

# EXCAVATIONS AT PORTO CHELI AND VICINITY PRELIMINARY REPORT V: THE EARLY BYZANTINE REMAINS

(PLATE 80)

In addition to the abbreviations commonly used for *Hesperia*, the following are employed for this article:

- Alt-Ägina* I, ii W. Wurster and F. Felten, *Alt-Ägina*, I, ii, *Die spätromische Akropolis-mauer. Die christliche Siedlung* (Bayerische Akademie der Wissenschaften, Ägina Kommission), Mainz 1975.
- Bovon, *Lampes d'Argos* A. Bovon, *Lampes d'Argos* (*Etudes Pelop.* V), Paris 1966.
- Broneer, *Corinth* IV, ii O. Broneer, *Corinth*, IV, ii, *Terracotta Lamps*, Cambridge 1930.
- Broneer, *Isthmia* III O. Broneer, *Isthmia*, III, *Terracotta Lamps*, Princeton 1977.
- Hayes, *LRP* J. W. Hayes, *Late Roman Pottery*, London 1972.
- Kythera* *Kythera, Excavations and Studies Conducted by the University of Pennsylvania Museum and the British School at Athens*, J. Coldstream and G. L. Huxley, eds., London 1972.
- Menzel, *Antike Lampen* H. Menzel, *Antike Lampen im Römisch-Germanischen Zentralmuseum zu Mainz* (Katalog 15), Mainz 1954, reprinted 1969.
- Perlzweig, *Agora VII* J. Perlzweig (Binder), *The Athenian Agora*, VII, *Lamps of the Roman Period First to Seventh Century after Christ*, Princeton 1961.
- Report I* M. H. Jameson, "Excavations in Porto Cheli and Vicinity, Preliminary Report I: Halieis 1962-1968," *Hesperia* 38, 1969, pp. 311-342.
- For bibliography on Halieis see: *Hesperia* 47, 1978, p. 333.
- Robinson, *Agora V* H. R. Robinson, *The Athenian Agora*, V, *Pottery of the Roman Period: Chronology*, Princeton 1959.

THROUGHOUT THE LOWER TOWN OF HALIEIS traces of usage in the Early Byzantine period were found.<sup>1</sup> The areas 1, 3, 5 (cf. Fig. 1) were of

<sup>1</sup> The excavations at Halieis are jointly sponsored by Indiana University and the University of Pennsylvania, operating under the auspices of the American School of Classical Studies. We once again wish to express our gratitude to the directors of the School, James McCredie and Henry Immerwahr, who have helped us in all these years. Our thanks go also to the Greek Archaeological Service, in particular to its representatives in Nauplion, 4th Ephoria Argolis-Korinthias, Mrs. E. Protonotariou-Deilaki and Mrs. K. Krystalli-Votsi. Excavations were supported through the E. A. Schrader Endowment for Classical Archaeology at Indiana University, the University Museum, Philadelphia and for many years through generous grants from the National Endowment for the Humanities. A list of staff members has been given in Report IV, *Hesperia* 47, 1978, p. 334, note 1. This article has benefitted greatly from discussions with Professors Kathleen Slane Wright and Timothy Gregory, both then members of the Corinth Excavations, whose intimate knowledge of the Late Roman / Early Byzantine pottery I was allowed to draw upon. The untiring interest of Mr. Adonis Kyrou of Athens, especially during the summer of 1978, has helped to form a much better understanding of the archaeological situation during the time under consideration in the southern Hermionid. We are greatly indebted to him. Photographs by Pro-

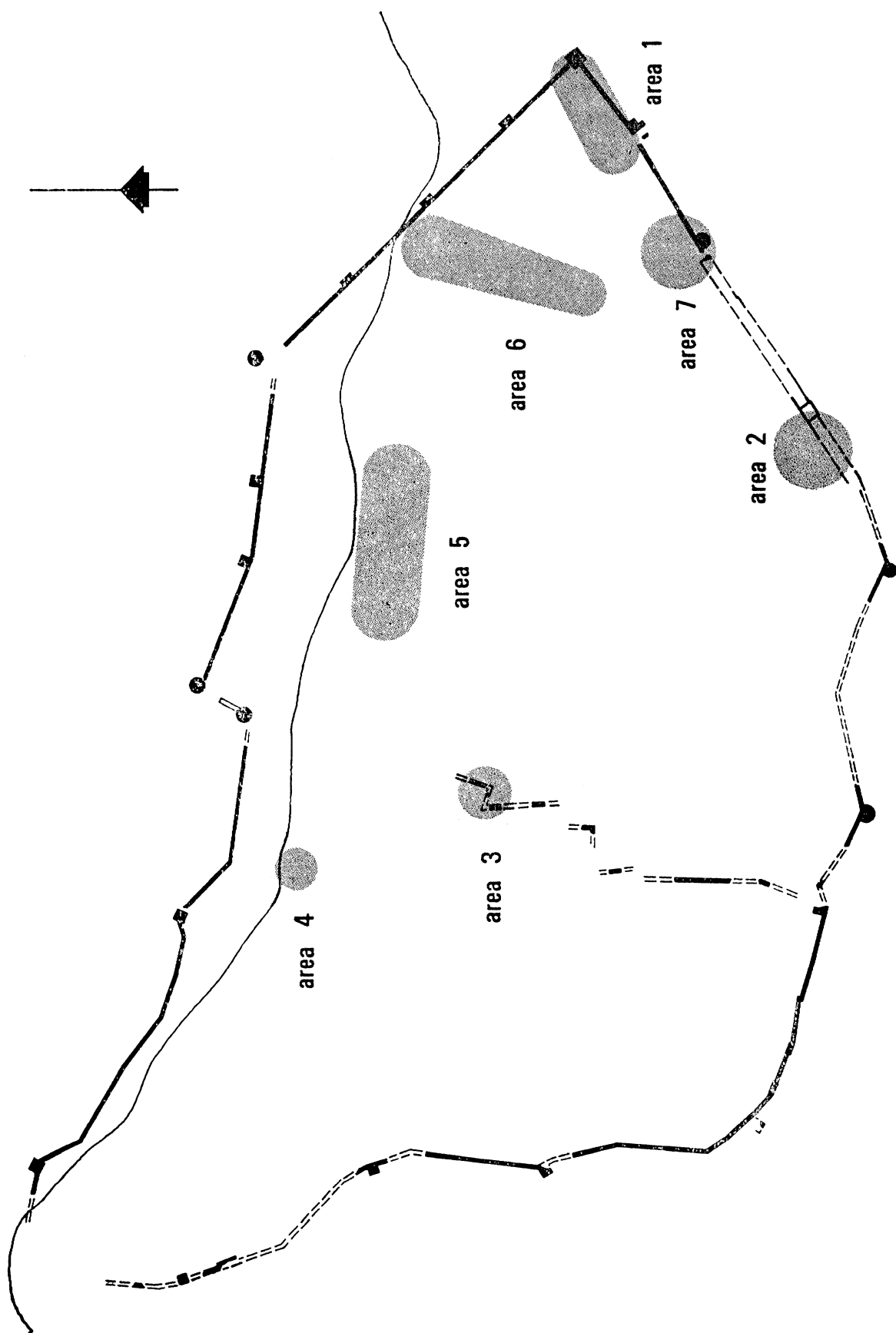


FIG. 1. Halieis, city plan.

particular interest, though, as the first two contained two burial grounds, the other one produced enormous accumulations of Late Roman pottery, a token of habitation or industrial activities. Large amounts of Late Roman pottery occurred elsewhere in the city as well, but outside a clearly definable stratigraphy.<sup>2</sup>

#### THE CENTRAL AREA (5)

According to the available evidence the main area of activities during the period discussed has to be sought in area 5 of the archaeological zone Halieis. This field occupies the approximate center of the Classical town and lies very near to the suggested harbor of that period.<sup>3</sup> This area of approximately 6000 sq. m. was originally more strongly sloped than it appears now. The subsequent change in land profile is clearly documented by the fact that blocks of the foundations of the Classical period still protrude above the ground in the southeast corner of the field, but that such blocks are only found 1.50 meters below the surface along the shore in the northwest portion of area 5. The settlers of the Early Byzantine period must have found very much the same geomorphic structure that existed in the Classical polis; the silting and filling in of the shore plain occurred only during the Late Byzantine period and thereafter.

The specific size of the establishment at Halieis is difficult to determine, since no noteworthy architectural features except for the bath can be connected with this time.<sup>4</sup> The most striking feature of the Early Byzantine level is its abundance of pottery, sometimes accumulated in a thick layer of fragments almost devoid of soil. Less obvious and more difficult to interpret is a persistently darker discoloration of the earth in areas where Early Byzantine mud-brick structures may have been erected. The soil tends to be of a darker gray without as much red as in the Classical mud brick.<sup>5</sup> The stone foundations of the original polis must still have been protruding prominently above the ground, providing a convenient basis for the erection of any new structure.

The most conspicuous architectural feature revealed in the test excavations in area 5 was a floor layer of flagstones in trench N 7135/E 16205. The materials were re-used limestone plaques, some of them with originally two worked surfaces. They were laid out in a crude irregular fashion and abutted against the orthostate foundation. These flagstones rested on a fill which contained the typical Early Byzantine

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fessor Reginald Heron, David Walton and Charles Gold. Drawings by I. Keller, Bryan Garvey and Martha Breen, restoration by Steven Koob.

<sup>2</sup> For a short general remark on the remains of this period, *v. Report I*, pp. 339f.

<sup>3</sup> *Report I*, pp. 330ff. It is an open question whether the harbor was still in use during the Early Byzantine period. Considering, though, that the geomorphological structure of the Porto Cheli harbor and its surroundings changed only after the end of the late antique occupation a constant use of the harbor appears likely.

<sup>4</sup> *Report I*, p. 327, fig. 6 and p. 339.

<sup>5</sup> The color readings for the soil and pottery are based upon the Munsell soil color chart.

wares. Above the flagging lay a layer of small rubble stones, separated from a second one above it by a fine strosis of earth, perhaps the remains of mud plaster. These stones possibly come from a collapsed wall, built in *plesia* technique.

In several other trenches high accumulations of pottery were found as well as pits filled with ceramic dump. Some of these pits appear to have been dug solely for this purpose; others were simple earth-dug wells which had been rendered inoperative and collected the refuse. Two large "pits" of this type had been dug through Greek layers in trench N 7135/E 16205. Pit no. 1 is located in its southwest corner, pit no. 2 on the north side. Neither could be fathomed, since these simple, earth-dug shafts would have collapsed with the constant water seepage in area 5. The top of pit no. 1 remained unlined; in pit no. 2 remnants of a border of small stones appeared along the east side. Both pits contained broken pottery, almost exclusively from amphoras, partly burnt; in addition some charcoal pieces and fragments of plaster came to light.

Another pit was cleaned in two adjacent trenches N 7165/E 16210 and N 7165/E 16215, which yielded a thick layer of pottery imbedded in dark gray earth. The mouth of the pit uncovered underneath this layer was shored up by low walls of rubble stones of medium size. The lowest course of stones rested upon a wooden frame of two beams along each of two sides which clamped between them single beams running across the other two sides. The interior of this pit, most likely a toilet,<sup>6</sup> was filled with branches and pine cones; the ceramics which came from inside the shaft once again showed traces of burning.

Another dump area, originally a well, in trench N 7170/E 16190, had its top filled with a pile of rocks; the fill underneath consisted of bits of floor or wall plastering, combed-ware pottery and more rocks, some of them with strong traces of burning. The well had been dug during the Early Byzantine period; it produced no Classical finds down into the sterile soil.

The most intriguing deposition of ceramics came to light in trench N 7200/E 16140 in the northwest corner of area 5. Two layers of pottery were uncovered, the upper one at a depth of *ca.* -0.69 to -1.36 m., the lower between -1.42 m. and -1.79 m. The pottery was much the same in both levels, except that the higher showed a certain number of these amphora fragments covered with splashes of cement. Other fragments were so intensely burnt that the sherds had actually begun to melt and taken on a slightly vitreous appearance with bubbles in the corpus of the clay.

The second layer consisted of the upper parts of amphoras (e. g. 2, 3, 8), all of combed ware or spirally grooved ware. These vessels had been stacked deliberately with their mouths down, one leaned against the next, all slightly slanting.

## THE BURIALS

Some twenty graves scattered throughout areas 1 and 3 shed little additional light upon the somewhat inconclusive evidence from the central area (5). These

<sup>6</sup> See Appendix pp. 321-324.

graveyards lay to the east (area 1) and to the south (area 3) of area 5, which presumably marked the center of the Early Byzantine establishment. The absence of large amounts of corresponding pottery except for an accumulation which has built through wash from higher areas suggests that these cemeteries were located outside that sphere where settlement or industrial activities were conducted.

All graves are of the utmost simplicity and paucity. The bodies were usually laid into an oblong, quite shallow pit, stretched out flat on their backs with the arms in various positions. The heads were—when still *in situ*—turned towards the left shoulder; sometimes they had also been tilted forward slightly. The general preservation of the skeletons was mostly medium to poor; rarely were bones found in stable condition.

