck towards the NW. Near the left hand-side a small echinus bowl (Gr2.2) had fallen horizontally with the mouth towards the SE. In its original position near the left wrist was a silver ring (Gr2.3). In contact with the western inner wall of the grave a saucer

Fig. 62. Plan and sections of Gr1.

Fig. 63. Gr2 during the excavation





SECTION A - A'

plate (Gr2.4) was found in a slanting position. Partly under the previous one, a skyphos (Gr2.5) was found fallen horizontally with the mouth towards the east. A miniature, handled, trefoil-mouthed oinochoe

(Gr2.6) was at knee level, facing north. Finally, an oil-lamp (Gr2.7) was found in contact with the west inner-wall, near the northern narrow side of the grave.

Fig. 64. Plan and section of Gr2.

# Catalogue

## Gr2.1:

**Figs. 65, 72.** Trefoil-mouthed oinochoe, reassembled from many fragments and restored at shoulder. Soft, reddish yellow (5YR 6/6) fabric. Twisted handle from opposite rim to shoulder, squat body, offset ring foot. Thin, matt black “glaze” outside, reserved zone above foot. Pairs of horizontal grooves on neck and shoulder. H. 19.7. D.rim 7.5. D.max. 13.3. D.foot 7.3. Paramythiá :Vokotopoulou 1971, 333, pl. 308b.

## Gr2.2:

**Figs. 66, 72.** Small echinus bowl, reassembled from several fragments. One chip off rim. Porous, reddish yellow (5YR 6/6) fabric. Rim with strong inward curve, concave base. Fully brownish black painted. H. 3.4. D.rim 5.5. D.max. 6.5. D.foot



Fig. 66. Gr2.2: Small echinus bowl.

3.6. Cf. Corinth VII, III, 32 (no 55), pls. 2, 44. Chalkis: Dietz 1998, 303, fig. 31:21. Lamia: Pantos 1981, 206, pl. 128c. The concave base might be a local characteristic. For similar bases see some specimens in Agrinion Museum: AMP 69 from Stratos, see Mastrokostas 1961/2, 184 (not on plates); AMP 1342 from Agrinion; AMP 1346 from Stratos or Lepenou.

## Gr2.3:

**Figs. 67, 72.** Silver ring, partly damaged in the sling. The link is roughly rectangular in section, the sling almost elliptical and plain. Thick shallow engravings on the sling, presumably from use rather than decoration. D. 2.1. Th. 0.2. Dim. of the sling 1.9 X 0.2 m. Cf. Orsi 1906, 539, fig. 371. Ori 1985, 288, no 206. Themelis & Touratsoglou 1997, 90 (B 134), 128 (Z 9), pl. 102, 144. Kaltsas 1998, 277, plan 37 (661a).



Fig. 65. Gr2.1: Trefoil-mouthed oinochoe.



Fig. 67. Gr2.3: Silver ring.

Fig. 68. Gr2.4: Saucer plate.



**Gr2.4:**

**Figs. 68, 72.** Saucer plate, reassembled from several fragments. Soft, reddish-yellow (7.5YR 7/6) fabric. Gently in-turned rim, broadly-curved wall, plain ring foot. Traces of brown-black glaze on both surfaces. Five stamped palmette patterns on bottom inside, slightly visible. H. 3.9. D.rim 0.15. D.foot 7.2. Cf. Corinth VII, III, 43 (no 158), pls. 5, 46. Similar from Stratos in Agrinion Museum (AMP 40), see Mastrokostas 1961/2, 184 (not on plates).

**Gr2.5:**

**Figs. 69, 72.** Skyphos of "Corinthian" type, reassembled from many fragments and partly-restored at rim, body and handle. Fine, reddish-yellow (5YR 7/6) fabric. Plain rim, round horizontal handles below rim, thin walls with slightly in-curving profile, pedestal foot with conical recession under base. Brownish-black glaze, partly worn off. Wholly glazed inside, from rim to below body outside. A thin line is added on lower body. Glaze under foot except the hollow part, where a punt decorates the top of recession. H. 8.6. D.rim 6.2. D.max 6.9. D.foot 3.8. Cf. Andreou 1994, 202, pls. 146a, 150a. Aggeli 1993, 277 (tomb III), pl. 90 (for the



Fig. 69. Gr2.5: Skyphos.