The bodies were always covered with at least a thin layer of soil and had in addition cover slabs placed above them. These slabs were ordinarily re-used blocks from the Classical period, mostly consisting of very fine, soft conglomerate, sometimes also of shelly limestone. Grave offerings were almost entirely absent; a few of the sherds found in the filling soil around the skeletons most certainly arrived there accidentally.

The brief description of the burials in the following paragraphs is divided according to the two areas, 1 (graves 1-9) and 3 (graves 10-21). An analysis of the skeletal material is forthcoming, at which time we hope to present a better understanding of the circumstances of livelihood for the people as well. The graves are numbered consecutively throughout. The basic differences between the two cemetery parts is the orientation of the skeletons: those of the lower one (area 1) lie with their heads pointing towards the west; in the grounds of the upper terrace they are oriented towards the south.

The locating of the burials occurred, as far as could be determined, more or less at random in areas 1 and 3. The fact, however, that they were almost always placed at right angles to a foundation of the Classical period seems to throw a certain light on the attitude of the Early Byzantine inhabitants of Halieis towards their dead. The reasons for the placement seem to have been practical ones. Rituals which would have required prescribed positioning of the corpses were either non-existent or were disregarded; in placing the burial place at right angles to a foundation, the chance of encountering another wall was substantially reduced. Such a selection method seems to have been the reason for the different directions of graves in areas 1 and 3, namely generally southeast-northwest in area 1 and commonly northeast-southwest in area 3. These orientations are at right angles to the general line of the walls in the respective areas.

Furthermore, one gets a clear impression that these burials must have been scattered around an open village settlement. Burial no. 5, for example, was set into the gravel core at the bottom of the city-wall foundation; other graves were placed right against it outside. The majority of burials were dug inside rooms of Classical houses, indicating that these as well as the city wall lay in ruins. No signs for another line of fortification in the Early Byzantine period exist, and the graves were apparent-

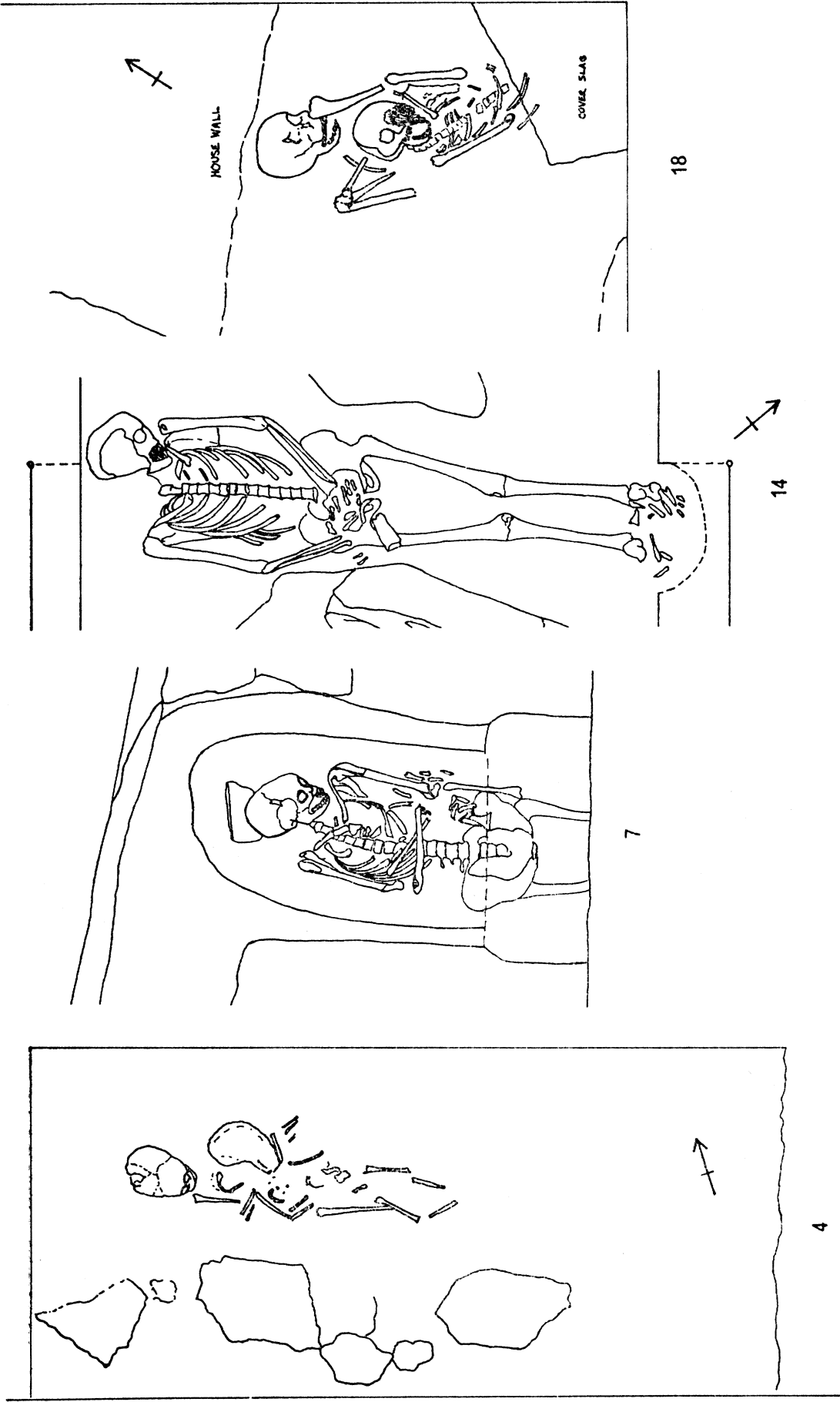


FIG. 2. Graves of the Early Byzantine periods: nos. 4, 7, 14, 18. Scale 1:15.

ly grouped within a short distance of the main center of activities in an area of open ruins. Unless otherwise mentioned, the cover slabs consist of fine-grained conglomerate.

#### AREA 1

##### Grave 1 (Tr. H) Earth-covered double burial

The two skeletons which were placed right on top of each other, were disturbed; their leg bones from the pelvis down had decayed. The skull of the upper skeleton pointed upwards at right angles to the horizontally extended vertebrae. The frontal part of the skull was mostly crushed, but the teeth remained in position. A disarray of rib bones occurred just to the right of the lower skull; only one phalange fragment was recorded. No finds.

##### Grave 2 (Tr. J) Slab-covered double burial

The extended length of the upper burial was *ca.* 1.40 m., that of the lower one *ca.* 1.50 m. The lower one was covered with five shelly limestone blocks; two fine conglomerate blocks had been placed over the upper one. The feet of the upper skeleton were slightly elevated; the left elbow pointed outwards. The left hand lay over the left thigh, the right one rested on the pelvis. The finds consisted here of one undiagnostic rim sherd in the upper skeleton's fill and of two small fragments of Combed Ware near the left elbow and between the lower leg bones of the second skeleton.

##### Grave 3 (Tr. N.) Slab-covered burial Pl. 80

The extended length of the skeleton measured *ca.* 1.60 m. It was covered by six blocks, the three over its lower half consisting of shelly limestone; those above the torso and head were of fine conglomerate. The upper area of the skeleton was damaged by root growth. No finds.

##### Grave 4 (Tr. O) Slab-covered double burial Fig. 2

The bones extended over a length of *ca.* 0.90 m. and were placed in a pit dug into the firm gravel fill of the city-wall foundation. The bones lay in disarray. No finds.

##### Grave 5 (Tr. O) Amphora burial of child

The amphora (10) was placed in a shallow hollowing in the firm gravel fill of the city wall. The vessel had cracked and was partly filled with soil. The tiny bones lay in disarray towards the bottom. Inside the amphora a small piece of obsidian was found, which may have been intrusive.

##### Grave 6 (Tr. P) Slab-covered burial

The size could not be verified, since this grave could only be partially excavated. In the upper fill, three undiagnostic coarse-ware fragments.

##### Grave 7 (Tr. R) Slab-covered burial Fig. 2

The length of the skeleton was not verified; the lower legs remained in the scarp. The right hand was folded over the chest, the left one extended beside the body. Underneath the skull lay a large fragment of a plain vessel, possibly from an amphora, conceivably to prop up the head; a fragment of plain-ware jug neck was imbedded in the pelvis.

##### Grave 8 (Tr. U) Slab-covered burial

The length of the skeleton in the ground was preserved to *ca.* 1.25 m. The lower arms were crossed over the chest. In the fill ten roof-tile fragments and sixteen pieces of coarse ware were uncovered; they seem to have been intrusive with the fill.

##### Grave 9 (Tr. U) Slab-covered burial

Not excavated.

#### AREA 3

##### Grave 10 (Tr. F 5-2) Slab-covered burial

The length of the skeleton, a child's (?), was not verified. The grave contained only the very decayed remains of what appears to have been a very small person. No finds.

Grave 11 (Tr. F 5-2) Slab-covered double burial

The burial was only partially excavated. The two skeletons were placed precisely on top of each other but the position of the hands remained uncertain. No finds.

Grave 12 (Tr. F 5-2) Slab-covered burial

The burial was only partially excavated; sex, age and length were not verified. No finds.

Grave 13 (Tr. F 5-2) Slab-covered burial

The length was not established. Between the fifth and sixth left-side ribs the remains of a bronze belt buckle were found (57).

Grave 14 (Tr. F 5-1) Slab-covered burial Fig. 2

The skeleton was preserved to a length of 1.25 m.; the bones were in good condition. The hands had been folded over the pelvis. One Combed Ware fragment was found in the fill.

Grave 15 (Tr. F 5-1) Slab-covered burial

Not excavated.

Grave 16 (Tr. F 5-1) Slab-covered burial

The grave was only partially excavated; the skull was exposed. No finds.

Grave 17 (Tr. F 5-1) Slab-covered burial

The length of the skeleton as preserved in the ground measured *ca.* 1.75 m. The right hand rested against the hip; the left one lay over the hip/thigh joint. No finds.

Grave 18 (Tr. F 6-3) Slab-covered double burial Fig. 2

This grave was only partially excavated. The length of the upper skeleton, as exposed, was *ca.* 0.70 m., that of the lower one *ca.* 1.00 m. The left side of the upper skull was partly damaged; the position of the hands remains uncertain. A thin layer of soil, *ca.* 5 centimeters, separated the two bodies. Below the right side of the upper skull a simple bronze earring (58) was found.

Grave 19 (Tr. F 6-3) Slab-covered burial

Not excavated.

Grave 20 (Tr. F 6-3) Slab-covered burial

Not excavated.

Grave 21 (Tr. F 6-2) Earth burial

In the scarp the remains of a human skull appeared. No fragments of a slab were found; no distinct outline of a burial pit could be discerned either. No finds.

## THE FINDS

The finds from the site of the Late Roman period are comprised of pottery, lamps, some glass and a few coins, and two metal pieces. Pottery and lamps are the interpretive tools to be used in outlining an approach to the analysis of the period under investigation. Pottery alone accounts for well over 95% of all finds, lamps do not quite constitute 1%, and glass, usually in very small fragments, amounts to about the same proportion.

Amphoras are the primary shape among the pottery. All vessels, with the exception of 10 containing a child's burial, distinguish themselves through their bloated bodies, inverted ovoid in shape and often somewhat irregularly formed. The bodies are topped by a generally very low, sometimes greatly reduced neck, usually broad conical in form. The bottom of the vessel can be either plain, pointed broadly, or it may be equipped with a broad, knob-shaped foot; the latter appears to be a rarer form. The form of the foot requires, in any case, the provision of a stand for these vessels, such as have been found.<sup>7</sup> The use of these stands for permanent storage appears

<sup>7</sup> For earlier stands cf. N. Allegro, *et al.*, *Himera II*, ii, Rome 1976, pl. 85: 2.



unlikely; they rather seem to have been employed either in the pottery production process, when for example grooves were applied, or for the process of filling the vessels for transport.<sup>8</sup> The grooved decoration is, with the vast majority, placed on the shoulder, ordinarily reaching from just the root of the neck down to the lower edge of the shoulder. Shifts in position occur most often which include the decoration's placement just underneath the handle attachments and from there on down almost to the body's widest diameter. As far as could be determined under the adverse soil conditions, dipinti or other painted decoration remains absent.

One of the best documented sites for these amphoras at present appears to be Dinogetia in Rumania.<sup>9</sup> A destruction horizon at this site, dated to A.D. 559, shows this particular type of amphora, with variations which may partially be local manufacture, to be well established.<sup>10</sup> The shape's continuation can be demonstrated further through finds from the shipwreck at Yassi Ada<sup>11</sup> and from the late settlement at Kythera.<sup>12</sup> Corresponding finds seem also to have been made at the early Christian settlement of Aigina,<sup>13</sup> while additional 6th-century material is recorded from other sites in the Balkans as well as at Athens and at Corinth.<sup>14</sup>

A survey of the inventory of other closed shapes at Halieis reveals a disparately small proportion of jugs and pitchers which contrasts quite clearly to the situation, for example, in Aigina. Jugs there are an important part of the pottery series, where they establish their role in the beginning of a more advanced and longer series of Byzantine ceramics.<sup>15</sup> The lack particularly of trefoil jugs, or the also rather popular, similar sized, round-mouthed pitchers, carries, in my opinion, clearly chronological implications.