Fig. 70. Gr2.6: One handled miniature trefoil-mouthed oinochoe.



system of decoration). Similar base in a specimen from Naupaktos (AMP 1387), see Mastrokostas 1961/2, 183 (not on plates).

**Gr2.6:**

**Figs. 70, 72.** One-handed miniature trefoil-mouthed oinochoe, restored at handle. Slightly porous, reddish-yellow (5YR 6/6) fabric with a few very small white inclusions. Tightly-pinched trefoil mouth, vertical strap handle from rim to shoulder,

squat body, low ring base. Fully brownish-black paint – the base included, mostly worn off. H. 3.7. D.max 3.4. D.foot 2. Chalkis: Dietz 1998, 294, fig. 27:13,15. Miniature vases are common in Amvrakia, see Vokotopoulou 1972, 443. Also see two miniature vases from a tomb in Calydon, Papapostolou 1972, 435 (no 7), pl. 366a.

**Gr2.7:**

**Figs. 71-72.** Oil-lamp, reassembled from several fragments. Soft, very pale brown (10YR 7/4) fabric. Attachments of horizontal strap handle. Traces of use on nozzle. Fully black paint, entirely worn off. D. filling hole 2.8. Pres. H. 3.2. Pres. L. 7.9. D.foot 3.1. Cf. Agora IV, 72-73, type 25B. Schreiberler 1976, 26-30, type RSL4. Olympia Bericht III, 59, fig. 62. From Aitolian sites: Alikirna, see Dekoulakou 1971, 325 (no 4), pl. 301e-st. Kalydon, see Papapostolou 1972, 434 (no 7), 435 (no 9), pl. 365a.

Gr.2 is very important as it offers a closed pottery assemblage which probably dates to the late 4<sup>th</sup> – first quarter of 3<sup>rd</sup> cent.



Fig. 71. Gr2.7: Oil-lamp.