The open vessels also are typical for the Early Byzantine period. The majority of the bowls, dishes and plates appear to be of "Late Roman C" manufacture; a number of fragments are of African Red Slip Ware. The small size of the majority

<sup>8</sup> The angles of the grooves on the shoulders of the amphoras indicate that usually the process took place in a direction from the neck downwards towards the foot.

<sup>9</sup> I. Barnea, "L'incendie de Dinogetia au VIème siècle," *Dacia*, N.S. 10, 1966, pp. 237-259.

<sup>10</sup> See especially *ibid.*, p. 242, fig. 5, no. 7; p. 246, fig. 8, no. 7; p. 251, fig. 12, no. 7; and p. 256, fig. 15, no. 7.

<sup>11</sup> G. Bass, *AA(JdI 77)*, 1962, p. 545, fig. 6: a with a more pronounced neck, higher rising handles and the lip hardly set off.

<sup>12</sup> *Kythera*, Dep. Φ, p. 172, nos. 49-52, 55, fig. 52, pl. 49.

<sup>13</sup> *Alt-Ägina* I, ii, p. 70, nos. 108, 109, pl. 23 show the same basic body shape; the neck is narrower and higher. The fragment no. 111, p. 71, pl. 23, seems to belong to an amphora of the type represented by 1-9.

<sup>14</sup> C. Scorpan, "Céramique romano-byzantine dans l'espace Istro-Pontique," *Dacia*, N.S. 21, 1977, p. 275, fig. 10, no. 3, from Histria, no. 7, from Tomis; Athens, Robinson, *Agora V*, P 4129, pl. 40. The association of this latter vessel by Scorpan with a sample from Group M, no. 272, p. 109, leads him to assign a date in the late 4th century after Christ. The clear concentration of this particular shape elsewhere in the 6th- and 7th-century contexts lets a similar date of Agora P 4129 and Group M: 272 appear likely.

<sup>15</sup> *Alt-Ägina* I, ii, p. 68, nos. 85-92 (Kannen); also Robinson, *Agora V*, pl. 35, N 1-11.

of fragments forbids an overly precise pinpointing of their position within the development of Early Byzantine pottery, but the large cluster of datable finds places the high point of activities at the site within the second half of the 6th century.

The lamps, for the most part, seem to be of Corinthian manufacture; some could have been produced in Argos. The poor preservation of the lamp fragments does not allow for as accurate an assessment as could be wished, but from present evidence it appears safe to say that no lamps were manufactured at Halieis itself. The chronologically recognizable range for the lamps spans the 5th and 6th centuries. Samples belonging to the earlier half of this time span are **43, 49, 50, 56**, while the majority of the lamps again belong in the period of peak activity, the second half of the 6th century.<sup>16</sup>

The Early Byzantine level at Halieis fits well into the picture that begins to emerge more and more definitively, outlining the fate of Greece and the Peloponnese in the late 6th century. Recent publications have been contributed by Coldstream and Huxley for Kythera (*Kythera*) and by Felten for Aigina (*Alt-Ägina* I, ii) providing some badly needed specific site information. Huxley, furthermore, in a recent article has set forth his views of this period, summing up the scanty evidence.<sup>17</sup>

It can not be our concern here to evaluate in detail the history of Halieis, whose place name for this period seems unrecorded, but rather to place it within the context of the unrest and confusion which swept over the Peloponnese during the time of the Slavic invasions. Archaeological evidence plays again the key role, since too few coins have been found to bear out any historical judgment.<sup>18</sup> The latest coin found dates

<sup>16</sup> K. Garnett, "Late Roman Corinthian Lamps," *Hesperia* 44, 1975, pp. 173ff., discusses Corinthian lamps from the Fountain Deposit. The lamps from Halieis are in general keeping with her description of the Corinthian fabric. The continuous production of these lamps until after the Avar invasion of A.D. 588 (p. 185) is in keeping with the findings from Halieis. As far as may be judged from the fragments from the site, their quality is rather poor, bespeaking a rather late stage in the lamp production. No Byzantine wheelmade lamps have been recognized; *Alt-Ägina* I, ii, pp. 65, 67, no. 84, pl. 20.

<sup>17</sup> G. L. Huxley, "The Second Dark Age of the Peloponnese," *Λακωνικά Σπουδαί* 3, 1977, pp. 84-110.

<sup>18</sup> I am grateful to Prof. J. Dengate, numismatist of the Halieis excavation, for supplying me with the information on the Roman coins. Nine identified Roman coins have been found in all of Halieis, including the Necropolis excavations and the sanctuary of Apollo. These are: Arcadius, Honorius or Theodosius AE 4 (A.D. 395-408), very worn (HN 1962-12); Constantius II AE 3 (A.D. 351-361; HN 1968-1); Phokas (A.D. 605-606), good condition for surface piece, little wear (HN 1971-2); Antonianus or Aurilianus (A.D. 270-275), worn (HN 1972-9); Late Roman Aes (4th-6th centuries), very badly worn (HN 1972-22); illegible Greek Imperial (1st-3rd centuries), very worn; Arcadius AE 4, worn (HN 1975-111); Anastasius I follis (A.D. 491-518), not badly worn (HN 1975-122); minimus with monogram of Anastasius I, worn (HN 1975-145). J. Dengate draws my attention to the absence of minimi at the site, a phenomenon which in part may be explained by the adverse conditions of the area of excavations. Retrieval methods in area 5 required slow and painstaking washing of the mud from the ground levels which might well have dissolved a good number of such small tokens. The nature of the establishment at Halieis is another factor: coins may have been provided to only a small number of persons. Only future excavations will be able to answer this question satisfactorily.

to the reign of Phokas, into the early 7th century, at which time, most likely in the early decades of the century, the site was finally abandoned.<sup>19</sup> The fact that the Phokas coin is the one best preserved of the Late Roman lot must be weighed lightly in the absence of statistical backing, but the evidence from pottery points in the same direction. The overwhelming percentage of the ceramics dates in the general frame of the late 6th-early 7th century, with a destruction level characterized by the burning and the filling of the pits as described above. Such an attack from the outside should be connected with the Slavs invading the Peloponnese sometime between A.D. 579 and 587.<sup>20</sup> A major question, though, persists concerning the beginning of the Early Byzantine settlement. The bath building, for one, appears unlikely to have been constructed during the latter half of the 6th century, but rather earlier. Its small size is in keeping with the image of the earlier centuries developed by U. Kahrstedt who sees farmlords settling in, commanding serfs for production of their goods.<sup>21</sup>

A date for the beginning of the (post-Classical) resettling of Halieis can be established *ex silentio*; it falls certainly no earlier than the 5th century after Christ.<sup>22</sup> The reason for the reoccupation of this site remains unclear as does the nature of the establishment, perhaps a villa for a wealthy landowner with a bath near it. The livelihood of the serfs living at Halieis seems to have been rather miserable to judge from the graves and little is known about their activities. One of these, though, may have been the production of pottery. Judging from the quantities of ceramic materials compiled at various areas of the site in dumps and from the findings of one large heap of what appears to be refined clay near a firing area, the amphora seems to have been the principal shape.<sup>23</sup>

<sup>19</sup> The time of abandonment remains uncertain. As J. Herrin, *Kythera*, p. 44, brings to attention, Arab pirates and/or Slavs could have been the attackers. With the small islands, hitherto used as refuge havens, not safe any more, the coastal plains in general seem to have been abandoned and the mountainous regions became the preferred dwelling places; cf. Huxley, *op. cit.* (footnote 17 above), p. 89 f. and his interpretation of *Tzakoniai*. The abandonment of the site at Halieis goes hand in hand with the decline of similar establishments on the small coastal island of Chinitza, about a kilometer to the south, and of the establishment at the west end of Spetsai, opposite the exit from the channel of Halieis. Numerous sites producing an abundance of Early Byzantine wares also cease at this period.

<sup>20</sup> Cf. Huxley, *op. cit.*, p. 86, who points out the ambiguity of the various sources. After this attack the site continued to be used, most likely at a reduced level until the 7th century.

<sup>21</sup> U. Kahrstedt, *Das wirtschaftliche Gesicht Griechenlands in der Kaiserzeit. Kleinstadt, Villa und Domäne (Dissertationes Bernenses, ser. 1, fasc. 4)*, Bern 1954, p. 162: Argolis. His discussion of the economic system as pertaining to the Hermionid, pp. 188f., sees the main city as flourishing from the purple trade, while the area around Halieis lies fallow at least down to the 4th to 5th centuries.

<sup>22</sup> Finds from the 3rd century B.C. to the 4th century after Christ are virtually absent, both as surface finds and in excavation contexts.

<sup>23</sup> T. Gregory reports two Early Byzantine kiln sites within the vicinity of Halieis as a result of this summer's survey work. Clay from various beds around Porto Cheli was tested by Prof. John Goodheart during the summer of 1975. Nine out of 17 samples delivered clay suitable for firing; the clay body of some of the fired samples resembles that of the Early Byzantine amphoras from Halieis.

Taking into account the overall evidence for the Early Byzantine settlement at Haliéis it appears, then, as though the site saw some activity during the 5th century after Christ with the greatest concentration during the second half of the 6th century. The establishment seems to have fallen victim to the Slavs' attack during the 580's. After an apparent but short recovery, which may have lasted into the first decades of the 7th century, Haliéis fell back into silence for good.

## CATALOGUE

The profile drawings of these amphoras have, unless otherwise stated, been reconstructed from joining fragments on paper; the state of preservation did not allow for permanent restoration of these pieces. Munsell colors have not been given for most of the very small fragments in the Catalogue, since they often came from a humid area, which had a long-lasting effect on the outward appearance of the ceramic body. The numbers prefixed HP, HL, HM, etc. (after the Catalogue number) refer to the inventory of the Haliéis Excavations. All other numbers are the trench number, followed by the unit number, followed by the number of the sherd within this trench and unit.

Unless otherwise mentioned in the Catalogue entry, all pieces are to be assumed found in the thick debris layers covering the central portion of the site (area 5).

### POTTERY

**1** (HP 2014) Amphora Fig. 3  
 Max. H. 0.508; D. body 0.490; D. lip 0.130 m. Medium hard, dense clay with mica and grog inclusion, 5YR 6.5/7 (reddish yellow). The profile preserved to shortly above foot. The body is broadly squat ovoid in shape with a wide, sloping shoulder. The shoulder integrates almost immediately into the funnel-shaped rim. Lip rounded at edge and slightly hollowed above. Two large lug handles on shoulder, ovoid in section. Broad area of grooves on shoulder. Parallel in Athens, Robinson, *Agora V*, pl. 40 (P 4129) and p. 109, no. 272. The dating into the late 4th century does not appear convincing. The principal shape apparently also represented in *Kythera*, p. 172, Dep. Φ, no. 55, fig. 52 (neck rather high). Some of the same characteristics are shared by an amphora from Yassi Ada: G. Bass, *AA(Jdl 77)*, 1962, p. 545, fig. 6: a, but the neck is more pronounced, the handles rise higher, the lip is set off, but very little.

**2** (HP 1371) Amphora. Found: Fig. 3  
 Tr. 200/140: stacked amphoras.

Max. H. 0.297; D. body 0.420; D. lip 0.126 m. Soft to medium-hard clay, slightly schist-like structure with some grog, porous, 5YR 6/8 (reddish yellow). Upper part of amphora to just below widest diameter. Evenly rising shoulder curve, broad conical neck slightly stepped above shoulder. Funnel-shaped rim, set off from neck, opening widely, thickening towards rounded lip. Two large lug handles, irregularly ovoid in section. The body is covered with very regular grooves, ca. 0.2 cm. wide, beginning just above widest diameter of body, reaching up to the handle attachments.