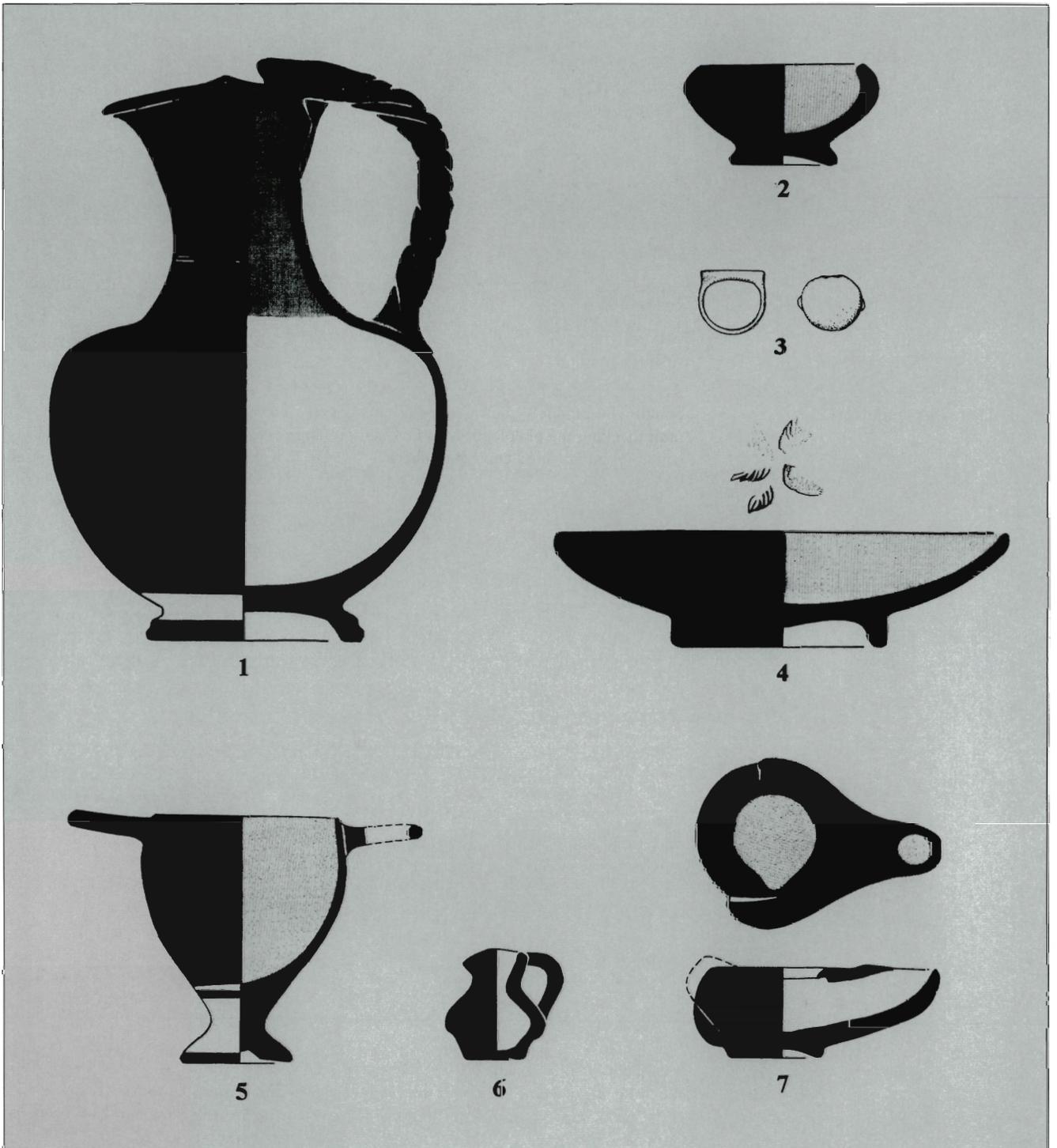


Fig. 72. Finds from Gr2.21

# Notes

## NOTE 1

Compare figs. 8 and 15 in FPR.

## NOTE 2

For similar sima-profiles and decoration, though of Early Classical date, see OF XXIV, pl. 9:3, 10:1, and 11:1.

## NOTE 3

Compare OF XX, le 404-9 (especially le 409), Taf. 26.

## NOTE 4

See figs. 15, 17 and 18 in FPR.

## NOTE 5

Compare Corinth XII, nos. 1196 and 1201, pl. 76-77.

## NOTE 6

Compare Corinth XII, no. 1205, pl. 77.

## NOTE 7

Compare Corinth XII, nos. 1213-15, pl. 77 and Corinth VII:II, An 348, pl. 85.

## NOTE 8

Compare Agora XXII, nos. 1437-1441; Αδάμ-Βελενη 1997, pl. 112:a; in particular Κομβου-Ραλλη 1997, pl. 164 a-b.

## NOTE 9

Compare Athenian Agora IV, pl. 33: 145.

## NOTE 10

Noted by A. Andrén.

## NOTE 11

I wish to express my thanks and appreciation to Dr. Lazaros Kolonas, head of the 6<sup>th</sup> Ephoria of Prehistoric and Classical Antiquities in Patras who authorised me to make a preliminary presentation of the coins of the excavation in Aetolian Chalkis which is

being conducted in collaboration with Ny Carlsberg Glyptothek in Copenhagen and the Danish Institute Athens. I would also like to thank the conservators of the 6<sup>th</sup> Ephoria, D. Marinopoulou and G. Bubuca, as well as the surveyor C. Marinopoulos who produced Fig. 46 and I cannot omit thanking the philologist Miss G. Gaitanidou who was kind enough to check the fluency of the English text.

## NOTE 12

The first information about 'koinon' of Aetolia is given by Diodor (29.66.2) who refers to the events of 314 B.C. and more information is given by an Athenian decree of 367/6 B.C. concerning the Aetolian League: Schweigert 1939, Bousquet 1957. The earlier 'koinon', of the fifth century B.C., seems not to have consisted of cities (poleis) since Thucydides states that the Aetolians lived in unfortified villages (Thuc. 3.94). See also Παντος 1985.

## NOTE 13

Only two cities of the Aetolian League, Apollonia and Potidania, issued coins for a brief period (see Λιάμπη 1996).

## NOTE 14

I am most grateful to Dr. Kolonas for his permission to make the following brief presentation of characteristic pottery categories and to Dr. Dietz for having encouraged me in this work.

I would also like to thank S. Houby-Nielsen, J. Eiring and H.A. Alisoy for stimulating discussion and help during the study of the material.

## NOTE 15

For the stratigraphy and other finds from the excavation see FPR 1998, 280.