**3** (HP 1372) Amphora. Found: Fig. 3  
 Tr. 200/140: stacked amphoras.

Max. H. 0.288; D. body 0.415; D. rim 0.121 m. Medium-hard to hard clay, resembling the fabric in structure with grog and mica, 7.5YR 7/4 (pink). Similar to preceding, shoulder more bulging, over all squatter, neck somewhat

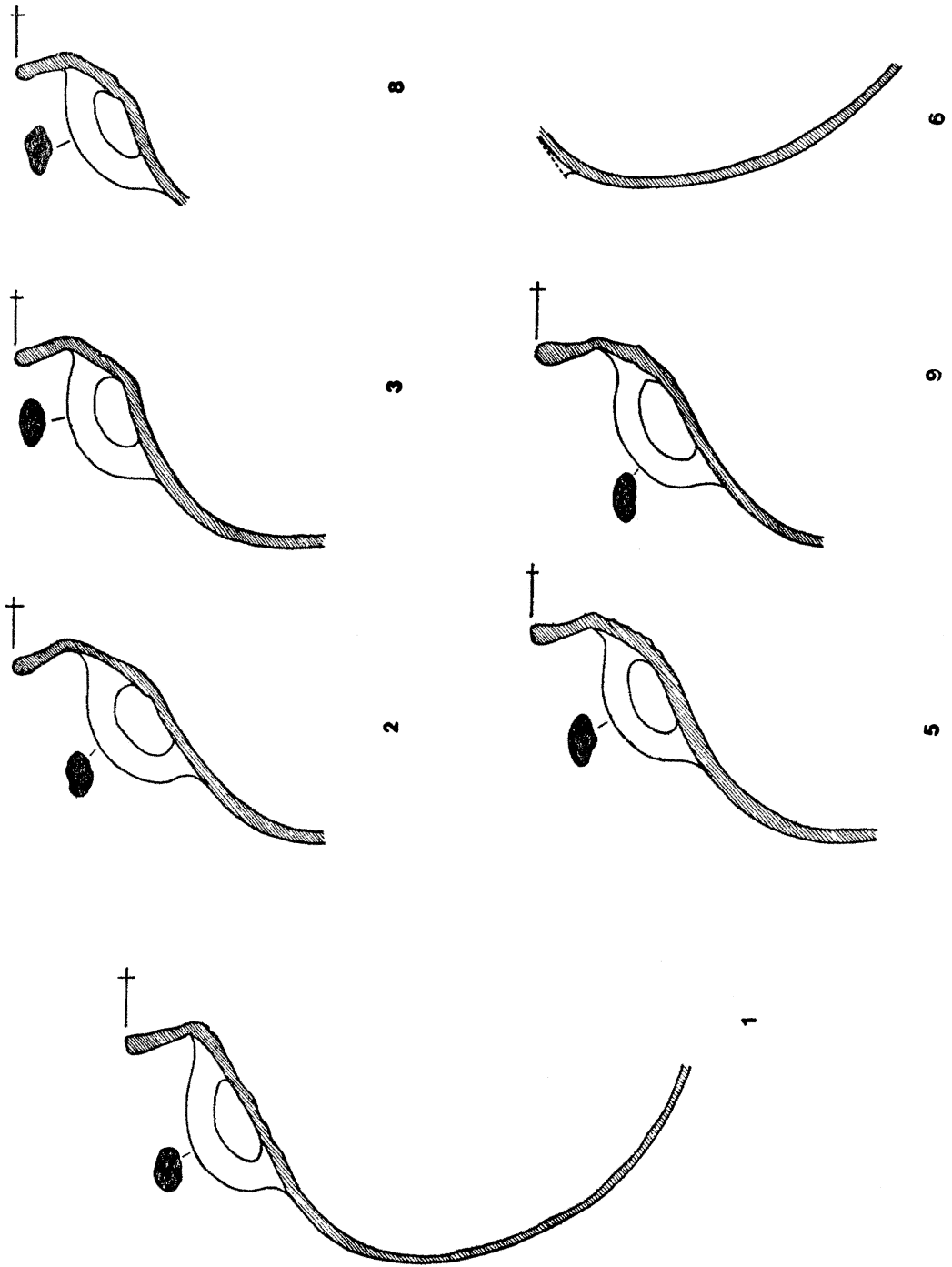


FIG. 3. Closed shapes: amphoras. Scale 1:6.

lower. Lip rounded evenly. The clearly impressed, but unevenly spaced grooves begin at shoulder edge and reach to shortly below neck. Flatter handle curve.

**4** (HP 1373) Amphora

Max. H. 0.202; pres. D. 0.264; D. lip 0.116 m. Soft to medium-hard clay, resembling tile fabric with dense structure, 2.5YR 6/8 (light red). Top of amphora from shoulder upwards. Similar to **2** and **3**; shoulder appears flatter, neck higher in proportion to lower rim. The latter set off by fine ridge. Irregularly spaced grooves cover the shoulder to shortly below neck.

**5** (HP 1374) Amphora. Fig. 3, Pl. 80

Found: Tr. 200/140: stacked amphoras.

Max. H. 0.314.; D. body 0.410; D. lip 0.129 m. Soft to medium-hard clay with grog, 2.5Y 5/2 (grayish brown). Fragment of amphora from just below widest diameter upwards. Similar in shape to both **1** and **2**. The shoulder appears closer to **1**; the low, little-pronounced neck reminds one of **2**. Lip and handle shape again are closer to **1**. The grooves reach from just above the widest diameter to above the handle attachments. The grooves in the lower part (1.5 to 2 mm. deep) are sharp and narrow, they become flatter and less deep in the upper part.

**6** (HP 1375) Amphora Fig. 3

Max. H. 0.165; pres. D. 0.356; D. lip 0.117 m. Soft, sandy clay with grog, 2.5YR 5/8 (red). Shoulder and neck of amphora. Cf. **1**: rim lower, handle curve wider and flatter. Grooving somewhat irregular, partly worn.

**7** (HP 1376) Amphora

Max. L. 0.500; est. D. body 0.35 m. Soft to medium-hard clay with grog, layered in structure, 5YR 5.5/8 (yellowish red). Body fragment of amphora, from above foot to handle attachment on shoulder. Body broad ovoid in shape, in general outline similar to **4**. Flat, worn grooves to lower edge of shoulder.

**8** (HP 1377) Amphora. Found: Fig. 3  
Tr. 200/140: stacked amphoras.

Max. H. 0.163; pres. D. 0.370; D. lip 0.115

m. Soft to medium-hard clay with pores and very fine grog, 2.5YR 6/8 (light red). Shoulder and top part preserved. Cf. **2** and **3**, exterior of rim slightly concave. Somewhat uneven grooving from just above shoulder attachment to below shoulder.

HP 1456

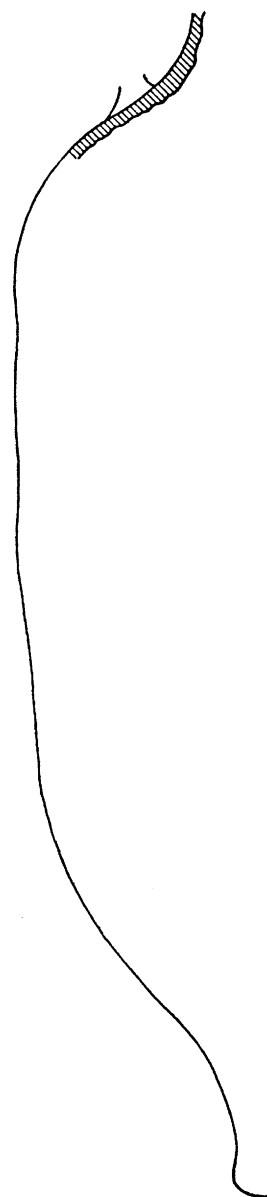
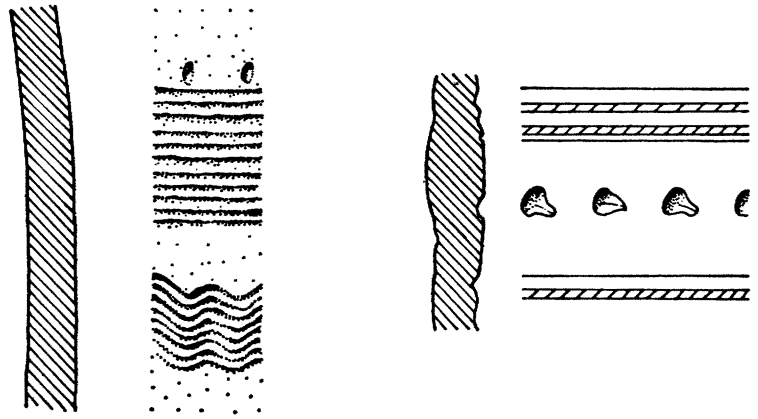
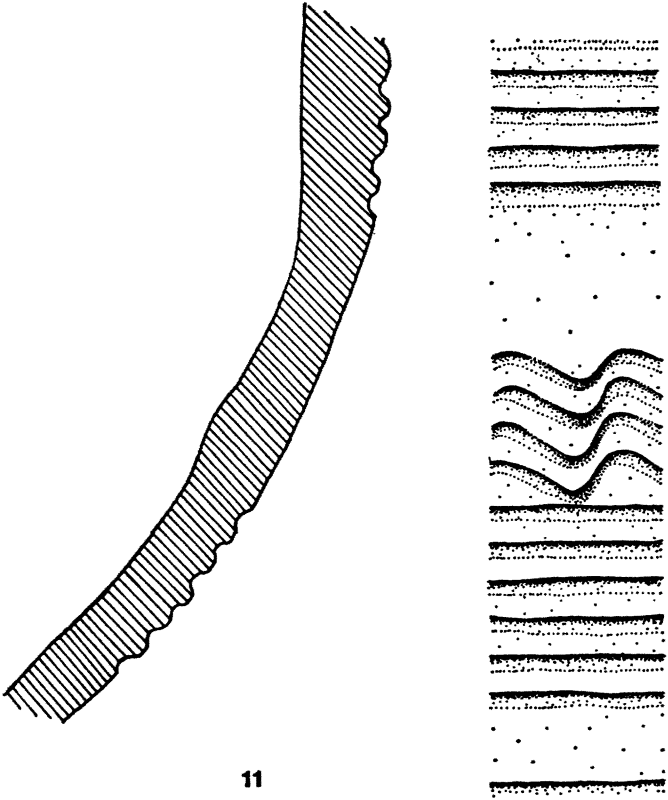


FIG. 4. Closed shape: amphora (**10**).  
Scale 1:6.



12

13



11

FIG. 5. Closed shapes: decorated wall fragments. Scale 1:1.

**9** (HP 2046) Amphora Fig. 3

Max. H. 0.295; max. D. 0.435; D. lip 0.135 m. Medium-hard, fine-structured clay with grog, 7.5YR 6.5/2 (gray to pinkish gray). Preserved from below shoulder and top part. Cf. 5; outline overall somewhat more stretched, handle more slender, lip thicker and more strongly rounded.

**10** (HP 1456) Amphora Fig. 4

Max. H. 0.945; max. D. 0.403 m. Numerous large, joining fragments; upper neck, handles and rim missing. Firm clay, amphora/tile fabric 5YR 7/8 (reddish yellow) in interior, 7.5YR 7/2 (pinkish gray) on exterior. Foot of amphora a cylindrical knob with rounded end; convex lower wall; long cylindrical body. Sloping shoulder; steep neck; two handle roots preserved, roughly oval in section. Used as burial container; see Grave 5. This amphora stands in a long tradition of the large, "torpedo"-shaped oil amphoras, such as Robinson, *Agora V*, Deposit M, nos. 333, 372, or an amphora from the shipwreck at Yassi Ada, G. Bass, *AA (JdI 77)*, 1962, p. 549, fig. 12. A recent discussion and typology was published by C. Scorpan, "Ceramique romano-byzantine dans l'espace Istro-Pontique," *Dacia*, N.S. 21, 1977, pp. 269-297. **10** belongs to Scorpan's type III, *op. cit.*, p. 271, figs. 3, 4. 6th to early 7th century.

**11** (HP 1352) Amphora Fig. 5

Max. L. 0.21; max. H. 0.105 m. Soft clay,

similar to tile fabric with mica and fine grog, 5YR 5.5/8 (yellowish red). Fragment of body from below shoulder. Decorated by a band of evenly spaced, wavy grooves running between six grooves immediately above and below (four preserved). The grooves are all 2-3 mm. wide and *ca.* 1 mm. deep, apparently worked with a multipronged instrument. In general, cf. *Kythera*, p. 172, Dep.  $\Phi$ , no. 38, pl. 48.

**12** (HP 1353) Amphora Fig. 5

Max. H. 0.055; max. W. 0.063 m. Soft clay, loose in structure with pores and inclusions, 2.5 YR 5/6 (red). Small fragment from body, decorated with a wave pattern of seven parallel grooves, impressed with a multipronged instrument. Above a band of eleven grooves, topped by a line of widely spaced, large rouletting.

**13** (160/200:14:10) Amphora Fig. 5

Max. L. 0.035 m. Small body fragment of amphora with decoration: in center of a broad band a widely spaced line of large roulette dots; a single groove below, three above.

**14** (HP 1360) Stand for amphora Fig. 6

H. 0.059; max. D. 0.192 m. Soft to medium-hard, coarse clay, strongly tempered, residue of some organic matter (?) as well as small stones, 7.5YR 6.5/4 (light brown). Full profile of stand of inverted biconical shape. The lower half spreads evenly, thinning out towards the bottom; the upper shape is thickened like the lip of a pot.

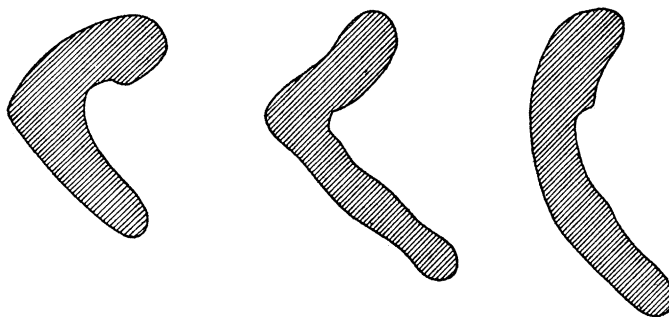


FIG. 6. Closed shapes: amphora stands **14**, **15**, **16**. Scale 1:2.