## NOTE 16

The head of the personnel of workers has been the experienced chief craftsman D. Evangeliou. The archaeologist K. Soura has also taken part in the excavation and has drawn the architectural sketches. They have been inked by T. Stamatopoulou, while K. Iliogamvrou has sketched the vases. Ephor Dr. L. Kolonas gave the permission to study the old material from Chalkis in the Agrinion Museum. To all of them I express my warmest appreciation.

## NOTE 17

For the types of these two grave *stelae*, see Mela-Preka-Strauch 1998, 281-282 (types I and II).

## NOTE 18

The information was provided by the retired watchman of antiquities I. Manthos, who was present at this excavation. The amphora AMP 154 had been handed to the Ephorate by Chr. Paganias before the excavation, which did not uncover any other finds.

## NOTE 19

K. Stergiopoulos mentioned many ancient tombs on and around the Haghia Triadha hill (Στεργιόπουλος 1939, 40). Up to the present time there has been no signs of tombs outside the walls of Chalkis. Some cist graves which have been excavated by A. Paliouras in the area of the Early Christian church are dated to Middle Byzantine Period and seem unlikely to have been visible for Stergiopoulos.

## NOTE 20

See also the brief report in Bommelje & Doorn 1987, 112.



# Bibliography

- Αδαμ-Βελένη, Π. 1997  
Πέτρες Φλώρινας. Πρώτη προσέγγιση στην τοπική κεραμική παραγωγή, in: Δ'Επιστημονική Συνάντηση για την Ελληνιστική Κεραμική. Αθήνα. 138-154.
- Aggeli, A. 1993  
Arta. Odos Kommenou, *ADelt* 48, B1 Chron., 275-278.
- Ανδρέου, Ι. 1994  
Σύνολα ελληνιστικής κεραμικής από τα νεκροταφεία της αρχαίας Λευκάδος, in: Γ' Επιστημονική Συνάντηση για την Ελληνιστική Κεραμική. Αθήνα. 196-204.
- Arnold-Biucchi, C. 1991a  
Aitolia, in *LIMC* I, 432.
- Arnol-Biucchi, C. 1991b  
Aitolos, in *LIMC* I, 433.
- Blegen, C. 1937  
*Prosymna. The Helladic Settlement preceding the Argive Heraeum*. Cambridge.
- Bommeljé, S. & P.K. Doorn (eds.) 1987  
*Aitolia and the Aitolians. Towards the Interdisciplinary Study of a Greek region. Studia Aitolica 1*, Utrecht.
- Bousquet, J. 1957  
Les Aetoliens a Delphes au IVe siècle, *BCH*, 81, 485-495.
- Coleman, J. 1977  
*Keos I : Kephala. A Late Neolithic Settlement and Cemetery*. Princeton.
- Cullen, T. 1985  
*A Measure of Interaction among Neolithic Communities: Design Elements of Greek Urniferous Pottery*. PhD thesis, Indiana University.
- Dekoulakou, I. 1971  
Alikirna, *ADelt* 26, B2 Chron., 325-326.
- Dietz, S. 1998  
A Catalogue of Selected Finds from the Excavations at Hagia Triadha, 1996, in *FPR*, 287-311.
- Houby-Nielsen, S. 1998  
Chalkis in Aetolia in Ancient Written Sources and Early Modern Travel Accounts. A Survey, in *FPR*, 238-254.
- Immerwahr, S. 1971  
*The Athenian Agora. Results of Excavations conducted by the American School of Classical Studies at Athens. Volume XIII. The Neolithic and Bronze Ages*. Princeton, New Jersey.
- Καλτσας, Ν. Ε. 1998.  
Ακανθος Ι. Η ανασκαφή στο νεκροταφείο κατά το 1979. Αθήνα.
- Κομβου, Μ. - Ευτ. Ραλλη, 1997  
Αγγεία καθημερινής χρήσης από το πηγάδι της οδού Νικομηδείας στην Επάνω Σκάλα Μυτιλήνης, in: Δ'Επιστημονική Συνάντηση για την Ελληνιστική Κεραμική. Αθήνα. 241-246.
- Kotsakis, K. 1996  
Ceramic Technology, in: *Papathanasopoulos* 1996, 245.
- Κραβαρτόγιαννος, Δ. 1993  
Εύρημα Αμφίσης του Β αι. π. Χ χιλίων περίπου νομισμάτων, *Φωκικά Χρονικά*, Ε, 77.
- Λιάμπη, Κ. 1996  
Η νομισματική παραγωγή της Ποτιδανίας, πόλεως των Αποδωτών, in: Χαρακτήρ. Αφιέρωμα στη Μάντω Οικονομίδου, Αθήνα, 157.
- Mastrokostas, E. 1961/2  
Archaeotites ke mnemeia Aetoloakarnanias, *ADelt* 17, B Chron., 182-185.
- Mastrokostas, E. 1963  
Chalkis, *ADelt* 18, B1 Chron., 148.
- Mastrokostas, E. 1965  
Perisylogi Archaeon, *ADelt* 20, B1 Chron., 343-344.
- Mela P., K. Preka, D. Strauch 1998  
Die Grabstelen vom Grundstück Andrioti auf Korkyra, *AA*, 281-303.

- Metos, A & Karfakis, I. 1991  
Geological Map of Greece  
1:50.000. Evinokhorion Sheet.  
Institute of Geology and Mineral  
Exploration.
- Orsi P. 1906  
Gela. Scavi del 1900-1905, *MonAnt*  
17, 539.
- Παλιούρας, Α. Δ. 1985  
Έκθεση για την ανασκαφή του  
πανεπιστημίου Ιωαννίνων στην  
Κατώ Βασιλική Αιτωλίας. Ιωάννινα.
- Pantos, P.A. 1981  
Lamia. Odos Metsovou 18, *ADelt*  
36, B1 Chron., 206.
- Παντος, Π.Α. 1985  
Τα σφραγίσματα της Αιτωλικής  
Καλλιπόλεως, Διδακτόλεως  
Διατριβή, Athens.
- Papapostolou, I.A. 1972  
Kalydon, *ADelt* 27, B2 Chron.,  
434-436.
- Papathanasopoulos, G. 1996 (ed.)  
*Neolithic Civilization in Greece*. Gou-  
landris Foundation. Athens.
- Πετρόπουλος, Μ. 1991  
Η Αιτωλοακαρνανία κατά τη  
ρωμαϊκή περίοδο, in: Πρακτικά Α  
Αρχαιολογικού και Ιστορικού  
Συνεδρίου Αιτωλοακαρνανίας,  
Αγρίνιο, 21-22-23 Οκτωβρίου  
1988, 93-125.
- Phelps, W. 1975  
*The Neolithic Pottery Sequence in  
Southern Greece*. Ph.D. thesis, Uni-  
versity of London.
- Picard, O. 1979  
Chalcis et la confédération  
Eubéenne. Étude de numismatique  
et d'histoire (IV<sup>e</sup> – Ier siècle).  
Paris.
- Picard, O. 1984  
Monnaies, in: L'Antre Corycien II,  
*BCH* supplement IX, 281-306.
- Pullen, D. 1995  
The Pottery of the Neolithic, Early  
Helladic I and II, in *Runnels et  
al. (eds.)* 1995, 6-42.
- Rice, P. 1987  
*Pottery Analysis. A Source Book*.  
Chicago.
- Rhomaïos, K. 1916  
Chalkis, *ArchDelt* 2, 46-47.
- Runnel, C. et al. (eds.) 1995  
*Artefact and Assemblage. The Finds  
from a Regional Survey of the South-  
ern Argolid, Greece, I*, Stanford.
- Rye, O.S. 1981  
*Pottery Technology* (Manuals in  
Archaeology 4). Washington.
- Sampson, A. 1993  
*Skoteini Tharrounion: the Cave, the  
Settlement, the Cemetery*. Athens.
- Sampson, A. 1997  
*The Cave of Lakes at Kastria of  
Kalavryta*. Athens.
- Scheibler, I. 1976  
*Griechische Lampen. Kerameikos.  
Ergebnisse der Ausgrabungen*, Band  
XI, Berlin.
- Schweigert, E. 1939  
Greek Inscriptions (1-13), *Hesperia*,  
8, 1-47.
- Scheu, F. 1960  
Coinage Systems of Aetolia, *NC*,  
37-51.
- Spitaels, P. 1982  
Final Neolithic Pottery from Tho-  
rikos, in *Spitaels (ed.)* 1982, 9-45.
- Spitaels, P. 1982  
*Studies in South Attica*. (Miscellanea  
Graeca 5). Gent.
- Στεργιόπουλος, Κ. 1939  
Η Αρχαία Αιτωλία, Αθήνα.
- Stratouli, G. et al. in press  
*Towards Understanding the Late Neo-  
lithic and the Chalcolithic in the Ionian  
Islands, Western Greece: C14 Evidence  
from the Cave of Drakaina, Poros,  
Cephalonia*. (Proceedings of the 3<sup>rd</sup>  
International Congress: C14 and  
Archaeology). Lyon, France, 6-10  
April, 1992.
- Θεμελις, Π. Γ. - Ι. Π.  
Τουρατσόγλου 1997  
Οι τάφοι του Δερβενίου. Αθήνα.
- Vitelli, K. 1993  
*Franchthi Neolithic Pottery I*. Bloom-  
ington/Indianapolis.
- Vokotopoulou, I. 1971  
Gardikion Paramythiá, *ADelt* 26,  
B2 Chron., 332-333.
- Vokotopoulou I. 1972  
Arta, *ADelt* 27, B2 Chron., 442-  
443.
- Zapheïropoulou, F. 1973-74  
Phokis – Aetoloakarnania, *ADelt*  
29, B2 Chron., 539.
- Zachos, K. 1987  
*Ayios Demetrios. A Prehistoric Settle-  
ment in the South-Western Peloponne-  
sos: The Neolithic and Early Helladic  
periods*. Ph.D. thesis, Boston Univer-  
sity.