- 15** (HP 1362) Stand for amphora Fig. 6  
H. 0.072; D. 0.210 m. Soft to medium-hard clay of fine structure with pores, mica and grog, 5YR 6/8 (reddish yellow). Similar to **14** though less sharply bent in middle, more curving. Upper rim thickened and molded outside, convex.
- 16** (HP 1363) Stand for amphora Fig. 6  
H. 0.082; max. D. 0.200 m. Medium-hard clay, resembling tile fabric with some grog and a few small pebbles, 2.5YR 5/6 (red). Similar to **14** and **15**, wall less curved, steeper. Rim set off at exterior with projecting lower edge.
- 17** (165/210:17:8) Broad-bellied Fig. 7  
jar  
Max. H. 0.081; D. body 0.170; D. lip 0.088 m. Fragment of shoulder and neck of a broad-bellied jar with two handles. Bulbous body with short, vertical neck and rounded lip. Most likely Cypriot Red Slip; for a possibly related shape cf. Hayes, *LRP*, p. 383, form 12, p. 384, fig. 84: date assigned "about mid 7th century."
- 18** (150/205:10:2) Narrow- Fig. 7  
mouthed bottle or small amphora  
Max. H. 0.050; D. lip 0.064 m. Fragment of neck preserving lip. Gently curving, steep neck, flaring towards thickened lip, rounded at top, with carination projecting at lower exterior edge. This fragment seems to stem from a squat, narrow-mouthed bottle with a round bottom, cf. *Kythera*, p. 173, Dep.  $\Phi$ , no. 57, fig. 52. For various types of jugs of the 6th century: C. Scorpan, "Ceramique romano-byzantine dans l'espace Istro-Pontique," *Dacia*, N.S. 21, 1977, p. 287, figs. 29: 6, 7, 30: 2.3, 5.6.
- 19** (165/165:14:1) Jug Fig. 7  
Max. H. 0.045; D. base 0.068; max. D. 0.104 m. Base of a jug with flattened base, slightly protruding outwards and hollowed towards center. Body flaring outwards in concave curve.
- 20** (165/165:16:4) Large plate Fig. 7  
Max. H. foot fragment 0.028; D. foot 0.086; max. L. rim fragment 0.067; D. rim 0.025-0.030 m. Foot and rim fragment of large plate with ring foot, vertical on exterior, curving inwards towards slightly sagging bottom. Basin set off from foot by narrow groove. Flat bowl with thickened and rolled lip. African Red Slip Ware. Cf. Hayes, *LRP*, p. 167, form 105:8, 9, p. 168, fig. 32. Late 6th to early 7th century.
- 21** (165/165:16:2) Large plate Fig. 7  
Max. L. 0.040; D. ca. 0.340 m. Rim fragment of a large plate. Cf. **20**; lip less rounded. African Red Slip Ware.
- 22** (165/165:16:12) Large plate Fig. 7  
Max. L. 0.043; D. ca. 0.036 m. Rim fragment of a large plate, cf. **20**, lip thicker and more rounded. African Red Slip Ware.
- 23** (165/165:16:6) Dish/bowl Fig. 7  
Max. L. 0.027 m. Rim fragment of dish/bowl with fairly straight wall. Lip thickly rounded above, concave molding below, set off by gentle ridge. "Late Roman C" Ware. Cf. Hayes, *LRP*, p. 343, form 10: B, 7; p. 344, fig. 71. Late 6th to early 7th century.
- 24** (165/165:16:14) Dish/bowl Fig. 8  
Max. L. 0.040 m. Rim fragment of dish/bowl with fairly straight, thin walls. Dark brown slip on exterior. Similar to **23**, but lip less rounded and hollowed with flat, wide concavity below. "Late Roman C" Ware. Cf. Hayes, *LRP*, p. 343, form 10: C, 12, 13; p. 344, fig. 71. Late 6th to early 7th century.
- 25** (160/200:14:4) Dish/bowl Fig. 8  
Max. L. 0.049 m. Rim fragment of dish/bowl with vertical rim incorporating a flange. On the outside a simple, slightly rectangular rouletting. "Late Roman C" Ware. Cf. Hayes, *LRP*, p. 336, form 3: H, 40; p. 334, fig. 69. Third quarter to late 6th century.
- 26** (160/200:14:2) Dish/bowl Fig. 8  
Max. L. 0.078; D. ca. 0.024 m. Rim fragment of dish/bowl with vertical rim incorporating a flange. Similar to **25**; lip higher and more pronouncedly concave. "Late Roman C" Ware. Hayes, *LRP*, p. 331, form 3: B, 5; p.

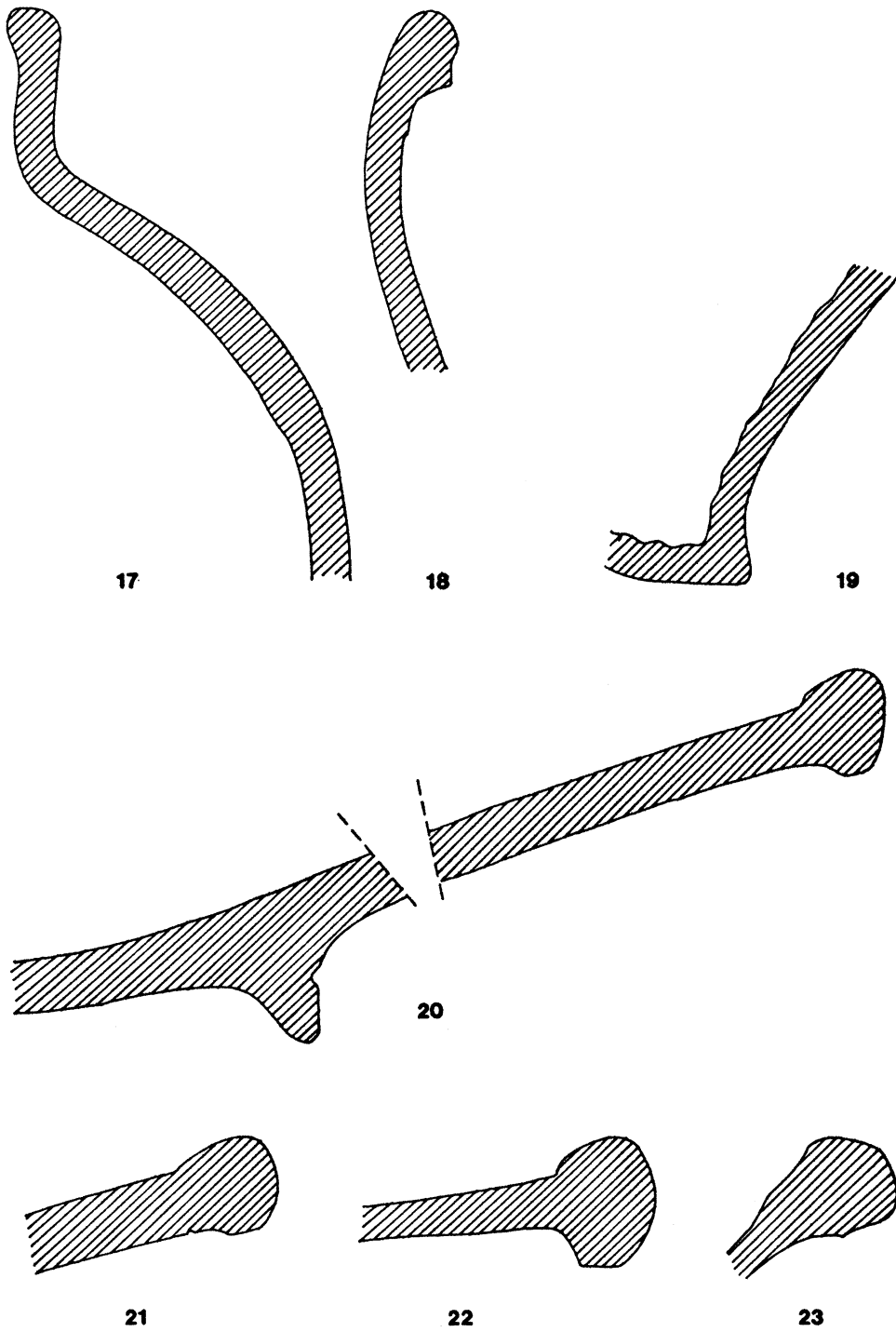
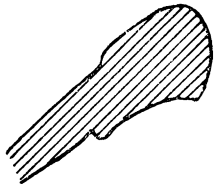


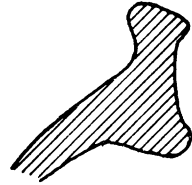
FIG. 7. Closed shapes: jugs. Open shapes: plates, dish/bowl. Scale 1:1.



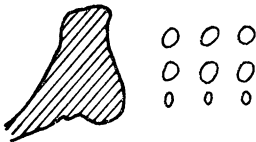
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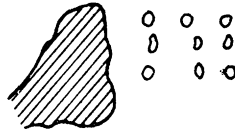
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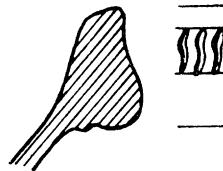
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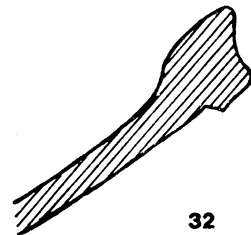
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34

FIG. 8. Open shapes: dishes / bowls. Scale 1 : 1.

330, fig. 67. Second half 5th into early 6th century.

**27** (160/200:14:5) Dish/bowl Fig. 8

Max. L. 0.021 m. Rim fragment of dish/bowl with vertical rim incorporating a flange. Cf. **25** and **26**. Triple rouletting on exterior, upper two rows large circular dots, lower ones smaller. "Late Roman C" Ware; *Kythera*, fig. 51, pl. 48; Dep. Φ, no. 27, p. 170. Second half 6th century.

**28** (165/210:17:2) Dish/bowl Fig. 8

Max. L. 0.031 m. Rim fragment of dish/bowl with vertical rim incorporating a flange. Very similar to **27**. African Red Slip Ware. *Kythera*, p. 160, Dep. Φ, no. 1, fig. 5. Late 6th to early 7th century.

**29** (165/165:16:13) Dish/bowl Fig. 8

Max. L. 0.052 m. Rim fragment of dish/bowl with vertical rim incorporating a flange. Cf. **27**. "Late Roman C" Ware.

**30** (165/210:17:1) Dish/bowl Fig. 8

Max. L. 0.057 m. Rim fragment of dish/bowl with vertical rim incorporating a flange, decorated with medium spaced "comma" rouletting at exterior. "Late Roman C" Ware. *Kythera*, Dep. Φ, no. 22, fig. 51. Late 6th to early 7th century.

**31** (155/190:12:10) Dish/bowl Fig. 8

Max. L. 0.020 m. Rim fragment of dish/bowl with vertical rim incorporating a flange, with wavy-S-line rouletting on exterior. Cf. **27**. "Late Roman C" Ware. Comparable to *Kythera*, p. 167, Dep. Φ, nos. 2, 3, fig. 50. Early 6th century.

**32** (160/200:14:3) Dish/bowl Fig. 8

Max. L. 0.074; D. ca. 0.240 m. Rim fragment of dish/bowl with vertical rim incorporating a flange. Lip lower and broader than in preceding examples. Cf. Hayes, *LRP*, p. 335, form 3:H, 32; p. 334, fig. 69. Second half 6th century. "Late Roman C" Ware.

**33** (165/165:16:5) Dish/bowl Fig. 8

Max. L. 0.057 m. Foot fragment of dish/

bowl of medium to large proportions. Related to Hayes, *LRP*, p. 165, form 104:C, 29; p. 162, fig. 30. African Red Slip Ware. Late 6th to early 7th century.

**34** (160/200:14:18) Dish/bowl Fig. 8

Max. L. 0.063; D. foot 0.060 m. Foot fragment of large dish/bowl. Low foot ring with fine molding within and double grooving on exterior above. Probably belonging to type of Hayes, *LRP*, p. 334, fig. 69. "Late Roman C" Ware. Second half 6th to early 7th century.