# Abbreviations used in this report

*AMP*

Agrinion Museum Catalogue of Pottery

*AMS*

Agrinion Museum Catalogue of Stone Finds

*The Athenian Agora IV*

The Athenian Agora. Results of Excavations conducted by the American School of Classical Studies at Athens. Volume IV. Greek Lamps and their Survivals, by Richard Hubbard Howland. Princeton, New Jersey. 1958.

*The Athenian Agora XXIX: 1-2*

The Athenian Agora. Results of Excavations conducted by the American School of Classical Studies at Athens. Volume XXIX. Hellenistic Pottery, Athenian and Imported Wheelmade Table ware and related Material, by Susan I. Rotroff. Princeton, New Jersey 1997.

*BMC: Thessaly to Aetolia*

R. St. Poole (edt.), The British Museum, London: Catalogue of Greek Coins. Thessaly to Aetolia. Bologna. 1963. (Reprint)

*Corinth VII, I-II*

Corinth. Results of Excavations conducted by the American School of Classical Studies at Athens. Volume VII, I-II. Archaic Corinthian Pottery and the Anaploga Well, by D.A. Amyx and Patricia Lawrence, Princeton New Jersey 1975.

*Corinth VII, III*

Results of Excavations conducted by the American School of Classical Studies at Athens. Volume VII, III. Corinthian Hellenistic

Pottery, by Edwards R.G., Princeton University, 1975.

*Corinth XII*

Corinth. Results of Excavations conducted by the American School of Classical Studies at Athens. Volume XII. The Minor Objects, by Gladys R. Davidson. 1952.

*FPR 1998*

Dietz, S., Kolonas, L., Moschos, I. And S. Houby-Nielsen (eds.), Surveys and excavations in Chalkis, Aetolias, 1995-1996. First preliminary report. *Proceedings of the Danish Institute at Athens*, II, 233-317.

*HN*

Head, B.V. 1911 (1963)  
*Historia Numorum. A Manual of Greek Numismatics. New and Enlarged Edition.* Oxford, 1911. (Reprint: 1963)

*OF XX*

W. Gauer, *Die Bronzegefäße von Olympia I*, *Olympische Forschungen XX*. Berlin – New York. 1991.

*OF XXIV*

J. Heiden, *Die Tondächer von Olympia*, *Olympische Forschungen XXIV*, Berlin – New York, 1995.

*Ori 1985*

*Gli ori di Taranto in eta ellenistica*, Milano. 1985.

*SNG: Copenhagen*

*Sylloge Nummorum Graecorum, The Royal Collection of Coins and Medals, Danish National Museum, Copenhagen, III, Greece: Thessaly to Aegean Islands.* New Jersey. 1982. (Reprint).