**35** (165/165:16:18) Bowl Fig. 9

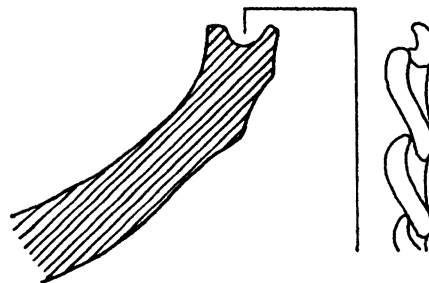
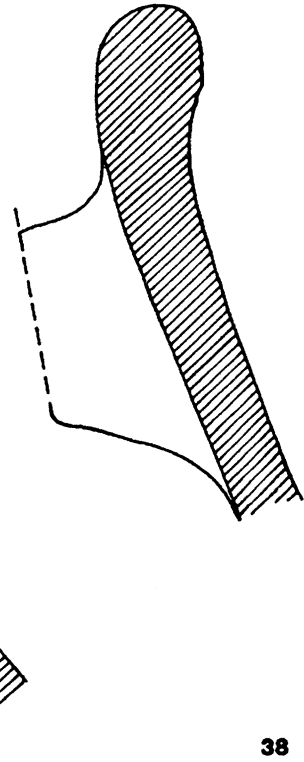
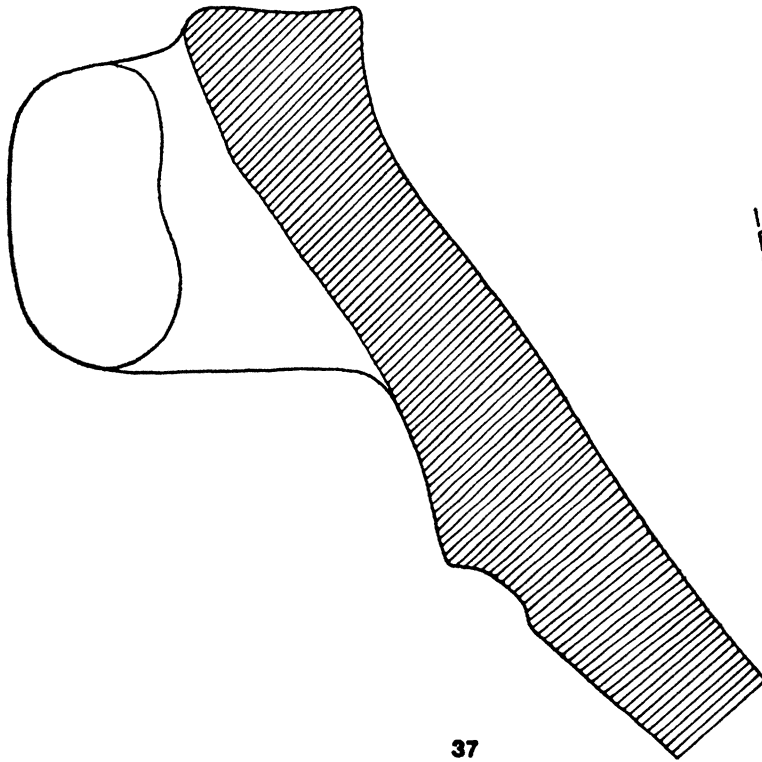
Max. L. 0.061 m. Rim fragment of a rounded bowl. Wall thick, evenly curving towards lip. Lip concave on top with molded, flat S-line design inside. Shallow concavity on exterior below lip. Most likely a fragment of a rather large dish, corresponding roughly in shape to Hayes, *LRP*, p. 375, form 2.9; p. 374, fig. 80. The latter also carries a related design in the lip groove, though it is incised. Hayes' description of the distinguishing characteristics, p. 317, ". . . fine-grained clay, heavy rather crude potting," also apply to **35**. Cypriot Red Slip Ware (?). Late 6th to early 7th century.

**36** (HP 1338) Dish Fig. 10

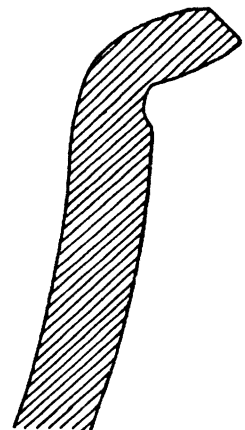
H. 0.060; D. 0.320; D. foot 0.152 m. Medium-hard clay with inclusion, some grog, 2.5YR 6/8 (light red). Complete profile preserved. Low ring foot, vertical without, slanting inwards. Heavy walled, shallow basin, curving swiftly upwards into short, rounded rim. A row of deep "grain" roulette, widely spaced, below lip. The basic shape of the vessel compares with Hayes, *LRP*, p. 325, form 1, fig. 65 ("Late Roman C" Ware), but the type of fabric as well as the exterior decoration do not conform with such a classification. The type of fabric may be local; its context and the coarse, exterior rouletting place the dish in the late 6th to early 7th century. For a carinated version of a dish see *Alt-Ägina* I, ii, p. 68, no. 96, pl. 21.

**37** (165/165:16:23) Two-handled Fig. 9  
basin

Max. L. 0.225; max. D. ca. 0.40-0.50 m. Rim



35



39

FIG. 9. Open shapes: basins. Scale 1:1.

fragment of a large, two-handled basin with worn, red glaze in interior. Large horizontal handle roughly oval in section. Wall steeply conical thickening towards rim, lower edge of rim projecting, top of lip slightly concave. For the basic shape, cf. Hayes, *LRP*, p. 383, form 11; p. 384, fig. 84, although our example appears better executed. Cypriot Red Slip Ware (?). Late 6th to early 7th century.

**38** (165/210:10:3) Two-handled basin Fig. 9

Max. L. 0.077; est. D. 0.35-0.45 m. Rim fragment of a large, two-handled basin with gently inward-bent lip. Wall rising steeply, thickening towards the rounded lip. Slightly sagging, horizontally running handles, irregularly ovoid in section. Cf. **37**. Late 6th to early 7th century.

set; the context suggests second half of 6th to early 7th century.

**40** (HP 1199) Lekane Fig. 10

H. 0.083; D. lip 0.180 m. Soft clay, coarse structure with pores and mica, 2.5YR 6/8 (light red). Complete profile of simple lekane. Flat, slightly rounded and warped base, edge set off as ring base. Wall steeply rising, slightly convex, lip uneven. A simple type of coarse lekane, possibly of local manufacture, its shape appears rather close to the African Red Slip example: *Kythera*, p. 169, Dep.  $\Phi$ , no. 9, fig. 51. Late 6th to early 7th century.

**41** (HP 1361) Beaker/mug Fig. 10

Max. H. 0.061; D. body 0.076; D. lip 0.071 m. Medium-hard to hard clay, slightly porous with larger inclusions, 5YR 6/6 (reddish yellow).

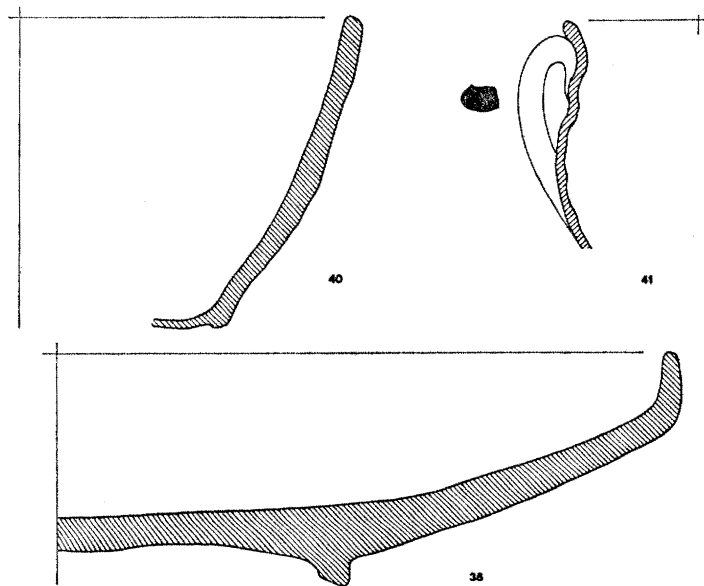


FIG. 10. Open shapes: dish, beaker. Scale 1:2.

**39** (165/165:16:8) Casserole Fig. 9

Max. L. 0.107 m.; est. D. 0.240 m. Rim fragment of basin with outturned lip, thick wall; under the lip a shallow wide depression with two grooves in it. Tip of lip missing. On top of lip a wave decoration. This fragment most likely is part of a casserole comparable to Hayes, *LRP*, p. 203, form 183; p. 202, fig. 35. No date

low). Upper part of beaker, foot shape unknown, body slender ovoid, tapering towards shoulder. Outward bulge of wall separating shoulder from lip, the latter gently flaring, slightly thickened. Very narrow, steeply rising handle, irregularly oval in section. Uncertain fabric (Corinthian?). Context late 6th to early 7th century.

## 42 (HP 1243) Dish/bowl (?) Fig. 11

Max. L. 0.055 m. Medium-hard to hard clay of coarse structure, sandy with whitish inclusions, 2.5YR 6/0 (gray). Fragment of an open vessel, most likely a dish or bowl. Stamped into the interior a rather faint impression of a sphinx (?) resting looking towards the right, details partly worn. Discernible still are the ribs, the right front paw, a stubby tail, a huge neck (wings?) and a roundish undistinguished head. Sphinx (crouching) on a lamp: Broneer, *Corinth* IV, ii, pl. 27, no. 628 (type XXVII).

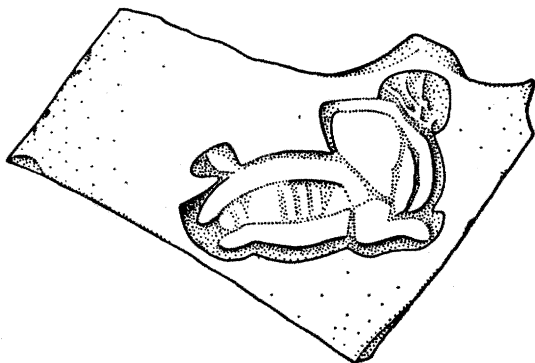


FIG. 11. Open shapes: stamped (42).  
Scale 1:1.

## LAMPS

All lamps are moldmade and are assumed to have been unglazed, unless the status of preservation makes it possible to indicate otherwise.

## 43 (HL 18)

Max. L. 0.064 m.; fine dense clay, Munsell not given. Fragment of spout and discus. Ridge along the edge of long spout, two ridges along discus border which is decorated with alternating circles and triangles (stamped), both with incised linear pattern. In corner of border towards nozzle a "pomegranate". A similar design: Broneer, *Corinth* IV, ii, p. 118, type XXXI, fig. 53: type XXXI; a related design on a lamp of the same type, p. 285, no. 1453, fig. 202. Cf. also Broneer, *Isthmia* III, p. 81, type XXXI. Corinthian. Date range into the 6th century.

## 44 (HL 115)

Medium-hard clay, fine structure, 7.5YR 8/6 (reddish yellow). Fragment of base and lower wall, curving convexly from base. The flat base delineated by two shallow grooves around an undistinguishable pattern. Late antique type.

## 45 (HL 137) Fig. 12

H. without handle 0.038; L. 0.119; W. 0.069 m. Fine, dense clay, medium hard, 5YR 6/6 (reddish yellow). Minimal ring base, long wide nozzle with large wick-hole, blackened from burning. Vertical, solid handle, once pierced. Ridge around disk becomes broad channel to nozzle. Two small filling holes, one on each side of disk. Disk pattern undiscernible. On the rim a pattern of circular-dot design. Dots on rim: *Alt-Ägina* I, ii, p. 66, no. 49, pl. 18; Broneer, *Isthmia* III, p. 81, type XXXI, no. 3162, pl. 36. Second half 6th century to early 7th century.

## 46 (HL 139) Fig. 12

H. without handle 0.028; max. L. 0.051; max. W. 0.058; D. filling hole 0.015 m. Fragment of upper wall, rim and vertical handle, base and lower wall. Fine, dense clay, medium hard, 10YR 8/4 (very pale brown). Ring base with two relief lines inside ring; possibly part of wheel-spoke pattern, graffito or Constantian monogram. Carinated, convex wall, set off by substantial ridge from recessed top. Border around top center decorated with two rows of raised dots; below the handle a raised circle with a raised dot interrupting the double row. Similar rings seem to have been spaced at the center of the half circle; part of another ring visible at edge of fragment. A graffito appears on the outer wall to the right of the handle. Corinthian (?). Cf. Broneer, *Corinth* IV, ii, p. 118, type XXXI. The double-row dot pattern: nos. 1493, 1499, pl. 22.

## 47 (HL 145) Pl. 80

Max. L. 0.071; max. W. 0.040 m. Fragment of disk, rim and upper body. Fine, dense clay, 5YR 6/6 (reddish yellow), slip on exterior 5 Y 8/3 (pale yellow). Convex wall. Rim

stamped with triangles, mostly joined in pairs forming rough parallelograms. A row of dots on two sides of the triangles, their surfaces carved with linear pattern in a chevron-like manner. Disk sunken with stamped design, possibly part of cross. Broad channel from disk to wick-hole. Corinthian. The geometric design well represented; cf. Broneer, *Corinth* IV, ii, p. 118, type XXXI, nos. 1482, 1483, pl. 22; Broneer, *Isthmia* III, p. 81, type XXXI, nos. 3155, 3161, 3162, pl. 22; Menzel, *Antike Lampen*, pp. 90-94, esp. 92, fig. 77: 1, 2, 4, 5, 14. The alternating triangles with wider inter-spaces: Perlzweig, *Agora* VII, A.L. S7, pl. 47. *Alt-Ägina* I, ii, p. 67, no. 72, pl. 19. Late 6th to 7th century.

48 (HL 146) Fig. 12

Max. H. without handle 0.031; max. L. 0.080 m. Fragment of upper wall, rim and joining handle. Fine clay, dense structure, 7.5YR 6/6 (reddish yellow). Convex wall and double grooved handle. On the rim, stamped scroll spirals interrupted by an incised branch. Design on disk undiscernible. A typical border design: Broneer, *Corinth* IV, ii, p. 102, type XXVIII, p. 103, fig. 48, no. 18. Nos. 1279, 1283, 1285, pl. 19. Broneer, *Isthmia* III, p. 75, type 2813, nos. 2969-2976, pl. 33; Perlzweig, *Agora* VII, pl. 51: 15.

49 (HL 149) Fig. 13

Max. H. 0.023; max. L. 0.081; max. W. 0.058 m. Two joining fragments of base, lower wall and handle. Fine, dense clay, medium hard, 7.5YR 7/4 (pink), glazed? Attic fabric (?). Ellipsoid base, bordered by double groove; inscribed on base before firing: KA. The remains of another design, possibly a letter, are visible. For the inscription KA and the KARPEME workshop cf. Perlzweig, *Agora* VII, p. 40, nos. 1808, 2461, 2908, 2809. The lettering KA: also Broneer, *Isthmia* III, p. 79, type XXVIII E, no. 3069, pl. 12. Early 5th century (?).

50 (HL 151) Fig. 13

Max. L. 0.069; max. W. 0.051; D. central disk 0.033 m. Fine, dense clay, medium hard,

5YR 7/6 (reddish yellow). Attic (?). Top of disk with attachment of solid, vertical handle with two grooves. Thick, raised ridge around small center disk with small filling hole; hanging over outside, stamped tongue pattern with series of four raised dots in each. Similar: Broneer, *Corinth* IV, ii, p. 114, type XXIX, no. 1415, pl. 20. 5th to 6th century.

51 (HL 155) Fig. 13

Max. H. 0.024; max. L. 0.061 m. Fragment of upper wall, rim and beginning of nozzle. Fine, dense clay, medium hard, 10YR 6/1 (light gray); inside nozzle blackened from burning. On disk border between raised edges stamped geometric design, circles alternating with other form, rhombs, flowers, etc., each with incised linear pattern. Cf. Bovon, *Lampes d'Argos*, no. 630; Menzel, *Antike Lampen*, p. 92, fig. 77: 1-6; Hayes, *LRP*, pl. 21: a; African type (?). Late 6th to early 7th century.

52 (HL 169)

Max. L. 0.044 m. Fragment of rim and upper wall. Fine, dense medium-hard clay with sandy structure, 7.5YR 6/4 (light brown), with residue of slip 5Y 7/3 (pale yellow). Around the center a raised ridge, on the exterior border alternating stamped rosettes and square patterns. Cf. Bovon, *Lampes d'Argos*, p. 89, no. 613, pl. 16.

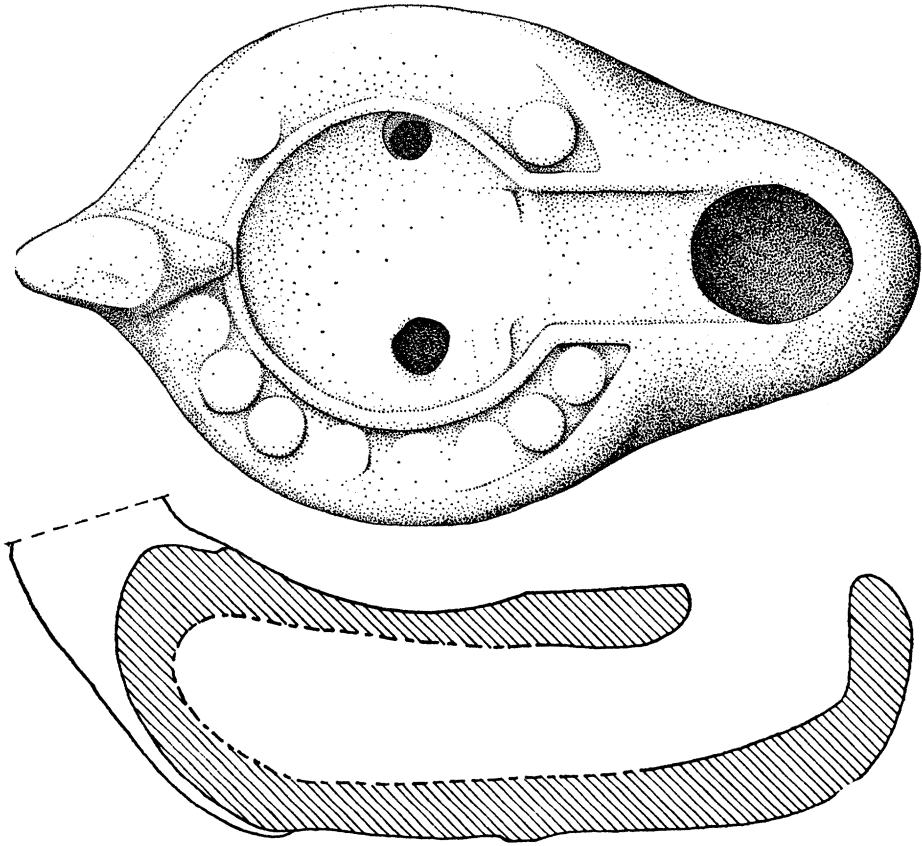
53 (HL 170)

Max. L. 0.058 m. Fragment of handle and adjacent rim and wall. Fine, dense clay, medium hard, 2.5YR 6/8 (light red). Solid, vertical handle, continuing in ridge towards base. Part of a concentric-circle pattern preserved on border of top. Perlzweig, *Agora* VII, no. 2571.

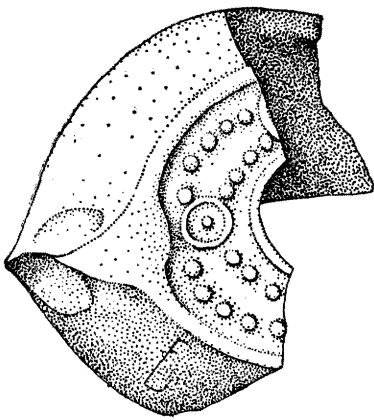
54 (HL 171) Fig. 13

Max. L. 0.075 m. Fragment of disk rim and upper wall. Fine, dense clay, medium hard, 5YR 6/6 (reddish yellow). Surface very worn. Stamped between two raised ridges apparently alternating circles and triangles. In the center one arm of a cross or a monogram. Perlzweig,

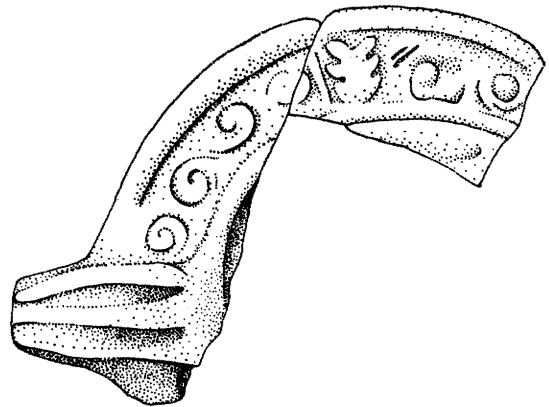




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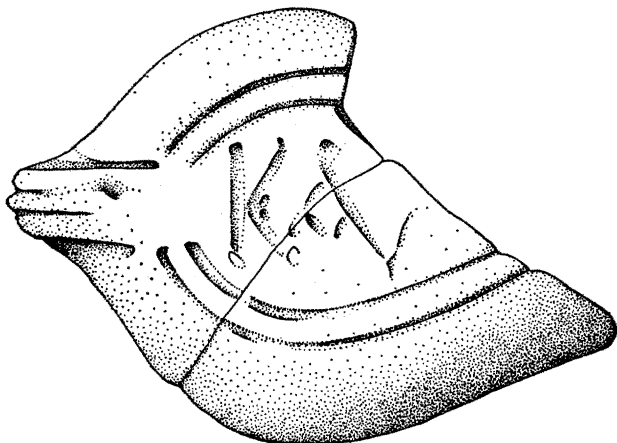


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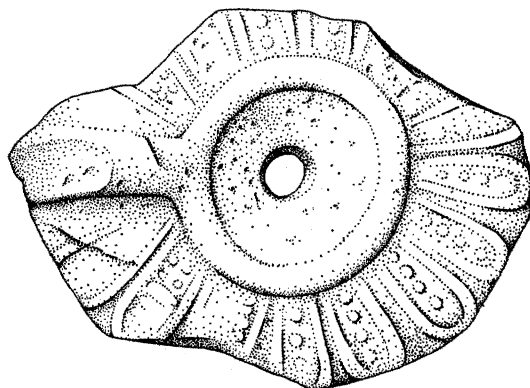


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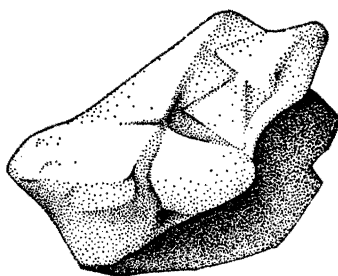
FIG. 12. Lamps. Scale 1:1.



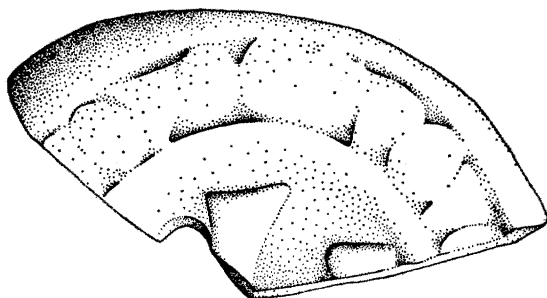
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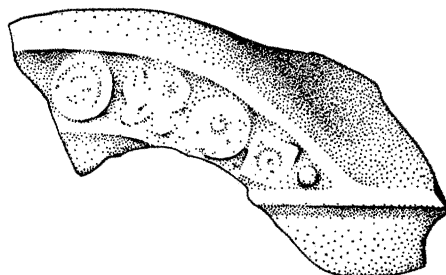
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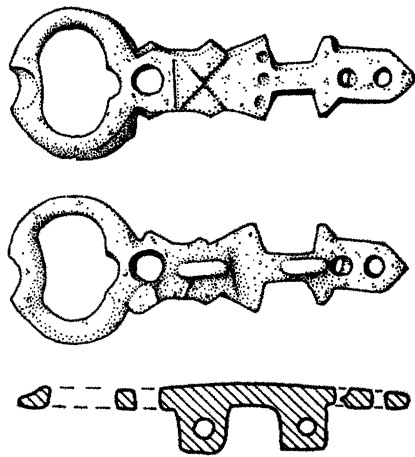


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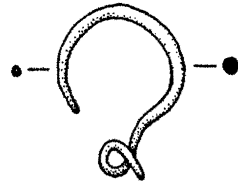


51

FIG. 13. Lamps. Scale 1:1.



57



58

FIG. 14. Metal. Scale 1:1.

*Agora VII*, nos. 322-345; Menzel, *Antike Lampen*, p. 92, fig. 77:4.5. Imitation of a North African type (?). Late 6th to early 7th century.

55 (HL 174)

Fig. 13

Max. L. 0.045 m. Fragment of handle and adjacent rim and wall. Fine, dense clay, medium hard, 5YR 6/6 (reddish yellow). Vertical, solid handle with ridge down to base. Poorly preserved. On rim impressed series of triangles, pointing in one direction. Imitation of North African type(?). Generally, cf. *Agora VII*, nos. 322-345.

56 (HL 181)

Max. L. 0.043 m. Fragment of nozzle and adjacent rim. Fine, dense clay, 5YR 6/6 (reddish yellow). Edge of wick-hole blackened from burning. On the rim, part of a wavy-line pattern or maybe a fish pattern (?). Possibly an imitation of a North African shape. 5th to 6th century.

METAL

57 (HM 552) Bronze buckle

Fig. 14, Pl. 80

Found in Grave no. 13. Max. L. 0.052; max. W. 0.020; max. Th. 0.09 m.; weight 6.5 grams. Bronze, intact, but missing tongue. Cast in one piece. Oval, somewhat irregular buckle with tongue-guidance carved out. Narrow plate with incised decoration shaped like an X with a horizontal line above it and three drilled dots below. This part of the plate widening somewhat towards the bottom, the part below forms a narrow bridge towards the wider end, shaped like a broad arrow-tip. At the back two loops. Cf. G. R. Davidson, *Corinth*, XII, *The Minor Objects*, Princeton 1952, no. 2209.

58 (HM 557) Bronze earring

Fig. 14

Found in Grave no. 18. Max. D. 0.016; D. section 0.002 m. Bronze; two joining fragments, two non-joining. Simple earring of loop shape, bent from bronze wire, slightly tapering towards either end from the middle, a small second loop turned into the ring at the end for attachment of pendant.

WOLF W. RUDOLPH

## APPENDIX

## Pollen Analysis of Haliéis Sediments

Pollen analyses were performed on sediment samples from several Haliéis levels. All samples were scraped clean of possible contaminant pollen and were treated with the standard KOH, HCL, HF, Acetolysis procedure detailed by Faegri and Iversen (1975). The resultant, relatively pure pollen samples were suspended in tert-butyl alcohol, and aliquots from each suspension were mounted on glass slides in Dow-Corning silicone fluid. Pollen was counted using a Wild M-20 research microscope at magnifications of 500 and 1250 diameters.

Only the samples from trenches 165-210, units 11-13 and 175-175, unit 8 bore pollen. The pollen concentration in the sample from trench 175-175 was very low; just 37 grains were recovered from a large volume of sediment. The pollen concentration in the sample from trench 165-210 was much higher; 231 grains were counted.

The dominant pollen types in the sample from trench 175-175 were pine (9%), olive (9%), composites (34%), and a type from the rose family (18%). Because of the small quantity of pollen involved, a detailed interpretation of the data from this trench would be inappropriate.

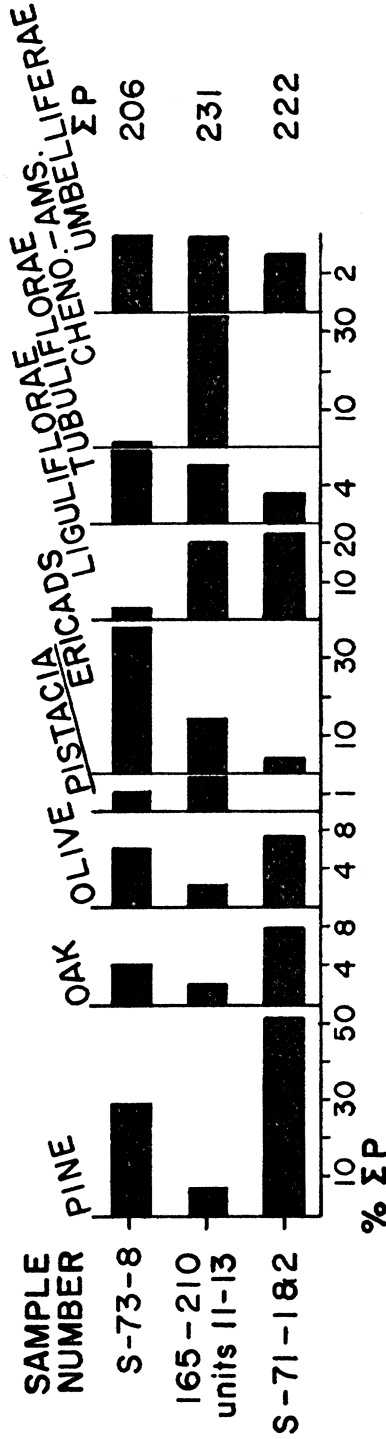
The pollen counts and percentages for the sample from trench 165-210 are presented in Table A. Dominant among the arboreal taxa (trees and shrubs) are pine and ericads (the Ericaceae, or heath family). The dominant herb taxa are the composites (tribes Liguliflorae and Tubuliflorae) and the cheno.-ams. (the Chenopodiaceae-Amaranthaceae group). Pollen percentages for this sample were calculated in two different ways:

1) as percentages of the total pollen sum for the sample, and 2) as percentages of the arboreal pollen sum. Table A includes the percentages arrived at by both techniques. Figure 15 presents these values graphically.

| Pollen Type     | Number of grains counted |         |            | Percent of total pollen sum |         |            | Percent of arboreal pollen sum |         |            |
|-----------------|--------------------------|---------|------------|-----------------------------|---------|------------|--------------------------------|---------|------------|
|                 | S-73-8                   | 165-210 | S-71-1 & 2 | S-73-8                      | 165-210 | S-71-1 & 2 | S-73-8                         | 165-210 | S-71-1 & 2 |
| Pine            | 60                       | 15      | 114        | 29                          | 6       | 51         | 36                             | 25      | 52         |
| Oak (evergreen) | 9                        | 5       | 18         | 4                           | 2       | 8          | 5                              | 8       | 11         |
| Olive           | 12                       | 5       | 15         | 6                           | 2       | 7          | 7                              | 8       | 9          |
| <i>Pistacia</i> | 2                        | 4       | 0          | 1                           | 2       | 0          | 1                              | 7       | 0          |
| Ericads         | 78                       | 30      | 8          | 38                          | 13      | 4          | 46                             | 51      | 5          |
| Other AP        | 7                        | 0       | 4          | 3                           | 0       | 2          | 4                              | 0       | 3          |
| Liguliflorae    | 4                        | 46      | 46         | 2                           | 20      | 21         |                                |         |            |
| Tubuliflorae    | 7                        | 14      | 6          | 8                           | 6       | 3          |                                |         |            |
| Gramineae       | 0                        | 3       | 1          | 0                           | 1       | 0.5        |                                |         |            |
| Cyperaceae      | 1                        | 1       | 0          | 0.5                         | 0.4     | 0          |                                |         |            |
| Cheno.-am.      | 1                        | 83      | 0          | 0.5                         | 35      | 0          |                                |         |            |
| Rosaceae        | 0                        | 15      | 0          | 0                           | 6       | 0          |                                |         |            |
| Umbelliferae    | 9                        | 10      | 7          | 4                           | 4       | 3          |                                |         |            |
| Other Herbs     | 6                        | 5       | 3          | 3                           | 2       | 1          |                                |         |            |

Table A. Pollen counts and percentages from fossil and modern sediments.

PERCENTAGES BASED ON TOTAL POLLEN SUM ( $\Sigma P$ )



PERCENTAGES BASED ON ARBOREAL POLLEN SUM ( $\Sigma AP$ )

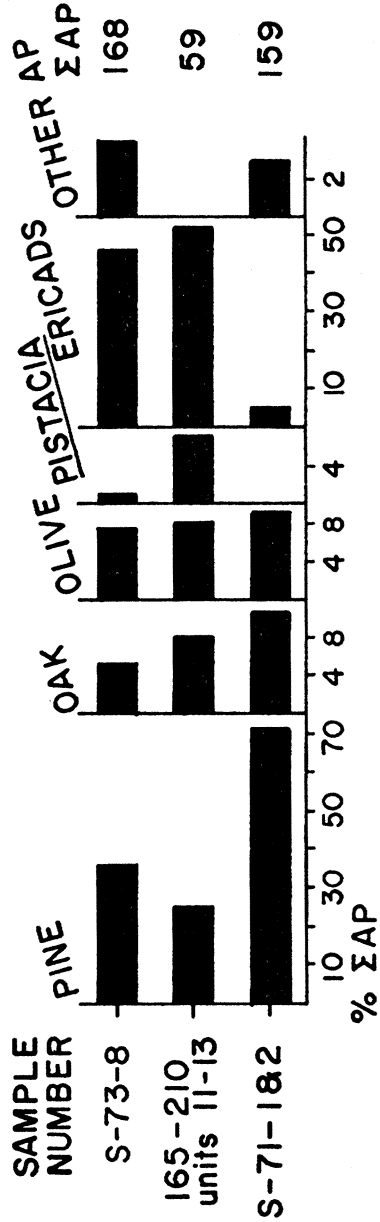


Fig. 15. Comparison of fossil and modern pollen spectra: two approaches.

Results of the pollen analysis from trench 165-210 were compared to pollen spectra from surface samples collected throughout the Peloponnese. The surface sample data are discussed in detail in Sheehan (1979). None of the available modern samples has a pollen spectrum comparable to that of the fossil sample.

The abundance of cheno.-am. pollen in the Halieis sample is especially unusual. The vegetational role of most plants in this group is that of halophytic (salt-tolerant) herbs. They are common in salt marshes and in mud flats along the coast. Some species occur as weeds in abandoned fields, and a few (spinach—*Spinacia oleracea*, orache—*Atriplex hortensis*, and vltia—*Amaranthus* spp.) are cultivated as pot herbs. The salty muds in and near Halieis would have provided excellent conditions for the growth of some cheno.-am. species. It is not difficult to envision them encircling the pit from which sample 165-210 was excavated, and contributing a great deal of pollen to it. If the pit was a toilet, as has been suggested, the abundant cheno.-am. pollen may have been that of an edible species, one whose flowers were ingested and whose pollen passed through its eaters' digestive tracts and was deposited in the pit.

In any case the cheno.-am. pollen is probably of local, rather than regional origin. It is difficult to compare pollen percentages between sites when abundant local herb pollen is involved. When this difficulty arises pollen percentages are often recalculated based on a pollen sum that excludes the local taxa. As has been explained, this was done for the Halieis sample. It was also done for the most nearly similar surface sample (S-73-8), and for S-71-1 and 2, the surface sample taken nearest to Halieis (15 km. northeast). Table A contains the data resulting from these recalculations. Figure 15 includes pollen diagrams comparing the Halieis sample to the two surface samples.

The upper, total pollen sum diagram in Figure 15 shows little similarity among the three samples. Sample S-73-8 appears to contain far more ericad pollen than the others; the Halieis sample is dominated by cheno.-am. pollen; and sample S-71-1 and 2 is dominated by pine pollen. The arboreal pollen diagram, the lower of the two, shows the relationships among the arboreal types without the statistical interference caused by the herb flora. In this diagram the values for the Halieis fossil sample closely resemble those for sample S-78-8. The ericad, oak, and olive percentages are especially similar. The similarity between the fossil sample and sample S-71-1 and 2 is little greater in this diagram than in the other. The pine and ericad values show the most marked disparities.

Sample S-73-8 is from a moss polster in a moist ravine about 10 km. north of Kalamata in the southwestern Peloponnese. This region of the Peloponnese receives just over 40% greater annual rainfall than the region around Halieis (Walter and Lieth, 1960). The rather great differences between the surface samples from these two localities may reflect this difference in moisture.

From this it is tempting to attribute the similarities between the Halieis fossil sample and the Kalamata surface sample to a greater mean annual rainfall at Halieis 1400 years ago. Several factors, however, combine to make this inference dangerous.

1) The variability among pollen samples from a single region is often considerable. Local abundances of certain species can seriously influence the pollen rain at a single site. A comparison of two sites using only one pollen sample from each may therefore be quite tenuous. 2) The precise species involved in the pollen assemblages being compared may not be identical. Similar pollen assemblages may be derived from vegetation types having different ecological affinities. 3) Climatic factors are not the only ones influencing vegetation. Topography, soil type, human interference, and many others may also be involved. It is impossible to exclude these factors from the present problem.

Nevertheless it is clear that at least locally the vegetation of ancient Halieis was not altogether like that of the region now. Pine was less abundant then than now and *Pistacia* and ericads were more abundant. All of these disparities suggest that the pine-forest cover in the region was thinner than it is now. *Pistacia* is a shrub that colonizes open habitats. Ericaceous shrubs are typical pine-forest understory plants that prosper when the forest canopy is removed. The abundant herb pollen in all the samples indicates the great extent to which land in both regions of the Peloponnese has been cleared.

In conclusion, the pollen data indicate that the vegetation of the Halieis region in early Byzantine times may have been more similar to the current vegetation of the western Peloponnese than to that of the eastern Argolid. A number of factors, chief among them the influence of human activity, discourage any firm statement as to the reasons for the difference in vegetation.

#### Literature Cited

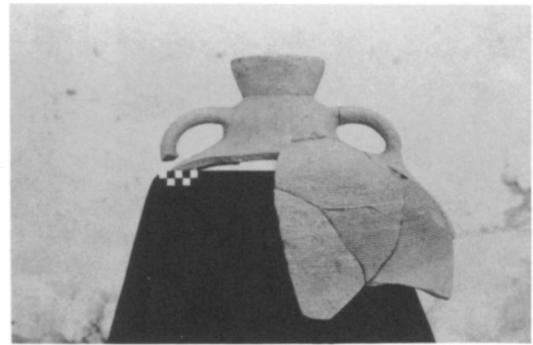
- Fægri, K. and J. Iversen, *Textbook of Pollen Analysis*, 3rd Revised Edition. New York [1975].  
Sheehan, M. C., *The Postglacial Vegetational History of the Argolid Peninsula, Greece*, Ph. D. Dissertation, Indiana University, Bloomington, Indiana, 1979.  
Walter, H. and H. Lieth, *Klimadiagramm-Weltatlas*, Jena, 1960.

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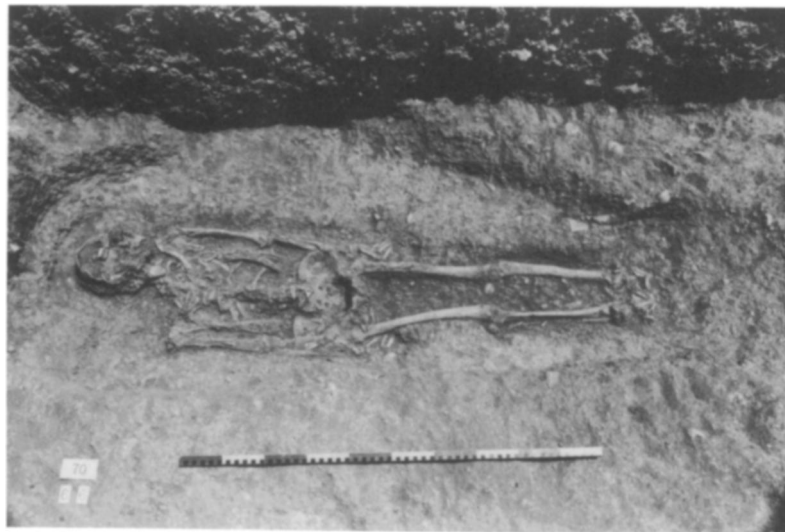
a. Grave 3 from east: cover slabs



b. Amphora, No. 5



c. Lamp, No. 42



d. Grave 3 from south: skeleton